

RECLAMATION DISTRICT No. 756

BOULDIN ISLAND

311 East Main St., Ste. 504  
Stockton, California 95202

January 31, 2006

Colonel Ronald N. Light  
District Engineer  
Sacramento District  
U.S. Army Corps of Engineers  
1325 J Street  
Sacramento, California 95814

Dear Colonel Light:

This letter conveys Reclamation District 756's (RD 756) intent to participate in feasibility studies and/or other actions in the development of the Bouldin Island Bank Protection Project as the non-Federal sponsor consistent with the CALFED Bay-Delta Authorization Act (Public Law 108-361).

RD 756 understands that the type, cost, and scope of actions will be determined and specified later if selected for development and/or implementation pursuant to the Act. RD 756 also understands that if our project is approved for implementation, we will be responsible for sharing the cost of planning, designing, and implementation of the project with the U.S. Army Corps of Engineers; providing all necessary lands, easements, rights-of-way, relocations, excluding railroads, and suitable borrow and dredged or excavated material disposal areas; and accomplishing operation, maintenance, repair, replacement and rehabilitation of the project.

Please note that this letter of intent is not an obligation of funds. We look forward to working with the U.S. Army Corps of Engineers, the State of California, and other pertinent CALFED agencies and stakeholders on this important project.

If you have any questions, you may contact me at 925/287-3494 or Gilbert Cosio at 916/456-4400.

Sincerely,



David Forkel, Trustee

DT/pp

4125.6/RONALD LIGHT BANK PROTECTION 01.31.06.DOC

**Name:** Bouldin Island Bank Protection Project

**Purpose:** The purpose of the project is place riprap on the waterside slope of the levee to protect the levee against wind and wave forces.

**Location:** The project is located on Bouldin Island in the Sacramento-San Joaquin Delta, San Joaquin County (Plate 1). Bouldin Island is approximately 6,000 acres and is protected by 18 miles of levees on the South Fork Mokelumne River, Little Potato Slough, and Potato Slough.

**Problems:** The current levee cross section maintained on Bouldin Island is the Short Term Hazard Mitigation (HMP) plan cross section. Under this cross section standard, the top of levee crown is maintained to an elevation of 1 foot above the 100 year flood elevations. This is the elevation at which, along portions of the levee, the riprap on the waterside slope is placed up to. A foot of freeboard provides minimal protection to erosion caused by wind fetch waves which could splash onto the levee crown and erode the crown and landside slope. Wind fetch waves are of particular concern on north, south and west side of Bouldin Island. Wave forces from boat wakes also cause erosion of the waterside slope requiring constant maintenance of the revetted slope.

**Opportunities:** Opportunities may exist in conjunction with this project to plant tules at the base of the waterside slope for habitat enhancement. The tules would also aide in dissipating wave energy thus reducing the flood risk on Bouldin Island. A more detailed site investigation would have to be undertaken during the feasibility phase of the project to determine if tules or other plant species can be planted.

**Project Description:** The project consists of placing riprap on the waterside slope of the levee on Bouldin Island to reduce the risk of flooding due to erosion (Plate 2). Riprap would be placed from the existing top of rock to the PL-99 elevation (100 yr + 2 feet). In critical reaches where there is a long wind fetch, a splash cap would be constructed 18-24 inches above the PL-99 elevation. This splash cap would help prevent damage to the levee crown and land side slope from wind driven waves. Levee reaches would have to be evaluated during the feasibility phase to determine if riprap could be placed to the PL-99 elevation. There are areas along the levee reach where the levee crown is narrow and placing riprap higher would encroach upon the levee crown. Cost is estimated at \$4 million.

**Statement of Willingness and Ability to Cost Share:** See attached letter.

**Point of Contact:** Gilbert Cosio, Jr  
MBK Engineers  
2450 Alhambra Blvd 2<sup>nd</sup> Floor  
Sacramento, CA 95817  
Phone: 916/456-4400  
Fax: 916/456-0253  
Email: [Cosio@mbkengineers.com](mailto:Cosio@mbkengineers.com)

## **Scoping & Screening Information:**

- In your opinion, what is the urgency for your proposed project? Is there an imminent threat to life, property, critical habitat, or other prominent resource?

*The levees currently protect 6,000 acres of agriculture, wildlife habitat, wildlife use, potential habitat for over 10 special status species, recreation, and a major east-west transportation corridor, State Highway 12.*

*The property faces imminent threat to life, property, and habitat every winter during high tides, high wind events, and floodwater periods.*

- Would there be a change in the magnitude, frequency, or duration of flood flows in other areas of the levee system as a result of the potential project?

