812 W. Wabash Ave., Eureka, CA 95501-2138 707-441-8855
Civil Engineering, Environmental Services, Geosciences, Planning & Permitting, Surveying

Reference: 016240.020

August 28, 2018

Subject: **Humboldt Bay Harbor, Recreation and Conservation District**
Maintenance Dredging – Woodley Island Marina
Addendum No. 1

Attention: All Plan Holders and Prospective Bidders:

Attached you will find Addendum Number 1 to the aforementioned project. Addendum 1 is hereafter included in the Contract Documents. Your attention to its content is required.

Regards,

SHN Engineers & Geologists

Michael K. Foget, PE
Senior Civil Engineer

MKF:dla

Enclosure: Addendum No. 1

Reference: 016240.020

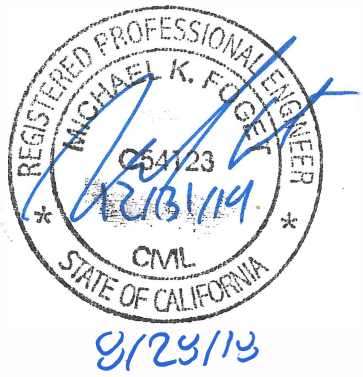
Maintenance Dredging – Woodley Island Marina
Eureka, California

Addendum No. 1

Prepared for:

Humboldt Bay Harbor,
Recreation and Conservation District

Bid Opening:
2:00 p.m., September 10, 2018
Humboldt Bay Harbor, Recreation and Conservation District
601 Startare Drive, Eureka, CA 95501



Prepared by:
SHN
Engineers & Geologists
812 W. Wabash Ave.
Eureka, CA 95501-2138
707-441-8855

August 2018

QA/QC:

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ADDENDUM NO. 1

August 28, 2018

Humboldt Bay Harbor, Recreation and Conservation District
Notice of Request for Proposals
Maintenance Dredging – Woodley Island Marina,
Eureka, CA

A. The following additional documents have been added to the bid package for reference:

1) U.S. Army Corps of Engineers Tentatively Approved Dredging Permit # 1996-22216

B. The following documents have been modified in the bid package for reference:

1) BID Schedule page C-13. Base Bid item 3 (Pre and Post Dredge Hydrographic Survey Humboldt Open Ocean Disposal Site) has been deleted from the Bid. It has been waived as a permit requirement.

2) Section 01 22 00 - Measurement and Payment, Subsection 2.02 Measurement and Payment Items. Item 3. (Pre- and Post Dredging Hydrographic Survey – Humboldt Open Ocean Disposal Site (HOODS)) has been deleted as it has been waived as a permit requirement.

C. The following questions have been received by the District; District responses are in *italics*:

1) Will the floating docks be removed by others prior to dredging?

No, the floating docks will not be removed, however all boats in the slips will be removed prior to dredging. Contractor will be required to provide District with notice 72 hours in advance of dredging a slip.

2) If not, can the contractor temporarily remove the docks to gain access to the site?

No, the contractor may not remove the docks. Please see answer under #1. If there is an emergency in which a dock has been damaged, dock removal may be authorized by the District. Contractor can scape material underneath the docks, however all material shall be removed from the water via a closed clam shell bucket.

3) Is the period of performance for this dredging episode planned for 2018 or 2019?

The period of performance for Woodley Island Marina is through December 31, 2019 for the Contract. The period of performance for in water dredging at Woodley Island Marina is to be completed by October 15, 2019 (unless permitting agencies grant an extension). Please note Fields Landing Boat Yard is an alternative bid item which the Harbor District would like completed in 2018.

END OF ADDENDUM

DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
1455 MARKET STREET
SAN FRANCISCO, CALIFORNIA 94103-1398

RECEIVED
AUG 24 2018
H.B.H.R. & C.D.

Regulatory Division

Subject: File Number: 1996-22216, Woodley Island Marina Maintenance Dredging; Individual Permit; First Transmittal

Mr. Larry Oetker
Executive Director
Humboldt Bay Harbor Recreation and Conservation District
601 Startare Drive
Eureka, California 95501

Dear Mr. Oetker:

This correspondence is in reference to your Department of the Army permit application on behalf of the Humboldt Bay Harbor Recreation and Conservation District (HBHRD), for the maintenance dredging of the Woodley Island Marina located in Eureka, Humboldt County, California. The enclosed two (2) copies of the Department of the Army Permit authorize the removal of an estimated 300,000 cubic yards of sediment, over a 10-year period, from the Woodley Island Marina.

Based on a recently completed review and evaluation of your Department of the Army permit application and the recommendations of my Regulatory staff, your request for a Department of the Army Permit is hereby *tentatively* approved, subject to the procedures described herein. This decision on permit issuance has been developed under the provisions of 33 C.F.R. Sections 320.4(a) and 325.8(b), which authorize the District Engineer, or his designee, to issue a permit when he determines that permit issuance is not contrary to the public interest. This initial proffered permit will **not** be valid until it has been signed and dated by the District Engineer, or his designee.

You are advised that the Corps has established an Administrative Appeal Process, as described in our regulations at 33 C.F.R. pt. 331 (65 Fed. Reg. 16486 (March 28, 2000)) and outlined in the enclosed flowchart and Notification of Administrative Appeal Options, Process, and Request for Appeal (NAO-RFA) form. The following two options are available to you in your evaluation of the enclosed permit: You are advised that the Corps has established an Administrative Appeal Process, as described in our regulations at 33 C.F.R. pt. 331 (65 Fed. Reg. 16486 (March 28, 2000)) and outlined in the enclosed flowchart and Notification of Administrative Appeal Options, Process, and Request for Appeal (NAO-RFA) form. The following two options are available to you in your evaluation of the enclosed permit:

1. You may sign and date both copies of the permit on the line designated for "Permittee". Your signature on the permit indicates that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions.

and 3C. The conditions are for the submittal, to this office for approval, of a dredge operations plan, a before dredge survey and a solid debris management plan. Once these items have been submitted and approved, by this office, you will receive written authorization to commence your work.

You may refer any questions on this matter to Debra O'Leary by telephone at (415) 503-6807 or by e-mail at Debra.A.O'Leary@usace.army.mil. All correspondence should be addressed to Debra O'Leary, Operations and Readiness Division, referencing the 1996-22216.

Sincerely,

for
Travis J. Rayfield
Lieutenant Colonel, U.S. Army
District Engineer

Enclosures

DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
1455 MARKET STREET
SAN FRANCISCO, CALIFORNIA 94103-1398

DEPARTMENT OF THE ARMY PERMIT

PERMITTEE: Humboldt Bay Harbor Recreation & Conservation District

PERMIT NUMBER: 1996-22216

ISSUING OFFICE: **San Francisco District, U.S. Army Corps of Engineers (USACE)**

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate District or Division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below:

PROJECT DESCRIPTION

The permittee is authorized to dredge a maximum of approximately 300,000 cubic yards (cys) of sediment over the 10-year life of the permit and no more than approximately 100,000 annually from the 19.3-acre (approximately) Woodley Island Marina in Eureka, Humboldt County, California. The design depth for the Woodley Island Marina is -14 feet mean lower low water (MLLW) plus an additional 1-foot overdredge allowance. The material will be removed mechanically and barged to the Humboldt Open Ocean Disposal Site (HOODS). Work shall be conducted in accordance with the attached drawings entitled, "USACE File: 1996-22216 Woodley Island Marina Maintenance Dredging" in 4 sheets, dated April 2018.

Prior to each dredging episode, this office and the U.S. Environmental Protection agency shall evaluate the suitability of any sediment proposed to be disposed at HOODS.

PROJECT LOCATION: The Woodley Island Marina is located in Eureka, Humboldt County, California (APNs 40503109 and 40503110)

GENERAL CONDITIONS:

1. The time limit for completing the work authorized ends on December 31, 2028. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and State coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as Special Conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions. (Reference document: *In the Matter of Water Quality Certification for the Woodley Island Maintenance Dredging Project, WDID No. 1B180035WNHU* dated July 23, 2018 (Attachment 2).)

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the Terms and Conditions of your permit.

7. You understand and agree that, if future operations by the United States require the removal, relocation or other alteration of the structure or work authorized herein, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, you will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration (Section 10 only).

SPECIAL CONDITIONS:

1. The National Marine Fisheries Service (NMFS) concurred with the Corps' determination that the project was not likely to adversely affect the following species and designated critical habitats for the following species:

- California coast Chinook salmon (*Oncorhynchus tshawytscha*),
- North coast steelhead trout (*Oncorhynchus mykiss*),
- Southern Oregon northern California coast coho salmon (*Oncorhynchus kisutch*),
- North American green sturgeon (*Acipenser medirosrtis*),

These concurrences are premised, in part, on project work restrictions outlined in the Minimization and Conservation Measures on pages 2 and 3 of the June 5, 2018 NMFS letter (Attachment 3). These work restrictions are incorporated as special conditions to this authorization for your project to ensure unauthorized incidental take of species and loss of critical habitat does not occur.

2. Dredging shall be limited to July 1 through October 15 each year for the following reasons in order to minimize impacts to endangered species. Any dredging outside this environmental work window would require additional consultation between this office and the NMFS pursuant to Section 7 of the Endangered Species Act.

3. The permittee shall monitor turbidity at the dredge site and background turbidity at least 1,000 feet away from the dredge site every 3 hours during dredge operation and keep a log of the results. If the turbidity at the dredge site exceeds background turbidity by 20% the permittee shall take steps to reduce turbidity at the dredge site by halting dredging until the project site turbidity returns to background level or until there is an ebb tide at the dredge site. The log shall be forwarded to this office on a weekly basis.

4. If you encounter any previously unknown historic or archeological artifacts or deposits, or human remains, while accomplishing the work authorized by this permit, you must immediately halt work at the discovery location plus a 50-foot minimum buffer, and notify the Corps, San Francisco District, Dredged Material Management Office (Ms. Debra O'Leary at (415) 503-6807) about what you have found. The permittee will be responsible for hiring a qualified professional archaeologist to assist with development of a treatment program in accordance with the *Protocol for Inadvertent Archaeological Discoveries for Ground Disturbing Project Permits, Leases and Franchises Issued by the Humboldt Bay Harbor, Recreation and Conservation District, Humboldt Bay, California* dated May 7, 2018 (or subsequent versions of the document)(Attachment 4). Work will cease until the Corps has completed consultation with the interested Tribes and,

if necessary, the State Historic Preservation Office.

5. Additional Standard DMMO Conditions found on pages 3A-E shall be adhered to at all times.

STANDARD DMMO CONDITIONS TO PERMIT NUMBER 1996-22216

1. Your use of the permitted activity must not interfere with the public's right to free navigation on all navigable waters of the United States.

2. You must have a copy of this permit available on the vessel used for the authorized transportation and disposal of dredged material.

3. You must advise this office as per Special Condition 12, on page 2D, **before** you start dredging activities under the authorization of this permit.

4. To provide notification of activities affecting navigation, the permittee shall provide the following information by fax, e-mail or standard mail to the contact listed below **at least two weeks before commencing work**:

   a. Name and telephone number of the dredge and or project manager.
   b. Size and placement of any floating construction equipment.
   c. Radio telephone frequencies and call signs of any marine equipment.
   d. Anticipated work start and completion dates.

   Commander (dpw)
   11th Coast Guard District
   Coast Guard Island, Bldg 50-3
   Alameda, California 94501-5100

   POC:
   Local Notice to Mariners
   Waterways Management Branch
   PH: 510-437-2980
   FAX: 510-437-5836
   E-MAIL: D11LNM@uscg.mil

5. The Coast Guard Captain of the Port of San Francisco Bay may require modifications to marine construction equipment deployment or mooring systems to safeguard navigation while work is in progress.

6. All vessels operated for disposal of dredged material are required to participate in the Coast Guard's Vessel Traffic Control Service (VTS). Five minutes before each departure, the permittee shall notify the VTS by radio, via Channel 14, of the following: The name of vessel; time of departure from dredge site; and time of departure from disposal site.

7. When utilizing the Humboldt Open Ocean Disposal Site (HOODS), the permittee shall comply with the episode specific conditions specified in the U.S. Environmental Protection Agency's Ocean Disposal Special Conditions for the City of Eureka Use of the Humboldt Open Ocean Disposal. These conditions will be included in the Dredge Operation Plan Approval Letter (Special Condition 8b).

8. The permittee shall submit the following reports for review and comment to:

   U.S. Army Corps of Engineers, San Francisco District
   Chief, Operations and Readiness Branch
   Attn: Debra O'Leary
   1455 Market Street, 16th Floor
   San Francisco, California 94103-1398

a. Dredge Material Analysis: Submit, for approval, no earlier than 60 days prior to the proposed commencement of any authorized successive dredging episodes, dredge material analysis (Physical, Chemical, and Biological) sampling and testing information. **Please include the U.S. Army Corps of Engineers (Corps) permit number and dredge episode number with this submittal.** Also submit Regional Water Quality Control Board (RWQCB) water quality certification or waiver for disposal of the material. For each dredging episode, the permittee shall obtain the approval of the District Engineer for formulating specific sediment testing procedures for the Dredged Material Analysis. The testing protocol will be in accordance with the testing guidelines as published in the Corps and U.S. Environmental Protection Agency publication entitled, "Evaluation of Dredged Material Proposed for Discharge in Waters of the U.S. - Testing Manual" (The Inland Testing Manual or ITM, EPA-823-B-98-004), dated February 1998, and subsequent amendments thereto. The permittee shall provide a copy of the Dredged Material Analysis to the U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, National Marine Fisheries Service, and California Department of Fish and Wildlife concurrent with the San Francisco Bay Conservation and Development Commission's RWQCB's, and the Corps' receipt of this information. Agency comments submitted to the Corps within 15 calendar days thereafter will be given full consideration in the decision on dredged material disposal.

b. Dredge Operation Plan: Submit, for approval by this office, no earlier than 60 calendar days and no later than 20 calendar days before the proposed commencement of dredging, a plan which includes the following: **Corps permit number, dredge episode number,** a copy of the dredging contract or description of the work under which the contractor will do the permitted work; name and telephone numbers of the dredging contractor's representative on site; dredging start and completion dates; names of vessel; dump scow numbers or identification; bin or barge capacities; identification of work as either maintenance dredging or new dredging; discussion of proposed dredging procedures, as governed under Special Condition No. 11, with detailed drawings or specifications of the grid or centrifugal pump system; quantity of material to be removed; dredging design depth and typical cross section including overdepth; and date of last dredging episode and design depth. The Dredge Operational Plan shall also provide the following information:

1) The controls being established to insure that dredging operations occur within the limits defined by the channel dimensions and typical channel section. The horizontal and vertical positioning systems being utilized must be indicated as noted in 3, below.

2) The controls being established to insure that disposal of the dredged material at the disposal site is at the assigned location and depth. The horizontal and vertical positioning systems being utilized must be indicated as noted in 3, below.

3) Method of determining electronic positioning of dredge or dump scow during entire dredging operation at dredge site, disposal site and en route to and from disposal site.

Please note that failure to provide all of the above information may result in delays to your project. When your Dredge Operation Plan has been approved, you will receive a written authorization to commence with your project.

c. Pre-Dredge Survey: Submit no earlier than 60 calendar days and no later than 20 calendar days before commencement of dredging, a survey with accuracy to one-tenth foot that delineates and labels the following: areas to be dredged with overdepth allowances; existing depths; estimated quantities to be dredged to the design depth; and estimated quantities to the overdepth limit. **All surveys shall be signed by the permittee to certify their accuracy. Please include the Corps permit number and dredge episode number.**

Please note that failure to provide all the above information may result in delays to your project.

d. Solid Debris Management Plan: Submit no earlier than 60 calendar days and no later than 20 calendar days before commencement of work, a plan which describes measures to ensure that solid debris generated during

any authorized dredging, demolition or construction operation is retained and properly disposed in areas not under Corps jurisdiction. **At a minimum, the plan shall include the following: source and expected type of debris; debris retrieval method; Corps permit number and dredge episode number; disposal method and site; schedule of disposal operations; and debris containment method to be used, if floatable debris is involved.**

Please note that failure to provide all the above information may result in delays to your project.

e. Post-Dredge Survey: Submit, **within 30 days of the last disposal activity** ("last" is defined as that activity after which no further activity occurs for 15 calendar days), a survey with accuracy to one-tenth foot that delineates and labels the areas dredged and the dredged depths. **Also, include the Corps permit number, dredge episode number, dates of dredging commencement and completion, actual quantities dredged to the design depth, and actual quantities to the overdepth limit**. The permittee shall substantiate the total quantity dredged by including calculations used to determine the volume difference (in cubic yards) between the Pre- and Post-Dredging Surveys and **explain any variation in quantities greater than 15% beyond estimated quantities or dredging deeper than is permitted (design plus overdepth allowance). All surveys shall be accomplished by a licensed surveyor and signed by the permittee to certify their accuracy.** A copy of the Post-Dredge Survey should be sent to the National Ocean Service for chart updating:

NOAA/National Ocean Service
Nautical Data Branch
N/CS26, SSMC3, Room 7230
1315 East-West Highway
Silver Spring, Maryland 20910-3282.

9. Disposal Site Verification Log (DSVL): Submit on a weekly basis by noon Monday, the log (downloadable from http://www.spn.usace.army.mil/Portals/68/docs/Dredging/guidance/document2010-09-07-132110.pdf) that enumerates work accomplished during the preceding week. Mail to:

U.S. Army Corps of Engineers, San Francisco District
Attn: Shelah Sweatt, DMMO
1455 Market Street. 16th Floor
San Francisco, California 94103-1398;

FAXed to Ms. Shelah Sweatt at (415) 503-6693; or e-mail to shelah.sweatt@usace.army.mil. **Please include the Corps permit number and dredge episode number.** The log will be provided when the Corps approves the Dredge Operation Plan and authorizes the commencement of the dredging.

10. Overflow requirements:

a. No overflow or decant water shall be discharged from the barge, with the exception of spillage incidental to mechanical dredge operations.

b. During transportation from the dredging site to the disposal site, no material shall be permitted to overflow, leak or spill from barge, bins or dump scows.

c. For hopper dredge only, during dredging operations, overflow shall be limited to a maximum of 15 minutes. Adjustments to the dredging operation may be required to insure that once overflow commences, it will not exceed the 15-minute limit.

d. For approved sand dredging, overflow will not exceed 15 minutes or the economic load, whichever occurs first.

11. If the material is mechanically dredged, passed through a debris grid, with a maximum opening size of 12 inches by 12 inches that will cover the entire loading area of the dump scow. Everything that does not pass through the grid will be considered solid debris and shall be disposed in areas outside of Corps jurisdiction. All such material shall be promptly removed from the grid at the end of each 8 hour shift or sooner.

12. **The permittee or dredge contractor shall inform this office when: 1) a dredge episode actually commences, 2) when dredging is suspended (suspension is when the dredge contractor leaves the dredge site for more than 48 hours for reasons other than equipment maintenance), 3) when dredging is restarted, and 4) when dredging is complete. Each notification should include the Corps permit number and dredge episode number.** The information can be sent to the attention of Debra O'Leary, in writing to the address below; FAXed to (415) 503-6693; e-mailed to debra.a.o'leary@usace.army.mil or via telephone message at (415) 503-6807.

    U.S. Army Corps of Engineers, San Francisco District
    Operations and Readiness Division
    Attn: Debra A. O'Leary
    1455 Market Street, 16th Floor
    San Francisco, California 94103-1398

13. The permittee, as directed by the District Engineer under authority pursuant to the policies and procedures of 33 CFR 325.7, may be required to modify disposal schedules and monthly disposal quantities for particular dredging episodes.

