

US Army Corps
of Engineers
Baltimore District

CONSTRUCTION SPECIFICATIONS

MAINTENANCE DREDGING

**BOLLING AFB MARINA,
WASHINGTON, D.C.**

INVITATION NO. **DACA31-03-B-0005**

CONTRACT NO.

DATE: **AUG 29, 2003**

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SECTION 1 - SPECIAL CLAUSES

1. COMMENCEMENT, PROSECUTION AND COMPLETION OF WORK: The Contractor will be required to commence work under this contract within 10 calendar days after the date of receipt by him/her of Notice to Proceed, to prosecute said work diligently and to complete the entire work ready for use not later than 60 calendar days after the date of receipt by him/her of notice to proceed. All dredging and placement will be completed within 75 days of Notice to Proceed. Environmental constraints dictate that the dredging can only be performed from 1 October to 1 March. If an extension of time is granted for delays, the appropriate extension of time will be granted to complete the remaining work during the next succeeding environmentally acceptable dredging period. Should the total quantity of material to be paid for and actually removed under the contract exceed the limit established in the Special Contract Requirement VARIATIONS IN ESTIMATED QUANTITY, additional time will be allowed at the rate of one calendar day for each 1,000 cubic yards in excess of the established limit. The time stated for completion shall include final clean up of the premises.

2. ESTIMATED QUANTITIES: The total estimated quantities of material necessary to be removed from within the specified limits, as shown on the contract drawings exclusive of allowable overdepth, to complete the work is 9,155 cubic yards place measurement. The maximum amount of allowable overdepth dredging is estimated to be 4,538 cubic yards place measurement.

3. PHYSICAL DATA: Information and data furnished or referred to below are furnished for information only and it is expressly understood that the Government will not be responsible for any interpretation or conclusion drawn therefore by the Contractor.

(a) The indications of physical conditions indicated on the contract drawings and in the specifications are the result of site investigations by surveys and probing. This project has previously been maintained at a depth of 9 feet.

(b) Weather Conditions: Complete weather records and reports may be obtained from the U.S. Weather Bureau. The Contractor shall satisfy himself as to the hazards likely to arise from weather conditions during the dredging period. The site of work is exposed, and suspension of work may at times be necessary during extreme storm periods. Tidal currents may have an adverse effect on dredging operations. The mean range tide is 2.2 feet, with greater fluctuations occurring during high winds and storm periods.

(c) Transportation Facilities: The Contractor shall make his own investigation of transportation facilities in the vicinity of the work.

(d) Conditions of Channel: The best information available as to the present conditions of the Federal channel at the marina at Bolling AFB is

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shown on the contract drawings. The contractor shall coordinate with the local utility companies for locations of under water utility cables, which will obstruct dredging operation. The contractor shall report any possible obstructions to the Contracting Officer for instruction prior to starting work.

(e) Navigation Aids: The Contractor shall not relocate or move any aids to navigation that has been established by the U.S. Coast Guard. If it becomes necessary to have any aid to navigation moved by the contractor in order to complete dredging operations under this contract, the Contractor shall notify the Fifth U.S. Coast Guard District, Office of Aids to Navigation, Portsmouth, Virginia 23705, ATTN: Mr. John Walters (804) 398-6230, in writing with a copy to the Contracting Officer or his authorized representative not less than 15 days prior to such need for movement. The Contractor shall notify the U.S. Coast Guard of the approximate time the navigation aid may be relocated to its original position.

(f) Obstruction of Channel: Should it become necessary in the performance of this contract to obstruct a navigable channel the Contractor shall notify the Contracting Officer in writing to be received in the District Office at least 15 working days prior to the desired closure date. This notification shall furnish the following:

- (1) The desired length of time the channel is to be closed.
- (2) The date and hour of anticipated completion.

(g) Bridge-to-Bridge Radio Communication: In order that radio communication may be made with passing vessels, all dredges engaged in work under this contract shall be equipped with bridge to bridge radio telephone equipment. The radio telephone equipment shall operate on a single channel very high frequency (VHF), FM, on a frequency of 156.65 MHz per second, with low power output having a communication range of approximately ten (10) miles. The Federal Communications Commission has approved the frequency.

(h) Notification of the Coast Guard: Prior to commencement of work on this contract, the Contractor will be required to notify the Commander, Fifth U.S. Coast Guard District of his intended operations to dredge and request that it be published in the Local Notice to Mariners. This notification must be given in sufficient time so that it appears in the Notice to Mariners at least one week prior to the commencement of this dredging operation.

4. LAYOUT OF WORK: CENABEN 1984 APR

4.1 The Contractor shall be responsible for the layout of his work. The Government will furnish the coordinates and the monument descriptions of the existing horizontal and vertical control within the project area. The Contractor shall be responsible, by utilizing this data, to dredge within the dredging prisms that are shown on the contract drawings. The Contractor shall

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maintain, preserve, repair or replace, at his own expense, any gauges or location markers that are lost, damaged or destroyed for any reason subsequent to their initial establishment by the Contracting Officer until authorized to remove them. The Contractor may, at his option, establish offset stakes, back-up stakes, and gauges to be utilized in re-establishing any baseline, ranges and gauges that are lost, damaged or destroyed. The contract completion time will not be increased due to work delays that result from the failure of the Contractor to maintain, repair or replace the Government established baselines, ranges and gauges.

4.2 The Contractor shall give the Contracting Officer or his authorized representative adequate advance notice of the commencement of work in order to assure the timely completion of the before dredging survey and the establishment of necessary dredging layouts. The notice shall be furnished at least 15 days prior to mobilization of the dredge plant to the work site. It is understood that the survey made in response to this notice will constitute the before dredging survey and any subsequent surveys occasioned through Contractor delays may be charged against the Contractor at a rate of \$1,200.00 per day. If the Contractor fails to provide adequate advance notice, the Contracting Officer will not be responsible for any delays in the commencement of work caused by incomplete dredging layouts.

4.3 Datum and Bench Marks: The plane of reference MLLW (NOS), mean lower low water as established by National Ocean Survey, will be used in these specifications for dredging operations.

4.4 Horizontal Control: Horizontal control data will be provided to the Contractor on request. This request should be made to the Hydrographic Survey Unit, Navigation Support Section, telephone number (410) 962-6063. The contractor should verify to his satisfaction all horizontal controls.

5. SIGNAL LIGHTS: The Contractor shall display lights and conduct his operations in accordance with the General Regulations of the Department of the Army and of the Coast Guard governing lights and day signals to be displayed by towing vessels with tows on which no signals can be displayed, vessels working on wrecks, dredges, and vessels engaged in laying cables or pipe or in submarine or bank protection operations, lights to be displayed on dredge pipe lines, and day signals to be displayed by vessels of more than 65-feet in length moored or anchored in a fairway or channel, and the passing by other vessels of floating plant working in navigable channels, as set forth in Commandant U.S. Coast Guard Instruction M16672.2, Navigation Rules: International-Inland (Comdtinst M16672.2), or 33 CFR 81 Appendix A (International) and 33 CFR 84 through 33 CFR 89 (Inland) as applicable. (DAEN-PRP-1984 JUL)

6. ACCOMMODATIONS AND MEALS FOR INSPECTORS: (1965 APR OCE)
If the Contractor maintains on this work establishment for the subsistence of his own employees, he shall, when required, furnish to inspectors employed on the work and to all Government agents who may visit the work on official business, meals of a quality satisfactory to the Contracting Officer. The

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meals furnished will be paid for by the Government at a rate of \$3.50 per person for each meal.

7. CONTRACTOR QUALITY CONTROL: Contractor Quality Control is the means by which the Contractor verifies that his construction/dredging complies with the requirements of the contract specifications. Contractor Quality Control shall be adequate to cover all construction/dredging operations including both onsite and offsite fabrication and will be keyed to the proposed construction/dredging sequence.

7.1 General: The Contractor shall provide and maintain an effective quality control program that complies with the Special Contract Requirement INSPECTION OF CONSTRUCTION. The Contractor's Quality Control Program through inspection, testing, equipment/system operation, and reporting shall demonstrate and document the extent of compliance of all work with the standards and quality established by the contract documents. Inspection and test reports shall make reference to specific drawing and/or specification requirements and shall state inspection/test procedures with both expected and actual results.

The burden-of-proof of contract compliance is placed on the Contractor and not assumed by the Government. The Contractor's quality Control will not be accepted without question.

7.2 Quality Control Plan: Within 7 calendar days after receipt of Notice to Proceed the Contractor shall furnish his Quality Control Plan and three copies thereof to the Contracting Officer or his authorized representative for review and approval. The plan shall cover in detail each feature of the project including dredging and disposal operations. Copies of the Quality Control Plan shall be made available on the dredge and at the disposal area. The Quality Control Plan the Contractor proposes to implement shall identify the personnel, procedures, instructions, records, and forms, and as a minimum, shall include:

(a) A description of the quality management organization.

(b) The number, classifications, qualifications, duties, responsibilities and authorities of personnel. A copy of the letter signed by an authorized official of the firm, which describes the responsibilities and delegates the authorities of the system manager, shall be furnished.

(c) Procedures for processing reports, samples and other submittals.

(d) Quality control activities to be performed, including those of subcontractors.

(e) Compliance inspections recorded on the Daily Quality Control Report and the Dredging Report, a sample of which is shown at the end of these specifications.

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Construction or dredging will be permitted to begin only after approval of the Quality Control Plan or approval of that portion of the plan applicable to the particular feature of work to be started.

As an additional measure to the implementation of the Quality Control Plan, the Contractor shall meet with representatives of the Contracting Officer as soon as practicable after receipt of Notice to Proceed and before start of construction or dredging to discuss the Contractor's quality control system. The meeting shall develop a mutual understanding relative to details of his Quality Control Program including the forms for recording the quality control operations; control activities, testing, administration of the system for both onsite and offsite, and the interrelationship of Contractor and Government control and surveillance. Minutes of the meeting shall be prepared, signed by both the Contractor and the Contracting Officer or his authorized representative and shall become a part of the contract file. There may also be occasions when subsequent conferences will be called to reconfirm understandings.

7.2.1 Notification of Changes: After approval of the Quality Control Plan, the Contractor shall notify the Contracting Officer or his authorized representative in writing of any proposed change.

7.2.2 Work Deficiencies: The Contractor shall not build upon or conceal any work containing uncorrected defects. If deficiencies indicate that the Contractor's quality control system is not adequate or does not produce the desired results, corrective actions in both the quality control system and the work shall be taken by the Contractor. If the Contractor does not promptly make the necessary corrections, the Contracting Officer may issue an order stopping all or any part of the work until satisfactory corrective action has been taken. Payment for deficient work will be withheld until work as been satisfactorily corrected or other action is taken pursuant to the Special Contract Requirement INSPECTION OF CONSTRUCTION.

If the above does not obtain effective improvement in the Contractor's quality control system, the Contracting Officer or his authorized representative may direct changes be made in the quality control system and/or organization, including but not limited to the removal and replacement of unsatisfactory quality control representatives at any level or the addition of quality control personnel or services. Any additional cost to the Government for providing quality control services that are not satisfactorily performed by the Contractor will be deducted from payment due the Contractor.

If recurring deficiencies in an item or items indicate that the quality control system is not adequate, such corrective actions shall be taken as directed by the Contracting Officer or his authorized representative.

7.3 Quality Control Organization:

7.3.1 System Manager: The Contractor shall identify an individual within his organization at the site of the work, who shall be responsible for overall

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management and have the authority to act in all Contractor quality control matters for the Contractor.

7.3.2 Personnel: A staff shall be maintained under the direction of the system manager to perform all quality control activities. The actual strength of the staff during any specific work period may vary to cover work phase needs, shifts, and rates of dredging. The personnel of this staff shall be fully qualified by experience and technically trained to perform their assigned responsibilities.

7.4 Control: The Contractor's quality control system shall include at least the following three phases of control and management for definable features of work:

(a) Preparatory: Twenty-four hours in advance of beginning any definable features of work, the Contractor's quality control manager shall review with the Government inspector(s) the applicable provisions of the specifications and Quality Control Plan and confirm the methods to assure compliance.

(b) Initial: This phase of control must be accomplished at the time of arrival of disposal area and dredging personnel on site to accomplish a definable feature of work and at any time new workmen or crews arrive for assignment to the work. The Contractor's control system must permit the transfer of information on quality requirements specified in this contract to each workman before he starts, demonstration from each workman that he can provide the specified quality of work, and motivate him to continue. It is also during this phasing that control testing to prove the adequacy of the Contractor's control procedures shall be initiated and verified. The Contracting Officer or his authorized representative shall be notified at least 24 hours in advance of each initial activity.

(c) Follow-up: The follow-up phase shall be performed continuously to verify that control procedures are providing an end product, which complied with contract requirements. Adjustments to control procedures may be required based upon the results of these phase and compliance inspections.

7.5 Completion: At the completion of the work, the Contractor's quality control representative shall conduct a joint completion review with the Government inspector(s). During this review the work shall be examined, quality control shall be reviewed, and a list shall be developed of work not properly completed or not conforming to plans and specifications. This list shall be included in the quality control documentation with an estimated date for correction of each deficiency. The Contractor shall make sure that deficiencies have been corrected prior to the specified completion date. Payment will be withheld for defective or deficient features until they are satisfactorily corrected except as otherwise provided in the Special Contract Requirement INSPECTION OF CONSTRUCTION.

7.6 Quality Control Records:

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7.6.1 The Contractor shall maintain current records, on an appropriate approved form, of quality control operations, activities, and tests performed including the work of suppliers and subcontractors. These records shall include factual evidence that the required activities or tests have been performed, including but not limited to the following:

- (a) Type and number of control activities and compliance inspections.
- (b) Results of control activities or inspections.
- (c) Nature of defects causes for rejection, etc.
- (d) Proposed remedial action.
- (e) Corrective actions taken.

7.6.2 These records shall cover both conforming and defective or deficient features and shall include a statement that supplies and materials incorporated in the work comply with the contract. The Contractor shall submit legible, daily quality control reports to the Government inspector on the day following the report period. The records shall cover development of the disposal area(s), related piping, and dredging performed during the time period for which the records are furnished. These records shall be verified by person so designated by the Contractor. Failure to follow these procedures will be considered a breach of the Quality Control Program and portions of the progress payment may be withheld until it is demonstrated by the Contractor that the construction activities covered by the delinquent reports meet the requirements of the plans and specifications.

7.7 Measurement and Payment: No separate measurement and payment will be made for the work performed in Contractor Quality Control, specified herein, and all costs in connection therewith shall be considered a subsidiary obligation of the Contractor, and shall be included in the overall cost of the work.

