



**FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION**

NORTHEAST DISTRICT
8800 BAYMEADOWS WAY WEST, SUITE 100
JACKSONVILLE, FLORIDA 32256

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Permittee/ Authorized Entity

Eric P. Summa
Army Corps of Engineers
701 San Marco Boulevard
Jacksonville, Florida 32207

Jacksonville Harbor Mile Point Training Wall Reconfiguration

Environmental Resource Permit
State-owned Submerged Lands Authorization - Granted

U.S. Army Corps of Engineers Authorization - Not Applicable

Permit No.: 16-312956-001-EI

Permit Issuance Date: February 4, 2013
Permit Construction Phase Expiration Date: February 4, 2018

Consolidated Environmental Resource Permit and Sovereignty Submerged Lands Authorization

Permittee: Army Corps of Engineers
Permit No: 16-312956-001-EI

PROJECT LOCATION

The activities authorized by this Permit and sovereignty submerged lands authorization are located at the confluence of the St. Johns River and the Atlantic Intracoastal Waterway (AICWW) Jacksonville, Florida, in Section 36, Township 01 South, Range 28 East in Duval County, at Latitude 30°22'43.71"/Longitude 81°27'16.19".

PROJECT DESCRIPTION

The permittee is authorized to relocate/reconfigure the Mile Point training wall and include a Chicopit Bay Flow Improvement Channel (FIC). The training wall reconfiguration includes removal of approximately westernmost 3,110 feet of the existing Mile Point training wall and the construction of a relocated eastern leg training wall of approximately 2,050 feet. Total estimated quantity of material to be excavated is approximately 889,000 cubic yards. Reconfiguration further includes relocation of training wall structures on both the eastern and western banks of the Atlantic Intracoastal Waterway (AICWW) at its confluence with the St Johns River. The relocated east leg consists of building approximately 2,050 feet of training wall to tie into the existing structure on Helen Cooper Floyd Park, and the west leg consists of building approximately 4,250 feet of training wall along the breakthrough at Great Marsh Island. All activities are to take place on the AICWW and the St. Johns River, both Class III waterbodies, not within an Outstanding Florida Waterbody (OFW), not within an aquatic preserve. Authorized activities are depicted on the attached exhibits.

The FIC consists of dredging a channel approximately 80 feet wide and 6 feet + 1 feet MLLW deep for a length of approximately 3,620 feet through Western Chicopit Bay. Dredged material from the FIC would be placed back into the Great Marsh Island restoration area.

To offset unavoidable impacts that will occur from these authorized activities, the permittee shall restore the breakthrough at Great Marsh Island by placing dredged material at the island and constructing an approximate 4,250 foot Western Leg training wall. This will provide up to 53 acres of salt marsh restoration. Should additional material be required to achieve final marsh elevations supplemental material may be acquired from Federal Channel Cuts 6 through 41.

The project described above may be conducted only in accordance with the terms, conditions and attachments contained in this permit. The issuance of this permit does not infer, nor guarantee, nor imply that future permits or modifications will be granted by the Department.

LOCAL SPONSOR AGREEMENT:

The Department will enter into a contractual agreement with the project's local sponsor, the Jacksonville Port Authority, under which the Jacksonville Port Authority will also, along with the Permittee, be responsible for undertaking post-construction mitigation and resource monitoring and additional corrective mitigation (if necessary) as, and to the extent, required by the permit.

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AUTHORIZATIONS

Jacksonville Harbor Mile Point Training Wall Reconfiguration

Environmental Resource Permit

The Department has determined that the activity qualifies for an Environmental Resource Permit. Therefore, the Environmental Resource Permit is hereby granted, pursuant to Part IV of Chapter 373, Florida Statutes (F.S.), and Chapters 62-330 and 62-343, Florida Administrative Code (F.A.C.).

Sovereignty Submerged Lands Authorization

The activity is located on submerged lands owned by the State of Florida. It therefore also requires authorization, from the Board of Trustees of the Internal Improvement Trust Fund (Board of Trustees), pursuant to Article X, Section 11 of the Florida Constitution, and Sections 253.002 and 253.77, Florida Statutes (F.S.).

As staff to the Board of Trustees, the Department has determined the activity qualifies for a Letter of Consent, as long as the work performed is located within the boundaries as described herein and is consistent with the terms and conditions herein. Therefore, consent is hereby granted to the Jacksonville Port Authority, the project's local sponsor, pursuant to Chapter 253.77, F.S., to perform the activity on the specified sovereign submerged lands.

Federal Authorization

A copy of this permit has been sent to the U.S. Army Corps of Engineers (USACE). The USACE may require a separate permit. Failure to obtain any required federal permits prior to construction could subject you to enforcement action by that agency.

Coastal Zone Management

This permit also constitutes a finding of consistency with Florida's Coastal Zone Management Program, as required by Section 307 of the Coastal Zone Management Act.

Water Quality Certification

This permit constitutes certification of compliance with state water quality standards under Section 401 of the Clean Water Act, 33 U.S.C. 1341.

Other Authorizations

You are advised that authorizations or permits for this project may be required by other federal, state or local entities including but not limited to local governments and homeowner's associations. This permit does not relieve you from the requirements to obtain all other required permits or authorizations.

PERMIT CONDITIONS

The activities described herein must be conducted in accordance with:

The Specific Conditions

ICA General Conditions

The limits, conditions and locations of work shown in the attached drawings

The term limits of this authorization

You are advised to read and understand these conditions and drawings prior to commencing the authorized activities, and to ensure the work is conducted in conformance with all the terms, conditions, and drawings. If you are utilizing a contractor, the contractor also should read and understand these conditions and drawings prior to commencing the authorized activities. Failure to comply with these conditions, including any mitigation requirements, may constitute grounds for revocation of the Permit and appropriate enforcement action by the Department.

SPECIFIC CONDITIONS - PRIOR TO CONSTRUCTION

1. Prior to commencement of work authorized by this permit, the permittee shall provide written notification of the date of the commencement and proposed schedule of construction to SLERP, Department of Environmental Protection, Northeast District, 8800 Baymeadows Way West, Suite 100, Jacksonville, Florida 32256.
2. Permittee shall provide the Department all appropriate real estate documentation to establish their legal authority to conduct the activities described herein on property owned by parties other than the Board of Trustees or the Permittee.

SPECIFIC CONDITIONS – CONSTRUCTION ACTIVITIES

3. All wetland areas or water bodies which are outside the specific limits of construction authorized by this permit shall be protected from erosion, siltation, scouring, excess turbidity, or dewatering during construction.
4. Outside the specific limits of construction authorized by this permit, any disturbance of or damage to wetlands shall be corrected by restoring pre-construction elevations and planting vegetation of the same species and density that exist in adjacent undisturbed wetland areas during construction.
5. The structures authorized by this permit shall not be placed on any property, other than that owned by the permittee, without the prior written approval of that property owner.
6. Outside the specific limits of construction authorized by this permit, the permittee shall not entrench any water, sewer, cable, or utility lines within wetlands, place unpermitted fill material or structures within wetlands, or place sod or landscape material (timers, rock, etc.) within the wetlands.
7. No dredging, filling, or other construction activity, including the removal of tree stumps and/or vegetative root masses, shall be conducted within the wetlands other than that performed within the specifically authorized work corridor.

8. The project shall comply with applicable State Water Quality Standards, namely:
- (a) Surface Waters, Minimum Criteria, General Criteria – Rule **62-302.500**, Fla. Admin. Code,
 - (b) Class III Waters – Recreation, Propagation and Maintenance of a Healthy, Well-Balanced Population of Fish and Wildlife. – Rule **62-302.400**, Fla. Admin. Code.
9. There shall be no storage or stockpiling of tools, equipment, materials (i.e., lumber, pilings, riprap, and debris) within wetlands, along the shoreline within the littoral zone, or elsewhere within waters of the state unless specifically approved in this permit. Any and all construction debris shall be removed from wetlands/waters of the state within 30 days of completion of the work authorized by this permit.
10. When the duration of construction will exceed one year, the permittee shall submit construction status reports to the Department on an annual basis utilizing an Annual Status Report Form 62-343.900(4). These forms shall be submitted during June of each year.
11. The dredging operation shall be continuously monitored visually for turbidity, by an observer who is familiar with the state water quality standard. If at any time it is suspected that any turbidity generated may exceed the state water quality standard, the dredging operation shall be halted. It may be resumed once measures are taken to reduce the turbidity generated to below state water quality standards.
12. All areas to be dredged shall be in accordance with the attached permit drawings. Deviations from permit drawings will be submitted with the as-builts.
13. If dredged material escapes from the disposal site and encroaches into wetland/waters of the state, the impacted areas shall be restored to their original contours and elevations. If the impacted areas were vegetated, they shall be replanted, after recontouring, with vegetation of the densities and species as is present in the adjacent areas. The restoration shall be completed within 30 days of completion of the dredging operation and the Department shall be so notified within the same 30-day period. Appropriate turbidity control measures shall be followed during the restoration work.
14. Best management practices (BMPs) for erosion and sediment control shall be utilized where appropriate and maintained at all times during project construction to minimize turbidity generation, especially when conditions appear conducive to the encroachment of a turbidity plume into the OFW, and to prevent the spillage of hazardous substances into waters of the state from the dredge and scows. Turbidity control devices, where necessary or appropriate, shall be installed prior to the commencement of construction in any given area and maintained daily to ensure integrity and functionality until post-construction clean-up of each work area has been completed. BMPs shall generally adhere to the guidance in the Florida “Erosion and Sediment Control - Designer and Reviewer Manual,” available at the following website: www.stormwater.ucf.edu/FLerosionSedimentManual_6_07.pdf
15. Construction of the western training wall, restoration site, and Flow Improvement Channel shall be properly sequenced so there is continued access to the Intracoastal Waterway and the St. Johns River.
16. In accordance with Rule 62-341.021(15), Fla. Admin. Code, “riprap” shall consist of unconsolidated boulders, rocks, or clean concrete rubble with no exposed reinforcing rods or similar protrusions.

17. Structures or activities will be constructed and used to avoid or minimize adverse impacts to resources.
18. Construction, use, or operation of the structure or activity will not adversely affect any species which is endangered, threatened or of special concern, as listed in Rules 68A-27.003, 68A-27.004, and 68A-27.005.
19. Structures or activities will not unreasonably interfere with riparian rights. When a court of competent jurisdiction determines that riparian rights have been unlawfully affected, the structure or activity will be modified in accordance with the court's decision.
20. Structures or activities will not create a navigational hazard.
21. Structures will be maintained in a functional condition and will be repaired or removed if they become dilapidated to such an extent that they are no longer functional subject to available funding.
22. This authorization does not allow any activity prohibited in a conservation easement or restrictive covenant that prohibits the activity.

SPECIFIC CONDITIONS – MITIGATION

23. Within the mitigation/restoration area depicted in the Mitigation Plan and Incremental Analysis existing open water shall be filled to achieve a finish grade consistent with the natural grade of the adjacent tidal marsh. Ground contours shall be of such an elevation as to achieve a natural hydrologic regime capable of supporting the planted created vegetative community.
24. The vegetated mitigation/restoration area shall be planted with species of tidal marsh plants such as *Spartina alterniflora* that are appropriate for substrate elevation and tidal regime so as to achieve an 80% coverage throughout the wetland creation area within two years of the date of planting. The Northeast District office of the DEP shall be notified, in writing, that planting is complete within 14 days of completion of the planting.
25. The success of the mitigation area shall be monitored and a written description of the created wetland, including the percentage of vegetative cover and supporting photographs, shall be submitted to the Northeast District office of the DEP at twelve (12) month intervals, commencing one (1) year after planting the mitigation site, until the Department has deemed the mitigation successful. The Corps shall conduct such monitoring up to five (5) years after construction (final planting) is completed. Any additional monitoring shall be pursuant to the Local Sponsor Agreement between the Department and the local sponsor).
26. In conjunction with the last monitoring report as required by Specific Condition number 25, a written report that evaluates the long-term survival potential of the vegetated mitigation area shall be submitted to the Northeast District office of the DEP. In the event modifications, replanting, or other measures are required in order to meet the requirements of Specific Condition number 24, the permittee shall resume monitoring of the area, pursuant to Specific Condition number 24, for a period of one (1) year.

27. Outside the specific limits of construction authorized by this permit, the permittee shall restore the ground contours of any adjacent wetlands altered or disturbed by construction activity to pre-construction elevations so as to maintain natural hydration, vegetation, and drainage patterns. All disturbed and/or restored areas shall be replanted with species of tidal marsh plants appropriate for elevation and tidal regime (*Spartina alterniflora*, *S. patens*, *Distichlis spicata*, *Salicornia europaea*, *Iva frutescens*, *Borrchia frutescens*, etc.) as listed in Rule 62-340 Fla. Admin. Code, so as to achieve an 80% coverage throughout the restored area within five (5) years of the date of planting.