14. The permittee shall allow the dredging area and equipment to be inspected by the Corps staff upon request.

15. For each dredge episode, the permittee shall be responsible for obtaining a letter of water quality certification from the Regional Water Control Quality Board and authorization from the California Coastal Commission. Water quality certification and BCDC authorization will be a prerequisite to the District Engineer's decision to approve or disapprove specific dredge episodes pursuant to the policies and 33 CFR 325.2(b)(1)(ii) and 325.2(b)(2)(ii).

16. **If a land, ocean, or other aquatic disposal site becomes available for use during the life of the permit, the permittee shall evaluate these disposal alternatives, taking into consideration cost, existing technology, and logistics in light of the overall project purpose to facilitate compliance with the 404(b)(1) Guidelines (40 CFR 230). This evaluation shall be submitted to the Corps at least 60 calendar days before commencement of subsequent dredging episodes. The District Engineer, upon review of this information and after consultation with other resource agencies, may direct the permittee to use such sites in lieu of or in addition to the Alcatraz Disposal Site (SF-11), under authority of 33 CFR 325.7 and 40 CFR 230.10(a).**

FURTHER INFORMATION:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

(X) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. § 403). Section 10 of the Rivers and Harbors Act generally regulates all structures and work occurring below the plane of mean high water in tidal waters of the United States; in former diked baylands currently below mean high water; outside the limits of mean high water but affecting the navigable capacity of tidal waters; or below the plane of ordinary high water in non-tidal waters designated as navigable waters of the United States. Navigable waters of the United States generally include all waters subject to the ebb and flow of the tide; and/or all waters presently used, or have been used in the past, or may be susceptible for future use to transport interstate or foreign commerce. The term "structure" includes, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island or reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, or any other obstacle or obstruction. The term "structure" does **not** include bridges and causeways constructed in or over navigable or tidal waters of the United States, since this regulatory responsibility has been delegated to the U.S. Coast Guard under the Department of Transportation Act of 1966 (Pub. L. No. 89-670). The term "work" includes, without limitation, any dredging or disposal of dredged material, filling, or other modification of a navigable water of the United States.

( ) Section 404 of the Clean Water Act (33 U.S.C. § 1344). Section 404 of the Clean Water Act generally regulates all discharges of dredged or fill material occurring below the plane of ordinary high water in non-tidal waters of the United States; or below the high tide line in tidal waters of the United States; and within the lateral extent of wetlands adjacent to these waters. Waters of the United States generally include the territorial seas; all traditional navigable waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including waters subject to the ebb and flow of the tide; wetlands adjacent to traditional navigable waters; non-navigable tributaries of traditional navigable waters that are relatively permanent, where the tributaries typically flow year-round or have continuous flow at least seasonally; and wetlands directly abutting such tributaries. Where a case-specific analysis determines the existence of a "significant nexus" effect with a traditional navigable water, waters of the United States may also include non-navigable tributaries that are not relatively permanent; wetlands adjacent to non-navigable tributaries that are not relatively permanent; and wetlands adjacent to but not directly abutting a relatively permanent non-navigable tributary. The term "dredged material" means material that is excavated or dredged from waters of the United States. The term "fill material" means material placed in waters of the United States where the material has the effect of replacing any portion of a water of the United States with dry land or of changing the bottom elevation of any portion of a water of the United States. Examples of such fill material include, but are not limited to, rock, sand, soil, clay, plastics, construction debris, wood chips, overburden from mining or other excavation activities, and materials used to create any structure or infrastructure in waters of the United States. The term "fill material" does not include trash or garbage.

(X) Section 103 of the Marine Protection, Research, and Sanctuaries Act of 1972 (33 U.S.C. § 1413). Section 103 of the Marine Protection, Research, and Sanctuaries Act generally regulates the transport of dredged material for the purpose of disposal in ocean waters. Ocean waters is defined as those waters of the open seas lying seaward of the base line from which the territorial seas is measured, as defined in the Convention of the Territorial Sea and the Contiguous Zone (15 UST 1606; TIAS 5639).

2. Limits of this authorization:

a. This permit does not obviate the need to obtain other Federal, State, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability: In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision: This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate. (See Item 4 above.)

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 C.F.R. Section 325.7 or enforcement procedures such as those contained in 33 C.F.R. Sections 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the Terms and Conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 C.F.R. Section 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions: General Condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

Jan P Oeth
(PERMITTEE)

8-24-18
(DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

Travis J. Rayfield
Lieutenant Colonel, U.S. Army
District Engineer

(DATE)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

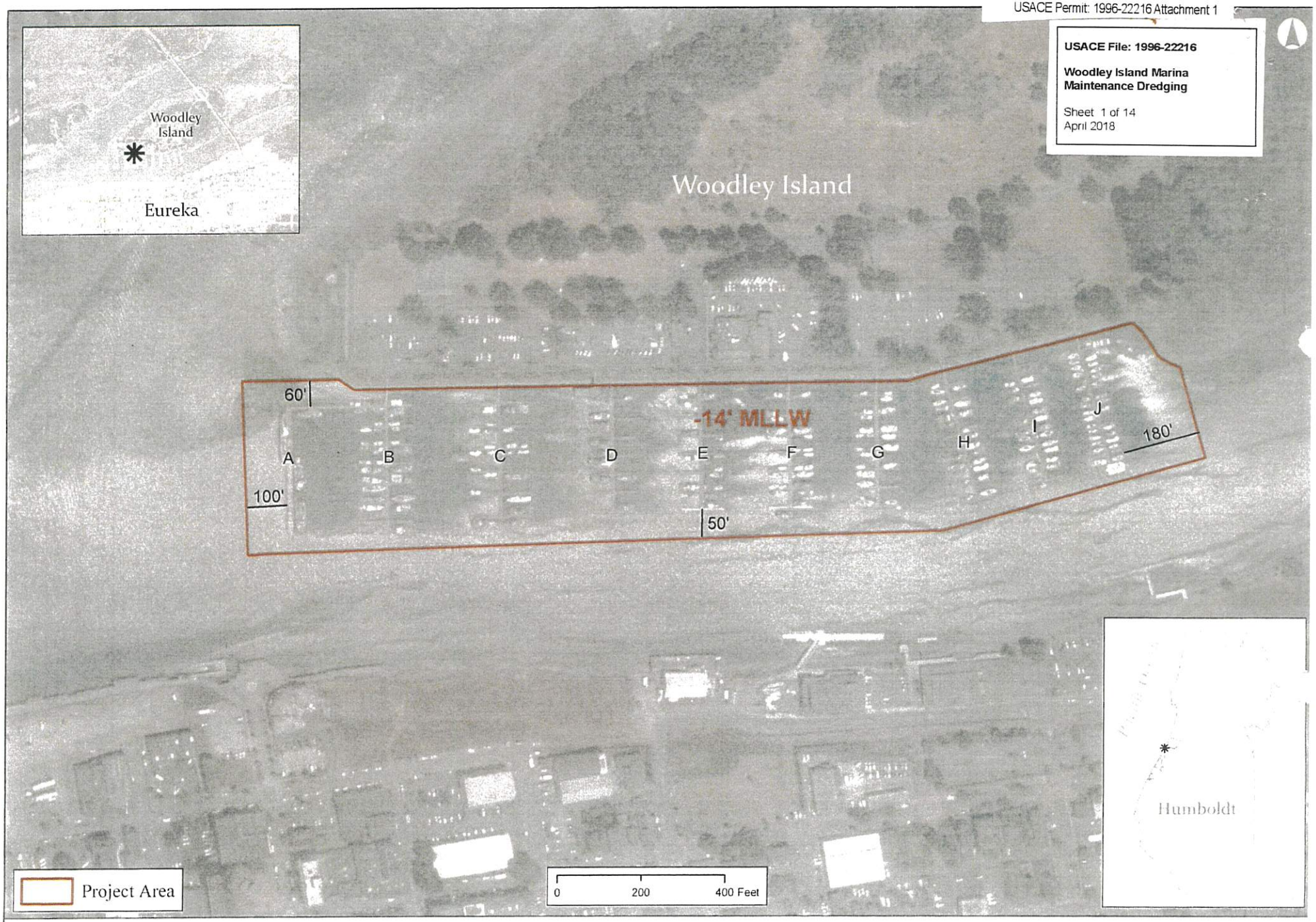
(TRANSFEREE)

(DATE)

USACE File: 1996-22216

Woodley Island Marina Maintenance Dredging

Sheet 1 of 14
April 2018

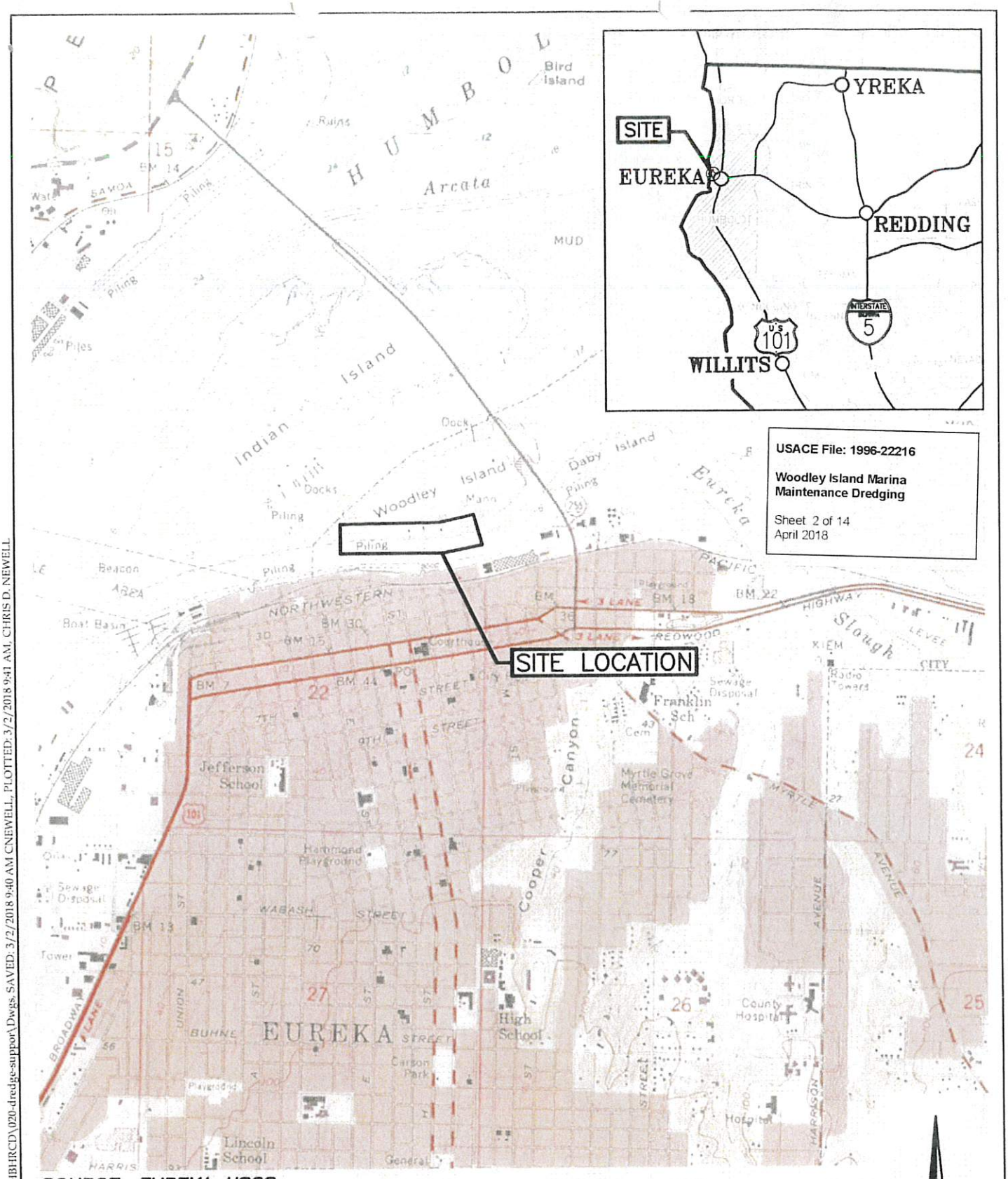


Woodley Island Marina Dredge Site

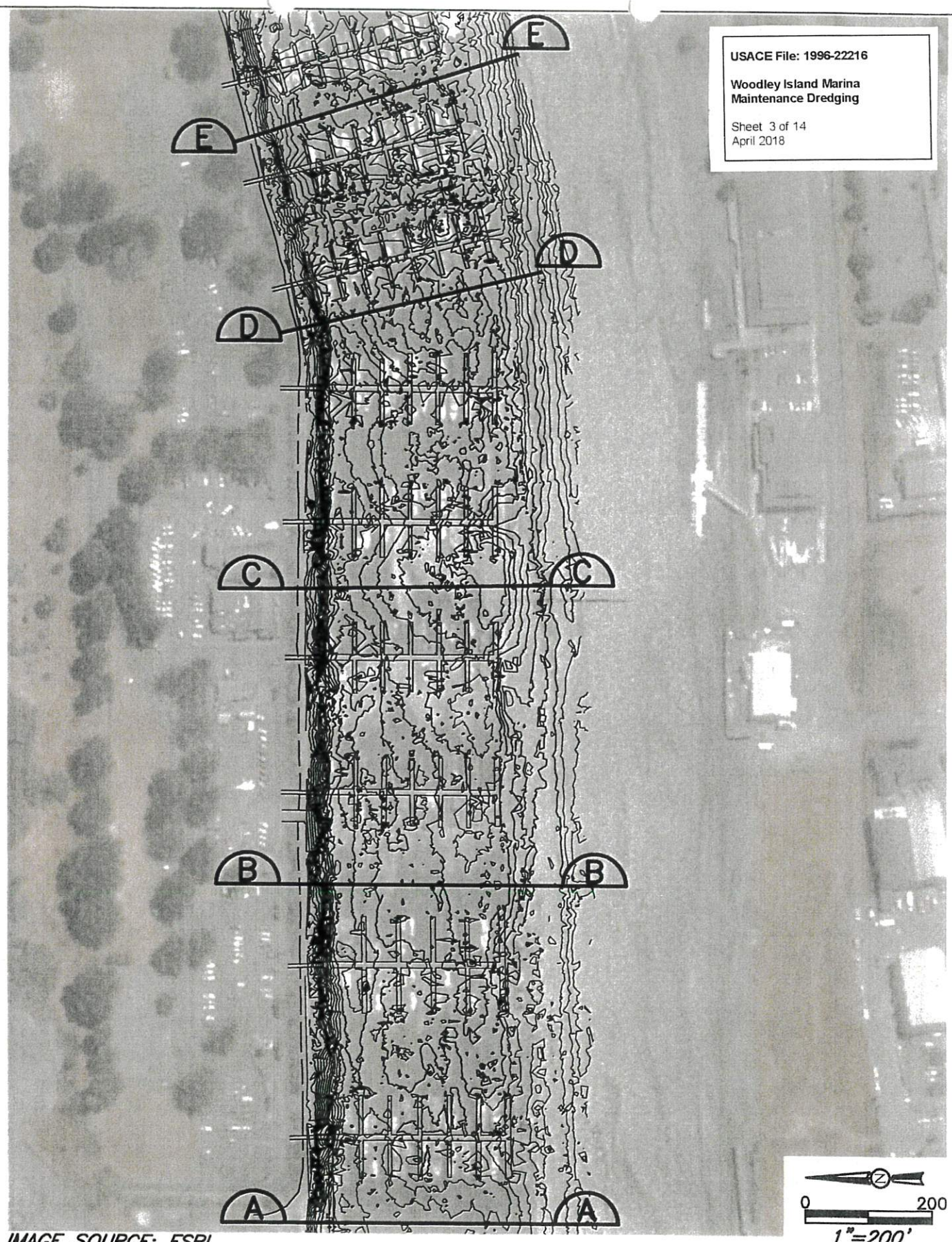
Figure 1a - Vicinity Map

PLANWEST PARTNERS, INC.

Map Date: 2/27/2018



SHN Consulting Engineers & Geologists, Inc.	Harbor District Woodley Island Maintenance Dredging Eureka, California	Site Location Map SHN 016240
	March 2018 | 016240-020-SITE-LCTN	Figure 1



USACE File: 1996-22216

Woodley Island Marina Maintenance Dredging

Sheet 3 of 14
April 2018

IMAGE SOURCE: ESRI

SHN Consulting Engineers & Geologists, Inc.	Harbor District Woodley Island Maintenance Dredging Eureka, California	Aerial View showing Section Locations SHN 016240
	March 2018 | 016240-020-XSECT	Figure 2

