



Environmental Protection and Growth Management Department  
**ENVIRONMENTAL LICENSING and BUILDING PERMITTING DIVISION**  
1 North University Drive, Suite 201A, Plantation, Florida 33324 • 954-519-1483 • FAX 954-519-1412

**Via US Mail and E-mail ([mcrosley@aicw.org](mailto:mcrosley@aicw.org))**

Mark Crosley, Executive Director  
Florida Inland Navigation District  
1314 Marcinski Road  
Jupiter, Florida 33477-9498

Dear Mr. Crosley:

This is to notify you of the Environmental Protection & Growth Management Department's action concerning the FIND's application received 02/03/2010 for authorization to deepen the main Intra-Coastal Waterway channel from the 17<sup>th</sup> St. Causeway Bridge to the mouth of the Middle River in the City of Ft. Lauderdale, Florida. The application has been reviewed for an Environmental Resource License.

**Broward County - Environmental Resource License (ERL) Review – Granted**

The Department has reviewed the project for compliance with Aquatic and Wetland Resource Protection Ordinance Sec. 27-331 through 27-341 of the Broward County Code. Based on the information submitted, Environmental Resource License No. **DF10-1018** is hereby issued. The above named licensee is hereby authorized to perform the work per the approved drawings(s), plans, documents and specifications as submitted by the licensee, and made a part hereof. The above referenced approvals will remain in effect subject to the attached Broward County General Conditions, Broward County Specific Conditions, and stamped exhibits.

The issuance of this license is a **final agency determination**. A person with a substantial interest may file a petition to request review of, or to intervene in a review of, a final administrative determination, subject to the provisions of Section 27-14, Broward County Code of Ordinances (excerpt attached).

Sincerely,

Linda Sunderland, NRS IV  
Aquatic and Wetland Resources Program Manager

5/20/14  
Date

**ENC:**

1. Environmental Resource License
2. One copy of stamped drawings (36 pages)
3. Sec. 27-14 Administrative Review Procedures (4 pages)

**CC:**

1. Joe Wagner, Taylor Engineering, Inc. (via e-mail)
2. USACOE-PBG (via e-mail)
3. Benny Luedike, FDEP (via e-mail)
4. Dan West, BCPRD (via e-mail)
5. Bob Musser, Port Everglades (via e-mail)
6. FFWCC (via e-mail)
7. NOAA-NMFS (via e-mail)





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1 North University Drive, Suite 201A, Plantation, Florida 33324 • 954-519-1483 • FAX 954-519-1412

## ENVIRONMENTAL RESOURCE LICENSE

**LICENSEE: Florida Inland Navigation District (FIND)**  
**ADDRESS:**  
**C/o Mark Crosley – Executive Director**  
**1314 Marcinski Road**  
**Jupiter, FL 33477**

**LICENSE NO: DF10-1018**  
**PROJECT:**  
**ICWW Channel Deepening -**  
**SE 17<sup>th</sup> St. Causeway to Middle River**

This license is issued under the provision of Chapter 27 of the Broward County Code of Ordinances also cited as Broward County Natural Resource Protection Code hereinafter called the Code. The above-named applicant, hereinafter called licensee, is hereby authorized to perform the work or operate the facility shown on the approved drawing(s), plans, documents, and specifications as submitted by applicant, and made a part hereof and specifically described as follows:

**Description of Work:** This license authorizes dredging of a 14,300 linear foot-long segment of the Intra-Coastal Waterway (ICWW) main navigational channel covering approximately 43.5 acres of submerged bottom to improve clearance for deeper draft vessels. Existing depths range from 10' at the northern end of the project to 26' at the southern end near the SE 17<sup>th</sup> St. Causeway, and average approximately 12-13'. The maximum dredge depth shall be -17.0' MLW (-15.0' MLW plus 2' of allowable over-dredging). The width of channel dredging shall vary to a maximum of approximately 125' with side slopes of 2:1 (H:V) and a minimum 10' horizontal buffer between the stabilized top of slope and the nearest seagrass resources. Approximately 270,000 cu. yds. of material shall be removed and transported to a pre-constructed dredged material management area (DMMA) at the southern end of Port Everglades property for dewatering. Temporary mooring piles may be installed adjacent to the DMMA to facilitate off-loading of spoils. Final disposal shall be in a Class I landfill or otherwise in accordance with all applicable regulations. This license does not authorize permanent impacts to existing seagrasses, mangroves, benthic hard-bottom communities, or any other regulated natural resources within the dredge limits or offloading areas. Existing corals will be temporarily relocated and existing seagrasses will be avoided.

**Location of Work:** This project is located within the Intra-Coastal Waterway between the SE 17<sup>th</sup> St. Causeway and the mouth of the Middle River, Sections 01, 12, and 13, Township 50 South, Range 42 East, in the City of Fort Lauderdale, Florida.

Work shall be conducted in accordance with submitted ERL Application Form received on 02/03/2010, and all additional information submitted; plans stamped by the Department on 05/05/2014 (attached); and with all General and Specific Conditions of this license.



**General Conditions:**

1. The terms, conditions, requirements, limitations and restrictions set forth herein are accepted by the licensee and enforceable by EPGMD pursuant to this chapter. EPGMD will review this license periodically and may revoke the license, initiate administrative and/or judicial action for any violation of the conditions by the licensee, its agents, employees, servants or representatives or principals.
2. This license is valid only for the specific uses set forth in the license application, and any deviation from the approved uses may constitute grounds for revocation and enforcement action by EPGMD.
3. In the event the licensee is temporarily unable to comply with any of the conditions of the license, the licensee shall notify EPGMD within twelve (12) hours. Within five (5) working days of the event, the licensee shall submit a written report to EPGMD that describes the incident, its cause, the measures being taken to correct the problem and prevent its reoccurrence, the owner's intention toward repair, replacement, and reconstruction of destroyed facilities, and a schedule of action leading toward operation within the license conditions.
4. The issuance of this license does not convey any vested rights or exclusive privileges, nor does it authorize any injury to public or private property or any invasion of personal rights, or any violations of federal, state or local laws or regulations.
5. This license must be available for inspection on the licensee's premises during the entire life of the license.
6. By accepting this license, the licensee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, that are submitted to EPGMD, may be used by EPGMD as evidence in any enforcement proceeding arising under Chapter 27, except where such use is prohibited by § 403.111, F.S.
7. The licensee agrees to comply with Chapter 27, as amended.
8. Any new owner of a licensed facility shall apply by letter for a transfer of license within thirty (30) days after sale or legal transfer. The transferor shall remain liable for performance in accordance with the license until the transferee applies for, and is granted the transfer of license. The transferee shall also be liable for performance in accordance with the license.
9. The licensee, by acceptance of this license, specifically agrees to allow access to the licensed source at reasonable times by EPGMD personnel for the purposes of inspection and testing to determine compliance with this license and this Chapter 27.
10. This license does not constitute a waiver or approval of any other license that may be required for other aspects of the total project.
11. If the licensee wishes to renew a license or extend its term, the licensee shall make application sixty (60) days prior to its expiration. Expired licenses are not renewable.
12. In addition to the general conditions set forth above, each license issued by EPGMD shall contain specific conditions determined by site conditions and requirements pursuant to the regulations as determined by the director of EPGMD. The licensee agrees that specific conditions are enforceable by EPGMD for any violation thereof.
13. Enforcement of the terms and provisions of this license shall be at the reasonable discretion of EPD, and any forbearance on behalf of EPD to exercise its rights hereunder in the event of any breach by the licensee, shall not be deemed or construed to be a waiver of EPD's rights hereunder.



SPECIFIC CONDITIONS:

A. STANDARD CONDITIONS

1. **Notify the Department in writing a minimum of 48 hours prior to project commencement and a maximum of 48 hours after project completion.**  
Commencement notification should include such information as the intended start date, estimated duration of construction, and the name and contact information of the firm contracted to do the work. **Failure to comply with this condition will result in enforcement action.**
2. Any project caused environmental problem(s) shall be reported immediately to the Department's Environmental Response Line at 954-519-1499.
3. All project generated solid waste and/or spoil material must be disposed of in a suitable approved manner at an upland location.
4. All watercraft associated with the construction and use of the permitted project shall only operate within waters of sufficient depth so as to preclude bottom scouring or prop dredging. **Specifically, there shall be a minimum 12-inch clearance between the deepest draft of the vessel (with the motor in the down position) and the top of any submerged resources or canal bottom at mean low water.**

B. DREDGING/TURBIDITY CONDITIONS

1. At least one week prior to project commencement, the licensee shall contact the Department to schedule a pre-construction meeting with the contractor to review the licensed conditions and dredging procedures.
2. At least one week prior to the pre-construction meeting, the contractor shall submit to the Department a comprehensive summary of proposed project methodology, operational controls, and turbidity management/monitoring procedures to be implemented. At a minimum, this plan should describe specific project equipment, techniques, procedures, and sequencing including all feasible turbidity reduction measures, applicable regulatory standards, anticipated handling, transport, and disposal of dredged spoils/sediments, and all efforts to preserve adjacent or downstream resources. The document shall also describe in detail the specific turbidity and sedimentation monitoring, sampling and reporting protocols proposed. The plan shall include both narrative and illustrative documentation, and must be approved by the Department prior to commencement.
3. A fully executed agreement with Port Everglades authorizing use of Port property as the proposed DMMA for ICWW dredging spoils must be submitted prior to project commencement. Written authorization from the property owner must also be provided to the Department for any alternative upland spoil handling/offloading/processing sites.
4. Mechanical dredging as described in the submitted dredge plan provided in fulfillment of Specific Condition B.2. above shall be utilized to complete the project. An environmental



(closed) clamshell bucket shall be used to remove all material feasible from the dredge area. A conventional bucket may be used only to remove material that the environmental bucket cannot access. Any modification to this approved dredging method and bucket prioritization will require written authorization from the Department prior to implementation. **Failure to adhere to the approved plan may result in enforcement action.**

5. Due to the infeasibility of standard turbidity control measures for this project, a 150-meter maximum "mixing zone" shall be authorized for this project in accordance with FAC 62-4.244(5)(c).
6. All watercraft associated with the execution of the permitted project shall only operate within waters of sufficient depth so as to preclude bottom scouring or prop dredging outside the approved dredge area.
7. All areas to be dredged shall be in accordance with the attached drawings and shall not exceed the areas and depths indicated on those drawings. This permit/license does not authorize dredging outside of the area depicted. **Failure to comply with this condition will result in enforcement action.**
8. Spoils shall be properly handled and disposed in accordance with the submitted methodology. No discharge of water or dredged material [to wetlands or other surface waters] shall be allowed during the transport of the material. **Failure to comply with this condition will result in enforcement action.**
9. Turbidity curtains shall be properly employed wherever feasible to contain or otherwise minimize any manageable discharge of spoils into surface waters and downstream transport during the handling or offloading process.
10. Any effluent discharging from the DMMA shall be contained by turbidity curtains in the receiving waters and shall be monitored for contamination and turbidity in accordance with the approved DMMA monitoring plan (attached).
11. A post-project bathymetric survey conducted by a professional surveyor registered in the State of Florida demonstrating that the project is in substantial compliance with the licensed plans shall be submitted to the Department within sixty (60) days from completion of the project. The survey should be provided in a format that facilitates a direct comparison between the licensed work and the completed work. **Failure to construct the project as authorized may result in enforcement action.**
12. The licensee shall be responsible for the correction of any erosion, shoaling or water quality problems that result from the construction of this project.
13. If the approved license drawings and/or license attachments/plans conflict with the specific conditions, then the specific conditions shall prevail.
14. This license does not eliminate the necessity to obtain any required federal, state, local or special district authorizations prior to the start of any activity approved by this license.



**C. MANATEE CONDITIONS**

1. All personnel associated with the project shall be instructed about the presence of marine turtles, manatees and manatee speed zones, and the need to avoid collisions with (and injury to) these protected marine species. The licensee 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.
2. 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.
3. Siltation or turbidity barriers shall be made of material in which manatees and marine turtles cannot become entangled, shall be properly secured, and shall be regularly monitored to avoid manatee entanglement or entrapment. Barriers must not impede manatee or marine turtle movement.
4. All on-site project personnel are responsible for observing water-related activities for the presence of marine turtles and manatee(s). All in-water operations, including vessels, must be shut down if a marine turtle or manatee comes within 50 feet of the operation. Activities will not resume until the animal(s) has moved beyond the 50-foot radius of the project operation, or until 30 minutes elapses if the animal(s) has not reappeared within 50 feet of the operation. Animals must not be herded away or harassed into leaving.
5. Any collision with or injury to a marine turtle or manatee shall be reported immediately to the Florida Fish and Wildlife Conservation Commission (FWC) Hotline at 1-888-404-3922, and to FWC at [ImperiledSpecies@mvFWC.com](mailto:ImperiledSpecies@mvFWC.com). Collision and/or injury should also be reported to the U.S. Fish and Wildlife Service (for north Florida, Jacksonville 1-904-731-3336 or for south Florida Vero Beach 1-772-562-3909).
6. Temporary signs concerning manatees shall be posted prior to and during all in-water project activities. All signs are to be removed by the licensee upon completion of the project. Temporary signs that have already been approved for this use by the FWC must be used. One sign which reads "Caution: Boaters" must be posted. A second sign measuring at least 8-½" by 11" explaining the requirements for "Idle Speed/No Wake" and the shut-down of in-water operations must be posted in a location prominently visible to all personnel engaged in water-related activities. These signs can be viewed at [www.MyFWC.com/manatee](http://www.MyFWC.com/manatee). Questions concerning these signs can be sent to the email address listed above.
7. Blasting shall be prohibited.
8. At least one person shall be designated as a manatee observer when in-water work is being performed. That person shall have experience in manatee observation, be approved by FWC two weeks before the beginning of construction, and be equipped with polarized sunglasses to aid in observation. The manatee observer must be on site during all in-water construction activities and will advise personnel to cease operation upon sighting a manatee within 50 feet of any in-water construction activity. Movement of a



work barge, other associated vessels, or any in-water work shall not be performed after sunset, when the possibility of spotting manatees is negligible. Observers shall maintain a log detailing manatee sightings, work stoppages, and other protected species-related incidents. A report, summarizing all activities noted in the observer logs, the location and name of project, and the dates and times of work shall be submitted within 30 days following project completion, to the Florida Fish and Wildlife Conservation Commission, Imperiled Species Management Section at: [ImperiledSpecies@myfwc.com](mailto:ImperiledSpecies@myfwc.com)

9. Prior to commencement of work, a plan shall be developed in coordination with and submitted to the Broward County and the Imperiled Species Management Section of the Florida Fish and Wildlife Commission (FWC) so turbidity control measures do not adversely impact marine mammals. The plan shall include barrier details and drawings that describe the type of barrier to be used, and how the barriers will be located, secured and regularly monitored to avoid manatee entanglement or entrapment and not impede manatee movement. This plan shall be approved by the County and FWC prior to commencement of work.

#### **D. BENTHIC RESOURCE CONDITIONS**

1. Corals were observed within the footprint of the project and seagrasses were observed adjacent to the project (i.e. along the edges of the channel). All personnel associated with the project shall be notified of the presence of seagrasses and corals in the project area, the measures to be taken to avoid resource impacts, and the implications associated with unlicensed resource impacts. **Impacts to seagrasses or corals resulting from dredging activities may result in enforcement action, including penalties and corrective action (e.g. mitigation).**
2. All underwater dredging activities shall maintain a 10 foot horizontal buffer between any seagrasses and the top of the stabilized post-construction side slope (lateral distance of at least 25-feet and 7-feet vertically from any submerged equipment).
3. The licensee shall conduct a pre-construction benthic resource survey (within the immediate project footprint and a fifty foot-wide area immediately adjacent to the proposed project footprint) to identify submerged aquatic vegetation or hard/soft coral resources that may be affected by the project. The survey shall be conducted during the seagrass growing season (April 1st through October 31st) and shall be conducted as close to the start of dredging as possible to ensure the most accurate data is collected. Any variations to this schedule must be requested in writing and approved in advance by the Department.
4. Prior to commencement of dredging, the licensee shall submit the results of the survey conducted in compliance with Condition D.3. above to the Department for review. The submittal shall clearly identify how impacts will be defined, measured and quantified based on the post-project survey. If the pre-project survey identifies seagrass resources within the approved project footprint, the licensee shall submit a request to modify the Environmental Resource License to either revise the project/scope or work to modify the scope of dredging to avoid impacts to any seagrass resources. If direct seagrass impacts cannot be avoided, the licensee in coordination with the Department, shall instead modify



the License to implement the Department-approved contingency mitigation plan or alternative plan (to be developed).

5. The licensee shall be responsible for temporarily relocating the twelve identified corals within the project footprint (and any additional specimens that may be identified during the pre-construction resource survey conducted in compliance with Condition D.3.). The locations of these corals shall be recorded by GPS. The specimens shall be removed and temporarily relocated to a nearby Department-approved area of similar depth and hydrologic conditions outside the influence of the proposed project until the dredging is completed. Once the dredging has been completed and ambient water quality has been restored, the corals shall be returned to their original location or an alternative nearby location of the same depth within 30 days. **Any variation from this schedule must be requested in writing and approved in advance by the Department.**
6. Any coral resources identified during the resource survey shall be handled by individuals experienced in coral relocation. The corals shall be carefully removed and relocated in compliance with the Florida Keys National Marine Sanctuary (FKNMS) guidance and recommendations.
7. After replacement of any temporarily relocated corals, a post-construction resource survey detailing the species observed and their approximate locations shall be provided within 60 days of project completion (or within 60 days of the beginning of the seagrass growing season if the project ends between November 1<sup>st</sup> and March 31<sup>st</sup>) to verify if the licensee successfully avoided impacts to any benthic resources. **Any variation from this schedule must be requested in writing and approved in advance by the Department.**

#### **E. MANGROVE CONDITIONS**

1. Mangroves are known to exist along the portion of the Dania Cutoff Canal (DCC) shoreline adjacent to the DMMA. Prior to construction commencement, a detailed mangrove resource survey documenting locations, sizes, species, conditions, and other relevant information (including photographs) shall be provided to the Department for the portion of DCC shoreline adjacent to the spoil offloading area and DMMA.
2. A detailed post-construction mangrove resource survey shall be provided the Department within 30 days of project completion so the Department may cross-reference the findings of the corresponding pre-construction survey. The post construction survey should document all the same data and parameters as the pre-construction survey submitted in response to Condition E.1. above.
3. Any adjacent/off-site wetland areas around the perimeter of the DMMA shall be protected from construction activities and construction-related runoff through the use of siltation screening and/or hay bales. The erosion protection devices shall be placed before the initiation of any ground-disturbing activities and shall remain in place until all ground disturbing activities within the project have concluded, and the site has stabilized, at which time the screening or hay bales shall be removed completely from the site.



