



Florida Department of Environmental Protection

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Permittee/Authorized Entity:

Joe R. Miller
Jacksonville Port Authority
2831 Talleyrand Avenue
Jacksonville, Florida, 32206, Duval County

Bartram Island Cell "A" Raising and Partitioning

**Environmental Resource Permit
State-owned Submerged Lands Authorization –Not Applicable**

U.S. Army Corps of Engineers Authorization –Separate Corps Authorization Required

Permit No.: 16-255718-001-ES

**Permit Issuance Date: January 13, 2011
Permit Construction Phase Expiration Date: January 13, 2016**

Environmental Resource Permit

Permittee: Jacksonville Port Authority
Permit No: 16-255718-001-ES

PROJECT LOCATION

The activities authorized by this Permit are located at Bartram Island Cell "A", Jacksonville, Florida 32226, in Sections 22, 23, and 26, Township 01 South, Range 27 East in Duval County, at Latitude 30°24'19.08" /Longitude - 81°35'45.42.

AUTHORIZATIONS

Bartram Island Cell "A" Raising and Partitioning

Project Description

The permittee is authorized to divide the current Bartram Cell A into two cells which will be called Bartram Island Cell A and Bartram Island Cell B-2. The Bartram Island Cell A dike will be raised from 35 ft. to 47 ft. NAVD 1988, while Bartram Island Cell B-2 will remain at 37 ft. NAVD 1988. All the proposed dikes will have their crests wide enough to accommodate future raisings to 55 ft. NAVD 1988. This will provide additional 2.8 M yd³ of capacity for Cell A and 1.1 M yd³ for Cell B-2. The project also includes replacing the existing weirs and associated structures with four new box riser weirs and associated structures, installing 8,500 linear feet of gravel drainage blanket, and the construction of a 264 square foot dock consisting of a 3 ft. wide by 48 ft. long gangway and a 5 ft. wide by 24 ft. long terminal platform on the St. Johns River, a Class III waterbody, not an Outstanding Florida Waterbody, not within an aquatic preserve. Authorized activities are depicted on the attached exhibits.

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.

Sovereignty Submerged Lands Authorization

As staff to the Board of Trustees of the Internal Improvement Trust Fund (Board of Trustees), the Department has reviewed the activity described above and has determined the activity is not on submerged lands owned by the State of Florida. Therefore, your project is not subject to the requirements of Chapter 253, Florida Statutes (F.S.).

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 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**
- The 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, shall constitute grounds for revocation of the Permit and appropriate enforcement action by the Department.

Operation of the facility is not authorized except when determined to be in conformance with all applicable rules and this permit/certification/authorization, as specifically described above.

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, 7825 Baymeadows Way, Suite B-200, Jacksonville, Florida 32256-7590.

SPECIFIC CONDITIONS – CONSTRUCTION ACTIVITIES

2. If prehistoric or historic artifacts, such as pottery or ceramics, stone tools or metal implements, dugout canoes, or any other physical remains that could be associated with Native American cultures, or early colonial or American settlement are encountered at any time within the project site area, the permittee shall cease all activities involving subsurface disturbance in the immediate vicinity of such discoveries. The permittee shall contact the Florida Department of State, Division of Historical Resources, Review and Compliance Section at (850) 245-6333 or (800) 847-7278, as well as the Department of Environmental Protection at 904-256-1700. Project activities should not resume without verbal and/or written authorization from the Division of Historical Resources. In the event that unmarked human remains are encountered during permitted activities, all work shall stop immediately and the proper authorities notified in accordance with Section 872.05, Florida Statutes. The following excerpt from **872.05 Unmarked Human Burials** is provided for informational purposes:

872.05(4) DISCOVERY OF AN UNMARKED HUMAN BURIAL OTHER THAN DURING AN ARCHAEOLOGICAL EXCAVATION --When an unmarked human burial is discovered other than during an archaeological excavation authorized by the state or an educational institution, all activity that may disturb the unmarked human burial shall cease immediately, and the district medical examiner shall be notified. Such activity shall not resume unless specifically authorized by the district medical examiner or the State Archaeologist.

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. Turbidity curtains, hay bales, and other such erosion/turbidity control devices shall be installed pursuant to Chapter 6 of The Florida Land Development Manual, A Guide to Sound Land and Water Management, prior to the commencement of dredging, filling, or construction activity. The devices shall remain functional at all times and shall be maintained on a regular basis. Turbidity and/or sedimentation resulting from any activities associated with the project shall not be allowed to enter waters of the State.

4. The work shall be done during periods of average or low water.
5. This permit does **not** authorize the removal of any vegetation within the jurisdictional area.
6. 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, size, and density that exist in adjacent undisturbed wetland areas.
7. The structure 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.
8. 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.
9. Outside the specific limits of construction authorized by this permit, the permittee shall restore any altered ground contours within the wetlands to an elevation consistent with that of the adjacent wetlands so as to maintain natural hydration, vegetation, and drainage patterns.
10. 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.
11. The project shall comply with applicable State Water Quality Standards, namely:
 - a) Surface Waters, Minimum Criteria, General Criteria – **62-302.500**,
 - b) Class III Waters – Recreation, Propagation and Maintenance of a Healthy, Well-Balanced Population of Fish and Wildlife. – **62-302.400**.
12. All wetland areas or water bodies, which are outside the specific areas of construction authorized by this permit, must be protected from erosion and siltation.
13. This permit does not authorize any landscaping within the wetlands, to include the planting or removal of any trees, plants, sod/grasses, or flowers.
14. 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 14 days of completion of the work authorized by this permit.
15. The waterward end of the dock shall be marked by a sufficient number of reflectors so as to be visible from the water at night by reflected light. The reflectors shall not be green or red in color.
16. The permittee shall ensure that the contractor follows the attached Dredged Material Management Area Operation Plan for Bartram Island Cell A and Cell B-2.

17.

DMMA CONSTRUCTION CONDITIONS

18. Ground which will become the foundation of earthen dams needs to be stripped of all vegetation and organic detritus or residue, including muck, mud, slimes, or other material which would flow or undergo excessive consolidation under heavy loading. All earth foundation surfaces on which fill is to be placed should be scarified or moistened and compacted prior to spreading of first course of fill material, and the dam base shall be well drained during construction.

19. Material considered suitable for the dike foundation and dike construction shall be SP, SW, SP-SM, SP-SC, and SW-SM as classified in accordance with ASTM D 2482. The suitable material used shall be free of stumps, vegetation, trees, palmettos, muck, and other extraneous matter which could affect the compactability, density, permeability, or shear strength of the finished dam.

20. Soil classification tests shall be performed in accordance with ASTM 2487 for embankment fill or back fill materials. Grain size analysis shall be conducted in accordance with ASTM D422 and Atterberg limits in accordance with ASTM D 2487. Materials shall be tested for every 5,000 yd³ of embankment or fill materials, additional tests will be required if noticeable changes in the material occur.

21. For DMMA construction, the permittee shall place 12" uncompacted lifts and compacted to 95% of the Standard Proctor Test (ASTM D1557). For the compaction tests, the run shall not be less than one modified maximum dry density test for every 3,000 yd³ of cohesionless fill in accordance with ASTM D 1557.

22. In-place density tests of the cohesionless materials shall be determined in accordance with ASTM D 6938. Run shall less than one field test on each lift of material every 300 feet of the embankment length or every 500 yd³ of completed embankment fill or backfill, whichever is less.

23. Throughout DMMA construction, the permittee shall provide quality control/quality assurance as proposed and approved by the Department (approved guidelines included as exhibit 2 of this permit). A QA/QC report shall be included per Specific Condition 16 of this permit.

24. Within 30 days after completion of construction of the DMMA, the permittee shall submit a signed and sealed certification by an appropriate registered professional indicating that the system has been constructed and that the system is ready for inspection by the Department. Along with the certification, the applicant shall also submit at least two copies of as-built drawings to the Department.

The registered professional shall certify that:

- a. The system has been constructed substantially in accordance with approved plans and specifications, or;
- b. Any deviations from the approved plans and specifications will not prevent the system from functioning in compliance with the requirements of this chapter. The registered professional shall note and explain substantial deviations from the approved plans and specifications.

25. The permittee shall maintain in a permanent file the following construction records. These records shall be available to Department upon request.

- a. Aerial photo of construction site in the immediate area after initial site preparation but before shaping of the dams.
- b. Final specifications and plans (e.g. bid documents).
- c. Results of all soil tests on foundations and fill materials.
- d. Logs of borings and engineering geology reports.
- e. Final QA/QC report along with copies of construction progress inspections pertinent to core trench, toe drain, internal drains, and other significant phases of the structure. Photographs of various structural items may be included in the file.
- f. Aerial photo of completed disposal area taken after construction is completed.
- g. Description of and justification for all deviations or variances from the bid documents.
- h. As-built drawings.

DMMA OPERATION CONDITIONS

26. Operation of the facility is not authorized except when determined to be in conformance with all applicable rules and with the general and specific conditions of this permit.

27. The permittee shall provide periodic inspections to check for certain critical conditions. This is especially important during dredging operations. The inspections shall be conducted in accordance with the inspection plan as described by section 7.2 of the approved operation plan (included as exhibit 2).

28. During dewatering or discharging, the permittee shall ensure that the turbidity at the weir crests or 150 meters downcurrent from the point of discharge does not exceed 29 NTU above the background level by following the turbidity monitoring plan as described by section 8 of the approved operation plan (included as exhibit 2).

29. The permittee shall operate the weirs to meet the following water level control requirements:

- a. Minimum freeboard of 2 ft during normal conditions, and minimum freeboard of 4 ft and 5 ft in Cell B-2 and Cell A respectively for design storm of 110 mph wind, prior to the arrival of the storm.
- b. Minimum ponding depth of 2 ft.

The water level control shall be conducted as described by section 6 of the approved operation plan (included as exhibit 2).

30. The permittee shall provide for annual P.E. inspections of the site to ensure that the system is functioning as designed and permitted. The permittee shall submit the inspection reports to the Department within 30 days from the date of inspection certifying that the site is operating as designed. In addition, the permittee shall state in the report what operational maintenance has been performed on the system. The inspection is not required if the site did not operate during the year, however the inspection report shall indicate that the site did not operate during the calendar year (January 1 – December 30) . If the site has not been operating for 2 years or more, the permittee shall provide for the P.E inspection and furnish the Department the inspection report prior to operation.

31. If the system is not functioning as designed and permitted, operational maintenance shall be performed immediately to restore the system. If the operational maintenance measures are insufficient to enable the system to meet the design standards, the permittee shall either replace the system or construct an alternative design. In this connection, the permittee shall submit a permit modification application within sixty (60) days of the date the system was determined to be design deficient.

32. The permittee shall immediately notify the Department by telephone whenever a serious problem occurs at this facility. Notification shall be made to the Northeast District Office Environmental Resource Program Compliance Manager at (904) 256-1700. Within 7 days of the telephone notification, the permittee shall submit to the Department a written report explaining the extent of the problem, its cause, and what action has been or will be taken to correct the problem.

SPECIFIC CONDITIONS – MANATEE CONDITIONS

33. All personnel associated with the project shall be instructed about the presence of manatees and manatee speed zones, and the need to avoid collisions with, and injury to manatees. 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.

34. 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 shall follow routes of deep water whenever possible.

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

36. All on-site project personnel are responsible for observing water-related activities for the presence of manatees. All in-water operations, including vessels, shall be shutdown if a manatee comes within 50 feet of the operation. Activities shall not resume until every manatee has moved beyond the 50-foot radius of the project operation, or until 30 minutes has elapsed wherein a manatee has not reappeared within 50 feet of the operation. Animals shall not be herded away or harassed into leaving.

37. Any collision with or injury to a manatee shall be reported immediately to the FWC Hotline at 1-888-404-FWCC. Collision and/or injury should also be reported to the U.S. Fish and Wildlife Service in Jacksonville (1-904-731-3336) for north Florida or Vero Beach (1-772-562-3909) for south Florida.
38. 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. Awareness signs that have already been approved for this use by the Florida Fish and Wildlife Conservation Commission (FWC) must be used. One sign measuring at least 3 ft. by 4 ft. which reads *Caution: Manatee Area* must be posted. A second sign measuring at least 8 1/2" 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. Please see the Florida Fish and Wildlife Conservation Commission website for information on how to obtain appropriate signs: http://www.myfwc.com/docs/WildlifeHabitats/Manatee_EducationalSign.pdf
39. To reduce the risk of entrapment and drowning of manatees, grating or flap gates shall be installed and maintained over any existing or proposed pipes or culverts greater than 8 inches, but smaller than 8 feet in diameter that are submerged or partially submerged and accessible to manatees on the accessible end(s) during all phases of the construction process and as a final design element to restrict manatee access.

SPECIFIC CONDITIONS- NESTING MIGRATORY BIRDS

40. **Nesting Migratory Bird Surveys.** Nesting migratory bird surveys must be conducted by trained, dedicated individuals (Bird Monitor) with bird identification skills and avian survey experience. A list of the Bird Monitors with their contact information, summary of qualifications including bird identification skills and avian survey experience will be provided to the DEP and also to the Florida Fish and Wildlife Conservation Commission (FWC) regional biologist via email to imperiledspecies@myfwc.com, prior to construction or hiring for operational migratory bird surveys. Bird Monitors will use the following survey protocols:
 - a) Bird Monitors should review and become familiar with the general information and data collection protocols outlined on the FWC Website (<https://public.myfwc.com/crossdoi/shorebirds/index.html>). An outline of what data should be collected, including downloadable field data sheets, is available on the website.
 - b) The nesting season is generally 1 April – 15 September, but some nesting may occur through late September. Nesting season surveys shall begin on April 1 or 10 days prior to construction or operational commencement (including surveying activities and other pre-construction presence), whichever is later. These surveys shall be conducted daily throughout the construction or operational period until September 15th, or when nesting is completed, whichever is later.
 - c) Nesting season surveys shall be conducted in all potential migratory bird nesting habitats within the project boundaries that may be impacted by construction, pre-construction or operational activities during the nesting season. Portions of the project in which there is no potential for project or operational activity during the nesting season may be excluded.
 - d) Surveys for detecting new nesting activity will be completed on a daily basis prior to movement of equipment, operation of vehicles, flooding of cells, or other activities that could potentially cause harm to the birds or their eggs or young.
 - e) Surveys should be conducted by walking the length of the project area and visually inspecting, using binoculars or spotting scope, for the presence of migratory birds exhibiting nesting behavior.
 - i) If an ATV or other vehicle is needed to cover large project areas, the vehicle must be operated at a speed <6 mph, and the Bird Monitor will stop at no greater than 200 meter intervals to visually inspect for nesting activity.
 - ii) Once nesting is confirmed by the presence of eggs or young, the Bird Monitor will notify the Contracting Officer or Project Manager. Within 30 days after completion of construction, a summary of monitoring shall be submitted to the DEP and also to the FWC, which details nesting and nesting success/failure including species, number of nests created, location, number of eggs, number of chicks generated during the project and reasons for nesting success or failure, if known. The Contracting Officer or Project Manager can notify the FWC of activities occurring on site via email to imperiledspecies@myfwc.com.

