

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT			1. CONTRACT ID CODE	PAGE OF PAGES
			J	1 5
2. AMENDMENT/MODIFICATION NO. 0001	3. EFFECTIVE DATE 09-Jul-2004	4. REQUISITION/PURCHASE REQ. NO. W25PHS-4105-8672		5. PROJECT NO.(if applicable)
6. ISSUED BY US ARMY ENGINEER DISTRICT, PHILADELPHIA CONTRACTING DIVISION WANAMAKER BUILDING 100 PENN SQUARE EAS PHILADELPHIA PA 19107-3390	CODE W912BU	7. ADMINISTERED BY (If other than item 6) US ARMY ENGINEER DISTRICT, PHILADELPHIA POC: SANDRA FLETCHER WANAMAKER BUILDING 100 PENN SQUARE EAST PHILADELPHIA PA 19107-3390		CODE E5CTCSGF
8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		X	9A. AMENDMENT OF SOLICITATION NO. W912BU-04-B-0020	
		X	9B. DATED (SEE ITEM 11) 25-Jun-2004	
			10A. MOD. OF CONTRACT/ORDER NO.	
			10B. DATED (SEE ITEM 13)	
CODE	FACILITY CODE			
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS				
<input checked="" type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer <input type="checkbox"/> is extended, <input checked="" type="checkbox"/> is not extended.				
Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.				
12. ACCOUNTING AND APPROPRIATION DATA (If required)				
MAINTENANCE DREDGING, WILMINGTON HARBOR, CHRISTINA RIVER, DELAWARE				
13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.				
A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.				
B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).				
C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:				
D. OTHER (Specify type of modification and authority)				
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input type="checkbox"/> is required to sign this document and return _____ copies to the issuing office.				
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)				
THIS AMENDMENT DOES NOT EXTEND THE 27 JULY 2004 BID OPENING DATE AT 2:00 P.M.				
Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.				
15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)		
		TEL: _____ EMAIL: _____		
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA		16C. DATE SIGNED
(Signature of person authorized to sign)		BY _____		08-Jul-2004
		(Signature of Contracting Officer)		

14. DESCRIPTION OF AMENDMENT (continued)

a. SF 1442 AND BIDDING SCHEDULE: Section 00010, Page 3 - Please delete page 00010-3 in its entirety and substitute the new page of the same number, annotated Amendment No. 0001, attached hereto.

NOTE: The following sections were amended. For simplicity, the complete section is being reissued to enable complete substitution/insertion of the section in existing hard copies. To make detection of changes easier, only those pages with changes on them are annotated with "Amendment No. 0001" in the upper right corner. In addition, changes on a page are highlighted in ***bold italics***.

b. SPECIAL CONTRACT REQUIREMENTS:

(1) SECTION 00800 - SPECIAL CLAUSES - Please delete Section 00800 in its entirety and substitute the new section of the same number, annotated Amendment No. 0001, attached hereto.

c. TECHNICAL SPECIFICATIONS:

(1) Section 02325 - DREDGING: Please delete pages 02325-1 through 13 in its entirety and substitute the new pages of the same numbers, annotated Amendment No. 0001, attached hereto.

d. CONTRACT DRAWINGS: Drawing Nos. 62472 and 62473 - Please delete Drawing Number 62472, "SOUNDINGS, STA. 000+00 TO STA. 6+236.8", and Drawing Number 62473, "SECTIONS", in their entirety and substitute the revised sheets, of the same Drawing Numbers, with a revision date of 9 July 2004, attached hereto.

e. Please indicate receipt of this amendment on Standard Form 1442 (SOLICITATION, OFFER, AND AWARD) as Amendment No.0001. Failure to acknowledge all amendments may be cause for rejection of the bid.

BIDDING SCHEDULE
 (To be attached to SF 1442)

Item No.	Description	Estimated Quantity	Unit	Unit Price	Estimated Amount
1.	Mobilization & Demobilization	1	JOB	L.S.	\$
2.	Removal & Satisfactory Disposal of Material	406,880	CY	\$	\$
	Adjustment in bid price if Contractor-furnished disposal areas, described as hereinafter specified, are used, deduct	1	JOB	L.S.	(\$)
TOTAL ESTIMATED AMOUNT					\$

NOTE: Bidders must bid on all items.

ACCEPTANCE OF ADJUSTMENT FOR CONTRACTOR-FURNISHED DISPOSAL AREAS: Award of the contract on the basis of using Contractor-furnished disposal areas will be subject to the acceptance of these disposal areas by the Contracting Officer. The Contractor shall be required to obtain all applicable Federal and State approvals as specified in SECTION:01040 COORDINATION FOR CONTRACTOR-FURNISHED DISPOSAL AREAS of the Specifications. Failure by the bidder to furnish these approvals with the bid at the time of the bid opening will result in the bid for use of the Contractor-furnished disposal areas to be rejected as being non-responsive.

If the bidder proposes to use disposal areas other than those stipulated in the specifications, an adjustment in the bid price based on acceptance of the Contractor-furnished areas shall be entered as an adjustment item in the Bidding Schedule and the net total bid price. If the bid is based on the use of Contractor-furnished areas, the bidder shall execute DESCRIPTION OF DISPOSAL AREAS form, complete in accordance with the notations thereon, and shall submit the form with the bid. The bid shall adequately describe such Contractor-furnished areas and shall be accompanied by the written permission of the land owners. Description of Contractor-furnished areas shall include location, size and capacity of each area. If the bidder proposes to use both the Government-furnished areas shown on the contract drawings and Contractor-furnished areas, he shall describe in his bid the portion or portions of all the areas which will be used and the estimated quantity of dredged material to be placed in each area.

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SECTION 00800
SPECIAL CLAUSES

INDEX

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SPECIAL CLAUSES

SC-1 COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK (APR 1984)

The Contractor shall be required to (a) commence actual dredging under this contract within 15 calendar days after the date of receipt by him of notice to proceed, (b) prosecute work diligently, and (c) complete the entire work ready for use not later than **40** calendar days after the date of receipt of notice to proceed. The time stated for completion shall include final cleanup of the premises. (FAR 52.211-10)

SC-2 LIQUIDATED DAMAGES - CONSTRUCTION (SEP 2000)

(a) If the Contractor fails to complete the work within the time specified in the contract, the Contractor shall pay liquidated damages to the Government in the amount of **\$950.00** for each calendar day of delay until the work is completed or accepted.