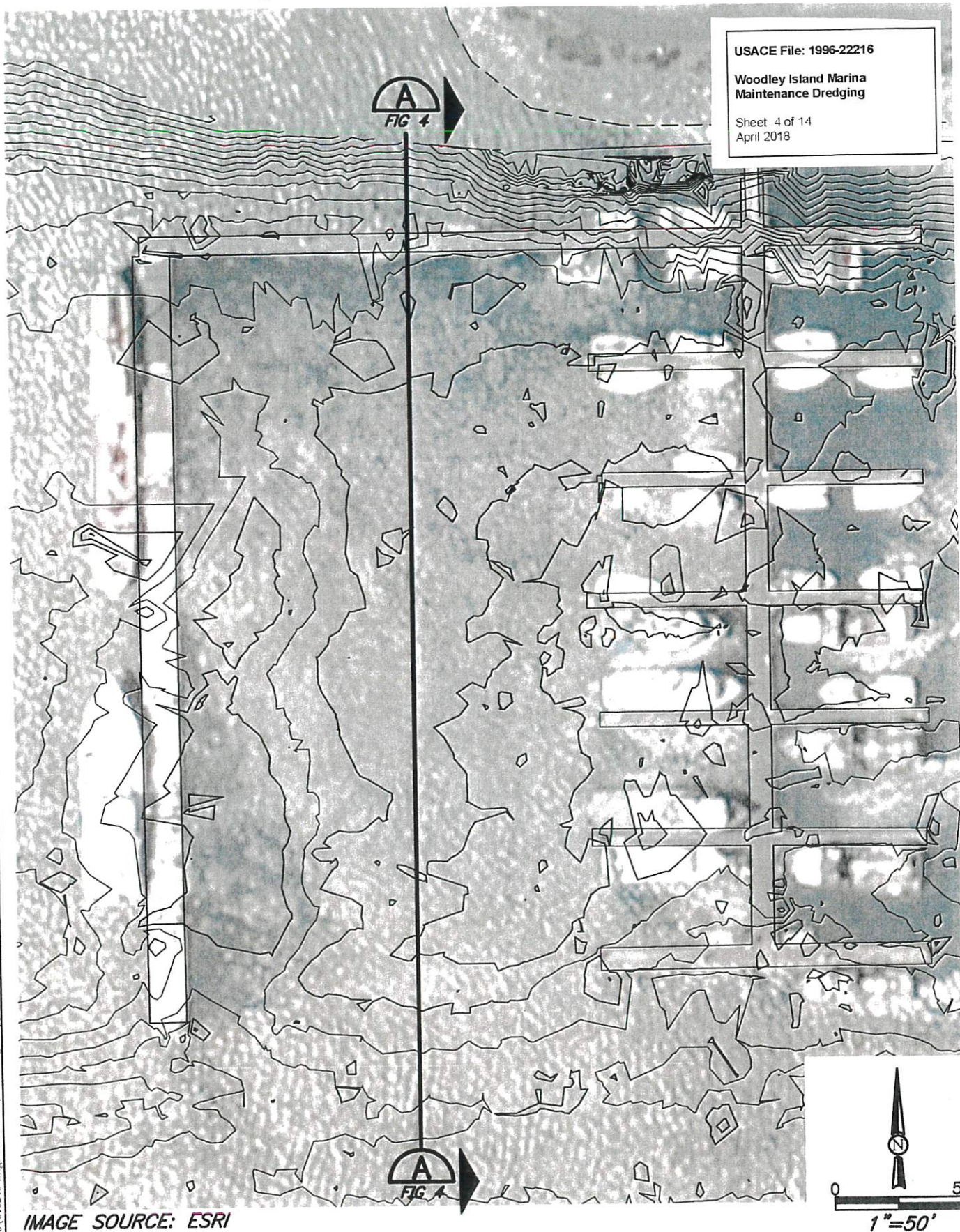
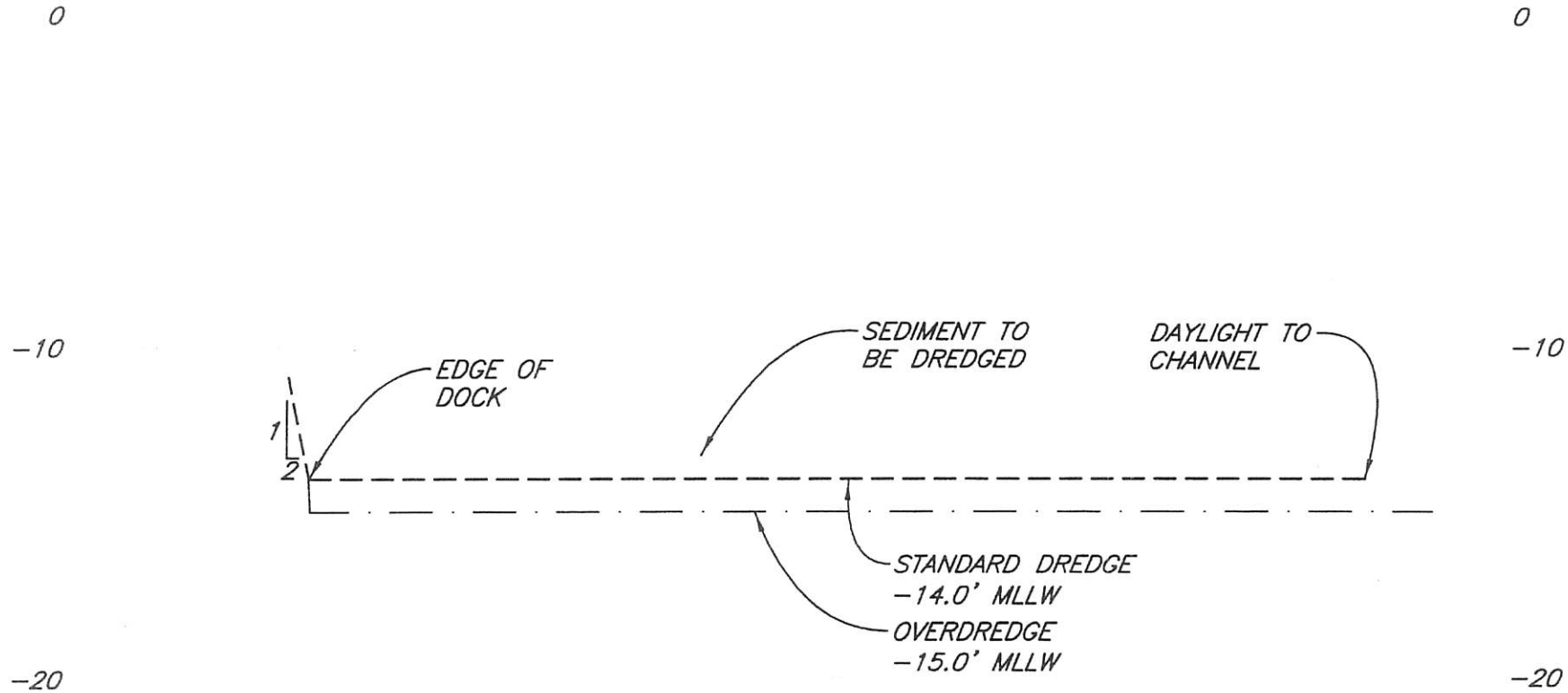


IMAGE SOURCE: ESRI

SHN Consulting Engineers & Geologists, Inc.	Harbor District Woodley Island Maintenance Dredging Eureka, California	Aerial View showing Section A Location SHN 016240
	March 2018 | 016240-020-XSECT	Figure 3

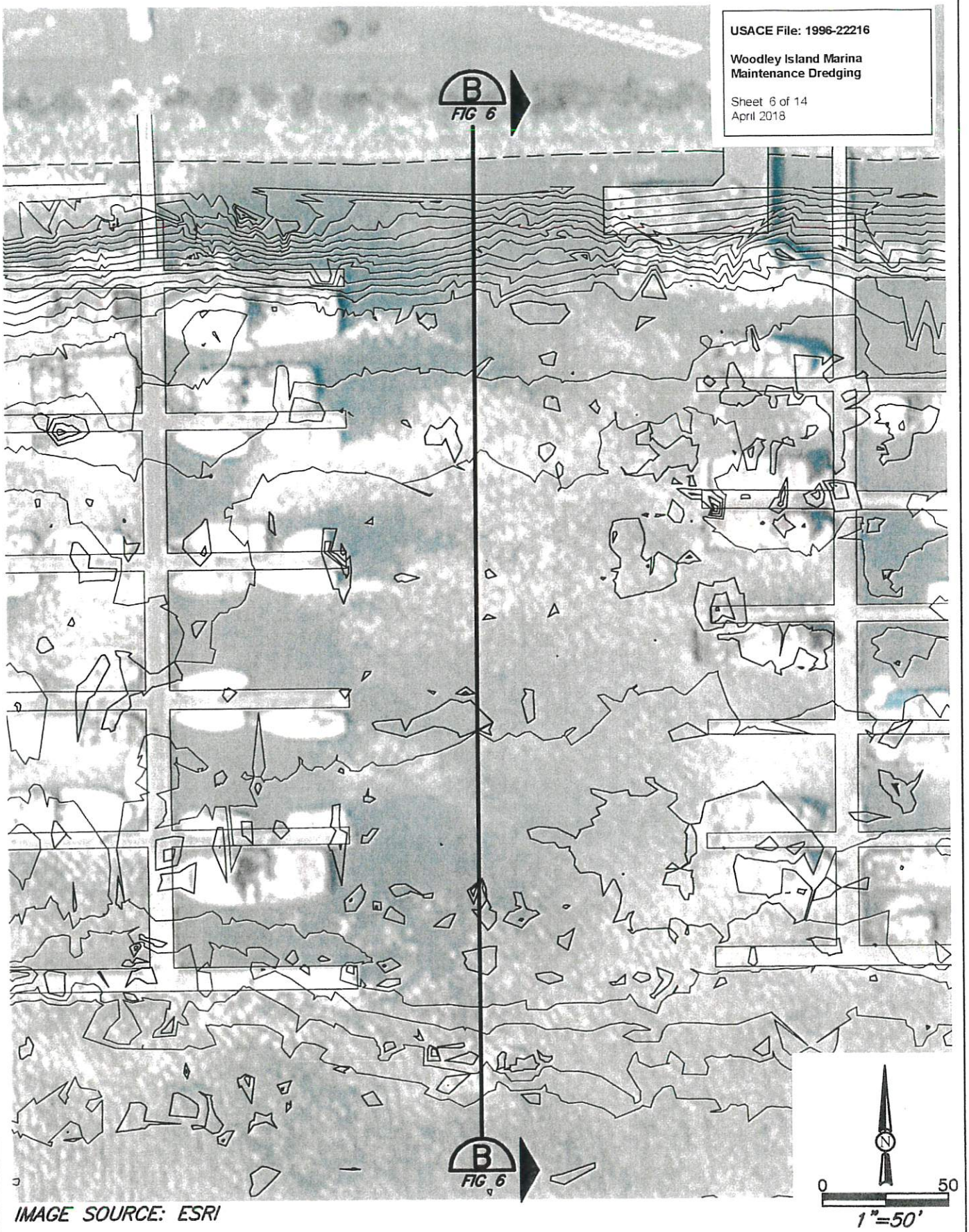


SECTION A

SCALE: 1"=50' H
1"=5' V

FIG 3

Consulting Engineers & Geologists, Inc.	Harbor District Woodley Island Maintenance Dredging Eureka, California	Section A SHN 016240
	March 2018 | 016240-020-XSECT	Figure 4

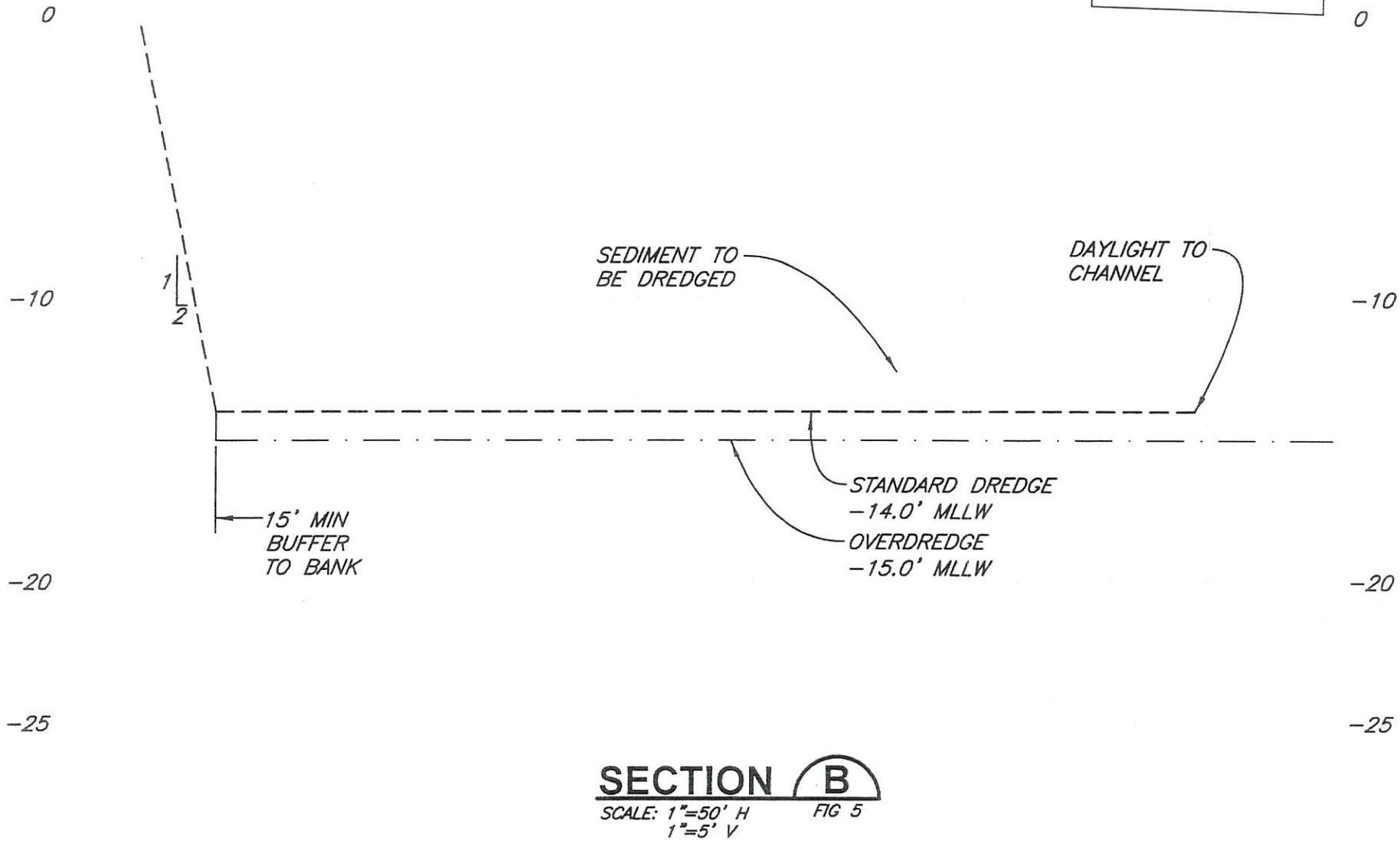


SHN Consulting Engineers & Geologists, Inc.	Harbor District Woodley Island Maintenance Dredging Eureka, California	Aerial View showing Section B Location SHN 016240
	March 2018 | 016240-020-XSECT	Figure 5

USACE File: 1996-22216

Woodley Island Marina Maintenance Dredging

Sheet 7 of 14
April 2018

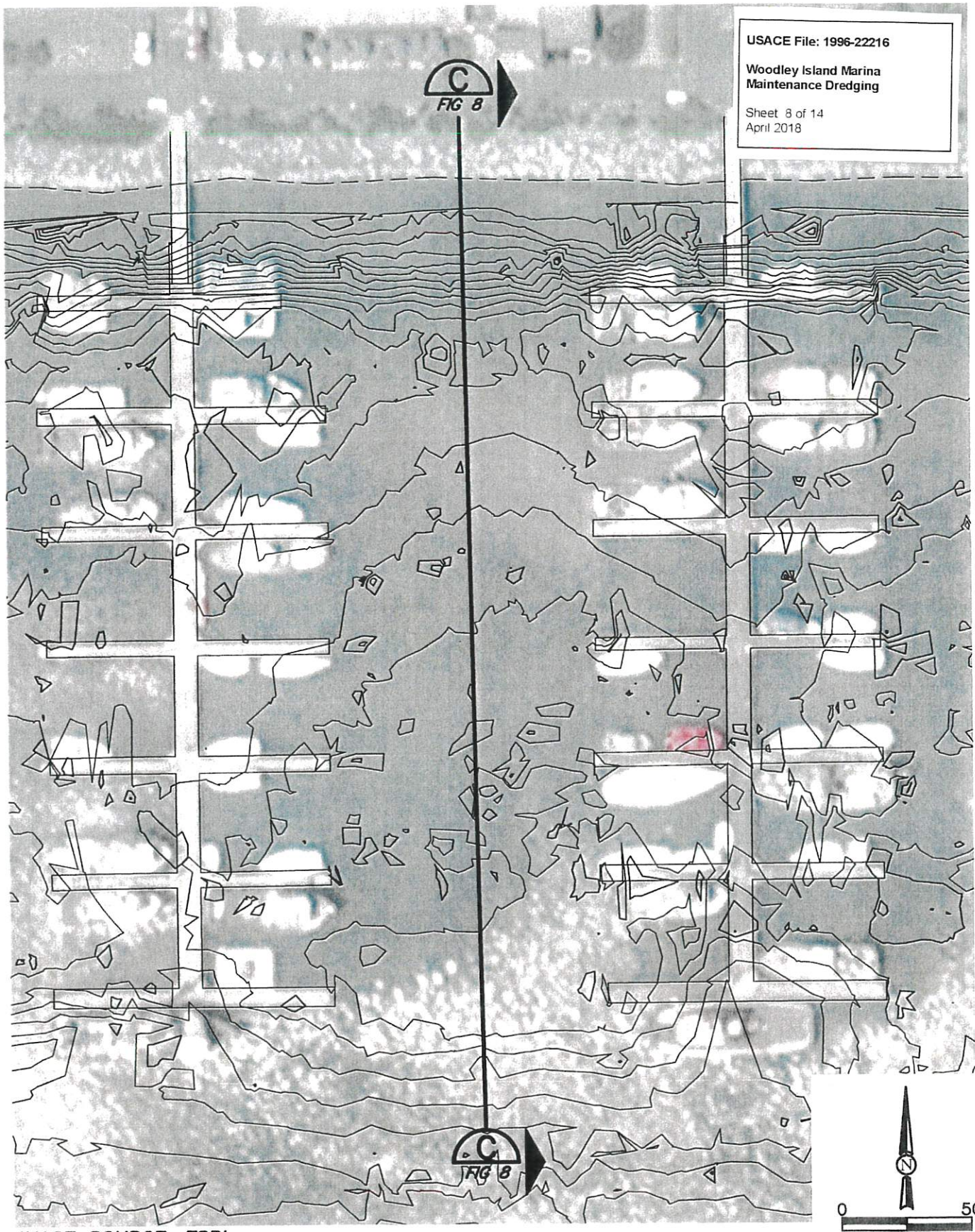


SECTION B

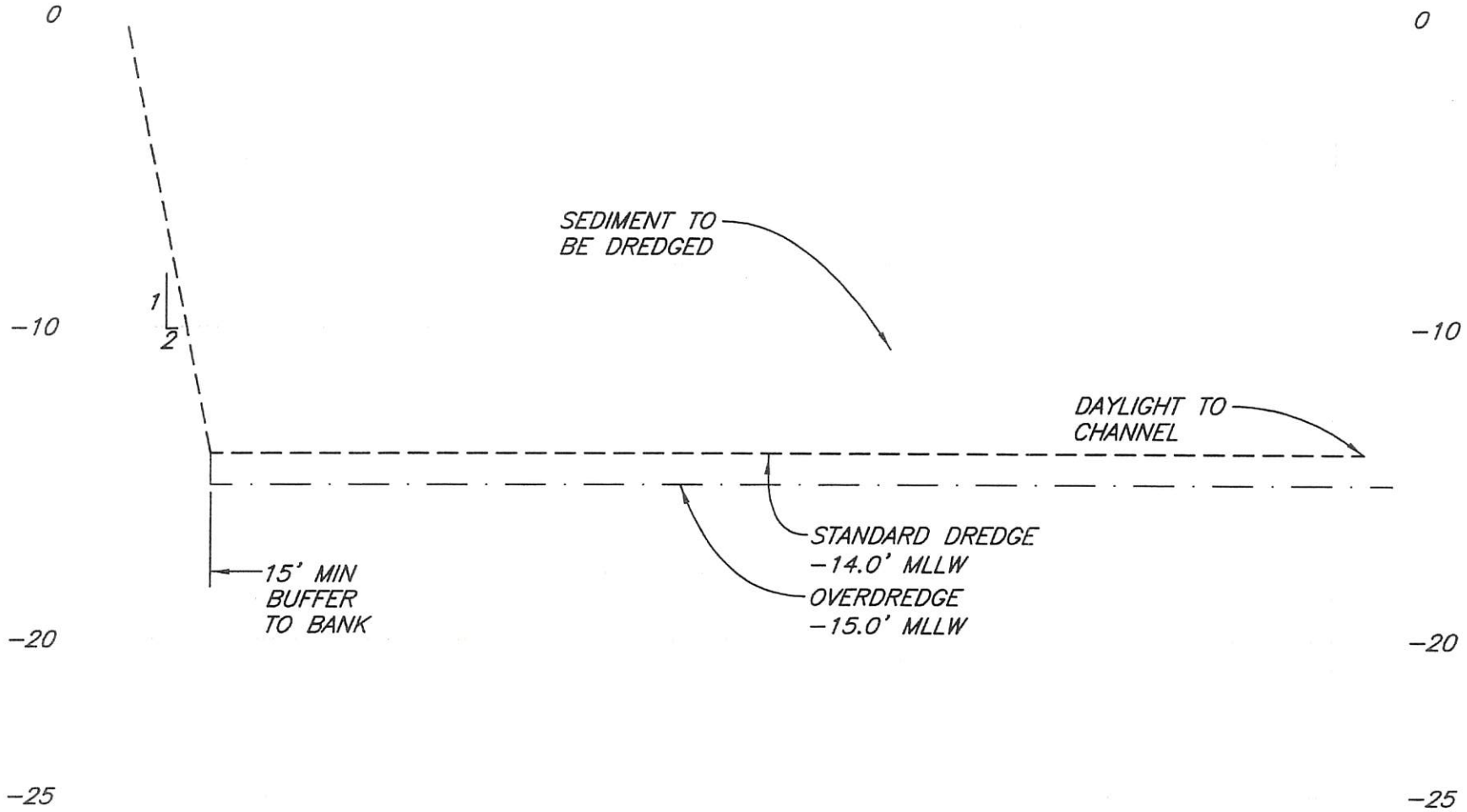
SCALE: 1"=50' H
1"=5' V

FIG 5

SHN Consulting Engineers & Geologists, Inc.	Harbor District Woodley Island Maintenance Dredging Eureka, California	Section B SHN 016240
	March 2018 | 016240-020-XSECT	Figure 6



