



Florida Department of Environmental Protection

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3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

ENVIRONMENTAL RESOURCE PERMIT

PERMITTEE/AUTHORIZED ENTITY:

U.S. Army Corps of Engineers
c/o Marie Burns
P.O. Box 4970
Jacksonville, Florida
32232-0019

PERMIT INFORMATION:

Permit/Authorization No. 0211736-001-EI
Date of Issue: April 18, 2007
Expiration Date of Construction Phase:
April 18, 2012
County: Hillsborough
Project: Alafia Channel Construction
Dredging

This environmental resource permit is issued under the authority of Part IV of Chapter 373, Florida Statutes (F.S), and Title 62, Florida Administrative Code (F.A.C.). The activity is not exempt from the requirement to obtain an environmental resource permit. Pursuant to Operating Agreements executed between the Florida Department of Environmental Protection (Department) and the water management districts, as referenced in Chapter 62-113, F.A.C., the Department is responsible for reviewing and taking final agency action on this activity.

ACTIVITY DESCRIPTION:

The project is to deepen and widen the Federal Alafia Channel (between stations 0+00 to 185+94), branching off of the Hillsborough Bay Channel, and the turning basin at the Cargill Phosphate Plant. Approximately 5.5 million cubic yards of material will be dredged and deposited as follows: (a) disposal within self-contained upland disposal sites at Construction and Maintenance Disposal Areas (CMDA) 2-D and 3-D; (b) used to expand the intertidal shelf at Sunken Island portion of the Richard T. Paul Sanctuary by approximately 22 acres; and (c) used to fill the 22-acre dredged-hole located on the western side of Whiskey Stump Key to -3 feet Mean Lower Low Water (MLLW). Dredged material that does not meet the volume and quality criteria for beneficial use at the Sunken Island portion of the Richard T. Paul Sanctuary or Western Whiskey Stump Key Hole, may be deposited at CMDA 2-D and 3-D, or in an Offshore Dredged Material Disposal Site (ODMDS) approved by the Environmental Protection Agency (EPA).

The Alafia Channel will be deepened (from an authorized depth of -32 feet) to -42 feet (plus 2 feet allowable overdredge and 2 feet advanced maintenance), for a maximum dredged depth of -46 feet MLLW. The entrance channel will be widened to the south by 50 feet, to achieve a total width of 250 feet. The turning basin at the Cargill Phosphate Plant will be expanded (from the current 700 feet x 1200 feet) to 1200 feet x 1200 feet and deepened (from -32 feet) to -42 feet (plus 2 feet allowable overdredge and 2 feet advanced maintenance dredging), for a maximum dredged depth of -46 feet MLLW. Where rock is encountered, an additional 2 feet of overdredge

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is authorized, resulting in a project depth of -48 feet MLLW in those areas. An 850-foot long bulkhead will be constructed along the north bank approximately between stations 160+00 and 168+50 to protect the existing rail facilities. The bulkhead will have a top elevation of +6 feet MLLW.

The channel widening and bulkhead construction will result in the loss of 4.12 acres of mangrove wetlands. The mitigation plan for this project includes the following activities: construction of a tidal shelf along the south bank of the entrance channel (excavated from uplands) with 1.78 acres of planted mangrove fringe; construction of two flushing channels (excavated from uplands) with 2.70 acres of planted mangrove wetlands; excavation of an existing, degraded slough south of the dirt road; removal of exotic vegetation in the construction areas; and execution of a Conservation Easement over the mitigation sites by the landowner of the mitigation sites, The Mosaic Company.

ACTIVITY LOCATION:

The dredging and bulkhead construction activities are located in Hillsborough Bay and extend into the Alafia River, Hillsborough County, Section 22, Township 30 South, Range 19 East, Class III Waters, not sovereign submerged lands.

The disposal sites are as follows:

- 1) The upland disposal site CMDA 2-D, located in central Hillsborough Bay, Hillsborough County, north of CMDA 3-D, Class III Waters, not sovereign submerged lands.
- 2) The upland disposal site CMDA 3-D, located in central Hillsborough Bay, Hillsborough County, south of CMDA 2-D, Class III Waters, not sovereign submerged lands.
- 3) The Sunken Island disposal site, located in eastern Hillsborough Bay, Hillsborough County, near Section 22, Township 30 South, Range 19 East, Class III Waters, not sovereign submerged lands.
- 4) The Western Whiskey Stump Key Hole disposal site, located in eastern Hillsborough Bay, Hillsborough County, near Section 3, Township 31 South, Range 19 East Class III Waters, not sovereign submerged lands.
- 5) The ODMDS Site #4, located outside of State waters in the Gulf of Mexico, approximately 47 miles southwest of the project site, center coordinates of 27°31'27"N latitude, and 83°07'38"W longitude, in water depths of approximately 70 feet.

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This permit constitutes a finding of consistency with Florida's Coastal Zone Management Program, as required by Section 307 of the Coastal Zone Management Act. This permit also constitutes certification of compliance with state water quality standards pursuant to Section 401 of the Clean Water Act, 33 U.S.C. 1341.

This permit constitutes a determination, pursuant to Section 380.0651(3)(e), F.S., that the facility is located so that it will not adversely impact Outstanding Florida Waters or Class II waters, and will not contribute to boat traffic in a manner that will adversely impact the manatee.

The above named permittee is hereby authorized to construct the work shown on the application and approved drawing(s), plans, and other documents attached hereto or on file with the Department and made a part hereof. This permit is subject to the limits, conditions, and locations of work shown in the attached drawings, and is also subject to the attached General Conditions and Specific Conditions, which are a binding part of this permit and authorization. You are advised to read and understand these drawings and conditions 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 drawings and conditions prior to commencing the authorized activities.

GENERAL CONDITIONS:

1. This permit, including its general and specific conditions, must be construed in light of the February 28, 2006 Interagency Cooperative Agreement for Civil Works Projects (ICA) between the Department and the U.S. Army Corps of Engineers (Corps). As recognized in the ICA, the Department has the authority to include reasonable conditions in this permit. All of the conditions in this permit, both general and specific, are enforceable to the extent sovereign immunity has been waived under 33 U.S.C. §§ 1323 and 1344(t). The ICA is incorporated herein by reference.
2. All activities approved shall be implemented as set forth in the drawings incorporated by reference and in compliance with the conditions and requirements of this document. The Corps shall notify the Department in writing of any anticipated changes in:
 - a) operational plans;
 - b) project dimensions, size or location;
 - c) ability to adhere to permit conditions;
 - d) project description included in the permit;
 - e) monitoring plans.

If the Department determines that a modification to the permit is required, then the Corps shall apply for and obtain the modification. Department approval of the modification shall be obtained prior to implementing the change, unless the change is determined by the

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Department to reduce the scope of work from that authorized under the original permit, and will not effect compliance with permit conditions or monitoring requirements.

3. If, for any reason, the Corps does not comply with any condition or limitation specified herein, the Corps shall immediately provide the Department with a written report containing the following information:
 - a) a description of and cause of noncompliance;
 - b) the period of noncompliance, including dates and times;
 - c) impacts resulting or likely to result from the non-compliance;
 - d) steps being taken to correct the non-compliance; and
 - e) the steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

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

4. The Corps shall obtain any applicable licenses, permits, or other authorizations which may be required by federal, state, local or special district laws and regulations. Nothing herein constitutes a waiver or approval of other Department permits or authorizations that may be required for other aspects of the total project.
5. Nothing herein conveys to the Corps or creates in the Corps any property right, any interest in real property, any title to land or water, constitutes State recognition or acknowledgment of title, or constitutes authority for the use of Florida's sovereign submerged lands seaward of the mean high-water line or an established erosion control line, unless herein provided, and the necessary title, lease, easement, or other form of consent authorizing the proposed use has been obtained from the State.
6. Any delineation of the extent of a wetland or other surface water submitted as part of the application, including plans or other supporting documentation, shall not be considered specifically approved unless a specific condition of this authorization or a formal determination under section 373.421(2), F.S., provides otherwise.
7. Nothing herein authorizes any entrance upon or activities on property which is not owned or controlled by the Corps or the local sponsor, or conveys any vested rights or any exclusive privileges.
8. This document or a copy thereof, complete with all conditions, attachments, modifications, and time extensions shall be kept at the work site of the authorized activity. The Corps shall require the contractor to review this document prior to commencement of the authorized activity.

9. The Corps specifically agrees to allow Department personnel with proper identification, at reasonable times and in compliance with Corps specified safety standards access to the premises where the authorized activity is located or conducted for the purpose of ascertaining compliance with the terms of this document and with the rules of the Department and to have access to and copy any records that must be kept; to inspect the facility, equipment, practices, or operations regulated or required; and to sample or monitor any substances or parameters at any location reasonably necessary to assure compliance. Reasonable time may depend on the nature of the concern being investigated.
10. At least forty-eight (48) hours prior to the commencement of authorized activity, the Corps shall submit to the Department a written notice of commencement of activities indicating the anticipated start date and the anticipated completion date.
11. If historic or archaeological artifacts such as, but not limited to, Indian canoes, arrow heads, pottery or physical remains, are discovered at any time on the project site, the Corps shall immediately stop all activities in the immediate area which disturb the soil and notify the Department and the State Historic Preservation Officer. In the event that unmarked human remains are encountered during permitted activities, all work shall stop in the immediate area and the proper authorities notified in accordance with Section 872.05, *Florida Statutes*.
12. Within a reasonable time after completion of construction activities authorized by this permit, the Corps shall submit to the Department a written statement of completion. This statement shall notify the Department that the work has been completed as authorized and shall include a description of the actual work completed. The Department shall be provided, if requested, a copy of any as-built drawings required of the contractor or survey performed by the Corps.

SPECIFIC CONDITIONS:

1. If the project description, permit drawing plates, and Specific Conditions contradict each other, then the Specific Conditions shall prevail.
2. The Eastern Whiskey Stump Key Hole (location indicated on permit drawing Plate 14) shall remain unfilled for the three years following the filling of the Western Whiskey Stump Key Hole to allow third parties sufficient time for research and monitoring of both the Western and Eastern Whiskey Stump Key Holes.
3. Material placed in the Western Whiskey Stump Key Hole shall be compatible with material on the adjacent Hillsborough Bay bottom, and shall be placed using a method that has a de minimus displacement of sediments already present in the dredged-hole at the time of filling.

4. Anyone associated with the project shall adhere to the “Seagrass Beds – No Equipment Zone,” delineated on permit drawing Plate 14 and described by the coordinates below. The following activities are prohibited within the “Seagrass Beds – No Equipment Zone”: construction vessels, anchoring devices, grounding, dredge pipe alignments, dredging or discharge of fill material. Also, the turbidity mixing zone for this portion of the project shall not extend past the boundaries of the “Seagrass Beds – No Equipment Zone.”

Point	Longitude	Latitude	Point	Longitude	Latitude	Point	Longitude	Latitude
1	-82.40206	27.81250	12	-82.39674	27.81544	23	-82.40087	27.81807
2	-82.40231	27.81319	13	-82.39664	27.81603	24	-82.40147	27.81864
3	-82.40242	27.81362	14	-82.39696	27.81660	25	-82.40175	27.81903
4	-82.40274	27.81448	15	-82.39837	27.81660	26	-82.40126	27.82034
5	-82.40282	27.81487	16	-82.39823	27.81713	27	-82.40099	27.82162
6	-82.40262	27.81549	17	-82.39850	27.81724	28	-82.40019	27.82391
7	-82.40248	27.81583	18	-82.39871	27.81726	29	-82.39991	27.82522
8	-82.40226	27.81586	19	-82.39906	27.81713	30	-82.39944	27.82725
9	-82.40216	27.81574	20	-82.40002	27.81747	31	-82.39944	27.82917
10	-82.40171	27.81521	21	-82.40029	27.81764	32	-82.40111	27.82917
11	-82.39831	27.81544	22	-82.40051	27.81778			

5. Construction at the project site shall be monitored closely to assure that turbidity levels do not exceed the compliance standards established in this permit. The names and qualifications of those individuals performing turbidity monitoring along with 24-hour contact information shall be submitted to the Department at least 7 days prior to commencement of construction activities. The credentials for this individual(s) shall confirm that he/she is familiar with the use and calibration of a nephelometer and has previous turbidity monitoring experience on projects of similar size and complexity in environmentally sensitive areas such as Florida. The qualifications shall include a signed statement that the individual(s) understands the turbidity monitoring requirements of this permit, including Specific Conditions 22 and 23 and the Department's Standard Operating Procedure (SOP) on the Field Measurement of Turbidity: FT 1600, which can be found at <ftp://ftp.dep.state.fl.us/pub/labs/assessment/sopdoc/2004sops/ft1600.pdf>. In addition, references must be provided to verify non-educational experience.
6. At least 7 days prior to commencement of the construction activities authorized by this permit, the permittee shall conduct a pre-construction conference to review the specific conditions and monitoring requirements of this permit with permittee's contractors, the Corps' Contract Officer Representative (COR), and Department staff representatives. The permittee shall provide written notification, at least 14 days in advance of the meeting, to the following offices advising of the date, time, and location of the pre-construction conference.