(b) If the Government terminates the Contractor's right to proceed, liquidated damages will continue to accrue until the work is completed. These liquidated damages are in addition to excess costs of repurchase under the Termination clause. (FAR 52.211-12)

SC-3 CONTINUING CONTRACTS (MAR 1995-EFARS)

a. This is a continuing contract, as authorized by Section 10 of the River and Harbor Act of September 22, 1922 (33 U.S. Code 621). The payment of some portion of the contract price is dependent upon reservations of funds from future appropriations, and from future contribution to the project having one or more non-federal project sponsors. The responsibilities of the Government are limited by this clause notwithstanding any contrary provision of the "Payments to Contractor" clause or any other clause of this contract.

b. The sum of \$150,000 has been reserved for this contract and is available for payments to the Contractor during the current fiscal year. It is expected that Congress will make appropriations for future fiscal years from which additional funds together with funds provided by one or more non-federal project sponsors will be reserved for this contract.

c. Failure to make payments in excess of the amount currently reserved, or that may be reserved from time to time, shall not entitle the Contractor to a price adjustment under the terms of this contract except as specifically provided in paragraphs f and i below. No such failure shall constitute a breach of this contract, except that this provision shall not bar a breach-of-contract action if an amount finally determined to be due as a termination allowance remains unpaid for one year due solely to a failure to reserve sufficient additional funds therefore.

d. The Government may at any time reserve additional funds for payments under the contract if there are funds available for such purpose. The Contracting Officer will promptly notify the Contractor of any additional funds reserved for the contract by issuing an administrative modification to the contract.

e. If earnings will be such that funds reserved for the contract will be exhausted before the end of any fiscal year, the Contractor shall give

written notice to the Contracting Officer of the estimated date of exhaustion and the amount of additional funds which will be needed to meet payments due or to become due under the contract during that fiscal year. This notice shall be given not less than 45 nor more than 60 days prior to the estimated date of exhaustion.

f. No payments will be made after exhaustion of funds except to the extent that additional funds are reserved for the contract. The Contractor shall be entitled to simple interest on any payment that the Contracting Officer determines was actually earned under the terms of the contract and would have been made except for exhaustion of funds. Interest shall be computed from the time such payment would otherwise have been made until actually or constructively made, and shall be at the rate established by the Secretary of the Treasury pursuant to Public Law 92-41, 85 STAT 97, as in effect on the first day of the delay in such payment.

g. Any suspension, delay, or interruption of work arising from exhaustion or anticipated exhaustion of funds shall not constitute a breach of this contract and shall not entitle the Contractor to any price adjustment under the "Suspension of Work" clause or in any other manner under this contract.

h. An equitable adjustment in performance time shall be made for any increase in the time required for performance of any part of the work arising from exhaustion of funds or the reasonable anticipation of exhaustion of funds.

i. If, upon the expiration of sixty (60) days after the beginning of the fiscal year following an exhaustion of funds, the Government has failed to reserve sufficient additional funds to cover payments otherwise due, the Contractor, by written notice delivered to the Contracting Officer at any time before such additional funds are reserved, may elect to treat his right to proceed with the work as having been terminated. Such a termination shall be considered a termination for the convenience of the Government.

j. If at any time it becomes apparent that the funds reserved for any fiscal year are in excess of the funds required to meet all payments due or to become due the Contractor because of work performed and to be performed under the contract during the fiscal year, the Government reserves the right, after notice to the Contractor, to reduce said reservation by the amount of such excess. (EFAR 52.232-5001)

SC-4 CONTRACT DRAWINGS, MAPS AND SPECIFICATIONS (DEC 1991)

a. The Contractor shall -

- (1) Check the specifications and all drawings furnished, immediately upon receipt;
- (2) Compare the specifications and all drawings and verify the figures before laying out the work;
- (3) Promptly notify the Contracting Officer of any discrepancies, and;
- (4) Be responsible for any errors which might have been avoided by complying with this paragraph (a).

b. Large scale drawings shall, in general, govern small scale drawings. Figures marked on drawings shall, in general, be followed in preference to scale measurements.

c. Omissions from the drawings or specifications or the misdescription of details of work which are manifestly necessary to carry out the intent of

the drawings and specifications, or which are customarily performed, shall not relieve the contractor from performing such omitted or misdescribed details of the work, but shall be performed as if fully and correctly set forth and described in the drawings and specifications.

d. The work shall conform to the specifications and the contract drawings identified on the following, all of which are available in the office of the District Engineer, U.S. Army Engineer District, Philadelphia, Room 643, Wanamaker Building, 100 Penn Square East, Philadelphia, PA 19107. Drawings are titled: "Maintenance Dredging - Wilmington Harbor, Christina River, Delaware".

Drawing No.	Subtitle	Date	Latest Revision Date
62471	General Plan & List of Drawings	25 June 2004	None
62472	Soundings Sta. 000+00 to Sta. 6+236.8	25 June 2004	9 July 2004
62473	Sections	25 June 2004	9 July 2004
62474	Wilmington Harbor North Disposal Area	25 June 2004	None

SC-5 PHYSICAL DATA (APR 1984)

Data and information furnished or referred to below is for the Contractor's information. The Government shall not be responsible for any interpretation of or conclusion drawn from the data or information by the Contractor. (FAR 52.236-4)

a. The indications of physical conditions on the drawings and in the specifications are the result of site investigations by surveys. Samples of material to be dredged and dated as shown were obtained by using harpoon and bottle samplers.

b. Tide Data. The mean range of tides in the Delaware River opposite the mouth of the Christina River is 5.6 feet. The elevation of mean low water is +1.56 feet above the Corps of Engineers Christina River Datum (CRD). The maximum velocity of the normal tidal current is approximately 1/3 mile per hour.

c. Weather Conditions. The site of the work is sheltered from storms. It is believed that work can be performed during all seasons of the year except during winter months when ice conditions may interfere with dredging operations. Complete weather records and reports may be obtained from the local U.S. Weather Bureau Office nearest to the work site. The Contractor shall satisfy himself as to the hazards likely to arise from weather conditions during the construction period.

d. Channel Traffic. Traffic in the work area consists of ocean going and coastwise vessels, tugs and barges, and pleasure craft. Passing vessels may interfere with dredging operations. Vessels docked at the Wilmington Harbor Marine Terminal may extend into the Federal Navigation Channel. It is the Contractor's responsibility to schedule dredging around shipping schedules.

e. Conditions of Channel and Turning Basin. The Contract Drawings are representative of typical channel and turning basin conditions. There are no cables, pipelines or submarine structures crossing the area to be dredged. There is a buried AT&T telephone cable in the area to be traversed by the discharge pipeline. The Contractor should be aware that a

section of the riverbank along the high water line (HWL) in the vicinity of the Bellevue Rear Light access walkway has eroded. Due to this erosion a portion of the high voltage cable located directly west of this structure is now exposed. The Contractor must exercise extreme caution if working in this area. The channel conditions shown on the contract drawings represent the results of surveys made on the dates indicated and can only be considered as indicating the general conditions at that time.

f. Obstruction of Channel. The Government will not undertake to keep the channel free from vessels or other obstructions, except to the extent of such regulations if any, as may be prescribed by the Secretary of the Army, in accordance with the provisions of Section 7 of the River and Harbor Act approved 8 August 1917. The Contractor will be required to conduct the work in such manner as to obstruct navigation as little as possible, and in case the Contractor's plant so obstructs the channel as to make difficult or endanger the passage of vessels, said plant shall be promptly moved on the approach of any vessel to such an extent as may be necessary to afford a practicable passage. The Contractor shall request the U.S. Coast Guard to issue a Notice to Mariners for each work assignment advising navigation interests that the Contractor's dredging plant will be operating in the Harbor. The Contractor shall submit each such request to the U.S. Coast Guard, MSO/Group Philadelphia, 1 Washington Avenue, Philadelphia, PA 19147-4395. The Contractor shall furnish a copy of each request to the Contracting Officer not less than five days prior to the start of dredging. Each request shall contain the approximate time required for completion of dredging. Upon completion of dredging, the Contractor shall promptly remove his plant, including ranges, buoys, piles and other marks placed by him under the contract in navigable waters and on shore.