SHN Consulting Engineers & Geologists, Inc.	Harbor District Woodley Island Maintenance Dredging Eureka, California	Aerial View showing Section C Location SHN 016240
	March 2018 | 016240-020-XSECT	Figure 7

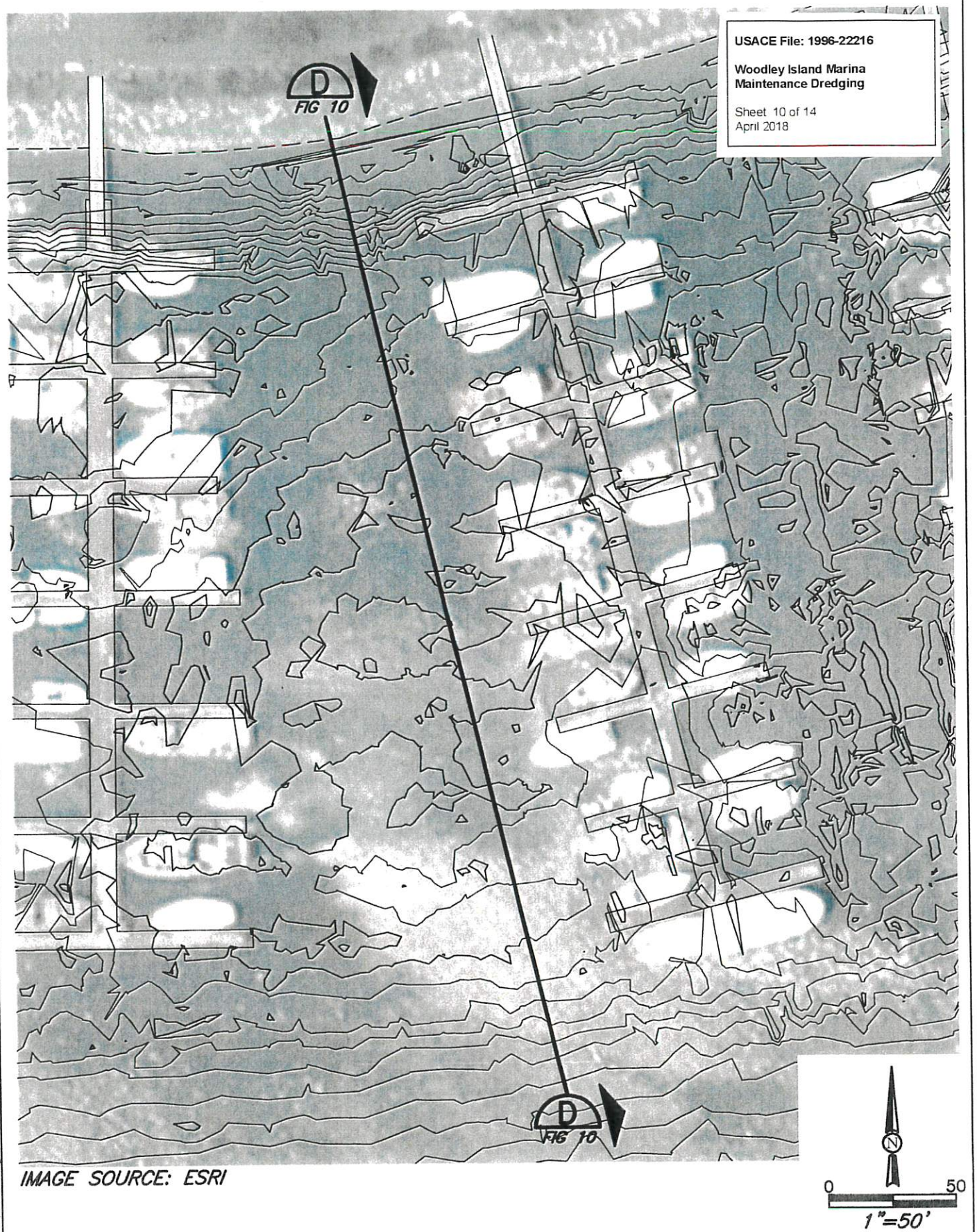


SECTION C

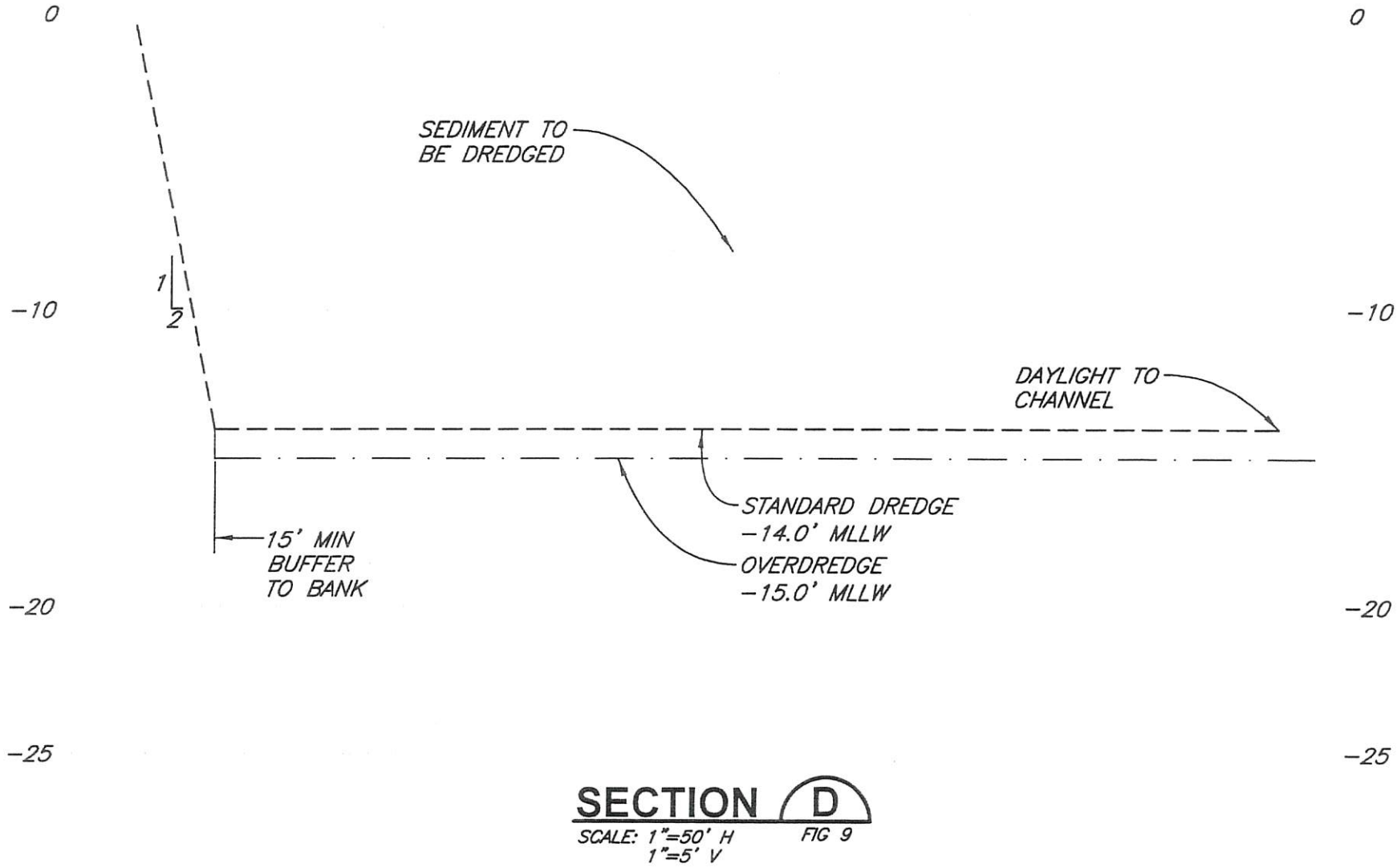
SCALE: 1"=50' H
1"=5' V

FIG 7

Consulting Engineers & Geologists, Inc.	Harbor District Woodley Island Maintenance Dredging Eureka, California	Section C SHN 016240
	March 2018 | 016240-020-XSECT	Figure 8



SHN Consulting Engineers & Geologists, Inc.	Harbor District Woodley Island Maintenance Dredging Eureka, California	Aerial View showing Section D Location SHN 016240
	March 2018 | 016240-020-XSECT	Figure 9

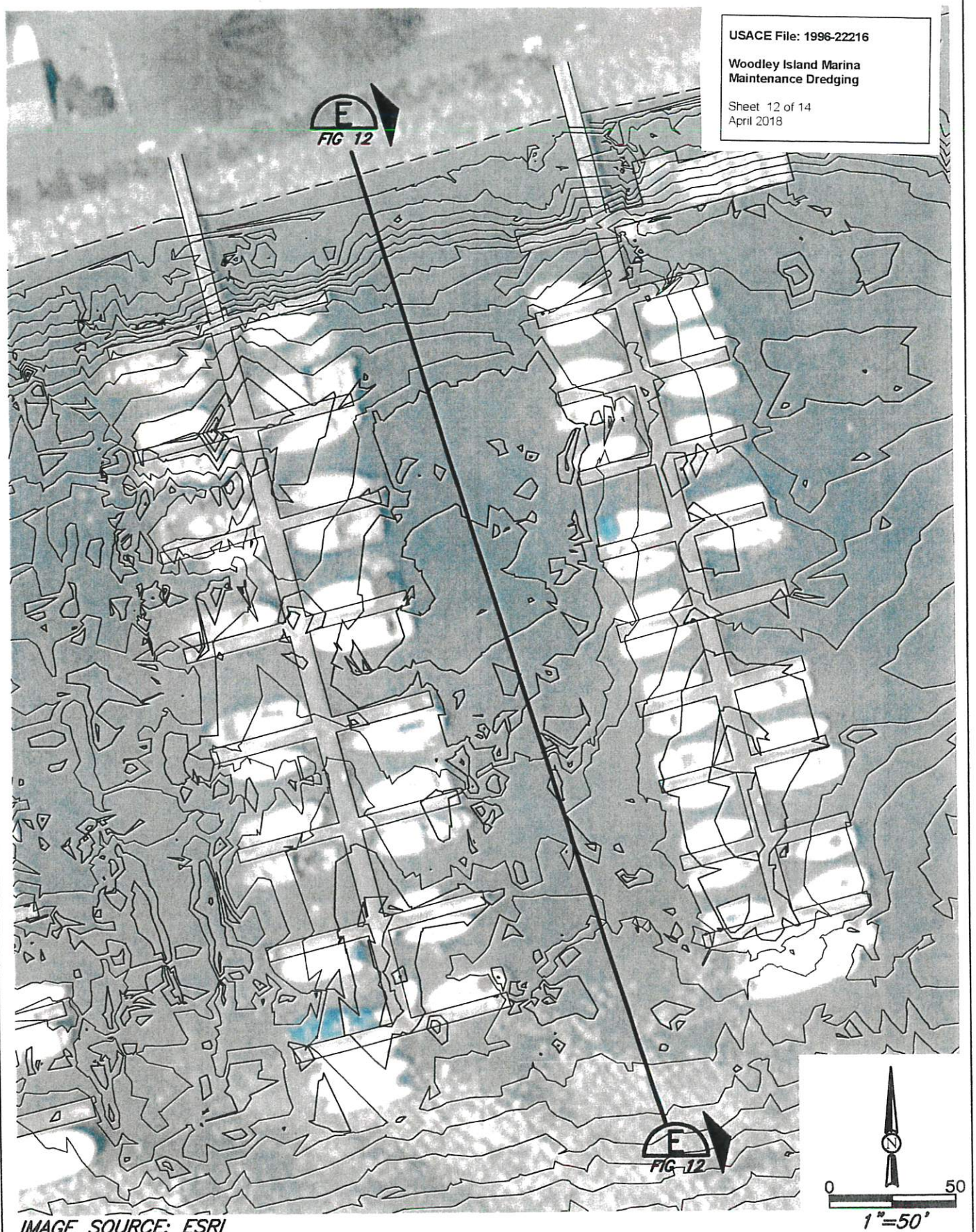


SECTION D

SCALE: 1"=50' H
1"=5' V

FIG 9

SHN Consulting Engineers & Geologists, Inc.	Harbor District Woodley Island Maintenance Dredging Eureka, California	Section D SHN 016240
	March 2018	016240-020-XSECT	Figure 10

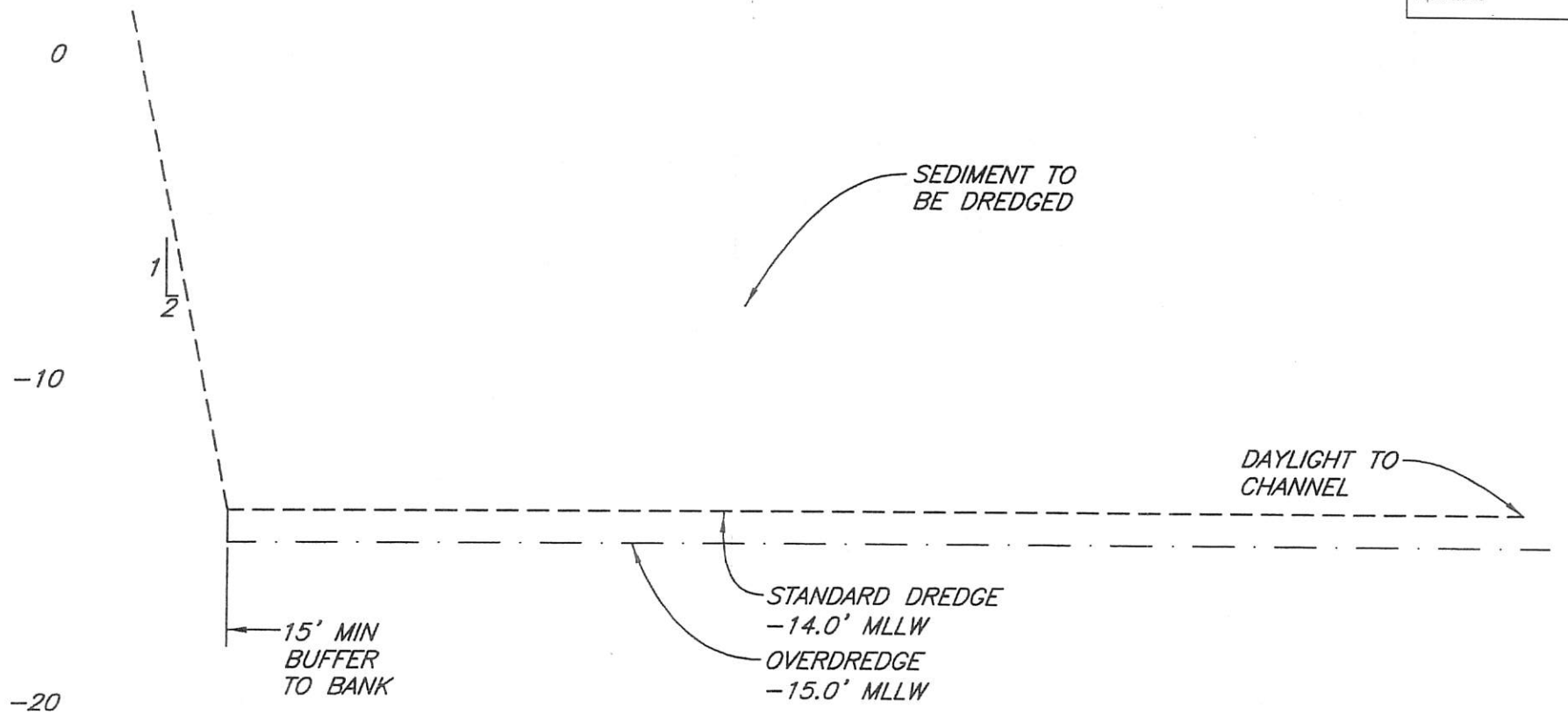


SHN Consulting Engineers & Geologists, Inc.	Harbor District Woodley Island Maintenance Dredging Eureka, California	Aerial View showing Section E Location SHN 016240
	March 2018 | 016240-020-XSECT	Figure 11

USACE File: 1996-22216

Woodley Island Marina Maintenance Dredging

Sheet 13 of 14
April 2018

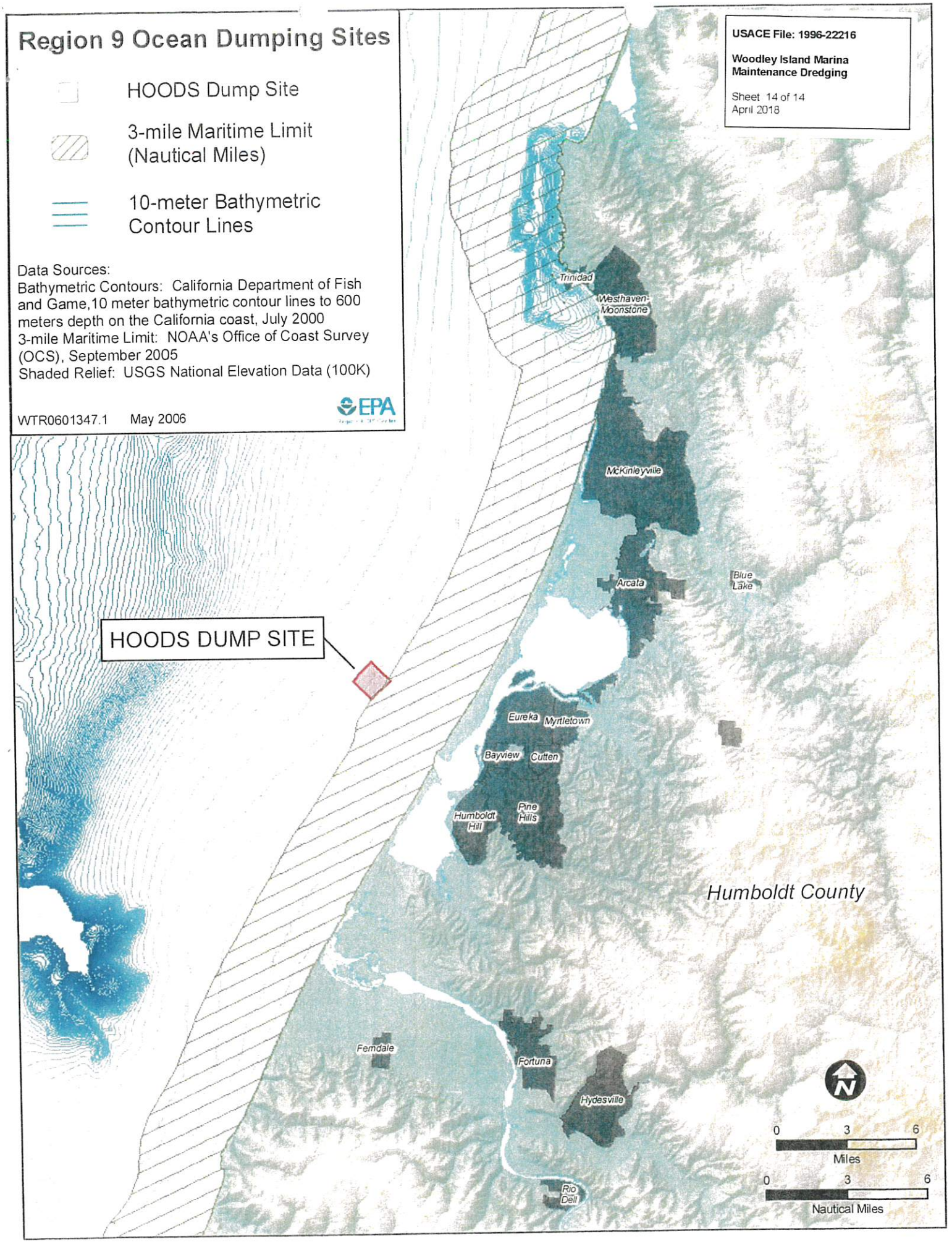


SECTION E

SCALE: 1"=50' H
1"=5' V

FIG 11

SHN Consulting Engineers & Geologists, Inc.	Harbor District Woodley Island Maintenance Dredging Eureka, California		Section E SHN 016240
	March 2018	016240-020-XSECT	Figure 12