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DEP Bureau of Beaches & Coastal Systems (BBCS)
JCP Compliance Officer
Mail Station 300
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000
Phone: (850) 414-7716
Fax: (850) 414-7725
Email: JCPCCompliance@dep.state.fl.us

DEP Southwest District Office
Permitting & Compliance/Enforcement
13051 N Telecom Parkway
Temple Terrace, FL 33637-0926
Phone: (813) 632-7600
Fax: (813) 744-6084

Imperiled Species Management Section
Fish & Wildlife Conservation Commission
620 South Meridian Street
Tallahassee, Florida 32399-1600
Phone: (850) 922-4330
Fax: (850) 921-4369

Environmental Protection Commission of Hillsborough County
Environmental Resources Management
ATTN: Mr. Bob Stetler, Interagency Coordinator
3629 Queen Palm Drive
Tampa, Florida 33619-1309
Phone: (813)627-2600 ext. 1088
Fax: (813)627-2650

7. The Permittee shall submit two copies of final construction plans and specifications for all authorized activities, which include the resource protection measures listed in Specific Condition 26, to the BBCS at least 60 days prior to commencing any portion of the work authorized herein. The transmittal cover sheet shall provide itemized citations to measures that address the resource concerns of the Department, including turbidity control and the protection of manatees, wetlands, and seagrasses.
8. Dredged material of appropriate quality shall be deposited along the shore of Sunken Island to create approximately 22 acres of intertidal shelf for a mangrove community and used to fill the 22-acre Western Whiskey Stump Key Hole to -3 feet MLLW to help reestablish a seagrass community. The remaining material shall be placed in dredged material containment sites on CMDA 2-D and 3-D, and/or placed offshore in the ODMDS Site #4, if approved by EPA. Be advised that filling bay bottom for the Sunken Island expansion is necessarily linked to the restoration of bay bottom at the Western Whiskey Stump Key Hole; one of these 2 options may not proceed without both options being constructed.

9. Best management practices for erosion control shall be implemented and maintained at all times during construction to prevent siltation and turbid discharges in excess of state water quality standards pursuant to Rule 62-302, F.A.C. Methods for erosion control in uplands and wetlands mitigation sites shall include, but are not limited to the use of staked hay bales, staked filter cloth, sodding, seeding, and mulching; staged construction; and the installation of turbidity screens around the immediate project site. State water quality standards shall be met during dredging, loading, transporting, and discharge of dredge material.
10. The return water discharging from the spoil disposal sites shall meet state water quality standards.
11. Progress reports for the project shall be submitted to the Department within 30 days from the start of work and shall continue to be submitted biannually until construction of the permitted project is complete. The cover page shall indicate the permit number, project name, permittee name, and a certification of the following statement by the individual who supervised preparation of the report: "This report represents a true and accurate description of the activities conducted during the six month period covered by this report." Progress reports must be submitted to the DEP Bureau of Beaches and Coastal Systems JCP Compliance Officer, even if there is no ongoing construction. Reports shall include:
 - a. The current project status and the construction schedule for the next six months;
 - b. Date permitted activity began;
 - c. Brief description and extent of the work (dredging, filling, monitoring, construction, etc.) completed since the previous report or since the permit was issued. Indicate on copies of the permit drawing plates those areas where work has been completed;
 - d. Brief description and extent of the work (dredging, filling, monitoring, construction, etc.) anticipated in the next six months. Indicate on copies of the permit drawing plates those areas where work will be completed;
 - e. Descriptions and scheduling of disposal area (including dikes, weirs and spillway structures) inspections conducted during dredging, 30 days after placement is complete, and 12 months after final placement of fill in the disposal area. Corrective actions to stabilize the disposal area shall be taken immediately if at any time the integrity of the disposal area dikes or other structures appear compromised. If structural alterations are necessary, the permittee shall consult with the Department to determine if a permit or permit modification would be required. A summary of inspections and any required corrective actions shall be included in the final progress report; and

- f. Two copies of the Final After Dredge Surveys and as-built drawings to the BBCS JCP Compliance Officer within 90 days of completion of construction. The survey drawings shall be based on the Department permitted construction drawings, which should be revised to reflect changes made during construction. Both the original design and constructed elevations must be clearly shown.

MITIGATION

12. The mitigation plan shall consist of the following:
 - a. Excavating uplands to create two, 50-ft wide flushing channels between stations 180+00 and 187+00, which shall connect the Alafia River to the large mangrove wetland located to the south of the existing unpaved access road, plus a 10-ft wide connecting channel between the 2 flushing channels (forming an H-shape). The purpose of these channels is to improve water quality and circulation;
 - b. Grading the banks of the flushing channels and the south bank of the entrance channel between stations 155+00 and 170+00, down to intertidal elevations, and planting a minimum of 4.48 acres of mangroves in those areas. A row of red mangrove (*Rhizophora mangle*) seedlings at 3-foot centers shall be planted on both sides of the flushing channels. The mangrove mitigation area shall have a 10-foot wide shelf at an elevation of 1.0 foot above MLLW at the impacted mangrove fringe area and landward of the stabilized top of channel slope. Along the 10-foot wide shelf, 2 rows of red mangrove seedlings shall be planted on 3-foot centers within the shelf of the planter. Upon completion of grading of the mangrove planter, two rows of *Spartina alterniflora* plugs shall be planted at 3-foot centers along the toe of the breakwater slope at elevations of +0.6 ft. to +0.8 ft MLLW to stabilize the sediment and create conditions conducive to natural recruitment by mangrove propagules. The slopes of the flushing channels shall also be stabilized immediately after construction with the installation of *S. alterniflora* plugs at 3-foot centers at the toe of the channel slopes;
 - c. Removal of exotic plants and trash/debris from the construction area and the areas adjacent to the project, plus maintenance of this removal effort annually for 3 years in order to ensure exotic plant eradication and to promote survivorship and growth of the mangrove plantings. Bimonthly inspections and removal of trash, debris and wrack from the planting areas shall occur during the first year after installation of the red mangrove seedlings; and
 - d. Excavation/restoration of an existing, degraded slough south of the dirt road (see permit drawing Plate 12).
13. All mitigation required in this permit shall be completed when the constructed southern shoreline of the widened channel is stabilized or within three years following project construction, whichever occurs sooner. If mitigation is not completed when the slope

stabilizes or within three years after the initial mangrove impact, whichever occurs sooner and the date of which shall be reported in the biannual progress report, then the mangrove mitigation (creation or restoration) requirement shall be increased by 0.15 acres per year. In order to satisfy this requirement, the location and design of any additional mitigation must first be approved by the Department and after proper authorizations are obtained by the Corps.

14. A Conservation Easement shall be executed over the lands encompassed by the mitigation project by the landowner of the mitigation sites, The Mosaic Company. The instrument shall be reviewed and approved by the Department before recording in Hillsborough County. A draft of the Conservation Easement, based on Attachment #1, shall be submitted to the Department for review and approval. The final Conservation Easement shall be recorded within 60 days following Department approval and prior to the start of project construction.
15. Mangrove Plantings. The permittee shall submit the following information to the Department for review and comment at least 30 days prior to planting:
 - a. Name of the nurseries from which the plants shall be purchased and/or;
 - b. If red mangrove propagules are utilized for planting, the exact location from which the propagules will be harvested shall be shown on a vicinity map and provided to the Department. When propagules are harvested from natural areas, the permittee shall provide, in writing to the BBCS, the permit number of the Department permit and/or a copy of the Southwest Florida Water Management District permit, and a copy of the DEP Aquatic Plant Harvesting permit authorizing the harvest. Red mangrove propagules shall be harvested from donor trees during the time that coincides with the natural drop.
 - c. At least 30 days prior to planting, a planting plan indicating proposed numbers, spacing, and sizes (including tree height) of each species to be planted shall be provided to the Department. The planting plan shall also include a map (with topographic contour lines) showing mangrove seedlings that have naturally recruited and successfully established within each of the mitigation areas prior to planting unit installation. Cross-section views, which show the number of red mangrove seedlings and elevations to be planted within each area, shall also be submitted for each of the planting areas.
 - d. If red mangrove propagules or seedlings are used as planting units within the 1.78-acre mangrove planter along the south bank of the entrance channel, the seedlings shall require protection from wave action and erosional forces following the PVC encasement planting method [Riley Encased Methodology© (REM)]. The mangrove planting plan shall describe the encasement material, length and longitudinal splitting

of the encasement following the publication, *Riley encased methodology: principles and processes of mangrove habitat creation and restoration*, Robert W. Riley, Jr. and Chandra P. Salgado Kent, 1999).

16. The Tampa Port Authority (local sponsor) will be responsible for the long term monitoring and maintenance of the mitigation site as outlined in Specific Conditions 15, 16, 17, 18 and 19. The Corps will enter into a Project Cooperation Agreement (PCA) with the local sponsor. The PCA shall require the local sponsor to perform the monitoring pursuant to the Corps's Operations, Maintenance, Repair, Rehabilitation and Replacement Manual, and no work shall start until the PCA is signed and agreed to by both the Corps and the local sponsor. A draft copy of the PCA will be provided to the Department within 60 days of the issuance of this Final Order and a copy of the signed PCA will be provided to the Department when the PCA is executed.

Monitoring shall be conducted as indicated in Specific Conditions 19 and 20 to ensure that the wetland restoration areas have been constructed as designed, to evaluate the post-construction functioning of the system, and to determine the success of the mitigation. Time zero monitoring shall be conducted within 30 days of completion of wetland creation and enhancement. Long-term monitoring will be conducted on an annual basis for at least 4 years following the time zero monitoring, and shall continue until the mitigation is deemed successful by the Department according to the success criteria given in Specific Condition # 18. If the permittee is unable to achieve success, they shall propose an alternative mitigation plan prior to the expiration date of the construction phase for this permit. Following approval by the Department, the permittee shall implement the alternative mitigation plan

17. The mangrove mitigation shall be deemed successful when the following criteria have been continuously met for a period of at least one (1) year:
 - a. Planted species have achieved a minimum 85% cover;
 - b. Planted species have achieved a minimum 85% survival, and exhibit vigorous growth characteristics consistent with the species;
 - c. Total contribution to percent cover by non-native wetland species and species not listed in 62-340.450, F.A.C. shall be maintained below 10%;
 - d. Natural mangrove recruitment is demonstrated and reported in number of seedlings per sampled plot (see below); and
 - e. Documentation is given to assure that erosion has not reduced the size of the constructed shelves and berms (survey required).

18. Maintenance of the mangrove mitigation sites shall occur after the mitigation sites have been deemed successful by the Department according to the success criteria given in Specific Condition #18. Maintenance of the mitigation sites shall include the removal of exotics from the mitigation site (including planting areas) once each year, for a minimum of three years, and bimonthly inspections and removal activities of trash, debris and wrack during the first year after planting.

19. **Wetland Monitoring Methods**

A minimum of five transects will be established at approximately even intervals across the created and enhanced wetlands. A measuring tape will be stretched along the transect and the plants occurring directly below the tape will be recorded at 3-foot intervals along the transect. Bare ground will also be recorded in this manner. The resulting data will be used to calculate percent cover of the ground cover.

Sampling plots, measuring 50 feet x 20 feet, will be established to document the number of volunteer and planted mangroves per unit area. Establishment of ground cover (and bare ground) within the mangrove creation areas will also be monitored using the line intercept methodology. The resulting data will be used to calculate percent cover of the ground cover.

Panoramic, color photographs will be taken from permanently established stations in each portion of the mitigation areas. These photographs will provide additional documentation of the existing conditions and progress towards establishing native plant cover where desirable.

The number and location of the transects and photo stations will be determined at the time of sampling based on site-specific conditions and shall provide an accurate representation of each mitigation area.

The results of the time zero report will be submitted to the Department within 90 days of completion of planting. Annual monitoring results will be summarized in the annual reports.

20. Annual monitoring shall be performed in September. The Mitigation Monitoring Reports shall be submitted to the BBCS (JCP Compliance Officer) within 30 days of the monitoring activities. These reports shall address survival and expansion of the planted *Rhizophora mangle* and *Spartina alterniflora*, recruitment of these and any other species, and exotic plant control conducted during the year. The reports shall also include maps of the mitigation areas (with topographic contour lines) showing the mitigation monitoring data listed above. The Mitigation Monitoring Report cover page shall indicate the permit number, project name, the permittee name and date(s) that the monitoring was performed. The reports shall include the name and qualifications of the ecologist in responsible charge

of the monitoring and analysis, progress of the wetland mitigation with photographic evidence, status of each of the success criteria, and a determination, by the ecologist in charge of the monitoring, as to the achievement of the success criteria.