4. This license does not authorize mangrove trimming, alteration or removal, as defined in the 1996 Mangrove Trimming and Preservation Act, nor does it authorize any mangrove impacts due to construction activities. **Unauthorized impacts will require mitigation and may result in enforcement action.**

F. CONTINGENCY MITIGATION AREA CONDITIONS (OFF-SITE)

1. Any unanticipated/unauthorized impacts documented in the post-construction resource survey required by specific condition D.7. shall be mitigated as outlined in the attached contingency mitigation plan or via any alternative Department-approved plan. **The licensee shall be responsible for providing any required mitigation within one year of any Department determination that impacts have occurred (post survey).** Failure to meet this schedule will result in the addition of a Time Lag multiplier.
2. If the Department confirms seagrass or coral impacts have occurred or will occur and mitigation is required, FIND shall submit a request for license modification to finalize the contingency mitigation plan [or alternative agreed-upon mitigation plan(s)] within 60 days of notification by the Department that mitigation is necessary. The plan shall include, at a minimum, the following items:
  - a. Documentation/evidence that any County/State Lease Agreement, FIND/State Dedication Agreement, or Park Resource Management Plan amendments required to establish sufficient clear legal authorization to execute the contingency mitigation plan have been requested from the appropriate entities,
  - b. Survey of identified seagrass or coral impact area(s) with impact quantification as applicable,
  - c. UMAM calculations showing how the proposed mitigation adequately offsets impacts,
  - d. Complete Mitigation Construction drawings,
  - e. Monitoring and maintenance plan indicating the proposed monitoring procedures, transects, and photo-stations,
  - f. Construction methodologies,
  - g. Spoil containment and disposal plan,
  - h. Turbidity control measures,
  - i. Mitigation construction and monitoring schedule,
  - j. Measurable success criteria,
  - k. Hydrologic and topographic/bathymetric information,
  - l. Mitigation cost estimate, and
  - m. Financial assurance mechanism.
3. Final construction drawings/mitigation plan details for any required contingency mitigation at Deerfield Island will need to be reviewed by BCPRD for verification of consistency with Deerfield Island Resource Management Plan prior to implementation.
4. Documentation of any required amendment to the existing lease, management plan, or any other document shall be provided to the Department prior to commencement of any mitigation construction activities.




**LICENSE #: DF10-1018**

**LICENSEE: Florida Inland Navigation District**

5. The proposed contingency mitigation area may contain native upland tree resources installed using public tree trust dollars or which have recruited naturally. Prior to the removal of any regulated trees on Deerfield Island, a tree removal / relocation license is required. Contact Peter Burke at (954) 519-1224 for additional information.

**G. A COPY OF THIS LICENSE SHALL BE KEPT ON SITE DURING ALL PHASES OF LICENSED CONSTRUCTION.**

Recommended for approval by:

  
License Processor

**Issued this 20<sup>th</sup> day of May, 2014**

**Expiration Date: May 20<sup>th</sup>, 2019**

**BROWARD COUNTY ENVIRONMENTAL PROTECTION AND  
GROWTH MANAGEMENT DEPARTMENT**



**LINDA SUNDERLAND, MANAGER  
AQUATIC & WETLAND RESOURCES SECTION  
ENVIRONMENTAL LICENSING AND BUILDING PERMITTING DIVISION**





PROJECT LOCATION ICWW CHANNEL  
TOWNSHIP 60 SOUTH  
RANGE 42 EAST  
SECTION 25

ATLANTIC  
OCEAN

JOHN U. LLOYD PARK

DREDGED MATERIAL  
OFFLOADING FACILITY  
(PORT EVERGLADES)

WEST LAKE PARK

0 4,000' 8,000'  
SCALE: 1" = 4,000'

AERIAL REFERENCE: LABINS 2004

# **BROWARD COUNTY**

## **ENVIRONMENTAL PROTECTION & GROWTH MANAGEMENT DEPARTMENT**

### **ENV. LICENSING & BLDG. PERMITTING DEPT.**

**BROWARD COUNTY CODE: 27-331 to 27-341**

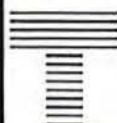
**PROJECT: FIND - ICWW Deepening Project**

**REVIEWER: Ryan St. George** *RS* **DATE: 05/05/2014**

**ATTACHED LICENSE NO.: DF10-1018**

**EXHIBIT 1 of 3 25 pp. EXPIRES AS INDICATED IN LICENSE**

SECTION 101, BROWARD COUNTY DEPARTMENT OF ENVIRONMENTAL PROTECTION, COMBINED WITH PROJECT LOCATION MAP DMC



**TAYLOR ENGINEERING INC.**

10151 DEERWOOD PARK BLVD.  
BLDG. 300, SUITE 300  
JACKSONVILLE, FL 32256  
CERTIFICATE OF AUTHORIZATION # 4815

**FIGURE 1  
LOCATION MAP  
FIND BROWARD CO. ICWW DEEPENING PROJECT  
BROWARD COUNTY, FLORIDA**

PROJECT: C2005-076-07 DRAWN BY: RLJ/CAS SHEET: 1 of 25 DATE: JULY 2011

SEAL  
*Robert J. Wagner*  
**JUL 27 2011**  
ROBERT J. WAGNER P.E. # 63028

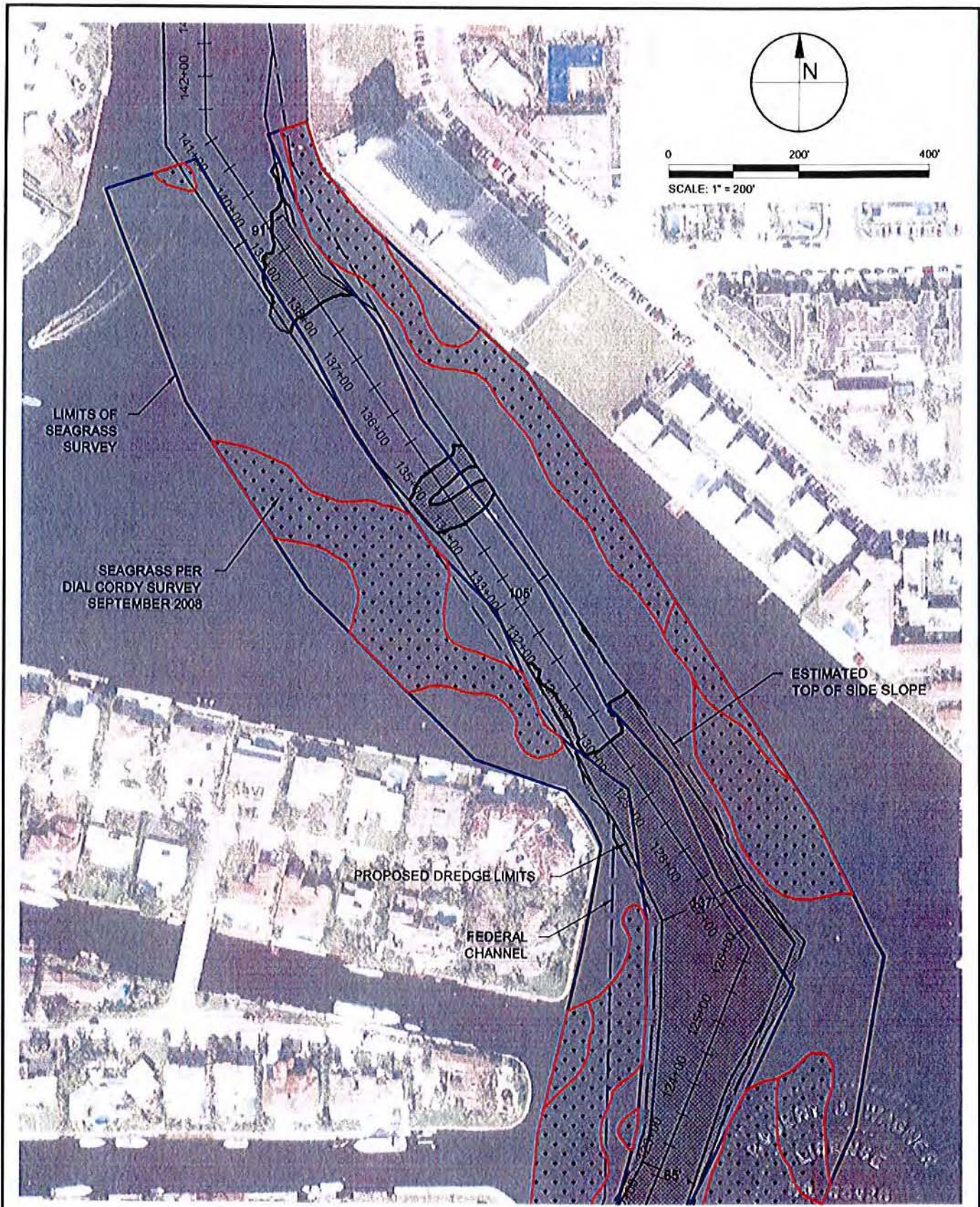
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PRELIMINARY DRAWINGS. THESE DRAWINGS ARE NOT IN FINAL FORM, BUT ARE BEING TRANSMITTED FOR AGENCY REVIEW.







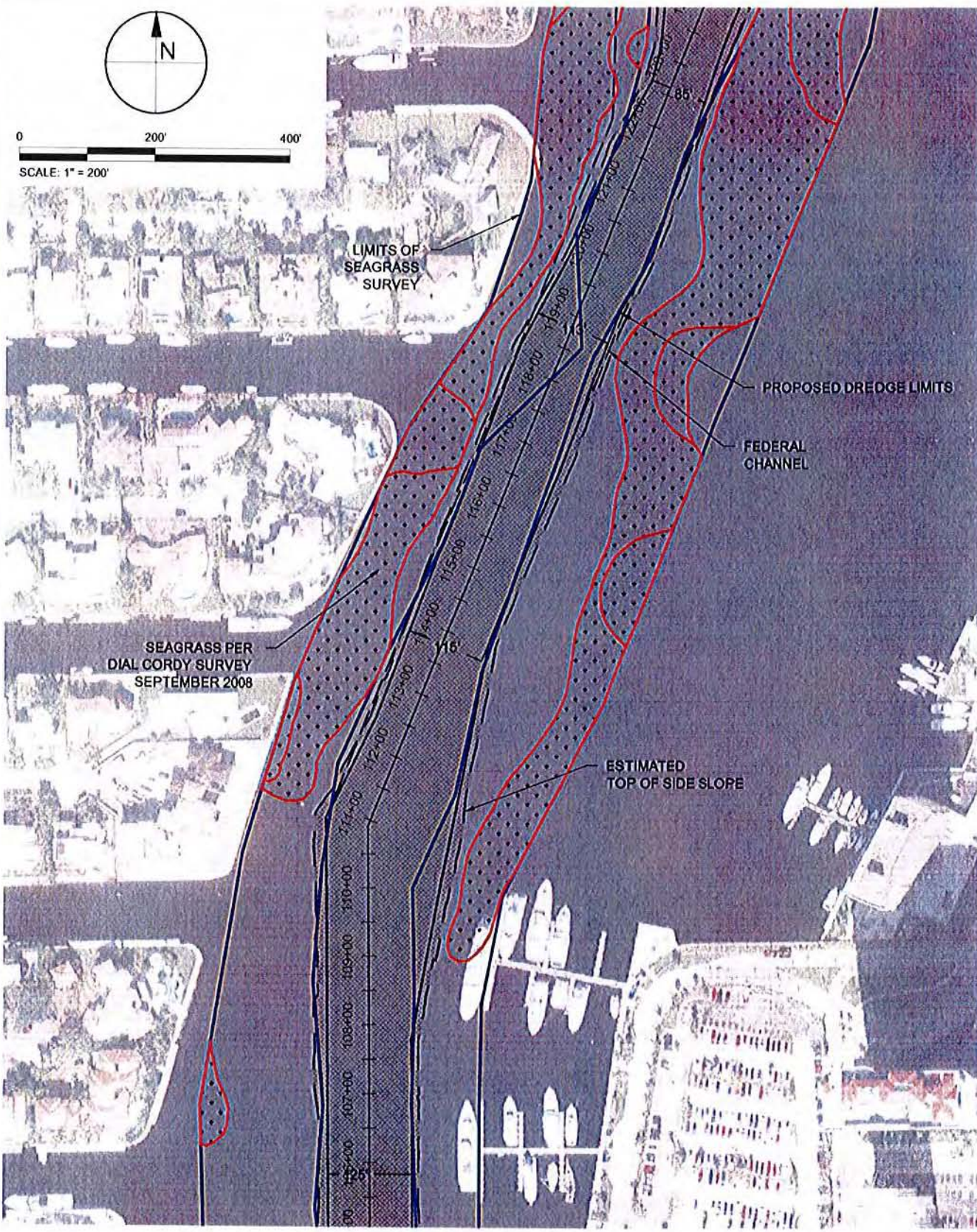


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	<b>TAYLOR ENGINEERING INC.</b>	<b>FIGURE 3</b>				SEAL  JUL 27 2011
	10151 DEERWOOD PARK BLVD. BLDG. 300, SUITE 300 JACKSONVILLE, FL 32256 CERTIFICATE OF AUTHORIZATION # 4815	<b>SITE DREDGING PLAN</b> <b>FIND BROWARD CO. ICWW DEEPENING PROJECT</b> <b>BROWARD COUNTY, FLORIDA</b>				
	PROJECT C2005-076-07	DRAWN BY RLJ/CAS	SHEET 3 of 25	DATE JULY 2011	ROBERT J. WAGNER P.E. # 63008 DATE	

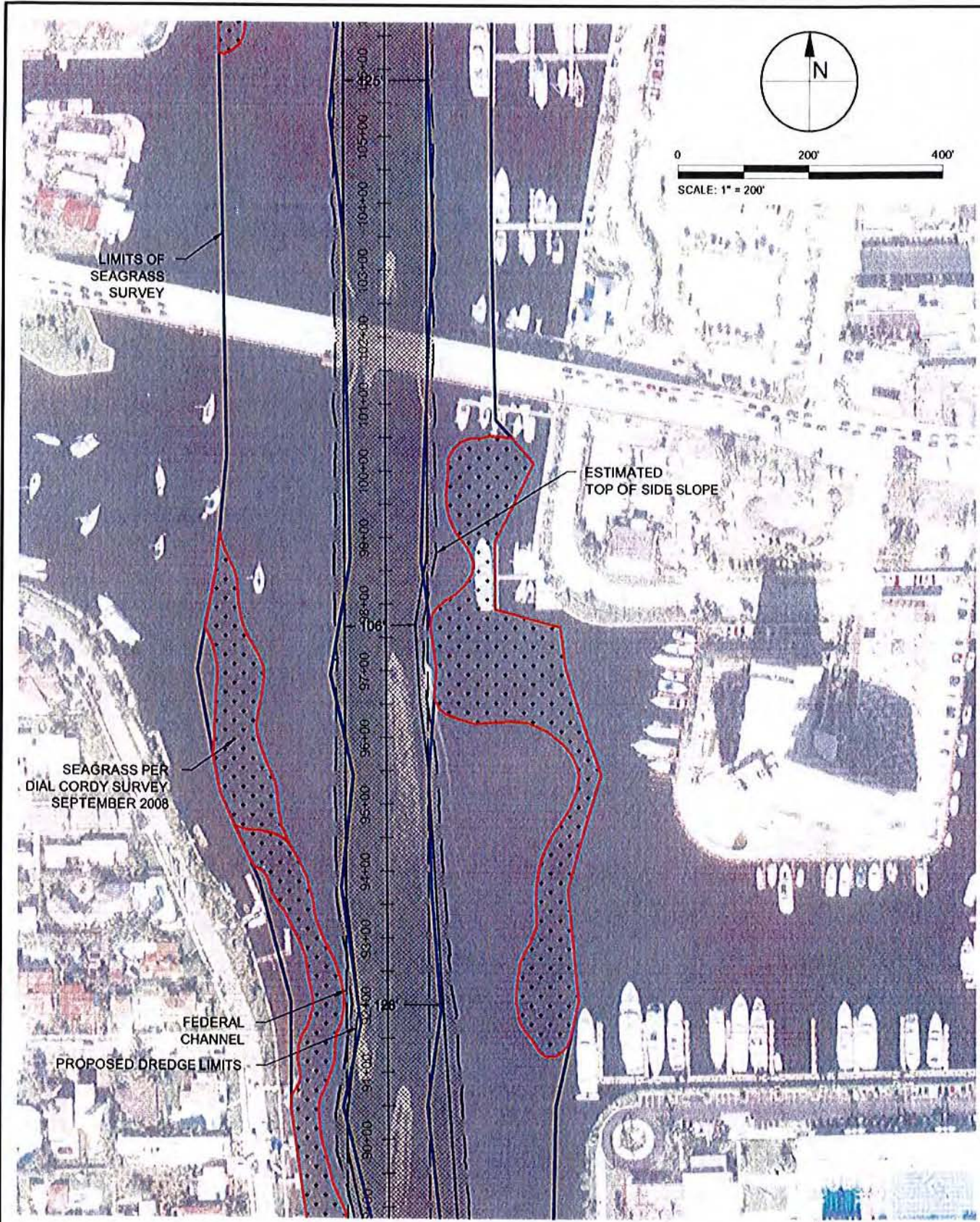
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**TAYLOR ENGINEERING INC.**  
10151 DEERWOOD PARK BLVD.  
BLDG. 300, SUITE 300  
JACKSONVILLE, FL 32256  
CERTIFICATE OF AUTHORIZATION # 4815

