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July 1, 1998

CALFED Bay-Delta
1416 Ninth Street, Suite 1155
Sacramento, CA 95814

Subject: Suisun Resource Conservation District
Grant Proposal for
The Suisun Marsh Fish Screen Program

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President

Charles J. Morehouse

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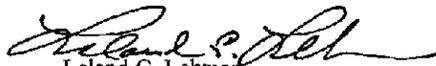
Dear Sir/Madame:

Enclosed, please find the Suisun Resource Conservation District Grant Proposal/Funding Request for the Suisun Marsh Fish Screen Program. The funding requested under your 1998 Ecosystem Restoration Program would be the key element in the implementation of seven new screens, to be added to twelve fish screens already in place and functioning in the Suisun Marsh. Obtaining funding, and consequently placing the seven new screens, will assist in the goal of screening all top priority and critical habitat areas in the Suisun Marsh. In addition, the funding of this proposal would provide the necessary means in which to aid in the reduction of stressors on many endangered species which rely on the Suisun Marsh, while protecting and enhancing existing seasonal wetland values in the Suisun Marsh.

If you have questions in regards to this application, please contact me at your convenience.

Thank you for the opportunity to submit this grant proposal. Your attention to this request is greatly appreciated.

Sincerely,



Leland C. Lehman
Executive Director

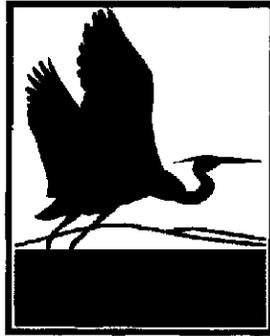
**SUISUN RESOURCE
CONSERVATION DISTRICT**
2544 Grizzly Island Road
Suisun, CA 94585
(707) 425-3302
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I-008455

**SUISUN MARSH
FISH SCREENING PROGRAM**

**1998 CALFED Bay-Delta Program
Proposal Solicitation Application
July 1, 1998**



**PROPOSED BY:
THE SUISUN RESOURCE CONSERVATION DISTRICT
LEE LEHMAN, EXECUTIVE DIRECTOR**

2544 Grizzly Island Road
Suisun, CA 94585
Phone (707) 425 - 9302
Fax (707) 425 - 4402
e-mail srcd@castles.com

Attachment H

COVER SHEET (PAGE 1 of 2)

May 1998 CALFED ECOSYSTEM RESTORATION PROPOSAL SOLICITATION

Proposal Title: SUISUN MARSH FISH SCREEN PROGRAM
Applicant Name: SUISUN RESOURCE CONSERVATION DISTRICT
Mailing Address: 2544 GRIZZLY ISLAND ROAD, SUISUN, CA 94585
Telephone: (707) 425-9302
Fax: (707) 425-4402

Amount of funding requested: \$ 2,100,000.00 for 1 years

Indicate the Topic for which you are applying (check only one box). Note that this is an important decision: see page 30 of the Proposal Solicitation Package for more information.

- | | |
|---|---|
| <input type="checkbox"/> Fish Passage Assessment | <input checked="" type="checkbox"/> Fish Passage Improvements |
| <input type="checkbox"/> Floodplain and Habitat Restoration | <input type="checkbox"/> Gravel Restoration |
| <input type="checkbox"/> Fish Harvest | <input type="checkbox"/> Species Life History Studies |
| <input type="checkbox"/> Watershed Planning/Implementation | <input type="checkbox"/> Education |
| <input type="checkbox"/> Fish Screen Evaluations - Alternatives and Biological Priorities | |

Indicate the geographic area of your proposal (check only one box):

- | | |
|---|---|
| <input type="checkbox"/> Sacramento River Mainstem | <input type="checkbox"/> Sacramento Tributary: _____ |
| <input type="checkbox"/> Delta | <input type="checkbox"/> East Side Delta Tributary: _____ |
| <input checked="" type="checkbox"/> Suisun Marsh and Bay | <input type="checkbox"/> San Joaquin Tributary: _____ |
| <input type="checkbox"/> San Joaquin River Mainstem | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Landscape (entire Bay-Delta watershed) | <input type="checkbox"/> North Bay: _____ |