8. EQUIPMENT OWNERSHIP AND OPERATING EXPENSE SCHEDULE: (1985 JUN HQ USACE)

(a) Allowable cost for construction and marine plant and equipment in sound workable condition owned or controlled and furnished by a Contractor or subcontractor at any tier shall be based on actual cost data when the Government can determine both ownership and operating costs for each piece of equipment or equipment groups of similar serial and series from the Contractor's accounting records. When both ownership and operating costs can not be determined from the Contractor's accounting records, equipment costs shall be based upon the applicable provisions of EP 1110-1-8, "Construction Equipment Ownership and Operating Expense Schedule," Region II. Working conditions shall be considered to be average for determining equipment rates using the schedule unless specified otherwise by the Contracting Officer. For

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equipment not included in the schedule, rates for comparable pieces of equipment may be used or a rate may be developed using the formula provided in the schedule. For forward pricing, the Schedule in effect at the time of negotiations shall apply. For retrospective pricing, the Schedule in effect as to the time work was performed shall apply.

(b) Equipment rental costs are allowable, subject to the provisions of FAR 31.105 (d)(ii) and FAR 31.205-36 substantiated by certified copies of paid invoices. Rates for equipment rented from an organization under common control, lease-purchase or sale lease-back arrangements will be determined using the schedule except that rental costs leased from an organization under common control that has an established practice of leasing the same or similar equipment to unaffiliated leases are allowable. Costs for major repairs and overhaul are unallowable.

(c) When actual equipment costs are proposed and the total amount of the pricing action is over \$25,000, cost or pricing data shall be submitted on Standard Form 1411, "Contract Pricing Proposal Cover Sheet." By submitting cost or pricing data, the Contractor grants to the Contracting Officer or an authorized representative the right to examine those books, records, documents and other supporting data that will permit evaluation of the proposed equipment costs. After price agreement the Contractor shall certify that the equipment cost or pricing data are accurate, complete and current.

9. SAFETY:

9.1 General: The Contractor shall comply with the Contract Clause ACCIDENT PREVENTION. Therefore, the latest version of the U.S. Army Corps of Engineers Safety and Health Requirements Manual, EM 385-1-1, that is in effect on the date of the solicitation is a part of these specifications.

9.2 Accident Prevention Program: Within 7 calendar days after receipt of Notice to Proceed the Contractor shall furnish his Accident Prevention Program and three copies thereof to the Contracting Officer or his authorized representative for review and approval. The program shall be prepared in the following format:

(a) Administrative Plan

(b) Job Hazard Analysis

(c) A copy of company policy statement of accident prevention and any other guidance statements normally provided new employees.

(d) When marine plant and equipment are in use the Contractor shall assure that oil transfer operations, to or from his plant, comply with all Federal, State, county, and Municipal laws, codes and regulations. Particular attention is invited to 33 CFR Subchapter 0, POLLUTION. The Contractor shall incorporate in his accident prevention program, submitted in compliance with Contract Clause ACCIDENT PREVENTION, sufficient information to demonstrate

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that all fuel transfers will be made in accordance with 33 CFR 156 and any other applicable laws, codes and regulations. (CENABEN 1984 APR)

(e) The Contractor shall not commence physical work at the project site until the Contracting Officer or his authorized representative has approved the program. As an additional measure to implementation of the Accident Prevention Program, the Contractor shall meet with representatives of the Contracting Officer as soon as practicable after receipt of Notice to Proceed and before start of work to discuss and develop a mutual understanding relative to administration of the overall safety program. Minutes of the meeting shall be prepared, signed by the Contractor and the Contracting Officer or his authorized representative. At the Contracting Officer's discretion, the Contractor may submit his Job Hazard Analysis only for the phases of construction. All remaining phases shall be submitted and accepted prior to the beginning of work in each phase. EM 385-1-1, Section 1.

9.3 Accident Investigation and Reporting: Accidents shall be investigated by immediate supervisor of the employee(s) involved and reported to the Contracting Officer or the Government inspector within one working day after the accident. EM 385-1-1.

(a) The Contractor shall insure that all accidents which involve loss of life, occupational disease of the employee, injury incapacitating any person for normal work beyond the day of injury, or damage to property, materials, supplies, or equipment, of \$700.00 or more, and which relate to the dredge, any attendant plant, the dredge working area, or the disposal area, shall be recorded, investigated, and reported to the Contracting Officer or his authorized representative.

(b) Each accident shall be verbally reported to the Government inspector at the earliest practicable time. Each accident involving loss of life or traumatic injury to any person shall be reported to the Government inspector verbally, telephonically, or by radio as soon as possible.

(c) The Contractor shall promptly investigate each accident and submit a written, signed report on ENG Form 3394 to the Government inspector within 48 hours.

(d) A factual record of each accident shall be entered in the Contractor's official daily logbook.

9.4 Daily Inspections: The Contractor shall institute a daily inspection program to assure all safety requirements are being fulfilled. Reports of daily inspections shall be maintained in the Contractor's official daily logbook. The reports shall be records of the daily inspections and resulting actions. Each report will include, as a minimum, the following:

- (a) Phase(s) of construction underway during the inspection.
- (b) Locations of areas inspections were made.

(c) Results of inspection, including nature of deficiencies observed and corrective actions taken, or to be taken, date, and signature of the person responsible for its contents.

9.5 Means of Escape for Personnel Quartered or Working on Floating Plant: Two means of escape shall be provided for assembly, sleeping, and messing areas on floating plants. For areas involving 10 or more persons, both means of egress shall be through standard size doors opening to different exit routes. Where 9 or fewer persons are involved, one of the means of escape may be a window (minimum dimensions 24-inch by 36-inch) which leads to a different exit route. EM 385-1-1, Section 19.

9.6 Emergency Alarms and Signals:

9.6.1 Alarms. Emergency alarms shall be installed and maintained on all floating plant requiring a crew where it is possible for either a passenger or crewman to be out of sight or hearing from any other person. The alarm system shall be operated from the primary electrical system with standby batteries on trickle charge that will automatically furnish the required energy during an electrical-system failure.

9.6.2 Signals:

(a) Fire Alarm Signals: The general fire alarm signal shall be in accordance with paragraph 97.13-15b of the Coast Guard Rules and Regulations for Cargo and Miscellaneous Vessels, Subchapter I, 1 Sep 77 (CG 257)

(b) Abandon Ship Signals: The signal for abandon ship shall be in accordance with paragraph 97.13-15c of referenced cited in (a) above.

(c) Man-Overboard Signal: Hail and pass the word to the bridge. All personnel and vessels capable of rendering assistance shall respond.

9.7 Mooring Lines: Eye loops on mooring lines shall be equipped with brackets or handling ropes to protect the hands of deckhands.

10. FUEL USAGE: The Contractor shall furnish the Contracting Officer a report, to be received on or before the last day of the calendar month, listing the totals of fuels consumed by the dredging plant and supporting vessels. The report shall list the quantities of different fuels separately. The report shall cover the period from the 25th of the preceding month to the 25th of the current month. This information may be included in the Contractor's Daily Report of Operations.

11. ENVIRONMENTAL LITIGATION: (1974 NOV OCE)

(a) If the performance of all or any part of the work is suspended, delayed, or interrupted due to an order of a court of competent jurisdiction as a result of environmental litigation, as defined below, the Contracting

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Officer, at the request of the Contractor, shall determine whether the order is due in any part to the acts or omissions of the Contractor or a Subcontractor at any tier not required by the terms of this contract. If it is determined that the order is not due in any part to acts or omissions of the Contractor or a Subcontractor at any tier other than as required by the terms of this contract, such suspension, delay, or interruption shall be considered as if ordered by the Contracting Officer in the administration of this contract under the terms of the Contract Clause SUSPENSION OF WORK. The period of such suspension, delay or interruption shall be considered unreasonable, and an adjustment shall be made for any increase in the cost of performance of this contract (excluding profit) as provided in that clause, subject to all the provisions thereof.

(b) The term "environmental litigation", as used herein, means a lawsuit alleging that the work will have an adverse effect on the environment or that the Government has not duly considered, either substantively or procedurally, the effect of the work on the environment.

12. WORK ON WEEKENDS AND AT NIGHT: The Contractor shall not work at night on this particular job. Project activity will be limited to daylight hours due to the amount of trucks traversing the area and the time the landfill is open. The landfill may be available 6 days a week however the contractor shall coordinate with the landfill for actual hours of operation.

13. RADIO COMMUNICATIONS: The Contractor is responsible and required to provide any and all equipment necessary to maintain 24-hour oral communication between the dredge operator, Quality Control System Manager, and the Corps of Engineers' inspector on site. For this purpose, the Contractor shall provide and maintain at his expense a marine band walkie-talkie radio for use by the Government inspector(s). The Contractor is responsible for any and all circumstances not conforming to the plans and specifications resulting from the inadequate operation of the equipment.

14. PROGRESS SCHEDULING AND REPORTING: (JUN 1975) In accordance with the Contract Clauses, the Contractor, shall within 5 days or as otherwise determined by the Contracting Officer, after date of commencement of work, submit for approval a practicable progress schedule showing the manner in which he intends to prosecute the work. ENG Form 2454 ("Construction Progress Chart") will be furnished upon request for use in preparing this schedule. If a Contractor form is used, the same information as shown in the ENG Form 2454 shall be provided. Preparation and updating of the schedule shall be as follows:

14.1 Preparation: The progress schedule shall be prepared in the form of time-scaled summary network diagram graphically indicating the sequence proposed to accomplish each work activity or operation, and appropriate interdependencies between the various activities. The chart shall show the starting and completion dates of all activities on a linear horizontal time scale beginning with the dates of Notice to Proceed and indicating calendar days to completion. Each activity in the construction shall be represented by

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an arrow and shall have a beginning and ending node (event). The entire project shall have only one beginning node and one ending node. The arrangement of arrows shall be such that they flow from the left to right. Each arrow representing an activity shall be annotated to show the activity description, duration and cost. The Contractor shall indicate on the chart the important work activities that are critical to the timely overall completion of the project. Key dates for important features or portions of work features are milestone dates and shall be so indicated on the chart. Based on this chart, the Contractor shall prepare an earnings-time curve (S Curve) showing the rate of progress in terms of money and percent completion.

Schedule progress may not include the value of materials or equipment delivered to the job site but not yet incorporated into the work. This schedule shall be the medium through which the timeliness of the Contractor's construction effort is appraised.

14.2 Updating: The Contractor shall update the schedule by entering actual progress thereon at monthly intervals. The status of activities completed or partially completed as of the end of each period shall be shown, as well as the percentage of work completed. In computing actual progress, the value of material and equipment on site but not incorporated into the work may not be considered. When the Contracting Officer authorizes changes that result in contract time extensions, the Contractor shall submit a modified chart for approval. The Contract Clause SCHEDULES FOR CONSTRUCTION CONTRACTS with reference to overtime, extra shifts, etc., may be invoked when the Contractor fails to start or complete work activities or portions of same by the date indicated on the approved progress chart, or when it is apparent to the Contracting Officer from the Contractor's actual progress that these dates will not be met. (CENABCO-E)

15. CONTINUITY OF WORK: No payment will be made for work done in any area designated by the Contracting Officer until the full depth required under the contract is secured in the whole of such area, unless prevented by ledge rock, nor will payment be made for excavation in any area not adjacent to and in prolongation of areas where full depth has been secured except by decision of the contracting officer. Should any such nonadjacent area be excavated to full depth during the operations carried on under the contract, payment for all work therein may be deferred until the required depth has been made in the area intervening. The Contractor may be required to suspend dredging at any time when for any reason the gauges or ranges cannot be seen or properly followed.

16. MISPLACED MATERIAL: Should the Contractor during the progress of the work, lose, dump, throw overboard, sink, or misplace any material, plant machinery, or appliance, which in the opinion of the Contracting Officer may be dangerous to or obstruct navigation, the Contractor shall recover and remove the same with the utmost dispatch. The Contractor shall give immediate notice, with description and location of such obstructions, to the Contracting Officer or inspector, and when required shall mark or buoy such obstructions until the same are removed. Should he refuse, neglect, or delay compliance with the above requirements, such obstructions may be removed by the

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Contracting Officer, and the cost of such removal may be deducted from any money due or to become due to the Contractor, or may be recovered under his bond. The liability of the Contractor of the removal of a vessel wrecked or sunk without fault or negligence shall be limited to that provided in Section 15, 19, and 20 of the River and Harbor Act of March 3, 1899 (33 U.S.C. 410 et seq.).

17. INSPECTION: The Government inspector(s) will direct the maintenance of the gauges, ranges, location marks and limit marks in proper order and position; but the presence of the Government inspector(s) shall not relieve the Contractor of responsibility for the proper execution of the work in accordance with the specifications. The Contractor will be required:

(a) To furnish, on the request of the Contracting Officer, any Government inspector, or authorized representative, the use of such boats, boatmen, laborers, and material forming a part of the ordinary and usual equipment and crew of the dredging plant as may be reasonably necessary in inspecting and supervising the work. However, the Contractor will not be required to furnish such facilities for the surveys prescribed in the Special Clause FINAL EXAMINATION AND ACCEPTANCE.

(b) To furnish, on the request of the Contracting Officer, any Government inspector, or authorized representative, suitable transportation from all points on shore designated by the Contracting Officer to and from the various pieces of plant, and to and from the disposal site.

(c) Should the Contractor refuse, neglect, or delay compliance with these requirements, the specific facilities may be furnished and maintained by the Contracting Officer, and the cost thereof will be deducted from any amounts due or to become due the Contractor.

18. FINAL EXAMINATION AND ACCEPTANCE:

(a) As soon as practicable after the completion of the entire work or any section thereof (if the work is divided into sections) as in the opinion of the Contracting Officer or his authorized representative will not be subject to damage by further operations under the contract, such work will be thoroughly examined at the cost and expense of the Government by sounding or by sweeping, or both, as determined by the Contracting Officer or his authorized representative. Should any shoals, lumps, or other lack of contract depth be disclosed by this examination the Contractor will be required to remove same by dragging the bottom or by dredging at the contract rate for dredging, but if the bottom is soft and the shoal areas are small and form no material obstruction to navigation, the removal of such shoal may be waived by the discretion of the Contracting Officer or his authorized representative. The Contractor or his authorized representative will be notified when soundings and/or sweepings are to be made, and will be permitted to accompany the survey party. When the area is found to be in a satisfactory condition, it will be accepted finally. Should more than two sounding or sweeping operations by the Government over an area be necessary by reason of

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work for the removal of shoals disclosed at a prior sounding or sweeping, the cost of such third and any subsequent sounding or sweeping operations will be charged against the contractor at the rate of \$1,200.00 per day for each day in which the Government plant is engaged in sounding or sweeping and/ or is enroute to or from the site or held at or near the said site for such operations.