*There would not be a change in magnitude, frequency, or duration of flood flows as a result of this project.*

- What would the proposed project do to address flooding, ecosystem, water supply and quality, and other problems and needs locally and regionally?

*The proposed project would reduce the risk of flooding on Bouldin Island. This protection will also reduce the risk of loss of ecosystem benefits derived from the 6,000 acres of agriculture on Bouldin Island, protect the water supply and quality of the Delta region as well as the service area of the state and federal water projects exporting water from the Delta, and avoid seepage impacts to neighboring Delta islands similar to the Jones Tract flooding in 2004.*

- Are there non-structural or other ways to address flooding, ecosystem, water supply and quality, and other problems in the potential project area and if so what are they?

*There are no non-structural elements that could be implemented to reduce the flood risk.*

- Who and/or what would benefit from the potential project?

*Reducing the flood risk on Bouldin Island has local and regional benefits. Bouldin Island is located along the North & South Fork Mokelumne Rivers. These are two of the main conveyance channels for the State Water Project and the Central Valley Project, when the Delta cross channel gates are open. A levee failure on Bouldin Island could also reduce the water quality in the Delta causing the SWP and CVP to cut back exports, and release more water to prevent salt water intrusion and to maintain water quality standards in the Delta. The water quality effects are evident from the Lower Jones break in 2004; a similar scenario or worse would occur if the Bouldin Island were to fail.*

- What is the likely Federal, State and local agency support?

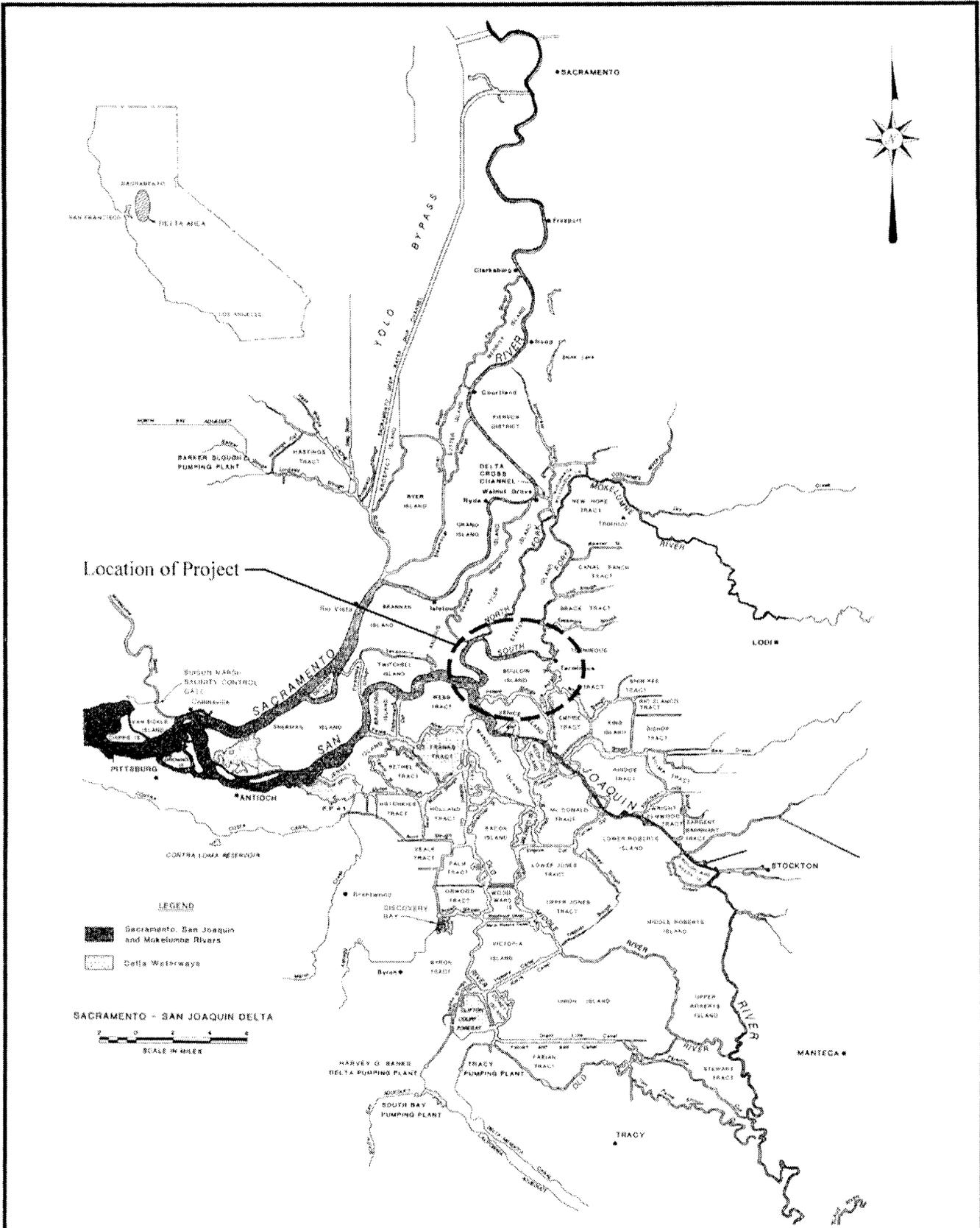
*It is anticipated the State support would come from the Department of Water Resources Delta Levee Subventions Program and local support from Reclamation District No. 756.*