Indicate the primary species which the proposal addresses (check no more than two boxes):

- | | |
|--|--|
| <input type="checkbox"/> San Joaquin and East-side Delta tributaries fall-run chinook salmon | |
| <input checked="" type="checkbox"/> Winter-run chinook salmon | <input type="checkbox"/> Spring-run chinook salmon |
| <input type="checkbox"/> Late-fall run chinook salmon | <input type="checkbox"/> Fall-run chinook salmon |
| <input checked="" type="checkbox"/> Delta smelt | <input type="checkbox"/> Longfin smelt |
| <input type="checkbox"/> Splittail | <input type="checkbox"/> Steelhead trout |
| <input type="checkbox"/> Green sturgeon | <input type="checkbox"/> Striped bass |
| <input type="checkbox"/> Migratory birds | |

COVER SHEET (PAGE 2 of 2)

May 1998 CALFED ECOSYSTEM RESTORATION PROPOSAL SOLICITATION

Indicate the type of applicant (check only one box):

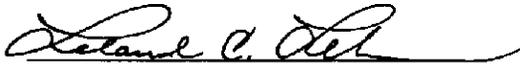
- | | |
|---|---|
| <input type="checkbox"/> State agency | <input type="checkbox"/> Federal agency |
| <input type="checkbox"/> Public/Non-profit joint venture | <input type="checkbox"/> Non-profit |
| <input checked="" type="checkbox"/> Local government/district | <input type="checkbox"/> Private party |
| <input type="checkbox"/> University | <input type="checkbox"/> Other: _____ |

Indicate the type of project (check only one box):

- | | |
|-------------------------------------|--|
| <input type="checkbox"/> Planning | <input checked="" type="checkbox"/> Implementation |
| <input type="checkbox"/> Monitoring | <input type="checkbox"/> Education |
| <input type="checkbox"/> Research | |

By signing below, the applicant declares the following:

- (1) the truthfulness of all representations in their proposal;
- (2) the individual signing the form is entitled to submit the application on behalf of the applicant (if applicant is an entity or organization); and
- (3) the person submitting the application has read and understood the conflict of interest and confidentiality discussion in the PSP (Section II.K) and waives any and all rights to privacy and confidentiality of the proposal on behalf of the applicant, to the extent as provided in the Section.



(Signature of Applicant)

II. EXECUTIVE SUMMARY

The Suisun Marsh Fish Screen Program *Suisun Resource Conservation District (SRCD)*

The objective of this CALFED proposal is to construct and install seven additional fish screens on priority 1 and priority 2 unscreened diversions in the Suisun Marsh. Currently there are 17 priority diversions which are not funded under the existing Suisun Marsh Fish Screen Program. To date, the Suisun Resource Conservation District (SRCD) has installed eleven fish screen facilities in the Suisun Marsh, and is currently completing Phase II of the screening program, through the installation of two remaining screens this summer. The ecological and biological importance of the fish screens is to eliminate the entrainment of sensitive fish species while allowing private wetland managers the ability to maintain the seasonal wetlands. With endangered and threatened species present, both inside the diked seasonal wetlands and outside in adjacent waterways, the fish screens will play a vital role in the protection and recovery of these species as well as enhancing seasonal wetlands.

The Suisun Marsh supports resident populations of delta smelt, longfin smelt, Sacramento splittail, green and white sturgeon, and striped bass. It also serves as a migration corridor and rearing habitat for adult and juvenile winter-run, spring-run, San Joaquin and eastside Delta fall-run, Sacramento fall-run chinook salmon, and steelhead trout. The Suisun Marsh seasonal wetlands provide critical feeding, breeding and roosting habitats to numerous resident and migratory wetland dependent wildlife species. The shallow open water habitat within the wetlands are heavily used by shorebirds and waterfowl, while the emergent plant communities and upland areas provide foraging opportunities and refuge for neotropical migrants, resident birds and mammals.