**FIGURE 5**  
**SITE DREDGING PLAN**  
**FIND BROWARD CO. ICWW DEEPENING PROJECT**  
**BROWARD COUNTY, FLORIDA**

PROJECT	DRAWN BY	SHEET	DATE
C2005-076-07	RLJ/CAS	5 of 25	JULY 2011

SEAL

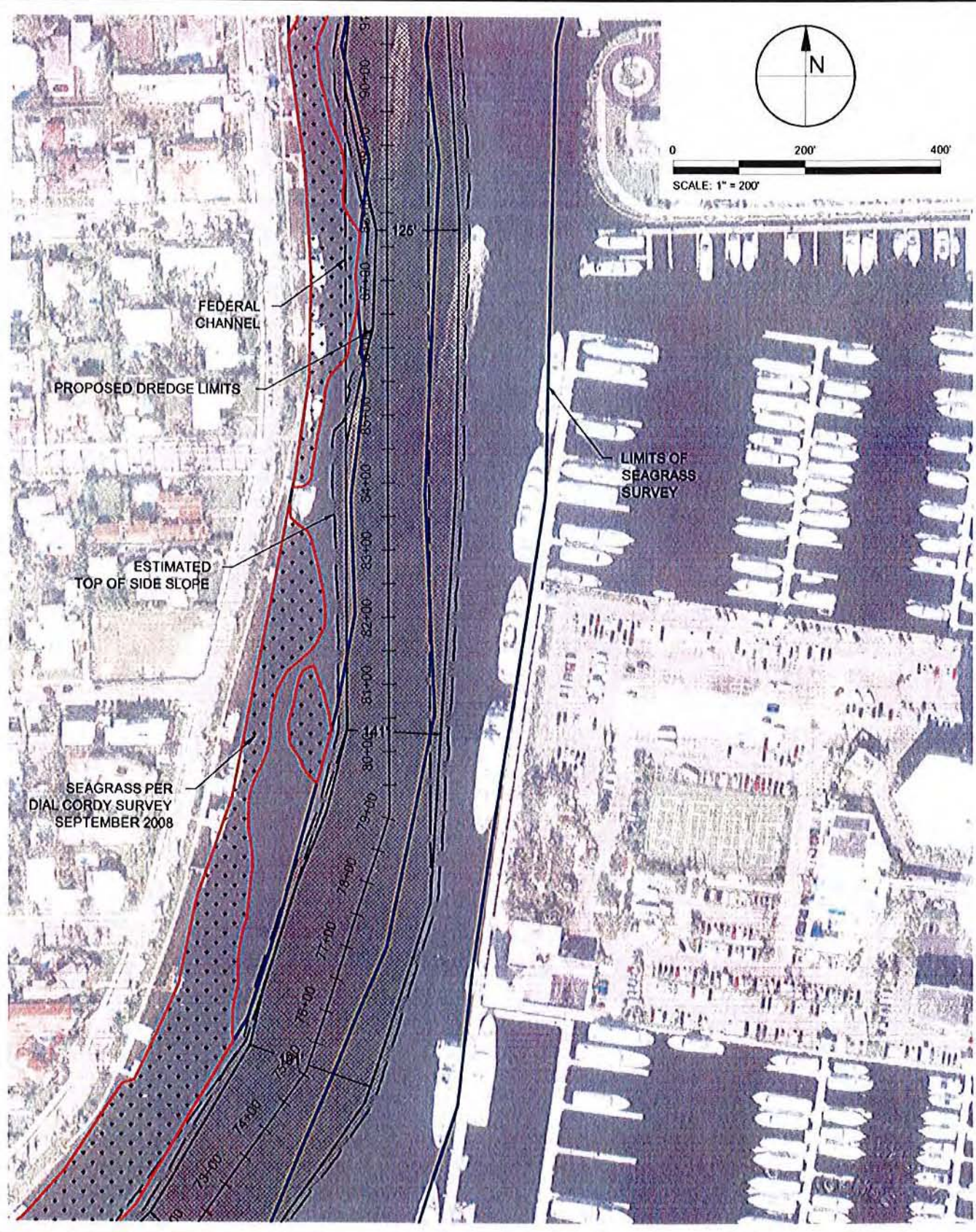
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JUL 27 2011

ROBERT WAGNER PE # 63028

DATE



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CATHERINE K. KOSYCH



 <b>TAYLOR ENGINEERING INC.</b> 10151 DEERWOOD PARK BLVD. BLDG. 300, SUITE 300 JACKSONVILLE, FL 32256 CERTIFICATE OF AUTHORIZATION # 4815	<b>FIGURE 6</b> SITE DREDGING PLAN FIND BROWARD CO. ICWW DEEPENING PROJECT BROWARD COUNTY, FLORIDA				SEAL  JUL 27 2011 ROBERT WAGNER P.E. #63028
	PROJECT C2005-076-07	DRAWN BY RLJ/CAS	SHEET 6 of 25	DATE JULY 2011	DATE

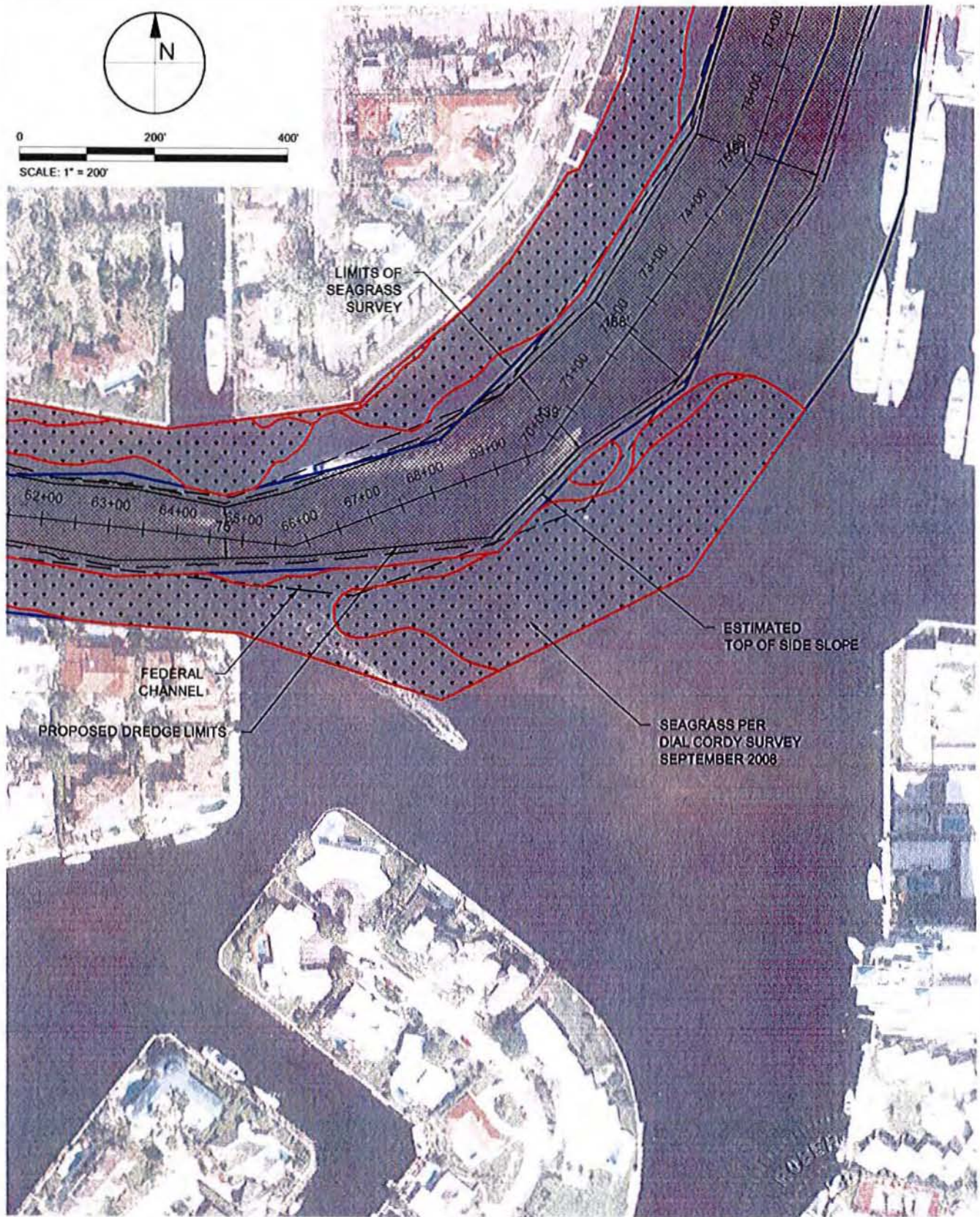
PRELIMINARY DRAWINGS: THESE DRAWINGS ARE NOT IN FINAL FORM, BUT ARE BEING TRANSMITTED FOR AGENCY REVIEW.





0 200' 400'

SCALE: 1" = 200'



**TAYLOR ENGINEERING INC.**

10151 DEERWOOD PARK BLVD.  
BLDG. 300, SUITE 300  
JACKSONVILLE, FL 32256

CERTIFICATE OF AUTHORIZATION # 4515

**FIGURE 7**  
**SITE DREDGING PLAN**  
**FIND BROWARD CO. ICWW DEEPENING PROJECT**  
**BROWARD COUNTY, FLORIDA**

PROJECT	DRAWN BY	SHEET	DATE
C2005-076-07	RLJ/CAS	7 of 25	JULY 2011

SEAL

*[Signature]*  
**JUL 27 2011**  
ROBERT J. TAYLOR, P.E. # 63028

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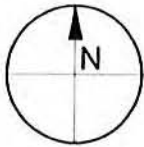












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SCALE: 1" = 200'



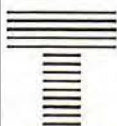
ESTIMATED  
TOP OF SIDE SLOPE

SEAGRASS PER  
DIAL CORDY SURVEY  
SEPTEMBER 2008

PROPOSED DREDGE LIMITS

LIMITS OF  
SEAGRASS  
SURVEY

FEDERAL  
CHANNEL



**TAYLOR ENGINEERING INC.**

10151 DEERWOOD PARK BLVD.  
BLDG. 300, SUITE 300  
JACKSONVILLE, FL 32256

CERTIFICATE OF AUTHORIZATION # 4815

**FIGURE 10**  
**SITE DREDGING PLAN**  
**FIND BROWARD CO. ICWW DEEPENING PROJECT**  
**BROWARD COUNTY, FLORIDA**

PROJECT	DRAWN BY	SHEET	DATE
C2005-076-07	RLJ/CAS	10 of 25	JULY 2011

SEAL

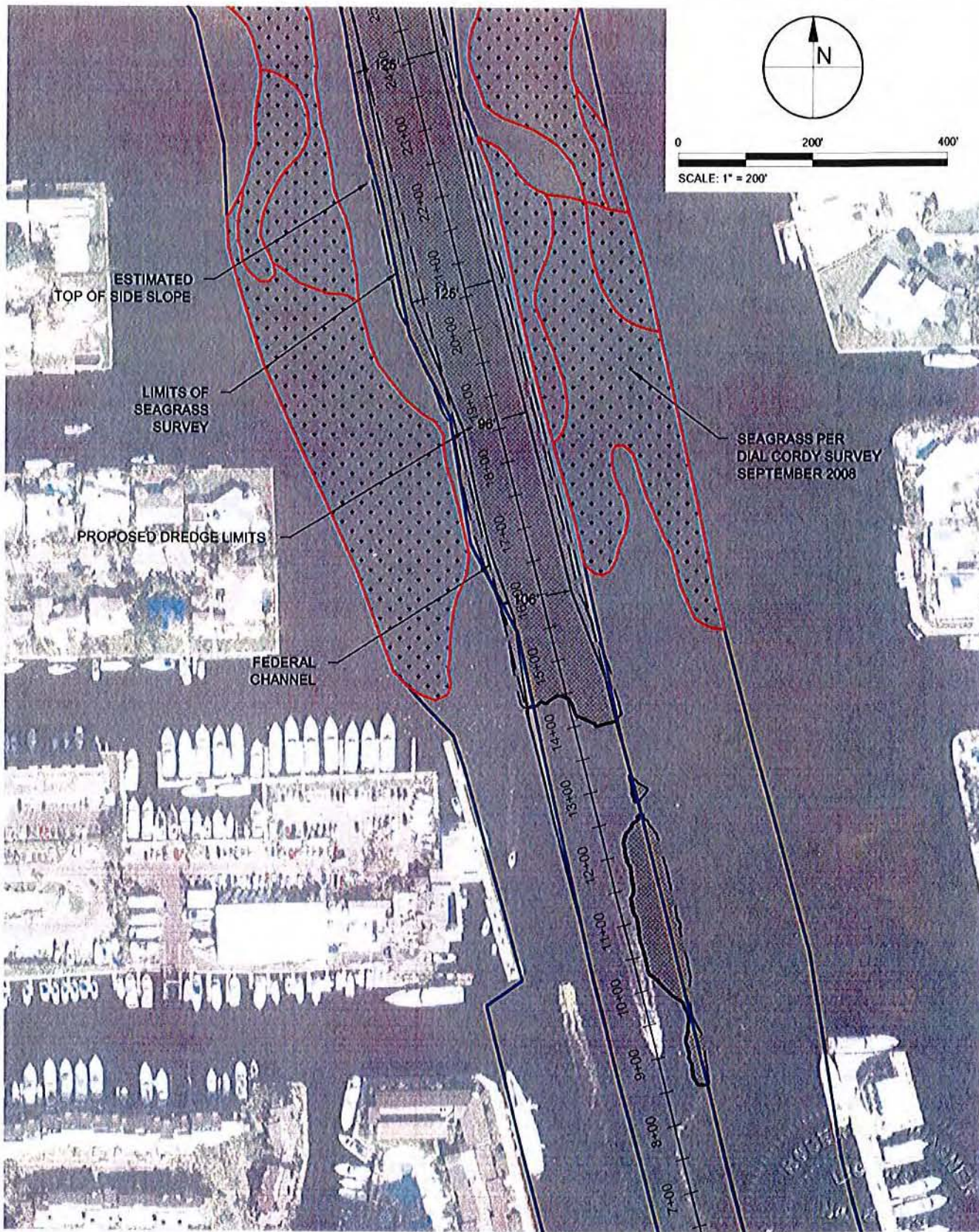
*Robert J. Wagner*  
JUL 27 2011  
ROBERT J. WAGNER P.E. #63028  
DATE

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C:\P\W\SH\X\052501\... \SC2005-076\BROWARD COUNTY DEEPENING\FIGURE 10\ICWW DEEPENING PROJECT\FIGURE 10.DWG





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PROJECT: 10151 DEERWOOD PARK BLVD. BLDG. 300, SUITE 300 JACKSONVILLE, FL 32256  
DRAWN BY: RLJ/CAS  
DATE: JULY 2011



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BLDG. 300, SUITE 300  
JACKSONVILLE, FL 32256  
CERTIFICATE OF AUTHORIZATION # 4815

**FIGURE 11**  
**SITE DREDGING PLAN**  
**FIND BROWARD CO. ICWW DEEPENING PROJECT**  
**BROWARD COUNTY, FLORIDA**

PROJECT	DRAWN BY	SHEET	DATE
C2005-076-07	RLJ/CAS	11 of 25	JULY 2011

SEAL  
*[Signature]*  
**JUL 27 2011**  
ROBERT WAGNER PE #63028  
DATE

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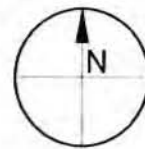
LIMITS OF  
SEAGRASS  
SURVEY

SEAGRASS PER  
DIAL CORDY SURVEY  
SEPTEMBER 2008

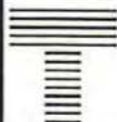
PROPOSED DREDGE LIMITS

FEDERAL  
CHANNEL

ESTIMATED  
TOP OF SIDE SLOPE



0 200' 400'  
SCALE: 1" = 200'



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**FIGURE 12**  
**SITE DREDGING PLAN**  
**FIND BROWARD CO. ICWW DEEPENING PROJECT**  
**BROWARD COUNTY, FLORIDA**

PROJECT	DRAWN BY	SHEET	DATE
C2005-076-07	RLJ/CAS	12 of 25	JULY 2011

SEAL

*[Signature]*  
**JUL 27 2011**

ROBERT J. CASER P.E. #63028

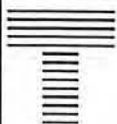
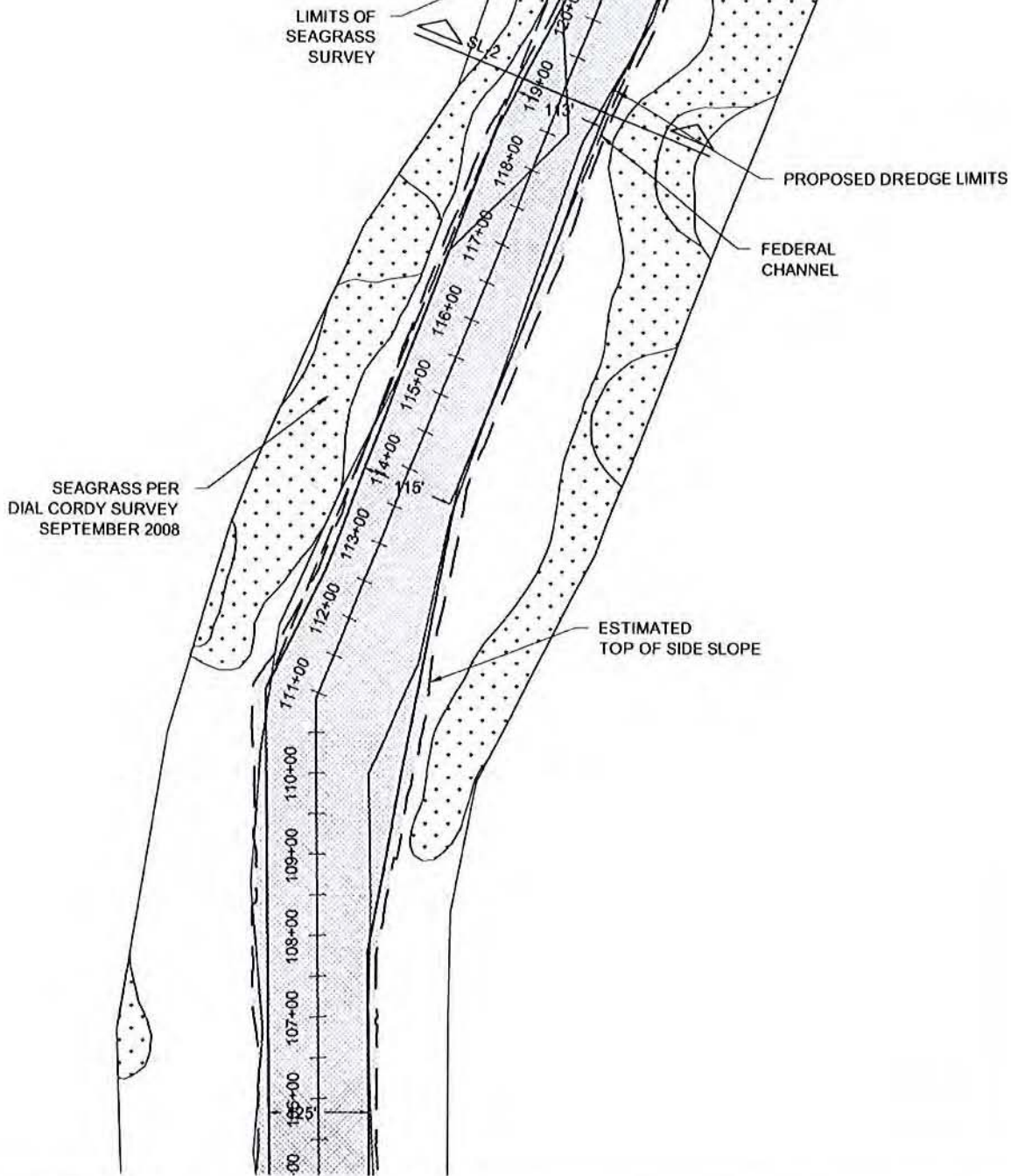
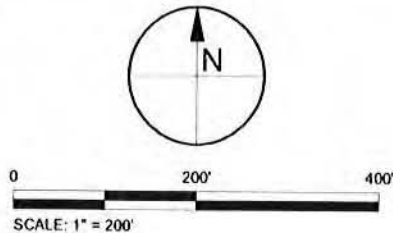
DATE

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**FIGURE 13  
SITE DREDGING PLAN  
FIND BROWARD CO. ICWW DEEPENING PROJECT  
BROWARD COUNTY, FLORIDA**

PROJECT C2005-076-07	DRAWN BY RLJ/CAS	SHEET 13 of 25	DATE JULY 2011
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*[Signature]*  
**JUL 27 2011**  
ROBERT L. SAVAGNER P.E. # 63028 DATE