28. Within the mitigation/restoration area, non-native and nuisance vegetation and species prohibited by Chapter 16C-52.011, F.A.C., shall be controlled by hand clearing or other methods of removal approved by the Contracting Officer as part of the success criteria.

29. The salt marsh mitigation/restoration site shall be deemed successful when all of the following criteria have been continuously met for a period of at least one growing season, without intervention in the form of irrigation, dewatering, removal of undesirable vegetation, or replanting of desirable vegetation.

(a) All of salt marsh wetlands created are determined to be jurisdictional pursuant to Section 373.421, F.S.

(b) The percent cover of the mitigation wetland area meets or exceeds 80% by any combination of the following plants: (*Spartina alterniflora*, *S. patens*, *Distichlis spicata*, *Salicornia europaea*, *Iva frutescens*, *Borrchia frutescens*, *Limonium carolinianum*, *Sporobolus virginicus* and *Sesuvium portulacastrum*)

(c) Nuisance and exotic species are limited to 5% or less of the total cover.

(d) The desirable plants are reproducing naturally, either by normal, healthy, vegetative spread (in ways that would be normal for each wetland species) or through seedling establishment, growth and survival.

30. The mitigation shall be determined to be successful when the requirements of the Specific Condition above have been met. The permittee may notify the Department whenever the permittee believes the mitigation is successful, but in no event earlier than two years after the mitigation is implemented. This notice shall be sent to the Department of Environmental Protection, Northeast District, 8800 Baymeadows Way West, Suite 100, Jacksonville, Florida 32256.

31. Once the final acreage of the salt marsh creation area has been determined, Permittee shall submit a report documenting that the relative functional gain realized by the completed mitigation/restoration area equals or exceeds the functional loss generated by the activities authorized herein.

SPECIFIC CONDITIONS – MARINE SPECIES

32. All personnel associated with the project shall be instructed about the presence of marine turtles, manatees and manatee speed zones, and the need to avoid collisions with (and injury to) these protected marine species. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act, the Endangered Species Act, and the Florida Manatee Sanctuary Act.

33. All vessels associated with the construction project shall operate at "Idle Speed/No Wake" at all times while in the immediate area and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.

34. Siltation or turbidity barriers shall be made of material in which manatees and marine turtles cannot become entangled, shall be properly secured, and shall be regularly monitored to avoid manatee entanglement or entrapment. Barriers must not impede manatee or marine turtle movement.

35. All on-site project personnel are responsible for observing water-related activities for the presence of marine turtles and manatee(s). All in-water operations, including vessels, must be shutdown if a marine turtle or manatee comes within 50 feet of the operation. Activities will not resume until the animal(s) has moved beyond the 50-foot radius of the project operation, or until 30 minutes elapses if the animal(s) has not reappeared within 50 feet of the operation. Animals must not be herded away or harassed into leaving.

36. Any collision with or injury to a marine turtle or manatee shall be reported immediately to the Florida Fish and Wildlife Conservation Commission (FWC) Hotline at 1-888-404-3922, and to FWC at ImperiledSpecies@myFWC.com. Collision and/or injury should also be reported to the U.S. Fish and Wildlife Service (for north Florida, Jacksonville 1-904-731-3336).

37. Temporary signs concerning manatees shall be posted prior to and during all in-water project activities. All signs are to be removed by the permittee upon completion of the project. Temporary signs that have already been approved for this use by the FWC must be used. One sign which reads *Caution: Boaters* must be posted. A second sign measuring at least 8 ½" by 11" explaining the requirements for "Idle Speed/No Wake" and the shutdown of in-water operations must be posted in a location prominently visible to all personnel engaged in water-related activities. These signs can be viewed at MyFWC.com/manatee. Questions concerning these signs can be sent to the email address listed above.

38. To protect against manatee entrapment, the containment structures for the salt marsh restoration area (training wall and southern boundary structures) shall be constructed and maintained in a manner in which manatees cannot become entangled or entrapped within the area. The structures shall be properly secured and shall be monitored daily to avoid manatee entrapment. The permittee shall also inspect the enclosure for manatee entrapment immediately after any high water storm or flood events. A detailed description of the structure(s) shall be included in the contractor's Environmental Protection Plan as provided to the Department and the Florida Fish and Wildlife Conservation Commission (FWC) prior to construction.

In the event that one or more manatees are observed within the enclosure, all work interior of and within 50 feet of the exterior of the enclosure shall cease immediately. The permittee shall immediately notify the FWC Hotline at 1-888-404-3922 and FWC at ImperiledSpecies@myFWC.com, as well as the U.S. Fish and Wildlife Service at (904)-731-3098. If a manatee is observed within the enclosure, the determination as to whether or not the animal(s) can exit the enclosure under their own volition or a rescue will be needed shall be decided by the USFWS and FWC. If a manatee is observed inside the enclosure and it is determined it is not entrapped, the Corps will coordinate with the Department, FWS, and FWC on a schedule and conditions for resumption of work. Should it be determined that a manatee is not able to exit the enclosure under their own volition, then work shall not resume until the animal is rescued and the entrapment risk has been resolved. Resolution of the entrapment risk by modifying operations or structure design shall be coordinated with the Department, USFWS and FWC. If construction has been completed and the structures are still in place, any entrapment issues that arise shall be resolved as soon as possible, but no later than 30 days from entrapment.

SPECIFIC CONDITIONS – MONITORING/REPORTING REQUIREMENTS

39. The mitigation/restoration site shall be monitored as follows:
- (a) Within 60 days of completion of planting, the permittee shall submit to the Department for approval, a map of the mitigation/site depicting the proposed sampling locations, fixed photographic stations, the mitigation wetland area, and the locations of the plants planted.
 - (b) The permittee shall monitor the mitigation/restoration area by submitting a written report to the Department at the address shown in Specific Condition number 1, supported by photographs of the mitigation area, every twelve (12) months from completion of planting until the requirements of Special Condition 30 have been satisfied. The Corps shall conduct such monitoring up to five (5) years after construction (final planting) is completed. Any additional monitoring shall be pursuant to the Local Sponsor Agreement between the Department and the local sponsor.. Provide data, photographs or other information that depicts the presence of hydrologic indicators in support of the determination of jurisdiction limits at the mitigation site, wildlife observations, especially for fauna that depend on the target community type. Other information may be submitted by the permittee at their discretion.
 - (c) At the end of the first year of monitoring, the permittee may request in writing that the DEP review the efficacy of the monitoring to determine whether or not the frequency or parameters of the monitoring program should be changed.

SPECIFIC CONDITIONS – FLOW IMPROVEMENT CHANNEL

40. The Flow Improvement Channel shall be monitored and maintained as follows:

Project Phases: The project will be conducted in two phases: Phase I includes construction of the FIC, the reconfiguration of the training wall, and the creation of the marsh restoration area. Phase II includes the contouring of the marsh restoration area to appropriate elevations and the planting of appropriate wetland vegetation. Phase II will commence approximately one year after the completion of Phase I to allow for settling of placed material

Monitoring Location: FIC Station 00+00 to Station 30+42.

Survey Type: Transect. Alternative survey methods such as high frequency multibeam or low frequency single beam may also be utilized with prior notification to the Department.

Survey Configuration: A minimum of 7 cross-sections, approximately 500' apart with 10' spacing between soundings.

Survey Schedule (# of days approximate):

Surveys #1, #2, #3, and #4 --semi-annual basis within 180 days (6 months), 360 days (1 year), 540 days, and 720 days (2 years) respectively after completion of FIC construction;

Surveys #5, #6 and #7--annual basis within 1080 days (3 years), 1440 days (4 years), and 1880 days (5 years) respectively after FIC completion.

Additional surveys may be conducted after storm events or visual observance for shoaling as confirmed by Corps or Local Sponsor. Surveys will also be conducted within the FIC by the contractor and the Corps or Local Sponsor before and after construction per the project specifications.

Remediation Threshold: If a portion of the FIC is observed to have less than 4' depth (MLLW) and 40' width, then appropriate remediation action will be taken by the Corps or Local Sponsor if such conditions persist greater than 30 days after survey completion. The dimensions of the FIC channel after construction will be remediated to a 6' depth and 80' width within the shoaled area, but the final channel configuration may fluctuate from the permitted channel design.

Corrective Actions: Corrective actions may include, but are not limited to, the use of a drag bar to place material into an adjacent deeper channel location, clamshell dredging, use of a backhoe, and/or cutter suction dredge excavation with placement into an authorized upland Dredged Material Management Area (DMMA) or other authorized location.

Responsible parties: USACE will be responsible for surveys and remediation during or between Phase I and Phase II construction contracts. JaxPort will be the responsible party if shoaling requiring remediation occurs after Phase II construction is determined to be complete by USACE, but not beyond the Survey Schedule.

ICA GENERAL CONDITIONS

41. This permit, including its general and specific conditions, shall be construed in light of the February 2006 Interagency Cooperative Agreement for Civil Works Projects (ICA) between the Department and the Corps. As recognized in the ICA, the Department has the authority to include reasonable conditions in this permit. All of the conditions in this permit, both general and specific, are enforceable to the extent sovereign immunity has been waived under 33 U.S.C. §§ 1323 and 1344(t). The ICA is incorporated herein by reference.

42. All activities approved shall be implemented as set forth in the drawings incorporated by reference and in compliance with the conditions and requirements of this document. The Corps shall notify the Department in writing of any anticipated changes in:

- (a) operational plans;
- (b) project dimensions, size, or location;
- (c) ability to adhere to permit conditions;
- (d) project description included in the permit, and;
- (e) monitoring plans.

43. If the Department determines that a modification to the permit is required then the Corps shall apply for and obtain the modification. Department approval of the modification shall be obtained prior to implementing the change, unless the change is determined by the Department to reduce the scope of work from that authorized under the original permit, and will not affect compliance with permit conditions or monitoring requirements.

44. If, for any reason, the Corps does not comply with any condition or limitation specified herein, the Corps shall immediately provide the Department with a written report containing the following information:

- (a) a description of and cause of noncompliance;
- (b) the period of noncompliance, including dates and times;
- (c) impacts resulting or likely to result from the non-compliance;
- (d) steps being taken to correct the non-compliance, and;
- (e) the steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

45. Compliance with the provisions of this condition shall not preclude the Department from taking any enforcement action allowed under state law with respect to any non-compliance.

46. The Corps shall obtain any applicable licenses, permits, or other authorizations, which may be required by federal, state, local or special district laws and regulations. Nothing herein constitutes a waiver or approval of other Department permits or authorizations that may be required for other aspects of the total project.

47. Nothing herein conveys to the Corps or creates in the Corps any property right, any interest in real property, any title to land or water, constitutes State recognition or acknowledgment of title, or constitutes authority for the use of Florida's sovereign submerged lands seaward of the mean high-water line or an established erosion control line, unless herein provided, and the necessary title, lease, easement, or other form of consent authorizing the proposed use has been obtained from the State.

48. Any delineation of the extent of a wetland or other surface water submitted as part of the application, including plans or other supporting documentation, shall not be considered specifically approved unless a specific condition of this authorization or a formal determination under section 373.421(2), F.S., provides otherwise.

49. Nothing herein authorizes any entrance upon or activities on property which is not owned or controlled by the Corps or local sponsor, or conveys any vested rights or any exclusive privileges.

50. This document or a copy thereof, complete with all conditions, attachments, modifications, and time extensions shall be kept at the work site of the authorized activity. The Corps shall require the contractor to review this document prior to commencement of the authorized activity.

51. The Corps specifically agrees to allow Department personnel with proper identification, at reasonable times and in compliance with Corps specified safety standards access to the premises where the authorized activity is located or conducted for the purpose of ascertaining compliance with the terms of this document and with the rules of the Department and to have access to and copy any records that shall be kept; to inspect the facility, equipment, practices, or operations regulated or required; and to sample or monitor any substances or parameters at any location reasonably necessary to assure compliance. Reasonable time may depend on the nature of the concern being investigated.

52. At least forty-eight (48) hours prior to the commencement of authorized activity, the Corps shall submit to the Department a written notice of commencement of activities indicating the anticipated start date and the anticipated completion date.

53. If historic or archaeological artifacts such as, but not limited to, Indian canoes, arrow heads, pottery or physical remains, are discovered at any time on the project site, the Corps shall immediately stop all activities which disturb the soil and notify the Department and the State Historic Preservation Officer. In the event that unmarked human remains are encountered during permitted activities, all work shall stop in the immediate area and the proper authorities notified in accordance with Section 872.05, Florida Statutes.