MONITORING REQUIRED:

Water Quality

21. Water Quality Sampling/Compliance

Turbidity - Nephelometric Turbidity Units (NTU's)

Frequency: Two times daily at least 4 hours apart during all dredging-related activities, including dredging, upland excavation, disposal, overflow from filling of any hopper dredge, disposal barge or scow barge, and additionally, whenever excessive turbidity plumes, pipeline leaks or spills are observed or reported. The turbidity values shall be analyzed in real-time, as close as possible to the time the sample was taken.

Location: **Background:** at least 300 meters from the dredged or discharge point, in the opposite direction of the prevailing current flow, clearly outside of any visible turbidity plume generated by the project or other artificially elevated turbidity plumes. Samples shall be collected from the surface, mid-depth, and one foot above the bottom. If water depths are three feet or less, samples shall be collected from the surface and one foot above the bottom.

Compliance: no more than 150 meters from the dredge or the point of discharge into waters or wetlands. While filling the Western Whiskey Stump Key Hole, the 150-meter mixing zone shall be truncated as the work approaches the line detailed in Specific Condition 4 and delineated on permit drawing Plate 14 as "Seagrass Beds – No Equipment Zone," such that the mixing zone does not extend past this zone. Compliance samples shall be taken downcurrent from the dredge or disposal site discharge point and within the densest portion of any visible turbidity plume generated by the project. Samples shall be collected from the surface, mid-depth, and one foot above the bottom. If water depths are three feet or less, samples shall be collected from the surface and one foot above the bottom.

Turbidity monitoring shall follow the Department's Standard Operation Procedure (SOP) for surface water sampling (DEP-SOP-001/01 FS 2100 Surface Water Sampling) and turbidity measurement (DEP-SOP-001/01 FT 1600 Field Measurement of Turbidity) to ensure proper and valid sampling.

During all construction, planting, excavation, dredging, filling, and disposal operations, turbidity levels shall not exceed the standard of 29 NTU's above background at the mixing zone limits. If at any time turbidity at the compliance location exceeds 29 NTU's above background, construction activities shall **cease immediately** and not resume until modifications or corrective measures have been taken and turbidity has returned to acceptable levels. Any such occurrence shall also be reported to the BBCS in Tallahassee at (850) 414-7716 (attn: JCP Compliance Officer) and the Department's Southwest District Office at (813) 632-7600 within 24 hours of the time the violation is first detected.

Turbidity monitoring reports shall be submitted to the BBCS and DEP Southwest District with reporting requirements as stipulated below.

22. Turbidity monitoring reports shall be submitted to the BBCS (by mail or electronically at JCPCompliance@dep.state.fl.us) and DEP Southwest District Office on a weekly basis within seven days of collection. The report shall be submitted under a cover letter containing the following statement: "**This information is provided in partial fulfillment of the monitoring requirements in Permit 0211736-001-EI; Alafia Channel Construction Dredging.**" The cover letter shall summarize any significant or non-compliance issues. Also, please clearly reference permit number 0211736-001-EI on each page of the report. In addition to analytical results for samples and quality control, the report should also include:
- a. time of day samples were taken and analyzed
 - b. depth of water body
 - c. depth of sample
 - d. antecedent weather conditions
 - e. tidal stage and direction of flow
 - f. wind direction and velocity
 - g. a statement describing the methods used in collection, handling, storage and analysis of the samples
 - h. turbidity meter calibration
 - i. a map indicating the location of the current construction activity, the sampling locations (background and compliance), and the visible plume pattern of the 150 m. mixing zone
 - j. a statement by the individual responsible for implementation of the sampling program concerning the authenticity, precision, limits of detection and accuracy of the data.

REPORTING

23. All reports required by this permit shall be submitted to the DEP Bureau of Beaches and Coastal Systems (attn: JCP Compliance Officer; by mail or electronically at JCPCompliance@dep.state.fl.us) and the DEP Southwest District Office (attn: Permitting & Compliance/Enforcement).

24. Failure to submit monitoring or other reports in a timely manner constitutes grounds for revocation of the permit.

PROTECTED SPECIES:

25. In order to ensure that protected species are not adversely affected by construction activities, the conditions outlined in the Project Specification Documents shall be followed. The following are the sections of the Specifications that the permittee shall follow:
- a. Section 3.1.5 Protection of Fish and Wildlife Resources
 - b. Section 3.1.5.1 Endangered Species Protection
 - c. Section 3.1.5.3 Manatee, Sea Turtle, and Whale Sighting Reports
 - d. Section 3.1.5.9 Protection of Migratory Bird Species
 - e. Section 3.1.5.10 Blasting

Important Information

MANATEES: Hillsborough Bay is critical habitat to manatees. The Alafia area has concentrations of manatees, particularly during the period November 1 through March 31.

BLASTING:

It is possible that a section of the construction channel may have a hard, consolidated layer requiring limited blasting in the channel area. If no other reasonable alternative exists to blasting, a Blasting Plan, as specified in the Specifications Section 3.1.5.10, shall be submitted to the National Marine Fisheries Service and the Florida Fish and Wildlife Conservation Commission, at least 30 days before the proposed blasting. A copy shall be provided to the BBCS JCP Compliance Officer.

Executed in Tallahassee, Florida.

STATE OF FLORIDA, DEPARTMENT
OF ENVIRONMENTAL PROTECTION



Michael R. Barnett, P.E., Chief
Bureau of Beaches and Coastal Systems
Division of Water Resource Management

Permit No 0211736-001-EI
U.S. Army Corps of Engineers
Alafia Channel Construction Dredging
Page 16 of 16

FILING AND ACKNOWLEDGMENT

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

Jessica Bratton 4/18/07
Clerk Date

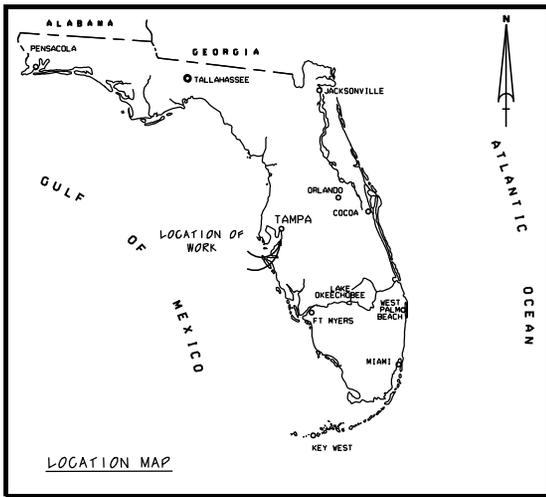
Attachments:

Permit Drawings (Plates); 15 pages

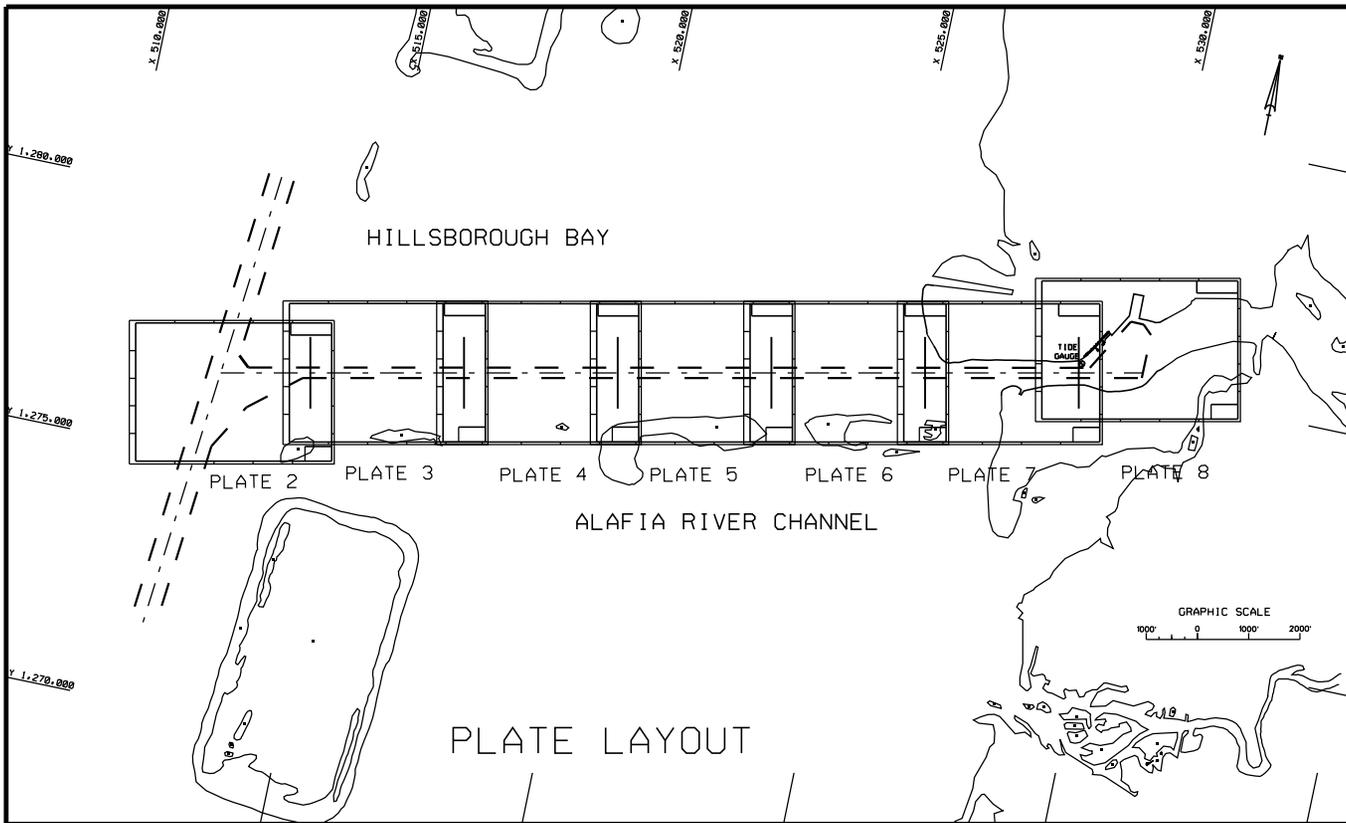
Attachment #1 Conservation Easement template; 9 pages

Attachment #2 DEP-SOP-001/01 FS 2100 Surface Water Sampling; 7 pages

Attachment #3 DEP-SOP-001/01 FT 1600 Field Measurement of Turbidity; 8 pages



TAMPA HARBOR, FLORIDA ALAFIA RIVER CHANNEL CONSTRUCTION DREDGING




 US Army Corps
 of Engineers
 Jacksonville District
 SAFETY ON THIS JOB
 DEPENDS ON YOU

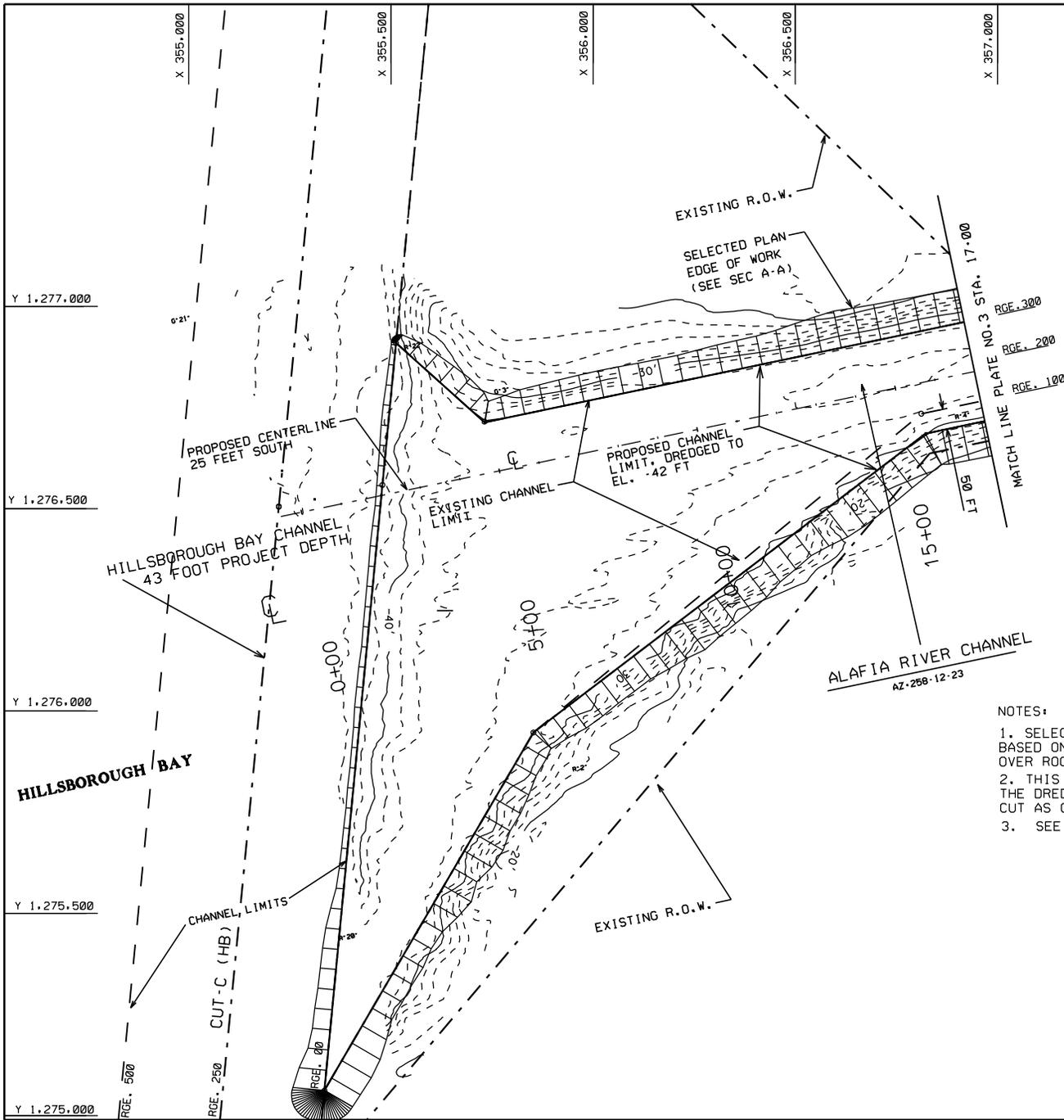
DEPARTMENT OF THE ARMY
 JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
 JACKSONVILLE, FLORIDA

File No.	Scale	Date	Drawn by	Checked by

Date: OCT 2006
 D.C. FILE NO.