Region 9 Ocean Dumping Sites
HOODS Dump Site
3-mile Maritime Limit (Nautical Miles)
10-meter Bathymetric Contour Lines
Data Sources:
Bathymetric Contours: California Department of Fish and Game,10 meter bathymetric contour lines to 600 meters depth on the California coast, July 2000
3-mile Maritime Limit: NOAA's Office of Coast Survey (OCS), September 2005
Shaded Relief: USGS National Elevation Data (100K)
WTR0601347.1 May 2006
EPA
USACE File: 1996-22216
Woodley Island Marina Maintenance Dredging
Sheet 14 of 14
April 2018
HOODS DUMP SITE
Trinidad
Westhaven-Moonstone
McKinleyville
Arcata
Blue Lake
Eureka
Myrtletown
Bayview
Cutten
Humboldt Hill
Pine Hills
Humboldt County
Ferndale
Fortuna
Hydesville
Rio Dell
N
0 3 6
Miles
0 3 6
Nautical Miles

CALIFORNIA
Water Boards

North Coast Regional Water Quality Control Board

July 23, 2018

In the Matter of

Water Quality Certification

for the

Woodley Island Maintenance Dredging Project
WDID No. 1B180035WNHU

APPLICANT:	Humboldt Bay Harbor, Recreation and Conservation District
RECEIVING WATER:	Humboldt Bay
HYDROLOGIC UNIT:	Eureka Plain Hydrologic Unit No. 110.00
COUNTY:	Humboldt
Files:	Woodley Island Maintenance Dredging Project ECM PIN CW- 846146

FINDINGS BY THE EXECUTIVE OFFICER:

1. On April 2, 2018, the Humboldt Bay Harbor, Recreation and Conservation District (Applicant) filed an application for water quality certification (Certification) under section 401 of the Clean Water Act (33 U.S.C. § 1341) with the California Regional Water Quality Control Board, North Coast Region (Regional Water Board) for activities associated with the Woodley Island Maintenance Dredging Project (Project). The application was deemed complete on June 20, 2018. The Regional Water Board previously issued a Certification for maintenance dredging activities at the Woodley Island Marina on August 26, 2005, and dredging was last conducted in 2007. The Project is located at the Marina on Woodley Island at 601 Startare Drive, Eureka, Humboldt County, at latitude 40.8079° N, and longitude 124.162° W.

2. **Public Notice:** The Regional Water Board provided 21-day public notice of the application pursuant to Title 23, California Code of Regulations, Section 3858 on June

26, 2018, and posted information describing the Project on the Regional Water Board's website. No comments were received.

3. **Receiving Waters:** The Project will cause disturbances to waters of the state associated with Humboldt Bay within the Eureka Plain Hydrologic Unit No. 110.00.

4. **Project Description:** The primary purpose of the Project is to conduct maintenance dredging in the marina to the designed channel depth of -14ft. Mean Lower Low Water for boat access. The Project includes dredging approximately 19.3 acres of the Humboldt Bay floor, removing up to 300,000 cubic yards (cy) of sediment over ten years (not to exceed 100,000 cy in any 12-month period). The Applicant shall conduct the maintenance dredging with a closed clamshell bucket to minimize turbidity and will monitor turbidity within 500 feet of dredging to ensure water quality objectives are maintained during dredging. The Applicant conducted a Sampling and Analysis Plan in 2015. The final Analytical Report, dated March 2, 2017, identify that the sediment contains a predominance of silt and clay (~>90% fine sediment) and similar or lower chemical constituent levels previously approved for maintenance dredging and disposal. The Applicant proposes to use a sealed dump scow to transfer and transport the dredged sediment to the Humboldt Open Ocean Disposal Site (HOODS) for permanent disposal and has received U.S. Environmental Protection Agency (EPA) approval for disposal.

5. **Construction Timing:** The Project is planned to take place between July and October, from 2018 through 2028 as necessary.

6. **Authorized Project Impacts:** No permanent impacts to waters of the state are proposed. Temporary impacts to waters of the state include dredging approximately 19.3 acres of Humboldt Bay floor removing up to 300,000 cubic yards (cy) of sediment over ten years, not to exceed 100,000 cy in any 12-month period.

7. **Avoidance, Minimization and Mitigation for Project Impacts:** The Project includes a plan to monitor turbidity within 500 feet of dredging to ensure water quality objectives are maintained during dredging and if necessary take proposed adaptive measures or Best Management Practices (BMPS) to avoid and minimize exceedances greater than 20% above background turbidity levels. The Project proposes to employ BMPs to prevent or reduce any discharges during transfer and transport to HOODS. Compensatory mitigation for the impacts to eel grass (*Zostera marina*) due to the construction of the marina in 1978 included the purchase of 22 acres in Eureka where mitigation included restoring tidal action to the property and fresh water wetland enhancement. No additional compensatory mitigation is required for maintenance dredging within the marina footprint.

8. **Other Agency Actions:** The Applicant has applied for authorization from the United States Army Corps of Engineers for a Clean Water Act, section 404 permit and or

Rivers and Harbors Act section 10. The U.S. EPA has reviewed and approved the placement of sediment at the HOODS site and has determined that it does not exceed regulatory thresholds. The Applicant has obtained a Coastal Development Permit Exemption from the California Coastal Commission.

9. **CEQA Compliance:** The North Coast Regional Water Quality Control Board, as lead California Environmental Quality Act (CEQA) agency, has determined that the project qualifies for a Categorical Exemption, 15304 (g) Minor Alterations to Land – Maintenance Dredging, and will file a Notice of Exemption with the State Clearinghouse concurrent with issuance of the 401 Water Quality Certification, pursuant to CEQA guidelines.

10. **Total Maximum Daily Load (TMDL):** Humboldt Bay within the Eureka Plain Hydrologic Unit 110.00 is identified as impaired for Dioxin Toxic Equivalents (TEQs) and Polychlorinated biphenyls (PCBs) under Clean Water Act Section 303(d). A TMDL has not yet been developed to address these impairments.

11. **Antidegradation Policy:** The federal antidegradation policy requires that state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Regional Water Board's *Water Quality Control Plan for the North Coast Region* (Basin Plan) implements, and incorporates by reference, both the state and federal antidegradation policies. This Certification is consistent with applicable federal and state antidegradation policies, as it does not authorize the discharge of increased concentrations of pollutants or increased volumes of treated wastewater, and does not otherwise authorize degradation of the waters affected by this Project.

12. This discharge is also regulated under State Water Resources Control Board Order No. 2003-0017-DWQ, "General Waste Discharge Requirements for Dredge and Fill Discharges That Have Received State Water Quality Certification," which requires compliance with all conditions of this water quality certification. The Order may be accessed at this web address:
https://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/generalorders/go_wdr401regulated_projects.pdf

Receiving Water:	Humboldt Bay, Eureka Plain Hydrologic Unit No. 110.00	
Filled and/or Excavated Areas:	Permanent impacts to waters of the state:	None
	Temporary impacts to waters of the state:	19.3 acres of bay substrate
Dredge Volume	300,000 cy over 10 years (100,000 cy max annually)	
Latitude/Longitude:	40.8079° N, 124.162° W	
Certification Expiration:	July 23, 2028	

Accordingly, based on its independent review of the record, the Regional Water Board certifies that the Woodley Island Maintenance Dredging Project (WDID No. 1B180035WNHU) as described in the application will comply with sections 301, 302, 303, 306 and 307 of the Clean Water Act, and with applicable provisions of state law, provided that the Applicant complies with the following terms and conditions:

All conditions of this Certification apply to the Applicant (and their employees) and all contractors (and their employees), sub-contractors (and their employees), and any other entity or agency that performs activities or work on the Project as related to this Water Quality Certification.

Terms and Conditions:

Project-Specific Conditions

1. No dredged material shall be permitted to overflow, leak, or spill from barges, bins, or dump scows during transportation from the dredging site to HOODS. No overflow or decant water shall be discharged from any barge at any time. Dredge material shall be removed only by closed clamshell bucket. Dredged material volume shall not exceed 100,000 cubic yards in any 12-month period.

2. The Applicant shall monitor turbidity within 500 feet of dredging to ensure water quality objectives are maintained during dredging and, if necessary, take proposed adaptive measures or Best Management Practices (BMPS) to avoid and minimize exceedances greater than 20% above background turbidity levels.

Project-Specific Conditions Requiring Reports

3. **Annual Dredge Report:** The Applicant shall provide an electronic copy of the *Annual Dredge Report* to Water Board staff within 60 days of completion of dredging operations or by November 1, annually, if no dredging will occur that year. The report may be submitted via email to northcoast@waterboards.ca.gov. The report shall contain the dates of dredging, maps of the dredging footprint, turbidity results, and the calculated final dredging volume.

Standard Conditions

4. This Certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to Water Code section 13330 and title 23, California Code of Regulations, section 3867.

5. This Certification action is not intended and shall not be construed to apply to any discharge from any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent Certification application was filed pursuant to title 23, California Code of Regulations, section 3855, subdivision (b) and the application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.

6. The validity of this Certification is conditioned upon total payment of any fee required under title 23, California Code of Regulations, section 3833, and owed by the Applicant.

   An application fee of $1,500 was received for the Project on April 2, 2018. This Certification will be subject to annual billing while the project certification is active and dredge volume discharge fees will be billed annually following submittal of the *Annual Dredge Report* per the current fee schedule: https://www.waterboards.ca.gov/resources/fees/water_quality/docs/dredgefillcalculator.xlsm The annual dredge discharge fee is based on the volume dredged during the previous fiscal years (July 1- June 30), calculated using *Annual Dredge Report* survey results provided to the Regional Water Board per condition 3. Annual fees will be automatically invoiced to the Applicant.

   Applicant must notify the Regional Water Board to request to terminate annual billing if project is terminated prior to the expiration date. Regional Water Board staff may request site visit at the end of the Project to confirm status of Project and compliance with this Certification.

7. The Regional Water Board shall be notified at least five working days (working days are Monday – Friday) prior to the commencement of construction.

8. Only wildlife-friendly, 100-percent biodegradable erosion and sediment control products that will not entrap or harm wildlife shall be used. Erosion and sediment control products shall not contain synthetic (e.g., plastic or nylon) netting. Photodegradable synthetic products are not considered biodegradable. The Applicant shall request approval from the Regional Water Board if an exception from this requirement is needed for a specific location.

9. BMPs shall be implemented as proposed in the application materials. BMPs for erosion, sediment and turbidity control shall be implemented and in place at

commencement of, during and after any ground clearing activities or any other Project activities that could result in erosion or sediment discharges to surface water. Severe and unseasonal rain events are becoming more frequent due to the effects of climate change. Therefore, BMPs shall be immediately available for deployment at all times to prevent discharges to waters of the state.

10. The Applicant is prohibited from discharging waste to waters of the state, unless explicitly authorized by this Certification. For example, no debris, soil, silt, sand, bark, slash, sawdust, rubbish, cement or concrete washings, oil or petroleum products, or other organic or earthen material from any construction or associated activity of whatever nature, other than that authorized by this Certification, shall be allowed to enter into or be placed where it may be washed by rainfall into waters of the state. When operations are completed, any excess material or debris shall be removed from the work area.

11. The Applicant shall provide Regional Water Board staff access to the Project site to document compliance with this Certification.

12. If, at any time, an unauthorized discharge to surface water (including wetlands, lakes, rivers or streams) occurs, or any water quality problem arises, the associated Project activities shall cease immediately until adequate BMPs are implemented including stopping work. The Regional Water Board shall be notified promptly and in no case more than 24 hours after the unauthorized discharge or water quality problem arises.

13. Prior to implementing any change to the Project that may be a material change as defined in California Water Code section 13260(c) as a proposed change in character, location, or volume of the discharge, the Applicant shall obtain prior written approval of the Regional Water Board Executive Officer. If the Regional Water Board is not notified of the material change to the discharge, it will be considered a violation of this Certification, and the Applicant may be subject to Regional Water Board enforcement action(s).

14. All Project activities shall be implemented as described in the submitted Certification application package and the findings and conditions of this Certification. Subsequent Project changes that could significantly impact water quality shall first be submitted to Regional Water Board staff for prior review, consideration, and written concurrence. If the Regional Water Board is not notified of a significant alteration to the Project, it will be considered a violation of this Certification, and the Applicant may be subject to Regional Water Board enforcement actions.

15. The Applicant shall provide a copy of this Certification and State Water Resources Control Board (SWRCB) Order No. 2003-0017-DWQ to any contractor(s), subcontractor(s), and utility company(ies) conducting work on the Project, and shall require that copies remain in their possession at the work site. The Applicant shall be

responsible for ensuring that all work conducted by its contractor(s), subcontractor(s), and utility companies is performed in accordance with the information provided by the Applicant to the Regional Water Board.

16. Fueling, lubrication, maintenance, storage, and staging of vehicles and equipment shall not result in a discharge or threatened discharge to any waters of the state including dry portions of the shoreline. At no time shall the Applicant or its contractors allow use of any vehicle or equipment, which leaks any substance that may impact water quality.

17. The Applicant shall not use leaking vehicles or equipment within State waters or riparian areas. Vehicles and equipment used within State waters shall be checked for leaks at the beginning of each work day.

18. In the event of any violation or threatened violation of the conditions of this Certification, the violation or threatened violation shall be subject to any remedies, penalties, process or sanctions as provided for under applicable state or federal law. For the purposes of section 401(d) of the Clean Water Act, the applicability of any state law authorizing remedies, penalties, process or sanctions for the violation or threatened violation constitutes a limitation necessary to assure compliance with the water quality standards and other pertinent requirements incorporated into this Certification. In response to a suspected violation of any condition of this Certification, the State Water Board may require the holder of any federal permit or license subject to this Certification to furnish, under penalty of perjury, any technical or monitoring reports the State Water Board deems appropriate, provided that the burden, including costs, of the reports shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. In response to any violation of the conditions of this Certification, the Regional Water Board may add to or modify the conditions of this Certification as appropriate to ensure compliance.

19. The Regional Water Board may add to or modify the conditions of this Certification, as appropriate, to implement any new or revised water quality standards and implementation plans adopted or approved pursuant to the Porter-Cologne Water Quality Control Act or section 303 of the Clean Water Act.

20. In the event of any change in control of ownership of land presently owned or controlled by the Applicant, the Applicant shall notify the successor-in-interest of the existence of this Certification by letter and shall email a copy of the letter to the following email address: NorthCoast@waterboards.ca.gov.

    The successor-in-interest shall email the Regional Water Board Executive Officer at: NorthCoast@waterboards.ca.gov to request authorization to discharge dredged or fill material under this Certification. The request must contain the following:

    i) Effective date of ownership change;

ii) Requesting entity's full legal name;

iii) The state of incorporation, if a corporation;

iv) The address and phone number of contact person; and

v) A description of any changes to the Project or confirmation that the successor-in-interest intends to implement the project as described in this Certification.

21. Except as may be modified by any preceding conditions, all Certification actions are contingent on:

i) The discharge being limited to and all proposed mitigation being completed in strict compliance with the Applicant's Project description and CEQA documentation, as approved herein; and

ii) Compliance with all applicable water quality requirements and water quality control plans including the requirements of the Water Quality Control Plan for the North Coast Region (Basin Plan), and amendments thereto.

22. The authorization of this Certification for any dredge and fill activities expires on July 23, 2028. Conditions and monitoring requirements outlined in this Certification are not subject to the expiration date outlined above, and remain in full effect and are enforceable.

Conditions 3, 7 and 8 have requirement for information and reports. Any requirement for a report made as a condition to this Certification is a formal requirement pursuant to California Water Code section 13267, and failure or refusal to provide, or falsification of such required report is subject to civil liability as described in California Water Code, section 13268.

If you have any questions or comments, please call Gil Falcone at (707) 576-2830 or Stephen Bargsten at (707) 576-2653.