(b) Final acceptance of the whole or a part of the work and the deductions or corrections of deductions made thereon will not be reopened after having once been made, except on evidence of collusion, fraud, or obvious error, and the acceptance of a completed section shall not change the time of payment of the retained percentages of the whole or any part of the work.

19. SHOALING:

19.1 If, before the contract is completed, shoaling occurs in any section previously accepted, including shoaling in the finished channel, because of the natural lowering of the side slopes, redredging at contract price, within the limit of available funds, may be done if agreeable to both the contractor and the contracting officer.

19.2 If before dredging survey indicates shoaling in the channel immediately adjacent to the channel to be dredged, the Contractor will be required to dredge the additional shoaling at the contract unit price if directed by the Contracting Officer.

20. ENVIRONMENTAL PROTECTION:

20.1 General: The Contractor shall furnish all labor, materials and equipment, to perform all work required for the prevention of environmental pollution during, and as the result of, construction/dredging operations under this contract except for those measures set forth in the technical Provisions of these specifications. For the purpose of this specification, environmental pollution is defined as the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life; or affect other species of importance to man. The control of environmental pollution requires consideration of air, water, and land.

20.2 Applicable Regulations: The Contractor and his subcontractors in the performance of this contract, shall comply with all applicable Federal, State, and local laws and regulations concerning environmental pollution control and abatement in effect on the date of this solicitation, as well as the specific requirements stated elsewhere in the contract specifications.

20.3 Notification: The Contracting Officer or his authorized representative will notify the Contractor of any noncompliance with the foregoing provisions and the action to be taken. The Contractor shall, after receipt of such notice, immediately take corrective action. If the Contractor

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fails or refuses to comply promptly, the Contracting Officer or his authorized representative may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of time lost due to any such stop order shall be made subject of a claim for extension of time or for excess costs or damages by the Contractor unless it is later determined that the Contractor was in compliance.

20.4 Subcontractors: Compliance with the provisions for environmental protection by subcontractors shall be the responsibility of the Contractor.

20.5 Protection of Water Resources: The Contractor shall not pollute streams, lakes or reservoirs with fuels, oils, bitumens, calcium chloride, acid construction wastes, or other harmful materials. All work under this contract shall be performed in such a manner that objectionable conditions will not be created in streams through or adjacent to the project area. The Contractor shall take special positive protective measures to prevent spillage of potential pollutant materials such as fuel, emulsion materials, chemicals etc., from storage containers or equipment into public waters. Such positive protective measures may include, but not limited to the following:

- (a) A berm enclosure of sufficient capacity to contain such materials.
- (b) Security measures to prevent acts of vandalism that could result in spillage of such materials (fences, guards, etc.).
- (c) Storage of such materials in an area where the terrain would preclude leakage into public waters.
- (d) Utilization of secure Government storage areas if the Contracting Officer indicates such space is available. No storage past immediate needs (2 days) without the consent of the Contracting Officer or his authorized representative.

20.6 Burning: Burning shall be in compliance with Federal, State, and local laws. The Contractor shall be responsible for obtaining all required burning permit approvals.

20.7 Dust Control: The Contractor shall maintain all work areas free from dust that would contribute to air pollution. Approved temporary methods of stabilization consisting of sprinkling, chemical treatment, light bituminous treatment or similar methods will be permitted to control dust. Sprinkling, where used, must be repeated at such intervals as to keep all parts of the disturbed area at least damp at all times. Dust control shall be performed as the work proceeds and whenever a dust nuisance or hazard occurs.

20.8 Protection of Land Resources:

20.8.1 General: It is intended that land resources within the project boundaries and outside the limits of the permanent work performed under this contract be preserved in their present condition or be restored to a condition

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after completion of construction that will appear to be natural and not detract from the appearance of the project. Insofar as possible, the Contractor shall confine his construction activities to areas defined by the plans and specifications or to be cleared for other operations. The following additional requirements are intended to supplement and clarify the requirements of the CONTRACT CLAUSES.

20.8.2 Protection of Trees Retained:

(a) The Contractor shall be responsible for the protection of the tops, trunks, and roots of all existing trees that are to be retained on the site. Protection shall be maintained until all work in the vicinity has been completed and shall not be removed without the consent of the Contracting Officer or the authorized representative of the contracting officer. If the Contracting Officer or his authorized representative finds that the protective devices are insufficient, additional protection devices shall be installed.

(b) Heavy equipment, vehicular traffic, or stockpiling of any materials shall not be permitted within the drip line of trees to be retained.

(c) No toxic materials shall be stored within 100 feet from the drip line of trees to be retained.

(d) Except for areas shown on the contract drawings to be cleared, the Contractor shall not deface, injure, or destroy trees or shrubs, nor remove or cut them without special authority. Existing nearby trees shall not be used for anchorage unless specifically authorized by the Contracting Officer or his authorized representative. Where such special emergency use is permitted, the Contractor or his authorized representative shall first adequately protect the trunk with a sufficient thickness of burlap over which softwood cleats shall be tied.

(e) No protective devices, signs, utility boxes or other objects shall be nailed to trees to be retained on the site.

20.9 Restoration of Landscape Damage: Any tree or other landscape feature scarred or damaged by the Contractor's operations shall be restored as nearly as possible to its original condition at the Contractor's expense. The Contracting Officer or his authorized representative will decide what method of restoration shall be used and whether damaged trees shall be treated and healed or removed and disposed of. All scars made on trees, designated on the plans to remain, and all cuts for the removal of limbs larger than 1 inch in diameter shall be coated as soon as possible with an approved tree-wound dressing. Experienced workmen shall perform all trimmings or pruning in an approved manner with saws or pruning shears. Tree trimming with axes will not be permitted. Where tree climbing is necessary, the use of climbing spurs will not be permitted. Trees that are to remain, either within or outside established clearing limits, that are subsequently damaged by the Contractor and are beyond saving in the opinion of the Contracting Officer or his authorized representative, shall be immediately removed and replaced with a

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nursery-grown tree of the same species. Replacement trees shall measure no less than 2 inches in diameter at 6 inches above the ground level.

20.10 Location of Storage and Service Facilities: The location on Government property of the Contractor's storage and service facilities, required temporarily in the performance of the work, shall be upon cleared portions of the jobsite or areas to be cleared. The preservation of the landscape shall be an imperative consideration in the selection of all sites.

20.11 Temporary Excavation and Embankments: If the Contractor proposes to construct temporary roads, embankments, or excavations for plant and/or work areas, he shall submit a plan for approval prior to scheduled start of such temporary work.

20.12 Waste Disposal: Disposal of any materials, wastes, effluents, trash, garbage, oil, grease, chemicals, etc., in areas adjacent to the work site shall not be permitted. If waste material is dumped in unauthorized areas, the Contractor shall remove the material and restore the area to the condition of the adjacent undisturbed area. If necessary, contaminated ground shall be excavated, disposed of as directed by the Contracting Officer, replaced with suitable fill material, compacted and planted as required to reestablish vegetation.

20.13 Toilet Facilities: The Contractor shall provide on-shore toilet facilities, in accordance with EM 385-1-1, at the offloading site. Dredge plant toilet facilities may not be substituted for on-shore facility requirements.

20.14 Corrective Action: The Contractor shall, upon receipt of a notice in writing of any noncompliance with the foregoing provisions, take immediate corrective action. If the Contractor fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to any such stop orders shall be made the subject of a claim for extension of time or for excess costs of damages by the Contractor unless it was later determined that the Contractor was in compliance.

20.15 Measurement and Payment: No separate measurement and payment will be made for the work performed in Environmental Protection, specified herein, and all costs in connection therewith shall be considered a subsidiary obligation of the Contractor and shall be included in the overall cost of the work.

21. SUBCONTRACTS: In accordance with Section 00100, Instructions, Conditions, and Notices to Bidders, Paragraph 10, NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY, the Contractor shall, within 10 working days following award of any construction subcontract by the Contractor or a Subcontractor, deliver to the Contracting Officer or his authorized representative a completed DD form 1565.

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22. AVAILABILITY OF COMMERCIAL SPECIFICATIONS, STANDARDS, AND DESCRIPTIONS: These specifications, standards, and descriptions are not available from Government sources. They may be obtained from the publishers listed below. See Section 00100 of the Solicitation for the availability of non-commercial specifications.

Corps of Engineers, U.S. Army (EM)
(To be obtained from the Superintendent of
Documents, U.S. Government Printing Office,
Washington, D.C.)

23. CONTRACTOR'S RESPONSIBILITY: (ECI, APP.A) The Contractor shall be responsible that his employees strictly comply with all Federal, State, and municipal laws that may apply to operations under the contract; and it is understood and agreed that the Contractor assumes full responsibility for the safety of his employees, plant, and materials, and for any damage or injury done by or to them from any source or cause, except damage caused to the plant or equipment by acts of the Government, its officers, agents or employees, in which event such damages will be the responsibility of the Government in accordance with applicable Federal laws. For the purpose of this clause, the terms "officers, agents or employees" of the Government shall not include persons who are employed by the Contractor and whose services have been furnished to the Government pursuant to this or any other contract. (See also FAR 52.236-7 and FAR 52.236-13)

23.1 Responsibility For Contractor Plant and Government Property: The Government will not be responsible for the dredge and attendant plant, any Government property aboard the dredge and attendant plant, or any accidental damage thereto during the period of the contract. The Contractor shall release the Government and its officers and agents from all responsibility for damages to dock facilities, submerged and aerial crossings, bridges, moored vessels, or other damages ordinarily covered by fire and marine insurance. (See also FAR 52.236-9)

23.2 Warranty: The Contractor warrants to the Government the quiet and peaceable use of the aforesaid property, and in case of any disturbance, by suit or otherwise, will defend the same free of charge to the Government in or before the proper State or United States courts.

23.3 Delays: If the Contractor refuses or fails to make delivery of the property within the time specified or any extension thereof, as provided in specifications, or to maintain the property in serviceable condition and diligently and competently to conduct the specified operations, the Government may, by written notice terminate the right of the Contractor to proceed with delivery or with further performance under the contract or such parts or parts thereof affected by the contract or otherwise and the Contractor shall be liable to the Government for any excess cost occasioned thereby.

23.4 Disclaimer: The Contractor shall hold and save harmless the United states, its officers and employees, from all claims that may arise resulting

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from the Contractor's negligence in connection with the work to be performed under the contract, or from noncompliance by the Contractor with the provisions of the contract, contract drawings, and specifications and/or the instructions of the Contracting Officer or his authorized representative. (See also FAR 52.236-10)

End of Section

SECTION 2 - TECHNICAL PROVISIONS

1. WORK COVERED BY CONTRACT PRICE:

1.1 Payment Item No. 0001: All costs connected with the mobilization and demobilization of the Contractor's dredging plant and equipment furnished for Bolling AFB, Washington D.C. as defined below shall be included in the contract lump-sum price for Item No. 0001 as listed in the Bidding Schedule.

1.1.1 Mobilization shall include all costs for operations accomplished prior to commencement of actual dredging operations, i.e. transfer of dredge, attendant plant, and equipment to site; disposal area preparation required; offloading site preparation; and any other work that is necessary in advance of the actual dredging operations.

1.1.2 Demobilization shall include general preparation for transfer of plant to its home base, disposal and offloading area cleanup, and transfer of plant to its home base.

1.2 Payment Item No. 0002: The contract price per cubic yard for dredging to a depth of 6-feet MLLW plus a one-foot allowable overdepth shall include the costs of preparation of the site, removal, dewatering, offloading, trucking and disposal of all material as specified herein or as indicated on the contract drawings exclusive of mobilization and demobilization costs as defined in paragraphs 1.1, 1.1.1, and 1.1.2. Payment shall be made in accordance with Item Nos. 0002A and 0002b listed under Item No. 0002 "Dredging, 6 plus 1" of the Bidding Schedule and shall be full compensation for the work performed. See paragraphs 1.2.1 and 1.2.2, below.

1.2.1 Item No. "0002A, Dredging": Dredging is defined as all costs associated with preparing the site for dredging (turbidity curtain, moving of floating piers, etc), dredging of the material and loading into barges ready for transport to the offloading site.

1.2.2 Item No. "0002B, Disposal": Disposal is defined as transporting the material from the marina to the offloading site, preparation of the offloading sites (i.e. mats) offloading into trucks and transporting and disposal of the material to the landfill.

1.3 Payment Item No. 0003: All costs associated with disconnecting utilities from the piers and docks prior to dredging and moving the piers in order to dredge. In addition the contractor shall replace the piers and utilities. The utilities will be tested to insure operability. Payment shall be made in accordance with Item No. 0003 'Pier Removal and Replacement'.

1.4 Payment Item No. 0004: The contract price per cubic yard for dredging from a depth of 6 feet MLLW plus a one foot allowable over-depth to 7 feet MLLW plus one foot of allowable over-depth, shall include the costs of

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preparation of the site, removal, de-watering, offloading, trucking and disposal of all material as specified herein or as indicated on the contract drawings exclusive of mobilization and demobilization costs as defined in paragraphs 1.1, 1.1.1, and 1.1.2. Payment shall be made in accordance with Item Nos. 0004A and 0004b listed under Optional Item No. "0004, Dredging, 6 plus 1 to 7 plus 1" of the Bidding Schedule and shall be full compensation for the work performed. See paragraphs 1.4.1 and 1.4.2, below.

1.2.1 Item No. "0004A, Dredging": Dredging is defined as all costs associated with preparing the site for dredging (turbidity curtain, moving of floating piers, etc), dredging of the material and loading into barges ready for transport to the offloading site.

1.2.2 Item No. "0004B, Disposal": Disposal is defined as transporting the material from the marina to the offloading site, preparation of the offloading sites (i.e. mats) offloading into trucks and transporting and disposal of the material to the landfill.

1.5 Payment Item No. 0005: If the post dredging survey verifies that contract depth has been reached, the contractor shall purchase, deliver and spread clean sand to a thickness of one foot throughout the marina and entrance channel. The contractor shall then survey this area to verify the placement and a 6-foot depth. If the depths are less than 6 feet the contractor shall spread the material until a 6-foot depth is obtained. Payment shall be made in accordance with Item No. 0005 "Sand Placement" of the Bidding Schedule that shall be full compensation for the work performed.

2. ORDER OF WORK: The Contractor shall establish his order of work.

(a) The dredging consists of furnishing, delivering, and operating a mechanical dredge with attendant plant and the necessary barge(s) capable of performing maintenance dredging in the marina located at Bolling AFB. The disposal consists of furnishing, delivering and operating barges to deliver the dredged material to the off-loading site at Blue Plains and transferring the material from the barge(s) to watertight truck and then trucking the material to the D'Arcy Landfill.