54. Within a reasonable time after completion of construction activities authorized by this permit, the Corps shall submit to the Department a written statement of completion. This statement shall notify the Department that the work has been completed as authorized and shall include a description of the actual work completed. The Department shall be provided, if requested, a copy of any as-built drawings required of the contractor or survey performed by the Corps.

NOTICE OF RIGHTS

This action is final and effective on the date filed with the Clerk of the Department unless a petition for an administrative hearing is timely filed under Sections 120.569 and 120.57, F.S., before the deadline for filing a petition. On the filing of a timely and sufficient petition, this action will not be final and effective until further order of the Department. Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice.

Petition for Administrative Hearing

A person whose substantial interests are affected by the Department's action may petition for an administrative proceeding (hearing) under Sections 120.569 and 120.57, F.S. Pursuant to Rule 28-106.201, F.A.C., a petition for an administrative hearing must contain the following information:

- (a) The name and address of each agency affected and each agency's file or identification number, if known;
- (b) The name, address, and telephone number of the petitioner; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests are or will be affected by the agency determination;
- (c) A statement of when and how the petitioner received notice of the agency decision;
- (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
- (e) A concise statement of the ultimate facts alleged, including the specific facts that the petitioner contends warrant reversal or modification of the agency's proposed action;
- (f) A statement of the specific rules or statutes that the petitioner contends require reversal or modification of the agency's proposed action, including an explanation of how the alleged facts relate to the specific rules or statutes; and
- (g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wishes the agency to take with respect to the agency's proposed action.

The petition must be filed (received by the Clerk) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000. Also, a copy of the petition shall be mailed to the applicant at the address indicated above at the time of filing.

Time Period for Filing a Petition

In accordance with Rule 62-110.106(3), F.A.C., petitions for an administrative hearing by the applicant must be filed within 14 days of receipt of this written notice. Petitions filed by any persons other than the applicant, and other than those entitled to written notice under Section 120.60(3), F.S. must be filed within 14 days of publication of the notice or within 14 days of receipt of the written notice, whichever occurs first. Under Section 120.60(3), F.S., however, any person who has asked the Department for notice of agency action may file a petition within 14 days of receipt of such notice, regardless of the date of publication. The failure to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention (in a proceeding initiated by another party) will be only at the discretion of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

Extension of Time

Under Rule 62-110.106(4), F.A.C., a person whose substantial interests are affected by the Department's action may also request an extension of time to file a petition for an administrative hearing. The Department may, for good cause shown, grant the request for an extension of time. Requests for extension of time must be filed with the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, before the applicable deadline for filing a petition for an administrative hearing. A timely request for extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

Mediation

Mediation is not available in this proceeding.

Judicial Review

Any party to this action has the right to seek judicial review pursuant to Section 120.68, F.S., by filing a Notice of Appeal pursuant to Rules 9.110 and 9.190, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 3900 Commonwealth Boulevard, M.S. 35, Tallahassee, Florida 32399-3000; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date this action is filed with the Clerk of the Department.

Thank you for applying to the Submerged Lands and Environmental Resource Permit Program. If you have any questions regarding this matter, please contact Aaron Sarchet at the letterhead address or at (904) 256-1654, or via his email address Aaron.Sarchet@dep.state.fl.us.

Executed in Duval County, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION



James R. Maher, P.E.
Program Administrator
Submerged Lands & Environmental
Resource Program

Attachments:

Exhibit 1, Project Drawings and Design Specs., 11 pages
Exhibit 2, Mitigation Plan, 20 pages
Commencement notice /62-343.900(3)
Annual status report/62-343.900(4)
As-built certification/62-343.900(5)
Inspection certification/62-343.900(6)
Transfer construction to operation phase/ 62-343.900(7)
Application for transfer of an ERP permit/62-343.900(8)

Copies furnished to:


U.S. Army Corps of Engineers
FWC, Imperiled Species Management Section
File

CERTIFICATE OF SERVICE

The undersigned hereby certifies that this permit and authorization to use sovereignty submerged lands, including all copies, were mailed before the close of business on 2-4-2013, to the above listed persons.

FILING AND ACKNOWLEDGMENT

FILED, on this date, under 120.52(7) of the Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.



Clerk

2-4-2013

Date

Permittee: Army Corps of Engineers
Permit No: 16-312956-001-EI
Page 14 of 14

Issue Date: February 4, 2013
Expiration Date: February 4, 2018

NOTICES SUBMITTED TO THE DEPARTMENT

Your permit DEP File No.: 16-312956-001-EI requires you to submit the attached Notices to the Department at the times indicated. Failure to submit these notices will constitute noncompliance with the conditions of your permit and an enforcement action may be brought against you. If you are using a contractor you are responsible for ensuring these notices are submitted to the Department.

PLEASE NOTE - References to stormwater management systems in the attached forms refers to the activity or activities authorized in your permit.

CONSTRUCTION COMMENCEMENT NOTICE -- FORM 62-343.900(3)

To be submitted 48 hours PRIOR to the commencement of the activity.

ANNUAL STATUS REPORT - Form 62-343.900(4)

To be submitted annually each JUNE whenever the construction period exceeds one year after the construction commencement date.

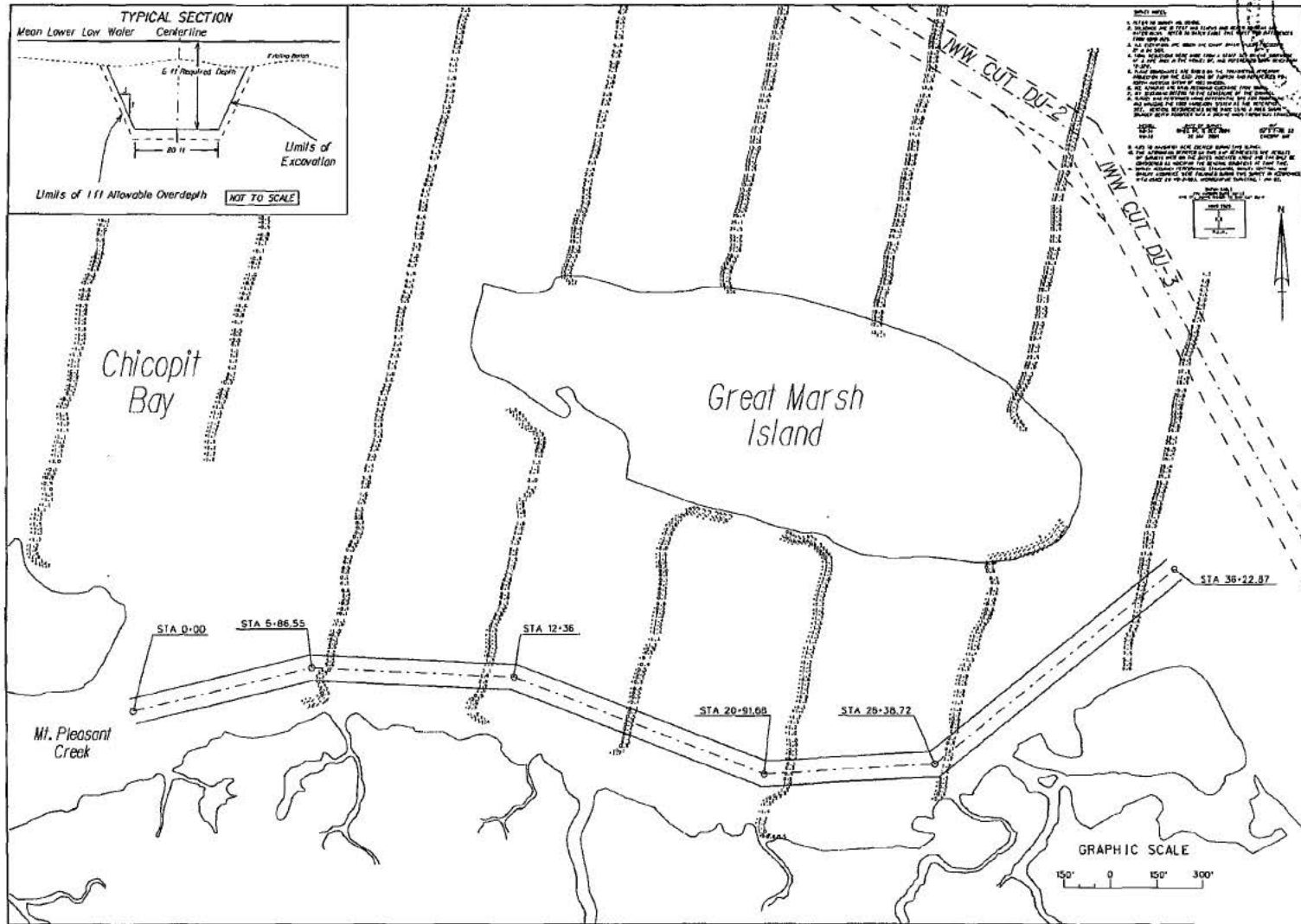
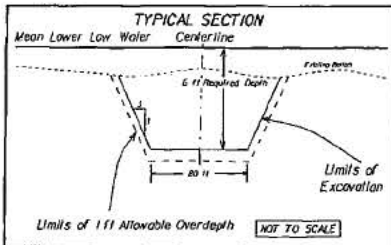
AS BUILT CERTIFICATION PRIVATE RESIDENT -- FORM NED/AS-BUILT

In some cases, such as a single family resident constructing a structure on their own property for their own use, certification by a registered professional is not required. However, written notice to the Department within 30 days of completion of construction of the date the structure was completed is required. If you are a private single family resident property owner please use the As Built Certification - Private Resident form .

APPLICATION FOR TRANSFER OF PERMIT -- Form 62-343.900(8)

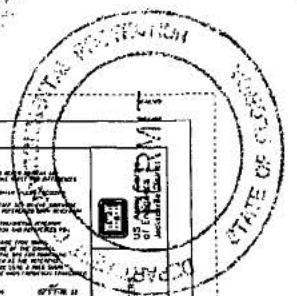
To be submitted within 30 days of any sale, conveyance, or other transfer of ownership or control of the permitted system or real property at which the system is located.

SUBMIT ALL NOTICES TO: Department of Environmental Protection
Environmental Resources Program
8800 Baymeadows Way West, Suite 100
Jacksonville, Florida 32256



NOTES:

1. THIS PLAN IS TO BE CONSIDERED AS A GENERAL GUIDE ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR VERIFYING THE EXISTING CONDITIONS ON THE SITE.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR VERIFYING THE EXISTING CONDITIONS ON THE SITE.
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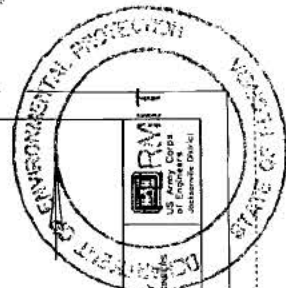
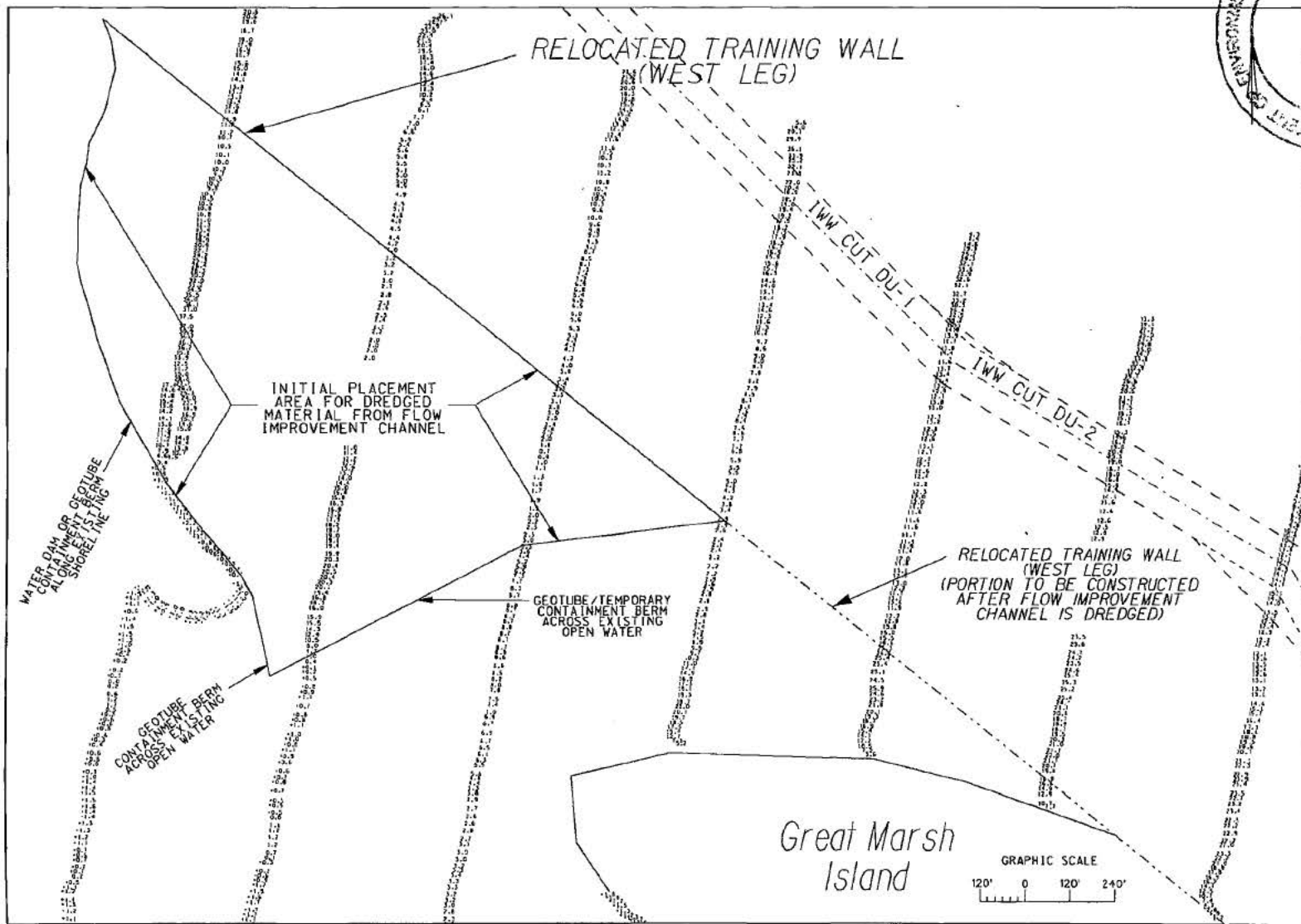
DEPARTMENT OF THE ARMY
 JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
 JACKSONVILLE, FLORIDA

DATE: _____
 DRAWN BY: _____
 CHECKED BY: _____
 DATE: _____

NOT FOR CONSTRUCTION

JACKSONVILLE HARBOR WATER FRONT
 BRACING WALL RECONFIGURATION
 JACKSONVILLE, FLORIDA
 WATER QUALITY CERTIFICATION APPLICATION
 FOR BRACING WALL RECONFIGURATION
 PLAN AND TYPICAL SECTION

PLATE
 10

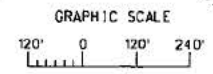
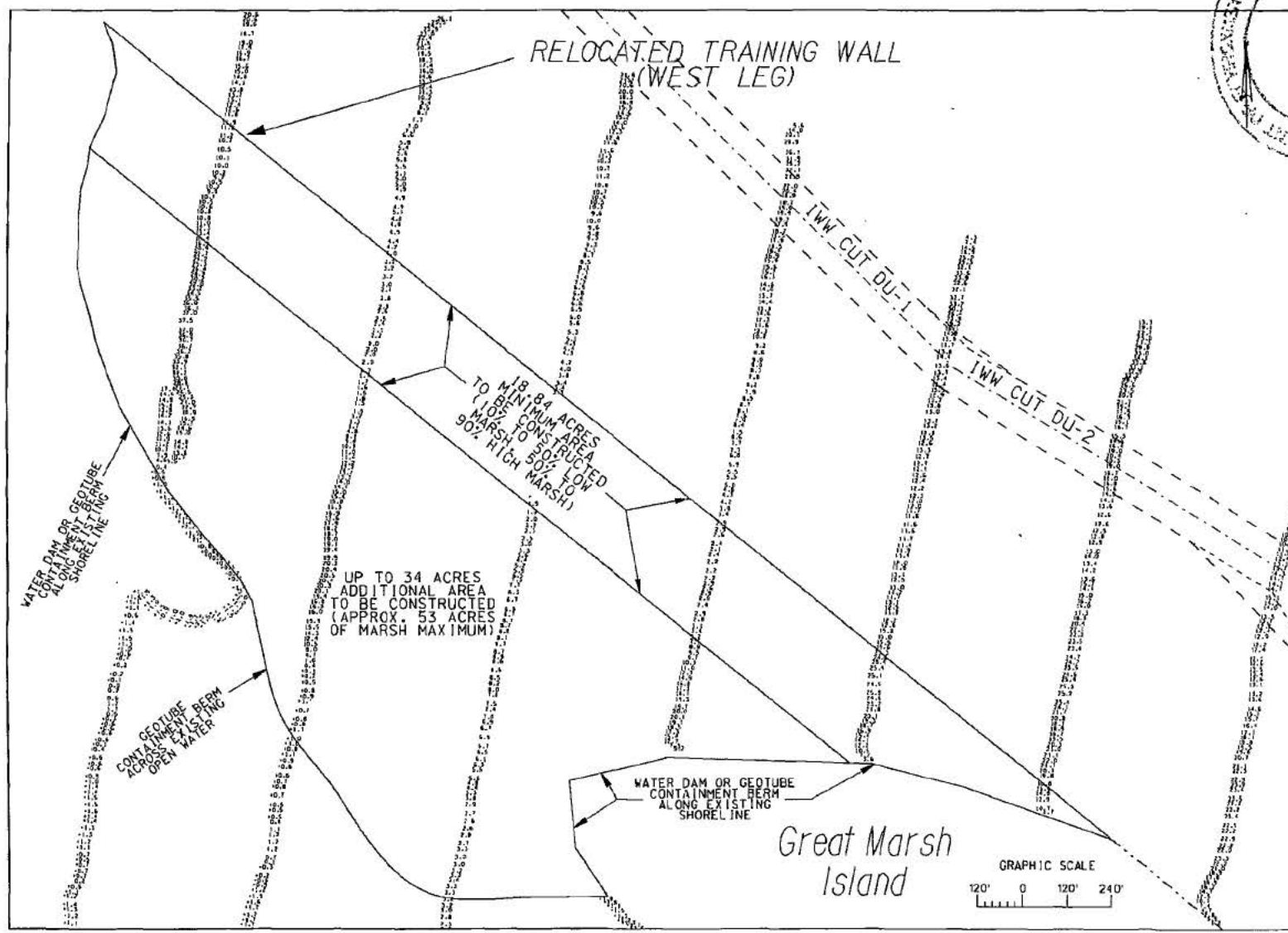


DEPARTMENT OF THE ARMY
 JACKSONVILLE DISTRICT, COMPS OF ENGINEERS
 JACKSONVILLE, FLORIDA

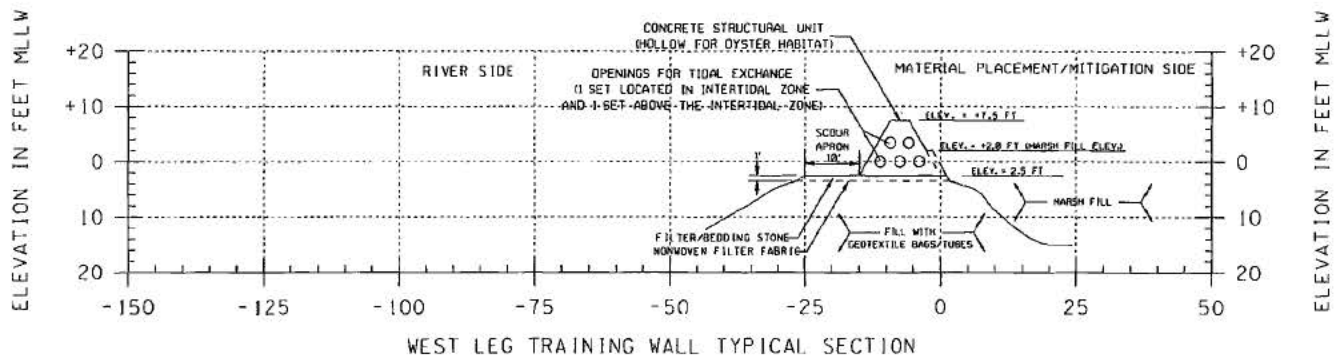
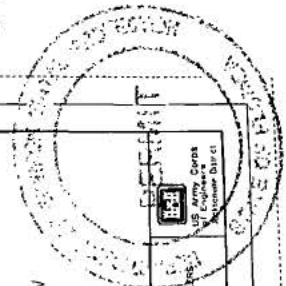
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Contract No.	100-100-100-100
Issue No.	100-100-100-100
Issue Date	JULY 2002
Issue By	WDC PLATES
Issue For	NOT FOR CONSTRUCTION

JACKSONVILLE HARBOR MILE TOW
 TRAINING WALL RECONFIGURATION
 JACKSONVILLE, FLORIDA
 WATER QUALITY ELICITATION APPLICATION
 TEMPORARY CONTAINMENT AREA FOR F.C. MATERIAL

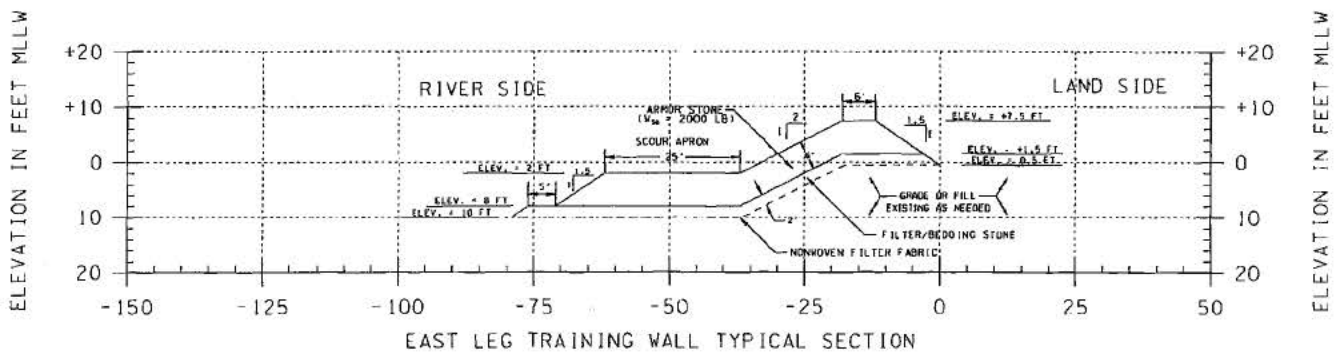
PLATE
 9



		DEPARTMENT OF THE ARMY JACKSONVILLE DISTRICT OFFICE JACKSONVILLE, FLORIDA	
For Name: _____ Title: _____ Date: _____	Date by: _____ Date: _____	Name of Draw: _____ Date: _____ Title: _____	WCC PLATES NOT FOR CONSTRUCTION
JACKSONVILLE HARBOR BILE POINT TRAILER MARSH JACKSONVILLE, FLORIDA WALKER QUALITY DESIGNATION APPLICATION MATERIAL PLACEMENT/MIGRATION AREA - DIVISIONAL SITE PLAN			
PLATE 8			

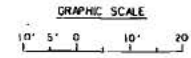


WEST LEG TRAINING WALL TYPICAL SECTION



EAST LEG TRAINING WALL TYPICAL SECTION

- NOTES:**
1. FILTER FABRIC TO EXTEND UP LAND SIDE SLOPE FACE TO ELEV. +5 MLLW.
 2. FINAL SECTION WILL VARY ALONG ALIGNMENT BASED ON EXISTING CONDITIONS AT TIME OF P&S SURVEY.
 3. HIGH AND LOW MARSH ELEVATIONS WILL BE DETERMINED BY SURVEY OF EXISTING MARSH IN PROJECT VICINITY.