The brackish water environment of the Suisun Marsh requires more intense wetland management than a fresh water system due to the seasonally changing salinity levels and accumulation of salts in the soils. Under Assembly Bill 1717 the State and private landowners in the Suisun Marsh are required to manage their properties for wildlife habitat, however, current water intake restrictions imposed due to sensitive species concerns severely restrict management activity, which directly impacts the quality of seasonal wetland habitat. These diversion restrictions protect endangered fish species, but severely limits water intake through unscreened diversions. Thus, preventing landowners from optimizing seasonal wetland management.

The SRCD worked with the California Department of Fish and Game (CDFG) to develop and implement the Suisun Marsh Fish Screen Program in response to the Reasonable and Prudent Measures outlined in SRCD's U.S. Army Corps of Engineers regional maintenance permit (PNR20066E98) Section 7 Biological Opinions for the Sacramento River winter-run chinook salmon and delta smelt. CDFG prioritized diversion screening in the Suisun Marsh based on information obtained from surveys of critical habitat areas of delta smelt, Sacramento splittail and winter and spring-run chinook salmon.

Phase one and two of the existing screening program screened the highest priority diversions in the Marsh. If this proposal is funded under CALFED, our goal is to design, construction, and install seven additional fish screens in the summer of 1999. At a cost of \$2.1 million, this proposal will protect and enhance resident and anadromous fisheries, as well as, nearly 2,600 acres of seasonal wetlands. Project design and planning would start in February and March of 1999 with construction and installation taking place July through September of 1999.

Legislative restrictions dictate that lands must be managed for wildlife habitat, which prevent private lands from being converted to agriculture. As a result of the restrictions, the private landowners of the Suisun Marsh receive no income from the sale of agricultural crops or water. The landowners are strictly spending out of pocket money to help create better wildlife habitat and need assistance to comply with these restrictions to create the best habitat possible, and limit impacts to fisheries and other important and endangered species. The installation of these fish screens is made possible only with the assistance of state and federal funds.

According to the Ecosystem Restoration Program Plan (ERPP), the Suisun Marsh is listed as a significantly important area to many species. The ERPP identifies incidental take through diversions as one of the primary stressors on fish in the Suisun Marsh. The fish screening program will help alleviate the pressure and stress on numerous fish species by screening diversions in critical habitat areas and at the same time protect the seasonally flooded wetlands and migratory waterfowl. Concentrations of sensitive fish species in these critical habitats necessitates screens on intake diversions to help reduce entrainment. The screening program is a synergistic approach in the aid and recovery of many species.

SRCD is in the third year of an ongoing fish screen program. The operation of Phase 1 screens have been evaluated, tested and deemed successful, leading to the installation of seven additional screens under phase 2. Potential funding from this CALFED proposal would add an additional seven fish screens, to an ongoing program.

SRCD has three water diversion monitoring programs currently ongoing; the Gate Monitoring Program, Fyke Netting Program, and Fish Screen Monitoring Program. Field crews check all water diversions several times per week, in critical habitat areas of the marsh, to ensure diversion restrictions are met. This is the third year of the fyke netting program to monitor species composition and number of fish being entrained at unscreened diversions. The conical screen design has been tested by the National Marine Fisheries Service, and consequently was approved by U.S. Fish and Wildlife Service, Department of Fish & Game, and the National Marine Fisheries Service, to meet the designed approach velocity criteria of to 0.2 feet per second.

The program has received overwhelming support from many private, state and federal agencies. These include National Marine Fisheries Service, U.S. Fish and Wildlife Service, California Waterfowl Association, Ducks Unlimited, Department of Fish & Game, Corps of Engineers S.F. Branch, and most importantly the private landowners in the Suisun Marsh. The private landowners not only support the program from a biological and ecological standpoint, but they also support it financially. The landowners will be responsible for all costs of operation and maintenance of the fish screen once installed.