Jonathan Warmerdam
On Behalf Of

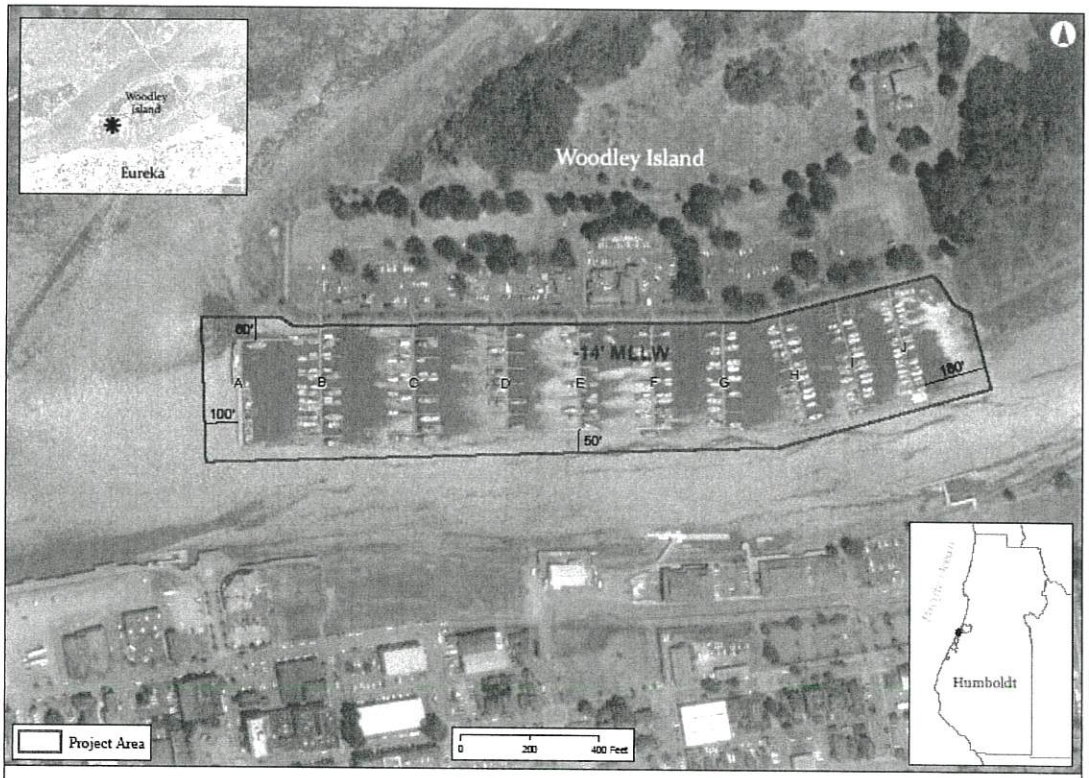
Digitally signed by Jonathan Warmerdam
Date: 2018.07.23 15:25:58 -07'00'

Matthias St. John
Executive Officer

180723_GBF_dp_WoodleyDredging_401

Original to: Mr. Larry Oetker, Executive Director, Humboldt Bay Harbor, Recreation and Conservation District, 601 Startare Drive, Eureka, CA 95501
loetker@humboldtbay.org

cc: State Water Resources Control Board, Stateboard401@waterboards.ca.gov
Ms. Jennifer Siu, EPA Region 9, Siu.Jennifer@epa.gov
Ms. Debra O'Leary, U.S. Army Corps of Engineers, debra.a.o'leary@usace.army.mil
Ms. Rebecca Garwood, CDFW, Rebecca.garwood@Wildlife.ca.gov
Ms. Vanessa Blodgett, Plan West Partners, vanessab@planwestpartners.com
Mr. George Williamson, districtplanner@humboldtbay.org



Woodley Island Marina Dredge Site Figure 1a - Vicinity Map PLANWEST PARTNERS, INC. Map Date: 2/7/2018

PROTOCOLS FOR INADVERTENT ARCHAEOLOGICAL DISCOVERIES FOR GROUND DISTURBING PROJECT PERMITS, LEASES AND FRANCHISES ISSUED BY THE HUMBOLDT BAY HARBOR, RECREATION AND CONSERVATION DISTRICT, HUMBOLDT BAY, CALIFORNIA

April 22, 2015 (adopted 4/23/15 by Harbor District Commission)
(Contact Information Updated May 7, 2018)

Background

Humboldt Bay is the ancestral heartland of the Wiyot Indians, whose native language is affiliated with the Algonquian language family and who had occupied the bay area for at least 2000 years by the time the first recorded European maritime explorers entered the Bay in 1806 and the first American towns were established in 1850. There are hundreds of known and undiscovered archaeological sites around Humboldt Bay that evidence Wiyot history and prehistory. Today, citizens of Wiyot ancestry are affiliated with three federally-recognized tribes located in the ancestral homeland: Blue Lake Rancheria; Bear River Band of the Rohnerville Rancheria; and the Wiyot Table at Table Bluff Reservation.

Applicable Laws

A number of State and Federal historic preservation laws, regulations and policies address the need to manage potentially significant and/or sensitive (e.g., human remains) archaeological and Native American resources identified during advance project or permit review or discovered inadvertently.

- California Environmental Quality Act (CEQA) – Requires analysis by the Lead Agency under CEQA, to determine if a proposed project will cause a significant impact to "historical resources" including archaeological and Native American sites. Project approval may be conditional, for example, avoidance or mitigation (data recovery) of known archaeological resources, monitoring of ground disturbing activities in identified sensitive areas by local Tribal Representatives and/or professional archaeologists, and implementation of protocols for inadvertent archaeological discoveries.

- Section 106 of the National Historic Preservation Act (NHPA) – Requires analysis by the Lead Federal Agency and consultation with the California State Historic Preservation Officer (SHPO), Advisory Council on Historic Preservation (ACHP), culturally affiliated Native American Tribes, and others, as appropriate, to "resolve adverse effects" on "historic properties" including archaeological and Native American sites. Section 106 is the key Federal historic preservation law, and final approval of the undertaking may be conditional as specified in a legally binding Agreement among the parties.

Several laws and their implementing regulations spell out evaluation criteria to determine what constitutes a significant 'site' or a significant 'discovery':

- California Register of Historical Resources criteria (California Code of Regulations, Title 14, Chapter 3, Section 15064.5), for archaeological and Native American resources qualifying for consideration under CEQA;

- National Register of Historic Places criteria (36 CFR 63), qualifying for consideration under Section 106 review and NEPA;

State laws call for specific procedures and timelines to be followed in cases when human remains are discovered on private or non-Federal public land in California. It includes penalties (felony) for violating the rules for reporting discoveries, or for possessing or receiving Native American remains or grave goods:

- Section 7050.5 of the California Health and Safety Code and Section 5097.98 of the Public Resources Code (PRC) outline requirements for handling inadvertent discoveries of human remains, including those determined to be Native American with or without associated grave goods, found on private or non-Federal public lands. PRC 5097.99 (as amended by SB 447) specifies penalties for illegally possessing or obtaining Native American remains or associated grave goods.

Another California law imposes strong civil penalties for maliciously digging, destroying or defacing a California Indian cultural or sacred site:

- California Native American Historic Resource Protection Act of 2002 (SB 1816, adding Chapter 1.76 to Division 5 of the PRC), imposes civil penalties including imprisonment and fines up to $50,000 per violation, for persons who unlawfully and maliciously excavate upon, remove, destroy, injure, or deface a Native American historic, cultural, or sacred site that is listed or may be listed in the California Register of Historic Resources.

Standard Mitigation Language for CEQA Initial Studies

The following language may be employed by the Humboldt Bay Harbor, Recreation and Conservation District (Harbor District) when cultural resources screening (e.g., comment by Wiyot area Tribal Historic Preservation Officers (THPOs), formal record searches, current cultural resources studies) indicates a particular permit, leasehold or franchise area under its jurisdiction does not have known archaeological sites, however, unknown buried artifacts and archaeological deposits may exist and be impacted by the proposed action.

CR-1 Should an archaeological resource be inadvertently discovered during ground-disturbing activities, the Tribal Historic Preservation Officers (THPO) appointed by the Blue Lake Rancheria, Bear River Band of Rohnerville Rancheria and Wiyot Tribe shall be immediately notified and a qualified archaeologist with local experience retained to consult with the Harbor District, the three THPOs, the Permitee and other applicable regulatory agencies to employ best practices for assessing the significance of the find, developing and implementing a mitigation plan if avoidance is not feasible, and reporting in accordance with the Harbor District's Standard Operating Procedures (SOP, below).

CR-2 Should human remains be inadvertently discovered during ground-disturbing activities, work at the discovery locale shall be halted immediately, the Harbor District and County Coroner contacted, and the Harbor District's SOP shall be followed, consistent with state law.

Standard Operating Procedures

The following standard operating procedures for addressing inadvertent archaeological discoveries shall apply to all phases and aspects of work carried out under the authority of the Harbor District for those parties that obtain a permit, lease or franchise for projects that involve ground-disturbing activities within its jurisdiction. It shall apply as well to the Harbor District's activities involving ground disturbances. In all cases, these SOPs shall apply to their respective employees, officers and agents, including contractors whose activities may potentially expose and impact significant or sensitive resources.

The intent is to avoid or minimize direct or indirect impacts to significant archaeological or Native American discoveries that may qualify for inclusion in the California Register of Historical Resources and/or the National Register of Historic Places.

These Protocols are intended to serve as standard guidelines to the Harbor District for compliance with CEQA and NHPA Section 106 requirements for considering inadvertent archaeological discoveries.

Responsibility for Retaining Services of As-Needed Professional Archaeologist

If an inadvertent discovery of archeological resources, human remains and/or grave goods occurs, the Harbor District or those parties that obtain a permit, lease or franchise shall be responsible for retaining as-needed services of a qualified Archaeologist, meaning the individual meets the Secretary of the Interior's Professional Standards for an Archaeological Principal Investigator and/or is listed as Registered Professional Archaeologist (see website at www.rpanet.org). The professional will provide as-needed services to conduct rapid assessments of potentially significant archaeological finds discovered during the Project implementation.

Designated Points of Contact (POC) for Notification of Discoveries

The Harbor District, those entities that obtain a permit, lease or franchise from the Harbor District, their construction contractor(s), and other applicable local, state or federal agencies shall each designate a representative who shall act as its official Point of Contact (POC) and who shall be notified immediately upon the inadvertent discovery of an archaeological find or the inadvertent discovery of human remains and /or grave goods during Project implementation.

The federally-recognized Blue Lake Rancheria, Bear River Band of the Rohnerville Rancheria and Wiyot Tribe each has citizens that recognize Wiyot ancestry. Each Tribe's appointed Tribal Historic Preservation Officer (THPO) is designated as the POC (below) and shall be immediately notified by the Harbor District's POC should an archaeological site (with or without human remains) be inadvertently discovered. The Harbor District POC is also listed below.

Designated Tribal and Harbor District Points-of-Contact (*updated 5/7/18)

Tribe	Address	Office Telephone	Cultural Staff*
Blue Lake Rancheria	428 Chartin Road P.O. Box 428 Blue Lake, CA 95525	(707) 668-5101 x1037 Fax (707) 688-4272 Cell (530) 623-0663	Janet Eidsness, THPO
Bear River Band of the Rohnerville Rancheria	266 Keisner Road Loleta, CA 95551	(707) 733-1900 x233 Fax (707) 733-1972 Cell (707) 502-5233	Erika Cooper, THPO
Wiyot Tribe	1000 Wiyot Drive Loleta, CA 95551	(707) 733-5055 Fax (707) 733-5601 Cell (707) 499-3943	Ted Hernandez, THPO
Harbor District	601 Startare Drive, Eureka, CA 95501	(707) 443-0801 Fax (707) 443-0800 Cell (707) 834-1108	Larry Oetker, Executive Director

Interested Tribal Representatives shall be invited to inspect a discovery site and meet with the Harbor District's and other applicable delegated POCs and Consulting Professional Archaeologist, as appropriate, to make a rapid assessment of the potential significance of a find and participate in the development and implementation of a Treatment Plan, as appropriate.

Note: In the event that Native American skeletal remains are discovered, State law specifies that the "Most Likely Descendent (MLD)" appointed by the NAHC has the authority to make recommendations for the final treatment and disposition of said remains and associated grave goods – see below.

A. SOP for Inadvertent Archaeological Discovery (General)

1. Ground-disturbing activities shall be immediately stopped if potentially significant historic or archaeological materials are discovered. Examples include, but are not limited to, concentrations of historic artifacts (e.g., bottles, ceramics) or prehistoric artifacts (chipped chert or obsidian, arrow points, groundstone mortars and pestles), culturally altered ash-stained midden soils associated with pre-contact Native American habitation sites, concentrations of fire-altered rock and/or burned or charred organic materials, and historic structure remains such as stone-lined building foundations, wells or privy pits. Ground-disturbing project activities may continue in other areas that are outside the discovery locale.

2. An "exclusion zone" where unauthorized equipment and personnel are not permitted shall be established (e.g., taped off) around the discovery area plus a reasonable buffer zone by the Contractor Foreman or authorized representative, or party who made the discovery and initiated these SOP.

3. The discovery locale shall be secured (e.g., 24-hour surveillance) as directed by the Harbor District if considered prudent to avoid further disturbances.

4. The Contractor Foreman or authorized representative, or party who made the discovery and initiated these SOP, shall be responsible for immediately contacting by telephone the parties listed below to report the find:
   (a) the Harbor District's authorized POC and
   (b) the Applicant's (District's permittee, lease or franchise holder) authorized POC, and it's General Contractor's POC if applicable.

5. Upon learning about a discovery, the Harbor District's POC shall be responsible for immediately contacting by telephone the POCs listed below to initiate the consultation process for its treatment and disposition:
   (a) THPOs with Blue Lake Rancheria, Bear River Band and Wiyot Tribe; and Other applicable agencies involved in Project permitting (e.g., US Army Corps of Engineers, US Fish & Wildlife Service, California Department of Fish & Wildlife, etc.).

6. Ground-disturbing project work at the find locality shall be suspended temporarily while Harbor District, the three THPOs, consulting archaeologist and other applicable parties consult about appropriate treatment and disposition of the find. Ideally, a Treatment Plan will be developed within three working days of discovery notification. Where the project can be modified to avoid disturbing the find (e.g., through project redesign), this may be the preferred option. Should Native American remains be encountered, the provisions of State laws shall apply (see below). The Treatment Plan shall reference appropriate laws and include provisions for analyses, reporting, and final disposition of data recovery documentation and any collected artifacts or other archaeological constituents. Ideally, the field phase of the Treatment Plan may be accomplished within five (5) days after its approval, however, circumstances may require longer periods for data recovery.

7. The Harbor District's officers, employees and agents, including contractors, permittees, holders of leases or franchises, and applicable property owners shall be obligated to protect significant cultural resource discoveries and may be subject to prosecution if applicable State or Federal laws are violated. In no event shall unauthorized persons collect artifacts.

8. Any and all inadvertent discoveries shall be considered strictly confidential, with information about their location and nature being disclosed only to those with a need to know. The Harbor District's authorized representative shall be responsible for coordinating with any requests by or contacts to the media about a discovery.

9. These SOPs shall be communicated to the field work force (including contractors, employees, officers and agents) of those entities that obtain a permit, lease or franchise from the Harbor District, and such communications may be made and documented at weekly tailgate safety briefings.

10. Ground-disturbing work at a discovery locale may not be resumed until authorized in writing by the Harbor District.

11. In cases where a known or suspected Native American burial or human remains are uncovered:
    (a) The following contacts shall be notified immediately: Humboldt County Coroner (707-445-7242) and the property owner of the discovery site, and
    (b) The SOP for Inadvertent Discovery of Native American Remains and Grave Goods (B below) shall be followed.

B. SOP for Inadvertent Discovery of Native American Remains and Grave Goods

In the event that known or suspected Native American remains are encountered, the above procedures of SOP paragraph A for Inadvertent Archaeological Discovery (General) shall be followed, as well as:

1. If human remains are encountered, they shall be treated with dignity and respect. Discovery of Native American remains is a very sensitive issue and serious concern of affiliated Native Americans. Information about such a discovery shall be held in confidence by all project personnel on a need-to-know basis. The rights of Native Americans to practice ceremonial observances on sites, in labs and around artifacts shall be upheld.

2. Violators of Section 7050.5 of the California Health and Safety Code may be subject to prosecution to the full extent of applicable law (felony offense).

In addition, the provisions of California law (Section 7050.5 of the California Health and Safety Code and Section 5097.98 of the California Public Resources Code) will be followed:

1. The Coroner has two working days to examine the remains after being notified of the discovery. If the remains are Native American, the Coroner has 24 hours to notify the Native American Heritage Commission (NAHC) in Sacramento at (916) 653-4082.

2. The NAHC is responsible for identifying and immediately notifying the Most Likely Descendant (MLD) of the deceased Native American. (Note: NAHC policy holds that the Native American Monitor will not be designated the MLD.)

3. Within 48 hours of their notification by the NAHC, the MLD will be granted permission by the property owner of the discovery locale to inspect the discovery site if they so choose.

4. Within 48 hours of their notification by the NAHC, the MLD may recommend to the owner of the property (discovery site) the means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The recommendation may include the scientific removal and non-destructive or destructive analysis of human remains and items associated with Native American burials. Only those osteological analyses (if any) recommended by the MLD may be considered and carried out.

5. Whenever the NAHC is unable to identify a MLD, or the MLD identified fails to make a recommendation, or the property owner rejects the recommendation of the MLD and mediation between the parties by NAHC fails to provide measures acceptable to the property owner, he/she shall cause the re-burial of the human remains and associated grave offerings with appropriate dignity on the property in a location not subject to further subsurface disturbance.

C. SOP for Documenting Inadvertent Archaeological Discoveries

1. The Contractor Foreman or authorized representative, or party who made the discovery and initiated these SOP, shall make written notes available to the Harbor District describing: the circumstances, date, time, location and nature of the discovery; date and time each POC was informed about the discovery; and when and how security measures were implemented.

2. The Harbor District POC shall prepare or authorize the preparation of a summary report which shall include: the time and nature of the discovery; who and when parties were notified; outcome of consultations with appropriate agencies and Native American representatives; how, when and by whom the approved Treatment Plan was carried out; and final disposition of any collected archaeological specimens.

3. The Contractor Foreman or authorized representative shall record how the discovery downtime affected the immediate and near-term contracted work schedule, for purposes of negotiating contract changes where applicable.

4. If applicable, Monitoring Archaeologists and Tribal Representatives shall maintain daily fieldnotes, and upon completion, submit a written report to the Harbor District and the three Wiyot area THPOs.

5. Treatment Plans and corresponding Data Recovery Reports shall be authored by professionals who meet the Federal criteria for Principal Investigator Archaeologist and reference the *Secretary of the Interior's Standards and Guidelines for Archaeological Documentation* (48 FR 44734-44737).

6. Final disposition of all collected archaeological materials shall be documented in the final Data Recovery Report and its disposition decided in consultation with Tribal representatives.

7. Final Data Recovery Reports along with updated confidential, standard California site record forms (DPR 523 series) shall be filed at the Northwest Information Center of the California Historical Resources Information System and the Harbor District, with report copies provided to the three Wiyot area THPOs.

8. Confidential information concerning the discovery location, treatment and final disposition of Native American remains shall be prepared by the THPOs and forwarded to the Sacred Sites Inventory maintained by the NAHC.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
West Coast Region
1655 Heindon Road
Arcata, California 95521-4573

JUN 0 5 2018 **Refer to NMFS No: WCR-2018-9936**

Rick M. Bottoms, Ph.D.
Chief, Regulatory Division
U.S. Department of the Army
San Francisco District, Corps of Engineers
1455 Market Street
San Francisco, California 94103-1398

Re: Endangered Species Act Section 7(a)(2) Concurrence Letter and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response for the Humboldt Bay Harbor, Recreation, and Conservation District's Woodley Island Marina Maintenance Dredging Project in Eureka, Humboldt County, California (Corps File Number 1996-22216)

Dear Dr. Bottoms:

On May 29, 2018, NOAA's National Marine Fisheries Service (NMFS) received your request for a written concurrence that the United States Army Corps of Engineers' (Corps) proposed authorization of the Humboldt Bay Harbor, Recreation, and Conservation District's (District) Woodley Island Maintenance Dredging Project (Project) pursuant to Section 404 of the Clean Water Act of 1972, as amended (33 U.S.C. § 1344 *et seq.*) and Section 10 of the Rivers and Harbors Act of 1899, as amended (33 U.S.C. § 403 *et seq.)* is not likely to adversely affect (NLAA) species listed as threatened or endangered or critical habitats designated under the Endangered Species Act (ESA). This response to your request was prepared by NMFS pursuant to section 7(a)(2) of the ESA, implementing regulations at 50 CFR 402, and agency guidance for preparation of letters of concurrence.

NMFS also reviewed the proposed action for potential effects on essential fish habitat (EFH) designated under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), including conservation measures and any determination you made regarding the potential effects of the action. This review was pursuant to section 305(b) of the MSA, implementing regulations at 50 CFR 600.920, and agency guidance for use of the ESA consultation process to complete EFH consultation.

This letter underwent pre-dissemination review using standards for utility, integrity, and objectivity in compliance with applicable guidelines issued under the Data Quality Act (section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001, Public Law 106-554). The concurrence letter will be available through NMFS' Public Consultation Tracking System https://pcts.nmfs.noaa.gov/pcts-web/homepage.pcts. A complete record of this consultation is on file at NMFS' West Coast Region, Arcata, California office.