41. **Buffer Zones and Travel Corridors.** Within the project area, the permittee shall establish a minimum 200 ft wide buffer zone, which will be expanded as necessary to prevent disturbance, around any location where migratory birds have active nests, i.e. nests with eggs or chicks. Any and all construction and operational activities, including movement of vehicles, should be prohibited in the buffer zone.
 - a. The Bird Monitor shall keep nesting sites under sufficient surveillance to determine if birds appear agitated or disturbed by construction or other activities in adjacent areas. If birds do appear to be agitated or disturbed by these activities, then the width of the buffer zone shall be increased immediately to sufficient size in order to protect nesting birds.
 - b. Site-specific buffers may be implemented as needed. Reasonable and traditional personnel access should not be blocked where nesting birds will tolerate personnel traffic. Personnel traffic may also be tolerated when nesting was initiated within 200 feet of an established personnel access pathway.
 - c. Designated buffer zones must be posted with clearly marked signs around the perimeter. If personnel pathways are approved within the 200-foot buffer zone, these should be clearly marked. These markings shall be maintained until nesting is completed or terminated. In the case of solitary nesters, nesting is not considered to be completed until all chicks have fledged.
 - d. No construction activities, movement of vehicles, or stockpiling of equipment shall be allowed within the buffer area.
 - e. Travel corridors should be designated and marked outside the buffer areas so as not to cause disturbance to nesting migratory birds. Heavy equipment, other vehicles, or pedestrians may transit past nesting areas in these corridors. However, other activities such as stopping or turning shall be prohibited within the designated travel corridors adjacent to the nesting site.
 - f. Where such a travel corridor must be established within the project area it should avoid critical areas for migratory birds (known nesting sites, wintering grounds, FWC-designated Critical Wildlife Areas, and USFWS-designated critical piping plover habitat) as much as possible, and be marked with signs clearly delineating the travel corridor from the migratory bird buffer areas described above.
 - g. To the degree practicable, the permittee should maintain some activity within these travel corridors on a daily basis, without directly disturbing any migratory birds documented on site, especially when those corridors are established prior to commencement of construction or operational activities. Passive methods to discourage nesting shall be limited to flooding or flagging of potential nesting sites prior to the start of nesting, or by other appropriate measures that have been approved by the Contracting Officer. The Bird Monitor shall survey these areas prior to flooding or flagging.
42. **Notification.** If migratory bird nesting occurs within the project area, a bulletin board will be placed and maintained in the construction area with the location map of the construction site showing the bird nesting areas and a warning, clearly visible, stating that "BIRD NESTING AREAS ARE PROTECTED BY THE FLORIDA THREATENED AND ENDANGERED SPECIES ACT AND THE STATE AND FEDERAL MIGRATORY BIRD ACTS".
43. **Placement of Equipment and Dredged Material.** If it will be necessary to move equipment or materials past a known migratory bird nesting site, then, whenever possible, that should be done so as not to cause disturbance to nesting migratory birds.
44. **Environmental Protection Plan.** An Environmental Protection Plan (EPP) shall be submitted for review and comment to DEP in coordination with FWC prior to any construction activity. This plan shall include monitoring of nesting migratory birds onsite during construction as well as steps that will be followed to address any unavoidable take of migratory birds, should that occur.

GENERAL CONDITIONS

- (1) The following general conditions shall be a part of all permits issued pursuant to this chapter and Chapter 40C-40, F.A.C., unless the conditions are inapplicable to the activity authorized by the permit.
 - (a) All activities shall be implemented as set forth in the plans, specifications and performance criteria as approved by this permit. Any deviation from the permitted activity and the conditions for undertaking that activity shall constitute a violation of this permit.
 - (b) This permit or a copy thereof, complete with all conditions, attachments, exhibits, and modifications, shall be kept at the work site of the permitted activity. The complete permit shall be available for review at the work site upon request by Department staff. The permittee shall require the contractor to review the complete permit prior to commencement of the activity authorized by this permit.

(c) Activities approved by this permit shall be conducted in a manner which do not cause violations of state water quality standards.

(d) Prior to and during construction, the permittee shall implement and maintain all erosion and sediment control measures (best management practices) required to retain sediment on-site and to prevent violations of state water quality standards. All practices must be in accordance with the guidelines and specifications in Chapter 6 of the Florida Land Development Manual: A Guide to Sound Land and Water Management (Florida Department of Environmental Regulation 1988), which are incorporated by reference, unless a project specific erosion and sediment control plan is approved as part of the permit, in which case the practices must be in accordance with the plan. If site specific conditions require additional measures during any phase of construction or operation to prevent erosion or control sediment, beyond those specified in the erosion and sediment control plan, the permittee shall implement additional best management practices as necessary, in accordance with the specifications in Chapter 6 of the Florida Land Development Manual: A Guide to Sound Land and Water Management (Florida Department of Environmental Regulation 1988). The permittee shall correct any erosion or shoaling that causes adverse impacts to the water resources as soon as practicable.

(e) Stabilization measures shall be initiated for erosion and sediment control on disturbed areas as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 7 days after the construction activity in that portion of the site has temporarily or permanently ceased.

(f) At least 48 hours prior to commencement of activity authorized by this permit, the permittee shall submit to the Department a fully executed "Construction Commencement Notice" Form 62-343.900(3) indicating the actual start date and the expected completion date.

(g) 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.

(h) For those systems which will be operated or maintained by an entity which will require an easement or deed restriction in order to provide that entity with the authority necessary to operate or maintain the system, such easement or deed restriction, together with any other final operation or maintenance documents as are required by subsections 7.1.1 through 7.1.4 of the Applicant's Handbook: Management and Storage of Surface Waters, must be submitted to the Department for approval. Documents meeting the requirements set forth in these subsections of the Applicant's Handbook will be approved. Deed restrictions, easements and other operation and maintenance documents which require recordation either with the Secretary of State or the Clerk of the Circuit Court must be so recorded prior to lot or unit sales within the project served by the system, or upon completion of construction of the system, whichever occurs first. For those systems which are proposed to be maintained by county or municipal entities, final operation and maintenance documents must be received by the Department when maintenance and operation of the system is accepted by the local governmental entity. Failure to submit the appropriate final documents referenced in this paragraph will result in the permittee remaining liable for carrying out maintenance and operation of the permitted system.

(i) Each phase or independent portion of the permitted system must be completed in accordance with the permitted plans and permit conditions prior to the initiation of the permitted use of site infrastructure located within the area served by that portion or phase of the system. Each phase or independent portion of the system must be completed in accordance with the permitted plans and permit conditions prior to transfer of responsibility for operation and maintenance of that phase or portion of the system to a local government or other responsible entity.

(j) Within 30 days after completion of construction of the permitted system, or independent portion of the system, the permittee shall submit a written statement of completion and certification by a registered professional engineer or other appropriate individual as authorized by law, utilizing As Built Certification Form 62-343.900(5) supplied with this permit. When the completed system differs substantially from the permitted plans, any substantial deviations shall be noted and explained and two copies of as-built drawings submitted to the Department. Submittal of the completed form shall serve to notify the Department that the system is ready for inspection. The statement of completion and certification shall be based on on-site observation of construction (conducted by the registered professional engineer, or other appropriate individual as authorized by law, or under his or her direct supervision) or review of as-built drawings for the purpose of determining if the work was completed in compliance with approved plans and specifications. As-built drawings shall be the permitted drawings revised to reflect any changes made during construction. Both the original and any revised specifications must be clearly shown. The plans must be clearly labeled as "as-built" or "record" drawing. All surveyed dimensions and elevations shall be certified by a registered surveyor. The following information, at a minimum, shall be verified on the "as-built" or "record" drawings:

1. Dimensions and elevations of all discharge structures including all weirs, slots, gates, pumps, pipes, and oil and grease skimmers;
2. Locations, dimensions, and elevations of all filter, exfiltration, or underdrain systems including cleanouts, pipes, connections to control structures, and points of discharge to the receiving waters;

3. Dimensions, elevations, contours, or cross-sections of all treatment storage areas sufficient to determine stage-storage relationships of the storage area and the permanent pool depth and volume below the control elevation for normally wet systems, when appropriate;
 4. Dimensions, elevations, contours, final grades, or cross-sections of the system to determine flow directions and conveyance of runoff to the treatment system;
 5. Dimensions, elevations, contours, final grades, or cross-sections of all conveyance systems utilized to convey off-site runoff around the system;
 6. Existing water elevation(s) and the date determined; and
 7. Elevation and location of benchmark(s) for the survey.
- (k) The operation phase of this permit shall not become effective until the permittee has complied with the requirements of the condition in paragraph (i) above, the Department determines the system to be in compliance with the permitted plans, and the entity approved by the Department in accordance with subsections 7.1.1 through 7.1.4 of the Applicant's Handbook: Management and Storage of Surface Waters, accepts responsibility for operation and maintenance of the system. The permit may not be transferred to such an approved operation and maintenance entity until the operation phase of the permit becomes effective. Following inspection and approval of the permitted system by the Department, the permittee shall request transfer of the permit to the responsible approved operation and maintenance entity, if different from the permittee. Until the permit is transferred pursuant to section 7.1 of the Applicant's Handbook: Management and Storage of Surface Waters, the permittee shall be liable for compliance with the terms of the permit.
- (l) Should any other regulatory agency require changes to the permitted system, the permittee shall provide written notification to the Department of the changes prior to implementation so that a determination can be made whether a permit modification is required.
- (m) This permit does not eliminate the necessity to obtain any required federal, state, local and special district authorizations prior to the start of any activity approved by this permit. This permit does not convey to the permittee or create in the permittee any property right, or any interest in real property, nor does it authorize any entrance upon or activities on property which is not owned or controlled by the permittee, or convey any rights or privileges other than those specified in the permit and Chapter 40C-4 or 40C-40, F.A.C.
- (n) The permittee shall hold and save the Department harmless from any and all damages, claims, or liabilities which may arise by reason of the activities authorized by the permit or any use of the permitted system.
- (o) Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered specifically approved unless a specific condition of this permit or a formal determination under Rule 62-343.040, F.A.C., provides otherwise.
- (p) The permittee shall notify the Department in writing within 30 days of any sale, conveyance, or other transfer of ownership or control of the permitted system or the real property at which the permitted system is located. All transfers of ownership or transfers of a permit are subject to the requirements of Rule 62-343.130, F.A.C. The permittee transferring the permit shall remain liable for any corrective actions that may be required as a result of any permit violations prior to such sale, conveyance or other transfer.
- (q) Upon reasonable notice to the permittee, Department authorized staff with proper identification shall have permission to enter, inspect, sample and test the system to insure conformity with the plans and specifications approved by the permit.
- (r) If historical or archaeological artifacts are discovered at any time on the project site, the permittee shall immediately notify the Department.
- (s) The permittee shall immediately notify the Department in writing of any previously submitted information that is later discovered to be inaccurate.

In addition to those general conditions set forth in subsection (1), the Department shall impose on any permit granted under this chapter and Chapter 40C-40, F.A.C., such reasonable project-specific conditions as are necessary to assure that the permitted system will not be inconsistent with the overall objectives of the District or be harmful to the water resources of the District as set forth in District and Department rules. Upon receipt of the notice of intended Department action, any person whose substantial interests are affected shall have the right to request a hearing in accordance with Chapter 28-106 and Rule 62-110.106, F.A.C.

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 21 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 21 days of publication of the notice or within 21 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 21 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.

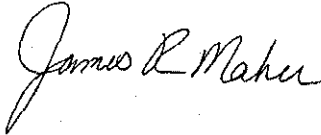
Judicial Review

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 internet 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., 12 pages
- Exhibit 2, Approved Operation Plan, 11 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:

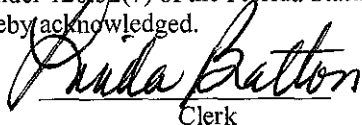
U.S. Army Corps of Engineers
FWC, Imperiled Species Management Section File

CERTIFICATE OF SERVICE

The undersigned hereby certifies that this permit, including all copies, were mailed before the close of business on 1/13/12, 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

1/13/12
Date

Permittee: Jacksonville Port Authority
Permit No: 16-255718-001-ES
Page 11 of 11.

Issue Date: January 13, 2012
Expiration Date: January 13, 2017

NOTICES SUBMITTED TO THE DEPARTMENT

Your permit DEP File No.: 16-255718-001-ES 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 insuring 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
7825 Baymeadows Way, Suite B-200
Jacksonville, Florida 32256-7590

**ENVIRONMENTAL RESOURCE PERMIT
CONSTRUCTION COMMENCEMENT NOTICE**

PROJECT: _____ PHASE: one (1)

I hereby notify the Department of Environmental Protection that the construction of the surface water management system authorized by Environmental Resource Permit No.: 16-255718-001-ES has / is expected to commence on _____ 20____, and will require a duration of approximately _____ months _____ weeks _____ days to complete. It is understood that should the construction term extend beyond one year, I am obligated to submit the Annual Status Report for Surface Water Management System Construction.

PLEASE NOTE: If the actual commencement date is not known, Department staff should be notified in writing in order to satisfy permit conditions.

Permittee or
Authorized Agent

Title and Company

Date

Phone

Address

Form #62-343.900(3), F.A.C. Form Title: <u>Construction</u> <u>Commencement Notice</u> Date: <u>October 3, 1995</u>
--

**ENVIRONMENTAL RESOURCE PERMIT
AS-BUILT CERTIFICATION**

PERMIT NUMBER: 16-255718-001-ES

NAME: Jacksonville Port Authority

I hereby certify that the activities authorized by the above permit have been completed in accordance with the drawings, documents and the general and specific conditions as specified in permit No.:

I also certify that the entity (company, cooperation, individual doing business as -d/b/a) listed below, if other than myself, completed the work authorized by the permit on the date indicated.

First Name, Last Name (please type or print clearly)

Signature of Permittee

Date work completed _____

Work done by:

(Company, cooperation, individual doing business as -d/b/a)

(Address)

(Address)

(City)

(State)

(ZIP Code + 4)

License Number: _____

Form: #consnote/hed
Form title: As-Built Certification
Date: November 11, 1996

**APPLICATION FOR TRANSFER OF ENVIRONMENTAL RESOURCE PERMIT AND NOTIFICATION
OF SALE OF A FACILITY OR SURFACE WATER MANAGEMENT SYSTEM**

Permit No. 16-255718-001-ES Date Issued _____ Date Expires _____

FROM (Name of Current Permit Holder): _____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Telephone: (____) _____

Identification or Name of Facility/Surface Water Management System: _____

Phase of Facility/Surface Water Management System (if applicable): _____

The undersigned hereby notifies the Department of the sale or legal transfer of this facility, or surface-water management system, and further agrees to assign all rights and obligations as permittee to the applicant in the event the Department agrees to the transfer of permit.

Signature of the current permittee: _____

Title (if any): _____ Date: _____

TO (Name of Proposed Permit Transferee): _____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Telephone: (____) _____

The undersigned hereby notifies the Department of having acquired the title to this facility, or surface-water management system. The undersigned also states he or she has examined the application and documents submitted by the current permittee, the basis of which the permit was issued by the Department, and states they accurately and completely describe the permitted activity or project. The undersigned further attests to being familiar with the permit, agrees to comply with its terms and with its conditions, and agrees to assume the rights and liabilities contained in the permit. The undersigned also agrees to promptly notify the Department of any future changes in ownership of, or responsibility for, the permitted activity or project.

