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May 31, 2005

Ms. Victoria A. Whitney
Chief, Division of Water Rights
State Water Resources Control Board
Post Office Box 2000
Sacramento, California 95812-2000

Dredging Program under Water Level Response Plan

Dear Ms. Whitney:

In your letter dated July 19, 2004, you required the Department of Water Resources (DWR) and the United States Bureau of Reclamation (Reclamation) to submit a plan for your approval to address future dredging needs in the Delta related to joint points of diversion for the State Water Project and the Central Valley Project.

DWR and Reclamation are submitting the enclosed dredging plan for your approval. The Plan establishes a process to address water levels of concern when such concern results from the incremental effects of JPOD and additional pumping to accommodate water transfers on water levels in the south Delta.

If you have any questions, please contact Paul Fujitani of Reclamation at (916) 979-2197 or John Leahigh of DWR at (916) 574-2722.

Sincerely,

for Ronald Milligan Date
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Carl A. Torgersen, Chief Date
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Attachments

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Dredging Program for JPOD

Staff from the Department of Water Resources (DWR) and the United States Bureau of Reclamation (Reclamation) have developed a Water Level Response Plan (WLRP) per the conditions set forth in the State Water Resources Control Board's Water Rights Decision 1641 regarding joint points of diversion for the State Water Project and the Central Valley Project. This WLRP sets conditions for the operations of the SWP and the CVP as they pertain to the use of Joint Point of Diversion (JPOD) and additional pumping in the Delta to accommodate water transfers. The WLRP establishes a process to address water levels of concern when such concern results from the incremental effects of JPOD and additional pumping to accommodate water transfers on water levels in the south Delta.

In a letter dated July 19, 2004, the Board also required DWR and Reclamation to submit a plan for approval by the Chief of the Division of Water Rights to address future dredging needs in the Delta related to JPOD diversions. (After June 1, 2005, no JPOD diversions will be authorized pursuant to the WLRP until a long-term dredging program has been developed by DWR and Reclamation and approved by the Chief of the Division.)

Staff from DWR and Reclamation have developed the following program to supplement the WLRP and to meet dredging needs caused by JPOD and water transfers. This program is intended to be implemented concurrent with other actions described in the WLRP to mitigate for water levels of concern in the South Delta such as providing forecasts of water levels, ceasing JPOD or water transfers if water levels of concern are experienced, and providing temporary pumps. The program includes both temporary and permanent actions to alleviate the physical inability of south Delta agricultural diverters to divert water of adequate quantity for agricultural purposes, when the inability is due to adverse effects of JPOD by the SWP and CVP and additional pumping from water transfers. Temporary actions will primarily be the use of portable pumping equipment as described in the WLRP. Permanent actions will include dredging in the vicinity of the problem diversion, if needed, and modifying or relocating the problem diversion in order to reestablish the diversion's normal operating capability.

Figure 1 shows the area considered under this dredging program. The area includes agricultural diversions on Grant Line and Fabian-Bell canals, Middle River, Old River, North Canal, and Victoria Canal. This dredging program does not attempt to identify specific diversions for dredging, nor does it propose a regular schedule for monitoring or dredging the various channels in the area. Rather, this program provides a collaborative process to provide additional tools for resolving diversion problems resulting from JPOD diversions or water transfers. The process consists of notification, development of a solution, and mitigation.

Notification

Diverters who experience water levels of concern during JPOD or transfer operations shall notify the South Delta Water Agency, who will then notify DWR and Reclamation. The diverter must describe the problem experienced and provide data and analysis to support the claim that the problem was caused by unusually low water levels. Such data should include a description of the diversion and the problems, and a record of dates and times when the problems occurred.

Problem Identification

DWR and Reclamation, in coordination with the South Delta Water Agency (SDWA), will determine whether low water levels are materially affecting the ability of any agricultural diverter (Diverter) in the project area to divert water of adequate quantity for agricultural purposes, and whether they are the result of JPOD or water transfer actions.