TAMPA HARBOR, FLORIDA
 ALAFIA RIVER CHANNEL
 WATER QUALITY CERTIFICATE
 42- FT X 250 FT CHANNEL
 VICINITY & LOCATION

PLATE
 1



Y 1,277.000

Y 1,276.500

Y 1,276.000

Y 1,275.500

Y 1,275.000

X 355.000

X 355.500

X 356.000

X 356.500

X 357.000

HILLSBOROUGH BAY CHANNEL
43 FOOT PROJECT DEPTH

PROPOSED CENTERLINE
25 FEET SOUTH

EXISTING CHANNEL
LIMIT

PROPOSED CHANNEL
LIMIT, DREGGED TO
EL. -42 FT

EXISTING R.O.W.

SELECTED PLAN
EDGE OF WORK
(SEE SEC A-A)

MATCH LINE PLATE NO. 3 STA. 17+00

ALAFIA RIVER CHANNEL
AZ-258-12-23

NOTES:

1. SELECTED PLAN EDGE OF WORK REPRESENTS TOP OF SLOPE BASED ON 42 FT PROJECT WITH 2 FT ADV. MAINT., 2FT REQD OVER ROCK, 2 FT ALLOW. OD, AND 1V ON 3H SLOPES.
2. THIS REPRESENTS THE WORSE CASE SCENARIO. THE DREGGING WITHIN THE ROCK WILL PRESENT A VERTICAL CUT AS OPPOSED TO A 1:3 SLOPE.
3. SEE SHEET NO. 9 FOR CROSS SECTIONS.



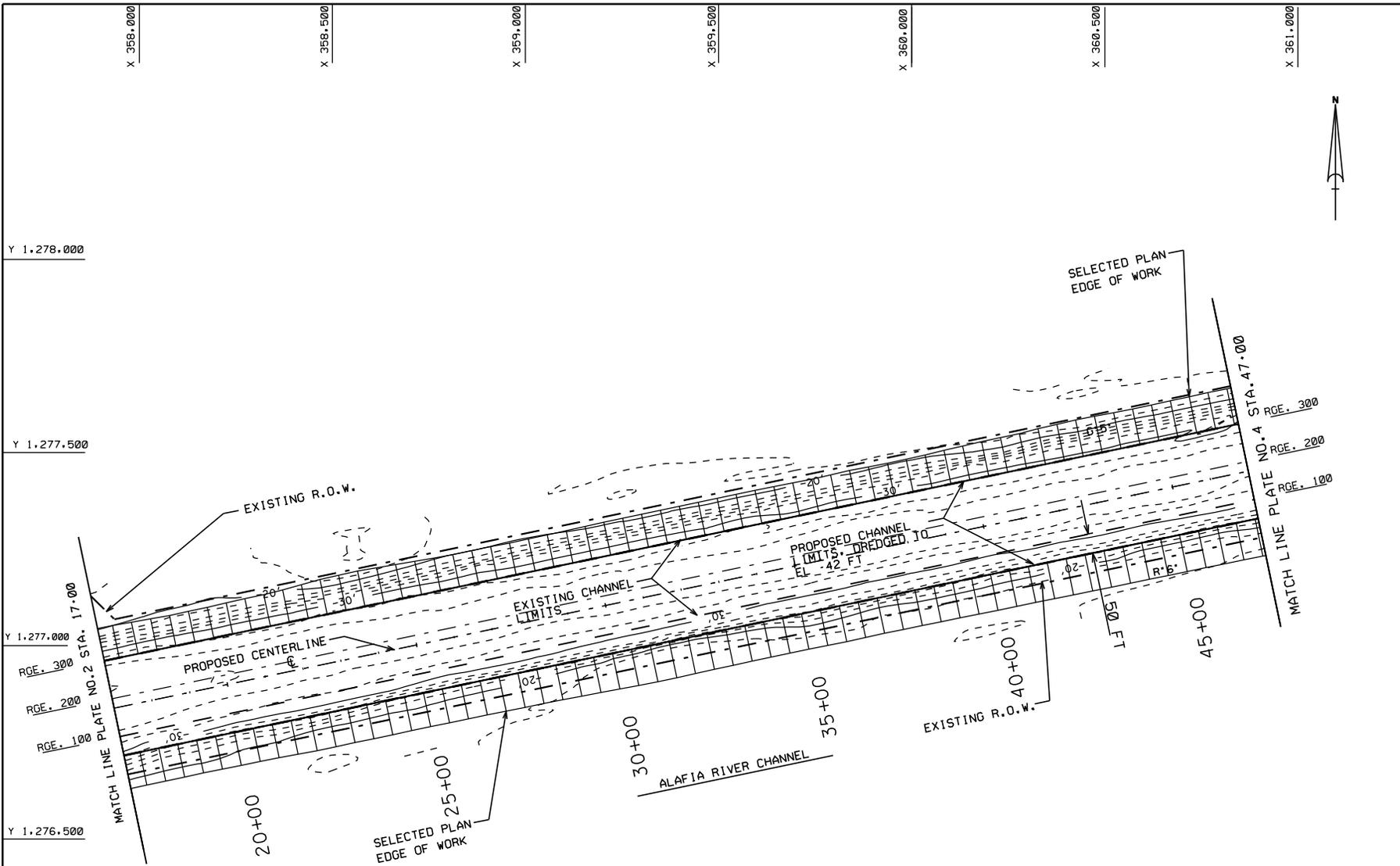
DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

Designed by: Scales: AS SHOWN
Drawn by: [Name] Plot date:
Dated: OCT 2006
D.O. FILE NO.

File name:
[Name]