Suisun Marsh Fish Screening Program

Prepared in Response to:

CALFED Bay-Delta Program
Proposal Solicitation Package
May 1998
Ecosystem Restoration Project and Programs

Applicant:

Suisun Resource Conservation District
2544 Grizzly Island Road
Suisun, CA 94585
Phone (707) 425-9302; Fax (707) 425-4402
e-mail: sred@castles.com

Project Manager:

Mr. Lee Lehman, Executive Director
Suisun Resource Conservation District
2544 Grizzly Island Road
Suisun, CA 94585
Phone (707) 425-9302; Fax (707) 425-4402
e-mail: sred@castles.com

Type of Organization and Tax Status:

Local Government / District
Tax Exempt: Federal ID #94-289-7471

Implementation Participants and Collaborators:

Suisun Resource Conservation District	Suisun Marsh Private Landowners
National Marine Fisheries Service	U.S. Fish and Wildlife Service
California Department of Fish and Game	California Waterfowl Association
Ducks Unlimited	U.S. Army Corps of Engineers S.F.
Borcalli and Associates, Inc.	Consulting Engineers
Pacific Engineering Contractors	General Contractors

IV. Project Description

a. Project Description and Approach

Suisun Resource Conservation District (SRCD) proposes to continue implementation of the Suisun Marsh Fish Screen Program. Approximately 30 diversions along Montezuma Slough, Suisun Slough, and Nurse Slough are located within critical habitat areas of Suisun Marsh. Of the 30 diversions, five were screened in 1996, six were screened in 1997, and two are under construction in the summer of 1998. With this CALFED grant request, seven of the remaining 17 high priority unscreened diversions can be screened by the fall of 1999. These diversions are currently manually controlled slide gates used to divert water from tidal sloughs into the managed seasonal wetlands within Suisun Marsh. These 17 culverts are presently unscreened, and when diverting, allow fish to enter the seasonal wetlands, where they are trapped and unable to return to the sloughs. This proposed screen design has been tested and approved by state and federal fish and wildlife agencies. Implementation of this program will also include an evaluation to determine the potential to downsize or consolidate remaining gravity flow diversions in the Suisun Marsh and reduce the over all number of unscreened diversions in the Marsh.

All screen sites have been prioritized through a ranking criteria developed by DFG, for long term implementation of this program. This criteria has been applied in two phases, biological and nonbiological. The biological criteria identifies critical habitat areas and long term benefits. The nonbiological criteria plays a secondary role in prioritizing diversions after the biological criteria is established. The biological criteria consists of:

1) Location in the Marsh

- Priority 1 - Diversions directly off of Montezuma Slough, without intervening vegetated berms
- Priority 2 - Diversions on Montezuma Slough located behind vegetated berms
- Priority 3 - Diversions on Suisun Slough or Nurse Slough
- Priority 4 - The balance of the Marsh

2) Size

- Priority 1 - Diversions larger than 36" in diameter
- Priority 2 - Diversions between 24" and 36" in diameter
- Priority 3 - Diversions smaller than 24" in diameter

The nonbiological criteria consists of electrical source, commitment of landowner operation and maintenance, and permanency of diversion. The nonbiological criteria was a secondary way to rank diversions that already ranked high in the biological criteria. After the high priority diversions were selected, a fish screen design was needed to withstand harsh environmental conditions of the Suisun Marsh.

The Suisun Marsh Diversion Screening Program has specifically designed screen facilities to meet the unique conditions of the brackish and tidal environment of the Suisun Marsh. To maximize life of the facility and minimize maintenance costs, the screens are

constructed from corrosive resistant materials. To ensure efficient and effective operation, screens are designed to be readily removable for inspection and maintenance. The versatility of this structural design also extends the life of the structure by allowing it to be removed from the water during periods of no diversions to reduce the corrosive effects of the brackish environment. The screens are conical in shape, made from perforated stainless steel plate, with cleaning brushes driven by submersible motors. A flow meter is installed within the polyethylene pipe to monitor flow and modulate gate operations to ensure that approach velocities at the screen do not exceed the design criteria with daily tidal fluctuations. This screen design and its facilities have been tested, by National Marine Fisheries Service, and meet the criteria of approach velocities of 0.2 feet / sec. for delta smelt and 0.33 feet / sec. for salmon. These screen facilities are automated to operate unattended, but are monitored every 15 minutes via radio communications to the SRCD office, to ensure proper operations. The established radio communications and monitoring equipment make this program unique in that additional screen facilities can be added to the current system and the infrastructure is already present and operating to accommodate any additions.