g. Navigation Aids. The Contractor shall not relocate or move any aids to navigation that have been established by the U.S. Coast Guard. If it becomes necessary to have any aid to navigation moved in order to complete dredging operations under this contract, the Contractor shall notify the U.S. Coast Guard at least 15 days prior to the desired date for movement of the aid. All requests shall be made in writing to: Commander (OAN), Fifth Coast Guard District, 431 Crawford Street, Portsmouth, VA 23704. A copy of each request shall be furnished to the Contracting Officer.

h. Location. Wilmington Harbor is formed by the junction of the Christina River with the Delaware River and is located in the City of Wilmington, New Castle County, approximately 29 miles southwest of Philadelphia, PA.

i. Laying of Submerged Pipelines and Obstruction of Channel. When the disposal area is on the opposite side of the navigation channel from the dredging area, a submerged pipeline shall be used to cross the channel. If the submerged line is to be placed across a navigable channel, the Contractor shall submit a request for approval at least ten working days (Sundays and holidays excluded) prior to the desired closure date, to the U.S. Coast Guard, MSO/Group Philadelphia, 1 Washington Avenue, Philadelphia, PA 19147-4395. A copy of each request shall be furnished to the Contracting Officer. This request shall contain the following information:

- (1) Location (Channel Centerline Stationing) and depth (over the top of the pipeline) at which the submerged line will be placed;
- (2) The desired length of time the channel is to be closed;
- (3) The date and hour placement or removal will commence;

(4) The date and hour of anticipated completion; and

(5) The name and telephone number of the person to be contacted for information and response to any emergency condition.

The Coast Guard has indicated that the requirements of navigation may make it necessary to establish times other than those requested. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE HIS PLANS WITH THE COAST GUARD SUFFICIENTLY IN ADVANCE OF THE PLANNED CLOSING TO PREVENT DELAY TO THE DREDGING OPERATIONS AND COMPLY WITH THE COAST GUARD REQUIREMENTS. The minimum depth to the top of any submerged pipe shall not be less than 35 feet Christina River Datum (CRD) between stations 0+000 and 1+975 or 38 feet CRD between station 1+975 and 6+236.

j. Bridge to Bridge Radio Telephone Equipment. In order that radio telephone communication may be with passing vessels, all dredges engaged in work under the contract shall be equipped with and operate bridge-to-bridge radio telephone equipment. The radio telephone equipment shall operate on VHF Channel 13 (156.65 MHz) with low power output having a communication range of approximately ten miles. The frequency has been approved by the Federal Communication Commission.

k. The most recent dredging of this project was completed under Contract No. W912BU-04-C-0004 by Norfolk Dredging Company. Work under this contract was commenced on 03 January 2004 and was completed 23 January 2004. Dredging between stations 0+000 and 1+975 was completed to a required depth of 35' MLW plus 1' allowable overdepth and dredging between stations 1+975 to 6+236 was dredged to a required depth of 38' MLW plus 1' allowable overdepth.

l. Disposal Areas: The following Government-furnished disposal area is available for use under this contract: Wilmington Harbor North Disposal Area. Dike preparation by the Contractor will not be required for this contract. The area is north of the Christina River and east of Interstate 495. A drawing showing the disposal area is enclosed in the Contract Drawings. The drawing is marked to indicate approved discharge pipe limits within the disposal area. The Contractor shall coordinate the dredge discharge pipeline location and limits with Harry Faulls, Tel. (215)365-1892 CENAP-OP-PF.

m. Magnitude of the Contract Work. The estimated value of the contract is between \$500,000 and 1,000,000.

n. "Abstract of Bottom Samples" are included in Section 00850 of this contract.

o. Survey control description sheets are included as Section 00845 of this contract.

SC-6 LAYOUT OF WORK (APR 1965 OCE)

The Contractor shall lay out its work from Government-provided channel coordinates. The Contractor shall furnish, at its own expense, such stakes, templates, platforms, equipment, range markers and labor as may be required in laying out any part of the work from the channel coordinates furnished by the Government. The Contractor shall be responsible for executing the work to such lines and grades. The Contractor must have real time differential GPS positioning in accordance with the Corps survey manual,

class 1 survey requirements for dredge positioning and disposal area layout. The Contractor shall provide real time positioning on a computer screen during dredging, and have the capability of playback in 15-minute intervals. The position must be recorded on disk every 15 minutes and submitted to the Contracting Officer on a monthly basis. (CENAP)

SC-7 PERFORMANCE OF WORK BY THE CONTRACTOR (APR 1984)

The Contractor shall perform on the site, and with its own organization, work equivalent to at least forty (40) percent of the total amount of work to be performed under the contract. This percentage may be reduced by a supplemental agreement to this contract if, during performing the work, the Contractor requests a reduction and the Contracting Officer determines that the reduction would be to the advantage of the Government. (FAR 52.236-1)

SC-8 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 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 the 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 SUSPENSION OF WORK clause of this contract. 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. (CENAP)

SC-9 SIGNAL LIGHTS (FEB 1983)

The Contractor shall display signal lights and conduct his operations in accordance with the General Regulations 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 navigable channels, as approved by the Commandant, U.S. Coast Guard with respect to vessels in inland waters (33 CFR 88), as applicable. (CENAP)

SC-10 CONTINUITY OF WORK (APR 1965 OCE)

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 gages or ranges cannot be seen or properly followed. (CENAP)

SC-11 FINAL EXAMINATION AND ACCEPTANCE (APR 1965 OCE)

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 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. 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. 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 soundings or sweeping operations by the Government over an area be necessary by reason of 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. The rate of each day in which the Government plant is engaged in such sounding or sweeping operations and/or is enroute to or from the site or held, for the Contractor's convenience, at or near the site for these operations shall be \$3,300.00, except on Saturday, Sunday and holidays when the rate shall be \$3,700.00.

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. (CENAP)

SC-12 SHOALING (1965 APR OCE)

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 limits of available funds, may be done if agreeable to both the Contractor and the Contracting Officer. (CENAP)

SC-13 INSPECTION (APR 1965)

The inspectors will direct the maintenance of the gauges, ranges, location marks and limit marks in proper order and position; but the presence of the inspector 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 or any inspector, the use of such boats, boatmen, laborers, 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 entitled "FINAL EXAMINATION AND ACCEPTANCE".

b. To furnish, on the request of the Contracting Officer or any inspector, 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 areas.