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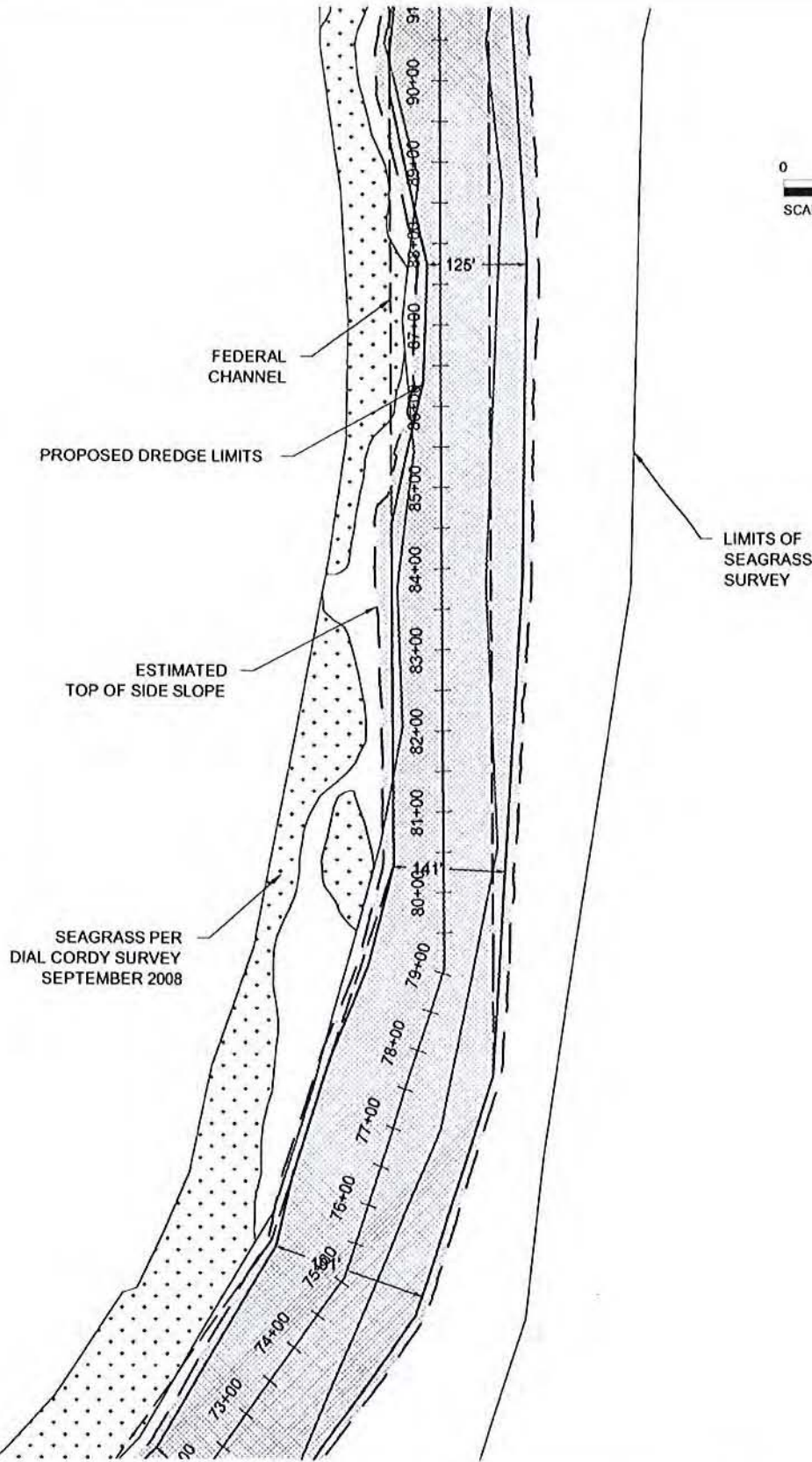
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C:\MY SHELL\K\SYSTEMS\1\BROWARD\BROWARD COUNTY DEEPENING\ICWW DEEPENING\FIGURE 13.DWG









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JACKSONVILLE, FL 32256  
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**FIGURE 15**  
**SITE DREDGING PLAN**  
**FIND BROWARD CO. ICWW DEEPENING PROJECT**  
**BROWARD COUNTY, FLORIDA**

PROJECT C2005-076-07	DRAWN BY RLJ/CAS	SHEET 15 of 25	DATE JULY 2011
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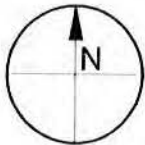
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JUL 27 2011

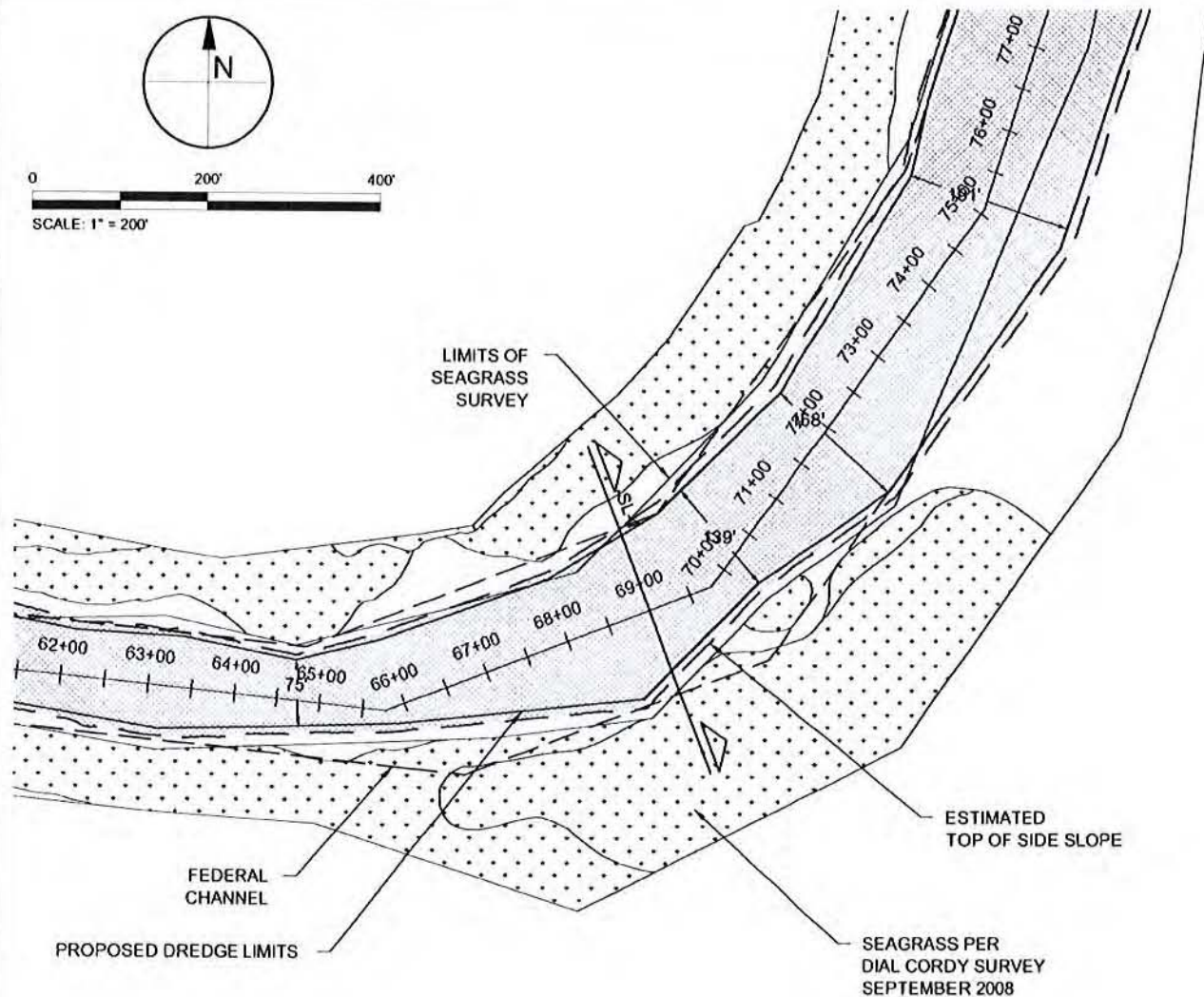
ROBERT WAGNER P.E. # 63028

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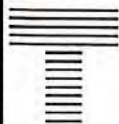
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CATHY SELL K. SYSA



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JACKSONVILLE, FL 32256

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**FIGURE 16**  
**SITE DREDGING PLAN**  
**FIND BROWARD CO. ICWW DEEPENING PROJECT**  
**BROWARD COUNTY, FLORIDA**

PROJECT	DRAWN BY	SHEET	DATE
C2005-076-07	RLJ/CAS	16 of 25	JULY 2011

SEAL

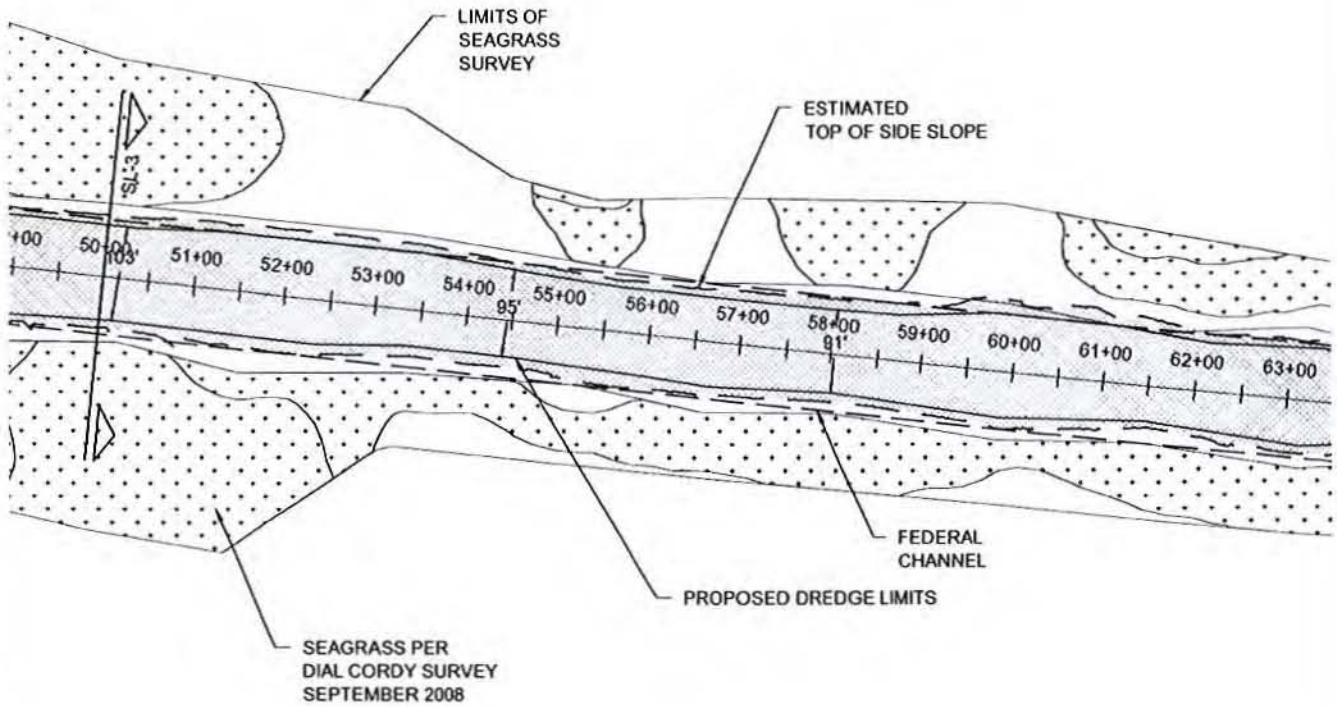
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**JUL 27 2011**

ROBERT J. WILSON P.E. # 63028

DATE

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CATHY SWELL, M.D.

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JACKSONVILLE, FL 32256

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FIGURE 17  
SITE DREDGING PLAN  
FIND BROWARD CO. ICWW DEEPENING PROJECT  
BROWARD COUNTY, FLORIDA

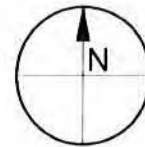
PROJECT	DRAWN BY	SHEET	DATE
C2005-076-07	RLJ/CAS	17 of 25	JULY 2011

SEA

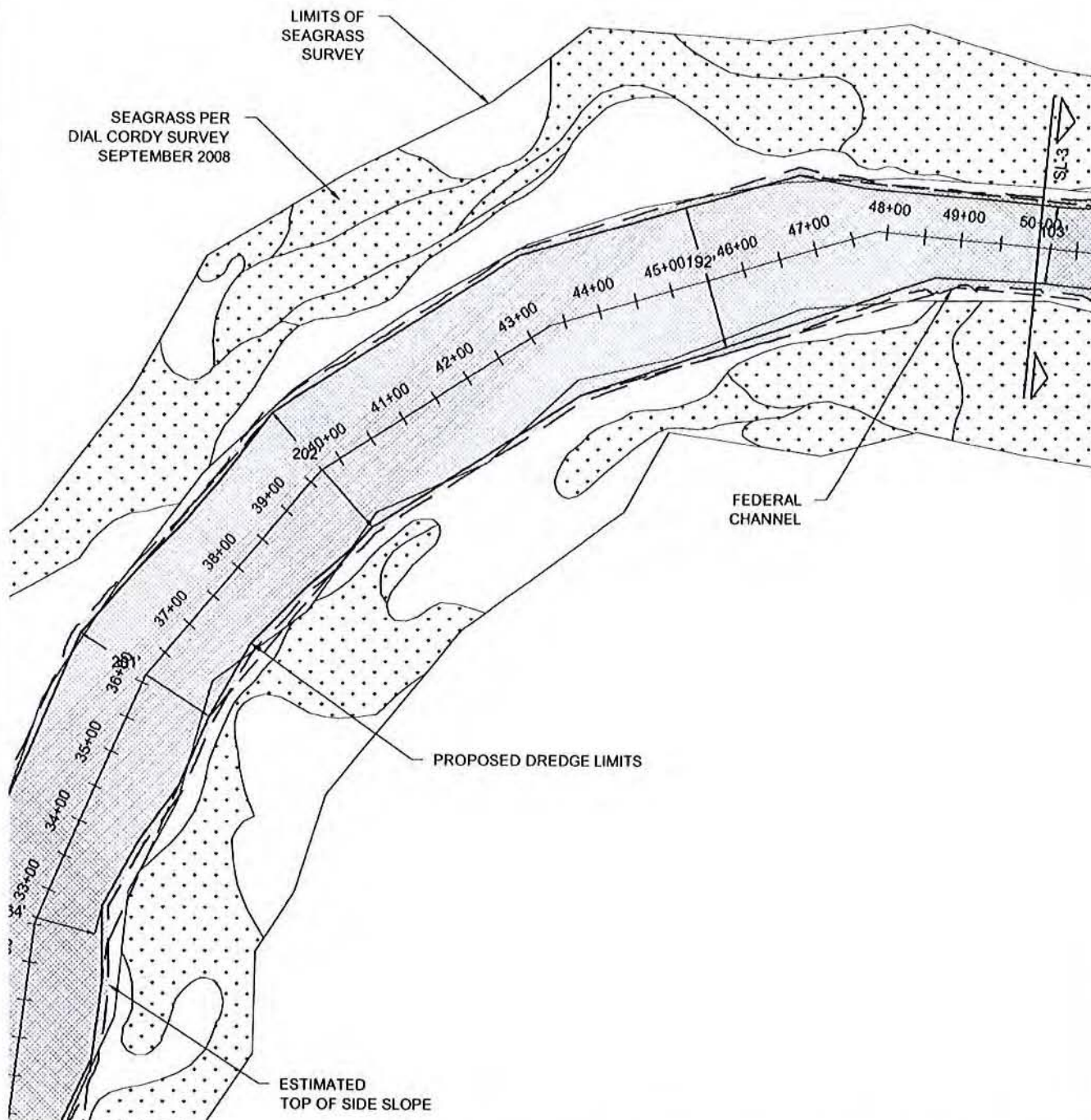
JUL 27 2011

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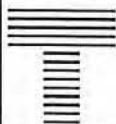
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**FIGURE 18**  
**SITE DREDGING PLAN**  
**FIND BROWARD CO. ICWW DEEPENING PROJECT**  
**BROWARD COUNTY, FLORIDA**

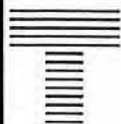
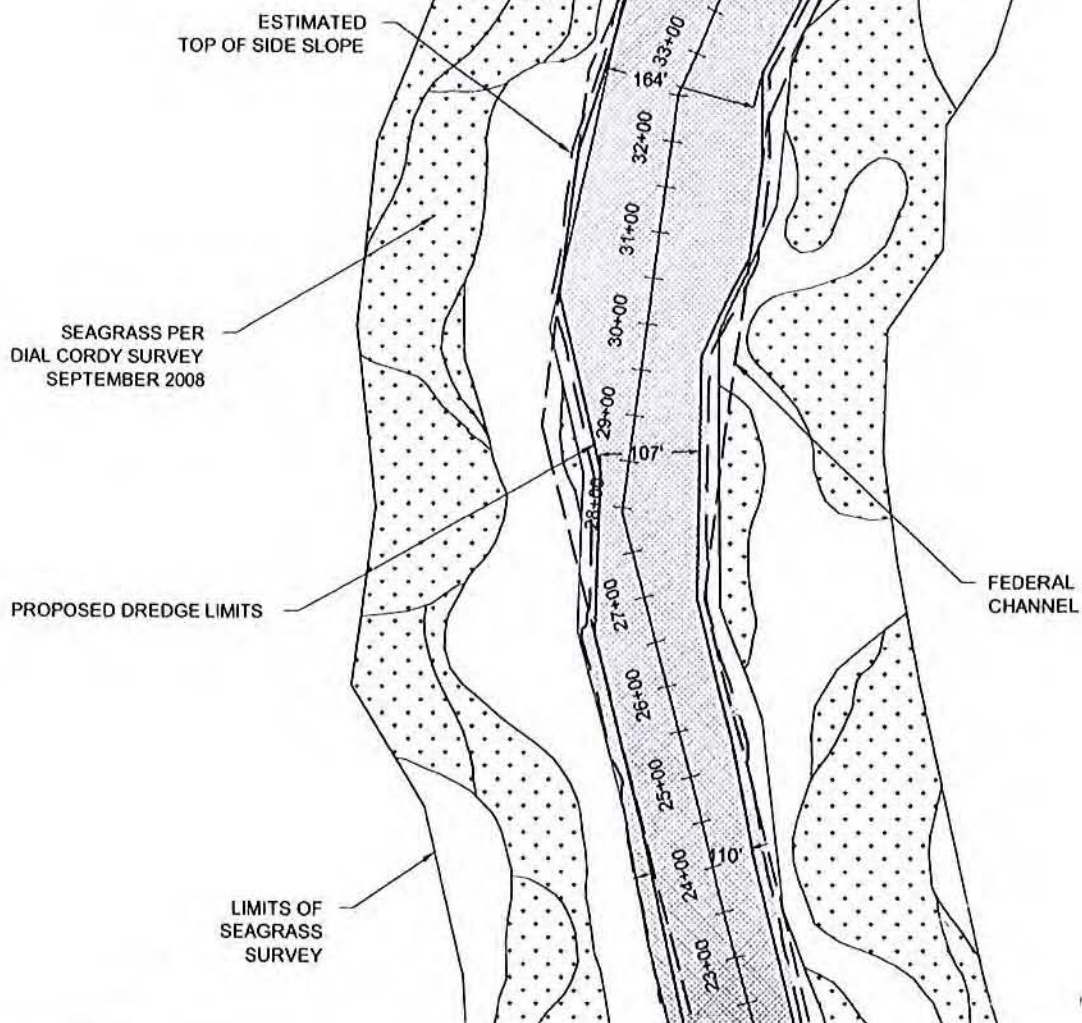
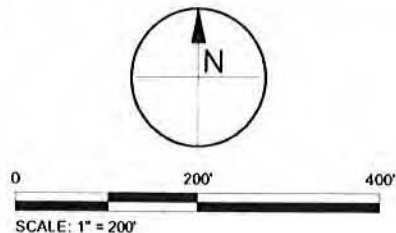
PROJECT	DRAWN BY	SHEET	DATE
C2005-076-07	RLJ/CAS	18 of 25	JULY 2011