A team consisting of DWR, Reclamation, and SDWA will attempt to identify or verify the cause of the problem. The diverter will investigate the integrity of the diversion and evaluate the pump, pressure test the pipe, inspect the impeller, etc. DWR's and Reclamation's verification actions may include surveying the channel near the diversion, inspecting the intake's condition, depth, and level of sedimentation, and performing additional modeling runs. The team will review historical water level data in the vicinity of the diversion.

The team will prepare a report of all the findings and collectively agree on the cause of the problem.

Development of Solution

If the team determines that JPOD or water transfers are materially affecting the ability of any agricultural diverter along the channels listed above to divert water of adequate quantity for agricultural purposes, DWR, Reclamation, and the diverter will determine if the installation and operation of portable pumps at or near the diversion location can be used to temporarily alleviate the diverter's current diversion problems related to low waters. If so, the team will work to secure and install such portable pumps as are needed to alleviate the problem.

The portable equipment may be installed in advance of when a low water condition is expected to cause diversion problems for the diverter, or whenever a problem condition was actually occurring. The portable pump will be sized to divert only an amount of water from the channel that will be equal to the volume of water normally diverted from the problem diversion. The portable pump will be used only as needed during the low water condition until the existing diversion can be put back into operation. The portable equipment will be removed from the area when no longer needed.

However, as noted above, DWR and Reclamation will conduct field and engineering investigations in cooperation with the diverter and SDWA to determine the scope of the problem at any given diversion location and develop a more permanent solution to future water level problems. This more permanent solution will be implemented and remain in effect until a long-term solution for south Delta agriculture is developed and implemented by the CALFED Bay-Delta Program. DWR expects that the most probable action taken to implement a permanent solution will be localized dredging near the problem diversion and/or modifying or relocating the diversion.

Dredging. DWR, Reclamation, and the diverter shall determine if dredging of channel material at or near the diversion site may be a viable engineering solution to alleviate the

Diverter's water supply problems when low water levels occur. If this determination is made, DWR, Reclamation, and the diverter shall work to accomplish the necessary dredging in a timely fashion considering the urgency of the problem, and to secure any and all waivers, exemptions and permits as necessary to perform the work. It is anticipated that although a site may be identified for dredging in one irrigation season, actual dredging may not occur until the following irrigation and dredging season. Dredges used today are designed to be more environmentally protective and efficient. Engineering included in the plans and permits for dredging projects include the use of Best Management Practices. Some of the dredging Best Management Practices that will be used for this program include:

- the use of silt screens to reduce turbidity,
- seasonal restrictions during fish migration periods,
- tidally timing dredging to minimize movement of sediment,
- watertight clamshell dredging to reduce the generation of suspended sediments
- employment of an independent, certified, on-board dredging inspector to ensure compliance with permit conditions, and
- incorporation of the DWR hazardous material spill/release notification guidance into contracted work.

Dredging will be limited to that necessary to remove accumulated sediments near the diversion that might prevent water from effectively reaching the intake of the diversion when low water levels occur. The quantity of dredged material will not exceed the maximum allowable under the U.S. Army Corps of Engineers Nationwide Permit Number 3. Currently this amount is limited to the minimum necessary to restore the waterway in the immediate vicinity of the diversion to the approximate dimensions that existed when the diversion structure was built, but it cannot extend further than 200 feet in any direction from the diversion. Dredging will normally be conducted during daylight hours beginning in August and continuing through October 14. If approved by the regulatory fishery agencies in advance, dredging may occur at other times of the year.

The dredging contractor will use a watertight clamshell dredge. The watertight clamshell bucket was developed to minimize the turbidity generated by clamshell dredging operations. Silt screens will be used to localize sediment movement and further reduce turbidity, minimizing the effects of sediments on critical life-stages of native Delta fish. A clamshell dredge is well suited for shallow waters and particularly effective while working near structures such as bridges, docks, pipelines, piers, and water diversions. It does not require much area to maneuver and there is little danger of damaging the structures because the dredging process can be controlled accurately. Clamshell dredges are also best adapted for maintenance dredging of fine-grained material, which is typical of accumulated sediments in the south Delta. Another advantage of the clamshell is a reduction in excess water volume handled. The density of material excavated is about the same as the in-place density of the bottom material. Because the volume of excess water is minimal, the efficiency of transporting the material from the dredging area to the disposal area is improved.