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. (CENAP)

SC-14 ACCOMMODATIONS AND MEALS FOR GOVERNMENT INSPECTORS (1965 APR OCE)

a. The Contractor shall furnish regularly to Government inspectors on board the dredge or other craft upon which they are employed a suitable separate room for office and sleeping purposes. The room shall be fully equipped and maintained to the satisfaction of the Contracting Officer; it shall be properly heated, ventilated, and lighted, and shall have a desk which can be locked, a comfortable bed and chair for each inspector, and washing conveniences. The entire cost of the Contractor for furnishing, equipping and maintaining the foregoing accommodations shall be included in the contract price. If the Contractor fails to meet these requirements, the facilities referred to above will be secured by the Contracting Officer, and the cost thereof will be deducted from payments to the Contractor.

b. If the Contractor maintains on this work an establishment for the subsistence of his own employees, he shall, when requested, 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 meals furnished will be paid for the Government at a rate of \$5.00 per person for each meal. (CENAP)

SC-15 EQUIPMENT OWNERSHIP AND OPERATING EXPENSE SCHEDULE (MAR 1995) - EFARS

a. This clause does not apply to terminations. See 52.249-5000, Basis for Settlement of Proposals, and FAR Part 49.

b. Allowable cost for construction and marine plant and equipment in sound workable condition owned or controlled and furnished by the Contractor or sub-contractor at any tier shall be based on actual cost data for each piece of equipment or groups of similar serial or series for which the Government can determine both ownership and operating costs from the Contractor's accounting records. When both ownership and operating costs cannot be determined for any piece of equipment or groups of similar serial or series equipment from the Contractor's accounting records, costs for that equipment 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 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 retroactive pricing, the schedule in effect at the time the work was performed shall apply.

c. Equipment rental costs are allowable, subject to the provisions of FAR

31.105(d) (ii) and FAR 31.205-36. Rates for equipment rented from an organization under common control, lease-purchase arrangements, and sale-leaseback arrangements, will be determined using the schedule, except that actual rates will be used for equipment leased from an organization under common control that has an established practice of leasing the same or similar equipment to unaffiliated lessees.

d. When actual equipment costs are proposed and the total amount of the pricing action exceeds the small purchase threshold, the Contracting Officer shall request the Contractor to submit either certified cost or pricing data, or partial/limited data, as appropriate. This data shall be submitted on Standard Form 1411, Contract Pricing Proposal Cover Sheet. (EFARS 52.231-5000)

Note #1: The small purchase threshold is \$100,000.

Note #2: By submitting cost or pricing data, the Contractor grants to the Contracting Officer (or authorized representative) the right to examine those books, records, documents, and/or other supporting data that will permit evaluation of the proposed equipment costs. This right shall extend for 2 years after expiration of contract performance. After price agreement, the Contractor shall certify that the equipment cost or pricing data submitted are accurate, complete and current.

SC-16 PERFORMANCE EVALUATION OF CONTRACTOR (1985 JAN HQ USACE)

a. As a minimum, the Contractor's performance will be evaluated upon final acceptance of the work. However, interim evaluation may be prepared at any time during contract performance when determined to be in the best interest of the Government.

b. The format for the evaluation will be DD 2626, and the Contractor will be rated either outstanding, above average, satisfactory, marginal, or unsatisfactory in the areas of Contractor Quality Control, Timely Performance, Effectiveness of Management, Compliance with Labor Standards, and Compliance with Safety Standards. The Contractor will be advised of any unsatisfactory rating, either in an individual element or in the overall rating, prior to completing the evaluation, and all Contractor comments will be made a part of the official record. Performance Evaluation Reports will be available to all DOD Contracting offices for their future use in determining Contractor responsibility, in compliance with DFARS 236.201(c) (1). (CENAP)

SC-17 TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER (OCT 1989)

a. This clause specifies the procedure for determination of time extensions for unusually severe weather in accordance with the Contract Clause entitled: DEFAULT (FIXED-PRICE CONSTRUCTION). In order for the Contracting Officer to award a time extension under this clause, the following conditions must be satisfied:

- (1) The weather experienced at the project site during the contract period must be found to be unusually severe, that is, more severe than the adverse weather anticipated for the project location during any given month.
- (2) The unusually severe weather must actually cause a delay to the completion of the project. The delay must be beyond the control and without the fault or negligence of the Contractor.

b. The following schedule of monthly anticipated adverse weather delays is based on National Oceanic and Atmospheric Administration (NOAA) or similar data for the project location and will constitute the base line for monthly weather time evaluations. The Contractor's progress schedule must reflect these anticipated adverse weather delays in all weather dependent activities. For the purpose of this contract, unusually severe weather is defined as daily precipitation equal to or exceeding 0.5 inches and/or maximum daily temperature not exceeding 32 degrees F.

MONTHLY ANTICIPATED ADVERSE WEATHER DELAY
WORK DAYS BASED ON (7) DAY WORK WEEK

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
10	6	3	3	3	3	3	2	2	2	3	4

c. Upon acknowledgment of the Notice to Proceed (NTP) and continuing throughout the contract, the Contractor shall record on the daily CQC report, the occurrence of adverse weather and resultant impact to normal scheduled work. Actual adverse weather days must prevent work on critical activities for 50 percent or more of the Contractor's scheduled work day. The number of actual adverse weather delay days shall include days impacted by actual adverse weather (even if adverse weather occurred in previous month), be calculated chronologically from the first to the last day of each month, and be recorded as full days. If the number of actual adverse weather delay days exceeds the number of days anticipated in paragraph b. above, the Contracting Officer will convert any qualifying delays to calendar days, giving full consideration for equivalent fair weather work days, and issue a modification in accordance with the Contract Clause entitled: DEFAULT (FIXED PRICE CONSTRUCTION). (ER 415-1-15)

SC-18 INSURANCE REQUIREMENTS

Evidence of the following types of insurance shall be provided to the Contracting Officer prior to commencement of work and shall be maintained throughout the period of performance.

a. General Liability Insurance (Comprehensive form of policy): Bodily Injury Liability - \$500,000 per occurrence.

b. Automobile Liability Insurance (Comprehensive form of policy): Bodily Injury Liability - \$200,000 per person and \$500,000 per accident. Property Damage Liability - \$20,000 per accident.

c. Workmen's Compensation and Employer's Liability Insurance: Compliance with applicable workmen's compensation and occupational disease statutes is required. Employer's liability coverage in the minimum amount of \$100,000 is also required."

d. Applicable Marine Casualty and Marine Workmen's Compensation Insurance: As appropriate for this contract.

-- End of Special Clauses --

SECTION 02325

DREDGING

PART 1 GENERAL

1.1 WORK COVERED BY CONTRACT PRICE

The contract price per cubic yard for dredging shall include the cost of removal and disposal of all materials as specified herein or indicated on the drawings, with the exception of ledge rock, large boulders, rock fragments, wrecks, snags, stumps, and piles which cannot be removed or buried below project depth without blasting. Should ledge rock or other material which cannot be removed without blasting be encountered, the Contractor shall remove therefrom all overlying material which in the judgment of the Contracting Officer can be removed. Nothing in this paragraph shall be construed as prohibiting the removal of excepted material by special means at prices agreed upon and approved in accordance with the Contract Clause entitled: DIFFERING SITE CONDITIONS.