b. Proposed Scope of Work

The Suisun Resource Conservation District continues to be committed to proceeding with the installation of additional screens, but further financial assistance is needed to move forward with this program. Over the last three years the Diversion Screening Program has evolved into a phased approach to consolidate, downsize, and reduce the number of unscreened diversions, with the emphasis on priority 1 and priority 2 diversions designated critical habitat areas of the Suisun Marsh for resident and anadromous fish populations. This screening program is unique to other screening programs, in that it will use the same proven fish screen design on all new facilities. This fact alone assures the consistency of uniform operations and maintenance of the screens, while also dovetailing into an existing comprehensive monitoring program.

Specific Tasks Needed to Implement: Phase III - Suisun Marsh Fish Screening Program

This CALFED proposal is the total budget of \$2.1 million dollars for the construction and installation of seven separate fish screen facilities in the Suisun Marsh. The following list of tasks are considered inseparable for each fish screen facility. The construction of a complete individual fish screen facility could occur independently, at a cost of \$300,000 each.

- Task 1 - Agency and Landowner Coordination
- Task 2 - Site survey and design of the project plans and specifications for each of the seven fish screen sites
- Task 3 - Fabrication and manufacturing of fish screen materials
- Task 4 - Fish screen installation and construction
- Task 5 - Test and deliver completed facility

c. Location and/or Geographic Boundaries of the Project

The Suisun Marsh is 116,000 total acres of which 52,000 acres is diked managed wetlands, 27,700 acres is upland grasses, 6,300 acres is tidal wetlands, and 30,000 acres is bays and sloughs. The Suisun Marsh is a portion of the Central Valley Joint Venture, and lies at the confluence of the Sacramento and San Joaquin Rivers in the tidally influenced mixing zone of saline ocean water and the fresh water runoff of the rivers. All of this proposals work activities will occur in Suisun Marsh, Solano County, California. (See exhibit A)

d. Expected Benefits

The focus of the Suisun Marsh Fish Screen Program is the protection of fish from entrainment when water is diverted from marsh sloughs into seasonal wetlands. The fish species that inhabit the tidal perennial aquatic habitats in the Suisun Marsh include the winter-run chinook salmon (federally listed endangered), spring-run chinook salmon, steelhead trout (federally proposed endangered), delta smelt (federally listed threatened), longfin smelt, Sacramento splittail (federally proposed threatened), and green sturgeon.

The primary benefits of the Suisun Marsh Fish Screen Program include the recovery of federally listed and proposed-listed species wherein population numbers are anticipated to increase and exceed goals set by regulatory agencies. Future potential listings of fish species will also be avoided. Furthermore, because the fish screens will allow private landowners to divert water during critical plant growth periods, other species including migratory waterfowl and shorebirds will benefit by exploiting the resulting diverse, productive habitat of seasonal wetlands.

e. Background and Biological / Technical Justification

The Suisun Marsh Fish Screen Program is a long-term project designed to assist in the recovery of fish populations in the Suisun Marsh, particularly endangered and sensitive fish species. Water is diverted from the sloughs in the Suisun Marsh, through culverts to flood seasonal wetlands for water-dependent wildlife. Fish occurring in these sloughs are vulnerable to entrainment through unscreened diversion culverts. Researchers hypothesize that fish entrained into seasonal wetlands eventually die as a result of unsuitable fish habitat conditions within the wetland's water diversion systems. The fish screens will prevent the incidental take of winter-run chinook salmon and delta smelt. Benefits accrued from screening culverts and water diversions under this program will substantially reduce salmon and smelt mortality and help fulfill the goals of the recent Section 7 Biological opinions for the Suisun Marsh by the U.S. Fish and Wildlife Service and the National Marine Fisheries Service. Furthermore, impacts to other salmonids will be reduced and future listings may potentially be avoided (eg. Sacramento splittail).