Signature of the applicant (Transferee): _____

Title (if any): _____ Date: _____

Project Engineer Name (if applicable) _____

Mailing Address: _____

Telephone: (____) _____

**APPLICATION FOR TRANSFER OF ENVIRONMENTAL RESOURCE PERMIT AND NOTIFICATION
OF SALE OF A FACILITY OR SURFACE WATER MANAGEMENT SYSTEM**

Permit No. 16-255718-001-ES Date Issued _____ Date Expires _____

FROM (Name of Current Permit Holder): _____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Telephone: (____) _____

Identification or Name of Facility/Surface Water Management System: _____

Phase of Facility/Surface Water Management System (if applicable): _____

The undersigned hereby notifies the Department of the sale or legal transfer of this facility, or surface-water management system, and further agrees to assign all rights and obligations as permittee to the applicant in the event the Department agrees to the transfer of permit.

Signature of the current permittee: _____

Title (if any): _____ Date: _____

TO (Name of Proposed Permit Transferee): _____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

Telephone: (____) _____

The undersigned hereby notifies the Department of having acquired the title to this facility, or surface-water management system. The undersigned also states he or she has examined the application and documents submitted by the current permittee, the basis of which the permit was issued by the Department, and states they accurately and completely describe the permitted activity or project. The undersigned further attests to being familiar with the permit, agrees to comply with its terms and with its conditions, and agrees to assume the rights and liabilities contained in the permit. The undersigned also agrees to promptly notify the Department of any future changes in ownership of, or responsibility for, the permitted activity or project.

Signature of the applicant (Transferee): _____

Title (if any): _____ Date: _____

Project Engineer Name (if applicable) _____

Mailing Address: _____

Telephone: (____) _____

Request for Transfer of Environmental Resource Permit Construction Phase to Operation Phase

(To be completed and submitted by the operating entity)

Florida Department of Environmental Protection

It is requested that Department Permit Number 16-255718-001-ES authorizing the construction and operation of a surface water management system for the below mention project be transferred from the construction phase permittee to the operation phase operating entity.

Project:

From: Name: _____
Address: _____
City: _____ State: _____ Zip: _____

To: Name: _____
Address: _____
City: _____ State: _____ Zip: _____

The surface water management facilities are hereby accepted for operation and maintenance in accordance with the engineers certification and as outlined in the restrictive covenants and articles of incorporation for the operating entity. Enclosed is a copy of the document transferring title of the operating entity for the common areas on which the surface water management system is located. Note that if the operating entity has not been previously approved, the applicant should contact the Department staff prior to filing for a permit transfer.

The undersigned hereby agrees that all terms and conditions of the permit and subsequent modifications, if any, have been reviewed, are understood and are hereby accepted. Any proposed modifications shall be applied for and obtained prior to such modification.

Operating Entity:

Name

Title:

Telephone:

Enclosure

- Copy of recorded transfer of title surface water management system
- Copy of plat(s)
- Copy of recorded restrictive covenants, articles of incorporation, and certificate of incorporation.

STANDARD MANATEE CONDITIONS FOR IN-WATER WORK

2011

The permittee shall comply with the following conditions intended to protect manatees from direct project effects:

- a. All personnel associated with the project shall be instructed about the presence of manatees and manatee speed zones, and the need to avoid collisions with and injury to manatees. 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.
- b. 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.
- c. Siltation or turbidity barriers shall be made of material in which manatees cannot become entangled, shall be properly secured, and shall be regularly monitored to avoid manatee entanglement or entrapment. Barriers must not impede manatee movement.
- d. All on-site project personnel are responsible for observing water-related activities for the presence of manatee(s). All in-water operations, including vessels, must be shutdown if a manatee(s) comes within 50 feet of the operation. Activities will not resume until the manatee(s) has moved beyond the 50-foot radius of the project operation, or until 30 minutes elapses if the manatee(s) has not reappeared within 50 feet of the operation. Animals must not be herded away or harassed into leaving.
- e. Any collision with or injury to a manatee shall be reported immediately to the FWC Hotline at 1-888-404-3922. Collision and/or injury should also be reported to the U.S. Fish and Wildlife Service in Jacksonville (1-904-731-3336) for north Florida or Vero Beach (1-772-562-3909) for south Florida, and to FWC at ImperiledSpecies@myFWC.com
- f. 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 Florida Fish and Wildlife Conservation Commission (FWC) must be used (see MyFWC.com/manatee). One sign which reads *Caution: Boaters* must be posted. A second sign measuring at least 8 1/2" by 11" explaining the requirements for "Idle Speed/No Wake" and the shut down of in-water operations must be posted in a location prominently visible to all personnel engaged in water-related activities. Questions concerning these signs can be sent to the email address listed above.

CAUTION: MANATEE HABITAT

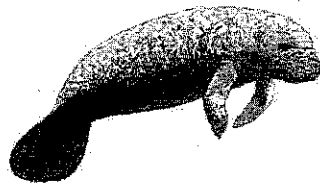
All project vessels

IDLE SPEED / NO WAKE

When a manatee is within 50 feet of work
all in-water activities must

SHUT DOWN

Report any collision with or injury to a manatee:

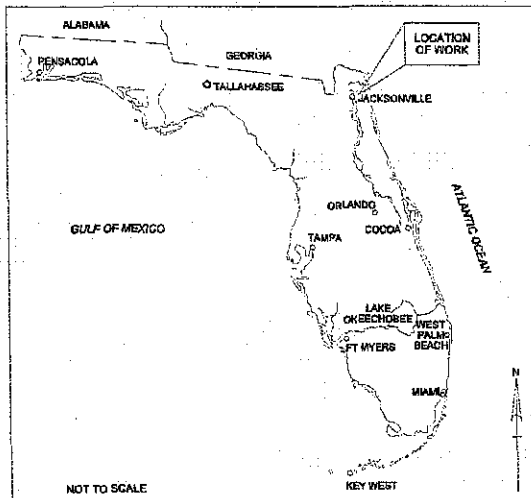


Wildlife Alert:

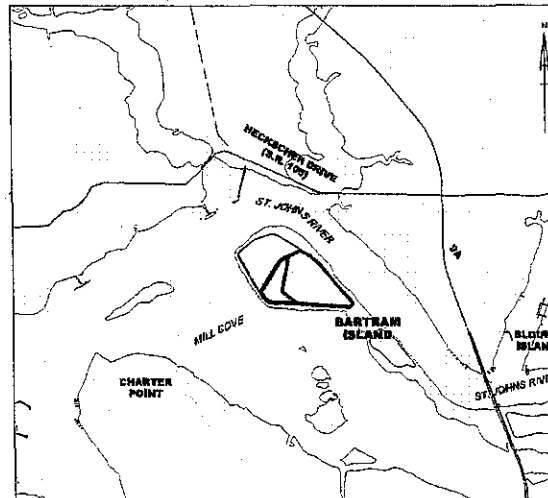
1-888-404-FWCC(3922)

cell *FWC or #FWC

JACKSONVILLE HARBOR DMMA BARTRAM ISLAND CELL A RAISING AND PARTITIONING



PROJECT LOCATION
N.T.S.



PROJECT VICINITY
N.T.S.

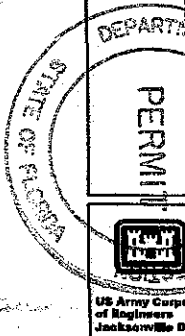
INDEX TO DRAWINGS	
PLATE	TITLE
1	COVER SHEET
2	EXISTING PLAN VIEW WITH AERIAL
3	DESIGN PLAN VIEW WITH AERIAL
4	DIKE RAISING CROSS SECTIONS
5	WEIR REPLACEMENT AND INSTALLATION
6	WEIR REPLACEMENT AND INSTALLATION
7	WEIR SYSTEM DETAILS
8	OUTFALL DETAILS
9	CELL B UNDERDRAIN MANIFOLD SYSTEM
10	UNDERDRAIN DETAILS
11	BOUNDARY OF JAXPORT OWNED LANDS
12	FLOATING DOCK PLAN AND PROFILE

ABBREVIATIONS:

- APPROX. = APPROXIMATE
- DMMA = DREDGED MATERIALS MANAGEMENT AREA
- DWG. = DRAWING
- @ = CENTERLINE
- CONC. = CONCRETE
- ⊕ = CONSTRUCTION JOINT
- EL. = ELEVATION
- FT. = FOOT/FEET
- HDPE. = HIGH DENSITY POLYETHYLENE
- M.L.L.W. = MEAN LOWER LOW WATER
- NAD83. = NORTH AMERICAN DATUM OF 1983
- NAVD88. = NORTH AMERICAN VERTICAL DATUM OF 1988
- NTS. = NOT TO SCALE
- TYP. = TYPICAL
- USACE. = UNITED STATES ARMY CORPS OF ENGINEERS
- USCG. = UNITED STATES COAST GUARD

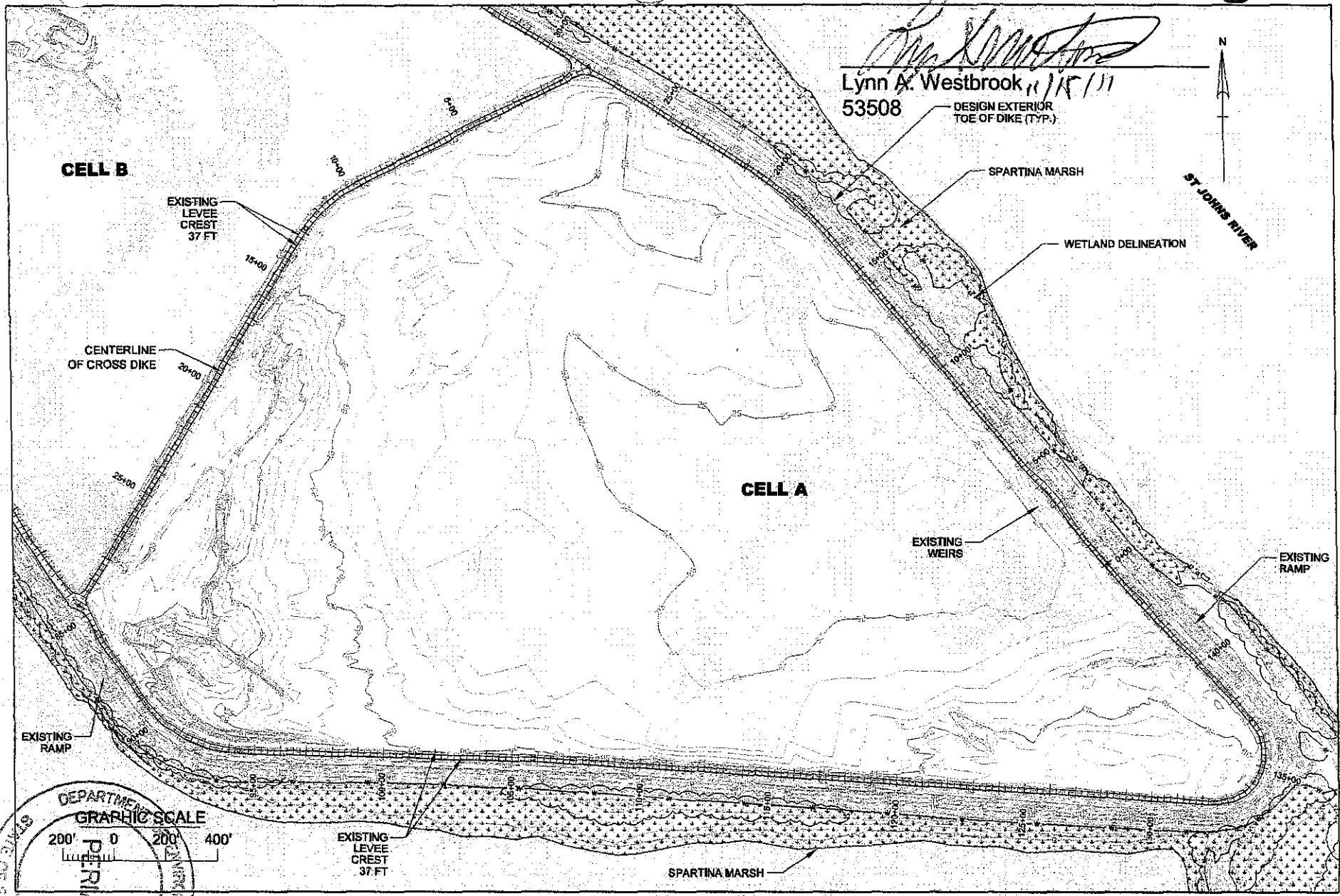
LEGEND:

- CENTERLINE DIKE
- DESIGN INTERIOR
- 11--- CONTOUR
- W--- WETLAND DELINEATION
- TOP OF DIKE
- UPLAND DISPOSAL AREA (D/A)
- 49.5 ELEVATION AND LOCATION
- 25+00 DIKE STATIONING

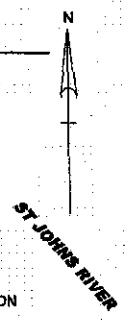


Lynn A. Westbrook (1/15/11) 53508

<p>PERMIT DRAWINGS (NOT FOR CONSTRUCTION)</p> <p>DEPARTMENT OF THE ARMY JACKSONVILLE DISTRICT, CORPS OF ENGINEERS JACKSONVILLE, FLORIDA</p>	<p>FILE NAME:</p> <p>DATED: AUGUST 2011</p> <p>SCALE: AS SHOWN</p>	<p>DWN BY: C.K.M.</p> <p>DSN BY: C.K.M.</p> <p>CKD BY: L.R.P.</p>	<p>PROJECT DESCRIPTION:</p> <p>AERIALS SHOWN ARE FROM THE FDOT'S 17 NOV. 2010 SURVEY AND ARE FOR INFORMATION ONLY.</p>	<p>JACKSONVILLE HARBOR DUVAL COUNTY, FLORIDA</p> <p>DMMA BARTRAM ISLAND CELL A DIKE RAISING</p> <p>COVER SHEET</p>	<p>PLATE:</p> <p style="font-size: 2em;">1</p>
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Lynn A. Westbrook
 Lynn A. Westbrook 11/15/11
 53508



CELL B

CELL A

EXISTING LEVEE CREST 37 FT

CENTERLINE OF CROSS DIKE

SPARTINA MARSH

WETLAND DELINEATION

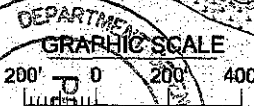
EXISTING WEIRS


EXISTING RAMP

EXISTING RAMP

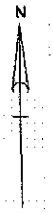
EXISTING LEVEE CREST 37 FT

SPARTINA MARSH



 US Army Corps of Engineers Jacksonville District	PERMIT DRAWINGS (NOT FOR CONSTRUCTION)	FILE NAME: DATED: AUGUST 2011	DWN BY: C.K.M.	GENERAL NOTES: CONTOUR ELEVATIONS SHOWN ARE IN NAVD 1988. ELEVATIONS BELOW THE REFERENCE PLANE ARE SHOWN PRECEDED WITH A (-) NEGATIVE SIGN.	JACKSONVILLE HARBOR DUVAL COUNTY, FLORIDA DMMA BARTRAM ISLAND CELL A DIKE RAISING EXISTING PLAN VIEW WITH AERIAL	PLATE: 2
	DEPARTMENT OF THE ARMY JACKSONVILLE DISTRICT, CORPS OF ENGINEERS JACKSONVILLE, FLORIDA	SCALE: AS SHOWN	DSN BY: C.K.M.			