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN WOOD-PRESERVERS' ASSOCIATION (AWPA)

AWPA C2 (1995) Lumber, Timbers, Bridge Ties and Mine Ties - Preservative Treatment by Pressure Processes

ASTM INTERNATIONAL (ASTM)

ASTM E 100 (1995; Rev 2001) Standard Specification for ASTM Hydrometer

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

33 CFR 156 (1992 Navigation and Navigable Waters, Oil and Hazardous Material Transfer Operations

DELAWARE DEPARTMENT OF TRANSPORTATION (DelDOT)

DelDOT Specifications (1995) Standard Specifications

U.S. DEPARTMENT OF COMMERCE (DOC)

DOC PS 20 (1970; Revised 1986) American Softwood Lumber Standard

U.S. GENERAL SERVICES ADMINISTRATION (GSA)

FS MM-L-751 (Rev H) Lumber, Softwood

SOUTHERN PINE INSPECTION BUREAU (SPIB)

SPIB-01 (1994; Supplements 1 thru 4) Standard

Grading Rules for Southern Pine Lumber

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 1110-2-1003 (1 Jan 2002) Hydrographic Survey Manual

EM 385-1-1 (Latest Rev.) Safety and Health
Requirements Manual

1.3 ORDER OF WORK AND DREDGING TIME RESTRICTIONS

Unless otherwise directed by the Contracting Officer, the dredging work shall commence at the Delaware River end of work area (A.S.#4) and proceed up-stream to A.S.#1.

Dredging will not be permitted between April 1 and June 15.

1.4 CHARACTER OF MATERIALS

a. The material to be removed to restore the depth to within the limits called for in the specifications and drawings, is that composing the shoaling that has occurred since the channel was last dredged as noted in the Special Clauses. The character of the material is believed to be as indicated by the results of the Government-conducted sampling. An abstract of bottom samples is included in Section 00850 of this specification. Material typically dredged in the past consists of dark grey, very soft silt.

b. It is the Government's position that sufficient information has been provided in this contract package to enable the Contractor to establish the type and quantity of material to be removed. However, prior to bidding, the Contractor may, at his discretion and expense, conduct additional investigation to further determine conditions at the site.

1.5 SITE CONDITIONS

Bidders are expected to examine the site of the work, including the disposal area and decide for themselves as to the conditions affecting their operations. See the Contract Clause entitled: SITE INVESTIGATION AND CONDITIONS AFFECTING THE WORK. The entire work site is designated as a hard hat area in accordance with EM 385-1-1.

1.6 FUEL OIL HANDLING

The Contractor shall assure that all fuel oil transfer operations to or from his plant comply with all Federal, state, and municipal laws, codes and regulations. The Contractor shall incorporate in his accident prevention program, submitted in compliance with the Contract Clause entitled: ACCIDENT PREVENTION, sufficient information to demonstrate compliance with 33 CFR 156 and any other applicable laws, codes, and regulations.

1.7 DIFFERENTIAL GLOBAL POSITIONING SYSTEM(DGPS) EQUIPMENT

The Contractor must have a differential GPS, in accordance with the Project Classification Requirements outlined in the Hydrographic Survey Manual EM 1110-2-1003, dated 1 January 2002. The Contractor shall provide real time positioning on a computer screen during dredging, and have the capability of playback in 15 minute intervals. The position must be recorded on a

disk every 15 minutes and submitted to the Contracting Officer on a daily basis. The DGPS shall indicate the position of the dredge.

1.8 SUBMITTALS

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

NOTE: Any submittals classified as "SD-01 Preconstruction Submittals" are submittals required to be submitted to, and approved by, the office indicated prior to mobilization to the contract work site. All other submittals, classified as "SD-02" through "SD-11," shall be submitted to, and approved or reviewed by, the office indicated prior to commencing the particular task to which the submittal is associated.

SD-01 Preconstruction Submittals

Disposal Area Plan; G,COR.

The Contractor shall submit to the Contracting Officer for approval, its plan for usage or modification of the Government-furnished disposal area and the development of any Contractor-furnished disposal areas. This plan shall show the areas or portions thereof to be used, the locations and cross-sections of proposed dikes, the locations of sluices and drainage structures, and the manner in which the dredged material will be distributed in the areas. Plans for any Contractor-furnished rehandling basins and enclosures, including character of materials to be used, means of placement, and cross-sections of proposed dikes and other structures, shall also be submitted for approval by the Contracting Officer.

Walkway Plan; G,COR.

The Contractor shall submit a plan of the proposed walkway.

SD-03 Product Data

Equipment List; G,COR.

The Contractor shall submit for approval a complete list of equipment to be used during the contract, including all dredging plants and supporting vessels. The list shall contain the type of each vessel, the numbers of each type of vessel, the draft of each vessel, and all other pertinent information.

SD-06 Test Reports

Daily Report of Operations; G,COR.

The Contractor shall prepare, maintain, and submit daily for approval, Daily Report of Operations forms, and shall furnish signed copies thereof with the Quality Control Reports required in SECTION 01450: CONTRACTOR QUALITY CONTROL, to the Contracting Officer. Copies of the Daily Report of Operations forms to be used are attached at the end of this section. Further instructions on the preparation and submittal of the forms will be provided at the Pre-Dredging Coordination Meeting.

Disposal Area Effluent Measurements.

Records of disposal area effluent measurements and corrective action taken shall be submitted daily to the Contracting Officer.

DGPS Positioning.

Records of position shall be recorded on disk every 15 minutes and submitted to the Contracting Officer on a monthly basis.

SD-07 Certificates

Timber-Flash Boards; G,COR.

Certificates of compliance attesting that the timber-flash boards conform to the requirements of this specification shall be submitted for approval.

PART 2 PRODUCTS

2.1 TIMBER FLASH-BOARDS

All lumber for flash-boards shall be Southern Yellow Pine, dense structural grade, and shall conform to the SPIB-01 and the applicable requirements of FS MM-L-751. Flash-boards shall be surfaced four sides and the dress size shall conform to DOC PS 20. Flash-boards shall be pressure-preservative treated with chromated copper arsenate (water-borne solution) in accordance with AWPA C2 to have a minimum net retention of solid preservative of 2.5 pounds per cubic foot. Flash-boards shall be 4 inch nominal thickness.

PART 3 EXECUTION

3.1 DISPOSAL OF EXCAVATED MATERIAL

3.1.1 General

The material excavated shall be transported, deposited, confined and graded to drain as specified within the disposal area shown on the drawings or within disposal areas furnished by the Contractor and approved by the Contracting Officer. The Government-furnished disposal area listed in the Special Clause entitled: PHYSICAL DATA, or approved Contractor-furnished areas, may be utilized for material dredged under this contract.

3.1.2 Misplaced Material

Any material deposited in places other than those designated or approved by the Contracting Officer, or which escapes from such places, will not be paid for. The Contractor may be required to remove such misplaced material in accordance with the Contract Clause entitled: OBSTRUCTION OF NAVIGABLE WATERWAYS and deposit it where directed, at the Contractor's expense.

3.1.3 Hopper Dredging

Hopper dredging will not be permitted under this contract.

3.1.4 Hydraulic Dredging

Material excavated by hydraulic pipeline dredging shall be transported by pipeline to final position in the approved disposal areas. All pipelines shall be kept in good condition at all times, and any leaks or breaks along

their length shall be promptly and properly repaired. All materials and water that leak from any pipeline on or around access roads, shall be cleared, removed and placed within the limits of the disposal area.