ALAFIA RIVER, TAMPA HARBOR, FLORIDA
ALAFIA RIVER WATER QUALITY CERTIFICATE
MED PLAN, 42- FT X 250 FT CHANNEL
PLAN VIEW

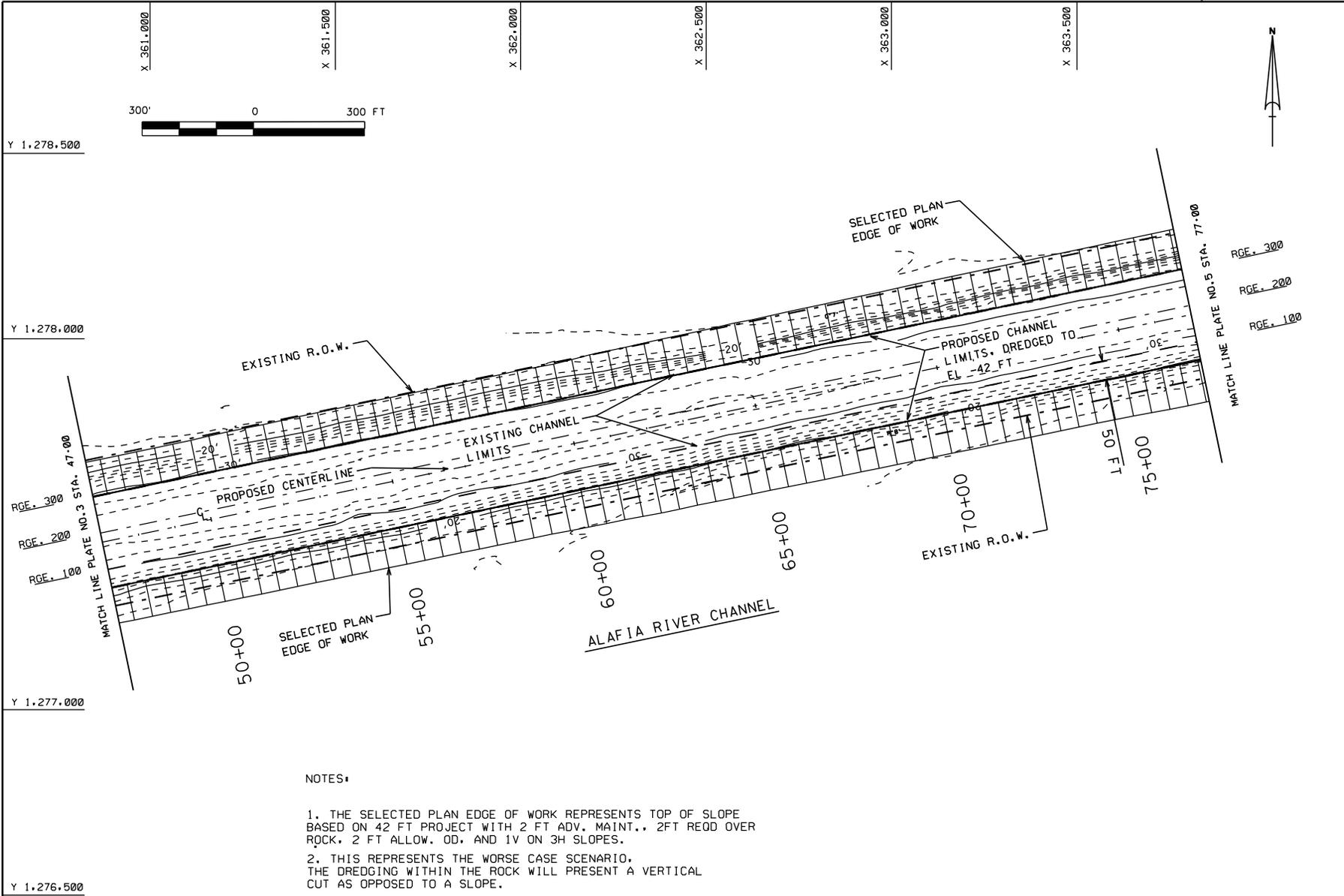
PLATE
2



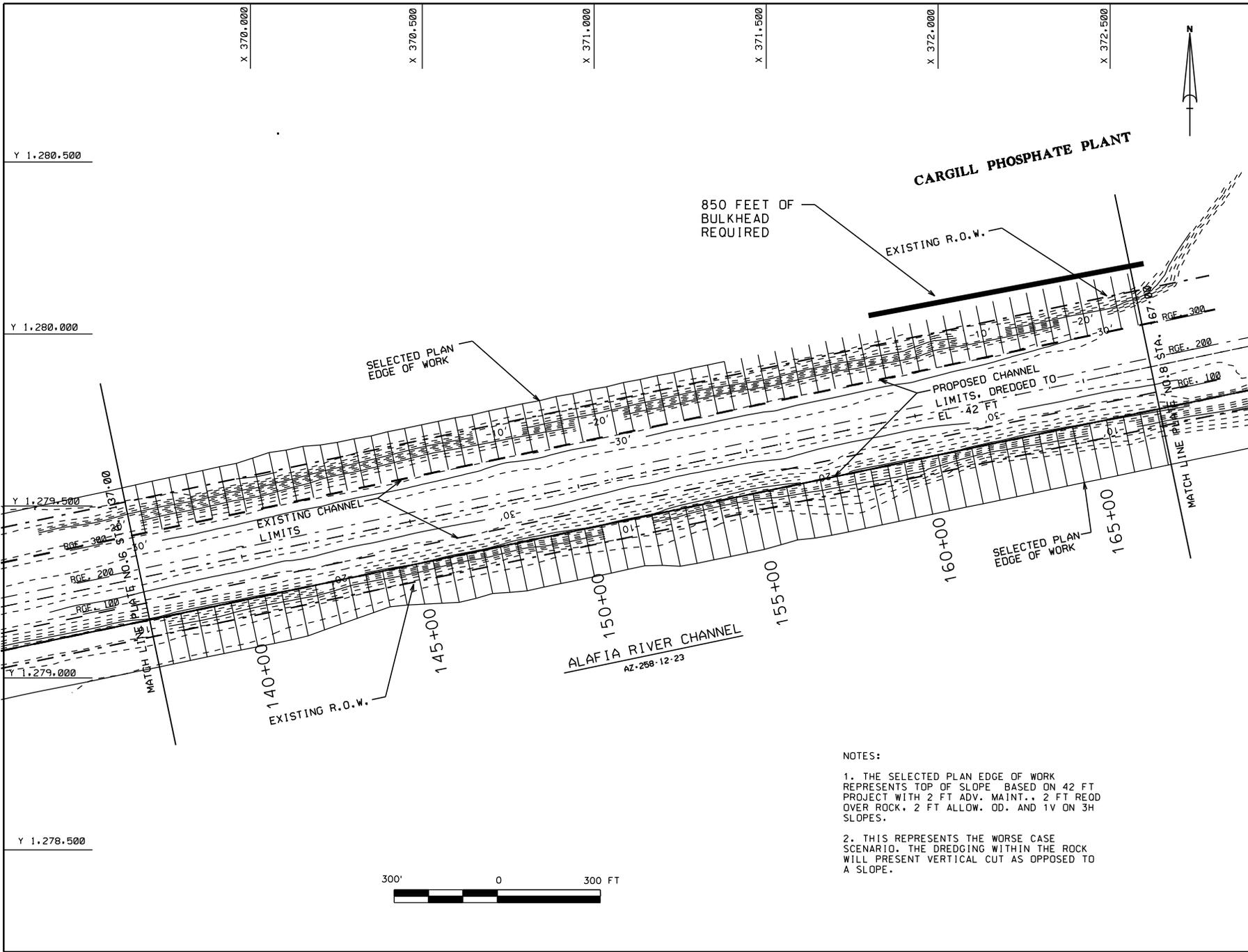
NOTES:

1. THE SELECTED PLAN EDGE OF WORK REPRESENTS THE TOP OF SLOPE BASED ON 42 FT PROJECT WITH 2 FT ADV. MAINT., 2 FT REED OVER ROCK, 2' FT ALLOW. OD, AND 1V ON 3H SLOPES.
2. THIS REPRESENTS THE WORSE CASE SCENARIO, THE DREDGING WITHIN THE ROCK WILL PRESENT A VERTICAL CUT AS OPPOSED TO A SLOPE.

	DEPARTMENT OF THE ARMY JACKSONVILLE DISTRICT, CORPS OF ENGINEERS JACKSONVILLE, FLORIDA	
	File name: SH4200N Reference Year	Designed by: Scales: AS SHOWN Drawn by: Pol date: Date: OCT 2006 D.O. FILE NO.
ALAFIA RIVER, TAMPA HARBOR, FLORIDA WATER QUALITY CERTIFICATE 42 - FT X 250 FT CHANNEL PLAN VIEW		
PLATE 3		



	DEPARTMENT OF THE ARMY JACKSONVILLE DISTRICT, CORPS OF ENGINEERS JACKSONVILLE, FLORIDA	
	File name: SHADON Reference:	Designed by: Scales: AS SHOWN Drawn by: Pol. date: Dated: OCT 2006 D.O. FILE NO.
ALAFIA RIVER, TAMPA HARBOR, FLORIDA WATER QUALITY CERTIFICATE 42- FT X 250 FT CHANNEL PLAN VIEW		
PLATE 4		



- NOTES:
1. THE SELECTED PLAN EDGE OF WORK REPRESENTS TOP OF SLOPE BASED ON 42 FT PROJECT WITH 2 FT ADV. MAINT., 2 FT REOD OVER ROCK, 2 FT ALLOW. OD. AND 1V ON 3H SLOPES.
 2. THIS REPRESENTS THE WORSE CASE SCENARIO. THE DREDGING WITHIN THE ROCK WILL PRESENT VERTICAL CUT AS OPPOSED TO A SLOPE.

	DEPARTMENT OF THE ARMY JACKSONVILLE DISTRICT, CORPS OF ENGINEERS JACKSONVILLE, FLORIDA
	D.O. FILE NO.
ALAFIA RIVER, TAMPA HARBOR, FLORIDA WATER QUALITY CERTIFICATE 42- FT X 250 FT CHANNEL PLAN VIEW	File name: SH7.DGN Reference:
Date: OCT 2006	Designed by: AS SHOWN Drawn by: [Name] Plotted by: [Name]
PLATE 7	

X 366.500

X 367.000

X 367.500

X 368.000

X 368.500

X 369.000

X 369.500

Y 1.280.000

Y 1.279.500

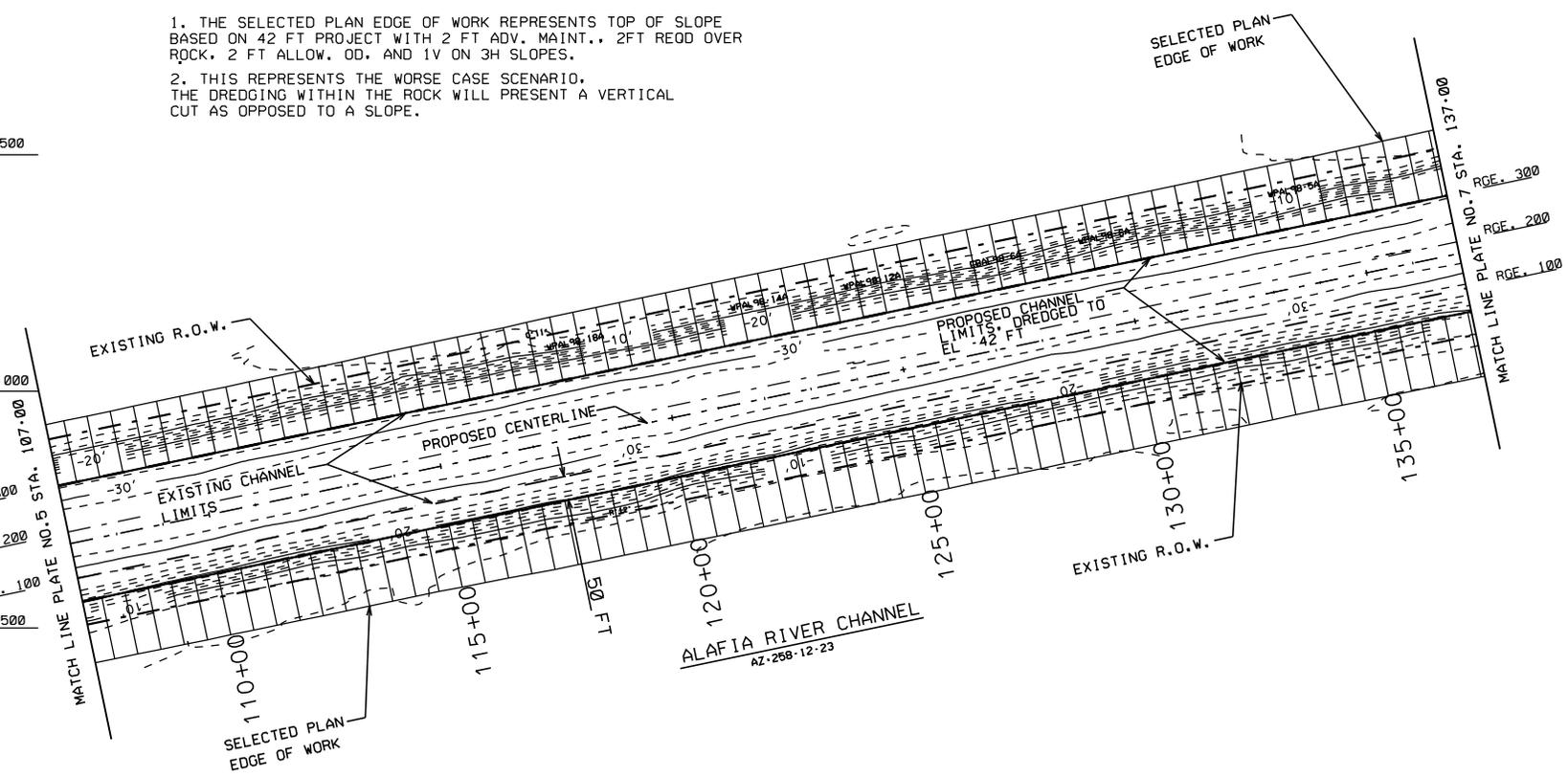
Y 1.279.000

Y 1.278.500

Y 1.278.000

NOTES:

- 1. THE SELECTED PLAN EDGE OF WORK REPRESENTS TOP OF SLOPE BASED ON 42 FT PROJECT WITH 2 FT ADV. MAINT., 2FT REOD OVER ROCK, 2 FT ALLOW. OD. AND 1V ON 3H SLOPES.
- 2. THIS REPRESENTS THE WORSE CASE SCENARIO, THE DREDGING WITHIN THE ROCK WILL PRESENT A VERTICAL CUT AS OPPOSED TO A SLOPE.



ALAFIA RIVER CHANNEL
AZ-258-12-23



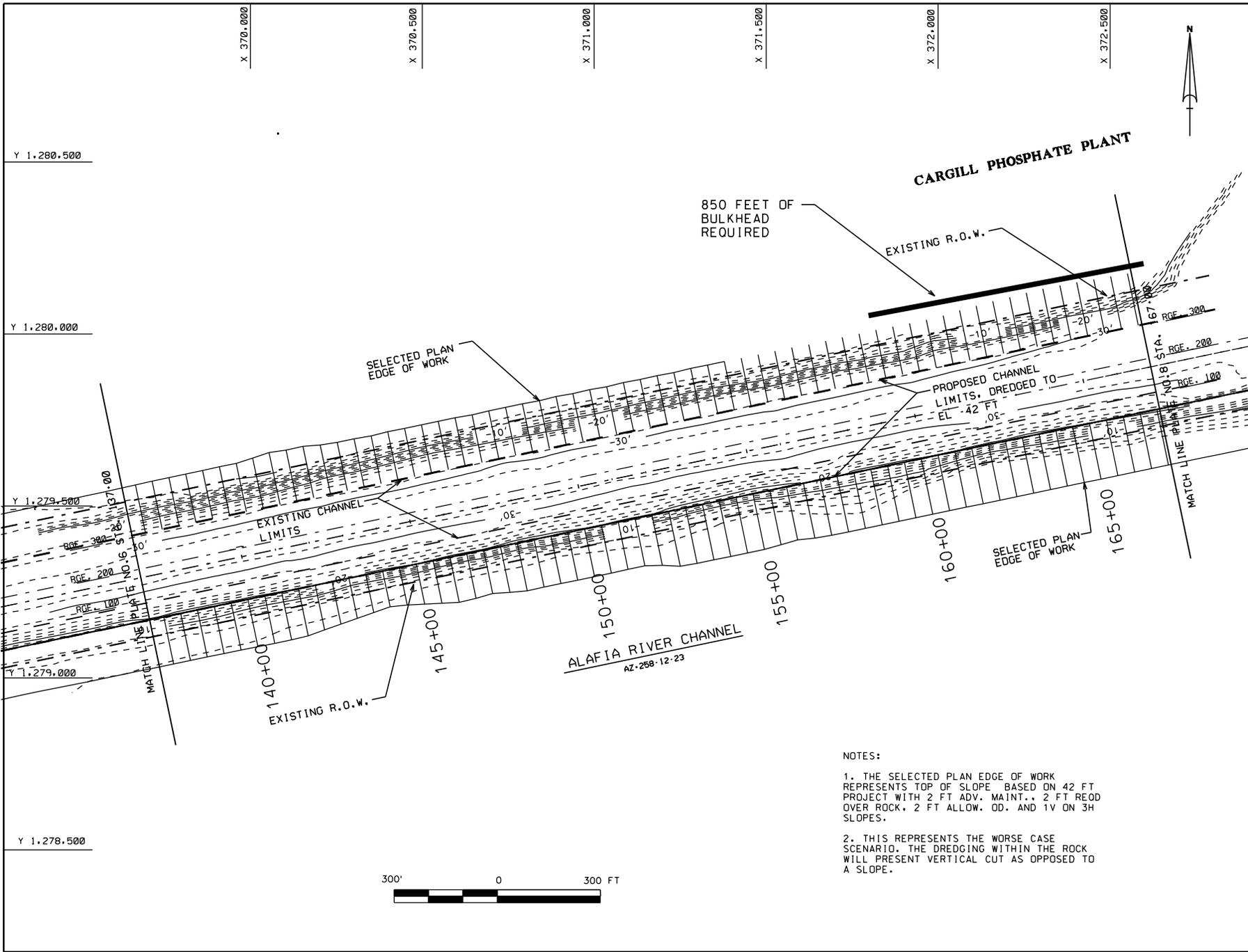
DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