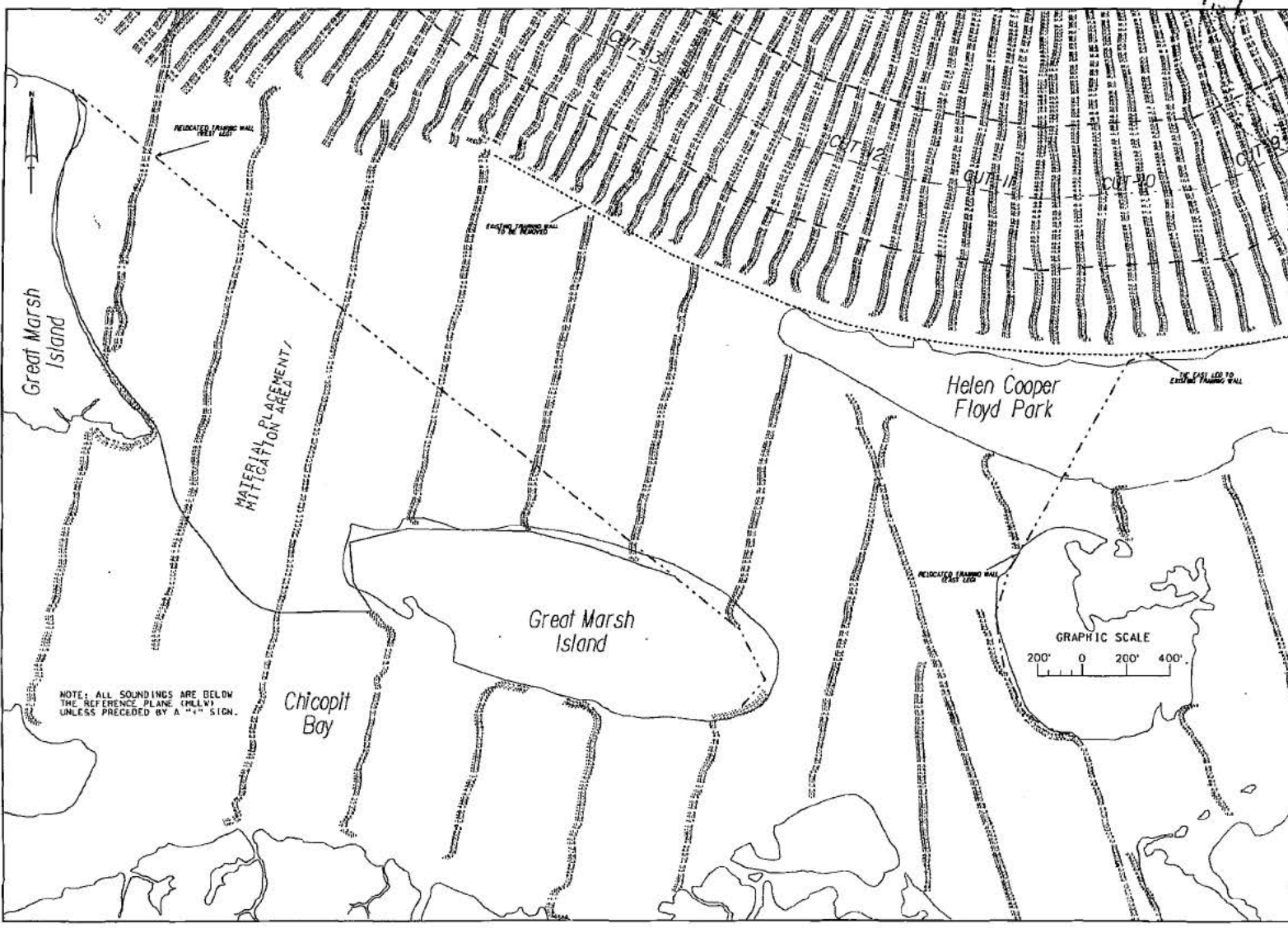
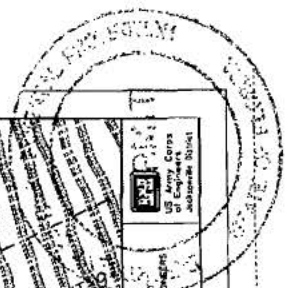


DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT

JACKSONVILLE MARSH WALKWAY
RECONSTRUCTION
JACKSONVILLE, FLORIDA
WATER QUALITY CERTIFICATION APPLICATION
RELOCATED EAST AND WEST LEGS TYPICAL SECTIONS

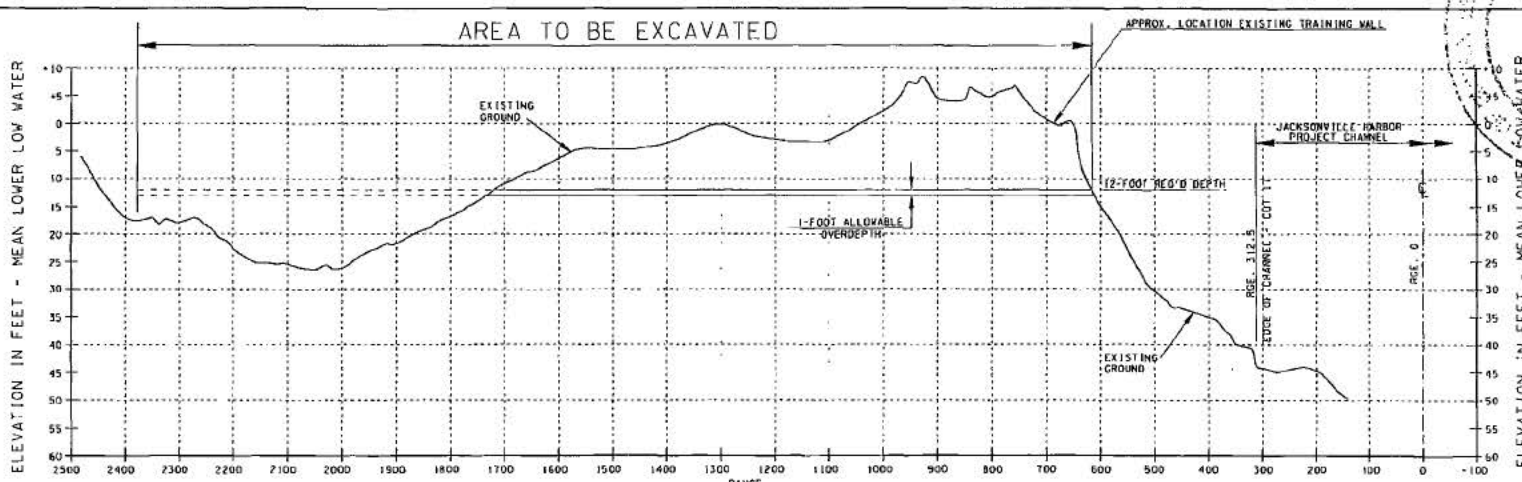
NOT FOR CONSTRUCTION

PLATE
7

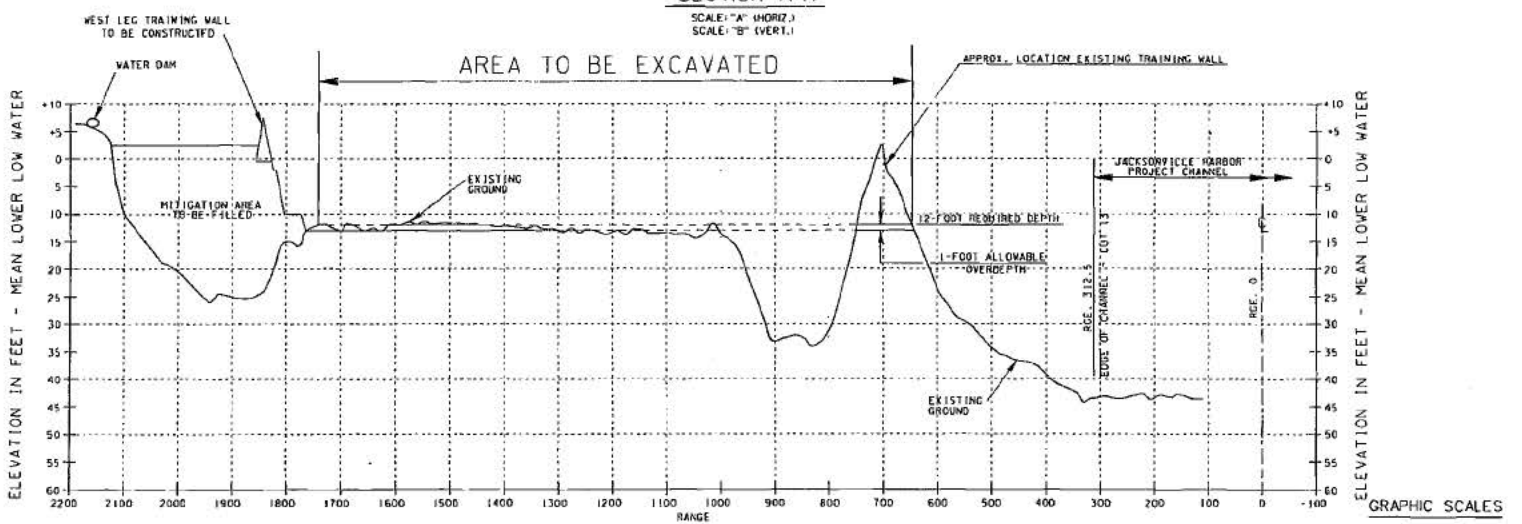


NOTE: ALL SOUNDINGS ARE BELOW THE REFERENCE PLANE (MLLW) UNLESS PRECEDED BY A "H" SIGN.

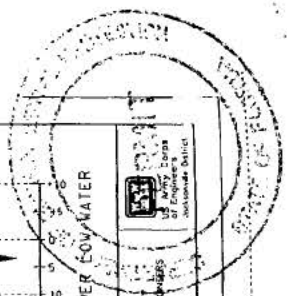
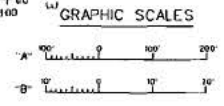
DEPARTMENT OF THE ARMY JACKSONVILLE DISTRICT CORPS OF ENGINEERS JACKSONVILLE, FLORIDA	
Project No. 2002-01	Project Name WOOD PILES
Contract No. W-33-2002-01	Contract Name NOT FOR CONSTRUCTION
Contract Start Date 10/01/2002	Contract End Date 09/30/2002
JACKSONVILLE MARSH MILE POINT TRAINING WALL RECONFIGURATION JACKSONVILLE, FLORIDA WATER QUALITY CERTIFICATION APPLICATION PROJECT AREA - BAINMEIRY	
PLATE 6	



SECTION A-A
SCALE: "A" (HORIZ.)
SCALE: "B" (VERT.)



SECTION B-B
SCALE: "A" (HORIZ.)
SCALE: "B" (VERT.)



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

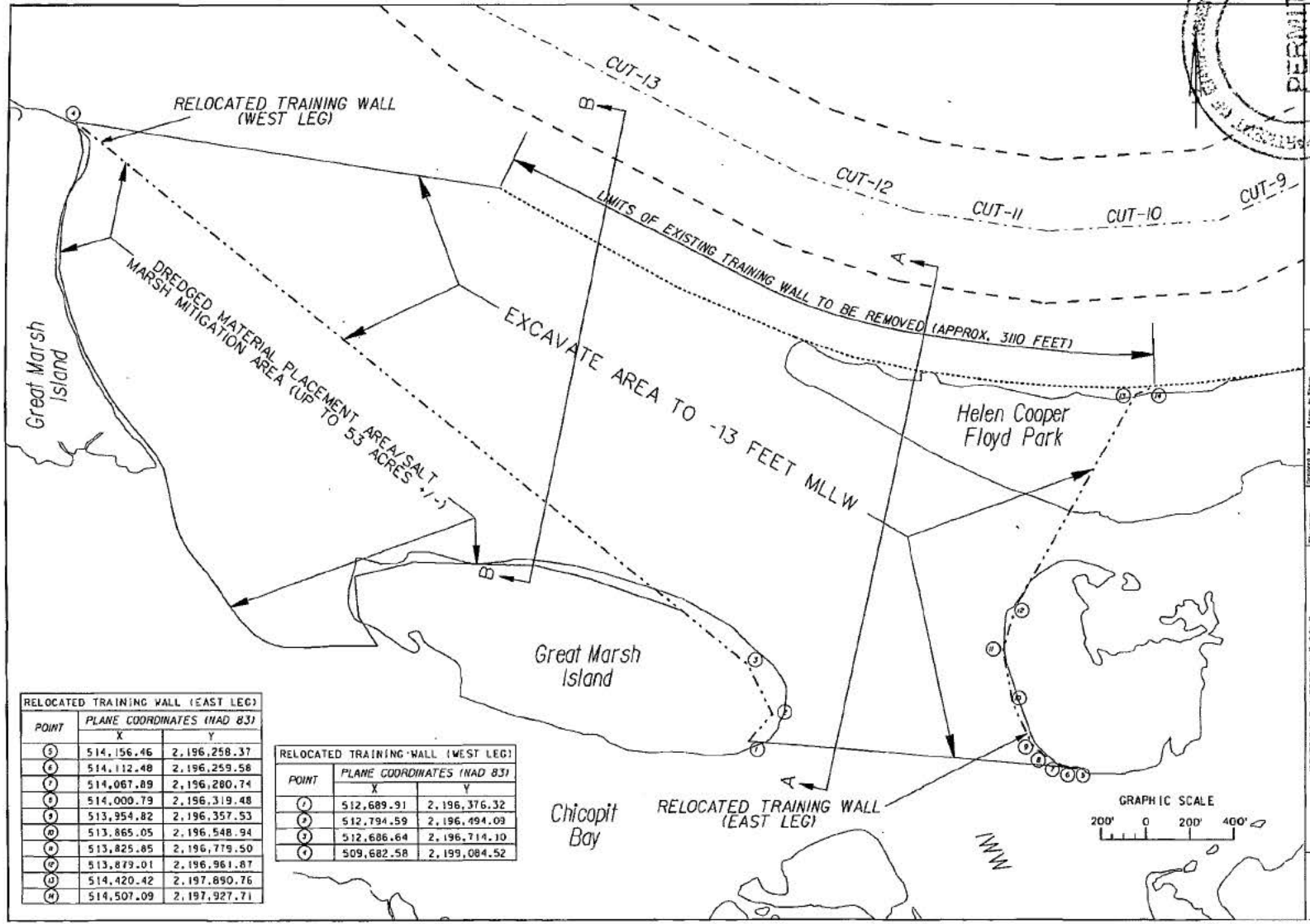
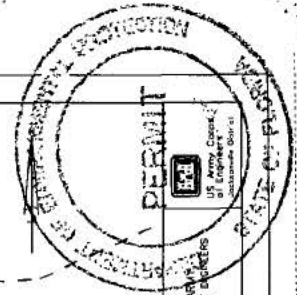
Approved by: _____
Specialist in Charge