Dredge spoils will be placed on or near the land side of the levee adjacent to the dredging site. Material may be used by the local reclamation district to reinforce the levee or the material may be used by the local landowner for farming operations or other beneficial use. A determination of the use for the material will be made on a case-by-case basis. Figure 2 shows the location of the proposed alternate dredge spoil area that will be used if dredge spoils cannot be used on the land side of the levee adjacent to a dredging site. The alternate spoil area is a 34.4 acre parcel (Parcel No. 189-050-18) owned by Reclamation and it is located at the west end of Fabian Tract.

Dredging Procedure. The first equipment to be brought on site will be used to build containment dikes on the landside of the levees if the spoil material is reused for levee reinforcement, or to build or dikes for the containment area on Fabian Tract, if needed. It is expected that the contractor will use one or two bulldozers and/or graders to move material to create the dikes. A new circulation ditch will typically be constructed at the base of the dike to intercept water decanting from the spoil material. After dredged material has been placed on the landside of the levee (or in the containment area on Fabian Tract), the solids will settle out of the dredged material and the excess water will be allowed to evaporate. The dredged material will be left in place to dry. After drying, the material may be reshaped to reinforce the levee or used for other beneficial uses.

It is anticipated that the dredge will work only on weekdays during daylight hours. Once the dredge is on site, signs and buoys will be placed upstream and downstream of the dredge site to warn boaters of the work. Given the relatively minor scale of the dredging operation at any given diversion site, the dredging operation could continue for as little as a couple days to as much as a week or more.

While dredging is occurring, DWR will perform daily water quality sampling both upstream and downstream of the dredge site in accordance with permit requirements. Comparisons of these samples will be made to determine what effect, if any, the dredging is having on water quality and will insure that the project meets all Regional Water Control Board criteria and limits.

Upon completion of the dredging, the containment area dikes and material will be left in place to dry. If the Fabian Tract containment area is used, material that is not used in place for beneficial use will be removed by truck to other Delta upland sites in the future. For example, the moved material may be used for ecosystem restoration projects designed by the CALFED Bay-Delta Program, to strengthen levees by building landside berms, or by filling areas of very low elevation to minimize risks associated with flooding.

In accordance with the USFWS biological opinion for the Temporary Barriers Project, when the work done involves modifying or relocating an existing diversion intake, a copy of the Memorandum of Agreement Regarding Fish Screens shall be signed by the diverter prior to any work taking place.

Diversion Modifications/Relocation. If dredging near the diversion intake is not a

sufficient or an appropriate solution to the diversion problems due to low water levels, DWR and the diverter shall determine if it is necessary to pursue other actions such as modifying and/or relocating existing diversion facilities to provide a solution that will provide reliable, long-term operations.

The specific work to be done at a given diversion location will be determined on a case-by-case basis as problems are identified. The work done will be the minimal needed to allow continued and reliable diversion of water for irrigation. The work done will not provide for any additional water to be diverted that is in excess of that which has been historically diverted at the existing diversion. Likely modifications may include work such as (1) removing the existing diversion and replacing the structure with a new one at a nearby site; (2) relocating the existing structure to a nearby location which may offer more favorable diversion conditions; (3) lowering or extending the existing intake further into the river channel; (4) replacing the existing diversion with a different type of diversion that would more reliably supply irrigation water, e.g. replacing siphon with a turbine pump.

Permitting Issues. Prior to dredging or diversion modifications, certain permits must be obtained from USACE, the Regional Water Quality Control Board (RWQCB), and the California Department of Fish and Game (DFG). These permits may be obtained by DWR or the diverter, depending upon the financial arrangements made between DWR and the diverter. Generally, if all permits can be secured before the normal dredging window of August 1 through October 14, work may begin as early as August 1. Dredging may begin before August 1 only if approved by the appropriate fish and wildlife resource agencies, generally the U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS) and DFG.

The following regulatory requirements have been addressed:

- Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act

Section 10 prohibits the obstruction or alteration of navigable waters of the United States without a permit from the US Army Corps of Engineers (Corps). Section 404 prohibits the discharge of dredged or fill material into waters of the United States without a permit from the Corps. For this project, each separate dredging or diversion modification effort will require a separate Nationwide Permit 3 (Maintenance) permit that may be issued for the activities that fall into both categories.