Proposed Action

The Corps proposes to issue a 10-year Department of the Army Permit pursuant to Section 404 of the Clean Water Act of 1972, as amended (33 U.S.C. § 1344 *et seq.*) and Section 10 of the Rivers and Harbors Act of 1899, as amended (33 U.S.C. § 403 *et seq.*) to permit the Project. The District proposes to dredge the 19.3-acre Woodley Island Marina (WIM) using a mechanical clamshell dredge, removing as much as 300,000 cubic yards (cy) over the life of the permit, with no more than 100,000 cy removed in any 12-month period. Work would be completed during the July 1 to October 15 work window. The proposed dredging would remove accumulated sediment from the WIM area to restore adequate navigational and mooring depths. The dredged material would be placed in a sealed dump scow and transported to the Humboldt Open Ocean Disposal Site (HOODS), located three miles offshore of Humboldt Bay in the Pacific Ocean.

The District has not yet selected a dredging contractor and each contractor will have unique means and methods to complete the project based on their experience and equipment. As such, specific details, such as types of equipment, barge/scow size, number of trips to HOODS, schedule, etc., are still unknown. However, the general dredging methodology will consist of heavy equipment removing material from the bay floor with a clamshell bucket and placing it into a scow for transport to the disposal site at HOODS. Prior to dredging, pre-project hydrographic surveys will be completed. Updated dredge volumes will be generated and verified with post project hydrographic surveys.

The dredge barge will be moved into position and will anchor, typically by setting two spud piles attached to the barge. A tugboat will then move the dump scow into position nearby the work barge. A crane outfitted with a closed clamshell bucket will be used. Other than the negligible amount of sediment on the exterior of the bucket during loading, there will be no water or sediment released back into Humboldt Bay. Dredged material will be placed in the water tight dump scow positioned adjacent to the work barge. Once the scow is full, it will be towed out of Humboldt Bay to the HOODS ocean disposal site. The barge and scow will be repositioned frequently throughout the project in order to access all the areas to be dredged and will work 24-hours a day.

Dredging WIM will include removal of sediment from within vessel mooring berths, fairways in between docks, slips, and from beneath all floating and fixed structures and encompass 19.3-acres. Dock structures may be dismantled as necessary and any broken docks will be repaired or replaced. Side slopes will be cut at a 2:1 angler or the natural angle of repose. Overdredge depth is one foot below the design depth of (-)14 feet mean lower low water (MLLW). The current volume of sediment in need of removal from the WIM is estimated to be 130,000 cy, requiring two seasons of work to remove.

Minimization and Conservation Measures
The Corps proposes to authorize the following measures as part of the proposed action.

- Dredging is limited to July 1 to October 15 to minimize effects to listed species
- Dredge volume will be limited to 100,000 cy in any 12 month period of time

- Spoils will be deposited at HOODS in accordance with the Corps and Environmental Protection Agency criteria
- Clamshell and excavator dredging is a slow and controlled process allowing marine life time to escape as the equipment approaches. There are no suction or jetting pressures involved. Operator has the ability to limit descent speeds to minimize sediment dispersion.
- Vegetable based or biodegradable hydraulic fluids shall be used, if possible, in equipment operating over water or without secondary containment
- Equipment will be routinely inspected before, during, and after use
- Spill and containment kits will be kept on site
- Dredging will not extend beyond the over-dredging limits identified
- Turbidity will be monitored upstream and downstream of the Project to ensure turbidity is limited to only 500-feet from work sites in Humboldt Bay

Action Area
The action area includes the WIM as well as a 500-foot buffer, representing the extent sediment and turbidity is likely to extend. The action area also includes the HOODS offshore disposal site and the area of Humboldt Bay and the Pacific Ocean in which vessels, tugs, barges, and scows will be travelling to deposit dredge spoils at the disposal site at HOODS and return to the work sites.

Action Agency's Effects Determination
Available information indicates the following listed species (Evolutionarily Significant Units (ESU) or Distinct Population Segments [DPS]) under the jurisdiction of NMFS may be affected by the proposed project:

Southern Oregon/Northern California Coast (SONCC) coho salmon ESU
(*Oncorhyncus kisutch*)
Threatened (70 FR 37160; June 28, 2005)
Critical habitat (64 FR 24049; May 5, 1999);
California Coastal (CC) Chinook salmon ESU
(*O. tshawytscha*)
Threatened (70 FR 37160; June 28, 2005)
Critical habitat (70 FR 52488; September 2, 2005);
Northern California (NC) steelhead DPS
(*O. mykiss*)
Threatened (71 FR 834; January 5, 2006)
Critical habitat (70 FR 52488; September 2, 2005);
North American green sturgeon Southern DPS
(*Acipenser medirostris*)
Threatened (71 FR 17757; April 7, 2006)
Critical habitat (74 FR 52300; October 9, 2009).

The Corps determined the Project may affect, but is not likely to adversely affect SONCC coho salmon, CC Chinook salmon, NC steelhead, and Southern DPS green sturgeon and their designated critical habitats. The Corps rationale for their determination includes the areas proposed for dredging and disposal have been previously used several times and considered to be highly disturbed; the work window minimizes exposure of listed species; availability of suitable habitat elsewhere; and the effects would be short term with rapid recolonization of infaunal species. The Corps has also determined that the Project may adversely affect EFH.

SONCC Coho Salmon, CC Chinook Salmon, and NC Steelhead Life History and Use of Humboldt Bay

SONCC Coho Salmon Life History: Coho salmon have a generally simple 3-year life history. The adults typically migrate from the ocean and into Humboldt Bay towards their freshwater spawning grounds in late summer and fall, and spawn by mid-winter. Adults die after spawning. The eggs are buried in nests, called redds, in the rivers and streams where the adults spawn. The eggs incubate in the gravel until fish hatch and emerge from the gravel the following spring as fry. These 0+ age fish typically rear in freshwater for about 15 months before migrating to the ocean. The juveniles go through a physiological change during the transition from fresh to salt water called smoltification. Coho salmon typically rear in the ocean for two growing seasons, returning to their natal streams as 3-year old fish to renew the cycle.

Recent studies have identified the importance of the greater transition zone, or ecotone, between fresh and brackish water to juvenile salmonids (Miller and Sadro 2003). Wallace et al. (2015) defined this stream-estuary ecotone to include the area of low gradient stream extending from stream entrance to the wide valley floor, through the upper limit of tidal influence downstream to the area where the channel becomes bordered by tidal mudflats (including fringing marsh habitats, side channels, and off channel ponds). Sampling by California Department of Fish and Wildlife (CDFW) suggest that 0+ age coho salmon from Freshwater Creek (a tributary to Humboldt Bay) primarily rear in the stream-estuary ecotone during the spring and summer and then migrate back into Freshwater Creek to over-winter before emigrating to the ocean the following year as age 1+ smolts (Wallace and Allen 2007). An estimated 40% of coho salmon smolts originated from the stream-estuary ecotone of Freshwater Creek in 2007 and 2008 (Ricker and Anderson 2011).

CC Chinook Salmon Life History: The CC Chinook salmon ESU are typically fall spawners, returning to Humboldt Bay before entering their natal streams in the early fall. The adults tend to spawn in the mainstem or larger tributaries of rivers. As with the other anadromous salmon, the eggs are deposited in redds for incubation. When the 0+ age fish emerge from the gravel in the spring, they typically migrate to saltwater shortly after emergence. Therefore, Chinook salmon typically enter the estuary as smaller fish compared to coho salmon. Chinook salmon are typically present in the stream-estuary ecotone from early May to early September, with peak abundance in June/July (Wallace and Allen 2007). Similar to coho salmon, prey resources during out-migration is critical to Chinook salmon survival as they grow and move out to the open ocean. A study by MacFarlane (2010) indicated that juvenile Chinook salmon require less prey

in the estuary, equivalent to one northern anchovy (*Engraulis mordax*) per day, compared to a range of one to four anchovies needed per day in the ocean.

NC Steelhead Life History: Steelhead exhibit the most complex suite of life history strategies of any salmonid species. They have both anadromous and resident freshwater life histories that can be expressed by individuals in the same watershed. The anadromous fish generally return to freshwater to spawn as 4 or 5 year old adults. Unlike other Pacific salmon, steelhead can survive spawning and return to the ocean only to return to spawn in a future year. It is rare for steelhead to survive more than two spawning cycles. Steelhead typically spawn between December and May. Like other Pacific salmon, the steelhead female deposits her eggs in a redd for incubation. The 0+ age fish emerge from the gravel to begin their freshwater life stage and can rear in their natal stream for 1 to 4 years before migrating to the ocean.

Steelhead have a similar life history as noted above for coho salmon, in the sense that they rear in freshwater for an extended period before migrating to saltwater. As such, they enter the estuary as larger fish (mean size of about 170 to 180 mm or 6.5 to 7.0 inches) and are, therefore, more oriented to deeper water channels in contrast to Chinook salmon that typically enter the estuary as 0+ fish. The CDFW data indicate that steelhead smolts generally migrate downstream toward the estuary between March 1 and July 1 each year, although they have been observed as late as September (Ricker et al. 2014). The peak of the outmigration timing varies from year to year within this range, and generally falls between early April and mid-May. CDFW estimated 80% to 90% of steelhead trout smolts originated from the stream-estuary ecotone of Freshwater Creek in 2007 and 2008 (Wallace et al. 2015).

Salmonid Use of Humboldt Bay: Salmonids use eelgrass habitats for cover and feeding while they migrate to the marine environment, or while they rear seasonally in Humboldt Bay before returning upstream to overwinter (Wallace et al. 2015). Salmonids occurring in estuaries are highly mobile and in Humboldt Bay, low numbers of fish are spread over a large area, which can complicate scientific observations or captures intended to understand their habitat preferences (Garwood et al. 2013 and Pinnix et al. 2005). Phillips (1984) suggested Chinook salmon were "transient" users of eelgrass for feeding or cover. Murphy et al. (2000) did not observe a significant association of juvenile salmon with eelgrass. Garwood et al. (2013) studied fish assemblages in an eelgrass bed in Humboldt Bay by conducting monthly sampling over a period of several years and only captured one listed salmonid (NC steelhead) during the multi-year study. Pinnix et al. (2005) sampled over a 2-year period using fyke nets, shrimp trawls, beach seines, purse seines, cast nets, and minnow traps. Pinnix et al. (2005) identified a diverse and abundant fish community using the mudflats, oyster culture, and eelgrass meadows in Humboldt Bay, including a total of 49 species from 22 families of fishes. However, over the two years of sampling, no salmonid species were captured in any of the six different types of sampling gear.

A recent study related to 1+ age coho salmon smolts in Humboldt Bay, California, by Pinnix et al. (2013) used acoustic transmitters surgically implanted into the out-migrating smolts. Coho salmon smolts spent more time in the stream- estuary ecotone compared to the intertidal habitat of Humboldt Bay. During their residency in Humboldt Bay, coho smolts primarily used deep channels and channel margins and were present in the estuary an average of 10 to 12 days. They were also detected near floating eelgrass mats adjacent to the channels, but not over eelgrass

beds. The results from this study emphasize the importance of edge habitat and the need for structural heterogeneity during salmonid residency and migration through Humboldt Bay.

Southern DPS Green Sturgeon Life History and Use of Humboldt Bay

Southern DPS green sturgeon inhabit estuaries along the west coast during the summer and fall months (Moser and Lindley 2007) and are known to use the North Humboldt Bay heavily (Goldsworthy et. al. 2016, Pinnix 2008). Juvenile Southern DPS green sturgeon rear in their natal streams in California's Central Valley, so only sub-adult and adult SDPS green sturgeon are present in Humboldt Bay and are the only life stages of SDPS green sturgeon that could be exposed to the effects of the Project. Sub-adults range from 65-150 cm total length from first ocean entry to size at sexual maturity. Sexually mature adults range from 150-250 cm total length.

The action area is largely an intertidal mudflat with a deeper subtidal channel nearby (Eureka Channel). Because the action area is largely intertidal, SDPS green sturgeon are only expected along the deepest margins of the action area where suitable depths exist to accommodate large animals like the SDPS green sturgeon. SDPS green sturgeon can only utilize the action area during high tides, and therefore exposure to the Project is very limited

Consultation History

On May 29, 2018, NMFS received an initiation package from the Corps with an attached Project Description prepared by Pacific Affiliates (Pacific Affiliates 2018). The Corps requested NMFS concurrence that the Project, as proposed, is not likely to adversely affect SONCC coho salmon, CC Chinook salmon, NC steelhead, SDPS green sturgeon or their designated critical habitats. The Corps also determined the Project might adversely affect species managed under the Pacific Coast Salmon Fishery Management Plan (FMP), Pacific Coast Groundfish FMP, and Coastal Pelagic Species FMP.

On May 31, 2018, NMFS contacted the Corps via email requesting confirmation that the Project Description prepared by the District (HBHRCD 2018) could be considered as part of the consultation initiation package, as the Corps did not provide a description of the project as part of the initiation package.

On June 5, 2018, the Corps confirmed that the Project Description prepared by the District is part of the initiation package. On June 5, 2018, NMFS determined that there was sufficient information to initiate informal consultation as described above.

ENDANGERED SPECIES ACT

Effects of the Action

Under the ESA, "effects of the action" means the direct and indirect effects of an action on the listed species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action (50 CFR 402.02). The applicable standard to find that a proposed action is not likely to adversely affect listed species or critical habitat is that all of the

effects of the action are expected to be discountable, insignificant, or completely beneficial. Beneficial effects are contemporaneous positive effects without any adverse effects to the species or critical habitat. Insignificant effects relate to the size of the impact and should never reach the scale where take occurs. Discountable effects are those extremely unlikely to occur.

Effects on Salmon, Steelhead and Green Sturgeon Critical Habitat

The critical habitat designations for SONCC coho salmon, CC Chinook salmon, NC steelhead, and Southern DPS green sturgeon use the term primary constituent element or essential feature. The new critical habitat regulations (81 FR 7414) replace this term with physical or biological features (PBFs). This shift in terminology does not change the approach used in conducting our analysis, whether the original designation identified primary constituent elements, physical or biological features, or essential features. In this consultation, we use the term PBF to mean primary constituent element or essential feature, as appropriate for the specific critical habitat.

Effects on SONCC coho salmon, CC Chinook, and NC Steelhead Critical Habitat

Within the range of the SONCC coho salmon, the life cycle of the species can be separated into five PBFs or essential habitat types: (1) juvenile summer and winter rearing areas, (2) juvenile migration corridors, (3) areas for growth and development to adulthood, (4) adult migration corridors, and (5) spawning areas. Areas 1 and 5 are often located in small headwater streams and side channels, while areas 2 and 4 include these tributaries as well as mainstem reaches and estuarine zones. Growth and development to adulthood (area 3) occurs primarily in near- and off-shore marine waters, although final maturation takes place in freshwater tributaries when the adults return to spawn. Within these areas, essential features of coho salmon critical habitat include adequate: (1) substrate, (2) water quality, (3) water quantity, (4) water temperature, (5) water velocity, (6) cover/shelter, (7) food, (8) riparian vegetation, (9) space, and (10) safe passage conditions (NMFS 1999). The PBFs of coho salmon critical habitat associated with this project relate to: areas for growth and development to adulthood. The essential features that may be affected by the proposed action include water quality, food, cover/shelter, and safe passage.

The PBFs of CC Chinook salmon critical habitat and the PBFs of NC steelhead critical habitat within the action area is limited to the estuarine area with: (1) water quality, water quantity, and salinity conditions supporting juvenile and adult physiological transitions between fresh- and saltwater; (2) natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, and side channels; and (3) juvenile and adult forage, including aquatic invertebrates and fishes, supporting growth and maturation (NMFS 2005). The essential features that may be affected by the proposed action include water quality, natural cover, and forage/food resources.

Water Quality PBF

The proposed action includes activities that could degrade the water quality PBF for salmonids. Degraded water quality is expected to result from increased turbidity from disturbance of sediment and the incidental fallback of sediment from the clamshell dredge during operation. Elevated suspended sediment concentrations (SSCs) in Humboldt Bay are a relatively frequent occurrence. SSC levels can naturally increase due to wave action on shallow mudflats, storm runoff being delivered from local tributaries, and turbid water from the Eel River entering on

incoming tides. It is common for SSCs in Humboldt Bay to range from 40 to 100 milligrams per liter or more during the year (Swanson et al. 2012). Significant increases in turbidity usually begin to occur in September or October with the onset of the wet season, and peak between December and February (Swanson et al. 2012). Implementation of the minimization measures, which are included in the proposed action, will ensure any effects of turbidity are minimized.

The clamshell dredge bucket will minimize the extent and duration of turbid conditions, which are expected to extend no more than 500-feet from work areas. Because work will only occur in one discrete location at any time, the majority of the action area will remain undisturbed during project activities. NMFS expects that the temporary reduction in water quality in Humboldt Bay will not affect the conservation value of critical habitat. Dredge spoils deposited at the offshore HOODS disposal site will also generate short term increases in turbidity in the Pacific Ocean. Disposal events at HOODS will be more episodic than the actual dredging work in Humboldt Bay and is expected to dissipate quickly in the open ocean environment. Therefore, the effects of the Project on the water quality PBF are expected to be insignificant.

Prey/Forage Resources PBF
The proposed action will result in the temporary loss of some benthic food resources within the area of the dredge footprint of the Project. Given the proposed work window, the majority of the disturbance to prey resources in the action area will occur during times when salmonid use of the action area is very low. As salmonid use of the action area increases in the spring months the following year, the dredged areas would have had several months to recover and be recolonized by benthic organisms. The preferred prey resources for juvenile salmonids (Dungeness crab larvae, Pacific herring larvae, harpacticoid copepods, etc) would not be affected by the Project. Because prey resources are not expected to be significantly affected, NMFS does not expect any adverse effects to the Prey Resource PBF.

Migratory Corridor PBF
The proposed action will result in increased turbidity within 500 feet of work sites while the clamshell dredge removes accumulated sediments from the dredge footprint. The proposed work will occur when salmonids are not expected to be migrating, and NMFS expects that salmonid use (rearing) in the action area will be minimal. The short term turbidity is not expected to have a lasting effect on the quality or quantity of the migratory corridor. NMFS expects no adverse effects to the Migratory Corridor PBF.

Conclusion: Effects to SONCC Coho Salmon, CC Chinook, and NC Steelhead Critical Habitat
Based on our analysis above, implementation of the minimization measures will be sufficient to protect all of the PBFs of SONCC coho salmon, CC Chinook salmon, and NC steelhead critical habitat. For these reasons, the potential effects on the aforementioned species' critical habitat are expected to be insignificant.

Effects to SDPS Green Sturgeon Critical Habitat
The PBFs of green sturgeon critical habitat within the action area is limited to the estuarine area with: (1) abundant food items and substrates for juvenile, subadult and adult life stages; (2) water flow necessary for orientation and attraction flows to spawning areas in the Sacramento River; (3) water quality necessary for normal behavior, growth, and viability of all life stages; (4) a

migratory pathway necessary for the safe and timely passage within estuarine habitats and between estuarine and riverine or marine habitats; (5) a diversity of depths necessary for shelter, foraging and migration of juvenile, subadult, and adult life stages; and (6) sediment quality necessary for normal behavior, growth, and viability of all life stages (NMFS 2006).

Prey Resources PBF

The proposed action will result in the temporary reduction of benthic food resources within the area of the dredge footprint of the Project. After the first dredging cycle (likely to occur in 2018), the benthic community is expected to recover and recolonize the dredge footprint. Given the large volumes of sediment to be removed at WIM (130,000 cy), the second dredging episode will likely begin 13 months after the first episode. As SDPS green sturgeon enter Humboldt Bay in April, the dredge footprint will have had nearly six months of recovery time after the first year of dredging. Subsequent dredging efforts will be much smaller in scope and dependent on the volume of sediment accumulated. Green sturgeon use of the dredge footprint is relatively low given its low value location and high levels of disturbance. The temporary reduction in benthic prey resources during the recovery and recolonization of the dredge footprint after dredging episodes is not expected to adversely affect the Prey Resources PBF for SDPS green sturgeon.