(b) The Contractor shall deliver the dredge and attendant plant ready for operation at the project site within 10 calendar days prior to the initiation of dredging. Upon arrival of the dredge and all attendant plants at the project site at Bolling AFB marina, the Contracting Officer's appointed inspector(s) will inspect the plant to determine whether any deficiencies have occurred subsequent to the time the plant was brought into compliance pursuant to the preaward inspection. The contractor will be notified of acceptance or rejection of the plant within 24 hours after delivery.

(c) Upon Contractor notification and at least 24 hours prior to the commencement of dredging operations the Contractor and Government inspector(s) shall conduct a joint inspection of the completed disposal area operations. No dredging will be permitted to begin until the Contractor has satisfactorily

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corrected all deficiencies identified by the Government inspector(s).

(d) No dredging shall be permitted unless the Contractor appointed quality control person is present at the offloading and disposal sites while these operations are in progress. Care should be taken when dredging due to the high visibility of the dredging at this site, its proximity to Washington and to heightened security.

(e) The contractor will not stage nor otherwise traverse the property of Blue Plains or Bolling AFB without permission. Prior to any dredging activity, and when the project is completed, the Contractor will contact the Bolling AFB liason Ms. Melecia Garcia at (202) 767-1701, to inform her of the schedule and present a list of names of employees on the job and any other information required by the base. Mr. Ralph Goldin (301) 925-9600 of D'Arcy landfill should be notified of the contractor's intended schedule.

(f) The dredged material shall be placed at the disposal site designated on the contract drawings.

3. PLANT: Plant and equipment employed on the work shall be in satisfactory operating condition and capable of safely and efficiently performing the work under exposed environmental conditions and as set forth in the specification and shall be subject to inspection by the Contracting Officer at all times. No reduction in the capacity of the plant employed on the work shall be made except by written permission of the Contracting Officer. The measure of the "Capacity of Plant" shall be its actual performance on the work to which these specifications apply.

3.1 MECHANICAL DREDGING: Material excavated by bucket (bucket, dragline or dipper) dredges shall be placed in scows, without overflow, and transported to an approved offloading site. All scows shall be kept in good condition and the coamings kept in good repair. A minimum of 1 foot of freeboard between the top of the water/slurry material and the lowest opening in the coamings on the scow is required. The overflow of water/slurry material from the scows is prohibited. Failure to repair leaks or to change methods of operation which are resulting in overflow or spillage will result in suspension of dredging operations and require prompt repair or change of operation to prevent overflow or spillage as a prerequisite to the resumption of dredging. The barges will travel, moor, and offload in a position as not to interfere with the adjacent boat ramps.

3.1.1 Prior to dredging the Contractor shall move the floating piers in order to create a clear area. After dredging the piers will be replaced in the pre-dredge locations. Since some piers will ultimately be replaced care should be taken to return the piers to the exact locations. The piers should have utility hookups that need to be disconnected. The Contractor will then dredge the marina and entrance to the marina to a 6-foot depth with a 1-foot allowable overdepth. There will be a 10-foot buffer from the existing shoreline at MLLW where no dredging is allowed. From that point, the marina will be dredged using a box cut down to the desired depth. That depth will be

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maintained until reaching the opposite shoreline where the same dimensions will be obtained including the 10-foot buffer. After dredging the Contractor will reconnect the utilities to the piers and test for operability.

3.1.2 Prior to any dredging the marina entrance will be enclosed using a weighted turbidity curtain sufficient to contain any turbidity generated as a result of the dredging (at least a 4 foot curtain). In addition to the entrance a turbidity curtain must be installed in the southwest corner of the marina to insure turbidity does not escape through the existing culvert. These curtains will be installed as per manufacturer's instructions and maintained by the contractor until completion of the project. After completion of the project the contractor will remove the curtains.

4. CHARACTER OF MATERIALS: The material to be removed to restore the depth within the limits shown on the contract drawings, is that composing the shoaling that has occurred since the channel was last dredged. Due to the long period since the last dredging of the channel, materials associated with new work dredging may be encountered. Also, debris and obstructions may be encountered and must be removed. This project has previously been maintained at a required depth of 9 feet. It is believed that the material to be removed will consist principally of silt, clay, mud, sand, shell, gravel, debris, trash and combinations thereof. Minor variations in the subsurface materials are to be expected and, if encountered, will not be considered as being materially different within the purview of the Contract Clause DIFFERING SITE CONDITIONS. Bidders are expected to examine the site of the work, and decide for themselves the character of the materials. A copy of the sieve analyses of the grab samples taken in Mount Vernon are located at the end of these specifications along with a map showing the approximate sample locations.

5. DISPOSAL OF EXCAVATED MATERIAL:

5.1 Offloading Site: The off-loading site for the material dredged from Bolling AFB Marina is located at the Blue Plains sewage treatment facility as shown on the contract drawings. Any equipment used to offload the material will be placed along a seawall/pier structure and will be placed on mats. When completed the area will be cleaned and restored to its original condition. Before any mobilization to the offloading site the contractor will contact the following:

Mr. James J. Robertson
Director
Department of Facilities and Security
(202) 787-2266

Mr. Robertson will be the contact for security issues and for the trucking route to allow ingress and egress to the site.

5.2 The dredged material shall be off-loaded from the barge(s) directly into trucks for transport to the placement site, located at the D'Arcy Landfill. Filter fabric shall be placed between the barge and the offloading

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station, to avoid spillage of material into the water. The off-loader shall be placed on mats along the seawall/pier structure and should only move on mats. When loading the trucks the fill arm should not cross an area not covered with fabric. Care should be taken not to load the trucks such that any stopping or sudden braking the slurry will spill on to the roadway. The contractor shall be responsible for all tickets and/or fines associated with truck safety and overloading. Once loaded, the trucks shall proceed immediately to the D'Arcy landfill. The distance between the dredging site and the disposal site may be determined from the location map in the contract drawings.

5.3 The trucks to be used for the transport of dredged material to the Landfill shall be watertight to prevent leakage of the dredged material onto public roadways. The trucks shall not exceed a 10 cubic yard capacity unless approved by the Contracting Officer. A washout station will be established at the off-loading area. Before any truck leaves Blue Plains it shall be rinsed so sediment is not deposited on the roads. The route to the landfill and back to the offloading site is shown on the contract drawings. To get to the landfill the loaded trucks will travel south on Maryland 495 to Pennsylvania Ave, (Route 4 East-outside beltway) to first traffic light (Wesphalia road) turn left and go about ½ mile to D'Arcy road on left. Take D'Arcy road about ¼ mile to Landfill on the left. Once the trucks reach the landfill they will be directed by the management of that site as to where to place the material. The landfill is open from 7AM to 5PM, six days a week. When returning empty, the trucks will use the same route in reverse. Using this route minimizes any impacts to the surrounding communities. The Contracting Officer or his representative must approve any changes in the permanent routing. If a route is blocked or otherwise unusable and the Contractor uses an alternate route it is his responsibility to adhere to any County or State restrictions placed along the route.

5.4 The Contractor shall provide measures to prevent mud from tracking onto any road used for filling or transporting the dredged material to the placement site. If mud is tracked onto public streets or spilled on any road surface, the Contractor will immediately send a crew to clean the road. At the end of each day the Contractor will inspect the route to assure any spills from trucking or mud from tracking have been cleaned.

5.5 While one truck is being loaded another empty one should be waiting along side the site in a designated area This area will have mats for the truck to drive on so as not to disturb the area. Once the offloading truck is filled it will proceed to an area that will be equipped to wash off the tires and body of the truck that might have sediment adhering to it. It will then proceed to the placement site. The truck waiting will move into position for loading. All trucks will be equipped with radio communication that can be contacted by the Government inspector.

5.6 When the project is completed all areas, including but not limited to the offloading area, waiting area and the staging area will be restored to the condition it was in prior to the contract. The contractor at his expense will repair any road damage that occurs as a result of this project. All

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repairs will be performed according to State, local AFB specifications and the extent of the restoration will be limited to how the State, County or AFB would correct the situation.

5.7 Placement Site: The Contractor shall use the designated Government-furnished placement area at D'Arcy landfill. The Contractor shall contact the D'Arcy landfill for operating procedures, any limitations, and any special requirements. The landfill has trucking capability however the contractor is not obligated to use that carrier. Within 7 days after receipt of Notice to Proceed, the Contractor shall furnish his plan for the dredging and disposal operations to the Contracting Officer for review and approval. This plan shall include a description of all proposed dredging, transporting, and rehandling equipment to be utilized in performance of the contract. Dredging will not be permitted to commence until the Contracting Officer or his authorized representative approves this plan.

5.8 Misplaced Excavated Material: The Contractor will deliver the material to the landfill and the facility will manage the dredged material. Any material that is deposited elsewhere than in places designated or approved by the Contracting Officer or his authorized representative will not be paid for and the Contractor shall remove such misplaced material and deposit it where directed at his expense. Misplaced excavated material may constitute a violation of applicable Federal, State, and Local statutes and the Contractor shall be liable for any civil and/or criminal penalties imposed by these statutes.

6. GOVERNMENT FURNISHED DISPOSAL AREA:

6.1 The material excavated shall be transported, deposited, and retained in the Contractor constructed dredged material disposal sites designated as "Disposal Area" on the contract drawings.

6.2 The material must be placed within the designated area at the D'Arcy Landfill. Prior to any dredging, the contractor shall contact

Mr. Ralph Golden
D'Arcy Landfill
(301) 925-9600

6.3 Disposal of Debris: The Contractor shall be responsible for properly disposing of any debris encountered.

6.4 Restoration of Landscape Damage. Any tree, grassed area or other landscape scarred or damaged by the Contractor's equipment shall be restored as nearly as possible to its original condition at the Contractor's expense. The Contracting Officer shall determine the methods of restoration to be used.

7. NONCOMPLIANCE: The Contracting Officer or his authorized representative will notify the Contractor in writing of any noncompliance with the foregoing provisions. Such notice, when delivered to the Contractor or

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his authorized representative at the site of the work, shall be deemed sufficient for the purpose. Within 24 hours after the receipt of such notice, the Contractor shall mail, or personally deliver to the Contracting Officer or his authorized representative, a complete proposal of the prompt correction of the noncompliance. The Contracting Officer or his authorized representative will review the proposal and return it to the Contractor approved, subject to such changes or conditions as he finds necessary to assure correction of noncompliance. Immediately upon receipt of such approval, the Contractor shall begin the corrective work and shall carry it to completion. If the Contractor fails or refuses to submit his proposal or to proceed with the corrective work, the Contracting Officer or his authorized representative may suspend all or any part of the work until satisfactory corrective action has been taken. No part of the time lost due to any such suspension shall be made the subject of a claim for extension neither of time nor for excess costs or damages by the Contractor. If he so elects, the Contracting Officer or his authorized representative may cause the corrective work to be accomplished by others, in which event the cost thereof shall be chargeable against any monies otherwise due the Contractor from the Government.

8. INSPECTION:

8.1 Inspection: The work will be conducted under the general direction of the District Engineer and will be subject to inspection by his appointed inspector(s) to insure strict compliance with the specifications. The Government inspector(s) will direct the maintenance of the gauges, ranges, location marks, and limit marks in proper order. Portable lighting shall be provided upon request of the Government inspector(s) for more detailed inspection of potential trouble areas.

8.1.1 The Government inspector(s) will direct suspension of operations at any unit of work where the Contractor upon request does not correct a safety hazard that is so grave as to endanger life, limb, or property or cause serious damage to the work. This includes but is not limited to a failure on the part of the Contractor (1) to have a full-time quality control person present and fully alert and awake on the disposal area at all times disposal operations are in progress or (2) to provide and maintain the required marine band radio for use by Government inspector(s) at all times while dredging operations are in progress. These are all basis for the Government inspector to direct suspension of work.

9. OVERDEPTH

9.1 Overdepth: To cover inaccuracies of the dredging process, material actually removed from within the specific areas to be dredged to a depth of not more than 1-foot below the required depth will be estimated and paid for at the contract price.

9.2 Excessive Dredging: Material taken from beyond the limits as extended in the provisions of paragraphs 9.1 above will be deducted from the

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total amount dredged as excessive overdepth dredging, for which payment will not be made. Nothing herein shall be construed to prevent payment for the removal of shoals performed in accordance with the applicable provisions of the Special Clauses FINAL EXAMINATION AND ACCEPTANCE or SHOALING.

10. MEASUREMENT AND PAYMENT:

10.1 Mobilization and Demobilization: Mobilization and demobilization shall include all costs in connection with the development and maintenance of the disposal area including but not limited to: obtaining the necessary permits and approvals for the work specified in accordance with the Contract Clause PERMITS AND RESPONSIBILITIES; full reimbursement for the premiums actually paid for performance and payment bonds, moving the Contractor's dredging plant and equipment to the site; maintenance of the disposal areas, and the removal of all dredging plant, and other equipment from the site upon completion of the work. Payment shall be made in accordance with Item No. 0001, "Mobilization and Demobilization" of the Unit Price Schedule which shall be full compensation for the work performed.

10.2 Dredging: The total amount of material removed and to be paid for under the contract, will be measured by the cubic yard in place by computing the volume between the bottom surface shown by soundings of the last survey made before dredging and the bottom surface shown by the soundings of a survey made as soon as practicable after the entire work specified has been completed and included within the limits of the overdepth described in the Technical Provision paragraph OVERDEPTH less any deductions that may be required for misplaced material described in the Technical Provision paragraph MISPLACED MATERIAL. Payment shall be made in accordance with Item No. 0002, "Dredging" of the Unit Price Schedule which will be full compensation for the work performed, including removal of debris and obstructions. This will also include all work associated with the transporting of the dredged material.

10.3 The maps and/or drawings already prepared are believed to represent accurately conditions existing on the date shown on the contract drawing(s). Determination of quantities removed and the deductions made therefrom to determine quantities by place measurement to be paid in the area specified, after having once been made, will not be reopened except on evidence of collusion, fraud, or obvious error.

10.4 Monthly partial payments will be based on approximate quantities determined by soundings or sweepings taken behind the dredge and/or approximate quantities reported in the Daily Reports of Operations.

10.5 Should the Contractor in conjunction with work under this contract perform dredging for third parties adjacent to the specified area to be dredged, payment will be made by the Government only for material removed from the contract area within a vertical plane at the contract unit lines at the location work is performed for such third parties.