Designed by: Scales: AS SHOWN
Drawn by: [blank] Plot date:
Dated: OCT 2006
D.O. FILE NO.:

File name:
SHELDON
Reference here

ALAFIA RIVER, TAMPA HARBOR, FLORIDA
WATER QUALITY CERTIFICATE
42- FT X 250 FT CHANNEL
PLAN VIEW

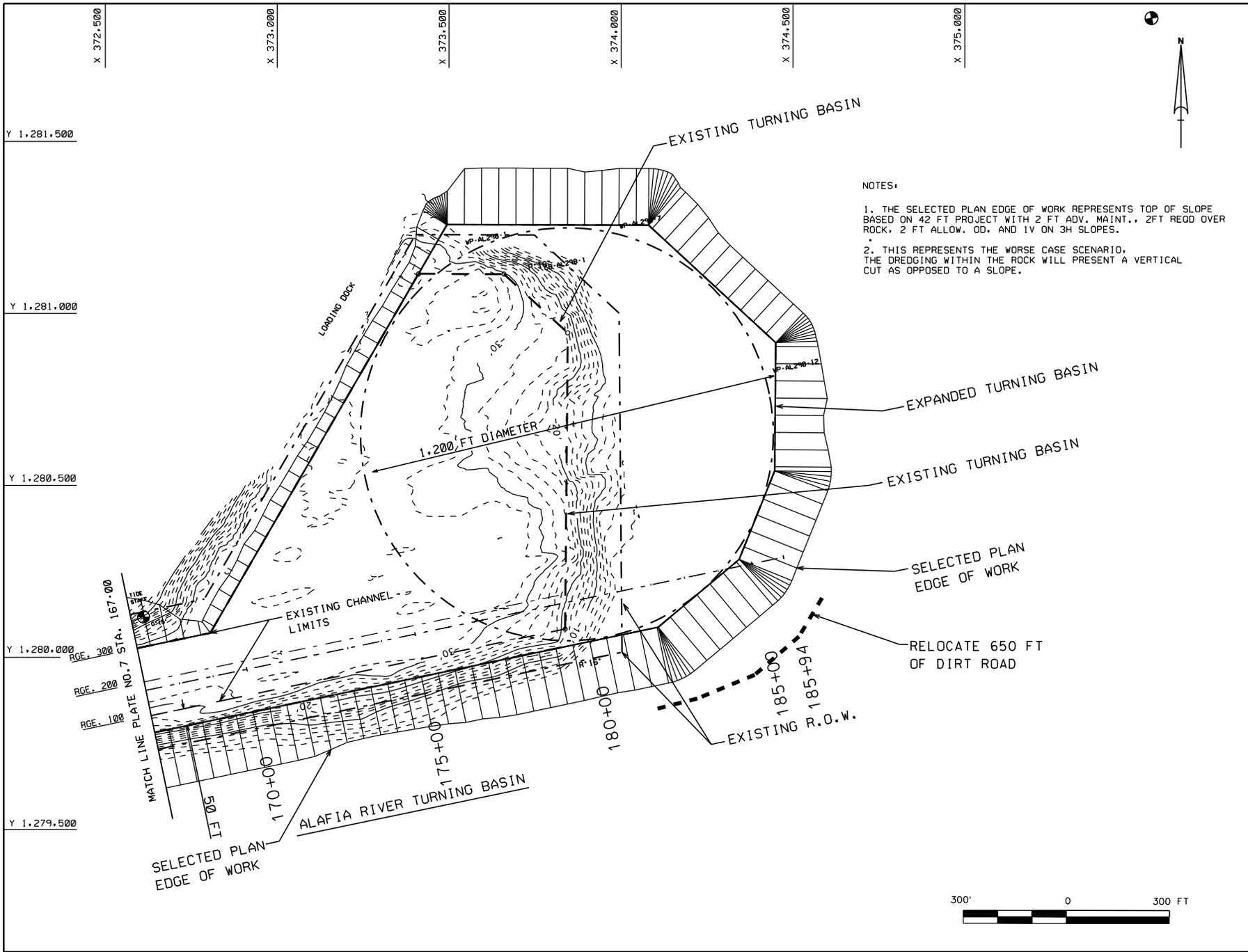
PLATE
6



NOTES:

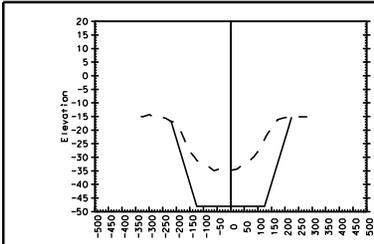
1. THE SELECTED PLAN EDGE OF WORK REPRESENTS TOP OF SLOPE BASED ON 42 FT PROJECT WITH 2 FT ADV. MAINT., 2 FT REOD OVER ROCK, 2 FT ALLOW. OD. AND 1V ON 3H SLOPES.
2. THIS REPRESENTS THE WORSE CASE SCENARIO. THE DREDGING WITHIN THE ROCK WILL PRESENT VERTICAL CUT AS OPPOSED TO A SLOPE.

	DEPARTMENT OF THE ARMY JACKSONVILLE DISTRICT, CORPS OF ENGINEERS JACKSONVILLE, FLORIDA
File name: SH7.DGN Reference:	Designed by: Scales: AS SHOWN Drawn by: Pld date: Date: OCT 2006 D.O. FILE NO.
ALAFIA RIVER, TAMPA HARBOR, FLORIDA WATER QUALITY CERTIFICATE 42- FT X 250 FT CHANNEL PLAN VIEW	
PLATE 7	

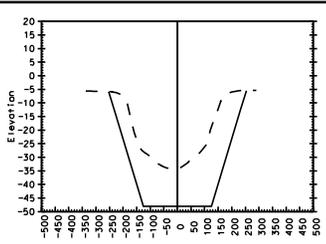


- NOTES:
1. THE SELECTED PLAN EDGE OF WORK REPRESENTS TOP OF SLOPE BASED ON 42 FT PROJECT WITH 2 FT ADV. MAINT.. 2FT REOD OVER ROCK, 2 FT ALLOW. OD, AND 1V ON 3H SLOPES.
 2. THIS REPRESENTS THE WORSE CASE SCENARIO. THE DREDGING WITHIN THE ROCK WILL PRESENT A VERTICAL CUT AS OPPOSED TO A SLOPE.

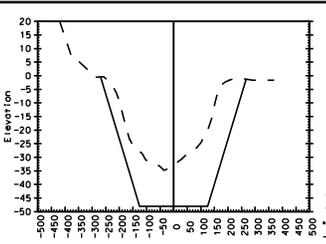
 US Army Corps of Engineers Jacksonville District	
DEPARTMENT OF THE ARMY JACKSONVILLE DISTRICT, CORPS OF ENGINEERS JACKSONVILLE, FLORIDA	
File name: SHELDON	Scale: AS SHOWN Pool date: Pool scale: Date: OCT 2006 D.O. FILE NO.
ALAFIA RIVER, TAMPA HARBOR, FLORIDA WATER QUALITY CERTIFICATE 42 - FT X 250 FT CHANNEL PLAN VIEW	
PLATE 8	



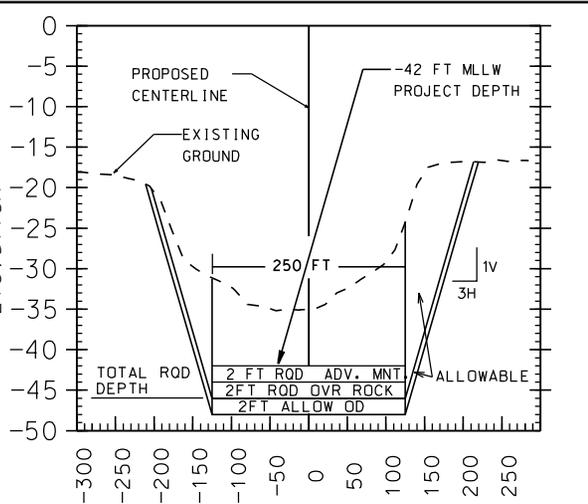
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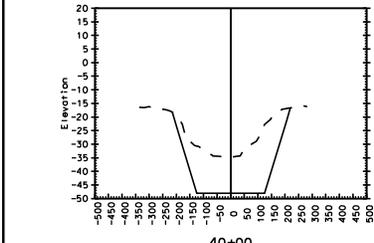
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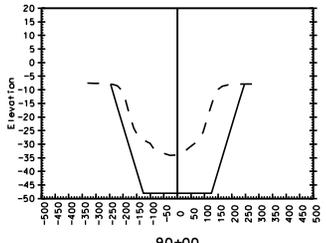
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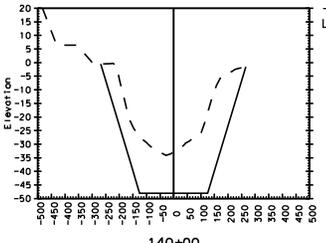
TYPICAL SECTION



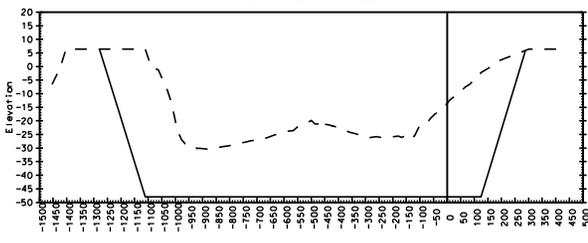
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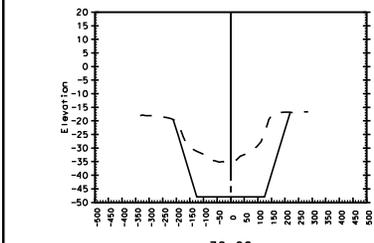
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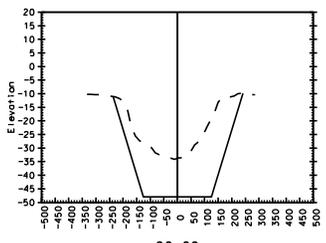
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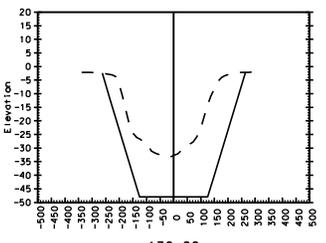
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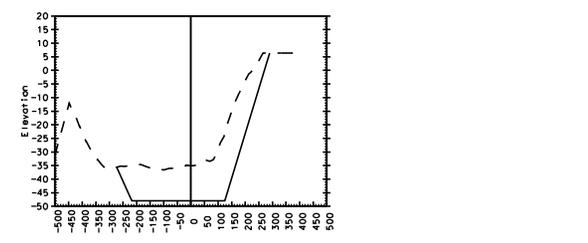
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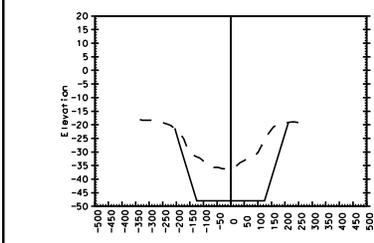
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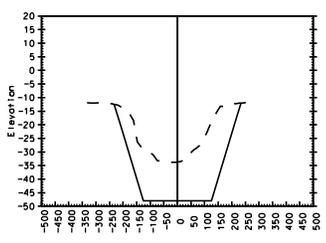
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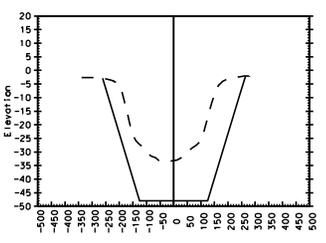
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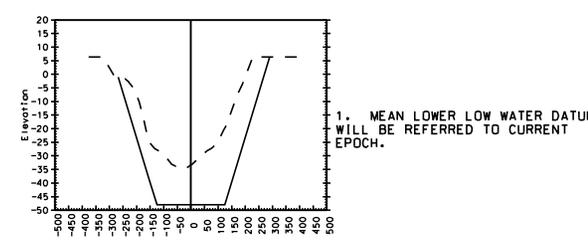
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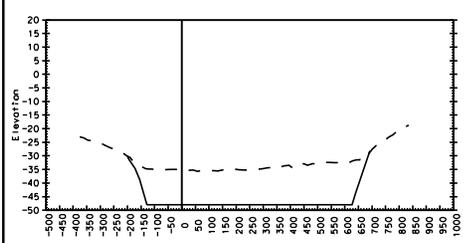
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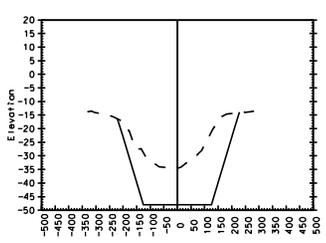
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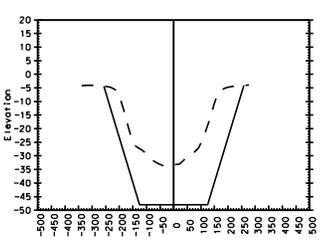
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5+00