- Are there any known challenges or obstacles that may delay rapid development and implementation of your potential project?

*There are no known challenges or obstacles that would delay rapid development and implementation of the project. Bouldin Island has a single landowner which is committed to implementing projects that would reduce the flood risk on the island.*

- Is your agency ready, willing, and able to serve as a non-Federal sponsor for this potential project, and able to provide required cost-sharing and other assurances?

*Reclamation District No. 756 is willing to serve as the non-Federal sponsor for any potential projects on the island that would reduce the flood risk.*



Location Map

Reclamation District No. 756  
Bouldin Island



2450 Alhambra Boulevard, 2nd Floor  
Sacramento, California 95817  
Phone: (916) 456-4400 • Fax: (916) 456-0253



Source: USGS High Resolution Orthoimage 05/2002



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 Sacramento, California 95817  
 Phone (916) 456-4400 • Fax (916) 456-0233

Reclamation District No. 756 - Bouldin Island

## SITE LOCATION MAP

DATE	11/11/09	<p>Graphic Scale: 1" = 100'</p>	SHEET 1 OF 1
DRAWN BY	02/25/09		
CHECKED BY	11/08		
DATE	11/08/09		

RECLAMATION DISTRICT No. 756  
BOULDIN ISLAND  
311 East Main St., Ste. 504  
Stockton, California 95202

2/2

RD 756

January 31, 2006

Colonel Ronald N. Light  
District Engineer  
Sacramento District  
U.S. Army Corps of Engineers  
1325 J Street  
Sacramento, California 95814

Dear Colonel Light:

This letter conveys Reclamation District 756's (RD 756) intent to participate in feasibility studies and/or other actions in the development of the Bouldin Island Levee Rehabilitation Project as the non-Federal sponsor consistent with the CALFED Bay-Delta Authorization Act (Public Law 108-361).

RD 756 understands that the type, cost, and scope of actions will be determined and specified later if selected for development and/or implementation pursuant to the Act. RD 756 also understands that if our project is approved for implementation, we will be responsible for sharing the cost of planning, designing, and implementation of the project with the U.S. Army Corps of Engineers; providing all necessary lands, easements, rights-of-way, relocations, excluding railroads, and suitable borrow and dredged or excavated material disposal areas; and accomplishing operation, maintenance, repair, replacement and rehabilitation of the project.

Please note that this letter of intent is not an obligation of funds. We look forward to working with the U.S. Army Corps of Engineers, the State of California, and other pertinent CALFED agencies and stakeholders on this important project.

If you have any questions, you may contact me at 925/287-3494 or Gilbert Cosio at 916/456-4400.

Sincerely,



David Forkel, Trustee

**Name:** Bouldin Island Levee Rehabilitation Project

**Purpose:** The purpose of the project is to rehabilitate the existing Bouldin Island levee to the Army Corps of Engineers PL-99 cross section standard.

**Location:** The project is located on Bouldin Island in the Sacramento-San Joaquin Delta, San Joaquin County (Plate 1). Bouldin Island is approximately 6,000 acres and is protected by 18 miles of levees on the South Fork Mokelumne River, Little Potato Slough, and Potato Slough.