11. WORK IN THE VICINITY OF STRUCTURES AND UTILITY CROSSINGS:

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11.1 The Contractor shall exercise caution when working in the vicinity of structures and utility crossings or adjacent to the channel or disposal areas. Repair of any damage resulting from excessive or improper excavation in the bottom or sides of the channel will be the responsibility of the Contractor. Where dredging to the required elevation might endanger any structure, the Contracting Officer or his authorized representative may reduce the required excavation in the vicinity of such structure. The contractor shall contact Miss Utility and the facility to locate any pipelines or cables that may be in the marina, at the offloading site or adjacent areas.

11.2 The Contractor shall provide at least project channel dimensions over all utility crossings. The Contractor shall submit for approval by the Contracting Officer or his authorized representative a detailed plan of operation at each pipeline or utility crossing where construction surveys indicated project channel does not exist. The plan shall contain emergency measures to be taken in the event of an accident. The Contractor shall notify the owners of pipelines or utilities at least three calendar days prior to operating within 150 feet of a pipeline or utility. The Government will not be responsible for any damage to structure or utilities due to the Contractor's deviation from the approved plan.

11.3 Any unidentified pipelines or structures which may be found within the limits of work shall not be disturbed nor shall dredging or the disposal of dredge material be performed at these locations unless, and until, approved by the Contracting Officer.

12. QUALITY CONTROL: The Contractor shall establish a Quality Control system to assure compliance with contract requirements and shall maintain records of his quality control for all construction and dredging operations as required in the QUALITY CONTROL paragraphs in the Special Clauses.

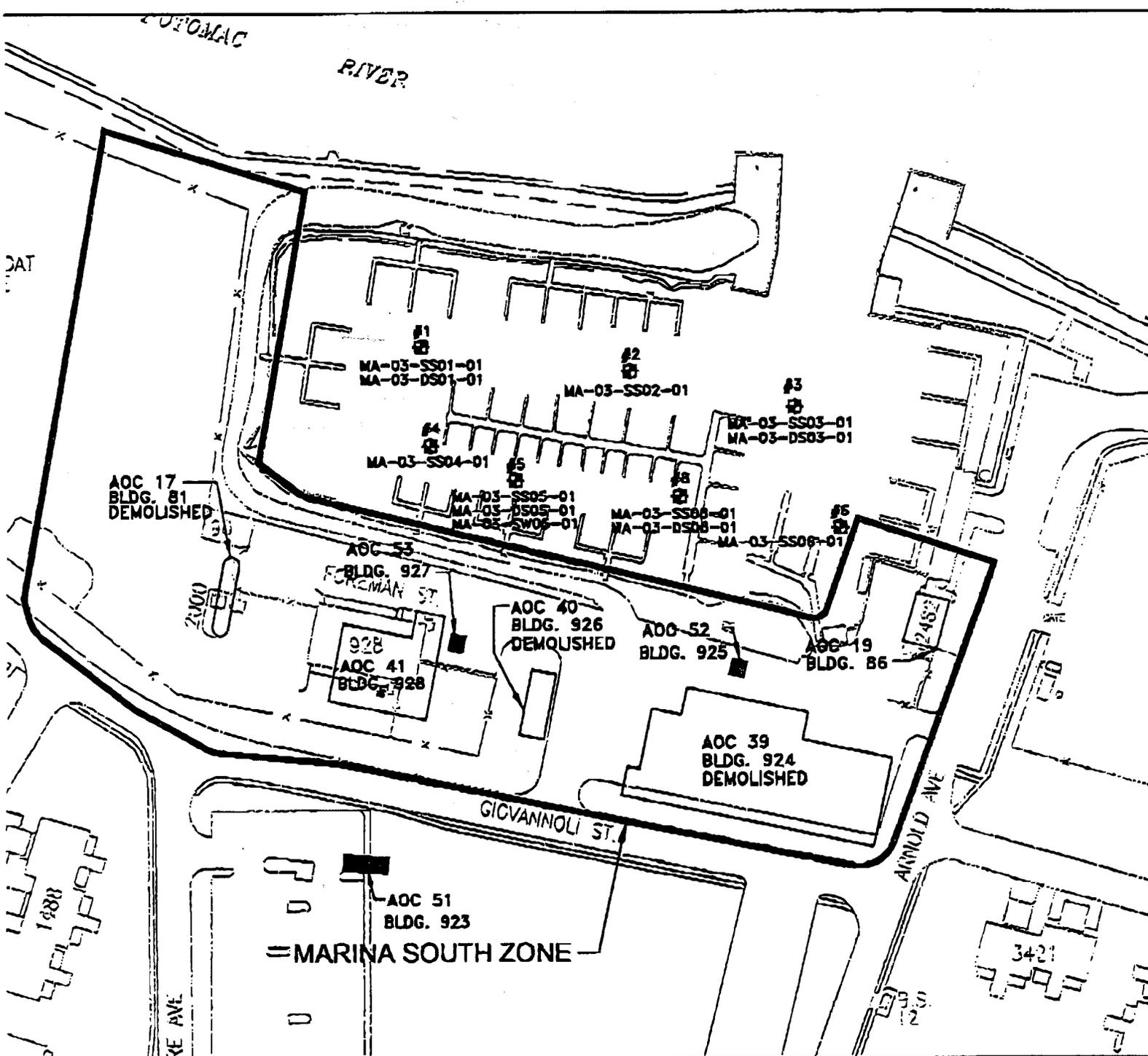
13. GENERAL INFORMATION:

13.1 Prior to any work being performed, a picture of the offloading site, all roads to and from the placement site, and any area work is to be performed, shall be photographed to document the current condition of these areas. The picture taking of these areas shall be in the presence of the inspector.

13.2 After the project is completed, the areas should again be photographed with the inspector to document all clean up and necessary repairs.

13.3 Copies of the photos (hard copy and digital) will be provided to the Corps.

End of Section



LEGEND

- MARINA SOUTH ZONE BOUNDARY
- AOC BOUNDARY
- #1
□ - SURFACE WATER/SEDIMENT SAMPLE LOCATION

MA-03-SS01-01
MA-03-DS01-01
MA-03-SS02-01
MA-03-SS03-01
MA-03-DS03-01
MA-03-SS04-01
MA-03-SS05-01
MA-03-DS05-01
MA-03-SS06-01
MA-03-DS06-01
MA-03-SS08-01

Table 2

Sediment Sample Characteristics
 Pre-Dredging Sampling
 Marina Dredging Project
 Bolling Air Force Base
 Washington, D.C.

Sample Location	Water Depth (feet)	Sample Depth (ft)	Shallow Sediment Thickness (feet)	Sample Recovery	Sediment Description	Comments
MA-03-SS01-01	7.0	7-9	1.5	0.3 (2)	Wet, very soft, gray-black to black organic silt, trace very fine sand, organic debris (leaves, branches etc)	
MA-03-DS01-01	7.0	9-12	-	2.4	Wet, gray fine sand, some silt	
MA-03-SS02-01	7.2	7-13	6	3.4	Wet, very soft, gray-black organic silt, some clay, trace very fine sand, organic debris	HNU - 0.2 ppm
MA-03-SS03-01	8.3	8-14	6	3.4	Wet, very soft, gray-black organic silt, trace very fine sand, organic debris (leaves, branches etc), hydrocarbon odor	HNU - 2 ppm
MA-03-SD03-01	8.3	14-15.5	-	1.4	Wet, gray-black, fine sand, some silt, hydrocarbon odor	HNU - 1.2 ppm
MA-03-SS04-01	5.0	5-7	2	0.4 (2)	Wet, very soft, gray-black organic silt, trace very fine sand, clay	
MA-03-SS05-01	5.0	5-7	1.5	0.4 (2)	Wet, very soft, gray-black organic silt, some clay trace very fine sand, organic debris (leaves, branches, etc.) slight hydrocarbon debris	HNU - 1.1 ppm
MA-03-DS05-05		7-9	-	1.5	Wet, gray, hard fine sand and silt, trace clay	
MA-03-SS06-01	8.0	8-12	<0.5	No recovery	Could not sample sediment at this location due to the wood debris and lack of sedimentation	
MA-03-SS08-01	6.8	7-12	2	0.3 (2)	Wet, very soft, dark gray, organic silt and organic debris, trace clay, very fine sand	
MA-03-DS08-01	6.8	12-14	-	2.4	Wet, dark gray, fine sand, some silt, trace clay	

(1) depth in terms of feet below the Potomac River level

(2) additional sediment collection was performed with a ponar dredge

**SEVERN
TRENT** **STL**

PARTICLE SIZE

0030

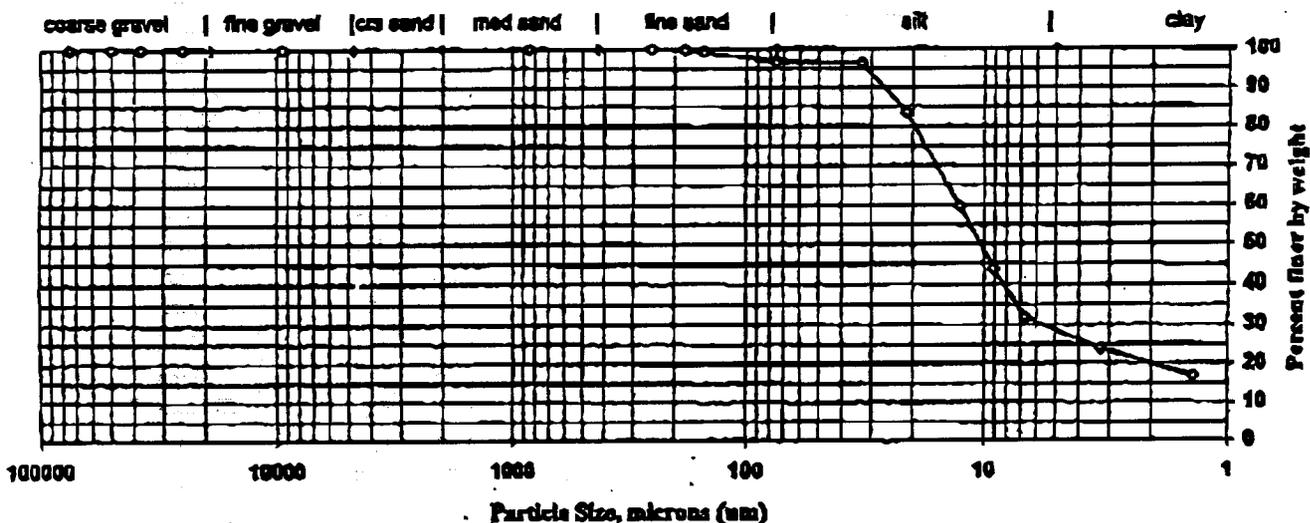
Particle Size of Soils by ASTM D422

Sample preparation method: D2217
 Client: STLOHN Project No.: 23008 ETR(s) #: 93715
 Client Code: STLOHN Job No.: CTO 176 SDG(s): 3E17101
 Date Received: 20-May-03 Start Date: 20-May-03 End Date: 26-May-03

Lab ID: 527720 Sample ID: SS01

Percent Solids: 27.9%
 Specific Gravity: 2.65 (assumed)
 Non-soil mass: 1.3%

MA-03-SS01
 Maximum Particle Size: Fine sand
 Shape (> #10): N/A
 Hardness (> #10): N/A



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	100.0	0.0
#20	850	100.0	0.0
#40	425	100.0	0.0
#60	250	100.0	0.0
#80	180	99.7	0.3
#100	150	99.3	0.4
#200	75	96.7	2.5
Hydrofracter	32.9	96.4	0.3
	21.3	83.5	12.9
	12.7	59.6	23.9
	9.1	43.7	15.9
	6.7	31.8	11.9
	3.2	23.9	8.0
V	1.4	16.9	7.0

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	3.3
Coarse Sand	0.0
Medium Sand	0.0
Fine Sand	3.3
Silt	64.9
Clay	31.8

0031

Dispersion Device: Mechanical mixer with a metal paddle.
 Dispersion Period: 1 minute

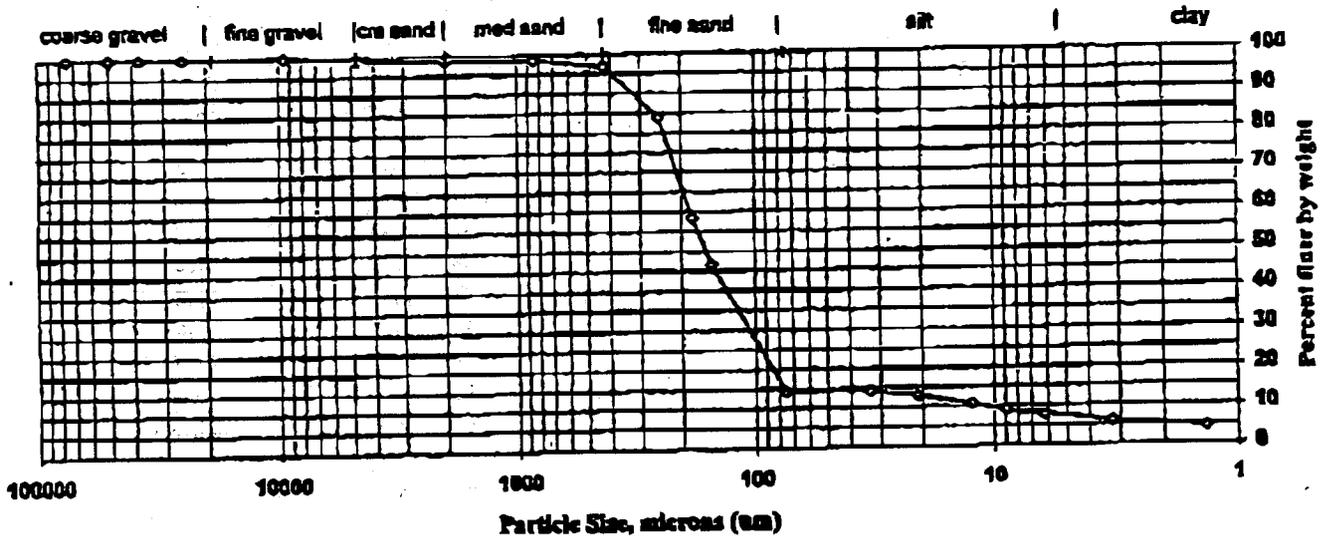
Particle Size of Soils by ASTM D422

Sample preparation method: D2217
 Client: STLOHN Project No.: 23008 RTR(s) #: 93715
 Client Code: STLOHN Job No.: CTO 176 SDG(s): 3E17101
 Date Received: 20-May-03 Start Date: 20-May-03 End Date: 26-May-03