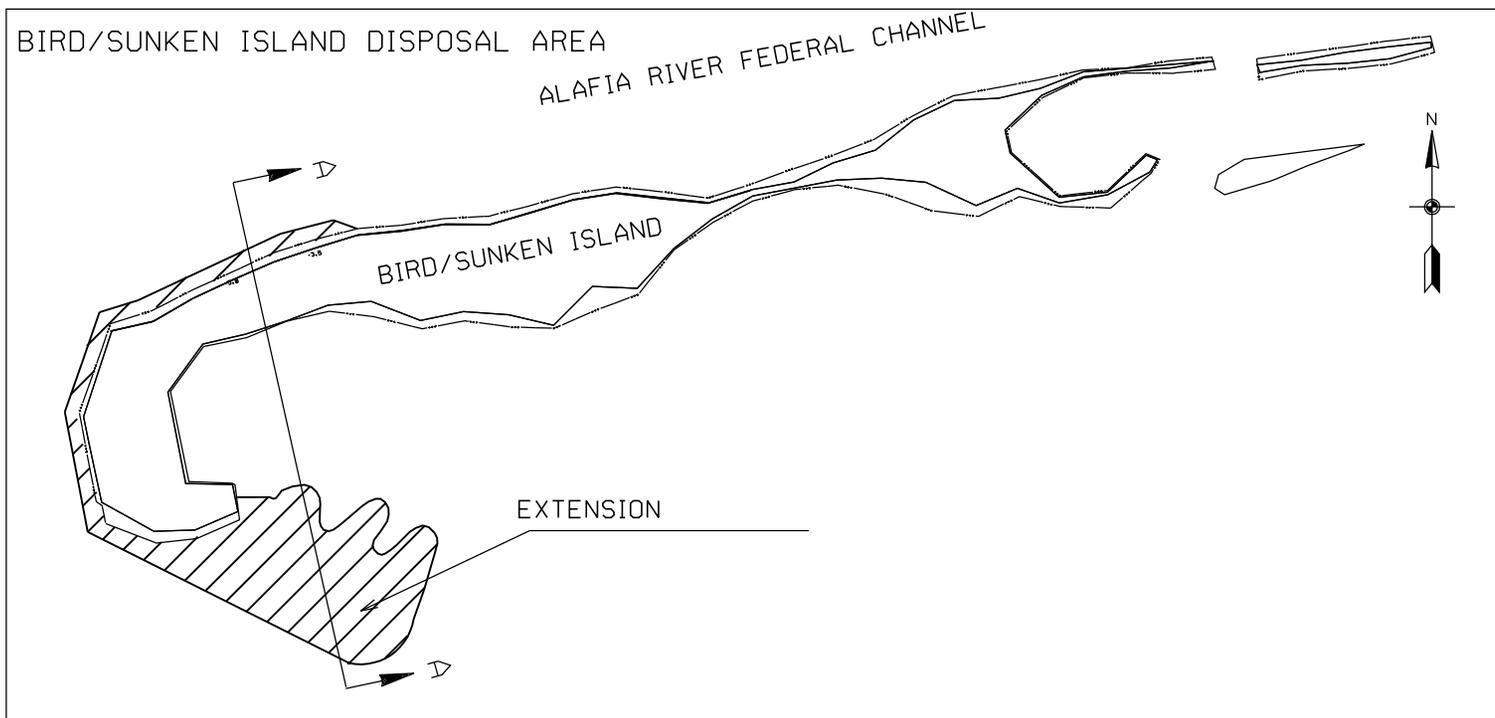
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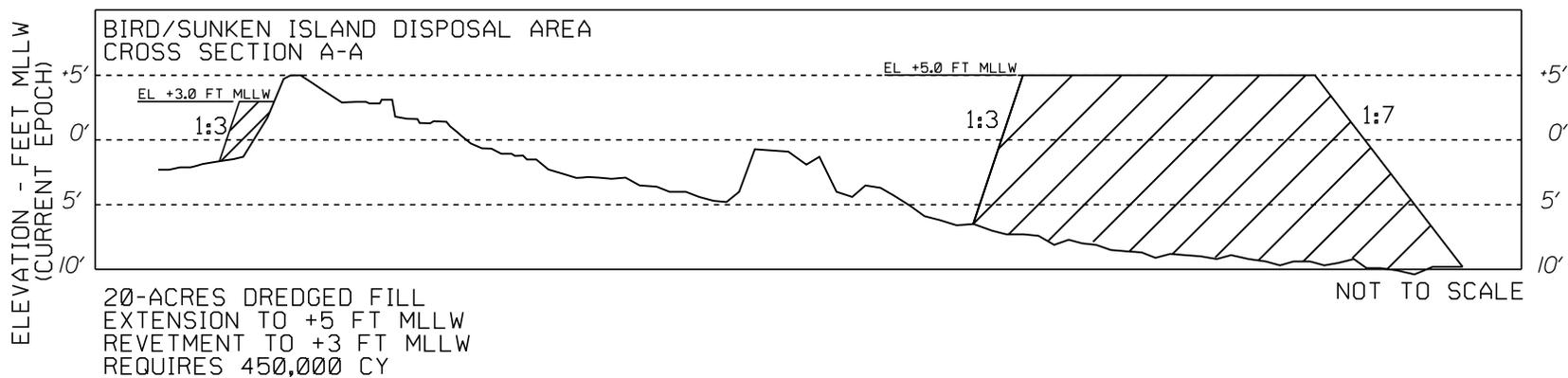
110+00

1. MEAN LOWER LOW WATER DATUM
WILL BE REFERRED TO CURRENT
EPOCH.

PLAN VIEW



PROFILE VIEW

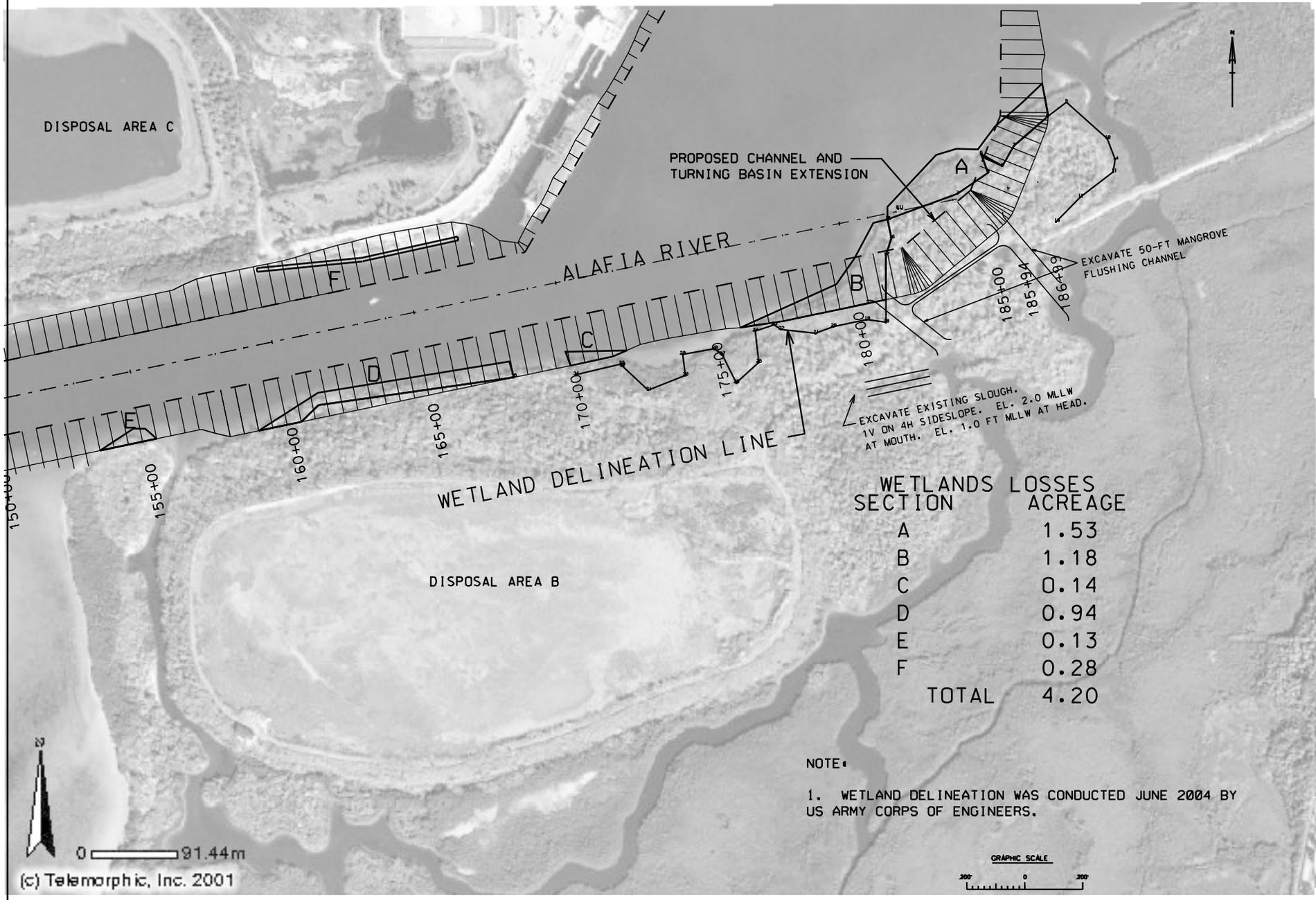


DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

Designed by:	Scale:	AS SHOWN
Drawn by:	Plot date:	
Checked by:	Plot scale:	
Issue:	Issue:	OCT 2006
D.O. FILE NO.		

ALAFIA RIVER TAMPA HARBOR, FLORIDA
WATER QUALITY CERTIFICATE
NED PLAN, 42- FT X 250 FT CHANNEL
PLAN VIEW AND SECTIONS
BIRD/SUNKEN ISLAND DISPOSAL AREA

PLATE
10



WETLAND DELINEATION LINE

PROPOSED CHANNEL AND TURNING BASIN EXTENSION

ALAFIA RIVER

DISPOSAL AREA C

DISPOSAL AREA B

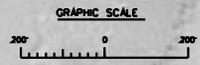
WETLANDS SECTION	LOSSES ACREAGE
A	1.53
B	1.18
C	0.14
D	0.94
E	0.13
F	0.28
TOTAL	4.20

NOTE:

1. WETLAND DELINEATION WAS CONDUCTED JUNE 2004 BY US ARMY CORPS OF ENGINEERS.

0 91.44m

(c) Telemorphic, Inc. 2001

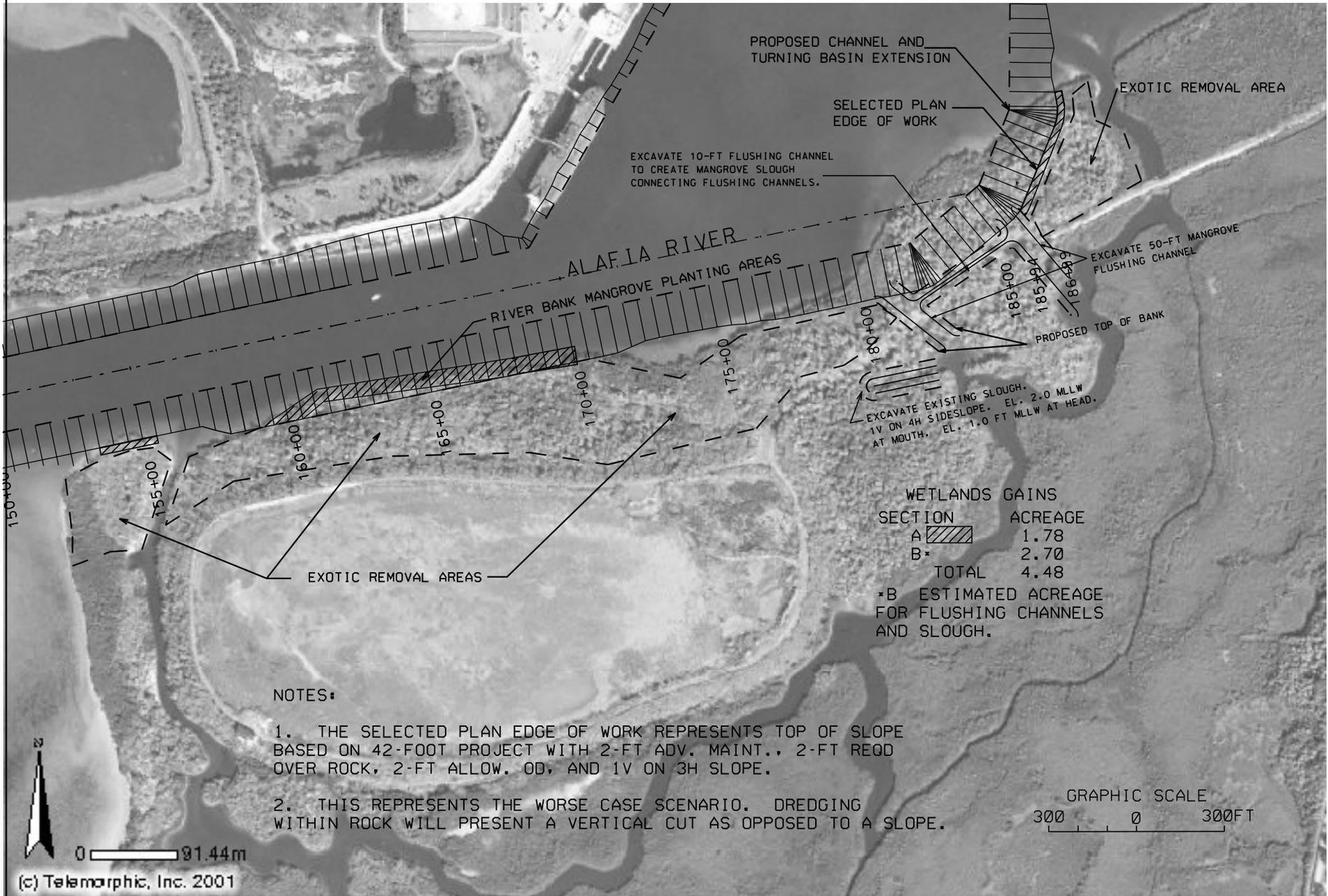


DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

File name: AS SHOWN
Scale: AS SHOWN
Designed by: Post date:
Drawn by: (Std by): Post score:
Issue: MARCH 2004
D.O. FILE NO.