Water Flow PBF

The Water Flow PBF is specific to bays and estuaries that are adjacent to the Sacramento River and is intended to provide for sufficient flows so that adult life stages can orient themselves to the incoming flow to accommodate upstream spawning migrations into the Sacramento River. Because Humboldt Bay is not adjacent to the Sacramento River, this PBF does not apply and will not be further considered in this consultation.

Water Quality PBF

The Water Quality PBF establishes criteria for suitable water temperatures, salinity, dissolved oxygen, and contaminants for all life stages of SDPS green sturgeon. The Project is not expected to affect these water quality parameters as the activities will not significantly affect temperature, salinity, or dissolved oxygen. Minimization measures are proposed in the *Proposed Action* section are likely to avoid introducing significant amounts of contaminants (fuel, etc) into the action area. Such toxics would be further diluted by tides and currents. Thus, there are no adverse effects expected to the Water Quality PBF.

Migratory Corridor PBF

The Migratory Corridor for SDPS green sturgeon may be temporarily affected by increases in turbidity. Turbid conditions are expected to extend as far as 500 feet from work sites, leaving ample space and adequate depths for any SDPS sturgeon migratory behaviors to occur. Furthermore, it is not expected that turbidity will affect SDPS green sturgeon migratory behaviors as the species has reduced eyesight and relies on other senses to navigate. Therefore, the effects to the Migratory Corridor PBF are expected to be insignificant.

Water Depth PBF

The Water Depth PBF suggests that a diversity of depths is necessary for shelter, foraging, and migration of all life stages of SDPS green sturgeon. Sub-adult and adult green sturgeon green sturgeon occupy a diversity of depths while in bays or estuaries for feeding and migration. The

Project will increase the depths of areas that are currently shallow, resulting in depths that remain suitable (or possibly enhanced) for SPDS green sturgeon. NMFS does not expect adverse effects to the Water Depth PBF, as a diversity of depths will remain available to all SDPS green sturgeon in the action area.

Sediment Quality PBF
The Sediment Quality PBF identifies the importance of the chemical characteristics of sediments, and suggests that sediments be free of elevated levels of contaminants such as selenium, pesticides, or poly aromatic hydrocarbons. These chemicals are known to cause adverse effects on all life stages of green sturgeon. Due to minimization measures described above, the Project is not expected to contribute chemical contamination to the water in the action area in more than the small amounts that are re-suspended from the bottom during dredging activities. Therefore, NMFS does not expect adverse effects to the Sediment Quality PBF.

Conclusion: Effects to SDPS Green Sturgeon Critical Habitat
Implementation of the minimization measures will be sufficient to protect all PBFs of SDPS green sturgeon critical habitat in the action area. Thus, the potential effects to green sturgeon critical habitat in the action area are expected to be insignificant.

Effects to Salmon and Steelhead Individuals
The Project has the potential to affect all life stages of the listed salmonids occurring in the action area due to entrainment in the clamshell bucket; reduced fitness resulting from temporary increases in turbidity; reduced fitness resulting from temporary reduction in benthic prey; and disturbance from vessel traffic. The effects caused by these project components have been reduced or minimized by incorporating the minimization measures described in the *Proposed Action* section.

Entrainment in Clamshell Bucket
There is a very remote possibility that a juvenile salmonid could be captured in the clamshell bucket and removed along with the dredge spoils. However, the work will occur when listed salmonid use of the action area is very low, thus minimizing exposure of juveniles. Any juveniles present in the action area during the work window would be expected to be present in the deeper North Bay Channel. Pinnix et al. 2013 found that SONCC coho salmon juveniles predominantly occurred in deep channels and NMFS expects that listed salmonids will prefer the deeper Eureka Channel and are expected to avoid the work areas, thus the possible effects of entrainment are discountable.

Turbidity
As previously described in the *Effects to Critical Habitat* section, operation of the clamshell dredge is expected to reduce water quality through the suspension of sediments and the resulting temporary increases in turbidity. Turbid waters are expected to extend no more than 500 feet from work sites, and work is expected to be limited to only one portion of the action area at a time. The work will occur when listed salmonid use of the action area is low, thus minimizing exposure of both juveniles and adults. If any life stages were present, it is expected they would be present in the deeper subtidal channel. Pinnix et al. 2013 found that SONCC coho salmon residency in the Bay was very low and predominantly occurred in deep channels. Listed

salmonids will be able to avoid the work areas as ample suitable habitat is available within the action area. Therefore, NMFS expects no adverse effect to listed salmonids resulting from turbidity.

Benthic Prey Reduction

The proposed action will result in the temporary loss of some benthic food resources within the area of the dredge footprint of the Project. Given the proposed work window, the majority of the disturbance to prey resources in the action area will occur during times when salmonid use of the action area is very low. As salmonid use of the action area increases in the spring months the following year, the dredged areas would have had several months to recover and be recolonized by benthic organisms. Furthermore, the preferred prey resources for juvenile salmonids (Dungeness crab larvae, Pacific herring larvae, harpacticoid copepods, etc) would not be affected by the Project. Because prey resources are not expected to be significantly affected, NMFS does not expect any fitness related consequences to individuals. Therefore, NMFS expects the effects of a temporary reduction in benthic prey to be insignificant.

Disturbance from Vessel Traffic

As described in the *Proposed Action* section, an increase in sound and disturbance related to the dredging work itself, in addition to the barges, scows, or tugs needed to transport dredge spoils is expected. The Fisheries Hydroacoustic Working Group (FHWG) has developed injury threshold criteria for listed fish species (FHWG 2008). The FHWG identified sound pressure levels of 206 dB-peak (peak decibels) at 10 m as being injurious to fish. Accumulated sound exposure levels (SEL) at 10 m of 187 dB for fishes that are greater than 2 grams are considered to cause temporary shifts in hearing, resulting in temporarily decreased fitness (i.e., reduced foraging success, reduced ability to detect and avoid predators) (FHWG 2008). The low level acoustics produced by vessels or from operation of the clamshell dredge are not likely to result in any negative physiological response or injury to any of the life stages of all the listed salmonid species. Vessel traffic may startle individual fish on the rare occasion when vessel traffic comes into close proximity of individuals. This brief startle response is not expected to result in any fitness consequence or increase rates of predation. Therefore, vessel traffic and associated disturbance is not expected to adversely affect listed salmonids.

Conclusion: Individual Salmon and Steelhead

There is little potential for combined effects given the size and location of where most of the activities are proposed to occur. For example, if a listed juvenile salmonid is startled by vessel traffic, it would leave and flee into other suitable habitat nearby before experiencing any sediment-related effects. NMFS concludes that all of the effects caused by the Project, when evaluated as a whole for the potential for combined or synergistic effects, would have an insignificant effect on individual Chinook salmon, coho salmon, and steelhead.

Effects to Green Sturgeon Individuals

The Project has the potential to affect SDPS green sturgeon due to entrainment in the clamshell bucket; reduced fitness resulting from temporary increases in turbidity; reduced fitness resulting from habitat reduction or loss; and disturbance from vessel traffic. The effects caused by these project components have been reduced or minimized by incorporating the minimization measures previously described.

Entrainment in Clamshell Bucket

The only life stages of SDS green sturgeon expected to be present are the larger sub-adult and adult life stages. Both sub-adult and adult life stages are too large to be captured inside of a clamshell bucket. Furthermore, based on Pinnix (2008) and Goldsworthy et al. (2016), SDPS green sturgeon spend most of their time in the northern reaches of the North Bay near Sand Island. NMFS expects exposure of SDPS green sturgeon to be very limited, based on their high use of the North Bay. NMFS expects possible effects of entrainment to be discountable.

Turbidity

As previously described, turbidity is expected to result from dredging activities and extend as far as 500 feet from work sites. Most sturgeon are generally benthic foragers and not visual predators (Moyle 2002). The green sturgeon retina is dominated by rods as the primary photoreceptors, indicating that they are adapted to environments characterized by low light levels (Sillman et al. 2005). This indicates that green sturgeon vision is likely not to be particularly sensitive or acute (Sillman et al. 2005), and therefore resilient to the minor increases in turbidity expected to be caused by the Project. As a benthic foraging species they are adapted to living in estuaries with fine sediment bottoms and inhabit streams with high levels of turbidity (Allen and Cech 2007). The temporary increases in turbidity are not expected to reduce feeding opportunities nor the fitness of SDPS green sturgeon individuals, a species which is known to rely on other senses over eyesight. Furthermore, NMFS expects that few SDPS green sturgeon would be exposed to increased turbidity in the action area, given their high use of the North Bay (Pinnix 2008 and Goldsworthy et al. 2016). Therefore, the effects of turbidity from the proposed action are expected to be insignificant to SDPS green sturgeon.

Benthic Prey Reduction

The proposed action will result in the temporary loss of some benthic food resources within the area of the dredge footprint of the Project. However, the Project represents the third dredging episode since 1988 (dredging occurred at WIM in 1988, 1998, and 2007) in support of existing infrastructure in areas of high recreational and commercial use (marinas and boat ramps). As previously discussed, the majority of SDPS green sturgeon are found in the North Bay and Entrance Bay, and most will not be exposed to any effects of the Project inside of the action area. Because prey resources will only be temporarily affected, and there is ample suitable habitat elsewhere, NMFS does not expect any fitness related consequences to individuals. Therefore, NMFS expects the effects of a temporary reduction in benthic prey to be insignificant.

Disturbance from Vessel Traffic

As described in the *Proposed Action* section, an increase in sound and disturbance related to the dredging work itself, in addition to the barges, scows, or tugs needed to transport dredge spoils is expected. The FHWG has developed injury threshold criteria for listed fish species (FHWG 2008). The FHWG identified sound pressure levels of 206 dB-peak (peak decibels) at 10 m as being injurious to fish. Accumulated sound exposure levels (SEL) at 10 m of 187 dB for fishes that are greater than 2 grams are considered to cause temporary shifts in hearing, resulting in temporarily decreased fitness (i.e., reduced foraging success, reduced ability to detect and avoid predators) (FHWG 2008). The low level acoustics produced by vessels or from operation of the clamshell dredge are not likely to result in any negative physiological response or injury to SDPS

green sturgeon. Vessel traffic may startle individual fish on the rare occasion when vessel traffic comes into close proximity of individuals. This brief startle response is not expected to result in any fitness consequence or increase rates of predation. Furthermore, NMFS expects that few SDPS green sturgeon would be exposed to sound and disturbance in the action area, given their high use of the North Bay (Pinnix 2008 and Goldsworthy et al. 2016). Therefore, vessel traffic and expected sound levels produced is expected to be insignificant to SDPS green sturgeon individuals.

Conclusion: Individual SDPS Green Sturgeon
There is little potential for combined effects to occur. For example, if a SDPS green sturgeon is startled by vessel traffic, it would leave and flee into other suitable habitat nearby before experiencing any sediment-related effects. NMFS concludes that all of the effects caused by the Project, when evaluated as a whole for the potential for combined or synergistic effects, would have an insignificant effect on individual SDPS green sturgeon.

Conclusion
Based on this analysis, NMFS concurs with the Corps that the proposed action may affect, but is not likely to adversely affect SONCC coho salmon, CC Chinook salmon, NC steelhead, and Southern DPS green sturgeon or their designated critical habitats.

Reinitiation of Consultation
Reinitiation of consultation is required and shall be requested by the Corps or by NMFS, where discretionary Federal involvement or control over the action has been retained or is authorized by law and (1) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (2) the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this concurrence letter; or if (3) a new species is listed or critical habitat designated that may be affected by the identified action (50 CFR 402.16). This concludes the ESA portion of this consultation.

MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT

Under the MSA, this consultation is intended to promote the protection, conservation and enhancement of EFH as necessary to support sustainable fisheries and the managed species' contribution to a healthy ecosystem. For the purposes of the MSA, EFH means "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity", and includes the associated physical, chemical, and biological properties that are used by fish (50 CFR 600.10), and "adverse effect" means any impact which reduces either the quality or quantity of EFH (50 CFR 600.910(a))[1]. Adverse effects may include direct, indirect, site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

[1] Note, the EFH regulations do not identify "may affect, not likely to adversely affect" as a possible determination for EFH. Instead, the EFH regulations specify that any reduction in the quantity or quality of EFH is an adverse effect.

This analysis is based, in part, on the EFH assessment provided by the Corps (District 2018) and descriptions of EFH for Pacific coast groundfish (PFMC 2005), coastal pelagic species (PFMC 1998), and Pacific coast salmon (PFMC 1999) contained in the FMPs developed by the Pacific Fishery Management Council and approved by the Secretary of Commerce.

Essential Fish Habitat Affected by the Project

The Pacific Fisheries Management Council (PFMC) has delineated EFH for Pacific Coast Salmon (PFMC 2014), Pacific Groundfish (PFMC 2006), and Coastal Pelagics (PFMC 1998) FMPs. EFH is defined in the MSA as those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. NMFS regulations further define waters to include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where appropriate; substrate to include sediment, hard bottom, structures underlying the waters, and associated biological communities; necessary to mean the habitat required to support a sustainable fishery and the managed species contribution to a healthy ecosystem; and spawning, breeding, feeding, or growth to maturity to cover a species' full life cycle (50 CFR § 600.10).

In estuarine and marine areas, Pacific Coast Salmon EFH extends from the nearshore and tidal submerged environments within state territorial waters out to the full extent (200 miles) of the U.S. Exclusive Economic Zone (EEZ) offshore of Washington, Oregon, and California north of Point Conception to the Canadian border (PFMC 2014). The Pacific Groundfish EFH includes all waters from the mean high water line, and the upriver extent of saltwater intrusion in river mouths, along the coasts of Washington, Oregon, and California seaward to the boundary of the EEZ (PFMC 2006). The east-west geographic boundary of Coastal Pelagic EFH is defined to be all marine and estuarine waters from the shoreline along the coasts of California, Oregon, and Washington offshore to the limits of the EEZ and above the thermocline where sea surface temperatures range between 10°C and 26°C. The southern extent of EFH for Coastal Pelagics is the United States-Mexico maritime boundary. The northern boundary of the range of Coastal Pelagics is the position of the 10°C isotherm, which varies both seasonally and annually (PFMC 1998). Thus, the proposed project occurs within EFH for various Federally-managed species in the Pacific Coast Salmon, Pacific Groundfish, and Coastal Pelagics FMPs.

Adverse Effects on Essential Fish Habitat

NMFS determined the proposed action would adversely affect EFH for Pacific Coast Salmon, Pacific Coast Groundfish, and Coastal Pelagic Species Fishery Management Plans as follows:

- Temporarily degraded water quality within the action area due to the generation of suspended sediment caused by dredging activities
- Temporary reduction in benthic prey after the dredging is complete and before recovery and recolonization occur
- Potential for loss of eelgrass

Furthermore, the project is located in a Habitat Area of Particular Concern (HAPC) for various federally managed fish species within the Pacific Coast Groundfish FMP and Pacific Coast Salmon FMP. HAPC are described in the regulations as subsets of EFH that are rare, particularly susceptible to human-induced degradation, especially ecologically important, or located in an

environmentally stressed area. Designated HAPC are not afforded any additional regulatory protection under MSA; however, federal projects with potential adverse impacts to HAPC are more carefully scrutinized during the consultation process. As defined in the Pacific Groundfish and Pacific Salmon FMP, Humboldt Bay, including the project area, is identified as estuary and seagrass (*i.e.*, eelgrass) HAPC.

Adverse Effects to Water Quality
Elevated SSCs in Humboldt Bay and the Pacific Ocean are a relatively frequent occurrence. SSC levels can naturally increase due to wave action on shallow mudflats, storm runoff being delivered from local tributaries, algae blooms, and turbid water from the Eel River entering on incoming tides. It is common for SSCs in Humboldt Bay to range from 40 to 100 milligrams/liter or more during the year (Swanson et al. 2012). Significant increases in turbidity usually begin to occur in September or October with the onset of the wet season, and peak between December and February (Swanson et al. 2012). There is an expected temporary increase in turbidity during the initial episode of dredging, and less significant increases in subsequent dredging episodes as the dredge volumes will be smaller after the initial episode. Brief episodes of turbidity will also occur at HOODS resulting from the disposal of dredge spoils. The high current and wind environment at HOODS is expected to quickly ameliorate suspended sediments and turbidity. In addition, the duration of exposure will be temporary, which would reduce the duration of any adverse effects.

Effects of Reduction in Benthic Habitat/Prey
The proposed action will result in the temporary loss of some benthic food resources within the area of the dredge footprint of the Project. After dredging, the benthic environment will likely be largely devoid of life and will recover and be recolonized over time by benthic fauna and infauna. Most benthic species will have recovered or recolonized the area by the following season. Although recovery and recolonization may occur in several months, repeated annual dredging may cause adverse effects as the dredge area may not recover in between dredging efforts.

Effects to Eelgrass
The WIM was constructed in 1978 and the District purchased a 22-acre mitigation site located at the end of Park Street in Eureka. The 22-acre Park Street mitigation site continues to serve as mitigation for ongoing impacts from marina infrastructure and maintenance dredging at WIM. NMFS expects eelgrass may exist in very low abundance in some portions of the WIM which may be exposed to dredging or to the effects caused by dredging operations (turbidity). The District (2018) suggests that eelgrass is present episodically along the slope of the WIM. Therefore, there is a high likelihood that eelgrass present in WIM during dredging may be effected, or in some cases lost. However, the 22-acre mitigation site at Park Street continues to compensate for any effects to eelgrass in the WIM.

EFH Conservation Recommendation
NMFS determined that the following conservation recommendation is necessary to avoid the adverse effects of the proposed action on EFH:

1. The District estimates there to be 130,000 cy of sediment currently in need of removal from the WIM. The District has proposed to limit the volume of dredged material to 100,000 cy every 12-months. Therefore, two consecutive work seasons would be required in order to remove the 130,000 cy of material (work would have to be planned and timed to comply with the 12-month limitation on volume). After the initial 130,000 cy of material is removed, the District should implement a two year (24 month) resting period or longer in between dredging cycles. For example, after 130,000 cy is removed during the initial years of the permit and another dredging cycle begins on August 15, 2025, the next dredging cycle should not begin until August 16, 2027, to allow for full recolonization and recovery to provide for benefits to federally managed species. NMFS suggests the 24-month resting period would begin in 2020, presumably after the District is able to remove the current 130,000 cy of sediment accumulation in the WIM over 2018 and 2019.

Within 30 days after receiving EFH recommendations, the Corps must provide NMFS with a detailed written response (50 CFR 600.920(k)(1)). The number of conservation recommendations accepted should be clearly identified in that response. If your response is inconsistent with the EFH conservation recommendations, you must explain why the recommendations will not be followed, including the scientific justification for any disagreements over the anticipated effects of the action and the measures needed to avoid, minimize, mitigate, or offset such effects. The Corps must reinitiate EFH consultation with NMFS if the proposed action is substantially revised in a way that may adversely affect EFH, or if new information becomes available that affects the basis for NMFS' EFH conservation recommendations (50 CFR 600. 920(l)). This concludes the MSA portion of this consultation.

Please direct questions regarding this letter to Mr. Matt Goldsworthy, Northern California Office, at (707) 825-1621 or via e-mail at Matt.Goldsworthy@noaa.gov.

Sincerely,

for

Barry A. Thom
Regional Administrator

cc: Copy to ARN # 151422WCR2018AR00115

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