Lab ID: 527721 Sample ID: SD01

Percent Solids: 75.8%
 Specific Gravity: 2.65 (assumed)
 Non-soil mass: 0.5%

MA-03-SD01
 Maximum Particle Size: 2.5 mm
 Shape (> #10): subangular
 Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	99.1	0.9
#10	2000	98.8	0.3
#20	850	98.6	0.3
#40	425	96.9	1.7
#60	250	83.8	13.2
#80	180	58.5	25.3
#100	150	46.5	12.0
#200	75	14.3	32.3
Hydrometer	32.9	14.2	0.1
	21.0	13.0	1.2
	12.4	10.7	2.3
	8.9	8.9	1.8
	6.2	7.8	1.2
	3.2	5.9	1.9
V	1.4	4.2	1.6

Soil Classification	Percent of Total Sample
Gravel	0.9
Sand	84.9
Coarse Sand	0.3
Medium Sand	1.9
Fine Sand	82.7
Silt	6.5
Clay	7.8

0032

Dispersion Device: Mechanical mixer with a metal paddle.
 Dispersion Period: 1 minute

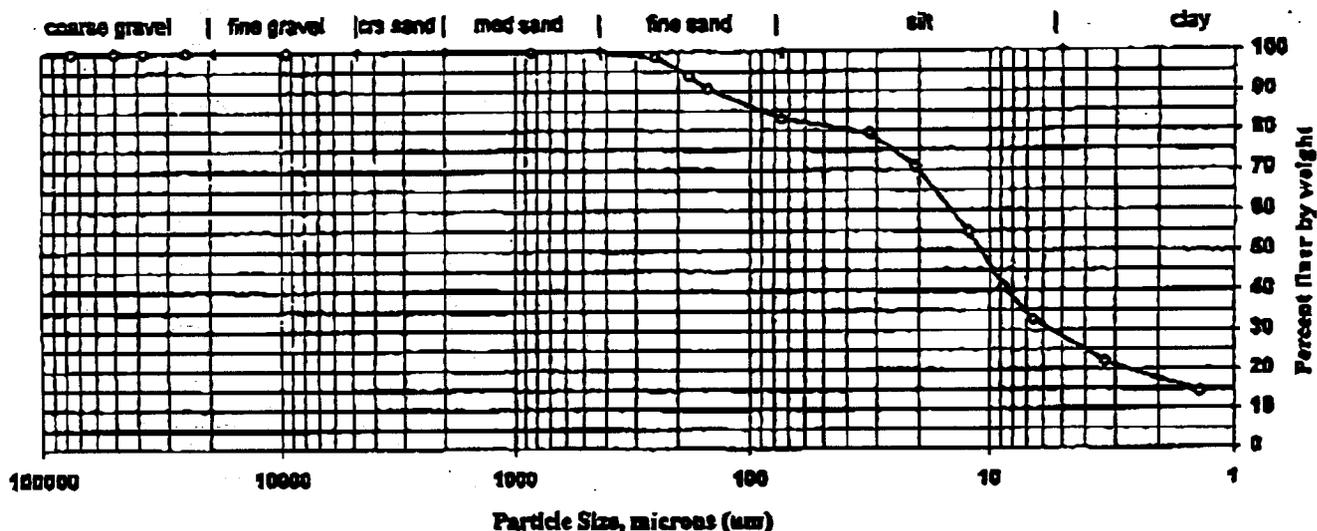
Particle Size of Soils by ASTM D422

Sample preparation method: D2217
 Client: STLOHN Project No.: 23008 ETR(s) #: 93715
 Client Code: STLOHN Job No.: CTO 176 SDG(s): 3E17101
 Date Received: 20-May-03 Start Date: 20-May-03 End Date: 26-May-03

Lab ID: 527722 Sample ID: SS02

Percent Solids: 38.1%
 Specific Gravity: 2.65 (assumed)
 Non-soil mass: 3.3%

MA-03-3502
 Maximum Particle Size: Med sand
 Shape (> #10): N/A
 Hardness (> #10): N/A



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	100.0	0.0
#20	850	100.0	0.0
#40	425	99.9	0.1
#60	250	98.7	1.2
#80	180	94.0	4.7
#100	150	90.6	3.4
#200	75	82.9	7.7
Hydrometer	32.3	79.1	3.7
	20.7	71.0	8.2
	12.4	54.6	16.4
	8.8	40.9	13.6
	6.6	32.7	8.2
	3.3	21.8	10.9
V	1.4	14.3	7.5

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	17.1
Coarse Sand	0.0
Medium Sand	0.1
Fine Sand	17.0
Silt	50.1
Clay	32.7

0033

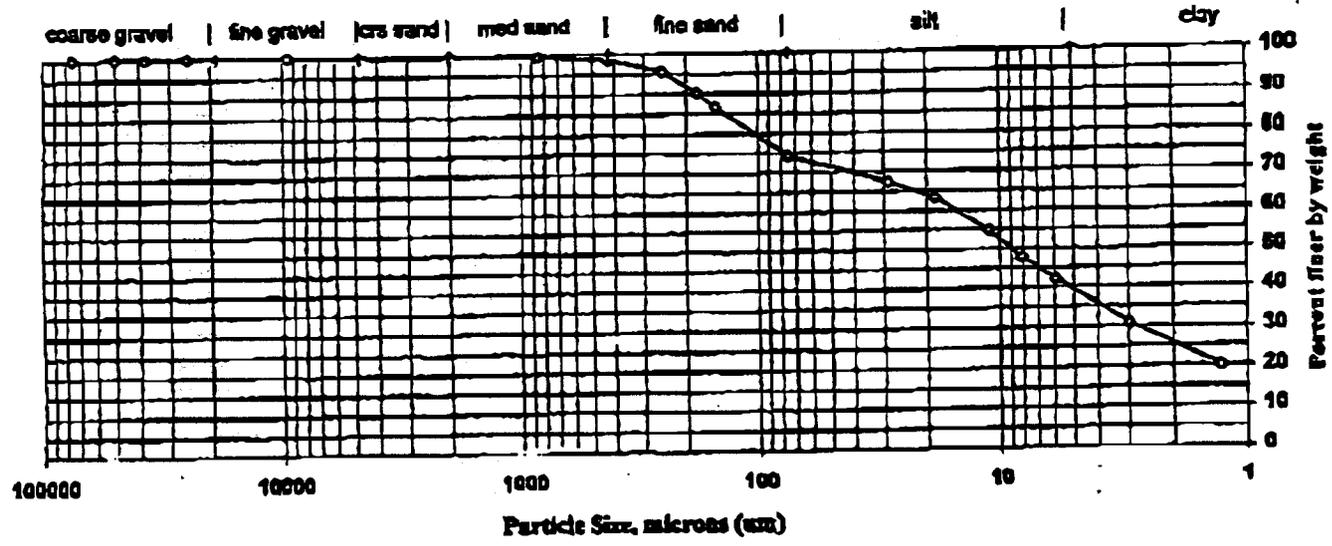
Dispersion Device: Mechanical mixer with a metal paddle.
 Dispersion Period: 1 minute

Particle Size of Soils by ASTM D422

Sample preparation method: D2217
 Client: STLOHN Project No.: 23008 ETR(s) #: 93715
 Client Code: STLOHN Job No.: CTO 176 SDG(s): 3E17101
 Date Received: 20-May-03 Start Date: 20-May-03 End Date: 27-May-03

Lab ID: S27723 Sample ID: SS03

MA-03-5503
 Percent Solids: 55.1% Maximum Particle Size: 2.5 mm
 Specific Gravity: 2.65 (assumed) Shape (> #10): subangular
 Non-soil mass: 0.1% Hardness (> #10): brittle



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	99.6	0.4
#10	2000	99.6	0.0
#20	850	99.4	0.2
#40	425	98.7	0.7
#60	250	95.6	3.1
#80	180	90.2	5.3
#100	150	86.7	3.5
#200	75	74.2	12.5
Hydrometer	28.7	67.5	6.7
	18.5	63.3	4.2
	11.1	54.8	8.5
	8.1	47.8	7.1
	5.9	42.1	5.6
	3.0	30.8	11.3
V	1.3	20.0	10.8

Soil Classification	Percent of Total Sample
Gravel	0.4
Sand	25.4
Coarse Sand	0.0
Medium Sand	0.9
Fine Sand	24.5
Silt	32.1
Clay	42.1

0034

Dispersion Device: Mechanical mixer with a metal paddle.
 Dispersion Period: 1 minute

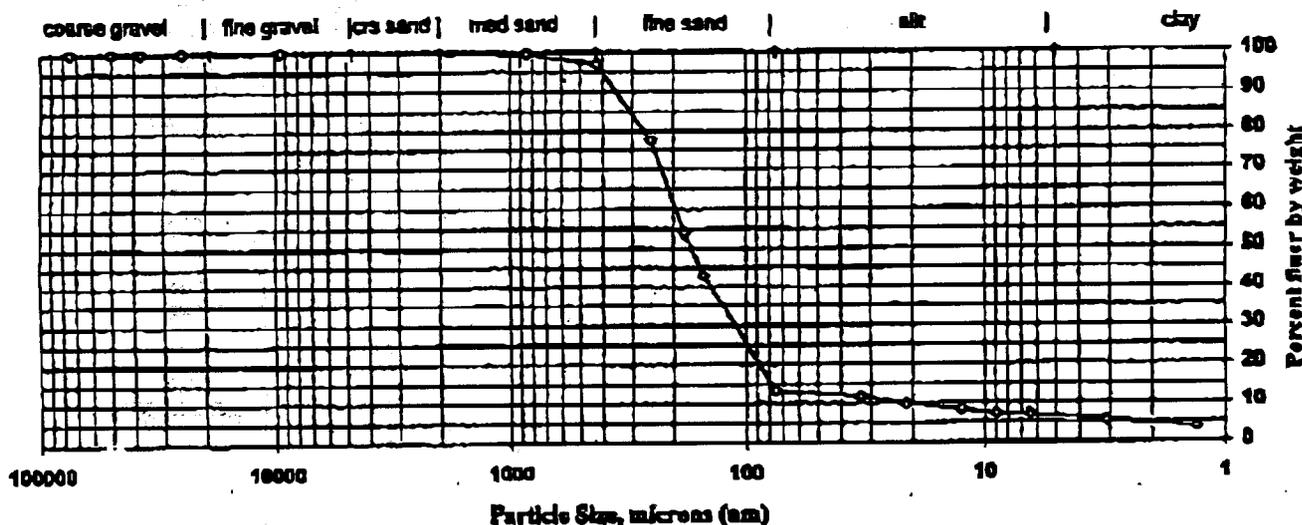
Particle Size of Soils by ASTM D422

Sample preparation method: D2217
 Client: STLOHN Project No.: 23008 ETR(s) #: 93715
 Client Code: STLOHN Job No.: CTO 176 SDG(s): 3E17101
 Date Received: 20-May-03 Start Date: 20-May-03 End Date: 27-May-03

Lab ID: S27724 Sample ID: SD03

Percent Solids: 76.8%
 Specific Gravity: 2.65 (assumed)
 Non-soil mass: 0.1%

MA-03-SD03
 Maximum Particle Size: Coarse sand
 Shape (> #10): subangular
 Hardness (> #10): hard



Stieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	99.9	0.1
#20	850	99.7	0.2
#40	425	97.0	2.7
#60	250	77.6	19.4
#80	180	53.9	23.7
#100	150	43.0	10.8
#200	75	13.1	29.9
Hydrometer	33.1	11.5	1.6
	21.4	9.7	1.8
	12.5	8.4	1.3
	8.9	7.1	1.3
	6.4	7.1	0.0
	3.1	5.3	1.8
V	1.3	3.7	1.6

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	86.9
Coarse Sand	0.1
Medium Sand	2.9
Fine Sand	83.9
Silt	6.1
Clay	7.1

0035

Dispersion Device: Mechanical mixer with a metal paddle.
 Dispersion Period: 1 minute

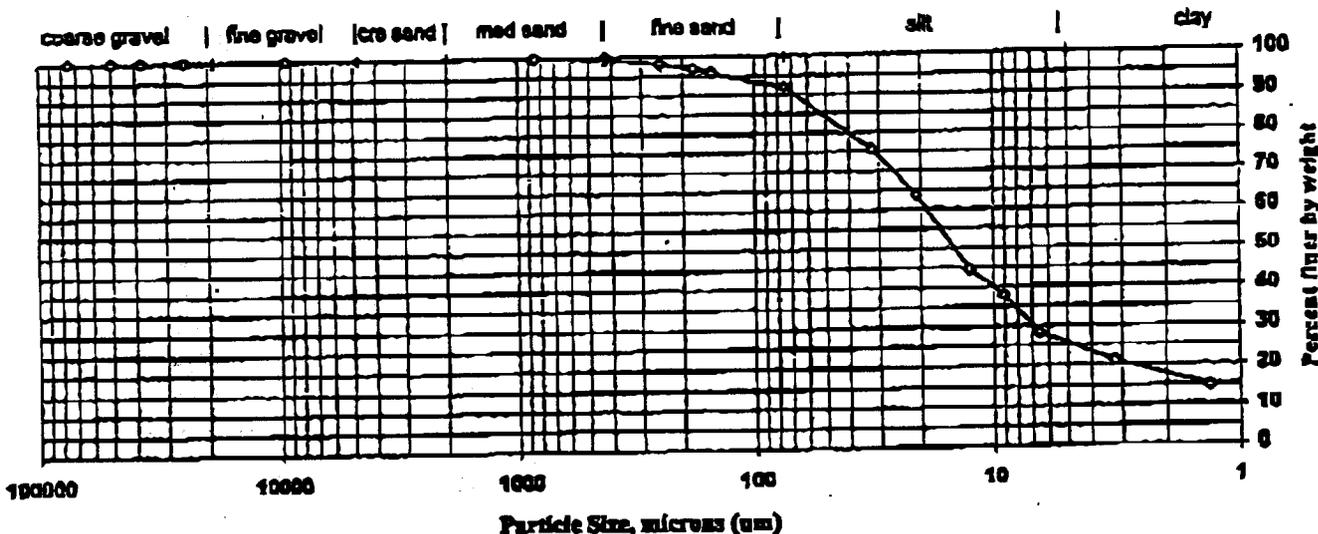
Particle Size of Soils by ASTM D422

Sample preparation method: D2217
 Client: STLOHN Project No.: 23008 ETR(s) #: 93715
 Client Code: STLOHN Job No.: CTO 176 SDG(s): 3E17101
 Date Received: 20-May-03 Start Date: 20-May-03 End Date: 27-May-03

Lab ID: 527725 Sample ID: SS04

Percent Solids: 26.7%
 Specific Gravity: 2.65 (assumed)
 Non-soil mass: 9.6%

MA-63-SS04
 Maximum Particle Size: Med sand
 Shape (> #10): N/A
 Hardness (> #10): N/A