Lynn A. Westbrook
 Lynn A. Westbrook
 53508 11/15/11



ST. JOHN'S RIVER

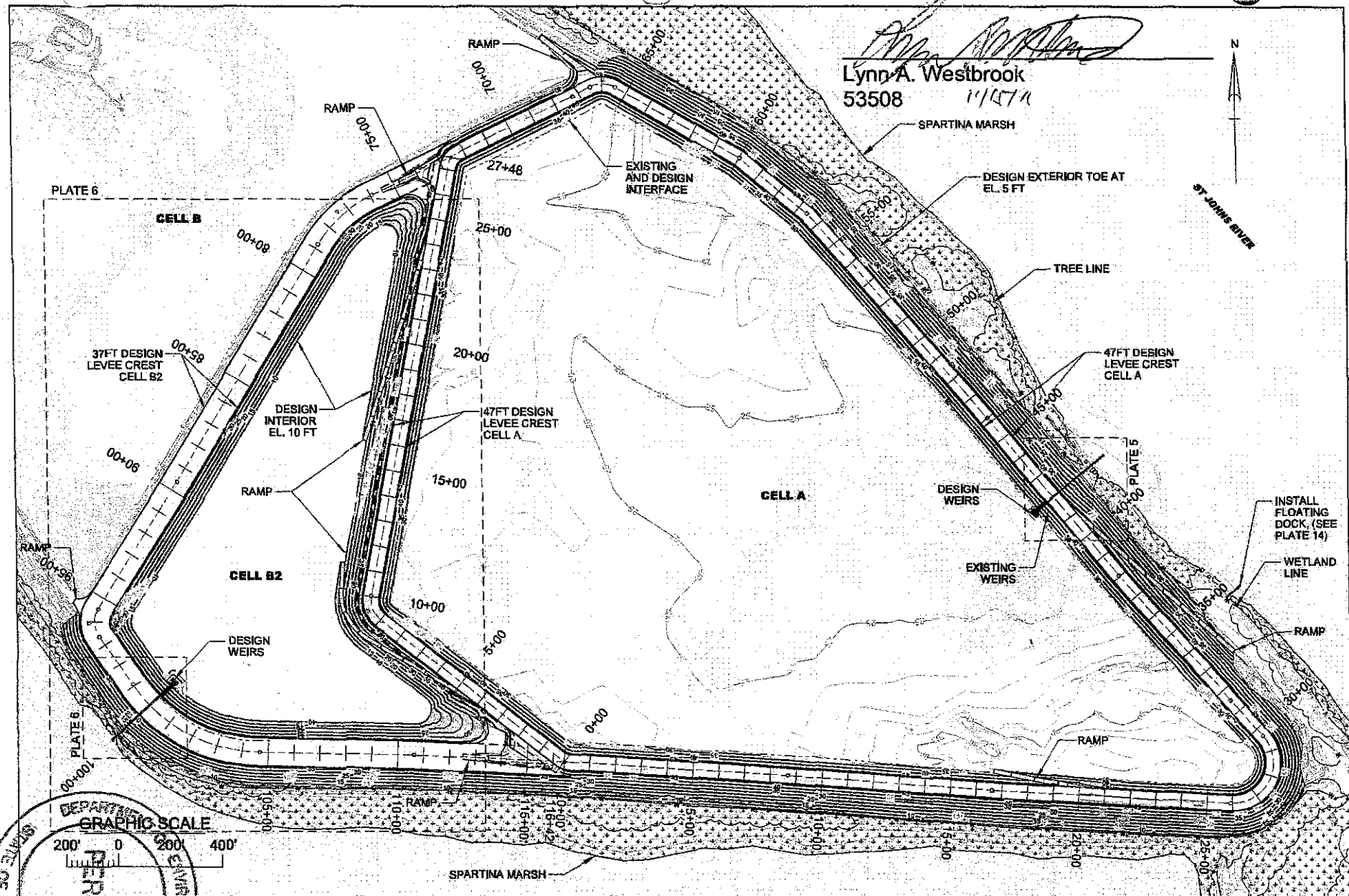
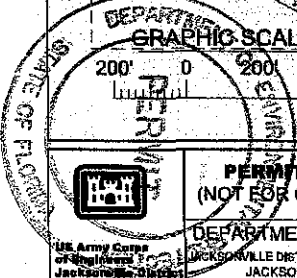
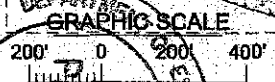



PLATE 6

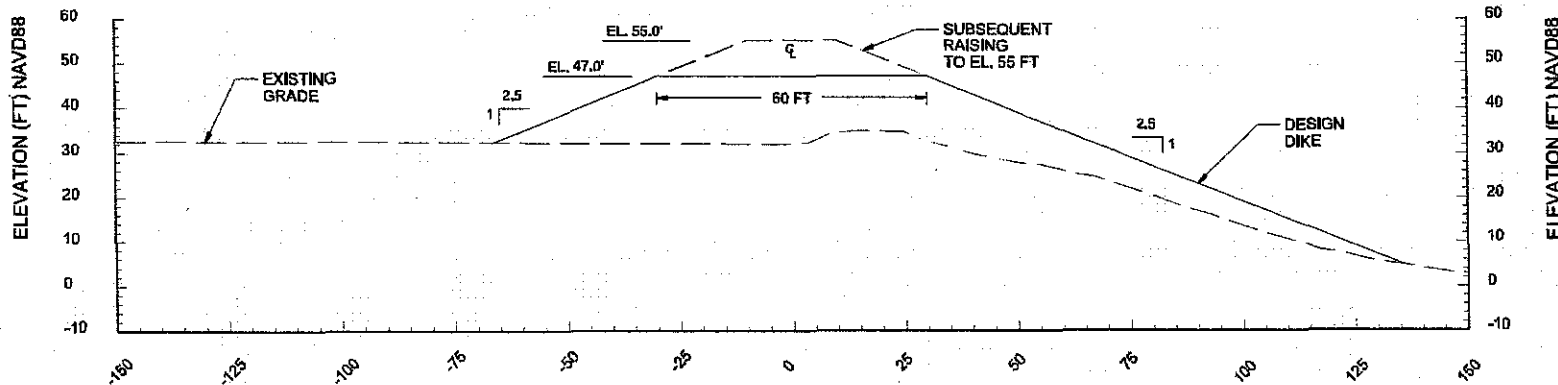
CELL B

CELL A

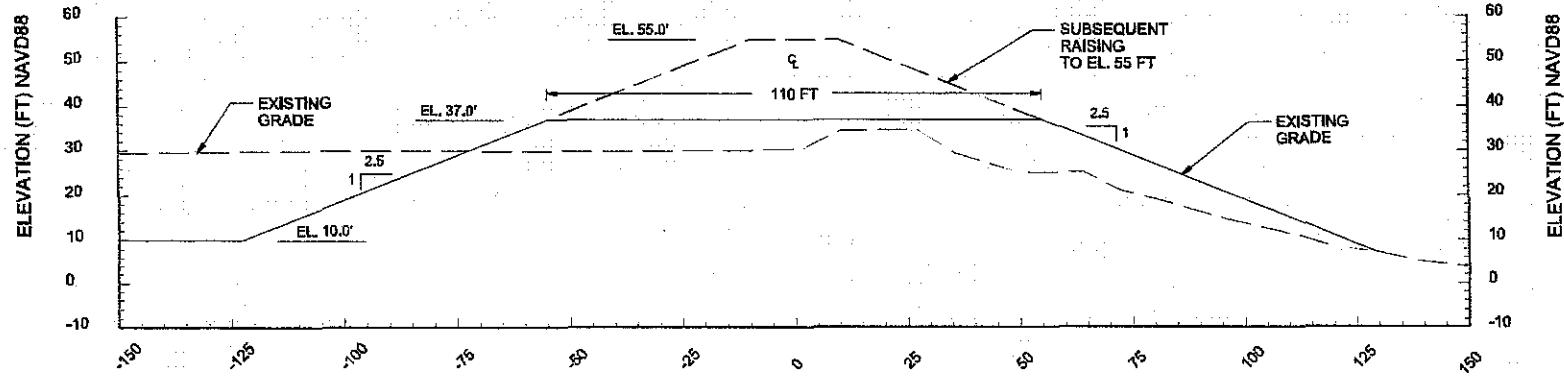
CELL B2



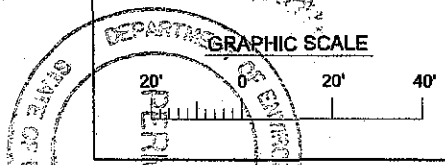
 PERMIT DRAWINGS (NOT FOR CONSTRUCTION) DEPARTMENT OF THE ARMY JACKSONVILLE DISTRICT, CORPS OF ENGINEERS JACKSONVILLE, FLORIDA	FILE NAME: DATED: AUGUST 2011 SCALE: AS SHOWN	DWN BY: C.K.M. DSN BY: C.K.M. CRD BY: L.R.P.	GENERAL NOTES: CONTOUR ELEVATIONS SHOWN ARE IN NAVD 1988. ELEVATIONS BELOW THE REFERENCE PLANE ARE SHOWN PRECEDED WITH A (-) NEGATIVE SIGN. DIKES DESIGNED WITH THE FOOTPRINT CAPABLE OF ALLOWING THE DIKES TO BE RAISED TO EL. 55 FT IN THE FUTURE.	JACKSONVILLE HARBOR DUVAL COUNTY, FLORIDA DMMA BARTRAM ISLAND CELL A DIKE RAISING DESIGN PLAN VIEW WITH AERIAL	PLATE: 3
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PERIMETER DIKE CELL A - CROSS SECTION
STA. 25+00

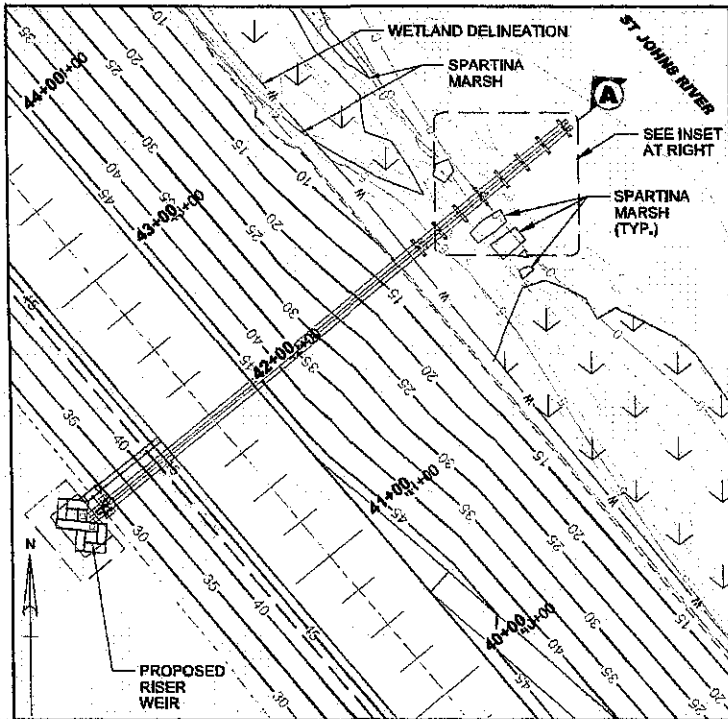


PERIMETER DIKE CELL B - CROSS SECTION
STA. 110+00

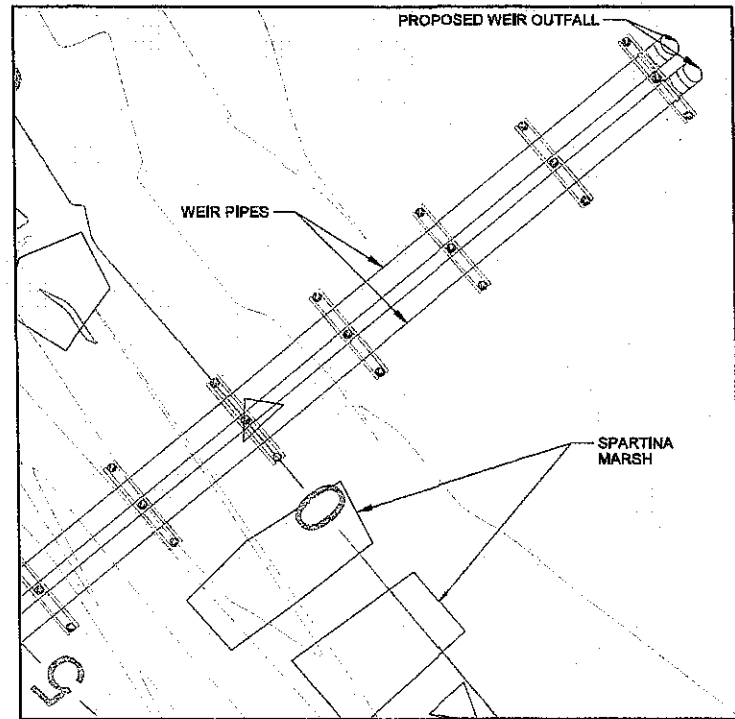


Lynn A. Westbrook
Lynn A. Westbrook
53508
6/15/11

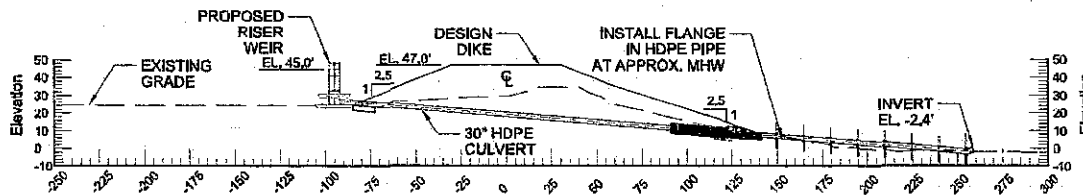
<p>US Army Corps of Engineers Jacksonville District</p>	<p>PERMIT DRAWINGS (NOT FOR CONSTRUCTION)</p>	<p>FILE NAME: C.K.M.</p>	<p>DWN BY: C.K.M.</p>	<p>GENERAL NOTES: ALL SLOPES SHOWN ARE TYPICAL. THE VERTICAL DATUM ON ALL ELEVATION INFORMATION SHOWN IS NAVD88. 1.35' NAVD88 = MEAN HIGH WATER; -2.36' NAVD88 = MLLW.</p>	<p>JACKSONVILLE HARBOR DUVAL COUNTY, FLORIDA DMMA BARTRAM ISLAND CELL A DIKE RAISING DIKE RAISING CROSS SECTIONS</p>	<p>PLATE: 4</p>
	<p>DEPARTMENT OF THE ARMY JACKSONVILLE DISTRICT, CORPS OF ENGINEERS JACKSONVILLE, FLORIDA</p>	<p>DATED: AUGUST 2011</p>	<p>DNB BY: C.K.M.</p>			
	<p>SCALE: AS SHOWN</p>	<p>CRD BY: L.R.P.</p>				



CELL A WEIR PLAN VIEW



CELL A WEIR INSET



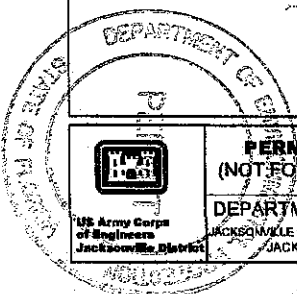
A CELL A WEIR - CROSS SECTION STA. 42+00

Lynn A. Westbrook

Lynn A. Westbrook
53508

9/15/11

GRAPHIC SCALE



**PERMIT DRAWINGS
(NOT FOR CONSTRUCTION)**

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

FILE NAME:
DATED:
AUGUST 2011
SCALE:
AS SHOWN

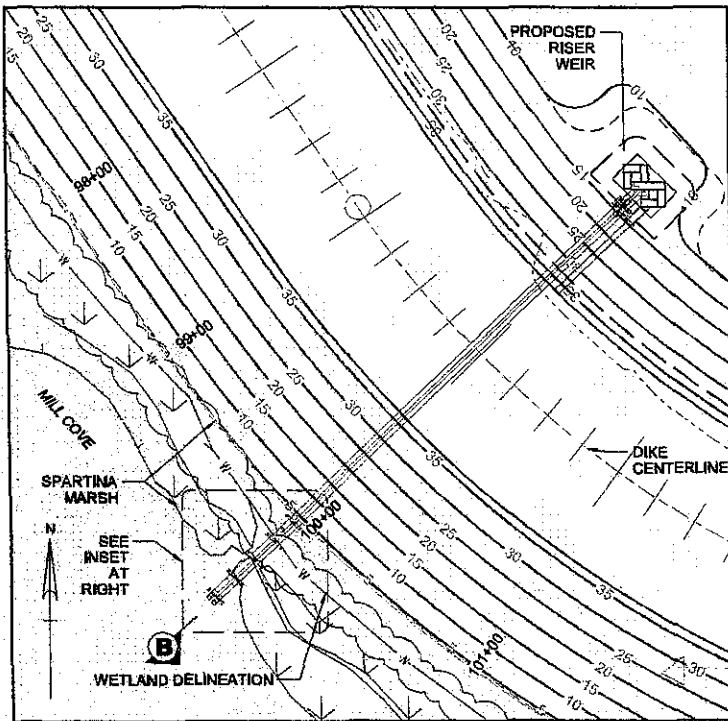
OWN BY:
C.K.M.
DGN BY:
C.K.M.
CRD BY:
L.R.P.

