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USACE / CESAJ

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DEPARTMENT OF THE ARMY  
U.S. ARMY CORPS OF ENGINEERS

CESAJ 01411 (July 2002)  
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Superseding  
CESAJ 01411 (May 2002)

JACKSONVILLE DISTRICT LOCAL MASTER GUIDE SPECIFICATION

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SECTION 01411

TURBIDITY AND DISPOSAL MONITORING  
10/02

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NOTE: This guide specification covers the requirements for preparing Turbidity and Disposal Monitoring and must be patterned using water quality certificate parameters.

Comments and suggestions are welcome. Using e-mail for feedback is encouraged. Comments should be directed to:

Planning Division, Environmental Branch,  
POC Mr. Paul Karch, (904) 232-2168

ALL COMMENTS RECEIVED WILL BE DISSEMINATED TO THE PROPER OFFICE FOR RESPONSE.

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PART 1 GENERAL

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NOTE: This guide specification contains requirements which may be included in projects when applicable; requirements will be added, deleted, or modified as necessary to satisfy project conditions.

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1.1 SCOPE

The work covered by this section consists of furnishing all labor, materials, and equipment, and performing all work required to obtain, analyze, and report the results of turbidity and disposal monitoring.

1.2 SUBMITTALS

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NOTE: Submittals must be limited to those necessary for adequate quality control. The importance of an item in the project should be one of the primary factors in determining if a submittal for the item

should be required.

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Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-03 Product Data

Calibration Standard

The Contractor shall furnish to the Contracting Officer a copy of the operating instructions and standards used in calibrating equipment used in collecting samples for turbidity.

SD-06 Test Reports

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**NOTE: Select appropriate agency.**

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Turbidity Monitoring

All required turbidity test reports shall be submitted (preferably by electronic mail) to the Contracting Officer, the Environmental Branch (CESAJ-PD-E), and the [Florida Department of Environmental Protection (FDEP)] [Puerto Rico Environmental Quality Board (PREQB)] within 7 days after completion of each test.

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**NOTE: PAYMENT PARAGRAPH IS LOCATED IN CESAJ SECTION 01270 MEASUREMENT AND PAYMENT.**

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PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 MONITORING REQUIREMENTS

3.1.1 General

Nearshore or inland water samples shall be obtained and analyzed for turbidity. Sampling shall be conducted in accordance with techniques described in the latest edition of "Standard Methods" published by the American Public Health Association (APHA), American Waterworks Association (AWWA), and Water Pollution Control Federation (WPCF), and other current techniques recognized by the scientific community and approved by the Jacksonville District, Corps of Engineers. Samples obtained for turbidity analysis shall be analyzed within 30 minutes of collection. Samples shall be taken with a sampler obtaining samples uncontaminated by water from any other depth.

3.1.1.1 Turbidity Monitoring Equipment

Monitoring required for turbidity shall be measured in Nephelometric Turbidity Units (NTU) using a standard Nephelometer. Global Positioning

System (GPS) is also required to record sampling stations.

3.1.2 Dredging and Disposal Locations

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**NOTE: THE FOLLOWING PARAGRAPHS ARE INDICATIVE OF THE LANGUAGE NEEDED. IT IS PROVIDED FOR INFORMATION ONLY. LANGUAGE WILL CHANGE WITH EACH CONTRACT IN ORDER TO COMPLY WITH WATER QUALITY CERTIFICATION ISSUED BY EITHER THE STATE OF FLORIDA OR COMMONWEALTH OF PUERTO RICO. FILL IN ALL BLANKS.**  
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Routine monitoring shall occur at the following locations:

3.1.2.1 Station Descriptions

- a. Station 1 (Compliance Turbidity): No more than 150 meters downcurrent of the dredge or point of discharge and in the direction of any visible plume.
- b. Station 2 (Background Turbidity): At least [ ] meters upcurrent from the dredge or point of discharge and outside of any turbidity generated by the project.

3.1.2.2 Turbidity

Samples to be analyzed for turbidity shall be taken twice daily (one between the hours of 12 midnight and 12 noon and the other between 12 noon and 12 midnight) at least 4 hours apart at surface and mid-depth at the following locations. Additional sampling shall be performed when the Contracting Officer determines that there may be non-compliance with water quality standards.

- a. [Dredging Site Compliance at Station 1 ]
- b. [Dredging Site Background at Station 2 ]
- c. [Disposal Site Compliance at Station 1 ]
- d. [Disposal Site Background at Station 2 ]

3.2 TURBIDITY TESTS

3.2.1 Testing

The Contractor shall provide the Government with a certification, attesting to the accuracy of his testing equipment and procedure. The Contractor shall also provide the Contracting Officer with a duplicate of the standard used to calibrate his testing instrument as well as a complete set of operating instructions for the turbidity testing equipment. The Contractor and the Contracting Officer will use this standard throughout the project to maintain the calibration of the equipment. Whenever there is doubt as to the adequacy of the testing or validity of the results, the Contracting Officer may direct that additional tests be performed at no additional cost to the Government.