ALAFIA RIVER, TAMPA HARBOR, FLORIDA
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP)
WATER QUALITY CERTIFICATION
PLAN VIEW
WETLAND DELINEATION

PLATE
11



NOTES:

1. THE SELECTED PLAN EDGE OF WORK REPRESENTS TOP OF SLOPE BASED ON 42-FOOT PROJECT WITH 2-FT ADV. MAINT., 2-FT REQD OVER ROCK, 2-FT ALLOW. OD, AND 1V ON 3H SLOPE.
2. THIS REPRESENTS THE WORSE CASE SCENARIO. DREDGING WITHIN ROCK WILL PRESENT A VERTICAL CUT AS OPPOSED TO A SLOPE.

WETLANDS GAINS

SECTION	ACREAGE
A	1.78
B*	2.70
TOTAL	4.48

*B ESTIMATED ACREAGE FOR FLUSHING CHANNELS AND SLOUGH.

US Army Corps of Engineers
Jacksonville District

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

Designed by: _____

Drawn by: _____

Reference sheet: _____

Scale: AS SHOWN

Post date: _____

Post score: _____

Issue: _____

D.O. FILE NO. _____

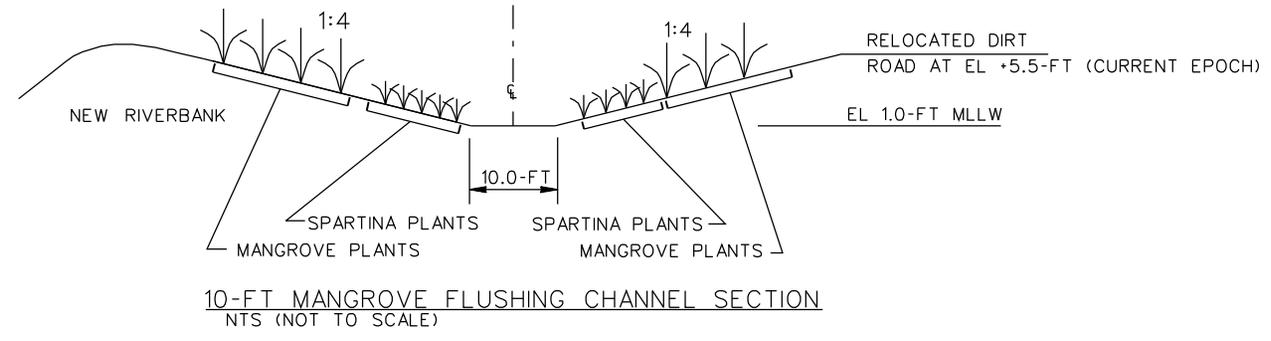
ALAFIA RIVER TAMPA HARBOR, FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP)
WATER QUALITY CERTIFICATION

PLAN VIEW
WETLAND MITIGATION - FLUSHING CHANNELS

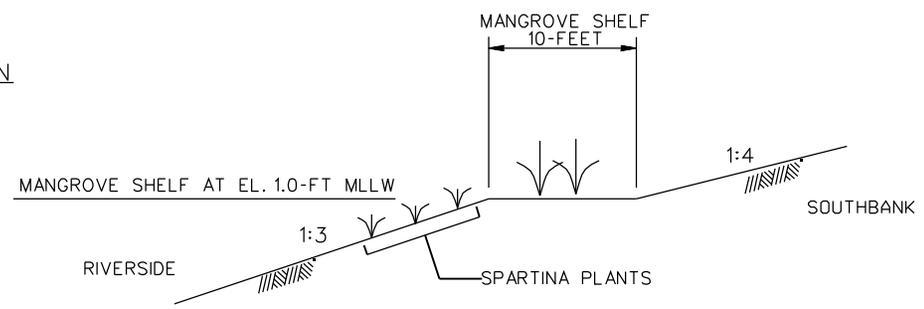
REV: 10/15/06
REV: 09/25/06
REV: 02/17/06

PLATE
12

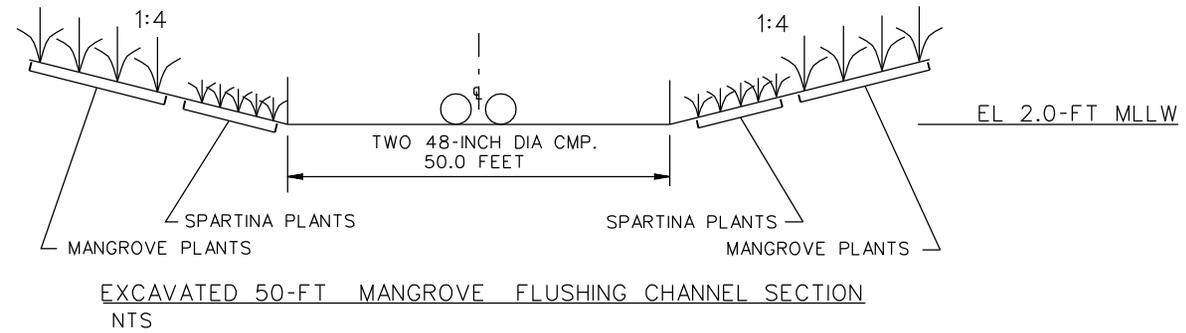
0 91.44m
(c) Telemorphic, Inc. 2001



10-FT MANGROVE FLUSHING CHANNEL SECTION
NTS (NOT TO SCALE)



TYPICAL PROPOSED RIVERBANK MANGROVE PLANTING
NTS



EXCAVATED 50-FT MANGROVE FLUSHING CHANNEL SECTION
NTS

- NOTES:
1. ELEVATIONS ARE IN FEET AND TENTHS AND REFER TO MEAN LOW WATER CURRENT EPOCH.
 2. ALL ELEVATIONS ARE BELOW DATUM PLANE UNLESS PRECEDED BY A (-) SIGN.

WESTERN WHISKEY STUMP KEY DREDGE HOLE
CROSS SECTION A-A



FILL 22 ACRES TO ELEVATION -3 FT MLLW
REQUIRES 250,000 CY
NOT TO SCALE



SEAGRASS BEDS

NOTES:

- SEAGRASS DELINEATION LINE INFORMATION AS DEFINED IN SPECIFIC CONDITION 4 HEREIN WAS PROVIDED BY ENVIRONMENTAL PROTECTION COMMISSION (EPC, CITY OF TAMPA) AND IS SOLELY BASED ON THEIR FINDINGS AND SURVEYS.
- RESTRICTED CONSTRUCTION ACTIVITIES ARE DEFINED AS WRITTEN IN SPECIFIC CONDITION 4 OF THE WOC.

LIMIT OF CONSTRUCTION ACTIVITIES

SEAGRASS BEDS
NO EQUIPMENT ZONE

TAMPA BAY

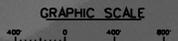
WESTERN WHISKEY STUMP
KEY DREDGE HOLE



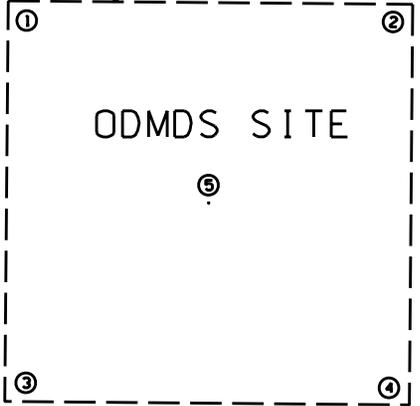
EASTERN WHISKEY STUMP
KEY DREDGE HOLE

WHISKEY STUMP KEY

PORT REDWING



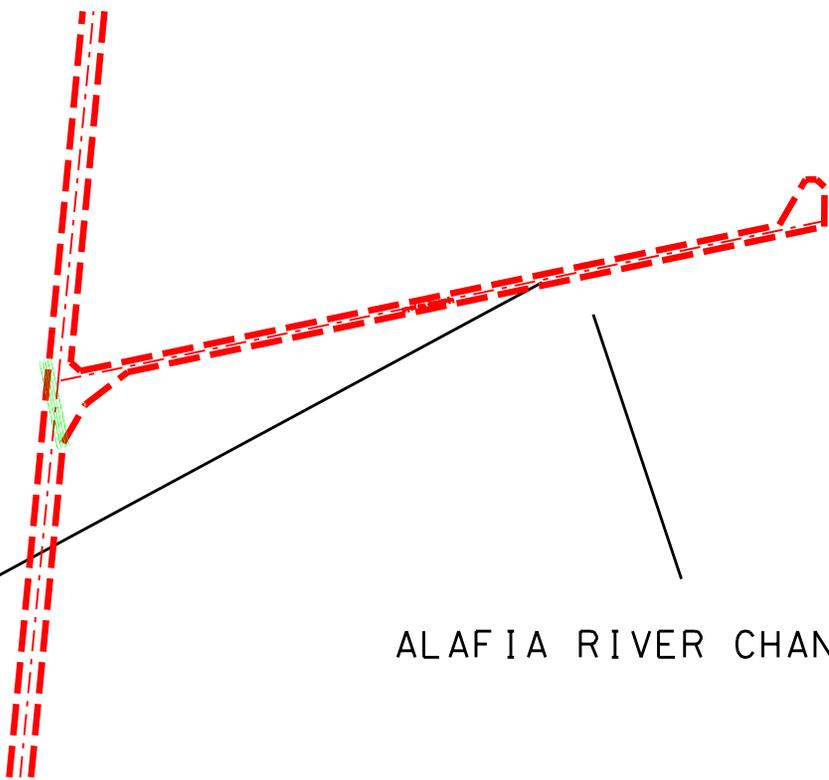
DEPARTMENT OF THE ARMY JACKSONVILLE DISTRICT, CORPS OF ENGINEERS JACKSONVILLE, FLORIDA	
File name: W00PLATE14A00A	Scale: AS SHOWN Post date: 23 JANUARY 2008
Designed by: BAH	Drawn by: CSD
Reference sheet:	Issue: JANUARY 2008 D.O. FILE NO.
ALAFIA RIVER, TAMPA HARBOR, FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP) WATER QUALITY CERTIFICATION PLAN VIEW AND SECTION WHISKEY STUMP KEY DREDGE HOLE	
PLATE 14	



ODMDS SITE

DISPOSAL AREA LIMITS	PLANE COORDINATES		LATITUDE	LONGITUDE
	X	Y		
POINT-1	143.293.58	1.167.197.33	27°32'25.8808"	83°06'02.5994"
POINT-2	155.536.48	1.167.090.30	27°32'25.8796"	83°03'46.6039"
POINT-3	143.185.97	1.155.078.28	27°30'25.8763"	83°06'02.5994"
POINT-4	155.432.55	1.154.971.34	27°30'25.8751"	83°03'46.6041"
POINT-5	149.362.14	1.161.083.84	27°31'25.8779"	83°04'54.6017"

47 MILES



ALAFIA RIVER CHANNEL

US Army Corps of Engineers
Jacksonville District

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

File name: **Sev00a**

Reference file:

Designed by: **AS SHOWN**

Drawn by: **AS SHOWN**

Date: **NOV 2006**

Scale: **AS SHOWN**

Plot date: **AS SHOWN**

Plot scale: **AS SHOWN**

ALAFIA RIVER, TAMPA HARBOR, FLORIDA
WATER QUALITY CERTIFICATE
42- FT X 250 FT CHANNEL
DISPOSAL AREAS

PLATE
15