Checked by: _____
Lieutenant Colonel

For name: _____
Reference file: _____

JACKSONVILLE HARBOUR HILL POINT
TRAINING WALL RECONSTRUCTION
JACKSONVILLE, FLORIDA
WATER QUALITY MITIGATION APPLICATION
TYPICAL EXCAVATION SECTIONS
ACT FOR CONSTRUCTION

PLATE
5



RELOCATED TRAINING WALL (EAST LEG)		
POINT	PLANE COORDINATES (NAD 83)	
	X	Y
1	514,156.46	2,196,258.37
2	514,112.48	2,196,259.58
3	514,067.89	2,196,280.74
4	514,000.79	2,196,319.48
5	513,954.82	2,196,357.53
6	513,865.05	2,196,548.94
7	513,825.65	2,196,779.50
8	513,819.01	2,196,961.87
9	514,420.42	2,197,890.76
10	514,507.09	2,197,927.71

RELOCATED TRAINING WALL (WEST LEG)		
POINT	PLANE COORDINATES (NAD 83)	
	X	Y
1	512,689.91	2,196,376.32
2	512,794.59	2,196,494.09
3	512,686.64	2,196,714.10
4	509,682.58	2,199,084.52

DEPARTMENT OF THE ARMY
 JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
 JACKSONVILLE, FLORIDA

PROJECT: JACKSONVILLE HARBOR MILE POINT TRAINING WALL RELOCATION
 DRAWING NO.: 110-1000-100-100
 SHEET NO.: 4
 DATE: 6/15/72
 NOT FOR CONSTRUCTION

TRAINING WALL RELOCATION - CONTIG. DATA

PLATE
 4

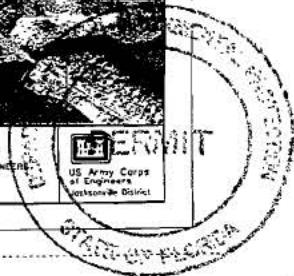


3
PLATE

JACKSONVILLE HARBOR MILE POINT
TRAINING WALL RECONFIGURATION
JACKSONVILLE, FLORIDA
WATER QUALITY CERTIFICATION APPLICATION
TRAINING WALL RECONFIGURATION PLAN

File Name:	Designed by:	Scale:	No. Sheets:
Reference File:	SWC	1:500	250
	Drawn by:	Date:	Revised:
	SWC	10/1/2010	
	WQC PLATES NOT FOR CONSTRUCTION		

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA





2 PLATE

JACKSONVILLE HARBOR MLE POINT
 TRAINING WALL RECONFIGURATION
 JACKSONVILLE, FLORIDA
 WATER QUALITY CLIFICATION APPLICATION
 EXISTING PROJECT

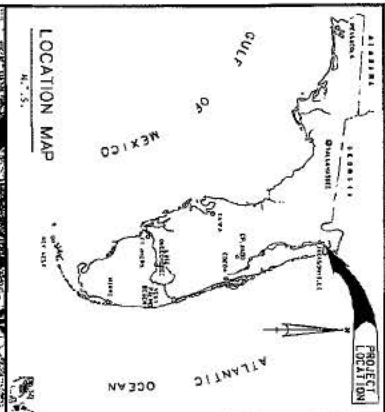
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Reference file	Draw by	Date
	SFC	JUL 2002
	LMC	Revised
	WQC PLATES NOT FOR CONSTRUCTION	

DEPARTMENT OF THE ARMY
 JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
 JACKSONVILLE, FLORIDA





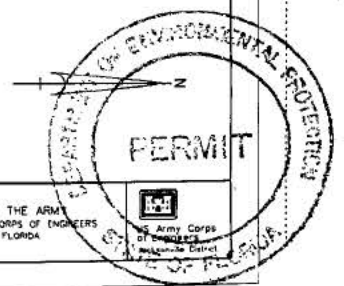
VICINITY MAP



JACKSONVILLE HARBOR



GRAPHIC SCALE



1 PLATE	JACKSONVILLE HARBOR WILE POINT TRAINING WALL RECONFIGURATION JACKSONVILLE, FLORIDA WATER QUALITY CERTIFICATION APPLICATION PROJECT LOCATION AND VICINITY MAP			DEPARTMENT OF THE ARMY JACKSONVILLE DISTRICT, CORPS OF ENGINEERS JACKSONVILLE, FLORIDA
	File name Reference list	Drawn by SDC Checked by SDC Date 1/10/00	Scale As Shown Revised WQC PLATES NOT FOR CONSTRUCTION	Army Corps of Engineers Jacksonville District Jacksonville, Florida

APPENDIX D

**MITIGATION PLAN AND INCREMENTAL
ANALYSIS**

**NAVIGATION STUDY FOR JACKSONVILLE
HARBOR (MILE POINT) STUDY**

DUVAL COUNTY, FLORIDA

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1 MITIGATION PLAN SUMMARY

The U.S. Army Corps of Engineers-Jacksonville District (Corps) proposes to reconfigure the existing training wall (Alternative VE-3B) which lies immediately north of Helen Cooper Floyd Park (HCFP) in Duval County, Florida. As detailed in the main report, Alternative VE-3B would provide navigation benefits as well as reduce erosive forces along the Mile Point shoreline. However, in order to reconfigure the wall, it would be necessary to clear, grub, and dredge the western portion of HCFP. This action would impact a total of 8.15 acres of salt marsh. Using the Uniform Mitigation Assessment Method (UMAM), it was determined that 18.84 acres of mitigation would be required to offset this loss. An onsite meeting was held with the Florida Department of Environmental Protection, U.S. Fish and Wildlife Service and Florida Fish and Wildlife Conservation Commission in order to discuss the UMAM analysis. Coordination on the analysis is still ongoing.

The mitigation would be performed by restoring salt marsh which historically occurred at nearby Great Marsh Island. However, as a beneficial use of dredged material, the Corps proposes to restore the entire eroded breakthrough at the island, which is up to 53 acres of salt marsh. This would provide 34.16 acres of restored salt marsh in addition to the required 18.84 acres of mitigation, and would result in a significant increase of salt marsh acreage. Construction of the proposed west leg of the training wall would protect the restoration area from future erosion. In addition to the wall, temporary structures such as water dams or bio-degradable geo-tubes would be installed along the other sides of the restoration area in order to provide temporary containment. Dredged material from the western portion of HCFP would be piped into this area in order to restore elevations that can support salt marsh. Additional dredged material would be piped into the restoration area from a Flow Improvement Channel (FIC) within Chicopit Bay. This action would restore the natural flow-way between Mt. Pleasant Creek and the Intracoastal Waterway.

Additional components of the mitigation plan include the following: construction of tidal creeks within the restored marsh; sprigging of the 53 acres of marsh with commercially grown salt marsh species; training walls constructed with material known to support oysters and; placement of oyster shell within a newly constructed tidal channel to provide hard substrate for live oyster colonization. The restored marsh and FIC would be monitored for five years, and corrective action taken if needed.

2 PROJECT DESCRIPTION

2.1 Location

The study area is located in the City of Jacksonville, Duval County, Florida (see Attachment 1: Figure 1 – Project Map). It includes the confluence of the St.

Johns River and Intracoastal Waterway (IWW), the Mile Point shoreline, the western portion of Helen Cooper Floyd Park (HCFP), and Great Marsh Island.

2.2 Brief Project Summary

The study purpose is to determine the source of the Mile Point erosion problem and to provide recommendations for reducing or relocating the difficult crosscurrents during the ebb flow at the confluence of the St. Johns River with the IWW. As detailed in the main report, the U.S. Army Corps of Engineers-Jacksonville District (Corps) proposes to reconfigure the existing training wall, which lies immediately north of HCFP. Alternative 3C would reduce or relocate the difficult cross currents as well as reduce erosive forces along the Mile Point shoreline. However, in order to reconfigure the wall, it would be necessary to clear, grub, and dredge the western portion of HCFP. HCFP is part of the Mayport Naval Station, but is managed by the city of Jacksonville as a park.

2.3 Jurisdictional Areas to be Impacted

In 2004, the U.S. Navy contracted CZR Inc. to identify and delineate wetland boundaries on the Mayport Naval Station, including HCFP. The Regulatory Division of the Corps performed a field inspection in 2005, and determined that the wetlands identified by CZR are jurisdictional and concurred with the delineated boundaries (see Attachment 2: Memorandum on Jurisdictional Determination). The Corps obtained the wetlands shape file from CZR, and was able to verify that jurisdictional wetlands would be impacted by the proposed training wall reconfiguration (see Attachment 1: Figure 2-Wetland Delineation Map). Wetland functions within the project footprint would be lost, as this area would be converted to open water or training wall.

2.4 Description of Jurisdictional Areas

CZR identified the wetlands at HCFP as estuarine, intertidal, emergent, persistent, and irregular. As expected, site inspections revealed that the wetland systems identified by CZR, and within the project footprint, consist of low and high salt marsh. A fringe salt marsh has developed between the training wall and the north shore of HCFP (see Attachment 3: Photo 1), and a substantially larger area of higher quality marsh occurs along the south shore of the park (see Attachment 3: Photo 2). In general, the low marsh is dominated by salt marsh cord grass (*Spartina alterniflora*) transitioning in slightly elevated areas to high marsh species such as sea oxeye (*Borrchia spp.*) and salt grass (*Distichlis spicata*). A tidal channel also occurs within the salt marsh along the southern shore of HCFP. The Corps used the Uniform Mitigation Assessment Method (UMAM) to further evaluate the values and functions of the wetlands within the impact area (see Attachment 4: UMAM Analysis). An onsite meeting was held on 19 August 2011 with the Florida Department of Environmental Protection, U.S. Fish and Wildlife Service and Florida Fish and Wildlife Conservation Commission in order to discuss the UMAM analysis. Coordination on the analysis is still ongoing.

3 GOAL OF MITIGATION

3.1 Type of Wetland to be Restored or Created

In compliance with Section 404 of the U.S. Clean Water Act, the Corps proposes to mitigate for the loss of jurisdictional wetlands, specifically salt marsh, caused by the reconfiguration of the training wall. This would be accomplished by restoring salt marsh that historically occurred in the vicinity of the project.

3.2 Acreage of Impacted Wetland

Overlaying the wetlands shape file from CZR on top of the project footprint, the Corps was able to determine that 2.05 acres of salt marsh which fringes the north shore and 6.10 acres of higher quality marsh along the south shore, total of 8.15 acres, would be lost with the proposed removal of the western portion of HCFP.

3.3 Functions to be Performed by the Restored Wetland

The functions provided by the restored salt marsh should be very similar to functions currently provided by the salt marsh which would be impacted by the project.