3.1.5 Bucket Dredging

Bucket dredging will not be permitted under this contract.

3.2 DEVELOPMENT AND OPERATION OF DISPOSAL AREAS

3.2.1 General

Prior to the use or modification of the Government-furnished disposal area or construction for development of any Contractor-furnished disposal areas, the Contractor shall submit the disposal area plan specified in the Paragraph entitled: "SUBMITTALS" to the Contracting Officer for approval. The Contractor shall conduct his work in accordance with the approved plan; however, approval of the plan does not in any manner relieve the Contractor of his responsibility for the adequacy of the design and construction of the structures and drainage facilities required. All Contractor-owned dredging pipe used in the contract work shall be removed from the site by the Contractor within 30 days of completion of all dredging work.

THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO ENSURE THAT THE CONDITION OF THE DISPOSAL AREA, NAMELY THE DIKE, DOES NOT DETERIORATE OR BECOME DAMAGED DUE TO THE PUMPING OF DREDGED MATERIAL INTO THE SITE. EVERY PRECAUTION SHALL BE TAKEN TO MEET ALL OF THE REQUIREMENTS OUTLINED IN THIS SPECIFICATION IN ORDER TO MAINTAIN THE INTEGRITY OF THE DISPOSAL AREA. THE CONTRACTOR SHALL STOP PUMPING INTO THE DISPOSAL AREA AND CONTACT THE CONTRACTING OFFICER IF EXCESSIVE SEEPAGE OCCURS ON THE EXTERIOR TOE OF THE DIKE.

3.2.2 Construction and Maintenance

3.2.2.1 Government-Furnished Disposal Area:

a. If the Contractor elects to use the disposal area shown on the drawings, he may use the existing retaining dikes, sluice boxes and drainage structures and shall make all repairs, strengthening, extensions and modifications to such facilities as are necessary for confining the excavated material and for controlling disposal area effluent until acceptance of all work under the contract. The Contractor shall be permitted, in the Government-furnished disposal area, to construct any other structures or use any means necessary to control the dredge effluent as required to meet these specifications.

b. The Contractor shall be responsible for the maintenance, repair and stability of all dikes, roads and structures used by him under the contract, and shall inspect the dikes on a daily basis to assure their safety and stability. The Contractor shall restore all dikes, roads, and areas he disturbs through his operations to a satisfactory condition as approved by the Contracting Officer, at no additional cost to the Government. The Government will have the right to regulate the use of the disposal area throughout the contract. The existing instrumentation within the disposal area limits shall not be disturbed. Any instrumentation disturbed by the Contractor will be replaced by the Government, at the Contractor's expense.

c. Contractor-furnished pipelines shall enter the Government-furnished

disposal area only within the limits shown on the drawings. The Contracting Officer reserves the right to direct the extension of pipelines beyond the discharge limits shown on the contract drawings if required for efficient management of the disposal area. The Contractor shall make provisions to prevent erosion of the dike embankment at the discharge point. The end of the discharge pipe shall be located inside the disposal area limits at a distance not less than 20 feet from the interior crest of the dike, measured normal to the dike centerline, unless noted on the drawings. This length of pipe inside the disposal area shall be sufficiently and safely supported along the entire length by timber cribbing, a compacted earthen embankment or other means approved by the Contracting Officer. Pipe shall be angled in the horizontal plane so that the direction of the discharge is between the end of the closest baffle dike and the west shoreline, as indicated on the drawings.

d. A crushed aggregate ramp shall be constructed as shown on the contract drawings to protect the discharge pipe where it crosses the existing access road. The crushed aggregate shall conform to Section 821 of DelDOT Specifications, DelDOT Type "B" (Crusher Run). The crushed aggregate shall be compacted around the discharge pipe and the access ramp shall be constructed to the width of the access road.

3.2.2.2 Contractor-Furnished Disposal Areas:

In the approved disposal areas, the Contractor shall provide retaining dikes, sluices and drainage facilities as required to confine the excavated material and for controlling disposal area effluent and shall be responsible for the maintenance and stability of the disposal areas until acceptance of all work under the contract.

3.2.2.3 Additional Requirements for Government-Furnished and Contractor-Furnished Disposal Areas:

a. A freeboard of a minimum of 3 feet or more, measured vertically from top of the dike at any location between the retained materials and water and the top of the adjacent confining dikes, shall be maintained at all times. If the required freeboard is not met, the Contractor shall stop pumping into the disposal area until corrective means have been taken which are satisfactory to the Contracting Officer.

b. Pipe type sluices will not be permitted through exterior dikes, and at no time will the dredge pipe be permitted to enter the disposal area through an exterior dike. The hydraulic placing of perimeter dikes will not be permitted.

c. Development of the Contractor-furnished disposal areas or any modifications of the Government-furnished disposal area shall be done so as to prevent obstruction of drainage on upland areas adjacent thereto, and to leave free, clear and unobstructed outfalls of sewers, drainage ditches, and other structures affected by the disposal operations. The dredged materials shall be distributed within the used portion of the disposal areas in a reasonably uniform manner so as to permit full drainage without ponding on the fill surface during and after fill operations.

d. The Contractor shall construct a new walkway with handrails on both sides of the walkway from the dikes to the sluices throughout their length, and a walkway in a "T" formation along the front of the sluices to enable the inspector to readily obtain the samples of the mixture going over the sluices as hereinafter specified. The Contractor will be required to

provide the timber for the walkway and handrails. Timber used to construct the walkway shall be in accordance with the requirements for the sluice box timber and in accordance with Section 21 of EM 385-1-1.

e. Prior to pumping material into the disposal areas, the Contractor shall weld 1-inch diameter steel rings to the underside of the upper cross members on each end of all sluices. The Contractor shall attach a 3/8-inch steel cable to these rings which shall run the length of each sluice. The cables shall be used to attach full body safety harnesses for employees working on the sluices.

f. The Contractor shall provide a full body safety harness for employees and Government inspectors to use during the installation and removal of sluice boards and the taking of samples from the sluice. Each person working on the sluice shall wear the safety harness and attach it to the cable installed on each sluice.

g. The Contractor shall have a minimum of 2 personnel at the disposal area when work (disposal or other) is being done at a disposal area, and a generator with a light plant sufficient to light the sluice area during darkness. The disposal area personnel shall have radio communication with the dredge at all times.

h. The Contractor shall perform routine inspections of the dike at least twice a day during dredging operations. Inspections shall be conducted along the entire perimeter of the disposal area and be concentrated on evaluating the condition of the dike to ensure its integrity. If any signs of distress are noted during any inspection, pumping of dredged material must stop immediately and the Contractor shall notify the appropriate Corps personnel. Typical signs of distress may include excessive seepage, fissures and slope failure.

i. Government Sluices: If the Contractor uses the existing sluice for this work, he shall be responsible for its maintenance. Prior to dredging operations, the following shall be performed:

The sluice box shall be inspected for damage and/or deteriorated sluice boards and steel framework in the presence of the Contracting Officer. Any sluice boards that are deteriorated or miss-aligned shall be replaced/realigned prior to deposition of dredged material into the facility, and any deteriorated or damaged steel framework shall be repaired as directed by the Contracting Officer.