3.2.2 Reporting

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**NOTE: Select appropriate agency.**  
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The monitoring data shall be recorded on summary forms that contain the pertinent information in the following paragraphs. Example forms are on the web site indicated in paragraph CONSTRUCTION FORMS AND DETAILS below. Other data shall be submitted in the form supplied by the laboratory chosen to do the analysis. All data shall be forwarded (preferably electronically) to the Contracting Officer, Environmental Branch (CESAJ-PD-E), and [FDEP] [PREQB] within 24 hours of collection. Electronic mail addresses of the Corps and [FDEP] [PREQB] personnel to receive these reports are provided below. Reports shall be provided in a common format such as Excel Spreadsheet (.xls) files, Word (.doc) files, and Web Graphics (Joint Photographic Group or .jpg) files.

NAME	ORGANIZATION	E-MAIL ADDRESS
***** <b>NOTE: Verify and/or update list.</b> *****		
[ ]	USACE COR	[Area/Field Office POC]
[ ]	USACE COR	[CESAJ-CO-CQ POC]
[ ]	USACE COR	[CESAJ-CO-CS POC]
[ ]	USACE COR	[CESAJ-PD-E POC]
[ ]	FDEP	[FDEP POC]
Martin Seeling	FDEP	Martin.Seeling@dep.state.fl.us

3.2.2.1 Report Contents

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**NOTE: Delete bracketed information if EXAMPLE MAP is not applicable.**  
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- a. Permit application number.
- b. Dates of sampling and analysis.
- c. A statement describing the methods used in collection, handling, storage, and quality control methods used in the analysis of the samples.
- d. A map indicating the sampling location and plume configuration, if any [(example map appended to the end of this Section)].
- e. A map plotting the dredge location during each traverse through the borrow area. This map can be combined with the map indicating the sampling location.
- f. A statement by the individual responsible for implementation of the sampling program concerning the authenticity, precision, limits of detection, and accuracy of the data.
- g. Results of the analyses.
- h. A description of any factors influencing the dredging or disposal operation or the sampling program. Reports shall be furnished daily even when no sampling is conducted. When sampling is not conducted, a brief statement shall be given in the report explaining the reason for not conducting the sampling, such as "dredge not working due to mechanical problems" or "no sampling taken due to high seas".
- i. State plane coordinates (x and y) shall be provided for all

sampling stations along with the coordinates of the dredge and discharge pipe and the distance between the sampling station and dredge/discharge pipe for each sampling event to demonstrate compliance with the stated sampling distances.

3.2.2.2 Monitoring Reports

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**NOTE: Select appropriate bracketed information based on Water Quality Certification requirements.**  
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Monitoring reports shall also include the following information for each day that samples are taken:

- a. Time of day and date samples were taken.
- b. Depth of water body.
- c. Depth of sample.
- d. Antecedent weather conditions.
- e. Tidal stage and direction of flow.
- f. Salinity (provided for heavy metal and ammonia analysis only).
- g. pH (provided for heavy metal and ammonia analysis only).
- h. Water temperature, C degrees (heavy metal and ammonia analysis only).
- i. Dredge or disposal location (station location and map).
- j. Water sample location.
- k. Wind direction and velocity.

3.2.2.3 Notification

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**NOTE: Change subparagraph title referenced in text to match actual subparagraph title.**  
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If turbidity exceeds background levels by more than 29 NTU, the Contractor shall immediately notify Chief, Environmental Branch at 904-232-2202 and the Contracting Officer, or on the morning of the following work day if it occurs after normal work hours. In addition, all dredging or disposal activity shall cease immediately and all measures to reduce turbidity shall be taken. Dredging or disposal shall not resume until corrective measures have been taken and turbidity has returned to acceptable levels as determined by proper testing described in subparagraph "Dredging and Disposal Locations" above.

3.3 WORK DELAY

Delays in work due to the fault or negligence of the Contractor or the Contractor's failure to comply with this specification shall not be compensable. Any adjustments to the contract performance period or price that are required as a result of compliance with this section shall be made in accordance with the provisions of the Clause SUSPENSION OF WORK of Section 00700 CONTRACT CLAUSES.

3.4 CONSTRUCTION FORMS AND DETAILS

From the Jacksonville District Home Page, click the links ORGANIZATIONS, ENGINEERING, then CONSTRUCTION FORMS AND DETAILS. See web site address [www.saj.usace.army.mil/cadd/end/construction\\_forms\\_and\\_details.htm](http://www.saj.usace.army.mil/cadd/end/construction_forms_and_details.htm).

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