The Suisun Marsh Fish Screen Program will also ensure the maintenance of seasonal wetlands in the Marsh that are important to a diverse assemblage of wildlife including listed species such as the salt marsh harvest mouse. Screening will also allow for the ongoing, proper management of seasonal wetlands in the Marsh. Consistent with the “ecosystem approach”, this program will ensure the long-term viability of habitat for fish, waterfowl, waterbirds and all other water-dependent species. Without the implementation of the Suisun Marsh Fish Screen Program, the present operating schedules of diversions will not be possible because federal biological opinions severely restrict water diversions through unscreened diversions. Without properly timed water management schedules, the long-term sustainability and viability of the Suisun Marsh will be compromised.

Applicable ERPP Objectives:

The Suisun Marsh Fish Screening Program addresses several of the resource elements which CALFED ERPP has identified as implementation objectives and targets for the Suisun Marsh / North San Francisco Bay Ecological Zone.

Vision for the Suisun Bay and Marsh Ecological Unit: (page 91, ERPP Vol. II) - This screening proposal will continue to screen unscreened diversions in the marsh. This proposal will continue to minimize the entrainment of juvenile fish and their food organisms, allow marsh will function as a high-quality spawning and rearing habitat, and provide an effective fish migration corridor to spawning grounds.

Nontidal Perennial Aquatic Habitat: (page 103, ERPP Vol. II) - Provide a dependable fish screened water supply to the managed wetland habitats to assist in protecting and enhancing wetland habitats for resident and migratory wildlife species.

Seasonal Wetlands: (page 104-105, ERPP Vol. II) - Provide a dependable fish screened water supply to the managed wetland habitats to assist in protecting and enhancing wetland habitats for resident and migratory wildlife species.

Reducing or Eliminating Water Diversion Stressors: (page 107, ERPP Vol. II) - To reduce entrainment of all life stages of fish into water diversions to increase survival and populations abundance to levels that contribute to overall Delta health.

Species: (page 112-121, ERPP Vol.II) - Implementation of this proposal will assist in the further entrainment protection for the following fish species, as well as, assure the continued beneficial uses and habitat values for wetland dependent wildlife, which utilize the Suisun Marsh managed wetlands.

Delta Smelt (page 112)	Splittail (page 113)
Longfin Smelt (page 112)	White Sturgeon (page 113)
Green Sturgeon (page 113)	Chinook Salmon (page 114)
Steelhead Trout (page 114)	Striped Bass (page 115)
American Shad (page 115)	Resident Fish Species (page 116)
Western Pond Turtle (page 118)	Salt Marsh Harvest Mouse (page 120)
Waterfowl (page 121)	Shorebirds & Wading Birds (page 120)

This screening proposal also addresses the Anadromous Fish Restoration Program (AFRP) goals and objectives by improving survival rates by reducing or eliminating entrainment of juveniles at unscreened diversions and providing unimpeded adult fish passage.

The Suisun Resource Conservation District is currently implementing the third year of the Suisun Marsh Diversion Screening Program. Additional funding will continue the existing program with the long term objective of screening all Priority 1, 2, 3, diversions in the Suisun Marsh.

f. Monitoring and Data Evaluation

SRCD currently holds the U.S. Army Corps of Engineers Regional General Maintenance Permit No. (R20066E98) for management and maintenance activities on all managed wetlands within the Suisun Marsh. This permit authorizes the installation of fish screens, but requires the monitoring and reporting activities, as a conditions of the permit. These ongoing permit conditions require the following actions: 1) develop a fish screening feasibility and implementation program, 2) conduct an unscreened diversion entrainment assessment, and 3) restrict water diversions from existing unscreened diversions in critical fisheries habitat areas of the Marsh.

- 1a. SRCD has implemented Phase 1 and Phase 2 of the Suisun Marsh Diversion Screening Program and plans to continue seeking funds until all Priority 1, 2, and 3 critical habitat areas of the Suisun Marsh are screened.
- 1b. The Suisun Resource Conservation District will provide a progress report associated with the project schedule outline in exhibit B of this application, and will produce final report upon project completion.