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	100.0	0.0
#20	850	99.9	0.1
#40	425	99.4	0.5
#60	250	98.2	1.1
#80	180	96.9	1.4
#100	150	96.8	1.0
#200	75	91.9	3.9
Hydrometer	32.0	75.6	16.3
	20.8	63.7	11.9
	12.5	44.6	19.1
	9.1	37.8	6.8
	6.5	29.3	9.6
	3.2	21.1	7.2
V	1.3	14.7	6.4

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	8.1
Coarse Sand	0.0
Medium Sand	0.6
Fine Sand	7.4
Silt	63.7
Clay	28.3

0036

Dispersion Device: Mechanical mixer with
 a metal paddle.
 Dispersion Period: 1 minute

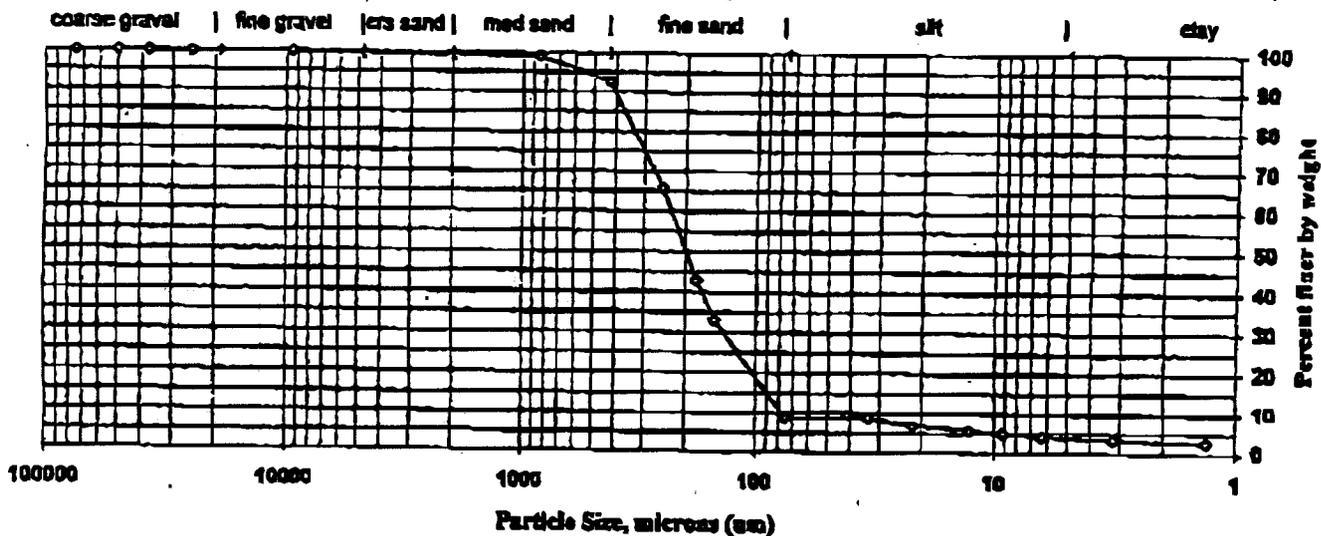
Particle Size of Soils by ASTM D422

Sample preparation method: D2217
 Client: STLOHN Project No.: 23008 ETR(s) #: 93715
 Client Code: STLOHN Job No.: CTO 176 SDG(s): 3E17101
 Date Received: 20-May-03 Start Date: 20-May-03 End Date: 27-May-03

Lab ID: 527727 Sample ID: SS05

Percent Solids: 80.3%
 Specific Gravity: 2.65 (assumed)
 Non-soil mass: 0.0%

MA-03-SS05
 Maximum Particle Size: 2.5 mm
 Shape (> #10): subrounded
 Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	99.6	0.4
#10	2000	99.5	0.1
#20	850	99.0	0.5
#40	425	92.6	6.5
#60	250	65.8	26.8
#80	180	43.0	22.8
#100	150	32.9	10.0
#200	75	8.8	24.1
Hydrometer	33.6	8.8	0.1
	21.8	6.8	1.9
	12.8	5.7	1.2
	9.2	5.0	0.7
	6.3	4.2	0.8
	3.2	3.4	0.8
V	1.3	2.8	0.6

Soil Classification	Percent of Total Sample
Gravel	0.4
Sand	90.8
Coarse Sand	0.1
Medium Sand	6.9
Fine Sand	83.7
Silt	4.6
Clay	4.2

0037

Dispersion Device: Mechanical mixer with a metal paddle.
 Dispersion Period: 1 minute

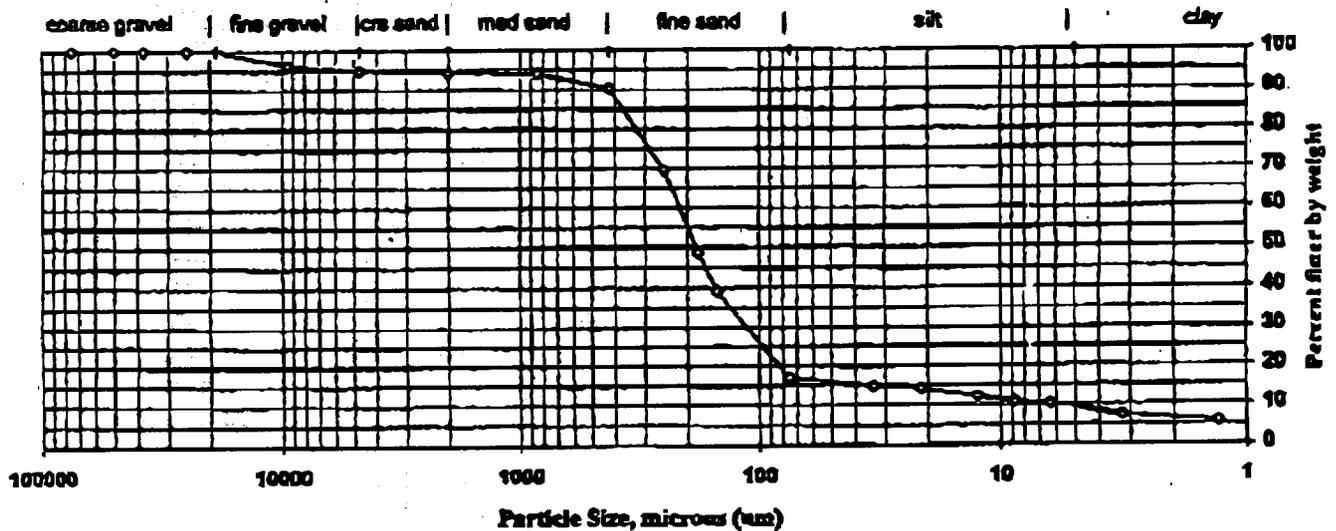
Particle Size of Soils by ASTM D422

Sample preparation method: D2217
 Client: STLOHN Project No.: 23008 ETR(s) #: 93715
 Client Code: STLOHN Job No.: CTO 176 SDG(s): 3E17101
 Date Received: 20-May-03 Start Date: 20-May-03 End Date: 27-May-03

Lab ID: 5Z7728 Sample ID: SD05

Percent Solids: 72.7%
 Specific Gravity: 2.65 (assumed)
 Non-soil mass: 0.2%

MA-03-SD05
 Maximum Particle Size: 19mm
 Shape (> #10): rounded
 Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	96.2	3.8
#4	4750	94.9	1.3
#10	2000	94.3	0.6
#20	850	94.0	0.3
#40	425	90.3	3.7
#60	250	69.6	20.7
#80	180	48.7	20.9
#100	150	39.2	9.5
#200	75	16.3	22.4
Hydrometer	33.5	14.9	1.9
	21.3	14.2	0.7
	12.5	12.1	2.0
	8.8	10.8	1.4
	6.3	10.2	0.6
	3.2	7.4	2.8
V	1.3	5.7	1.7

Soil Classification	Percent of Total Sample
Gravel	5.1
Sand	78.1
Coarse Sand	0.6
Medium Sand	4.0
Fine Sand	73.5
Silt	6.6
Clay	10.2

0038

Dispersion Device: Mechanical mixer with a metal paddle.
 Dispersion Period: 1 minute

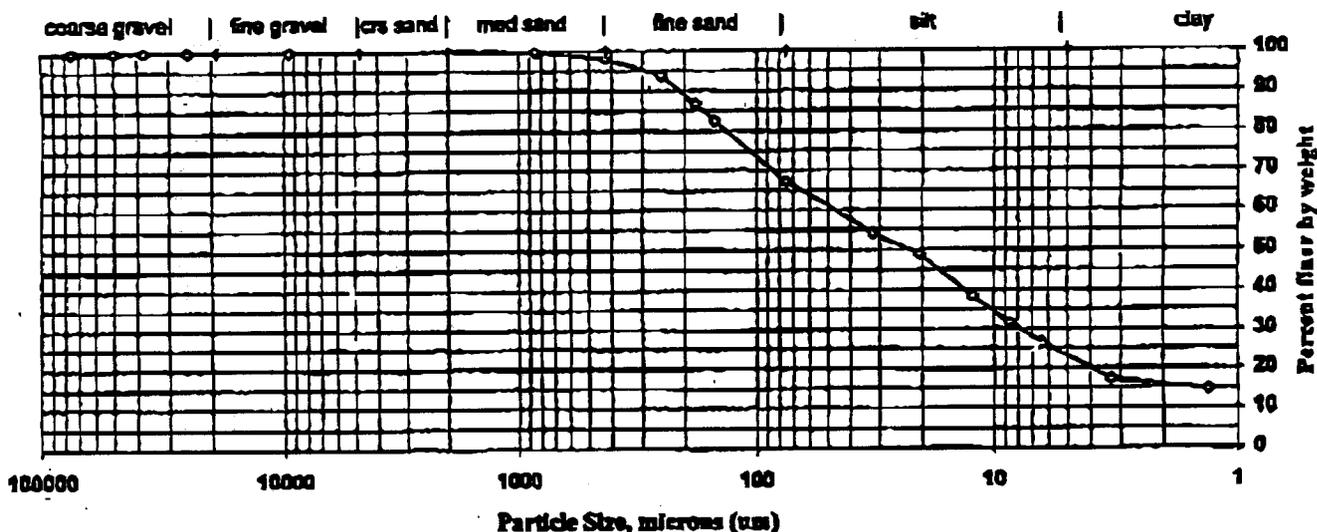
Particle Size of Soils by ASTM D422

Sample preparation method: D2217
 Client: STLOHN Project No.: 23008 ETR(s) #: 93715
 Client Code: STLOHN Job No.: CTO 176 SDG(s): 3E17101
 Date Received: 20-May-03 Start Date: 20-May-03 End Date: 27-May-03

Lab ID: 527731 Sample ID: SS08

Percent Solids: 46.6%
 Specific Gravity: 2.65 (assumed)
 Non-soil mass: 1.3%

MA-03-SS08
 Maximum Particle Size: Crs sand
 Shape (> #10): subangular
 Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	99.9	0.1
#20	850	99.6	0.3
#40	425	98.1	1.5
#60	250	93.7	4.4
#80	180	86.7	7.0
#100	150	82.5	4.2
#200	75	67.3	15.2
Hydrometer	31.9	54.1	13.2
	20.5	48.8	5.3
	12.2	38.3	10.5
	8.6	31.6	6.7
	6.4	26.3	5.3
	3.3	17.3	9.1
V	1.3	14.6	2.6

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	32.7
Coarse Sand	0.1
Medium Sand	1.9
Fine Sand	30.8
Silt	41.0
Clay	26.3

0039

Dispersion Device: Mechanical mixer with a metal paddle.
 Dispersion Period: 1 minute

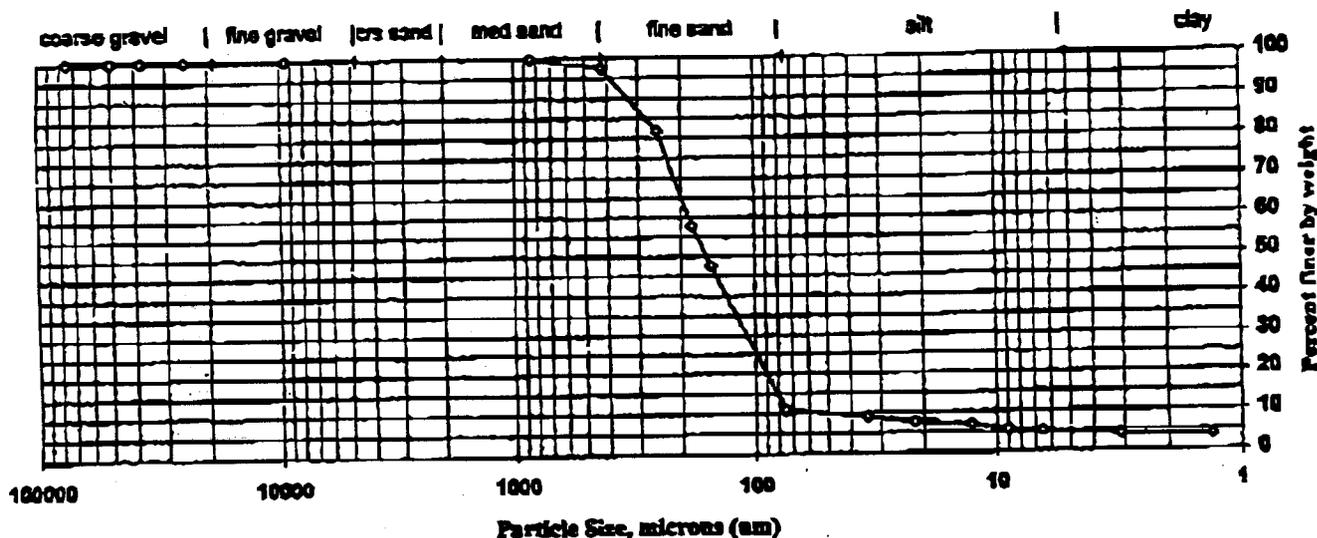
Particle Size of Soils by ASTM D422

Sample preparation method: D2217
 Client: STLOHN Project No.: 23008 ETR(s) #: 93715
 Client Code: STLOHN Job No.: CTO 176 SDG(s): 3E17101
 Date Received: 20-May-03 Start Date: 20-May-03 End Date: 27-May-03

Lab ID: 527732 Sample ID: SD08

Percent Solids: 77.6%
 Specific Gravity: 2.65 (assumed)
 Non-soil mass: 0.0%

MA-03-SD08
 Maximum Particle Size: Coarse sand
 Shape (> #10): subrounded
 Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	99.9	0.1
#20	850	99.2	0.1
#40	425	97.6	2.1
#60	250	81.7	15.9
#80	180	57.9	23.8
#100	150	47.4	10.5
#200	75	10.9	36.6
Hydrometer	34.1	8.9	1.9
	21.8	7.6	1.3
	12.7	6.7	0.9
	8.9	5.4	1.4
	6.5	4.9	0.5
	3.1	4.0	0.9
V	1.3	3.7	0.3