4 PROPOSED RESTORATION SITE

4.1 Location and Size of Restoration Area

There are no salt marsh mitigation banks that have been established in northeast Florida. That being the case, the Corps proposes to mitigate for salt marsh impacts at HCFP by restoring salt marsh which historically occurred at nearby Great Marsh Island (see Attachment 5: Historical Maps and Aerial Photos of Great Marsh Island). The marsh at this location has been eroding over the years, and recent site inspections have indicated that it is still actively eroding (see Attachment 3: Photos 3 and 4). It should be noted that identifying appropriate mitigation sites can be problematic. However, in this case, the Great Marsh Island site is ideal due its close proximity to the project and the fact that salt marsh historically occurred at this location. Furthermore, the proposed west leg of the training wall should protect the restoration area from future wave erosion, but allow for tidal exchange. Using UMAM, it was determined that 18.84 acres of mitigation would be required to offset the loss of 8.15 acres of salt marsh at HCFP. As a beneficial use of dredged material, the Corps will attempt to restore the entire eroded breakthrough at Great Marsh Island. This would result in the restoration of approximately 53 acres of marsh, and would provide a significantly higher increase of salt marsh acreage.

4.2 Existing Wetland Functions of Restoration Area

Due to on-going erosion, the restoration area is currently open water and there is no emergent vegetation or wetland habitat.

4.3 Present Uses of Restoration Area

Recreational boat traffic is currently navigating through the proposed restoration area in order to reach the St. Johns River. If the area was restored to salt marsh, then recreational boat traffic would need to access the St. Johns River through Chicopit Bay and the Intracoastal Waterway.

5 RESTORATION IMPLEMENTATION PLAN

5.1 Site Preparation - Phase 1

To help insure success, the proposed restoration plan would be implemented in phases. Phase 1 work activities would include the following:

- Survey – Prior to performing any earth moving work, survey data would be collected from the salt marsh within the project footprint at HCFP, and also from the remaining salt marsh adjacent to the eroded restoration area. The survey would be performed using equipment with sufficiently accurate capabilities (accurate to within 1-2 cm), such as Real Time Kinematic equipment. A wetland scientist would accompany the survey team, and would collect a minimum of five elevation points each from high marsh, low marsh and tidal channel locations. This data would be used to determine the necessary elevations for restoring high and low marsh as well as tidal channels within the restoration area. For planning purposes, estimated elevations of + 2 feet above mean lower low water (mllw) for low marsh, + 3 feet above mllw for high marsh, and 0 to -1 feet mllw for tidal channels were used in the main report (see Attachment 1; Figure 4-Planting Detail Typical Profile). Existing elevations or depths of the eroded restoration area would also be determined prior to material placement.
- Structures – The west leg of the training wall would be constructed along the north side of the mitigation site, and would consist of large boulders with smaller filter stone. This structure would allow for tidal exchange, but the filter stone should minimize sediment from passing through. Water dams or geo-textile tubes filled with water or bio-degradable geo-textile tubes filled with sand would be placed along the west, east, and south sides of the mitigation site (see Attachment 1; Figure 3 – Great Marsh Island Restoration Site). The tube along the southern border would follow the shallow contour of the bottom, and therefore would have a slightly undulating shape. It would also have one or more low points to allow for overflow. These temporary structures would contain dredged material during placement activities, as well as avoid turbidity violations. Additional information on the proposed structures can be found within the Engineering Appendix of the main report.

- Dredged Material Placement – Once the structures are in place, dredged material would be pumped by a hydraulic dredge from the western portion of HCFP and the IWW to the restoration site. The pipeline would be periodically moved to different locations within the placement area in order to avoid excessive build-up in one spot, and the target elevation would be slightly greater than the elevations obtained from adjacent marshes in order to account for settling.
- Chicopit Bay Flow Improvement Channel – The proposed restoration of Great Marsh Island would close the existing northern connection between Chicopit Bay and the St. Johns River. This connection was created by the erosion and loss of salt marsh in the 1990's. Shoaling within the bay has also decreased the amount of flow or flushing effect coming from the east, or from the bay's historic connection with the IWW. Therefore, the Corps proposes to construct a flow improvement channel within Chicopit Bay, which should improve the flushing of the bay as well as provide deeper water Essential Fish Habitat. The channel would be constructed from the IWW, through the shoal within the bay, and ending at the mouth of Mt. Pleasant Creek. According to NOAA navigation charts (1993), Chicopit Bay had depths as great as 9 feet, but depths in this area have greatly decreased over subsequent years due to shoaling. Dredged material from the flow improvement channel would be used to restore salt marsh at Great Marsh Island. Additional information on dredging the channel can be found in Appendix A: Engineering Design and Cost Estimates.

5.2 Site Preparation - Phase 2

The dredged material placed within the restoration area would be initially bulked. After a sufficient amount of time has passed to allow for settling, e.g. up to 365 days, the following actions shall be taken:

- Survey – The restoration area would again be surveyed, and a sufficient number of transects and stations would be established in order to obtain adequate coverage. Site elevations would then be compared to the target elevations previously obtained from the adjacent marshes.
- Final Contour – Depending upon the survey results, material would be added or subtracted from the restoration area in order to achieve the desired elevations for low and high salt marsh. If necessary, the first option would be to move material to different locations within the restoration area so that target elevations are achieved. Excess material could be moved off-site, i.e. to Buck Island. Additional material could also be dredged from the remaining shoal in Chicopit Bay, or brought in from the upland area on the eastern end of Great Marsh Island. This upland area is comprised of spoil material, and significant resources are not known to occur at this location. Biological surveys for species like gopher tortoises would be performed prior to using this site as a source of borrow

material, and the site would be graded and planted with native vegetation if borrow material is removed.

- Tidal Channels – A minimum of three tidal channels (in excess of 1.6 acres) would be constructed throughout the restoration area. As stated earlier, bottom elevations of the channels would be comparable to elevations of existing tidal channels in adjacent salt marsh. The channels would have sections that remain submerged (elevation of -1 feet below mllw, average top width of 25 feet and a total linear length in excess of 3,200 feet, or approximately 1.8 acres). Other sections would be exposed at low tide (elevation of 0 to +1 feet above mllw, average top width of 15 feet, and a total linear length in excess of 4,600 feet, or approximately 1.6 acres). The channels would follow the lowest contours of the site after placed material has settled.
- Oyster Habitat – A widener would be constructed in one of the tidal channels. This widened section would be roughly 50 feet in length, with a maximum width of 30 feet, and tapering back to the 5 foot wide channel. Oyster shell shall be placed intermittently within the channel, including the widened section. The shell should be readily colonized by spats, or juvenile oysters. In addition to the tidal channels, the reconfigured east leg (0.37 acres) and new west leg (0.76 acres) of the training wall would be constructed using materials (i.e. boulders, concrete, etc.) that are known to support oysters for a total of 1.13 acres of oyster/intertidal habitat. The creation of this new habitat should offset the loss of the 0.30 acres of oyster habitat within the salt marsh at HCFP and the 0.56 acres along the intertidal edge of the existing training wall, total of 0.86 acres. Field inspections have indicated that the primary oyster habitat at HCFP appears to be confined to mudflats outside the project foot print.
- Planting – The entire restoration area (53 acres) would be planted with commercially grown salt marsh species (i.e. *Spartina alterniflora*). All species would be planted on 3 foot centers, which are equivalent to 4,840 plants per acre (see Attachment 1; Figure 4 – Planting Detail Typical Profile). Since planting would occur after the placed dredged material has settled (i.e. after one year), some natural recruitment is expected and planting could be much less than the 53 acres.
- Structure Removal – If water dams are used, then they would be drained and removed after the area stabilizes. If geo-tubes are used, then they would be allowed to bio-degrade. Geo-tubes should eventually be colonized by plants.

5.3 Monitoring – Phase 3

After the site preparation is completed, the salt marsh restoration area would be monitored on an annual basis for five years. Monitoring would include the following:

- Stability – The stability of the dredged material, tidal channels, as well as the training wall and remaining geo-tube would be assessed. In the event that erosion occurs, the percent of affected area would be determined.
- Hydrology – A qualitative analysis shall be performed to determine whether the hydrology of the site continues to be suitable for low and high marsh habitats.
- Vegetation – Percent cover (including species type) of the restoration area and an adjacent reference wetland would be ascertained using a sufficient number of randomly selected 1-meter² quadrants along transect lines.
- Photography – High and low marsh, tidal creeks, as well as the training wall and tubes would be photographed from pre-assigned and marked locations. Vegetation transect lines from the restoration area and reference wetland would also be photographed.
- Annual Reports – Reports would include maps of the restoration area, a description of marsh stability including observed erosion, a qualitative analysis of site hydrology, an analysis of percent cover data including percentage of high marsh, photographs of the restoration area and vegetation transect lines, copies of field data, and recommendations.

Monitoring and corrective action, if needed, of the proposed Flow Improvement Channel (FIC) would also be implemented for five years. The FIC monitoring plan is currently under development.

6 FINAL SUCCESS CRITERIA

The project shall be considered a success, if after five years of monitoring the following criteria are met:

- Loss of restored marsh to erosion is less than 10%.
- Hydrological conditions remain favorable for low and high marsh habitats.
- High marsh comprises at least 10% of the total restoration area.
- Percent cover analysis indicates that the plant community in the restoration area is similar to the adjacent reference wetland.

- The tidal channel seeded with oyster shell remains stable or open.
- The west and east legs of the training wall are colonized by oysters.

7 CONTINGENCY PLAN

Environmental monitoring over a period of five years will help insure the sustainability of the restoration site. The Corps shall be ultimately responsible for ensuring that the final success criteria are met, and will take corrective actions as necessary. If deemed necessary by the Corps, any corrective actions may be monitored for at least five years from the time they were implemented.

8 ADAPTIVE MANAGEMENT

Adaptive management shall be applied during the implementation of this plan. In other words, the Corps shall use a common sense approach to make decisions that may deviate from the plan's design features. For example, it may be beneficial to use other types of containment structures, create additional tidal channels or create a higher percentage of high marsh. Significant changes in this plan shall be coordinated with the appropriate resource agencies.

The salt marsh restoration design at Great Marsh Island is based on existing conditions, or current sea level, in order to achieve requisite elevations that would support low and high salt marsh as well as intertidal oyster beds. The restoration of these habitats cannot be performed using projected future sea level as the target species for these habitats would not be able to survive at current water levels. As an adaptive management measure to address future sea level rise, additional dredged material could be used when appropriate to increase the elevation of the Great Marsh Island restoration site and maintain salt marsh and other habitats.

9 INCREMENTAL ANALYSIS

9.1 Alternative Plans

As discussed in the main report for the Tentatively Selected Plan (TSP), the Corps proposes to reconfigure the Mile Point Training Wall which should allow for the lifting of restrictions to navigation and reduce erosion along Mile Point. The Corps evaluated the following restoration alternatives to mitigate for impacts to salt marsh caused by the TSP:

- Alternative 1 – Mitigation performed on a 1:1 ratio plus 8.15 acres of Planting: This increment was added for comparison sake, but it is not acceptable to regulatory agencies as it does not adequately compensate for the loss caused by the project. Plus, the project would generate dredged material in excess of the amount needed to perform mitigation on a 1:1 ratio. Therefore, this excess material would be transported to

another placement area, i.e. the Buck Island upland disposal site. The proposed 8.15 acre restoration area at Great Marsh Island would be sprigged with commercially grown salt marsh species at 3 foot centers.

- Alternative 2 – Required Mitigation plus 18.84 acres of Planting: As previously stated, the UMAM analysis determined that 18.84 acres of mitigation acreage would be required to offset the 8.15 acres of salt marsh lost at HCFP. However, the project would generate dredged material in excess of the amount of material required to complete the mitigation. Therefore, this excess material would have to be transported to another placement area, i.e. the Buck Island upland disposal site. The proposed 18.84 acre restoration area at Great Marsh Island would be sprigged with commercially grown salt marsh species at 3 foot centers.
- Alternative 3 – Optimal Restoration plus 18.84 acres of Planting: An estimated 45 acres would be restored at Great Marsh Island as previously stated in Alternative 2. However, only the required mitigation area (18.84 acres) would be planted. The remaining 26.16 acres would not be planted, but should be colonized by salt marsh species through natural recruitment.
- Alternative 4 – Optimal Restoration plus 45 acres of Planting: The required mitigation (18.84 acres) would be completed, and up to 26.16 acres of additional salt marsh would be restored at Great Marsh Island for a total of 45 acres. There would be no excess dredged material from the project which would have to be transported to another placement area, i.e. Buck Island. All 45 acres would be sprigged with transplanted salt marsh species at 3 foot centers.
- Alternative 5 – Expanded Restoration plus 18.84 acres of Planting: The 45 acres of eroded marsh at Great Marsh Island would be restored, and 8 acres of additional marsh would be restored for a total of 53 acres. Material for the additional 8 acres of restoration would come from the dredging of the proposed flow improvement channel in Chicopit Bay. Only the required mitigation area (18.84 acres) would be planted. The remaining 34.16 acres would not be planted, but should be colonized by salt marsh species through natural recruitment.
- Alternative 6 – Expanded Restoration plus 45 acres of Planting: The 45 acres of eroded marsh at Great Marsh Island would be restored, and 8 acres of additional marsh would be restored for a total of 53 acres. Material for the additional 8 acres of restoration would come from the dredging of the proposed Flow Improvement Channel in Chicopit Bay. All 45 acres would be sprigged with commercially grown salt marsh species at 3 foot centers.