GENERAL NOTES:
ALL EXISTING WEIRS AND CULVERTS ARE TO BE REMOVED AND THE AREA IS TO BE REGRADED TO MATCH NEIGHBORING ELEVATIONS.
ALL SLOPES SHOWN ARE TYPICAL.
THE VERTICAL DATUM ON ALL ELEVATION INFORMATION SHOWN IS NGVD88.
1.35' NAVD88 = MEAN HIGH WATER; -2.35' NAVD88 = MLLW.

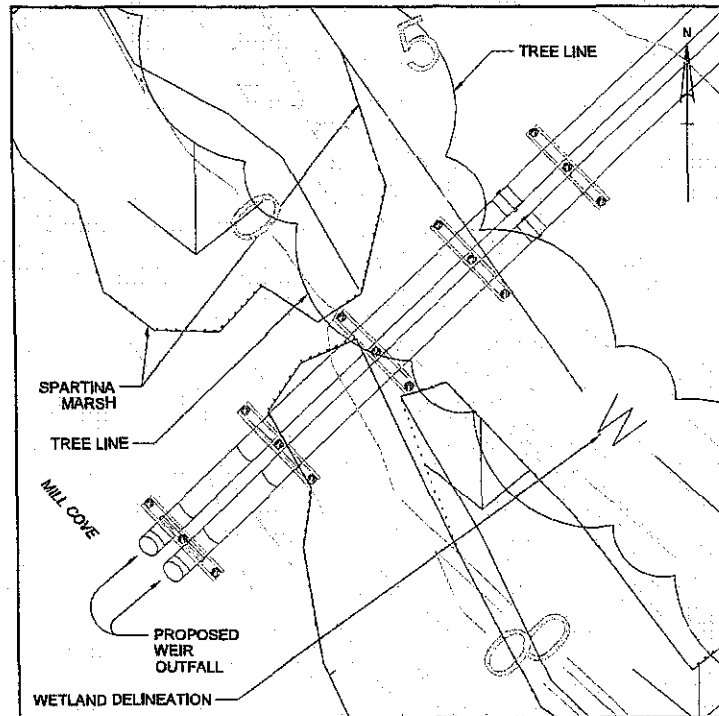
JACKSONVILLE HARBOR
DUVAL COUNTY, FLORIDA
**DMMA BARTRAM ISLAND
CELL A DIKE RAISING
WEIR REPLACEMENT AND
INSTALLATION**

PLATE:

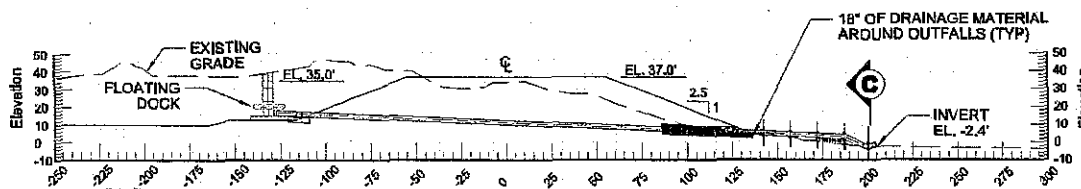
5



CELL B2 WEIR PLAN VIEW



CELL B2 WEIR INSET

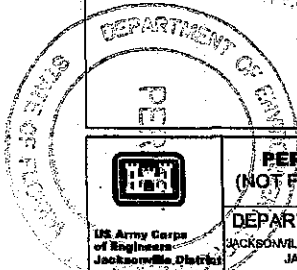


B CELL B2 WEIR - CROSS SECTION STA. 99+95

Lynn A. Westbrook
53508

11/15/11

GRAPHIC SCALE



**PERMIT DRAWINGS
(NOT FOR CONSTRUCTION)**

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

FILE NAME:

DATED:
AUGUST 2011

SCALE:
AS SHOWN

DNW BY:

C.K.M.

DNW BY:

C.K.M.

CRD BY:

L.R.P.

GENERAL NOTES:

1. ALL EXISTING WEIRS ARE TO BE REMOVED.

2. ALL SLOPES SHOWN ARE TYPICAL.

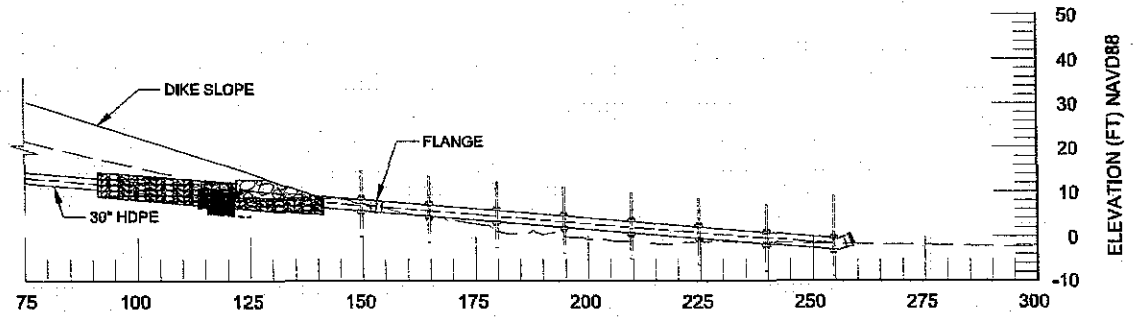
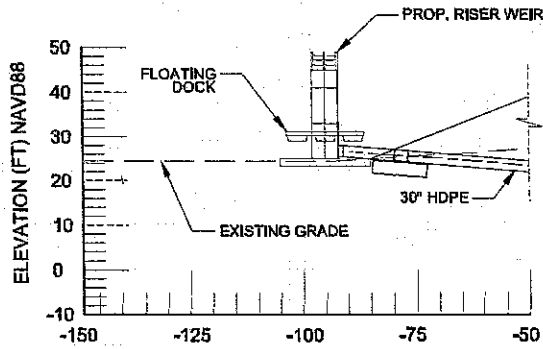
3. THE VERTICAL DATUM ON ALL ELEVATION INFORMATION SHOWN IS NGVD88.

4. 1.35' NAVD88 = MEAN HIGH WATER; -2.36' NAVD88 = MLLW.

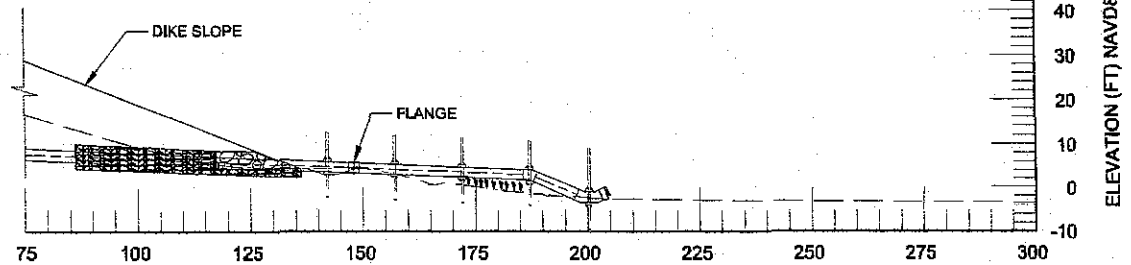
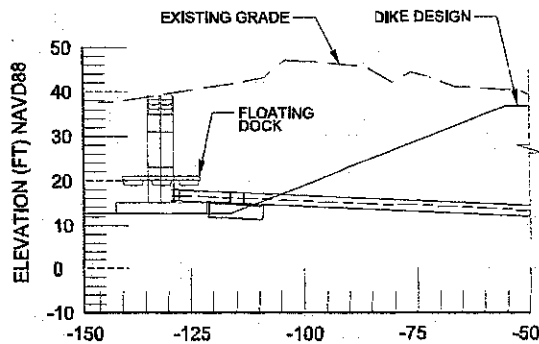
JACKSONVILLE HARBOR
DUVAL COUNTY, FLORIDA
**DMMA BARTRAM ISLAND
CELL A DIKE RAISING
WEIR REPLACEMENT AND
INSTALLATION**

PLATE:

6

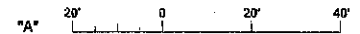


A CELL A WEIR AT STA. 42+00
SCALE: A



B CELL B2 WEIR AT STA. 99+95
SCALE: A

GRAPHIC SCALES



Lynn A. Westbrook
Lynn A. Westbrook 11/15/11
53508



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

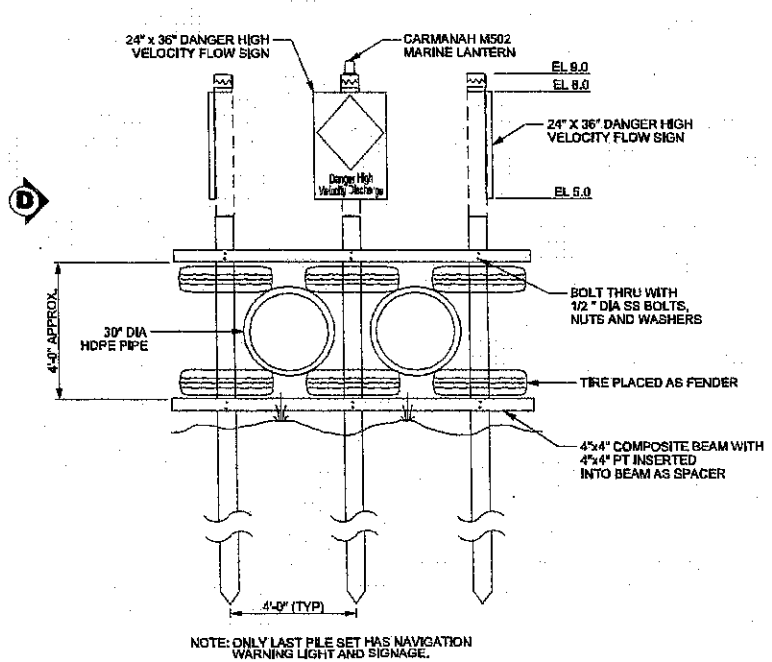
FILE NAME:
DATED: AUGUST 2011
SCALE: AS SHOWN

DWN BY: C.K.M.
DGN BY: C.K.M.
CKD BY: L.R.P.

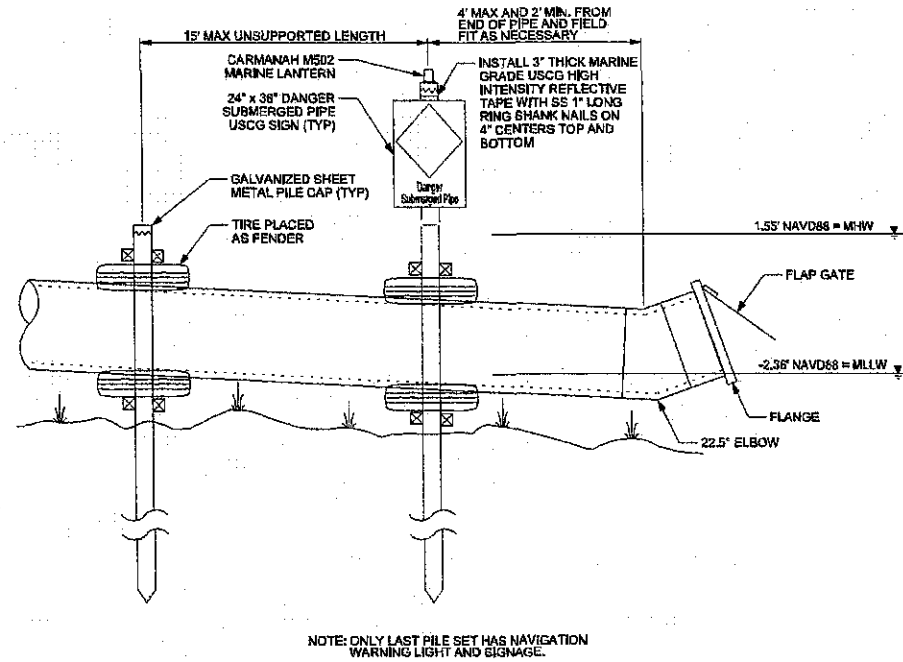
GENERAL NOTES:

JACKSONVILLE HARBOR
DUVAL COUNTY, FLORIDA
DMMA BARTRAM ISLAND
CELL A DIKE RAISING
WEIR SYSTEM DETAILS

PLATE:
7



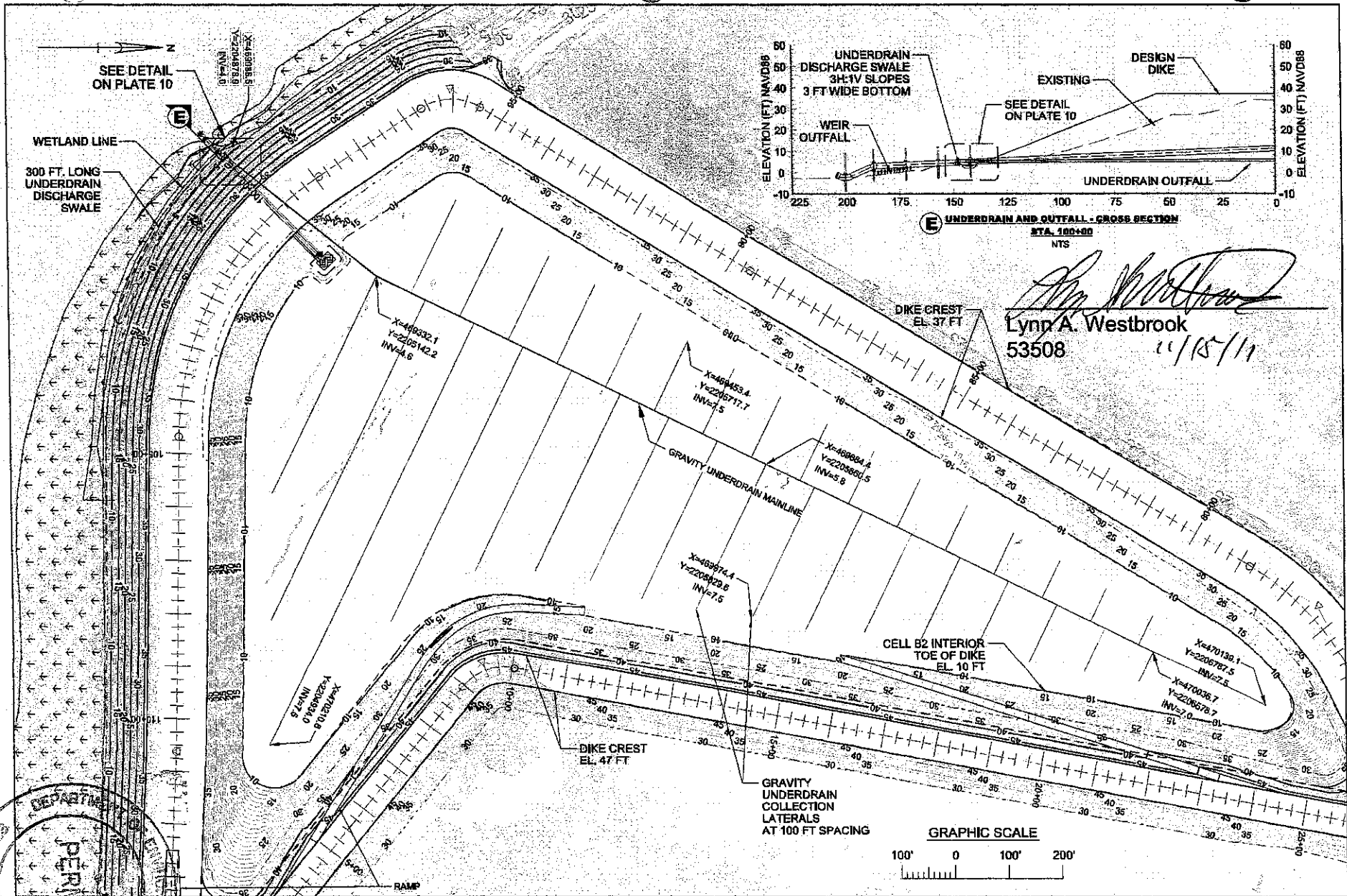
C **OUTFALL SUPPORT DETAILS - CROSS SECTION**
NOT TO SCALE



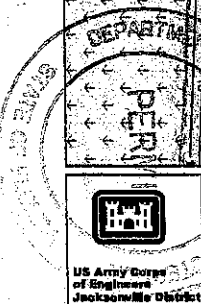
D **OUTFALL SUPPORT DETAILS - PROFILE**
NOT TO SCALE

DEPARTMENT OF THE ARMY
 PERMIT
 Lynn A. Westbrook
 53508
 8/15/11

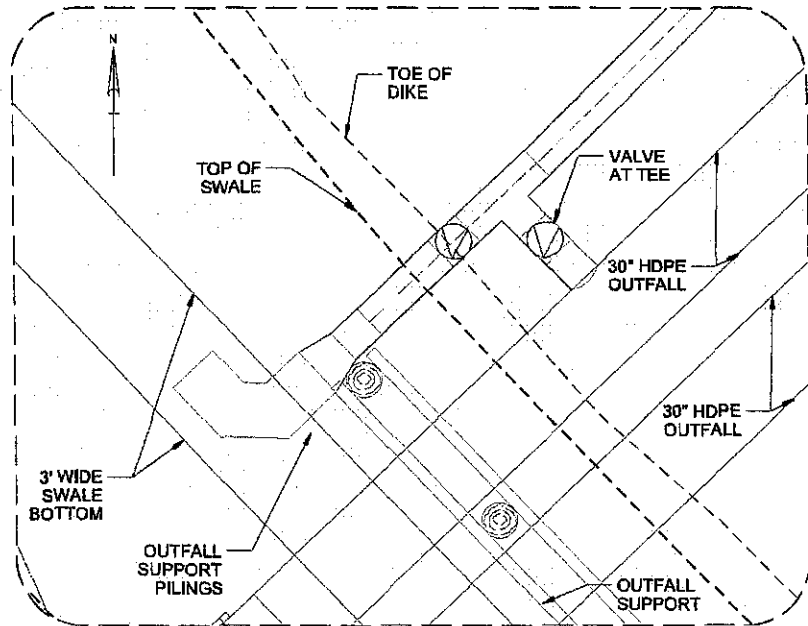
	PERMIT DRAWINGS (NOT FOR CONSTRUCTION)	FILE NAME: DATED: AUGUST 2011	DWN BY: C.K.M.	GENERAL NOTES:	JACKSONVILLE HARBOR DUVAL COUNTY, FLORIDA DMMA BARTRAM ISLAND CELL A DIKE RAISING OUTFALL DETAILS	PLATE: 8
	DEPARTMENT OF THE ARMY JACKSONVILLE DISTRICT, CORPS OF ENGINEERS JACKSONVILLE, FLORIDA	SCALE: AS SHOWN	DBM BY: C.K.M.			



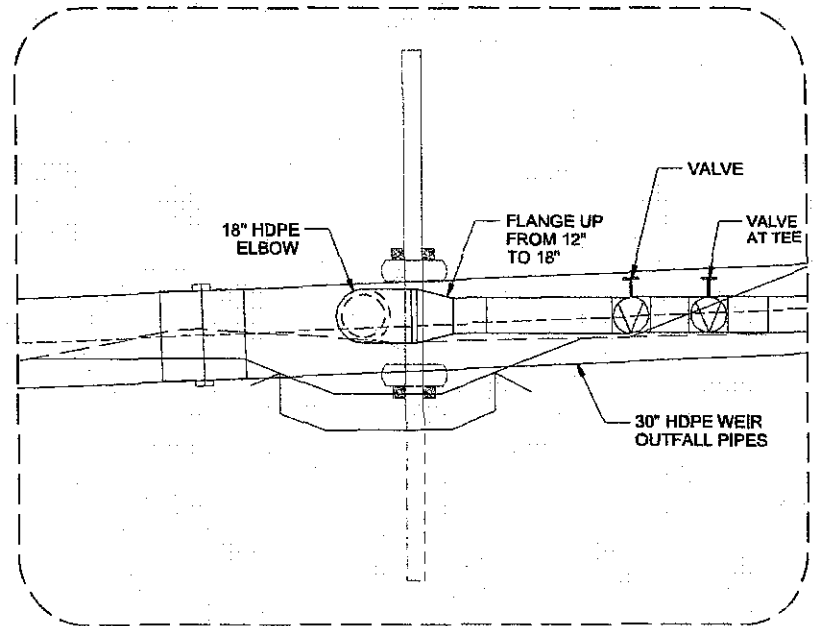
Lynn A. Westbrook
 Lynn A. Westbrook
 53508
 11/15/11



<p>US Army Corps of Engineers Jacksonville District</p>	<p>PERMIT DRAWINGS (NOT FOR CONSTRUCTION)</p>	<p>FILE NAME: DWN BY: C.K.M.</p>	<p>GENERAL NOTES: ALL SLOPES SHOWN ARE TYPICAL.</p>	<p>JACKSONVILLE HARBOR DUVAL COUNTY, FLORIDA DMMA BARTRAM ISLAND CELL A DIKE RAISING CELL B2 UNDERDRAIN MANIFOLD SYSTEM</p>	<p>PLATE: 9</p>	
	<p>DEPARTMENT OF THE ARMY JACKSONVILLE DISTRICT, CORPS OF ENGINEERS JACKSONVILLE, FLORIDA</p>	<p>DATED: AUGUST 2011</p>	<p>DSN BY: C.K.M.</p>			<p>THE VERTICAL DATUM ON ALL ELEVATION INFORMATION SHOWN IS NGVD 1988.</p>
	<p>SCALE: AS SHOWN</p>	<p>CKD BY: L.R.P.</p>				



UNDERDRAIN DETAIL - PLAN VIEW
SCALE: A



UNDERDRAIN DETAIL - CROSS SECTION
SCALE: A

GRAPHIC SCALE

SCALE A: 2' 0 2' 4'

Lynn A. Westbrook
Lynn A. Westbrook 11/15/11
53508



PERMIT DRAWINGS
(NOT FOR CONSTRUCTION)

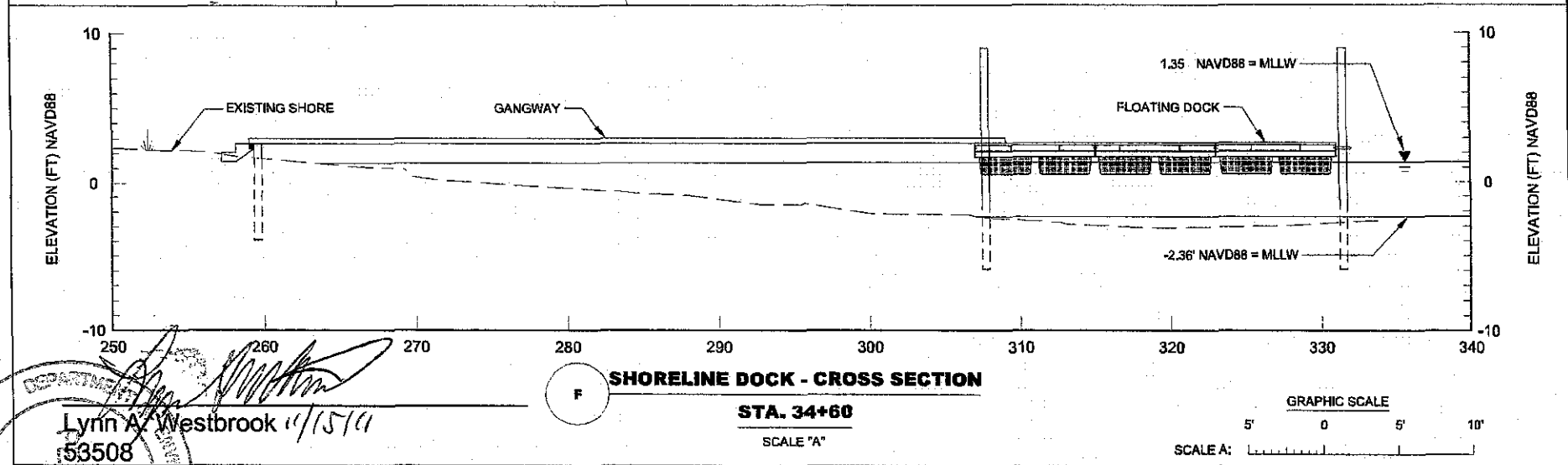
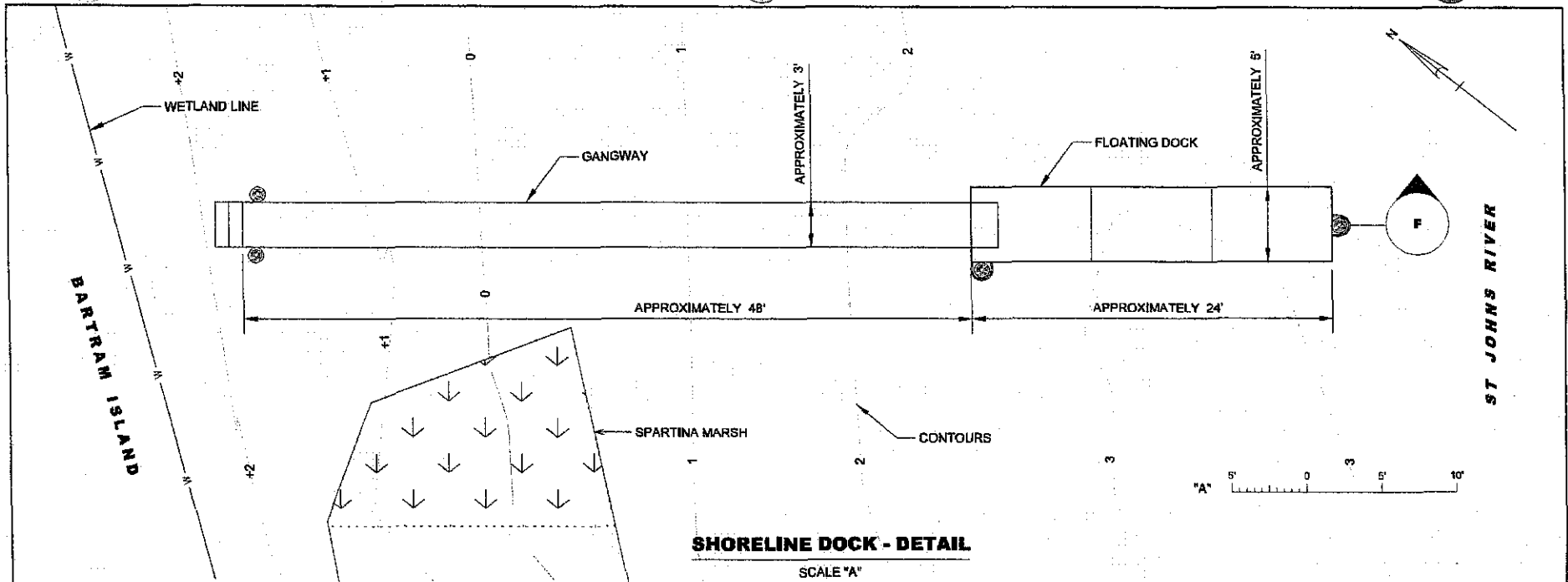
DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

FILE NAME:	DWN BY:
DATED:	C.K.M.
AUGUST 2011	DNB BY:
SCALE:	C.K.M.
AS SHOWN	CKD BY:
	L.R.P.