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	89.1
Coarse Sand	0.1
Medium Sand	2.3
Fine Sand	86.8
Silt	5.9
Clay	4.9

0040

Dispersion Device: Mechanical mixer with a metal paddle.
 Dispersion Period: 1 minute

4275

STL North Canton

Project No: 23008
 Job No: CTO 176
 Start Date: 20-May-03

Client: STLOHN
 Client Code: STLOHN
 Date Received: 20-May-03

Set Number
 3E17101

ETR(g) #: 93715
 SDG(g): 3E17101
 End Date: 26-May-03

Particle Size Analysis
 Hydrometer Data

Date and Analyst

Percent Solids	Hydrometer	Large sieves	Non-sift	Small sieves
MAP 5/21/03	MAP 5/22/03	MAP 5/22/03	MAP 5/22/03	MRD 1/21/03
DMA 5/22/03	MAP 5/21/03	LBT 5/23/03	LBT 5/23/03	MAP 5/26/03

Test number	Lab number	1	2	3	4	5	6	7	8	9	10	11	12
Time, min. (2)	Reading		2	2	2	2	2	2	2	2	2	2	2
Temperature, C											1.0135	1.0135	1.0160
Time, min. (5)	Reading		5	5	5	5	5	5	5	5	5	5	5
Temperature, C											1.0120	1.0125	1.0145
Time, min. (15)	Reading		15	15	15	15	15	15	15	15	15	15	15
Temperature, C											23.0	23.5	23.0
Time, min. (30)	Reading		30	29	29	31	31	31	32	30	30	30	31
Temperature, C											1.0070	1.0090	1.0090
Time, min. (60)	Reading		59	58	63	60	59	59	60	63	57	63	57
Temperature, C											1.0055	1.0080	1.0075
Time, min. (250)	Reading		256	250	250	240	234	263	259	253	247	241	235
Temperature, C											1.0045	1.0065	1.0055
Time, min. (1440)	Reading		1440	1434	1434	1424	1418	1412	1406	1400	1394	1388	1382
Temperature, C											1.0035	1.0050	1.0040
											23.0	23.5	23.5

Hydrometer used: S48358 Model #: ASTM 151H
 Manufacturer: CHASE
 Cal. Date: 01-Nov-02
 Hydrometer start time: 14:23
 Hydrometer data entered: MAP 5/23/03

Calibrations:	L temp, C	L read	H Temp, C	H read
	17.0	1.0030	23.0	1.0015

05/27/2003

STL Burlington

3E17101PS::Hydrometer

4276

STL North Canton

ETR(s) #: 93715
 SNG(s): 3E17101
 End Date: 5/26/02

Project No.: 23008
 Job No.: CTO 176
 Start Date: 20-May-03

Client: STLOHN
 Client Code: STLOHN
 Date Received: 20-May-03

Set Number
 3E17101

Particle Size Analysis
 Hydrometer Data

Date and Analyst

Percent Solids	Weighted/Mixed	Hydrometer	Large sieves	Non-soil	Small sieves
MAP 5/21/03	MAP 5/21/03	MAP 5/21/03	MAP 5/21/03	MAP 5/21/03	MAP 5/21/03
DWA 5/21/03	MAP 5/21/03	MAP 5/21/03	MAP 5/21/03	MAP 5/21/03	MAP 5/21/03

Test number
 Lab number
 Time, min. (2)
 Reading
 Temperature, C
 Time, min. (5)
 Reading
 Temperature, C
 Time, min. (15)
 Reading
 Temperature, C
 Time, min. (30)
 Reading
 Temperature, C
 Time, min. (60)
 Reading
 Temperature, C
 Time, min. (250)
 Reading
 Temperature, C
 Time, min. (1440)
 Reading
 Temperature, C

1	2	3	4	5	6	7	8	9	10	11	12
									527720	527721	527722
2	2	2	2	2	2	2	2	2	2	2	2
									1.0135	1.0135	1.0160
									23.5	23.5	23.0
5	5	5	5	5	5	5	5	5	5	5	5
									1.0120	1.0125	1.0145
									23.0	23.5	23.0
15	15	15	15	15	15	15	15	15	15	15	15
									1.0090	1.0105	1.0115
									23.0	23.5	23.0
30	30	29	29	31	31	31	32	30	30	30	31
									1.0070	1.0090	1.0090
									23.0	23.5	23.0
59	58	58	63	60	59	59	60	63	57	63	57
									1.0052	1.0080	1.0035
									23.0	23.5	23.0
256	256	250	250	240	234	265	259	253	247	241	235
									1.0045	1.0065	1.0055
									23.0	23.0	23.0
1440	1440	1434	1434	1424	1418	1412	1406	1400	1394	1388	1382
									1.0035	1.0050	1.0040
									23.5	23.5	23.5

Hydrometer used: 542358 Model #: ASTM 15H
 Calibration: L temp, C 17.0 L read 23.0 H Temp, C 23.0 H read 23.0
 Manufacturer: Cal. Date: 01-Nov-02 Hydrometer start time: 11:23
 Hydrometer data entered:

05/20/2003

STL Burlington

3E17101PS::Hydrometer

4277

STL North Canton

Project No.: 23008
 Job No.: CTO 176
 Start Date: 20-May-03

Client: STLOHN
 Client Code: STLOHN
 Date Received: 20-May-03

Set Number
 3E17101D

ETR(9) #: 93715
 SDG(9): 3E17101
 End Date: 27-May-03

Particle Size Analysis
 Hydrometer Data

Date and Analyst

Percent Solids	Weighted/Mixed	Hydrometer	Large sieves	Non-Soil	Small sieves
LBT 5/21/03	LBT 5/21/03	LBT 5/22/03	MAP 5/22/03	MAP 5/22/03	MRD 5/22/03
DMA3/22/00	MAP 5/22/01	LB 5/22/03	MAP 5/24/03	MAP 5/24/03	MRD 5/22/03

Test number	Lab number	Time, min. (2)	Reading	Temperature, C	Time, min. (5)	Reading	Temperature, C	Time, min. (15)	Reading	Temperature, C	Time, min. (30)	Reading	Temperature, C	Time, min. (60)	Reading	Temperature, C	Time, min. (250)	Reading	Temperature, C	Time, min. (1440)	Reading	Temperature, C	
527723	527724	2	527725	527727	527728	527731	527732	8	9	10	11	12											
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1.0260	1.0150	1.0100	1.0135	1.0130	1.0175	1.0120	1.0120																
22.5	22.0	22.0	22.0	22.5	22.5	22.5	22.0																
5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
1.0245	1.0130	1.0155	1.0110	1.0125	1.0160	1.0105	1.0105																
22.5	22.0	22.0	22.0	22.5	22.5	22.5	22.5																
15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
1.0215	1.0115	1.0115	1.0095	1.0110	1.0130	1.0095	1.0095																
22.5	22.0	22.0	22.0	22.5	22.5	22.5	22.5																
30	30	29	29	29	31	31	31	32	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
1.0190	1.0100	1.0100	1.0085	1.0100	1.0110	1.0080	1.0080																
22.5	22.5	22.5	22.5	22.5	23.0	23.0	22.5																
59	58	58	63	60	59	59	59	60	63	57	63	57	63	57	63	57	63	57	63	57	63	57	63
1.0170	1.0100	1.0080	1.0075	1.0095	1.0095	1.0075	1.0075																
22.5	22.5	22.5	22.5	23.0	23.0	23.0	22.5																
256	256	250	250	240	234	265	265	259	253	247	241	235	235	235	235	235	235	235	235	235	235	235	235
1.0130	1.0080	1.0065	1.0065	1.0075	1.0070	1.0065	1.0065																
22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5																
1440	1440	1434	1434	1424	1418	1412	1412	1406	1400	1394	1388	1382	1382	1382	1382	1382	1382	1382	1382	1382	1382	1382	1382
1.0090	1.0060	1.0050	1.0055	1.0060	1.0060	1.0060	1.0060																
23.5	23.5	23.5	23.5	24.0	24.0	24.0	23.5																

Hydrometer used: 723427 Model #: ASTM 151H
 Calibration: L temp, C 17.0 L read 1.0030 H Temp, C 23.0 H read 1.0020
 Manufacturer: VWR
 Cal Date: 01-Nov-02
 Hydrometer start time: 13:45
 Hydrometer data entered: LBT 5/23/03

05/27/2003

STL Burlington

3617101BPS::Hydrometer

**Particle Size Analysis
Hydrometer Data**

Set Number
3E17101B

Client: **STLOHN**
Client Code: **STLOHN**
Date Received: **20-May-03**

Project No.: **23008**
Job No.: **CTO 176**
Start Date: **20-May-03**

ETR(O) #: **93715**
SDG(s): **3E17101**
End Date:

Date and Analyst

Percent Solids	Weighted/Mixed	Hydrometer	Large sieves	Non-Soil	Small sieves
6.21.03	6.21.03	6.22.03	MAP 5-22-03	MAP 5-22-03	MAP 5-22-03
0.21.03	0.22.03	0.22.03	MAP 5-22-03	MAP 5-22-03	MAP 5-22-03

Test number	Lab number	3	4	5	6	7	8	9	10	11	12
527723	527724	527725	527727	527728	527731	527732					
1.0150	1.0150	1.0130	1.0135	1.0130	1.0175	1.0120					
22.5	22.0	22.0	22.0	22.5	22.5	22.0					
1.0115	1.0130	1.0155	1.0110	1.0125	1.0160	1.0165					
22.5	22.0	22.0	23.0	22.5	22.6	22.5					
1.0115	1.0115	1.0115	1.0095	1.0110	1.0130	1.0115					
22.5	22.0	22.0	22.0	22.5	22.5	22.5					
1.0110	1.0110	1.0110	1.0110	1.0110	1.0110	1.0080					
22.6	22.5	22.5	22.5	22.5	23.0	22.5					
1.0170	1.0095	1.0080	1.0175	1.0095	1.0095	1.0075					
22.6	22.5	22.5	22.5	22.0	23.0	22.5					
1.0130	1.0080	1.0065	1.0065	1.0075	1.0070	1.0065					
22.5	22.5	22.5	22.5	22.5	22.5	22.5					
1.0140	1.0140	1.0140	1.0140	1.0140	1.0140	1.0140					
22.5	22.5	22.5	22.5	22.5	22.5	22.5					
1.0140	1.0140	1.0140	1.0140	1.0140	1.0140	1.0140					
22.5	22.5	22.5	22.5	22.5	22.5	22.5					

- Time, min. (2)
- Reading
- Temperature, C
- Time, min. (5)
- Reading
- Temperature, C
- Time, min. (15)
- Reading
- Temperature, C
- Time, min. (30)
- Reading
- Temperature, C
- Time, min. (60)
- Reading
- Temperature, C
- Time, min. (250)
- Reading
- Temperature, C
- Time, min. (1440)
- Reading
- Temperature, C

Hydrometer used: **2.23427** Model #: **ASTM 151H**
 Calibrations: L temp, C **17.0** L read **1434** H Temp, C **23.0** H read **1424**

Manufacturer: **ASTM 151H**
 Cal. Date: **01-Nov-02**
 Hydrometer data entered: **LOT 6-23-03**
 Hydrometer start time: **5:45**

DAILY REPORT OF OPERATIONS				CONTRACT NO.	DATE	RCS ENKW-37 (Feeder)		
DREDGE				CONTRACTOR				
LOCATION OF WORK (Range, Stationing, Longitudinal position)					CHARACTER OF WORK () Maintenance () New			
DISPOSAL AREA OR REHANDLING BASIN			LENGTH OF DISCHARGE PIPELINE: Total Length Ft. Pontoon Ft. Shore Ft. Submerged Ft.					
CHARACTER OF MATERIAL AND PERCENTAGE OF EACH Gravel Sand Clay Mud Silt Hardpan Stone Others								
AVERAGE DEPTH (Feet and Tenths) Before Dredging After Dredging Payment Depth					WEATHER			
VELOCITY OF DISCHARGE Feet Per Second		AVERAGE VACUUM Inches		AVERAGE DISCHARGE PRESSURE Lbs.		IN PLACE DENSITY G/L		
DENSITY OF RIVER WATER		DENSITY OF WATER DISCHARGING OVER SLUICE WEIR			HEIGHT OF DISCHARGE OVER SLUICE WEIR			
NUMBER OF MEN		MAN HOURS			MAN HOURS TO DATE			
WORK PERFORMED				DISTRIBUTION OF TIME				
ITEM	UNIT	AMOUNT		EFFECTIVE WORKING TIME	HOURS	MINUTES		
		GROSS	NET					
Av. width of cut	Feet			Dredging				
Area dredged	Sq. Ft.				Percentage of total time			
Distance advanced this period	Feet				NON-EFFECTIVE TIME			
Distance advanced previously	Feet				Handling pipe lines			
Distance advanced to date	Feet				Handling swinging lines			
Scows loaded	Number				Clearing pump and pipe line			
Av. load per scow	Cu. Yds.				Clearing cutter or suction head			
Amt. dredged pumping hr.	Cu. Yds.				Taking fuel and supplies			
Amt. dredged this period	Cu. Yds.				Changing location of plant on job			
Amt. dredged previously	Cu. Yds.				Loss due to opposing natural elements			
Total amt. dredged to date	Cu. Yds.				Loss due to passing vessels			
Av. pump speed	R.P.M.				Minor operating repairs			
Av. discharge lift	Feet				Waiting for attendant plant			
					Preparations			
					Transferring plant between works			
ATTENDANT PLANT				Lay time off shift				
ITEM	NAME	HOURS		Sundays and Holidays				
Tugboat				Waiting for scows				
Tugboat				Fire and boat drills				
Launch				Miscellaneous (Explain in remarks)				
Barges				Total Non-effective Time				
Barges				Percentage of Total Time				
Scows				LOST TIME (Not chargeable to cost of work)				
Derrick				Repair time (8 consecutive hours or more)				
				Collisions				
COMMODITIES CONSUMED				Out of commission				
ITEM	UNIT	QUANTITY		Miscellaneous (Explain in remarks)				
Fuel oil	Gals.			Total Lost Time				
Lubricants	Gals.			Percentage of total time				
Lubricants	Pounds			TOTAL TIME IN PERIOD				
Water	Gals.							
No. of Supervisory Inspections: By field personnel				By office personnel				
REMARKS (Attach additional sheet, if necessary)								