**Problems:** The current levee cross section maintained on Bouldin Island is subject to failure by overtopping, erosion, subsidence, and seismicity. Levees of Bouldin Island are currently maintained to the Short Term Hazard Mitigation Plan (HMP) cross section. This cross section calls for a 16 foot levee crown at 1.0 feet above the 100 year flood elevation with a 1.5H:1V waterside slope and a 2H:1V landside slope. This cross section provides minimal freeboard for overtopping due to high river flows, high tides, and high winds. Also, the levees are built on a peat foundation which is constantly subsiding causing embankment cracking, loss of freeboard and continual maintenance. The cross section also has little to no resistance to earthquake forces. The Bouldin Island levees under the current HMP cross section are at risk to a catastrophic levee failure.

**Opportunities:** Opportunities may exist in conjunction with this project to plant the new levee toe berm with native vegetation to create upland habitat. A number of factors would have to be evaluated to determine if this is feasible.

**Project Description:** The project consists of placing fill material on the landside slope and levee crown to achieve the PL-99 cross section standard along critical reaches of the Bouldin Island levee (Plate 2). Rehabilitating the Bouldin Island levee to the PL-99 cross section standard would reduce the flood risk on the island. Bouldin Island levees are built on deep deposits of peat material. Construction of the PL-99 cross section would eliminate or minimize the subsidence within the levee structural section. This would greatly reduce the operation & maintenance cost associated with subsidence of the current levee. The PL-99 cross section standard calls for a 16 foot levee crown 2.0 feet above the 100 year flood elevation. It has a 2H:1V waterside slope and a 5H:1V landside slope (Plate 3). It is estimated that approximately 1.6 million cubic yards of material would be needed to rehabilitate the entire 18 miles of levee to the PL-99 standard. The proposed project would address the most critical reaches of the levee which would be identified in the feasibility phase of the project. The Reclamation District is seeking a project on the order of \$10 million dollars to rehabilitate the critical reaches of the levee.

**Statement of Willingness and Ability to Cost Share:** See attached letter.

**Point of Contact:** Gilbert Cosio, Jr  
MBK Engineers  
2450 Alhambra Blvd 2<sup>nd</sup> Floor  
Sacramento, CA 95817  
Phone: 916/456-4400  
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Email: [Cosio@mbkengineers.com](mailto:Cosio@mbkengineers.com)

**Scoping & Screening Information:**

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*The levees currently protect 6,000 acres of agriculture, wildlife habitat, wildlife use, potential habitat for over 10 special status species, recreation, and a major east-west transportation corridor, State Highway 12.*

*The property faces imminent threat to life, property, and habitat every winter during high tides, high wind events, and floodwater periods.*

- Would there be a change in the magnitude, frequency, or duration of flood flows in other areas of the levee system as a result of the potential project?

*There would not be a change in magnitude, frequency, or duration of flood flows as a result of this project.*

- What would the proposed project do to address flooding, ecosystem, water supply and quality, and other problems and needs locally and regionally?

*The proposed project would reduce the risk of flooding on Bouldin Island. This protection will also reduce the risk of loss of ecosystem benefits derived from the 6,000 acres of agriculture on Bouldin Island, protect the water supply and quality of the Delta region as well as the service area of the state and federal water projects exporting water from the Delta, and avoid seepage impacts to neighboring Delta islands similar to the Jones Tract flooding in 2004.*

- Are there non-structural or other ways to address flooding, ecosystem, water supply and quality, and other problems in the potential project area and if so what are they?

*There are no non-structural elements that could be implemented to reduce the flood risk.*

- Who and/or what would benefit from the potential project?

*Reducing the flood risk on Bouldin Island has local and regional benefits. Bouldin Island is located along the North & South Fork Mokelumne Rivers. These are two of the main conveyance channels for the State Water Project and the Central Valley Project, when the Delta cross channel gates are open. A levee failure on Bouldin Island could also reduce the water quality in the Delta causing the SWP and CVP to cut back exports, and release more water to prevent salt water intrusion and to maintain water quality standards in the Delta. The water quality effects are evident from the Lower Jones break in 2004; a similar scenario or worse would occur if the Bouldin Island were to fail.*

- What is the likely Federal, State and local agency support?