- Alternative 7 – Expanded Restoration plus 53 acres of Planting: The 45 acres of eroded marsh at Great Marsh Island would be restored, and 8 acres of additional marsh would be restored for a total of 53 acres. Material for the additional 8 acres of restoration would come from the dredging of the proposed flow improvement channel in Chicopit Bay. The proposed 53 acres would be sprigged with transplanted salt marsh species at 3 foot centers.

9.2 Dredged Material Placement Cost

The estimated project cost for each Alternative is shown in Table 1. This project cost includes dredged material placement costs but excludes planting costs. Alternative 2 shows the estimated cost for dredged material placement in order to complete the required mitigation (18.84 acres), and the cost for taking surplus material to Buck Island. Alternatives 3 and 4 show the estimated cost for dredged material placement in order to restore 45 acres at Great Marsh Island. Alternative 5, 6, and 7 show the estimated total dredging cost for the expanded restoration area, which is 53 acres.

Table 1: Estimated Project Cost including Dredged Material Placement Cost (does not include planting costs)

ALTERNATIVE	ESTIMATED COST
Alternative 1 – Mitigation (1:1 Ratio) 8.15 acres	\$41,576,954
Alternative 2 – Required Mitigation 18.84 acres	\$41,576,954
Alternative 3 – Optimal Restoration 18.84 acres	\$34,126,159
Alternative 4 – Optimal Restoration 45 acres	\$34,126,159
Alternative 5 – Expanded Restoration 18.84 acres	\$34,604,618
Alternative 6 – Expanded Restoration 45 acres	\$34,604,618
Alternative 7 – Expanded Restoration 53 acres	\$34,604,618

9.3 Planting Cost

Planting the required mitigation area (18.84 acres) may be mandated by the regulatory agencies. It is generally believed that planting accelerates development of salt marsh plant communities, especially in larger restoration efforts. That being the case, some variation of planting was considered for each alternative. Alternatives 2, 4, and 5 would plant the required mitigation area (18.84 acres only), whereas Alternatives 3 and 6 would plant up to 45 acres, and Alternative 7 would plant up to 53 acres. The estimated planting cost for each alternative is shown in Table 2.

Table 2: Estimated Planting Cost with 29% Contingency

ALTERNATIVE	ESTIMATED COST
Alternative 1 – Mitigation (1:1 Ratio) plus 8.15 acres Planting	\$240,206
Alternative 2 – Required Mitigation plus 18.84 acre Planting	\$555,273
Alternative 3 – Optimal Restoration plus 18.84 acre Planting	\$555,273
Alternative 4 – Optimal Restoration plus 45 acre Planting	\$1,326,288
Alternative 5 – Expanded Restoration plus 18.84 acre Planting	\$555,273
Alternative 6 – Expanded Restoration plus 45 acre Planting	\$1,326,288
Alternative 7 – Expanded Restoration plus 53 acre Planting	\$1,562,073

9.4 Cost of Each Mitigation Alternative

The total cost for each alternative is shown in Table 3. Alternative 2 would provide the required mitigation acreage (18.84 acres) to offset project related impacts to salt marsh. Alternatives 3 and 4 are more desirable since they would provide additional restoration benefits, i.e. increased salt marsh functions and values, and they would likely use all dredged material from the western portion of HCFP and the IWW. Alternative 4 would plant only the required mitigation area (18.84 acres). The remaining portion of the restoration site (26.16 acres) would not be planted, but should be colonized by salt marsh species through natural recruitment. Alternatives 5, 6, and 7, are the most desirable because they would restore up to 53 acres of salt marsh at varying rates, and they would all provide capacity for dredged material resulting from the construction of the proposed Flow Improvement Channel.

Table 3: Estimated Total Mitigation Cost for Each Alternative

ALTERNATIVE	ESTIMATED COST
Alternative 1 – Mitigation (1:1 Ratio) plus 8.15 acres Planting	\$465,888
Alternative 2 – Required Mitigation plus 18.84 acre Planting	\$1,076,973
Alternative 3 – Optimal Restoration plus 18.84 acre Planting	\$1,801,372
Alternative 4 – Optimal Restoration plus 45 acre Planting	\$2,572,387
Alternative 5 – Expanded Restoration plus 18.84 acre Planting	\$2,022,901
Alternative 6 – Expanded Restoration plus 45 acre Planting	\$2,793,916
Alternative 7 – Expanded Restoration plus 53 acre Planting	\$3,029,701

9.5 Incremental Analysis of Alternatives

Incremental analysis of alternatives is conducted in order to determine the best buy option for the project. This analysis uses the IWR Planning Suite Software to combine management measure into alternatives and perform comparisons.

The previously outlined six alternatives reflect the combined management measures that are feasible for this study. These alternatives are evaluated using incremental analysis of costs and benefit basis to arrive at the best buy alternative.

Analysis with the IWR Planning Suite Software incorporates a realized benefit from each alternative. This benefit can be expressed in Habitat Units (HUs) gained or created. For this analysis, certain combinations of dredging and planting create more acres of material than acres being planted. Unplanted acres refer to the area where dredged material is placed in Great Marsh Island but not planted during construction. Alternatives 3, 5, and 6 have unplanted acreages. The realized benefit of those unplanted acres would be delayed because the development of fully functional salt marsh would take longer. Unplanted areas would also be more subject to erosion. To account for this difference in present and future benefits of the restored salt marsh, a weighting factor is applied. This weighting factor gives a larger realized benefit to the planted acres (0.6), and a smaller weighting factor to the unplanted acres (0.2). Application of these weighting factors for the various alternatives produces a range of HU outputs for the seven alternatives (Table 4).

Table 4: Incremental Analysis of Mitigation Alternatives for Mile Point

Combination of feasible Dredging and Planting Alternatives	Total Cost	Total Project Acreage	Total Planted Acreage	Quantified Habitat Units (HUs)	AAEQ of Total Cost	Incremental Cost (Millions)/ HUs
Alternative 1	\$465,888	8.15	8.15	4.89	\$23,097	\$0.0047
Alternative 2	\$1,076,973	18.2	18.2	10.92	\$53,393	\$0.0049
Alternative 3	\$1,801,372	45	18.2	16.28	\$89,307	\$0.0055
Alternative 4	\$2,572,387	45	45	27	\$127,532	\$0.0047
Alternative 5	\$2,022,901	53	18.2	17.88	\$100,290	\$0.0056
Alternative 6	\$2,793,916	53	45	28.6	\$138,514	\$0.0048
Alternative 7	\$3,029,701	53	53	31.8	\$150,204	\$0.0047

The AAEQ costs for the seven alternatives vary due to differences in planting and final grading costs. Alternative 7 provides an incremental cost which is as low as or lower than other alternatives for the largest gain of 31.8 HUs. Planting the entire 53 acres is also more desirable because it would accelerate the development of a fully functional salt marsh and reduce the chance of the area eroding. In summary, Alternative 7 provides planting for the total restoration site with the inclusion of material from the Flow Improvement Channel and yields an incremental cost as low as or lower than the other alternatives per HU gain.





ATTACHMENT 1
MITIGATION PLAN DRAWINGS
FIGURES 1-4

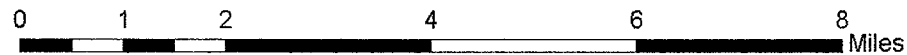
FIGURE 1: PROJECT MAP

JACKSONVILLE HARBOR, FLORIDA



Legend

-  Salt Marsh Restoration Area
-  Land Removal
-  Existing Channel
-  Proposed Configuration for Training wall

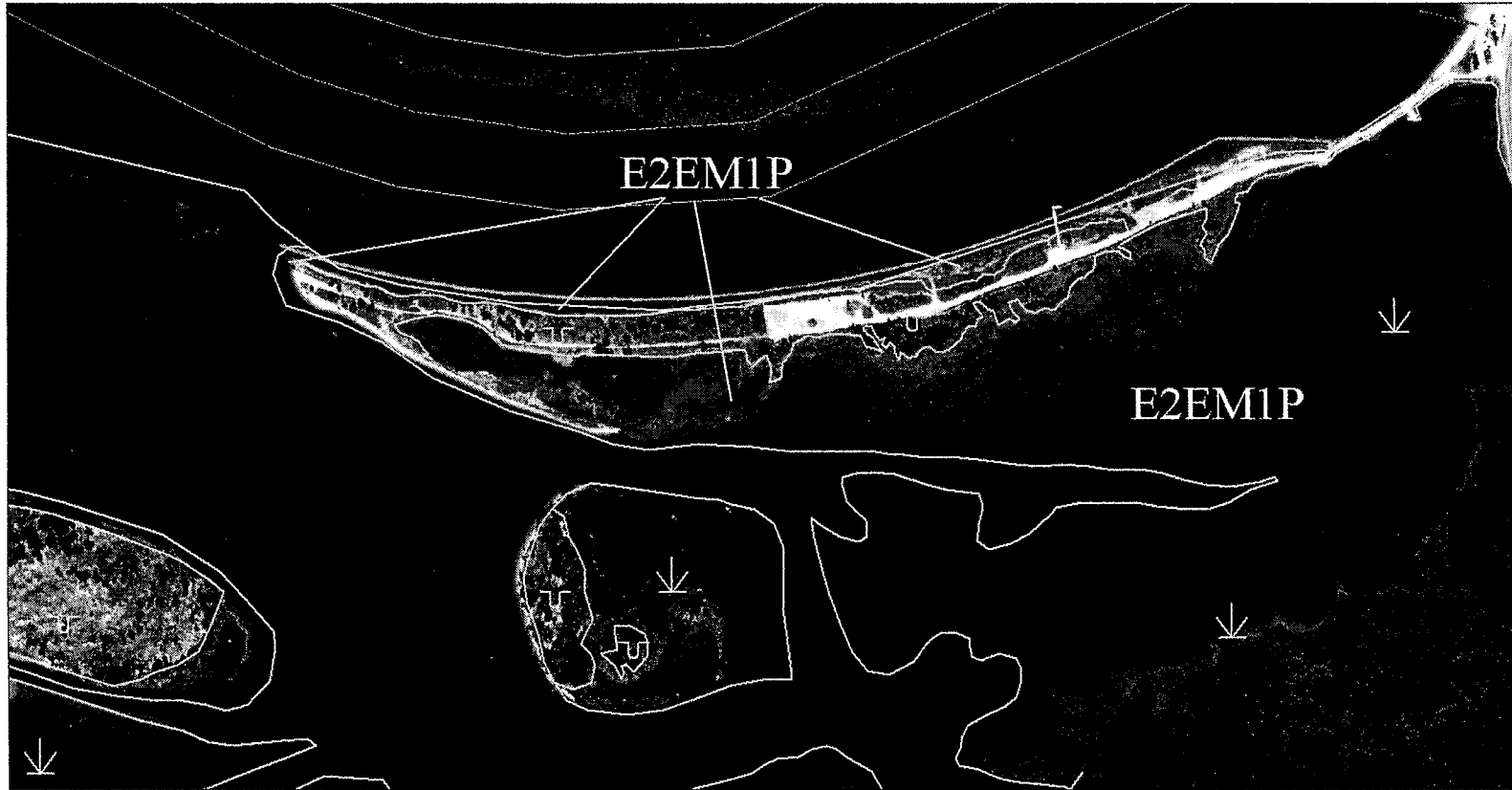


U.S Army Corps of Engineers
Jacksonville District



FIGURE 2: WETLAND DELINEATION

JACKSONVILLE HARBOR MILE POINT WETLAND DELINEATION

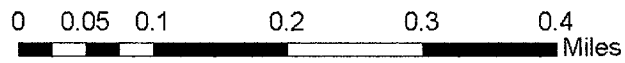


Legend

E2EM1P-(Estuarine, Intertidal, Emergent, Persistent, Irregular (Salt marsh))

Existing Channel

U - Upland



U.S Army Corps of Engineers
Jacksonville District



FIGURE 3: GREAT MARSH ISLAND RESTORATION SITE