All dirt/mud and debris shall be removed from inside the sluice box.

If not already completely filled, the entire bottom of the inlet box shall be weighted with 12 inches of AASHTO No. 1 coarse aggregate (nominal size 2.5 inches), as shown on the figure included at the end of this section.

During dredging operations, if a sluice board(s) deteriorates and there is no viable disposal option, grafting of plywood to weakened sluice walls may be utilized as a temporary fix as directed by the Contracting Officer. Plastic sheeting may also be attached to the outside sluice boards to control seepage through the boards as directed by the Contracting Officer. However, as soon as practicable, all deteriorated sluice boards shall be removed and replaced with new wood. These sluices shall be functional and returned to the Government at the completion of the work assignment and

shall be free of all damage except for normal wear and tear.

3.3 CONTROL OF DISPOSAL AREA EFFLUENT

3.3.1 General

The Contractor shall monitor disposal area conditions to preclude excessive ponding as described in the Paragraph entitled: "Additional Requirements for Government-Furnished and Contractor-Furnished Disposal Areas," and also to maintain effluent quality as prescribed below. Sluice height shall be reviewed by the Contractor on a continuing basis to insure that the optimum height needed to satisfy both of these requirements is employed at all times. The Contractor shall be required to raise the elevation of the crest of the sluice or to stop pumping into the disposal area and permit the fill to settle whenever the density of samples of the mixture of suspended material and water discharged over the sluice is greater than 8 grams per liter. This shall include disposal areas where material is being hydraulically rehandled in accordance with the Paragraph entitled: "DISPOSAL OF EXCAVATED MATERIAL." In addition, the sluice height shall be managed in accordance with the special requirements described under paragraph "Sluice Management" below.

3.3.1.1 Sluice Management

To prevent "floating" of the sluice during filling and ensure its proper performance, special sluice management practices shall be followed as listed below. Refer to the attached figure at the end of this section for sluice box nomenclature.

a. The inlet box on each sluice shall be filled with water to stabilize the box and prevent it from floating. Such filling shall be done before raising the entire sluice elevation and such that the following criteria is maintained at all times:

At no time shall the head difference (i.e., difference in water elevations) between the inside and outside of the inlet box be more than half the height of water outside the box. For example, if it is anticipated that there will eventually be 6 feet of water outside the box, the Contractor must allow half as much water into the inlet box FIRST, i.e., 3 feet of water, before completely boarding up the inlet box.

b. The top of all exterior sluice boards around the inlet box shall be maintained at the same elevation to the maximum extent possible.

c. The top of all exterior sluice boards around the discharge box shall be maintained at least 8 inches, i.e., 2 boards, above the top of the exterior sluice boards around the inlet box.

d. The weir between the inlet and discharge boxes should be set 1 to 2 feet lower than the elevation of the exterior sluice boards around the inlet box.

e. The Contractor shall remove and properly dispose of all floating debris lodged in and around the sluice boxes.

f. In order to minimize leaks, burlap bags or an approved equivalent shall be available for placement between the sluice boards to act as a gasket to seal any gaps that may exist between the boards. Also,

sluice boards must be weighed or wedged into place to prevent them from floating.

3.3.1.2 Effluent Sampling and Testing

Samples for density determination shall be taken, tested, and recorded by the Contractor. Samples at the sluice shall be taken as often as required and at least twice daily at times when the flow is at maximum rate and after the dredge has been operating continuously for not less than the time required for solids in suspension to flow from the discharge pipe to the sluice. The minimum frequency of sampling at the sluice shall be increased when effluent density increases or nears the maximum specified. All density determinations, including times of sampling, shall be recorded on the Daily Report of Operations forms required in paragraph CONTRACTOR QUALITY CONTROL of this section. Each sample at the sluice shall be collected from the mixture flowing over the sluice and shall be made up by partially filling, without overflow, a one-quart container at not less than ten different places in the length of the sluice and combining the mixture in a bucket or other suitable container. When settled solids are not present in the sample, the density may be determined by the hydrometer method or the weight-volume method as hereinafter specified. When settled solids are present, the density shall be determined by the weight-volume method.

a. Hydrometer Method: When the hydrometer method is used for density determination, the following hydrometer model shall be used, or equivalent: ASTM E 100 Hydrometer No. 152H-62, -5 to +60 grams per liter, manufactured by Chase Instrument Company, model 343650. The hydrometer shall be used as specified by the manufacturer and as specified herein. This hydrometer reads density directly in grams per liter.

b. Weight-Volume Method: When the weight-volume method is used for density determination, the total sample shall be measured to obtain volume in liters and weight in grams. Measurements shall be made with a 1,000 c.c. laboratory cylinder and a scale or balance capable of weighing the sample and cylinder to the nearest gram. The unit weight shall then be obtained by dividing the total weight in grams by the total volume in liters.

3.3.1.3 Records

Records of disposal area effluent measurements and corrective action taken shall be submitted daily to the Contracting Officer.

3.3.2 Timber Flash-Boards

The Contractor shall provide, prior to commencement of pumping, a sufficient number of flash-boards for the sluice, as required, for the retention of dredged material under this contract and shall assure that the entire sluice length is effective. Strong solution for brush treatment shall be available at the site and all cut surfaces shall be heavily brushed.

3.3.3 Continuing Effluent Control

Upon completion and acceptance of a work assignment, the Contractor shall provide continuing, intermittent labor to assure that effluent control is continued beyond the completion of dredged discharge into the disposal area. Control, including the removal of flash-boards, shall be continued until water impoundment is reduced to that which existed prior to the commencement of disposal into this area. The time required for effluent

control beyond completion and acceptance of the work assignment shall not be considered part of the completion time for the contract.

3.4 OVERDEPTH AND SIDE SLOPES

3.4.1 Overdepth

To cover inaccuracies of the dredging process, material actually removed from within the contract limits shown on the Contract Drawings to a depth of not more than 1 foot below the required depth, will be estimated and paid for at the contract unit price for dredging.

3.4.2 Side and End Slopes

No side or end slopes are specified for this contract. Computation of payment quantities will be to the specified depth within the channel edges for all areas requiring dredging with the exception of the north channel and north turning basin edges which shall be dredged to a distance of 25' outside the edges between stations 0+000 and 6+236 when required dredging depths exist at the toe of the channel and basin.

3.4.3 Excessive Dredging

Material taken from beyond the limits specified in the Paragraphs entitled: "Overdepth" and "Side and End Slopes" will be deducted from the total amount dredged as excessive 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 entitled: FINAL EXAMINATION AND ACCEPTANCE and SHOALING.