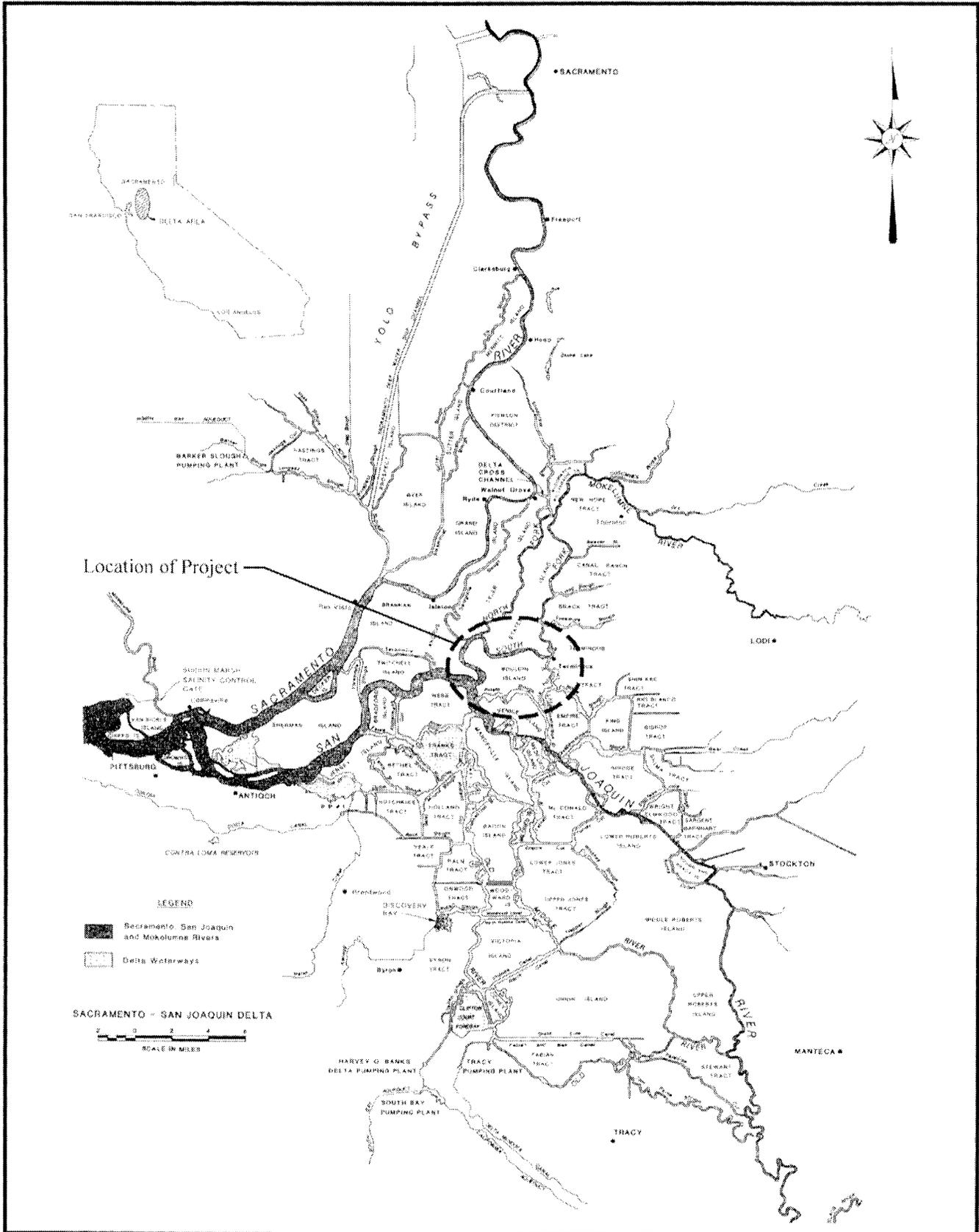
*It is anticipated the State support would come from the Department of Water Resources Delta Levee Subventions Program and local support from Reclamation District No. 756.*

- Are there any known challenges or obstacles that may delay rapid development and implementation of your potential project?

*There are no known challenges or obstacles that would delay rapid development and implementation of the project. Bouldin Island has a single landowner which is committed to implementing projects that would reduce the flood risk on the island.*

- Is your agency ready, willing, and able to serve as a non-Federal sponsor for this potential project, and able to provide required cost-sharing and other assurances?