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*[Signature]*  
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ROBERTS W. P.E. #63028

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**FIGURE 19  
SITE DREDGING PLAN  
FIND BROWARD CO. ICWW DEEPENING PROJECT  
BROWARD COUNTY, FLORIDA**

PROJECT C2005-076-07	DRAWN BY RLJ/CAS	SHEET 19 of 25	DATE JULY 2011
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*[Signature]*  
**JUL 27 2011**  
ROBERT J. WAGNER P.E. # 63028 DATE

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J:\C2005-076\BROWARD COUNTY DEEPENING\FIGURE 19.dwg COMBINED: C2005-076.dwg & LIMITS OF DREDGING.BIN DWG

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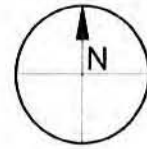
ESTIMATED  
TOP OF SIDE SLOPE

LIMITS OF  
SEAGRASS  
SURVEY

PROPOSED DREDGE LIMITS

FEDERAL  
CHANNEL

SEAGRASS PER  
DIAL CORDY SURVEY  
SEPTEMBER 2008



0 200' 400'  
SCALE: 1" = 200'



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FIGURE 20  
SITE DREDGING PLAN  
FIND BROWARD CO. ICWW DEEPENING PROJECT  
BROWARD COUNTY, FLORIDA

PROJECT C2005-076-07	DRAWN BY RLJ/CAS	SHEET 20 of 25	DATE JULY 2011
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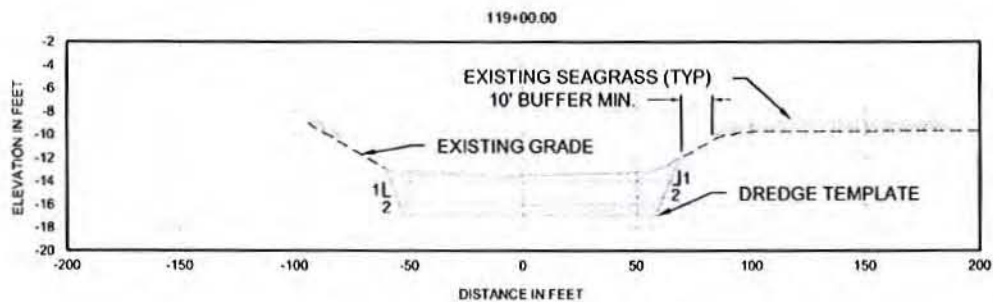
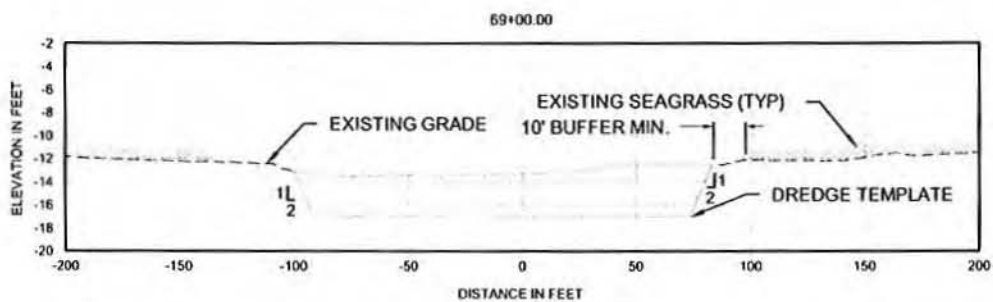
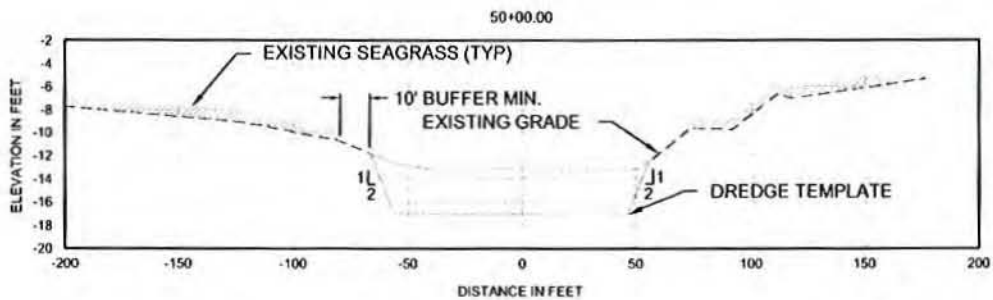
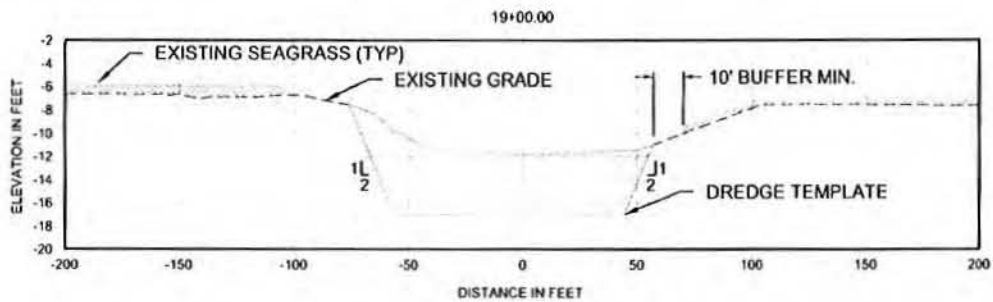
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JUL 27 2011  
ROBERT J. HIGHER P.E. #63028 DATE

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## ICWW DREDGE SECTIONS

SCALE: 1" = 80'

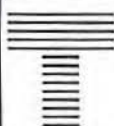
V-SCALE: 1" = 16'



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CATHERINE SWANILL, K. L. SWANILL



E TAYLOR ENGINEERING INC.

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JACKSONVILLE, FL 32256

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FIGURE 21  
DREDGING CROSS SECTIONS  
FIND BROWARD CO. ICWW DEEPENING PROJECT  
BROWARD COUNTY, FLORIDA

PROJECT C2005-076-07	DRAWN BY RLJ/CAS	SHEET 21 of 25	DATE JULY 2011
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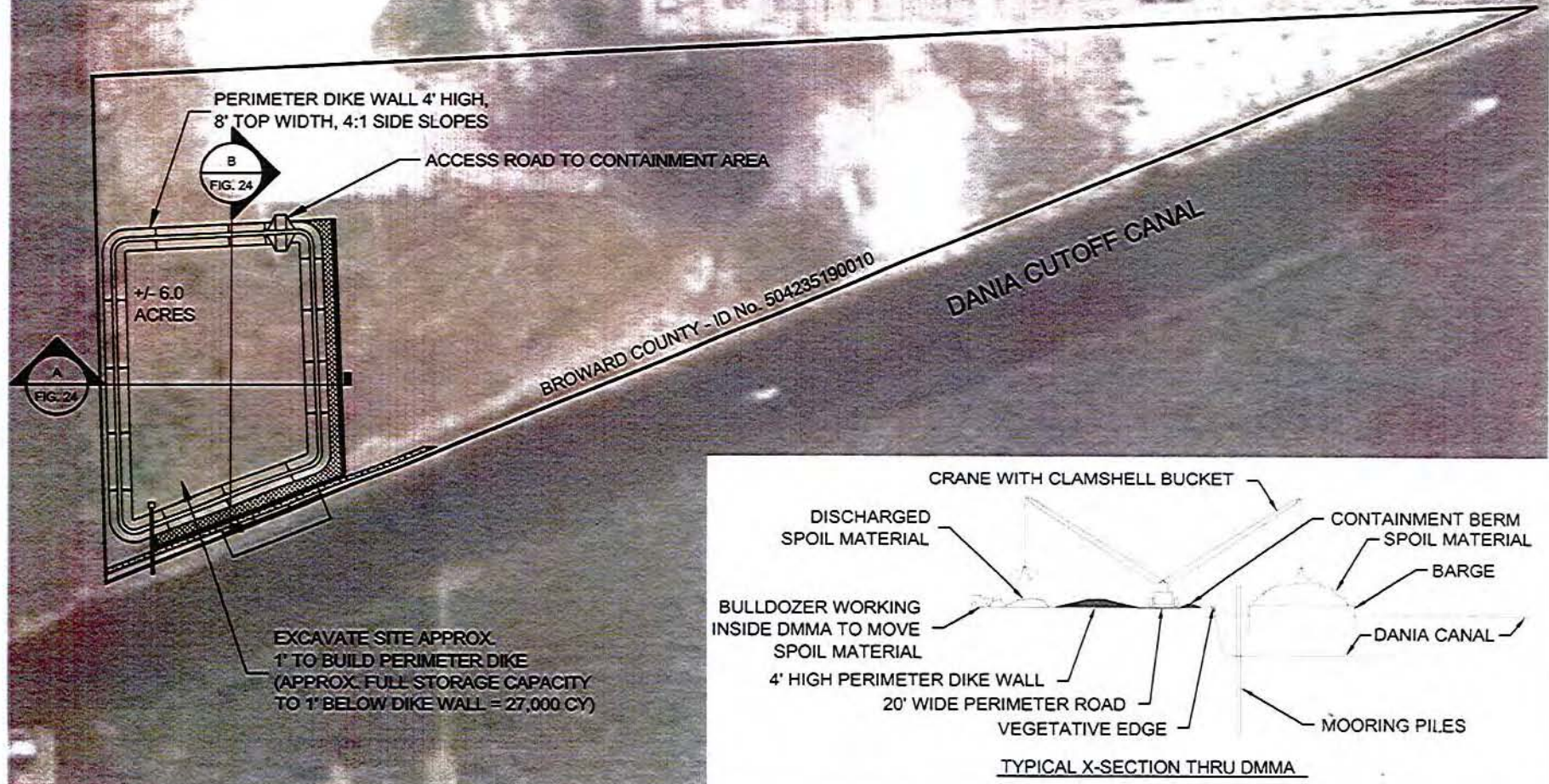
PRELIMINARY DRAWINGS: THESE DRAWINGS ARE NOT IN FINAL FORM, BUT ARE BEING TRANSMITTED FOR AGENCY REVIEW





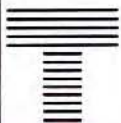
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SCALE: 1" = 300'

PORT EVERGLADES  
SOUTHPORT



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FIGURE 22  
DREDGED MATERIAL MANAGEMENT AREA  
FIND BROWARD CO. ICWW DEEPENING PROJECT  
BROWARD COUNTY, FLORIDA

PROJECT	C2005-076-07
DRAWN BY	RLJ/CAS
SHEET	22 of 25
DATE	JULY 2011

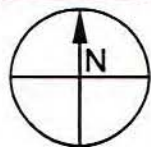
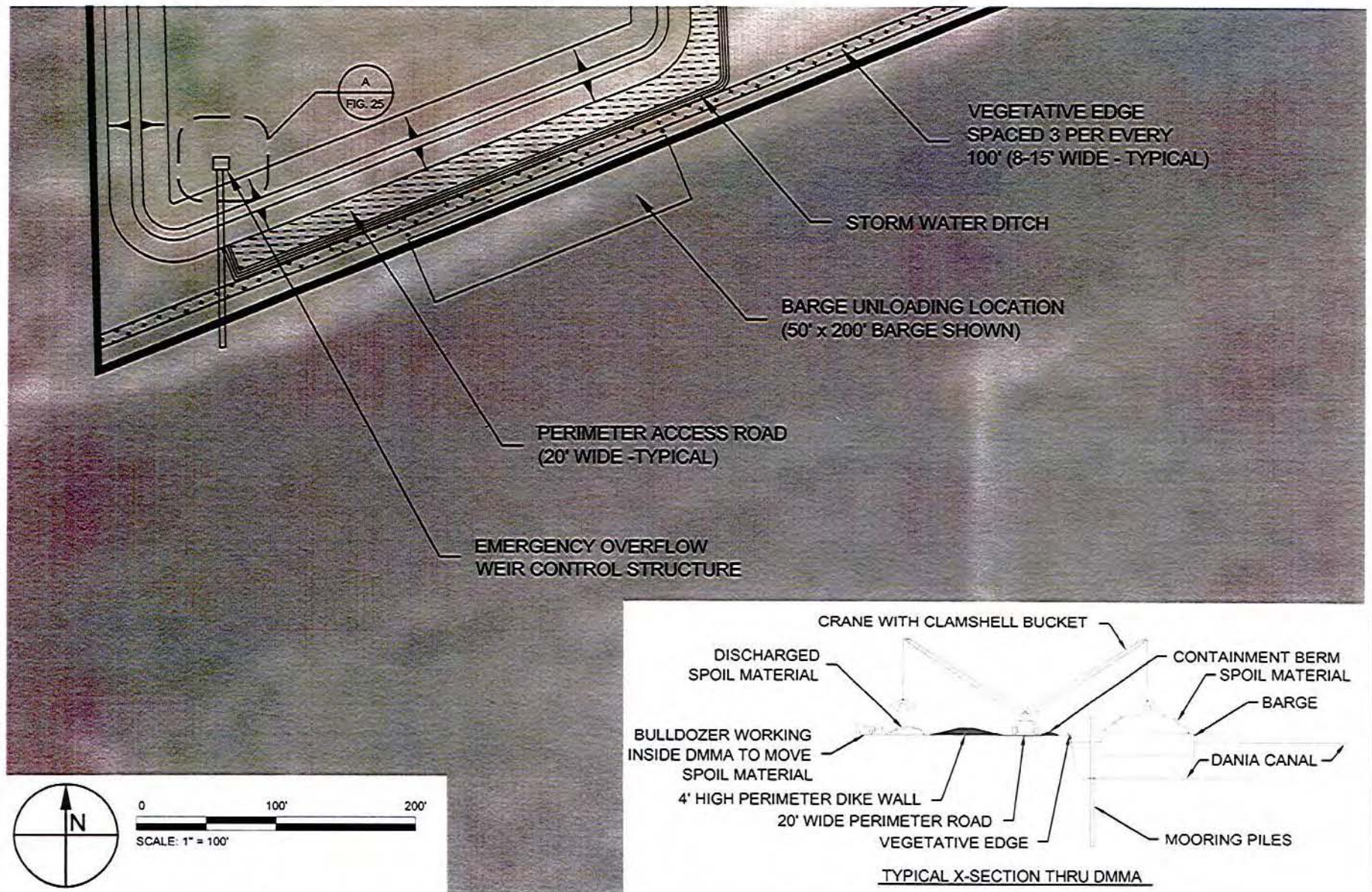
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JUL 27 2011  
FORBES WAGNER P.E. #12008



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FIGURE 23

DREDGED MATERIAL MANAGEMENT AREA (CONT)  
FIND BROWARD CO. ICWW DEEPENING PROJECT  
BROWARD COUNTY, FLORIDA

PROJECT	C2005-076-07
DRAWN BY	RLJ/CAS
SHEET	23 of 25
DATE	JULY 2011

SCALE

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JUL 27 2011  
ROBERT J. VIGNER P.E. #43028 DATE

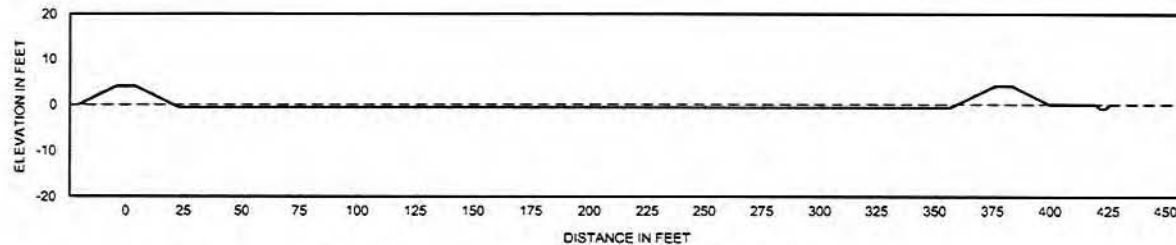


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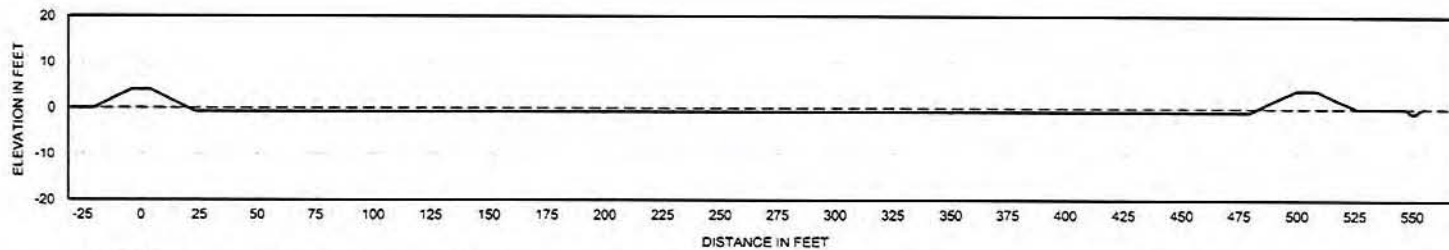
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FINISH GRADE: \_\_\_\_\_

EXISTING GRADE: - - - - -

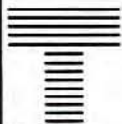


A  
FIG. 22 WEST-EAST CROSS-SECTION THROUGH DIKE



B  
FIG. 22 NORTH-SOUTH CROSS-SECTION THROUGH DIKE

0 80' 160'  
SCALE: 1" = 80'  
VERTICAL EXAGGERATION: 2X



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FIGURE 24  
PROPOSED DMMA CROSS SECTIONS  
FIND BROWARD CO. ICWW DEEPENING PROJECT  
BROWARD COUNTY, FLORIDA