- Section 401 of the Clean Water Act Water Quality Certification

DWR will submit an application to the Central Valley Regional Water Quality Control Board (CVRWQCB) for a water quality certification and waste discharge requirements. Each unique dredging effort requires separate sediment sampling and an application to the Board.

- Streambed Alteration Agreement (§1601)

A permit for a Streambed Alteration Agreement (§1601) has been acquired from DFG. However, each separate dredging and/or diversion modification effort will require an amendment to the permit to cover the work on the specific diversion.

- California Environmental Quality Act

A Mitigated Negative Declaration and Initial Study have been submitted to the State Clearing House. A Notice of Determination was submitted to complete the CEQA process in 2002.

- United States Coast Guard

DWR will consult with U.S. Coast Guard to insure that all signs and buoys comply with California Uniform State Waterway Marking System. DWR will also submit a Notice to Mariners to the US Coast prior to undertaking individual dredging efforts.

- Federal Endangered Species Act

The USFWS and NMFS have issued Biological Opinions for the project that include measures to be taken to avoid any "jeopardy" effects to listed species.

- State Lands Commission

Water Code Section 11130 authorizes the development of the SWP and provides that, "The State hereby consents to the use and occupation of any real property now or hereafter owned by it, and not dedicated to public use, necessary for the construction, operation, or maintenance of the project, including land of the State lying beneath any navigable waters of the State." This statute authorizes DWR to use lands within the jurisdiction of the State Lands Commission (SLC) for project activities. This project is a SWP activity designed to mitigate for the effects of the Temporary Barriers Project as well as SWP special export operations in order to provide reliable operation for the SWP. In 1979 DWR and SLC developed a Memorandum of Understanding that sets up the terms and conditions under which DWR may use State lands. The most significant requirement is that DWR must submit notice to SLC of any project it plans to enter into involving State lands at least 90-days before the project is begun. DWR will notify the SLC prior to beginning dredging work.

- Entry and Use Permits

DWR will obtain Entry and Use Permits from local landowners where access to their land is needed for purposes of this project.

Financing. DWR and Reclamation will, in coordination with the Diverter, make the financial arrangements to pay for costs associated with the dredging operations, diversion

modifications, and installation and operations of portable pumps related to impacts from JPOD or water transfers. This includes costs for the transportation, rental and fuel costs of the portable pump(s) during periods of low water levels when the diverter is not able to divert water through the operation of the diverter's normal diversion facilities; costs of obtaining dredging permits, dredging, monitoring, and disposal of material; and costs for diversion modifications.

Mitigation

The DWR recognizes that some dredging that may be done to alleviate diversion difficulties could adversely impact shallow water habitat (3 meters MLW or less). DWR has mitigated in advance for the impacts by purchasing three (3) acres of shallow water habitat at the Kimball Island mitigation bank. Impacts will be determined by surveying the channel bottom in the dredged area both before and after the dredging is done. DWR will calculate shallow water habitat acreage and multiply by three (3:1 mitigation ratio) to determine the total mitigation acres that will be subtracted from the three acres previously purchased at the mitigation bank. DWR will maintain an accounting of the balance remaining in the mitigation bank and will provide a summary to the appropriate agencies (Corps, USFWS, NMFS, and DFG) after any dredging is accomplished. DWR will purchase additional acreage in three-acre increments if the balance becomes too low to allow future dredging work to be done.

If western pond turtle basking sites are disturbed during dredging or diversion modifications or installation, then basking sites will be included in the shallow water habitat banked restoration at the same 3:1 ratio.

As discussed, DWR and Reclamation have developed this dredging program as required by the SWRCB to supplement the Water Level Response Plan and to meet dredging needs caused by JPOD and water transfers. This program will be implemented concurrent with other actions described in the WLRP to mitigate for water levels of concern in the South Delta such as providing forecasts of water levels, ceasing JPOD or water transfers if water levels of concern are experienced, and providing temporary pumps. The program includes both temporary and permanent actions to alleviate the physical inability of south Delta agricultural diverters to divert water of adequate quantity for agricultural purposes, when the inability is due to adverse effects of JPOD by the SWP and CVP and additional pumping from water transfers. Temporary actions will primarily be the use of portable pumping equipment as described in the WLRP. Permanent actions will include dredging in the vicinity of the problem diversion, if needed, and modifying or relocating the problem diversion in order to reestablish the diversion's normal operating capability.