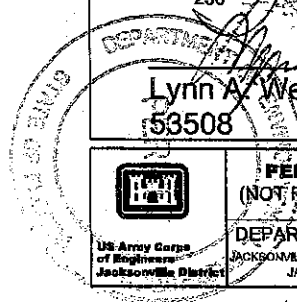
GENERAL NOTES:

JACKSONVILLE HARBOR
DUVAL COUNTY, FLORIDA
DMMA BARTRAM ISLAND
CELL A DIKE RAISING
UNDERDRAIN DETAILS

PLATE:
10



Lynn A. Westbrook 11/15/11
53508



PERMIT DRAWINGS
(NOT FOR CONSTRUCTION)

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

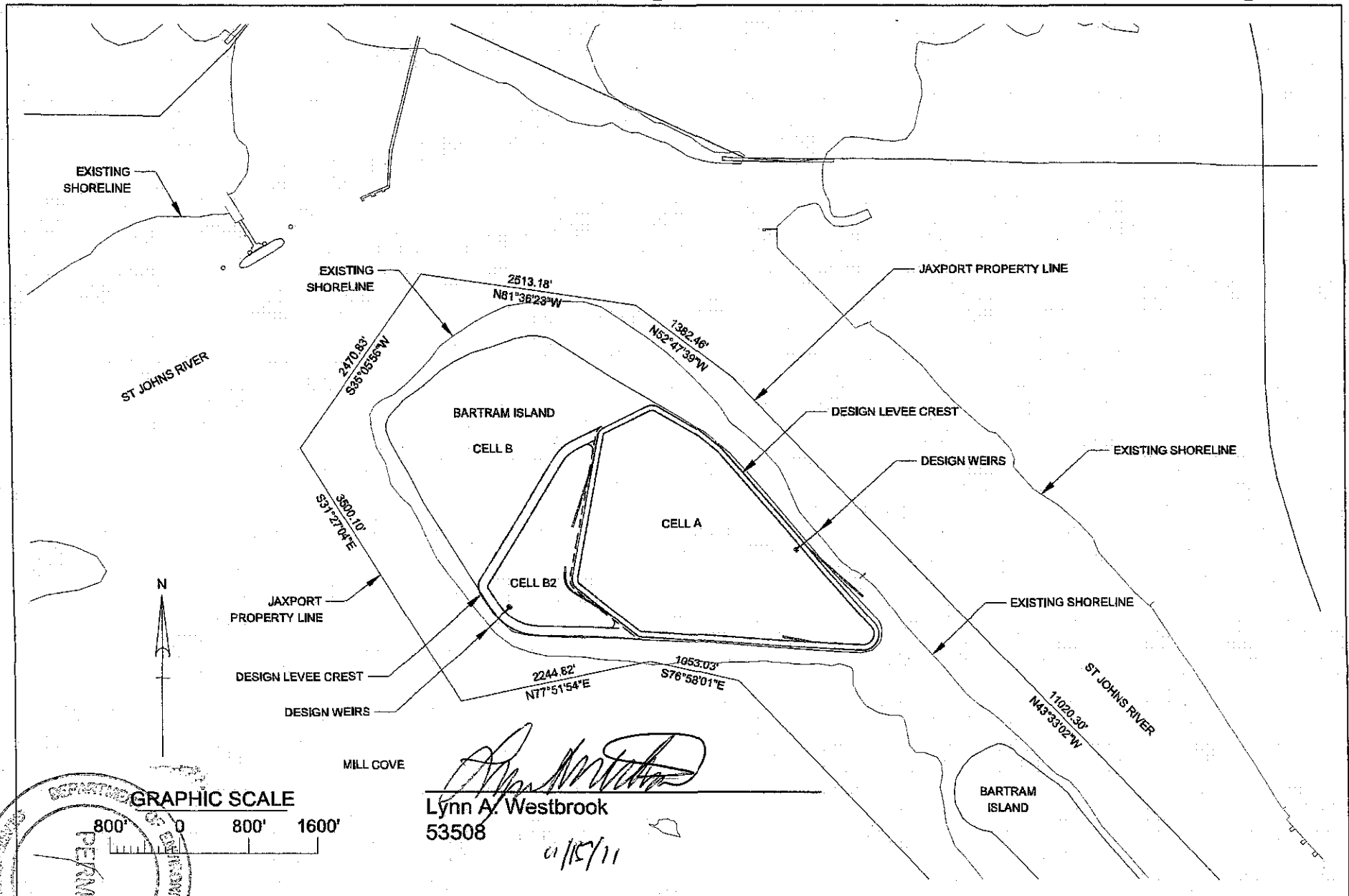
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C.K.M.
D.S.M. BY:
AUGUST 2011
C.K.M.
CRD BY:
L.R.P.

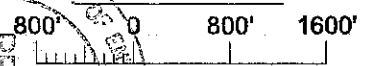
GENERAL NOTES:

JACKSONVILLE HARBOR
DUVAL COUNTY, FLORIDA
DMMA BARTRAM ISLAND
CELL A DIKE RAISING
FLOATING DOCK
PLAN AND PROFILE

PLATE:
11



GRAPHIC SCALE



Lynn A. Westbrook
 Lynn A. Westbrook
 53508

01/15/11



PERMIT DRAWINGS
 (NOT FOR CONSTRUCTION)
 DEPARTMENT OF THE ARMY
 JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
 JACKSONVILLE, FLORIDA

FILE NAME:
 DATED:
 AUGUST 2011
 SCALE:
 AS SHOWN

DWN BY:
 C.K.M.
 DSN BY:
 C.K.M.
 CKD BY:
 L.R.P.

GENERAL NOTES
 1. THE BOUNDARY DEPICTED HEREON WAS DERIVED FROM THE "CHARLES BASSETT AND ASSOCIATES, INC." SPECIFIC PURPOSE SURVEY, DATED 7 MAY 1983.
 2. THE SOURCE DATA WAS ORIGINALLY REFERENCED TO THE STATE PLANE COORDINATE SYSTEM (SPCS), FLORIDA EAST ZONE, NAD27(1979 ADJUSTMENT). THESE COORDINATES WERE TRANSFORMED TO THE SPCS, FLORIDA EAST ZONE, NAD83(HARR) VIA THE SOFTWARE CORPSCON.
 3. ALL UNITS ARE U.S. SURVEY FEET.

JACKSONVILLE HARBOR
 DUVAL COUNTY, FLORIDA
DMMA BARTRAM ISLAND
CELL A DIKE RAISING
 BOUNDARY OF
 JAXPORT OWNED LANDS

PLATE:
12

1 References

- 1.1 EM 1110-2-5027 (available on-line at <http://140.194.76.129/publications/eng-manuals/em1110-2-5027/toc.htm>)
- 1.2 DMMA Operation, Maintenance , and Management Plan dated August 2011
- 1.3 Bartram Island Storm Water Storage Drawdown Analysis
- 1.4 Memorandum For Record – Bartram Island Cell A Dike Raising and Cross Dike Construction, Seepage and Slope Stability Analysis, dated August 2011
- 1.5 Bartram Island Dike Raising Permit Plates

2 Introduction

2.1 This Bartram Island Operations Plan has been developed to provide a management guide for Bartram Island Cell A which will be utilized by the Corps of Engineers (Corps) for the maintenance of the federal navigation channel and Bartram Island Cell B-2 which will be used by JaxPort for maintenance of port terminals and other berthing areas. This plan provides guidelines for operation and maintenance of the disposal areas during all phases of operation.

2.2 DMMA's may be designed and constructed by the Corps, the Project Sponsor of the federal project (such as JaxPort), or some other Federal agency, such as the Air Force, Navy, Coast Guard, etc. Ongoing routine maintenance of the DMMA is typically a shared responsibility of the Project Sponsor and the Corps (see reference 1.2). The Corps uses EM 1110-2-5027 (reference 1.1) as a guideline for all aspects of DMMA design, construction, maintenance, and operation.

2.3 This Operations Plan strives to present a comprehensive description of activities and events that have brought us to the present moment and that are planned for the future. These activities and events have been and will be initiated either by the Project Sponsor or the Corps.

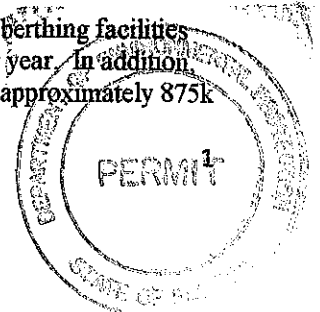
3 Background

3.1 The disposal cells at the Bartram Island DMMA have been operated in support of the Jacksonville Harbor navigation project for more than fifty years. Currently there are five separate disposal cells on Bartram Island with a total effective area (area available for storage of dredged material) of approximately 360 acres. The current acreage and capacity for hydraulic placement of dredged material for each cell is shown below:

<u>Cell</u>	<u>Acreage</u>	<u>Capacity</u>
Cell A	170 acres	0 cubic yards
Cell B	85 acres	0 cubic yards
Cell C	30 acres	0.5M cubic yards
Cell F	35 acres	0.3M cubic yards
Cell G	40 acres	0 cubic yards

3.2 Shoaling Rates

The total yearly dredging needs (shoaling rate) for the JaxPort berths and other vessel berthing facilities associated with the Jacksonville Harbor project is approximately 520k cubic yards per year. In addition, the shoaling rate for the Federal Channel portion of the Jacksonville Harbor project is approximately 875k



cubic yards per year. The Buck Island DMMA will be ready for operation later this year. But the JaxPort cell (Buck Island Cell B) will only provide an additional capacity of 0.7M cubic yards. Given the disposal capacities and the need for maintenance dredging shown above, JaxPort could be facing a dredged material disposal shortfall as early as FY14.

3.3 Therefore, the Corps is preparing contract plans and specifications for a dike raising contract at Bartram Island as described in the referenced permit plates (reference 1.5). The contract will raise the dikes at what is now called Bartram Island Cell A and will also subdivide the cell into two cells to be called Bartram Island Cell A and Bartram Island Cell B-2. This will provide for additional acreage and capacity as shown below:

<u>Cell</u>	<u>Acreage</u>	<u>Capacity</u>
Cell A	120 acres*	2.8M cubic yards**
Cell B-2	40 acres*	1.1M cubic yards***

*These acreages assume that the new cross dike will occupy approximately 10 acres.

**Cell A dike elevation will be 47 feet.

*** Cell B-2 dike elevation will be 37 feet.

In addition to dike raising, the existing Cell A weirs will be removed and replaced with a pair of box riser weirs with discharge into the river at the same location of the existing Cell A weirs and a second pair of box riser weirs will be installed in Cell B-2 with discharge into Mill Cove.

3.4 JaxPort and the Corps also contemplate the use of additional DMMA management practices to preserve and supplement existing and future capacity without the capital investment associated with major dike raising efforts. Such management practices could involve incremental dike raising as a function of on-going DMMA O&M management activity. DMMA management practices could also include transfer of dredged material from active cells to dry stockpile areas located in inactive cells such as Cell B or Cell G or to other stockpile areas located in other upland areas on Bartram Island.

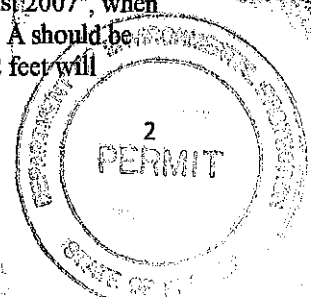
4 Design Analysis

4.1 Freeboard – General

General freeboard requirements for upland DMMA's are provided within Corps guidance in EM 1110-2-5027 (reference 1.1, paragraph 4.3.b(3)(a) on page 4-8). Although detailed freeboard criteria for dams and other large water impounding areas do exist, these Corps criteria are reserved for large reservoirs where overtopping due to wave setup and run-up is primarily dependent on depth and effective fetch length. DMMA's are typically not representative of reservoir conditions, since ponding depths during and after dredged material placement are relatively shallow, and overall fetch lengths are significantly shorter. As such, a freeboard of 2 feet is recommended in Section 4.3 of EM1110-2-5027.

4.2 Freeboard – Operational Requirements

Under all conditions the freeboard in both Cells A and B-2 should be maintained at no less than 2 ft. Wave run-up analyses indicate that (for both Cell A and Cell B-2) a drawdown will have to occur when sustained wind speeds are forecast to be in excess of 60 mph. Based upon the results depicted in the Report titled "Dredged Material Management Area Embankment Freeboard Analysis August 2007", when water depth is 2 feet or less a freeboard of 3.0 ft in cell B-2 and a freeboard of 3.6 ft in Cell A should be created to withstand the effects of a 110 mph design storm. A water depth of greater than 2 feet will



require 4.0 ft and 5.0 ft of freeboard in Cell B-2 and Cell A, respectively to withstand the effects of a 110 mph design storm without damage to the dikes. Prior to the arrival of storm force winds the dredging contractor will be required to create the necessary freeboard by drawing down the water.

4.3 Storm Water Analysis 25-year / 24-hour

A storm water analysis was performed using HEC RAS Version 4.1 The inflow parameter for the model is the 25-year / 24-hour storm event hydrograph (9.5 inch total rainfall). The outflow parameters assume that the initial water elevation is at 53 feet NAVD88 (corresponding with the 2-foot freeboard requirement and completely built-out site), the weir riser boards were set at 50 feet NAVD88. For this analysis the total weir crest length was 32 feet for Cell B-2 and 40 feet for Cell A (2 weir sets in each Cell). For both Cells A and B-2, each weir set is drained by a single 30 inch HDPE weir outfall culvert. The model results indicate peak flow velocities of 25 fps and 21 fps in the weir culvert pipes in Cell A and B-2 respectively. The maximum 2-foot drawdown time estimated was approximately 21.5 and 5.5 hours for Cells A and B-2. (See reference 1.3 for more details.)

4.4 Drawdown Discharge

Based on the 25-year / 24-hour storm analysis, the time to drawdown 3 feet of water from elevation 53 feet NAVD88 to elevation 50 feet NAVD88 is approximately 21.5 hours for Cell A and the time to drawdown 2 feet of water in Cell B-2 is 5.5 hours. Emergency drawdown of water within the DMMA will create 4 and 5 feet of freeboard for Cells B-2 and A, respectively, once a Gale, High Wind, or Tropical Storm Warning is issued for the region.

4.5 Geotechnical Data

Recent geotechnical investigations were performed at the site in support of the weir replacement and dike construction contract. Details of the investigation as well as a description of the subsurface conditions encountered and the geotechnical analysis performed to ensure structural and geotechnical stability of the DMMA are discussed below.

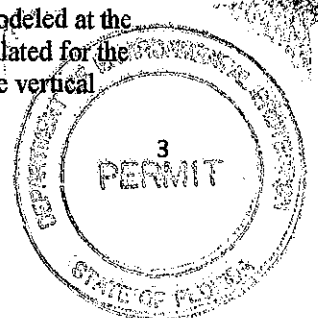
4.5.1 Seepage and Slope Stability

Field investigations, laboratory testing, seepage, and slope stability analyses were performed for the DMMA at Cell A and Cell B-2 on Bartram Island.

Perimeter Dikes at Cell A. – When the interior water level of the cell was modeled at the highest level permitted (44 feet NAVD88) the lowest seepage factor of safety (FOS) calculated for the horizontal gradient was 1.83. Under the same conditions the lowest FOS calculated for the vertical gradient (uplift) was 11.36. The FOS for slope stability are in the range of 1.46 for surficial stability and 1.50 for global stability.

Perimeter Dikes at Cell B-2. – When the interior water level of the cell was modeled at the highest level permitted (34 feet NAVD88) the lowest seepage factor of safety (FOS) calculated for the horizontal gradient was 4.79. Under the same conditions the lowest FOS calculated for the vertical gradient (uplift) was 39.74. The FOS for slope stability are in the range of 1.66 for surficial stability and 1.64 for global stability.

Cross Dike at Between Cells A and B-2. – When the interior water level of the cell was modeled at the highest level permitted (34 feet NAVD88) the lowest seepage factor of safety (FOS) calculated for the horizontal gradient was 3.11. Under the same conditions the lowest FOS calculated for the vertical



gradient (uplift) was 4.62. The FOS for slope stability are in the range of 2.19 for surficial stability and 2.05 for global stability.

The full results of the seepage and slope stability analyses are included in the Memorandum For Record – Bartram Island Cell A Dike Raising and Cross Dike Construction, Seepage and Slope Stability Analysis, dated August 2011 (reference 1.4).

5 Placement of Material

5.1 During placement of dredged material in the disposal area, constant radio communication between the dredge and disposal area personnel shall be maintained. Water elevation should be maintained no higher than 2 feet below the *minimum* dike crest elevation. Water height shall be constantly monitored while pumping to ensure the 2 feet freeboard is maintained.

5.2 Discharge Location

In general, material should be discharged into each cell in order to provide for the longest possible flow path from the discharge point to the weir location. For Cell A, the optimum flow path would be approximately 2500 feet and for Cell B-2 it would be approximately 2000 feet.