PROJECT	C2005-076-07
DRAWN BY	RLJ/CAS
SHEET	24 of 25
DATE	JULY 2011

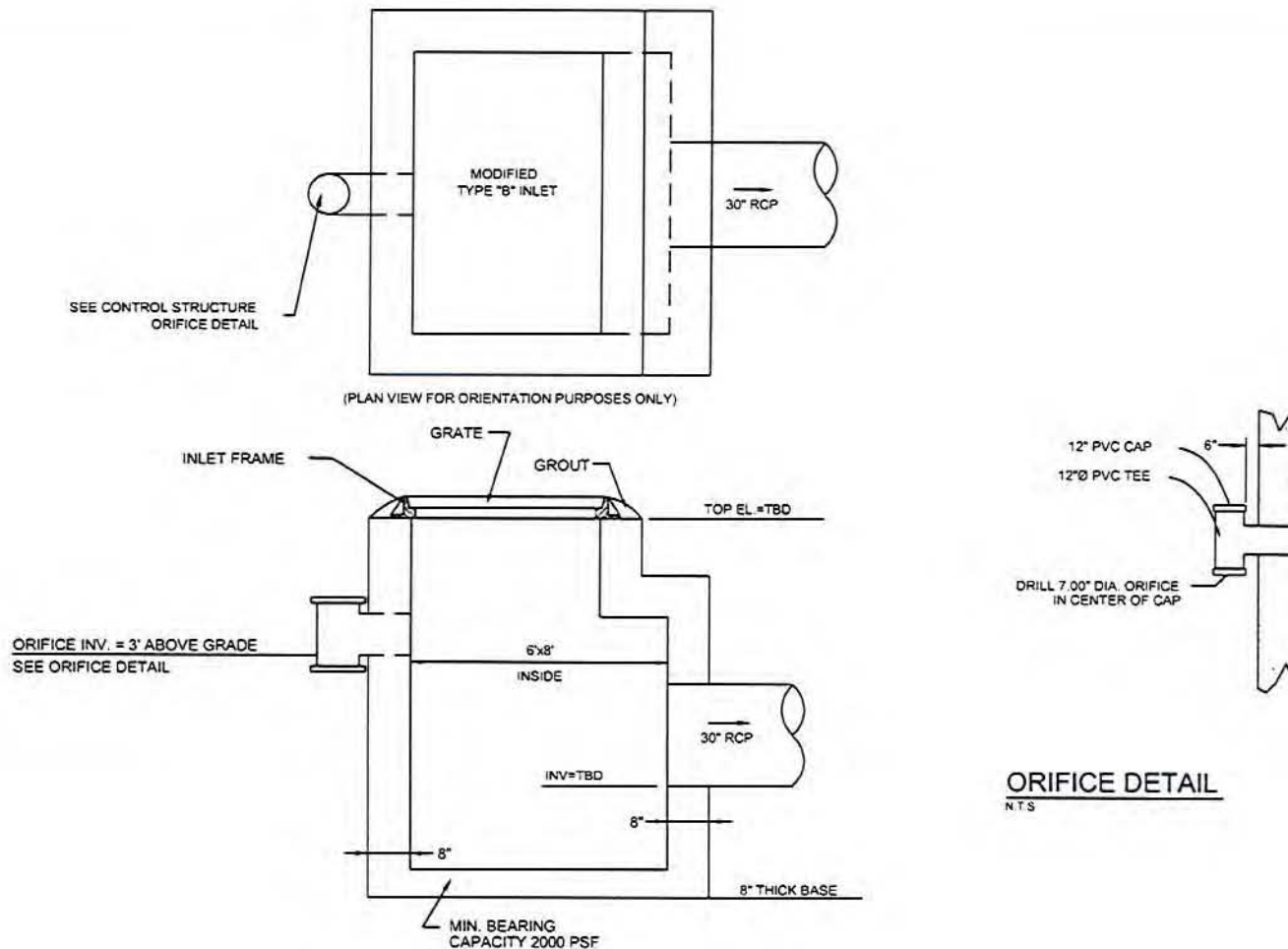
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JUL 27 2011  
ROBERT J. WAGNER P.E. # 63028 DATE

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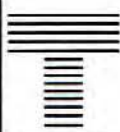


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**A**  
FIG. 22 CONTROL STRUCTURE DETAILS  
N.T.S.



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FIGURE 25  
CONTROL STRUCTURE DETAILS  
FIND BROWARD CO. ICWW DEEPENING PROJECT  
BROWARD COUNTY, FLORIDA

PROJECT	C2005-076-07
DRAWN BY	RLJ/CAS
SHEET	25 of 25
DATE	JULY 2011

SEAL  
*[Signature]*  
JUL 27 2011  
ROBERT A. WACHNER P.E. # 62028 DATE



# **BROWARD COUNTY**

## **ENVIRONMENTAL PROTECTION & GROWTH MANAGEMENT DEPARTMENT**

### **ENV. LICENSING & BLDG. PERMITTING DEPT.**

Broward County Environmental Protection

Environmental Reg

File No. DI

Broward County ICW<sup>1</sup>

Contingency Mitigation Plan

Revised January 2014

**BROWARD COUNTY CODE: 27-331 to 27-341**

**PROJECT: FIND – ICWW Deepening Project**

**REVIEWER: Ryan St. George** **DATE: 05/05/2014**

**ATTACHED LICENSE NO.: DF10-1018**

**EXHIBIT 2 of 3 9 pp. EXPIRES AS INDICATED IN LICENSE**

## **Introduction**

The Florida Inland Navigation District (FIND) has proposed a project to deepen a Broward County, FL section of the Atlantic Intracoastal Waterway (ICWW). FIND has already performed a detailed site survey and redesigned the channel template to avoid all seagrass and hard corals found in those surveys. Broward County and Florida Department of Environmental Protection (FDEP) have requested contingency mitigation plans for seagrass and corals. The contingency mitigation plans outline appropriate procedures should construction errors result in unanticipated impacts to seagrass or if the pre-construction survey locates hard corals greater than 10 cm diameter within the predicted equilibrium footprint of the project (the top edge of the channel side-slope after it has settled post-construction). As a response to this request, the contingency mitigation plan below details

- 1) preconstruction and post-construction efforts to provide baseline seagrass data and protect any hard corals greater than 10 cm diameter
- 2) a plan for creation of seagrass habitat at Deerfield Island County Park in Broward County
- 3) a plan for temporary coral relocation and subsequent replacement at the end of construction.

## **Pre- and Post-Construction Seagrass Surveys**

The summer prior to project construction, FIND will conduct a seagrass survey to map the location of existing seagrass beds and provide existing habitat conditions and quality Uniform Mitigation Assessment Method (UMAM) documentation. This survey will provide the basis for UMAM impact and mitigation calculations, should post-construction surveys identify project-related impacts to seagrass.

If the pre-construction field survey does find seagrass within the predicted equilibrium footprint of the project, the FIND engineer of record will modify the dredge template to avoid the potential impact.

FIND will conduct a seagrass survey to assess post-construction seagrass conditions using the same methods as for the pre-construction survey. Comparison of pre- and post-construction surveys will form the basis for assessment of project impacts (if any). FIND will schedule that survey (1) within 30



days of the beginning of the state or federal seagrass survey season, whichever is later, or (2) within 30 days of construction completion of the construction ends if construction ends after the beginning of the most restrictive (state or federal) seagrass survey season.

Survey methods will include the methods described in the initial seagrass survey already provided to the FDEP, USACE, and Broward County as part of the permit application package. Experienced field biologists using SCUBA gear will follow the same transects defined for the initial survey. Post-construction, another seagrass survey, using the same transects and same methods will provide the rest of the data necessary to assess possible project construction-related seagrass impacts.

FIND will schedule the baseline seagrass survey the summer before project construction, within the seagrass survey window for the project area. FIND will submit the report to FDEP within 60 days of fieldwork completion. FIND will schedule a post-construction survey within 30 days of construction completion, and will submit a report for FDEP within 90 days of construction end. This schedule allows a 30-day window to schedule fieldwork, 30 days after fieldwork to complete a draft report for FIND review, and 30 days for the FIND contractor to make any necessary changes and submit a final report to FIND for submission to FDEP and other interested regulatory agencies.

The seagrass reports will include survey methods, seagrass maps, and notes of any significant observations. The post-construction report will also include a quantitative comparison of the pre- and post-construction maps, an impact area calculation and, if appropriate, a UMAM with mitigation calculations.

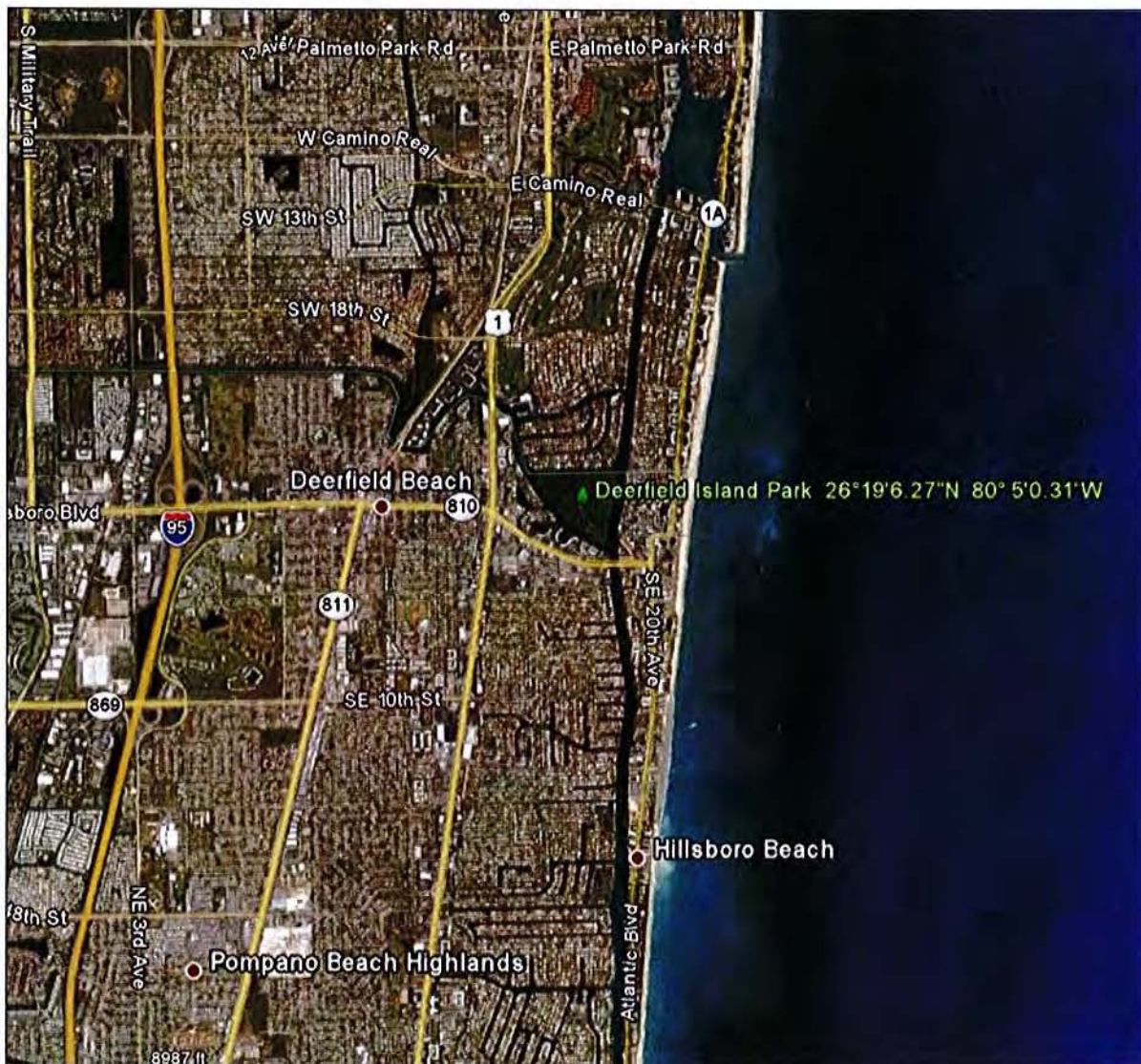
### **Seagrass Contingency Mitigation Plan**

Palm Beach County has successfully developed seagrass communities by scraping down upland areas and placing fill to bring estuary bottom to seagrass habitat elevations. Each construction site occurred in areas adjacent to existing seagrass beds. These methods have provided successful seagrass creation in areas such as Snook Island (fill to appropriate levels), Munyon Island (excavation), Peanut Island boat basin, and flushing channels (excavation and fill). Note that the Peanut Island Project completed the required five-year monitoring effort, and received state approval of the seagrass community creation in the boat basin and flushing channels (Julie Bishop, Palm Beach County, personal communication July 27, 2011). FIND proposes to scrape down a portion of Deerfield Island (Figure 1) to create of seagrass habitat as a contingency mitigation plan should the proposed project inadvertently impact seagrass during construction.



Joint consultation with FDEP and federal agency representatives to define the required mitigation, success criteria, and implementation schedule would begin immediately after recognition and quantification of any seagrass impacts. The conceptual design (below) would provide the basis of those discussions. Engineering design of the seagrass habitat would begin immediately after written agreement between FIND and regulatory agencies on specific project details.

FIND owns Deerfield Island Park in Broward County (Figure 1 and 2, Latitude  $26^{\circ} 19' 11.17''$  N Longitude  $80^{\circ} 4' 54.87''$  W). This 55-acre park, an island located on the Broward County portion of the ICWW north of the project area, provides a location to mitigate for unanticipated project impacts.



**Figure 1.** Location of Deerfield Island Park, Broward County, FL



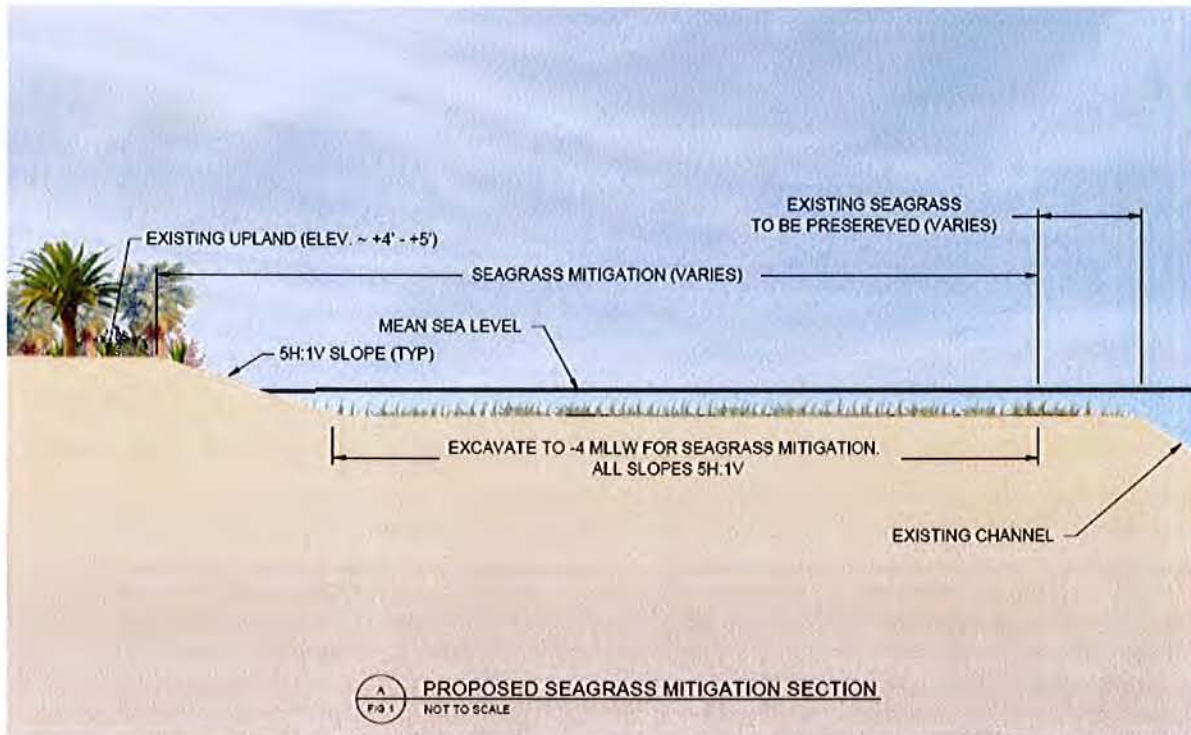


**Figure 2.** Seagrass Distribution around Deerfield Island County Park, Broward County, Florida, and 4-Acre Mitigation Opportunity Area (white boundary)

Scrub vegetation mixed with Australian pine dominates the Deerfield island upland vegetation community in the area considered for scrapedown (Figure 2). Island borders where scrapedown would occur include Australian pine, Brazilian pepper, and bare sand.

Figure 2 shows the extent of and species of seagrass found around the island as of July 25, 2011 (Dial Cordy Associates, letter report July 26, 2011, provided to Jill King, FDEP). The report also indicates that the grasses grew in water depths from 10 cm to 1.5 m, and described species-specific densities. FIND proposes to create habitat by clearing upland vegetation and scraping down upland areas on the ICWW side of the island to maintain a depth of a least 20 cm for almost all tidal conditions. Based on plant signatures and the presence of beach (Figure 2 and 3), the area outlined in white — approximately 4 acres of mostly upland habitat on the ICWW side of the island — provides clear opportunities for habitat creation. This location provides the greatest opportunity to create appropriate physical and water quality conditions, and to provide a nearby source of seagrass propagules to colonize the new habitat.





**Figure 3.** Deerfield Island County Park, Broward County, Florida 4-Acre Mitigation Opportunity Area (Typical Cross-Section)

Project design will begin with site fieldwork to identify the plant communities on site, particularly to support a design that avoids wetland (mangrove) vegetation. Exotic vegetation dominates a considerable portion of the island upland area, but some native vegetation likely occurs. FIND will provide sufficient vegetation community detail to identify mitigation area associated with removal of exotics as part of the total mitigation provided by the mitigation project. FIND will submit UMAM calculations for all habitats associated with the mitigation design. FIND believes that creation of a seagrass habitat must also consider the borders of that habitat and transitions from open water to upland. Wetland inclusions may occur within the proposed location. The mitigation design will avoid impacting wetland species, unless those species are exotic and/or nuisance species acceptable for removal (e.g. Brazilian pepper).

Success monitoring will include the entire footprint of the project (from undisturbed upland edge to undisturbed ICWW bottom). Mitigation accounting will recognize areas of seagrass development and successful (and necessary) plantings of wetlands (red and black mangroves) to stabilize the creation area banks and provide an appropriate transition to upland elevations. To the extent necessary and appropriate, hydraulic flushing simulations (RMA-2/RMA-4 modeling) will help identify an appropriate physical design and demonstrate satisfactory hydraulic performance of the selected design.