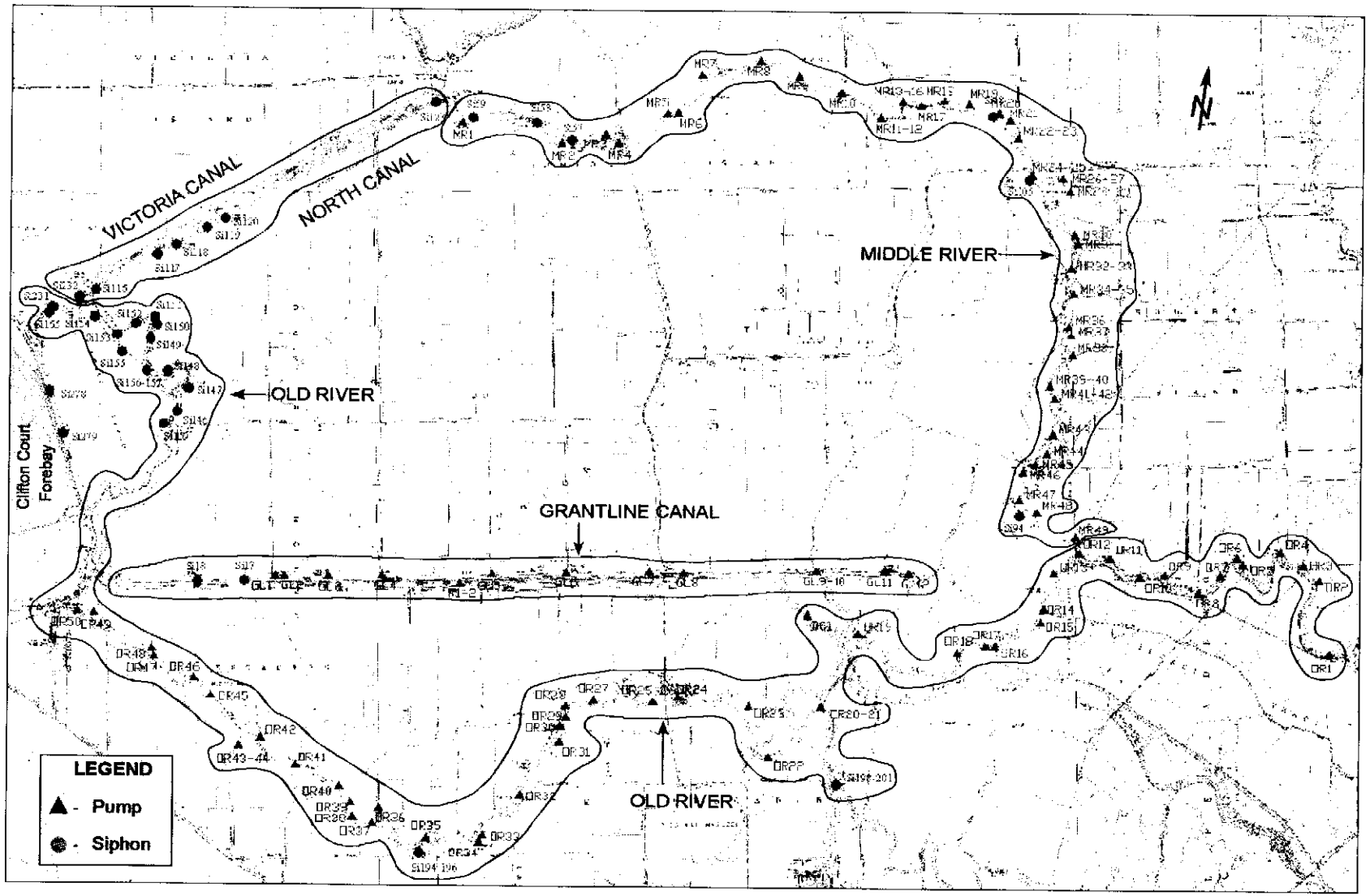

Figure 1. Location of Diversions in the South Delta Project Area