6 Weir Operations

6.1 From commencement of dredging, the operation of the weir system needs to be managed to minimize the return of suspended solids and associated turbidity to the receiving water body to meet contract and permit requirements. The dredging contractor, with oversight provided by the contractor's quality control manager and the Corps' quality assurance representative, will monitor and manage the dredge output and the weirs to control water elevation, ponding depth, dredge inflow rate, and other parameters to maintain effluent discharge from the DMMA at or below required turbidity standards. Weir stacks should be fully-operational during all phases of the dredging operation and the weir crests should be maintained at equal elevations with essentially equal flow over the weirs, unless approved by the Contracting Officer in writing. Note that in the special case where placement of dredged material is accomplished without discharge (typical of JaxPort dredging projects), the weirs should be sealed by closing the flap gate and the weir riser boards should be placed to the maximum elevation.

6.2 Minimum Ponding Depth

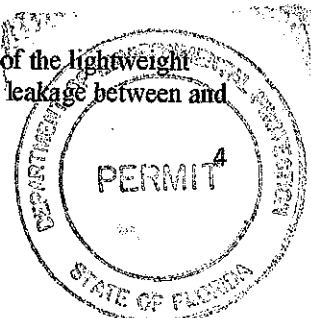
EM 1110-2-5027 (reference 1.1, paragraph 4.3.a on page 4-5) establishes 2-feet as the minimum operational ponding depth to be used during normal dredging operations. The dredging contractor may choose to use a ponding depth greater than 2-feet at his discretion. For the Bartram Island DMMA cells, the minimum ponding depth of 2-feet should be maintained, unless an emergency drawdown is necessary or final decanting operations are underway.

6.3 Maximum Ponding Depth

Unless otherwise established in the dredging contract specifications, the maximum ponding depth will be controlled or limited by the water elevation necessary to meet the minimum required freeboard.

6.4 Weir Boards

The weir boards specified for use at Bartram Island DMMA Cell A and Cell B-2 are of the lightweight composite material type. This type of weir board provides a good water seal to deter leakage between and



around the weir boards. The individual boards are much lighter and easier to install and remove than equivalent size wooden weir boards; yet, since they are hollow, they have the advantage that they sink and are therefore not subject to floating up and becoming dislodged.

6.5 Lighting

Weir stacks and surrounding area shall be lighted during night-time operations. All lighting shall be in accordance with the USACE Safety and Health Requirements Manual (EM 385-1-1).

6.6 Night-time Visual Monitoring During Dredging Operations

During night-time operations when turbidity monitoring is not active, the contractor shall periodically perform a visual check of the water flow over and through the weirs for any signs of elevated turbidity. Any visual indication of elevated turbidity shall be immediately reported to the Quality Control Manager.

6.7 Decanting

After dredging is complete, the incremental removal of weir boards aids in the slow release of the clarified surface water from the basin over the weir crest. The process of decanting continues after dredging is complete until all residual ponded water is released over the weirs. During decanting, the weirs will be actively managed to meet turbidity standards and minimize the return of suspended solids and associated turbidity to the receiving water body.

7 Site Maintenance and Management

7.1 Typical Specifications for Construction or Repair of Dikes

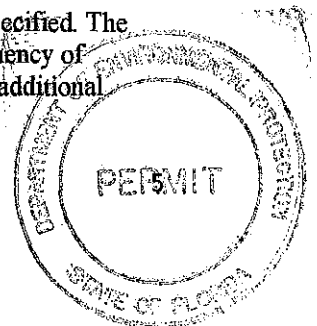
The contract requirements listed below are typical of dike embankment specifications which will be used for the Bartram Island Dike Raising Project. The text may be modified slightly to address specifics of this particular project but the compaction requirements should remain as referenced below.

7.1.1 Compaction of Embankment Material

Material shall be placed in 12-inch uncompacted lifts. Once a 12-inch layer of material has been dumped and spread, it shall be harrowed to break up and blend the fill materials and to obtain uniform moisture distribution. Harrowing shall be performed with a heavy disk plow, or other approved harrow, to the full depth of the layer. If one pass of the harrow does not accomplish the breaking up and blending of the materials, additional passes of the harrow shall be required, but in no case will more than three passes of the harrow on any one layer be required for this purpose. When the moisture content and the condition of the layer are satisfactory, the lift shall be compacted to a minimum of 95 percent of the maximum dry density as determined by the Contractor in accordance with ASTM D 1557. Dumping, spreading, sprinkling, and compacting may be performed at the same time at different points along a section when there is sufficient area to permit these operations to proceed simultaneously. Compaction equipment shall be operated such that the strip being traversed by the roller shall overlap the rolled adjacent strip by not less than 3 feet.

7.1.2 Materials Testing

Perform sufficient testing to insure that the embankment is being constructed as specified. The testing program specified below shall be considered the minimum acceptable frequency of testing. This does not relieve the Contractor from the responsibility of performing additional testing, if required to ensure compliance with these specifications.



a. Soil Classification Tests:

Soil classification tests shall be performed in accordance with ASTM D 2487. One initial classification test shall be required for each different classification of material to be utilized as embankment fill or backfill. As prescribed in ASTM D 2487, grain size analyses in accordance with ASTM D 422 and Atterberg limits in accordance with ASTM D 4318 shall be performed on each different classification. Submit additional tests for every 5000 cubic yards of embankment or backfill material. Soil classification tests shall be performed on foundation material as required to determine the acceptability of the in-situ soils. Additional tests will be required if noticeable changes in the material occur.

b. Cohesionless Material Testing

(1) **Compaction Tests**- Run not less than one modified maximum dry density test for every 3000 cubic yards of cohesionless fill in accordance with ASTM D 1557.

(2) **In-Place Density Tests**- The in-place density of the cohesionless materials shall be determined in accordance with ASTM D 6938. Run not less than one (1) field in-place density test on each lift of material every 300 feet of the embankment length or every 500 cubic yards of completed embankment fill or backfill whichever is less. Horizontal locations shall be randomly staggered in the fill. When nuclear method is used for in-place density testing according to ASTM D 6938, the first test and every tenth test thereafter for each material type shall include a sand cone correlation test in accordance with ASTM D 1556.

The sand cone test shall be performed adjacent to the location of the nuclear test, and shall include a nominal 6 inch diameter sand cone, and shall include a minimum wet soil weight of 6 pounds extracted from the hole. The density correlations shall be submitted with test results. Each transmittal including density test data shall include a summary of all density correlations for the job neatly prepared on a summary sheet including at a minimum:

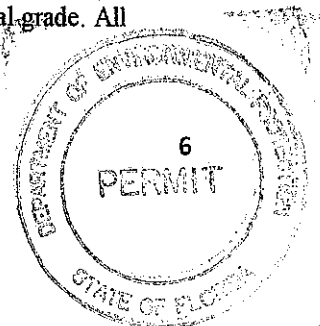
- (i) Meter serial number and operators initials.
- (ii) Standard count for each test.
- (iii) Material type.
- (iv) Probe depth.
- (v) Moisture content by each test method and the deviation.
- (vi) Wet density by each test method and the deviation.

(3) **Water (Moisture) Content Tests**- Determination of water content shall be performed in accordance with ASTM D 2216.

ASTM D 4643 may be used when rapid moisture content results are needed. All rapid results obtained by ASTM D 4643 shall be confirmed by a test on a duplicate sample performed in accordance with ASTM D 2216. In the event of disagreement between the results, ASTM D 2216 shall govern. One water content test will be performed for each 2000 cubic yards of material placed or each lift of material whichever is less.

7.1.3 Grouting

Prior to commencement of dredging, gopher tortoise burrows and any hole with a diameter six inches or large and deeper than two feet or more within the dike shall be identified and clearly marked. All holes meeting this criteria will be grouted. Any holes that do not meet this criteria shall be filled at the surface by filling with clean sand and compacting to original grade. All gopher tortoises will be relocated prior to grouting and any construction activity.



7.1.4 Grassing

Seeding to obtain a healthy stand of permanent grass plants will begin on the first day of seeding work required under this contract, shall continue through the remaining life of the contract, and end 3 months after the last day of the seeding operation required by this contract or until a satisfactory stand of grass plants is obtained, whichever is later. Written calendar time period shall be furnished for the seed establishment period. When there is more than 1 seed establishment period, the boundaries of the seeded area covered for each period shall be described. The seed establishment period shall be modified for inclement weather, shut down periods, or for separate completion dates of areas. Permanent grass plants shall be evaluated for species and health when the grass plants are a minimum of 1 inch high. A satisfactory stand of permanent grass plants from the seeding operation shall be a minimum of 20 grass plants per square foot. Bare spots shall be a maximum of 9 inches square. The total bare spots shall not exceed 10 percent of the total seeded area.

7.2 Inspections During Dredging

Dike inspection shall be performed twice daily of the entire perimeter of the dike crest and slopes of the disposal area including 50-feet beyond the exterior toe of the slope or to shoreline. Any critical conditions noted during inspection should be immediately reported through the Quality Control Representative to JaxPort and USACE. Upon confirmation by USACE or JaxPort, the frequency of inspections shall be increased to a minimum of four times daily until a remedial action is performed. The inspection shall document any occurrences of the following critical conditions:

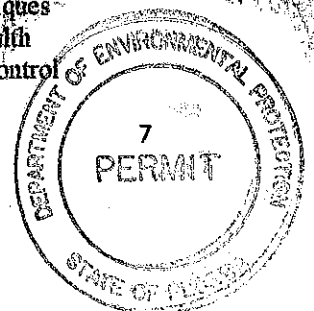
- a. Seepage on outer face or downstream from the toe in which there are boils, sand cones, or deltas.
- b. Silt or sand accumulations, boils, deltas, or cones in the drainage ditches at the base of the dikes.
- c. Cracking of soil surface on crest or either face of the dike.
- d. Serious erosion of any dike surface.
- e. Bulging of the exterior face of dike.
- f. Seepage, damp areas, boils, or erosion near weir structure or outfall pipes, especially in the vicinity where the outfall pipes exit the exterior slope of the dikes.
- g. Any subsidence of the dike crest or faces.
- h. Any deficiencies in the weir structure system that can be detected by visual inspection.
- i. Any changes in dike vegetation on the crest, interior slope, exterior slope and fifty feet beyond the exterior toe of slope.

7.3 Offloading

In general, off-loading of material from Bartram Island is not being considered at this time due to lack of demand for fine grain material and excessive cost associated with transporting material off of the island. Therefore, the only off-loading of material under consideration at Bartram Island is the transfer of dredged material from one cell to another or from a cell to dry stockpiles located in upland areas adjacent to existing cells on Bartram Island.

8 Turbidity Monitoring

8.1 During DMMA operations discharging return water into the receiving waters, water samples shall be obtained and analyzed for turbidity. Sampling shall be conducted in accordance with techniques described in the latest edition of "Standard Methods" published by the American Public Health Association (APHA), American Waterworks Association (AWWA), and Water Pollution Control



conducting the sampling, such as "dredge not working due to mechanical problems" or "no sampling taken due to high winds."

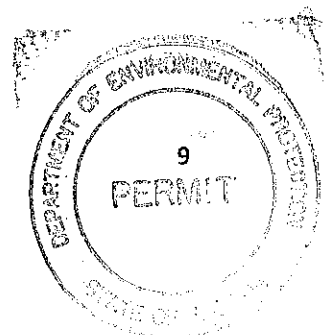
i. State plane coordinates (x and y) or GPS coordinates (lat/longs) shall be provided for all sampling stations along with the coordinates of the discharge pipe and the distance between the sampling station and discharge pipe for each sampling event to demonstrate compliance with the stated sampling distances.

8.8 Monitoring reports shall also include the following information for each day that samples are taken:

- a. Time of day and date samples were taken.
- b. Depth of water body.
- c. Depth of sample.
- d. Antecedent weather conditions.
- e. Tidal stage and direction of flow.
- f. Discharge location (station location and map).
- g. Water sample location.
- h. Wind direction and velocity.

8.9 Notification

If turbidity exceeds background levels by more than 29 NTU at the edge of the mixing zone, the analyst shall immediately notify all appropriate parties. In addition, the activity causing the exceedance shall immediately be modified to reduce turbidity to acceptable levels as soon as possible. If turbidity has not returned to acceptable levels within 24 hours, discharge shall cease and shall not resume until corrective measures have been taken and turbidity has returned to acceptable levels.



DMMA Operation, Maintenance, and Management Plan August 2011

1 GENERAL

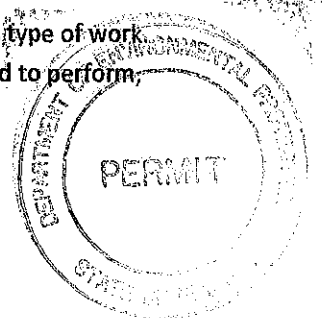
Dredged material disposal capacity is a scarce and valuable commodity. The costs associated with acquiring new capacity are escalating dramatically. In an escalating disposal cost environment, dredged material disposal techniques and process that used to be considered cost prohibitive, are now seen in a different light. Former practices that involve pumping operations followed by months or years of DMMA inactivity have proven to be inefficient at maximizing disposal capacity and have lead to site conditions that are challenging with regard to future dike raising.

2 Active DMMA maintenance and management is recommended for all Federal and non-Federal DMMA's. In addition to the activities involved with active dredging operations, the activities associated with active maintenance and management should include some or all of the following:

- A. Grassing
- B. Mowing/brush hogging
- C. Invasive Plant Control
- D. Shoreline Protection
- E. DMMA Inspections
- F. Minor Dike Repairs
- G. Installation and repair of roads
- H. Installation and repair of fencing
- I. DMMA Off-loading
- J. De-watering
- K. Turbidity Monitoring
- L. Progressive Ditching
- M. Minor Dike Raising
- N. Dike Base Construction
- O. Soil Blending
- P. Spoil Re-distribution or Stockpiling
- Q. Topo Surveys
- R. Geotechnical Data Collection – Core borings, Test pits, Muck probes
- S. Bird Nest Deterrence
- T. Gopher Tortoise Deterrence
- U. Mosquito Control

3 CONTRACTING STRATEGIES FOR DMMA OPERATION, MAINTENANCE, AND MANAGEMENT

An indefinite-delivery-indefinite-quantity (IDIQ) type of contract would be suitable for this type of work. Under this type of contract, all potential items of work that the contractor may be required to perform,



as well as all of the equipment required, are listed in the contract specifications. The contract period for each IDIQ contract might be set up as a base period of one year with options for additional years. Equipment rental unit price rates would be established by bid for the various types of required equipment (drag line, back hoe, front end loader, dump truck, brush hog, etc.). The DMMA operator would then order the work as needed by issuing delivery orders against the contract to accomplish the required work.

Each DMMA should have a designated operator (USACE or Project Sponsor). The designated operator would fund and administer the DMMA Operation, Maintenance, and Management (IDIQ) contract and make all decisions regarding placement of dredged material into the DMMA.

4 Advantages of DMMA Management:

- A. Immediate availability of de-watering procedures following dredging events.
- B. Immediate availability of ditching procedures as soon as ponded water has been drained from the surface of spoil layer.
- C. Immediately availability for dike or weir repairs.
- D. Immediate availability for minor dike raising.
- E. Ability to proactively manage the inside perimeter of the DMMA cell to facilitate future dike raising.
- F. Immediate ability to flood the bottom of the cell if necessary to deter bird nesting prior to dredging operations.
- G. Immediate availability of equipment and personnel gives greater confidence to regulatory agencies (reasonable assurance).
- H. The overall advantage of DMMA management is that it maximizes the dredged material disposal capacity (return) for each acre of disposal area acquisition (investment).

5 References or related documents:

- A. EM 1110-2-5027, especially sections 5-3, 7-3, 7-4, and 7-5.
- B. PGL-47