3.5 ESTIMATED QUANTITIES

The total estimated quantity of material necessary to be removed within the specified limits as shown on the Contract Drawings, exclusive of allowable overdepth, is 301,880 cubic yards measured in place. The maximum amount of allowable overdepth dredging, as shown on the drawings and specified herein, is estimated to be 105,000 cubic yards measured in place. As a basis for soliciting bids, the sum of 406,880 cubic yards, measured in place will be used. The following acceptance sections are specified for this contract:

ACCEPTANCE SECTION	STATION TO STATION	TO PROJECT DEPTH 35' (CY)	ALLOWABLE OVERDEPTH	TO OVERDEPTH 36' (CY)
AS-1	0+000 to 1+975	23,800	19,900	43,700
ACCEPTANCE SECTION	STATION TO STATION	TO PROJECT DEPTH 38' (CY)	ALLOWABLE OVERDEPTH	TO OVERDEPTH 39' (CY)
AS-2	1+975 to 3+600	33,500	35,300	68,800
AS-3	3+600 to 4+600	44,900	16,000	60,900
AS-4	4+600 to 6+236	31,200	16,400	47,600

SURVEY TOTALS	133,400	87,600	221,000
ESTIMATED SHOALING	168,480	17,400	185,880
TOTAL REQUIRED	301,880	105,000	406,880

ESTIMATED BID QUANTITY **406,880**

3.6 LIMIT OF DREDGING

3.7.1 General

The area to be dredged is within the limits indicated on the Contract Drawings and specified in the Special Clause entitled: FINAL EXAMINATION AND ACCEPTANCE, as defined by dredging prism indicated in the Paragraphs entitled: OVERDEPTH AND SIDE SLOPES and MEASUREMENT AND PAYMENT, of this section.

3.6.1 Quantity Acceptance

The Contractor is responsible for completing all dredging requirements for any one acceptance section prior to acceptance of the work by the Government. In any portion of an acceptance section, when the before dredging survey indicates dredging is required, the Contractor is responsible for removing any material found to be remaining above the required depth by the after dredging survey, unless such dredging is waived by the Contracting Officer. Material removed as a result of redredging within the dredging prism, will be paid for at the contract unit price and as determined by the quantity calculation resulting from the before dredging survey. In any portion of an acceptance section, when the after dredging survey indicates dredging is required that was not indicated by the before dredging survey, the Contractor shall be responsible for removing such material to the required depth, unless waived by the Contracting Officer. The Contractor will be paid for such work at the contract unit price and an additional quantity calculation will be made based on the after dredging survey, provided that the material is not determined by the Contracting Officer to be misplaced material.

3.7 CONTRACTOR QUALITY CONTROL

The Contractor shall prepare and maintain Daily Report of Operations forms, and shall furnish signed copies thereof with the Daily Quality Control records required in Section 01450 CONTRACTOR QUALITY CONTROL to the Contracting Officer. Copies of the Daily Report of Operations forms to be used are attached at the end of this section. Further instructions on the preparation and submittal of the forms will be provided at the Pre-Dredging Coordination Meeting.

3.8 MEASUREMENT AND PAYMENT

3.8.1 Mobilization and Demobilization

All costs connected with the mobilization and demobilization of all of the Contractor's dredging plant and equipment will be paid for at the contract lump sum price for this item. Sixty percent (60%) of the lump sum price will be paid to the Contractor upon completion of his mobilization at the first work assignment area. The remaining forty percent (40%) will be included in the final payment for work under this contract.

In the event the Contracting Officer considers that the amount in this item (60%) which represents mobilization, does not bear a reasonable relation to the cost of the work in this contract, the Contracting Officer may require the Contractor to produce cost data to justify this portion of the bid. Failure to justify such price to the satisfaction of the Contracting Officer, will result in payment of actual mobilization costs, as determined by the Contracting Officer at the completion of mobilization, and payment of the remainder of this item in the final payment under this contract. The determination of the Contracting Officer is not subject to appeal.

All costs connected with the mobilization and demobilization of the Contractor's dredging plant and equipment as defined below shall be included in the contract lump sum price for Bid Item No. 1, "Mobilization and Demobilization" as listed in the Bidding Schedule.

a. 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; initial installation of pipe; preparation of disposal area, including sluices and drainage structures; and other incidentals in advance of the actual dredging operations.

b. Demobilization shall include general preparation for transfer of plant to its home or standby base, removal of pipelines, cleanup of disposal areas, and transfer of plant to its home or standby base.

3.8.2 Disposal Area Costs

All costs in connection with the development, maintenance and cleanup of the disposal area, including plastic sheeting, the sluice and drainage structures, shall be included in the contract lump sum price for Bid Item No. 1 "Mobilization and Demobilization", as listed in the Bidding Schedule.

Maintenance of the disposal area, and effluent control shall be included in the contract unit price for Bid Item No. 2, "Removal & Satisfactory Disposal of Material".

3.8.3 Dredging

The total amount of material removed and to be paid for under the contract, will be measured by the cubic yard in place. Measurement of the number of cubic yards in place will be made 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 surveys made as soon as practicable after the work specified in each acceptance section has been completed. The volume for measurement will include the material within the limits described in the Paragraph entitled: OVERDEPTH AND SIDE SLOPES, less any deductions that may be required for misplaced material described in the Paragraph entitled: DISPOSAL OF EXCAVATED MATERIAL, of this section. The volume of material removed will be generated using either the Average End method or by the TIN (Triangulated Irregular Network) computation, as outlined in the Hydrographic Surveying Manual EM 1110-2-1003 dated 1 Jan 2002. All depths obtained from single beam surveys will be utilized for volume computation purposes. If multi-beam survey methodology is used, a 5 foot X 5 foot matrix will be generated from the multi-beam data collected to perform the TIN computation. All survey data used for volume computations will be available to the contractor upon request.

3.8.3.1 Surveys for Acceptance

The Contractor shall notify the Government of his need for acceptance surveys at least three days in advance of the date for each survey (Saturdays, Sundays and holidays are excluded), and shall confirm his need by telephone between 0730 and 0800 hours on the day of each survey by calling O & M Section at (Area Code 215) 656-6750. The Contractor shall schedule the before-dredging survey for an acceptance section within 2 weeks of the expected start date of dredging operations. Only one before-dredging survey will be provided for each acceptance section. The time for any redredging to remove shoals and for second and subsequent surveys in any acceptance section is the responsibility of the Contractor, and must be accomplished within the completion period. The Contractor may accompany the survey party to determine whether he at his own election will perform redredging. The Contracting Officer will notify the Contractor if any redredging is required.

3.8.3.2 Existing Conditions

The drawings listed under the Special Clause entitled: CONTRACT DRAWINGS, MAPS AND SPECIFICATIONS are believed to accurately represent conditions existing at the time indicated, but the depths shown thereon will be updated, as required, by soundings taken prior to the commencement of dredging. 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.

3.8.3.3 Hydrographic Survey Equipment

Hydrographic Surveys will be conducted to meet USACE Performance Standards as defined in the Hydrographic Surveying Manual EM-1110-2-1003 dated 1 January 2002. Surveys will be performed by single transducer sounding techniques, multi-beam sweep type surveys or both. Bottom soundings will be obtained by the single beam fathometer operating at a frequency ranging from 190 to 210 Khz. When utilizing multi-beam technology, the operating frequency will range from 180 to 250 Khz. All fathometers will be calibrated following procedures outlined in the aforementioned EM.

3.8.3.4 Partial Payments

Monthly partial payments will be based on acceptance sections completed as determined by soundings or sweepings taken behind the dredge by the Government survey party.

-- End of Section -->

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