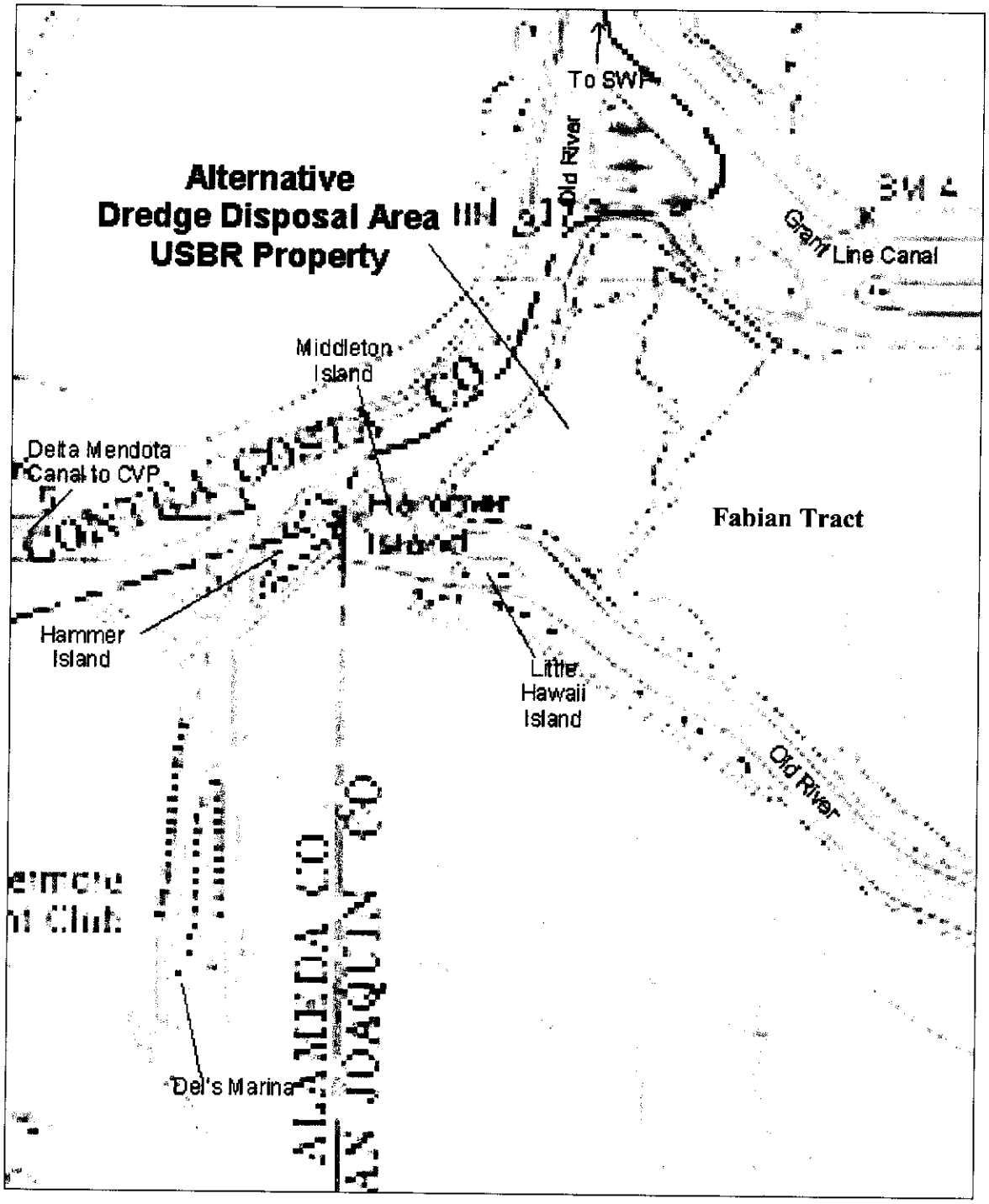

Figure 2. USBR Dredge Disposal Site on Fabian Tract