At the initial mitigation site design stage, FIND will confer with regulatory agencies to define specific, detailed monitoring plans and success criteria: However, at a minimum, the plans would include the following unless otherwise agreed with FDEP and others at the time of detailed monitoring plan development:

- Collection of salinity, water temperature, tidal condition (flood, ebb, spring or neap) and water depths along a transect across any primary depth gradient of the creation area, time of day
- Seagrass species and density along transects spaced every 25 ft or more (depending on the size of the creation area). A square meter quadrat would provide the basic measurement unit along each transect. Selection of the number of quadrats per transect would depend on the length and number of transects. For analysis purposes, the site will be treated as a single sampling unit (i.e. all transects and samples would represent independent locations within a single habitat).
- Site photographs at pre-selected stations would provide
  - One or more general views of the project area
  - One or more views of any wetland mitigation
  - one or more views of any wetland left undisturbed but located in or at the edge of the creation area
- Underwater close-up photographs would document specific conditions at the microhabitat level
- A three-year post-construction monitoring effort will provide the data necessary to assess the success of the project and indicate any need of additional monitoring. If mitigation success occurs prior to the three years, FIND will discuss termination or reduction of fieldwork at the site based on the monitoring data. An immediate post-construction monitoring event will provide the baseline data for assessment of monitoring success.
  - Monitoring of seagrass creation area and any wetland creation area will occur during seagrass monitoring season each year. A report, provided to appropriate regulatory staffs will detail the field survey methods and findings, and will provide any necessary recommendations for improvement of the mitigation.
- Monitoring would include the creation area and a reference site adjacent to the island. Success criteria would include at least 50% average seagrass cover compared to that of a reference area adjacent to the island or 10% cover, whichever is greater. Because of the extreme variability of seagrass cover, mitigation success will occur when this density occurs, regardless of the year in which it occurs. Please note that the success criteria for the Peanut Island West Boat Basin area mitigation include 10% cover of seagrass (Eric Anderson, Palm Beach County, personal communication July 2011).

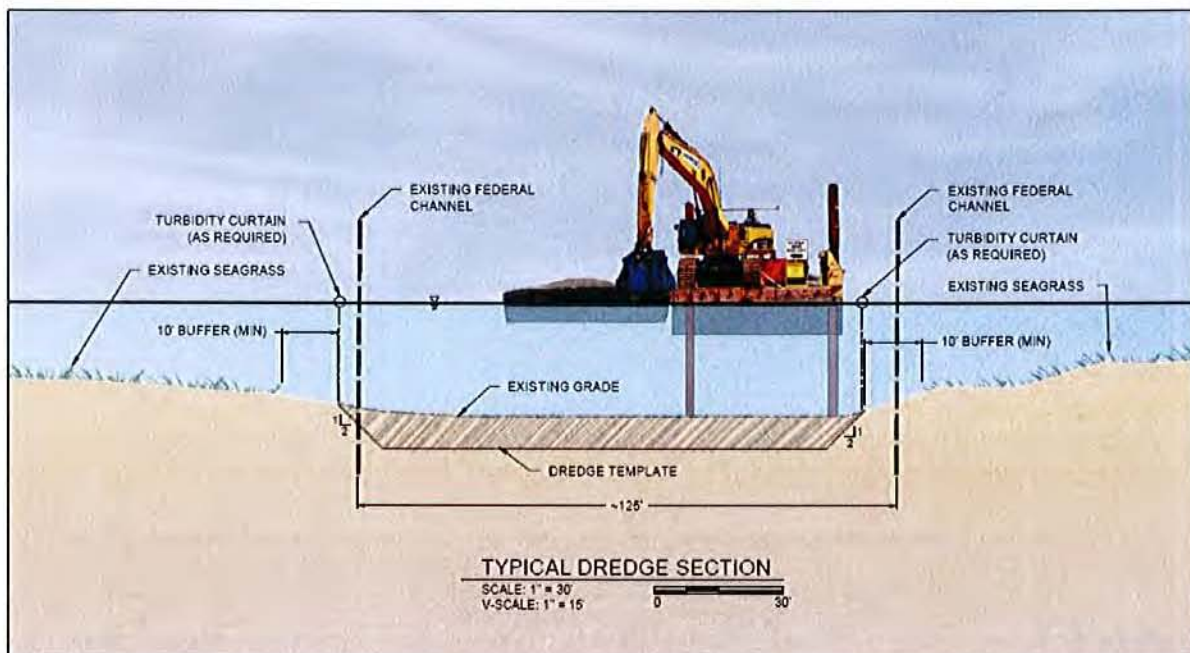


- For mangrove plantings, survival would provide the basic success criterion: 80% survival of planted seedlings after three years would provide the standard for success.

### Pre-Construction Hard Coral Search

Based on baseline surveys, the project design avoids all hard coral specimens of significant size (> 10 cm diameter) in the dredge footprint at equilibrium (dredge template plus area allowed for sideslope settling). However, the potential exists that the baseline survey could have missed individual hard coral specimens. Based on baseline transect survey results of the project area inside and outside the current equilibrium slope areas, up to approximately one dozen additional corals of relocation size may occur (but were not located) during baseline transect surveys

The pre-construction survey will occur during the summer prior to construction and if possible during the same period as the seagrass survey. Biologists using SCUBA will search for corals by swimming transects parallel to the channel approximately 1 meter above the surface, searching for corals. Transects will cover the entire hardbottom habitat area within the equilibrium side slope and buffer zones (Figure 4). The areas of survey are described and illustrated in the Dial Cordy and Associates report Hardbottom Substrate Mapping and Biological Characterization, Florida Inland Navigational District Survey: ICWW 17th Street Bridge to 4,000 Feet North of the Las Olas Blvd. (January 2011).



**Figure 4.** Broward County ICWW Dredging (Typical Cross-Section)



## Hard Coral Contingency Mitigation Plan

Biologists performing the hard coral survey will select an appropriate location adjacent to the project area outside all potential project effects (including dredging activity and any turbidity), collect all hard corals greater than 10 cm diameter, and transfer those corals to the selected location for temporary protection.

- As the first part of the survey work, biologists will identify an appropriate coral holding location. This site will provide a safe location for temporary placement of the corals. Site selection will occur with agency consultation in the field, if desired. The field crew will keep regulatory agency representatives informed of their schedule for fieldwork during the planning stage.
- Using sub-meter accuracy DGPS, the field biologists will record the location of any corals larger than 10 cm diameter. They will record the location and assign a number to the coral location and the coral collected at the site.
- Coral collection will occur using a hammer and chisel to separate each coral from its' substrate. Using this method, divers can remove the entire colony intact. If divers find coral attached to loose substrate, they will remove the coral without chiseling. The biologists will temporarily cache collected corals in the preselected location until the end of construction.
- At the end of construction, divers will replace the corals in a stable location as near as possible to the original locations.

**Table 1.** Hard Coral Species Likely Present in the Broward ICWW Deepening Project Area

Latin Name	Common Name
<i>Solenastrea bournoni</i>	Smooth star coral
<i>Oculina diffusa</i>	Diffuse ivory bush coral
<i>Cladocora arbuscula</i>	Tube coral
* <i>Stephanocoenia intersepta</i>	Blushing star coral
* <i>Siderastrea siderea</i>	Massive starlet coral
* <i>Siderastrea radians</i>	Lesser starlet coral

\*Possibly present – not seen during baseline survey but known to occur nearby

## References:

- Dial Cordy and Associates. 2008. Florida Inland Navigational District Seagrass and Vegetation Survey: ICWW 17th Street Bridge to 4,000 Feet North of the Las Olas Blvd. Bridge and Dania Cut-Off Canal. Report prepared for Taylor Engineering, Inc. 34 pages.
- Dial Cordy and Associates. 2011. Hardbottom Substrate Mapping and Biological Characterization, Florida Inland Navigational District Survey: ICWW 17th Street Bridge to 4,000 Feet North of the Las Olas Blvd. Report prepared for Taylor Engineering, Inc. 109 pages.



National Marine Fisheries Service. 2002. Recovery Plan for Johnson's Seagrass (*Halophila johnsonii*). Prepared by the Johnson's Seagrass Recovery Team for the National Marine Fisheries Service, Silver Spring, Maryland. 134 pages.



# **BROWARD COUNTY**

## **ENVIRONMENTAL PROTECTION & GROWTH**

### **MANAGEMENT DEPARTMENT**

#### **ENV. LICENSING & BLDG. PERMITTING DEPT.**

**BROWARD COUNTY CODE: 27-331 to 27-341**

**PROJECT: FIND – ICWW Deepening Project**

**REVIEWER: Ryan St. George DATE: 05/05/2014**

**ATTACHED LICENSE NO.: DF10-1018**

**EXHIBIT 3 of 3 2 pp. EXPIRES AS INDICATED IN LICENSE**

## **FIND 1 WATER QUALITY**

### **BACKGROUND**

As detailed in Attachment 1, screening of sediment test results revealed one or more samples that exceeded “threshold effect level” (TEL) concentrations as defined by Florida Department of Protection (FDEP) guidance (MacDonald, 1994)<sup>1</sup>. Specifically, acenaphthylene, benzo(a)anthracene, benzo(a)pyrene, dibenz(a,h)anthracene, fluoranthene, 4,4’-DDE, and copper exceeded the TEL. All of these substances fell well below “probable effect level” concentrations and below any soil cleanup target levels as defined in Chapter 62-777, F.A.C. In reviewing these results, however, Broward County Environmental Protection Department staff expressed concern that handling the dredged sediment could introduce constituents into the discharge water at concentrations that would exceed Broward County water quality standards (Chapter 27-195, Broward County Code). Of the above listed substances, Chapter 27-195 contains marine water quality standards for benzo(a)pyrene, fluoranthene, and copper.

The discharge must also comply with a turbidity criterion, measured within a mixing zone (50 feet downstream from the point of discharge) allowed by Broward County Code Section 27-339.(2)d. A turbidity curtain shall be deployed within the mixing zone so that turbidity levels do not exceed the permitted criterion.

The objective of this water quality monitoring plan is to obtain data to determine whether water discharged from the DMMA would violate the Broward County water quality standards for the three listed substances or turbidity requirements outlined in the license.

This water quality monitoring plan applies only to the discharge from the DMMA; the FDEP and USACE permits and Broward County license for the project prescribe water quality monitoring at the dredging site.

### **WATER QUALITY MONITORING PLAN**

Before initial discharge, the licensee will collect duplicate water samples inside the DMMA at the discharge weir and analyze them for benzo(a)pyrene, fluoranthene, copper, and turbidity. The licensee will also collect replicate samples for turbidity measurement from ambient water in the Dania Cutoff Canal upstream of the DMMA discharge point and representing the ambient condition unaffected by dredging. If the analyses show that each of the above parameters meet the license requirements or Chapter 27-195 water quality standards water discharge from the DMMA can occur.

If the initial analyses reveal substance concentrations or turbidity values not meeting these criteria, no discharge will occur until additional sample collection and analyses determine that the water meets the Chapter 27-195 standards. In general, procedures for samples not meeting criteria include:

1. Inspect the material within the DMMA and, as necessary, allow additional time for material to settle within the DMMA;
2. Visually observe water quality in vicinity of the weir and obtain a minimum of 2 replicate turbidity samples meeting the designated water quality discharge criteria;
3. Resample and analyze for selected contaminants; and,

<sup>1</sup>MacDonald, D. D., 1994. Approach to the Assessment of Sediment Quality in Florida Coastal Waters. FDEP. Tallahassee, FL.



4. If samples fail to meet permitted criteria, repeat steps No. 1-3 with additional DMMA interior considerations (e.g., internal dikes, flocculants, etc.).

Water quality monitoring shall characterize the discharge, for the three predetermined contaminants, as dredging occurs within each of five acceptance sections (Table 1). Within one day of beginning discharge from an acceptance section, the licensee will collect additional water samples for analyses in the manner and locations specified above. If the results of these samples indicate that water quality continues to meet the water quality standards, the licensee will conduct no further chemical testing for that acceptance section. If the samples fail to meet water quality standards, discharge will stop until additional testing indicates acceptable water quality.

**Table 1. Dania Cutoff Canal Project Acceptance Sections**

ACCEPTANCE SECTION NO.	PROJECT STATIONING	SEDIMENT CHEMISTRY ID
1	STA 47+50 to STA 40+00	B41
2	STA 40+00 to STA 30+00	B49
3	STA 30+00 to STA 20+00	B51
4	STA 20+00 to STA 10+00	B53
5	STA 10+00 to STA 0+00	B58

Prior to initial discharge for each acceptance section, the licensee will measure turbidity inside the DMMA at the discharge structure and at the edge of the mixing zone. No water shall be discharged from the DMMA until the turbidity at the discharge structure is less than 29 NTU above the ambient value. During discharge, the licensee will monitor turbidity at the downstream edge of the mixing zone and at an ambient location at the upstream edge of the mixing zone at no less than six hour intervals. If turbidity exceeds 29 NTU above ambient at the downstream edge of the mixing zone, discharge shall stop until turbidity monitoring at the discharge structure inside the DMMA indicates acceptable water quality.

All sampling and analyses will proceed in accordance with FDEP-approved field procedures and laboratory methods as specified in Chapter 62-160, F.A.C.



Sec. 27-14. Administrative review of EPD determinations.

- (a) A person with a substantial interest may file a petition to request review of or to intervene in a review of a final administrative determination made pursuant to this chapter concerning:
  - (1) The requirement that a facility or activity obtain a license or environmental review approval.
  - (2) Interpretations of license or environmental review approval conditions.
  - (3) Interpretations of variance conditions.
  - (4) The decision to suspend or revoke a license or environmental review approval.
  - (5) The requirement of certain license conditions.
  - (6) The issuance of a license or environmental review approval.
  - (7) The denial of a license or environmental review approval.
  - (8) The scope of a license or environmental review approval, geographic or otherwise.
  - (9) The scope of a variance, geographic or otherwise.
  - (10) The issuance of a stop work order.
  - (11) Similar final administrative determinations.

This administrative review procedure shall be the only means of review available for the above final administrative determinations by either the petitioner or the intervenor (the parties).

- (b) person may not obtain review by this procedure of:
  - (1) The issuance or adjudication of or other matters involving a notice of violation or a citation.
  - (2) Internal policy decisions
- (c) A person desiring a review of a staff determination made pursuant to this Chapter shall first bring the determination to the attention of the appropriate section supervisor to attempt to resolve the matter. If a resolution cannot be reached, then the decision shall be reviewed by successive supervisory levels until the issue is resolved or reaches the level of the director or his or her designee for the final determination.
- (d) A person desiring administrative review of a final determination made by the director or the designee shall file a petition with the director for review by the hearing examiner. The petition shall be filed within ten (10) days from the rendition of the action taken or of the decision made by the director. An entity whose license or approval is being challenged shall be a party to the action.
- (e) The review shall not be heard until the provisions of subsection (f) are met. Upon motion to the hearing examiner, an insufficient petition shall be dismissed with or without leave to refile. If a petition is determined to be insufficient by the hearing examiner and the petitioner has been given leave to refile by the hearing examiner, unless otherwise ordered by the hearing examiner, the petitioner must refile within ten (10) days of the rendition of the order of dismissal or the petition will be dismissed with prejudice.



- (f) A sufficient petition for review or petition for intervention in the review shall, at a minimum, contain the following information:
- (1) The nature of the determination sought to be reviewed.
  - (2) A short, plain statement of the facts which form the subject matter upon which the determination was made as asserted by all parties of record at the time that the petition is filed; a statement of the material facts in dispute, if any. If any party is unable to state the matters in sufficient detail at the time initial petition is filed, the petition may be limited to a statement of the issues involved; and thereafter, upon timely written motion, a more definite and detailed statement shall be furnished not less than seven (7) days prior to the date set for the hearing.
  - (3) The specific determination for which the review is sought.
  - (4) The specific legal grounds upon which the parties seek review of the determination.
  - (5) A short statement of the petitioner's or the intervenor's substantial interest in the matter to be reviewed.
  - (6) The specific section of this chapter on which the decision is based, if known, and the specific section that the parties allege should control the decision, if known.
  - (7) A copy of the director's or the designee's written final determination.
  - (8) A statement of the relief requested stating precisely the action that the petitioner wants EPD to take with respect to the final determination.
- (g) All pleadings or other documents filed in the proceeding must be signed by a party, the party's attorney, or the party's qualified representative. The signature of a party, the party's attorney or a party's qualified representative constitutes a certificate that he or she has read the pleading or other document and that to the best of his or her knowledge, information, and belief formed after reasonable inquiry, it is not brought for any improper purposes, such as to harass or to cause unnecessary delay or for frivolous purpose or needless increase in the cost of litigation. If a pleading or other document is signed in violation of these requirements, the hearing examiner, upon motion or his or her own initiative, shall dismiss the matter.
- (h) A petitioner or intervenor may request an emergency hearing to stay all activities or work conducted pursuant to the challenged license or approval. Such petitioner or intervenor has the burden of proof to show by a preponderance of the evidence that the continued activities would cause substantial pollution or degradation to the environment. An emergency hearing shall be scheduled by EPD and be held within five (5) days of said request or as soon thereafter as possible subject to the availability of the hearing examiner. The petitioner or intervenor shall comply with the notice provisions of section 27-14(j)(2)a. and c. and section 27-14(j)(3) and (4) of this chapter.
- (i) The petition for review will not stay environmental protection activities required for the remediation or mitigation of a site or facility, the protection of the environment or the health, safety and welfare of the citizens of Broward County, or the prevention of further environmental degradation. The person responsible for these activities must take all necessary steps to prevent environmental degradation and must conduct the remediation or mitigation activities required by this chapter. The director may allow these activities to be delayed until after the hearing examiner's decision by certifying to



the hearing examiner that, by reason of facts stated in the certificate, a delay in the initiation or completion of these activities would not cause substantial environmental degradation or peril to life or property. The delay for conducting these activities may be subject to appropriate terms to ensure protection of the environment. The person responsible for these activities shall be responsible for any environmental damage or any violation of this chapter caused by the delay.

(j) Notice and Scheduling Requirements:

(1) The hearing on the review shall be scheduled within a reasonable time. It shall be the responsibility of the petitioner to request through EPD that the hearing date be scheduled. It shall also be the responsibility of the petitioner to give notice in accordance with this section at least ten (10) days prior to the hearing.

(2) The petitioner shall give notice of the hearing by:

- a. Giving personal notice to all proper parties; and
- b. Publishing notice on two (2) days in a newspaper of general circulation in the county; and
- c. Posting notice at a location determined by the Broward County Administrator's Office.

(3) The petitioner shall bear the cost of giving notice.

(4) The notice shall contain, at a minimum:

- a. A description and location of the facility or the activity to be conducted by the petitioner; and
- b. The time and place of the hearing.

(k) The petitioner shall bear the cost of accurately and completely preserving all testimony and providing full or partial transcripts to all parties.

(l) The hearing shall be a quasi-judicial hearing.

(1) The applicant/petitioner requesting the administrative review, any intervenor/petitioner and EPD shall have an opportunity to respond to and to present witnesses, other evidence and argument on all issues involved, to conduct cross-examination and submit rebuttal evidence, to submit proposed findings of facts and orders, and to be represented by counsel. Members of the general public who are not intervenors as set forth in Section 27-14 of this chapter are not parties to the proceeding.