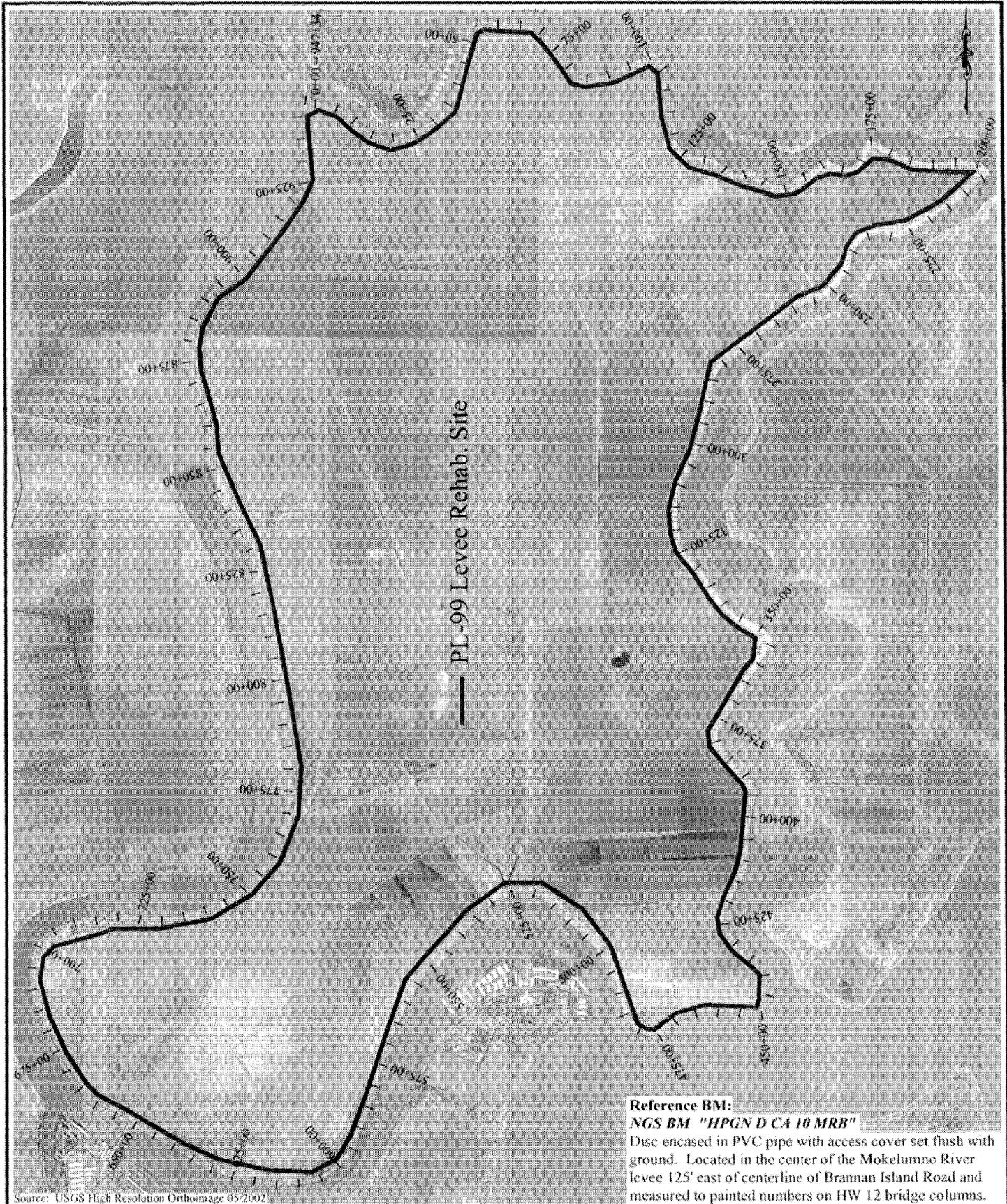
*Reclamation District No. 756 is willing to serve as the non-Federal sponsor for any potential projects on the island that would reduce the flood risk.*



**Location Map**

**Reclamation District No. 756  
Bouldin Island**

**MBK ENGINEERS**  
 2450 Alhambra Boulevard, 2nd Floor  
 Sacramento, California 95817  
 Phone (916) 456-4400 • Fax (916) 456-0251



**Reference BM:**  
**NGS BM "HPGN D CA 10 MRB"**  
 Disc encased in PVC pipe with access cover set flush with ground. Located in the center of the Mokelumne River levee 125' east of centerline of Brannan Island Road and measured to painted numbers on HW 12 bridge columns.

Source: USGS High Resolution Orthoimage 05/2002



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Reclamation District No. 756 - Bouldin Island

**SITE LOCATION MAP**

SCALE:	1" = 300'	SHEET
JOB NUMBER:	4125.00	
DRAWN BY:	TRK	
DATE:	June, 2004	
		1
<small>Use 1 inch's On Original Drawing &amp; apply          One Inch Adjust Scale Accordingly</small>		OF
		1
		000078

# R.D. NO. 756 - BOULDIN ISLAND

## Typical Levee Cross Section