(2) When appropriate, the general public may be given an opportunity to present oral or written communications. If the hearing examiner proposes to consider such material, then all parties shall be given an opportunity to cross-examine, challenge or rebut it.

(m) Denial, protest of, revocation, or suspension of a license, environmental review approval, or any other approval:

(1) In regard to denial or protest of approval of a license and any other review of an administrative decision, notwithstanding (2) below, the petitioner shall have the burden of showing, by a preponderance of the evidence, that the determination of the director was an arbitrary and/or capricious abuse of discretion, not supported by competent, substantial evidence or not in conformance with the



essential requirements of this chapter. The hearing examiner shall not substitute his or her judgment for that of EPD on an issue of discretion even though the hearing examiner may have reached a different conclusion based on the same facts.

- (2) In an action to revoke or suspend a valid license or approval, the burden shall be upon EPD to prove, by a preponderance of the evidence in an administrative hearing, the grounds for revocation or suspension. The license holder or approval recipient shall be provided notice of the hearing and a copy of the petition stating the grounds for revocation or suspension as provided in section 27-63 of this chapter. The petition shall state with specificity the acts complained of in order to allow the license holder or approval recipient an opportunity to prepare a defense. The hearing shall be conducted in accordance with the provisions of Section 27-37 of this chapter.
- (n) Findings of fact shall be based exclusively on the evidence of record and on matters officially recognized.
- (o) If the hearing examiner finds that the director or his or her designee has erroneously interpreted a provision and that a correct interpretation compels a particular action, he or she shall remand the case to the director or his or her designee for further action under a correct interpretation of the provision.
- (p) The hearing examiner shall complete and submit to the director and all parties a final order consisting of his or her findings of fact and conclusions of law.
- (q) A party to the hearing may obtain appellate review of the final order as provided by section 27-42 of this chapter.
- (r) A petitioner or intervenor shall pay a filing fee at the time the application for review is filed. The amount of the filing fee shall be set by resolution of the Board.

(Ord. No. 2003-34, § 1, 9-23-03; Ord. No. 2005-08, § 2.03, 4-26-05)  
Secs. 27-15--27-19. Reserved.





Environmental Protection and Growth Management Department  
**ENVIRONMENTAL LICENSING and BUILDING PERMITTING  
DIVISION**

1 North University Drive, Suite 201A, Plantation, Florida 33324 • 954-519-1483 • FAX 954-519-1412

***Via U.S. Mail and E-mail ([mcrosley@aicw.org](mailto:mcrosley@aicw.org))***

March 18, 2015

Mark Crosley – Executive Director  
Florida Inland Navigation District  
1314 Marcinski Road  
Jupiter, Florida 33477-9498

**Re: FIND ICWW Deepening – SW 17<sup>th</sup> St. to Middle River  
Modification to County License No. DF10-1018**

Dear Mr. Crosley:

Pursuant to your request dated January 27<sup>th</sup>, 2015, this letter certifies that County Environmental Resource License No. DF10-1018 is hereby modified. The approved modifications authorize a revised dredge methodology by removing restrictions previously implemented in Specific Condition B. 2. and also provide a correction to a license exhibit referenced in Specific Condition B. 10. These modifications are necessary to facilitate execution of the project and properly define monitoring procedures.

More specifically, this modification hereby authorizes modification of proposed dredging equipment/methodology to accommodate the denser consistency of material recently identified in the dredge area. Based on the results of a seismic reflection survey dated 10/2014, the previously proposed environmental clamshell bucket will not be adequate for reliable extraction of the existing bedrock/substrate throughout the majority of the project area. Therefore, a conventional bucket may be used for the entirety of the project. Additionally, the water quality monitoring plan referenced in the original license shall be updated to reference the ICWW dredging project rather than the previously licensed Dania Cutoff Canal Deepening project.

Please attach this letter describing the modifications as well as the attached revised license conditions and/or exhibits to the original license as they become a part thereof. **All other specific conditions and technical elements of the license, including the May 20<sup>th</sup>, 2019 expiration date, remain as previously authorized** These approved modifications are specific to the County Environmental Resource License for this project; therefore it is the Licensee's responsibility to ensure that the changes are incorporated in other sets of project-related documents, as necessary, for proper execution by on-site personnel.



DF10-1018 – FIND ICWW Deepening (SW 17<sup>th</sup> St. to Middle River)

If you have any questions regarding this modification approval, please feel free to contact Ryan St. George at (954) 519-1228 or [rstgeorge@broward.org](mailto:rstgeorge@broward.org).

Sincerely,



Linda Sunderland – NRS IV  
Aquatic and Wetland Resources Program Manager

Enc: revised conditions and exhibits (3 sheets)

cc: Lori Brownell, Taylor Engineering, Inc. (via e-mail)  
Tyler Chappell, FIND (via e-mail)  
Benny Luedike, FDEP (via e-mail)



## **Revised Specific Conditions**

Outdated text indicated via strikethrough; new/revised text is underlined

### **B. DREDGING/TURBIDITY CONDITIONS**

4. Mechanical dredging, as described by the contractor in the submitted dredge plan provided in fulfillment of Specific Condition B.2. above, shall be utilized to complete the project. ~~An environmental (closed) clamshell bucket shall be used to remove all material feasible from the dredge area. A conventional bucket may be used only to remove material that the environmental bucket cannot access.~~ Any future modification to this approved dredging method and bucket ~~prioritization~~ will require written authorization from the Department prior to implementation. **Failure to adhere to the approved plan may result in enforcement action.**
10. Any effluent discharging from the DMMA shall be contained by turbidity curtains in the receiving waters and shall be monitored for contamination and turbidity in accordance with the approved DMMA monitoring plan specific to the ICWW Deepening project (License Exhibit 3 attached).



**WATER QUALITY  
FLORIDA INLAND NAVIGATION DISTRICT  
WATERWAY DREDGING DREDGED MATERIAL**

**BACKGROUND**

As detailed in Attachment 1, screening of can one or more samples that exceeded "threshold effect level" Department of Protection (FDEP) guidance (MacDonald Total PCB's, copper, and mercury exceeded the TEL. effect level" concentrations and below any soil cleanup target levels as defined in Chapter 62-777, F.A.C. In reviewing these results, however, Broward County Environmental Protection Department staff expressed concern that handling the dredged sediment could introduce constituents into the discharge water at concentrations that would exceed Broward County water quality standards (Chapter 27-195, Broward County Code). Of the above listed substances, Chapter 27-195 contains marine water quality standards for dibenzo(a,h)anthracene, Total PCB's, copper, and mercury.

The discharge must also comply with a turbidity criterion, measured within a mixing zone (50 feet downstream from the point of discharge) allowed by Broward County Code Section 27-339(2)d. A turbidity curtain shall be deployed within the mixing zone so that turbidity levels do not exceed the permitted criterion.

The objective of this water quality monitoring plan is to obtain data to determine whether water discharged from the dredged material management area (DMMA) would violate the Broward County water quality standards for the three listed substances or turbidity requirements outlined in the license.

This water quality monitoring plan applies only to the discharge from the DMMA; the FDEP and U.S. Army Corps of Engineers (USACE) permits and Broward County license for the project prescribe water quality monitoring at the dredging site.

**WATER QUALITY MONITORING PLAN**

Before initial discharge, the licensee will collect duplicate water samples inside the DMMA at the discharge weir and analyze them for dibenzo(a,h)anthracene, Total PCB's, copper, and mercury, and turbidity. The licensee will also collect replicate samples for turbidity measurement from ambient water in the Dania Cutoff Canal upstream of the DMMA discharge point and representing the ambient condition unaffected by dredging. If the analyses show that each of the above parameters meet the license requirements or Chapter 27-195 water quality standards water discharge from the DMMA can occur.

If the initial analyses reveal substance concentrations or turbidity values not meeting these criteria, no discharge will occur until additional sample collection and analyses determine that the water meets the Chapter 27-195 standards. In general, procedures for samples not meeting criteria include:

1. Inspect the material within the DMMA and, as necessary, allow additional time for material to settle within the DMMA;
2. Visually observe water quality in vicinity of the weir and obtain a minimum of 2 replicate turbidity samples meeting the designated water quality discharge criteria;
3. Resample and analyze for selected contaminants; and,

**BROWARD COUNTY****ENVIRONMENTAL PROTECTION & GROWTH  
MANAGEMENT DEPARTMENT****ENV. LICENSING & BLDG. PERMITTING DEPT.****BROWARD COUNTY CODE: 27-331 to 27-341****PROJECT: FIND – ICWW Deepening Project****REVIEWER: Ryan St. George**  **DATE: 03/19/2015****ATTACHED LICENSE NO.: DF10-1018 MOD****EXHIBIT 3 of 3 2 pp. EXPIRES AS INDICATED IN LICENSE**

<sup>1</sup>MacDonald, D. D., 1994. Approach to the Assessment of Sediment Quality in Florida Coastal Waters. FDEP. Tallahassee, FL.



4. If samples fail to meet permitted criteria, repeat steps No. 1-3 with additional DMMA interior considerations (e.g., internal dikes, flocculants, etc.).

Water quality monitoring shall characterize the discharge, for the four predetermined contaminants, as dredging occurs within each of seven acceptance sections (Table 1). Within one day of beginning discharge from an acceptance section, the licensee will collect additional water samples for analyses in the manner and locations specified above. If the results of these samples indicate that water quality continues to meet the water quality standards, the licensee will conduct no further chemical testing for that acceptance section. If the samples fail to meet water quality standards, discharge will stop until additional testing indicates acceptable water quality.

**Table 1. Broward ICWW Project Acceptance Sections**

<b>ACCEPTANCE SECTION NO.</b>	<b>PROJECT STATIONING</b>
1	STA 0+00 to STA 20+00
2	STA 20+00 to STA 40+00
3	STA 40+00 to STA 60+00
4	STA 60+00 to STA 80+00
5	STA 80+00 to STA 100+00
6	STA 100+00 to STA 120+00
7	STA 120+00 to STA 144+00

Prior to initial discharge for each acceptance section, the licensee will measure turbidity inside the DMMA at the discharge structure and at the edge of the mixing zone. No water shall be discharged from the DMMA until the turbidity at the discharge structure is less than 29 NTU above the ambient value. During discharge, the licensee will monitor turbidity at the downstream edge of the mixing zone and at an ambient location at the upstream edge of the mixing zone at no less than six hour intervals. If turbidity exceeds 29 NTU above ambient at the downstream edge of the mixing zone, discharge shall stop until turbidity monitoring at the discharge structure inside the DMMA indicates acceptable water quality.

All sampling and analyses will proceed in accordance with FDEP-approved field procedures and laboratory methods as specified in Chapter 62-160, F.A.C.





Environmental Protection and Growth Management Department

**ENVIRONMENTAL LICENSING and BUILDING PERMITTING DIVISION**

**Environmental Engineering and Licensing Section**

1 North University Drive, Suite 201, Plantation, Florida 33324 • 954-519-1483 • FAX 954-519-1412

September 13, 2016

Ms. Lori Brownell, P.E.  
Director, Waterfront Engineering  
10151 Deerwood Park Blvd,  
Building 300, Suite 300,  
Jacksonville, Florida 32256

Re: EPGMD License No. DF10-1018

Dear Ms. Brownell:

Pursuant to your modification requests of June 20<sup>th</sup> and July 20, 2016, this is to certify that EPD License No. DF10-1018 is hereby modified. The requested modifications were to 1) allow nighttime dredging to minimize impacts to navigation at bridges and 2) expand the dredge footprint slightly for navigation purposes.

The modification is hereby authorized as follows: 1) dredging between sunset and sunrise at the SE 17<sup>th</sup> Street Bridge (Station 0+00 to 2+50) and at the Las Olas Bridge (stations 100+50 to 105+00).

The following Specific Conditions shall be modified / added to the license:

C.8. At least one person shall be designated as a manatee observer when in-water work is being performed. That person shall have experience in manatee observation, be approved by FWC two weeks before the beginning of construction, and be equipped with polarized sunglasses to aid in observation. The manatee observer must be on site during all in-water construction activities and will advise personnel to cease operation upon sighting a manatee within 50 feet of any in-water construction activity. Movement of a work barge, other associated vessels, or any in-water work shall not be performed after sunset when the possibility of spotting manatees is negligible. **Except in the case of dredging leading up to and directly underneath the SE 17<sup>th</sup> Street Bridge (Stations 0+00 to 2+50) and the Las Olas Boulevard Bridge (Stations 100+50 to 105+00) which may be conducted between sunset and sunrise to limit impacts to navigation and FDOT operations of the bridges.** Observers shall maintain a log detailing manatee sightings, work stoppages, and other protected

Broward County Board of County Commissioners

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[www.broward.org](http://www.broward.org)



Ms. Lori Brownell, P.E.  
September 13, 2016  
Page 2

species-related incidents. A report, summarizing all activities noted in the observer logs, the location and name of project, and the dates and times of work shall be submitted within 30 days following project completion, the Florida Fish and Wildlife Conservation Commission, Imperiled Species management Section at: [ImperiledSpecies@myfwc.com](mailto:ImperiledSpecies@myfwc.com).

Please notify the Department when the schedule is confirmed for the work at the bridges.

This modification also authorizes an adjustment to the dredging footprint by adding two areas (13,925 square feet and 47,504 square feet) for improved navigation as shown on the attached drawings. Based on the most recent survey, no seagrasses will be impacted by this additional dredging.

The scope and all other conditions of the license remain the same. Attach this letter and attachments to the original license as it becomes a part thereof.

Sincerely,

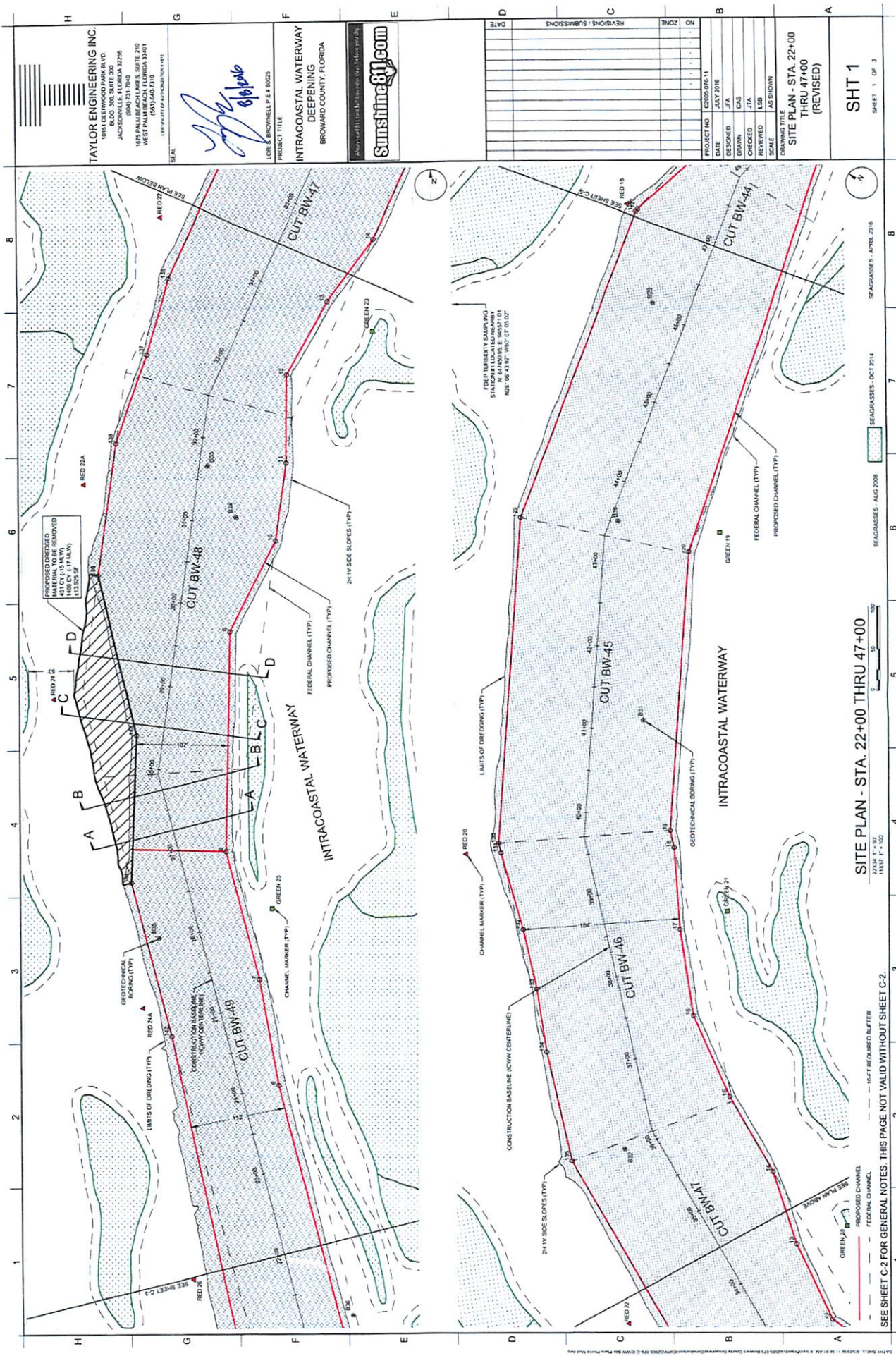
*Linda Sunderland*

Linda Sunderland, NRS  
Natural Resources Section Manager

Enc:

C: Mr. Mark Crosley, FIND, via email to [mcrosley@aicw.org](mailto:mcrosley@aicw.org)  
Ms. Samantha Rice, ACOE, via email [Samantha.Rice@usace.army.us](mailto:Samantha.Rice@usace.army.us)  
Mr. Greg Vazquez, via email to [Gregory.Vazquez@dep.state.fl.us](mailto:Gregory.Vazquez@dep.state.fl.us)  
Ms. Kellie Youmans, FWC via email to [Kellie.Youmans@MyFWC.com](mailto:Kellie.Youmans@MyFWC.com)





**TAYLOR ENGINEERING INC.**  
1911 DEERWOOD PARK BLVD  
JACKSONVILLE, FLORIDA 32206  
(904) 731-7000  
1875 PALM BEACH LAKES, SUITE 210  
WEST PALM BEACH, FLORIDA 33411  
(561) 440-7110  
CENTRAL FLORIDA OFFICE

PROJECT TITLE  
**INTRACOASTAL WATERWAY  
DEEPENING**  
BROWARD COUNTY, FLORIDA

DATE  
10/1/2016

REVISIONS / SUBMISSIONS

NO. ZONE

PROJECT NO. C200-076-11  
DATE: JULY 2016  
DESIGNED: JFA  
DRAWN: CAS  
CHECKED: JTA  
REVIEWED: LDB  
SCALE: AS SHOWN

DRAWING TITLE  
**SITE PLAN - STA. 22+00  
THRU 47+00  
(REVISED)**

**SHT 1**  
SHEET 1 OF 3

SEE SHEET C-2 FOR GENERAL NOTES. THIS PAGE NOT VALID WITHOUT SHEET C-2.

SCALE: 1" = 100'

DATE: 10/1/2016

SEAL: AUG 2016

SEAL: OCT 2014

SEAL: APR 2016