- 1c. The fish screen program incorporates a computerized monitoring system into each phase of the program. This system monitors water flow through the screen, battery levels, and pond water levels, as well as, gives alarms for excess or unwarranted flow, cleaning brush malfunction, and motor failure on each screen. Every 15 minutes the screens send information back to the base computer located at the SRCD office. This allows continual monitoring of remote sites, which assures that any problem with the facility be taken care of immediately. All of this information is stored on the hard drive and then downloaded to floppy disk to maintain an archive of past performance of each screen.
2. CDFG is currently conducting a fyke netting study on unscreened diversions in the critical habitat areas of the Suisun Marsh. This on going study is being used to determine the magnitude of resident and anadromus fish entrainment and assist in site selection of additional screens.
3. National Marine Fisheries Service (NMFS) and U.S. Fish & Wildlife Service (USFWS) issued Biological Opinions require restrictions and mandatory closures on water diversions within critical habitat areas of the Suisun Marsh, unless fish screens are installed. With both agencies, Biological Opinions restrictions combined, they can effectively reduce or eliminate water diversions to managed wetlands from November 1st through May 30th of each year. SRCD monitors these unscreened water diversion restrictions to ensure landowner compliance with these permit conditions.

g. Implementability

Under the USACE Regional General Permit and associated NMFS and FWS Biological Opinions, all environmental review and permits are in place to begin planning and construction immediately upon funding. There are no anticipated issues which will impact the immediate implementation of this proposal.

Environmental Permits:

1. SRCD U.S. Army Corps of Engineers Regional Maintenance permit (PNR 20066E98)
2. National Marine Fisheries Service Endangered Species Act Section 7 Consultation, Biological Opinion Winter-run Chinook Salmon, Dated September 21, 1994
3. U.S. Fish and Wildlife Service Endangered Species Act Section 7 Consultation, Biological Opinion No. 1-1-94-F-20 Delta Smelt, Dated August 29, 1994
4. California Clapper Rail Case No. 1-1-94-I-841 letter dated May 2, 1994
5. Department of Fish and Game will make on site inspections for rare plants prior to start of construction

V. Costs and Schedule to Implement Proposed Project

a. Budget Costs

SUISUN MARSH DIVERSION SCREENING PROJECT PROJECT DESIGN AND CONSTRUCTION BUDGET	
Task	Contractor Budget
1. Project Management (SRCD and B&A)	\$ 90,000
2. Agency Coordination	\$ 5,000
3. Finalize Design Criteria	\$ 2,000
4. Prepare Construction/Fabrication/Operation Documents	\$ 80,000
5. Manage Construction	\$ 98,000
6. Fabricate and Manufacture Goods	\$ 1,140,000
7. Construct Project and Install Goods	\$ 662,000
8. Prepare As-Built Drawings	\$ 5,000
9. Test Facility and Deliver to SRCD	\$ 18,000
TOTAL	\$ 2,100,000

b. Schedule Milestones (See Exhibit B)

c. Third Party Impacts - There are no anticipated third party impacts.

VI. Applicant Qualifications

The Suisun Resource Conservation District acted as project manager for phase 1 and 2 of the Suisun Marsh Diversion Screening Program, and has resulted in the successful design, construction, and completion of 13 fish screen facilities in the Suisun Marsh. The Suisun Resource Conservation District (SRCD) is currently in the third year of implementing the Suisun Marsh Diversion Screening Program.

SRCD's Suisun Marsh Project History:

- Phase 1 of the Suisun Marsh Fish Screening Program began in the summer of 1996 with the installation of five fish screens on unscreened diversions within the Suisun Marsh, on Montezuma Slough. These screens were jointly funded by Category III and CVPIA.
- Phase 2 of the Suisun Marsh Fish Screening Program began in the summer of 1997 with the installation of five additional fish screens in 1997, with final two scheduled for the summer of 1998. These screens were funded by Four Pumps Program.
- In 1997 SRCD was also issued a contract to design and construct a fish screen facility for the California Department of Water Resources (DWR), at the Lower Joice Island site. This screen facility was completed in the summer of 1997.
- SRCD completed a contract with the California Department of Fish and Game (CDFG) to design the plans and specifications for 8 fish screen sites on CDFG properties on the Grizzly Island Wildlife Area Complex.

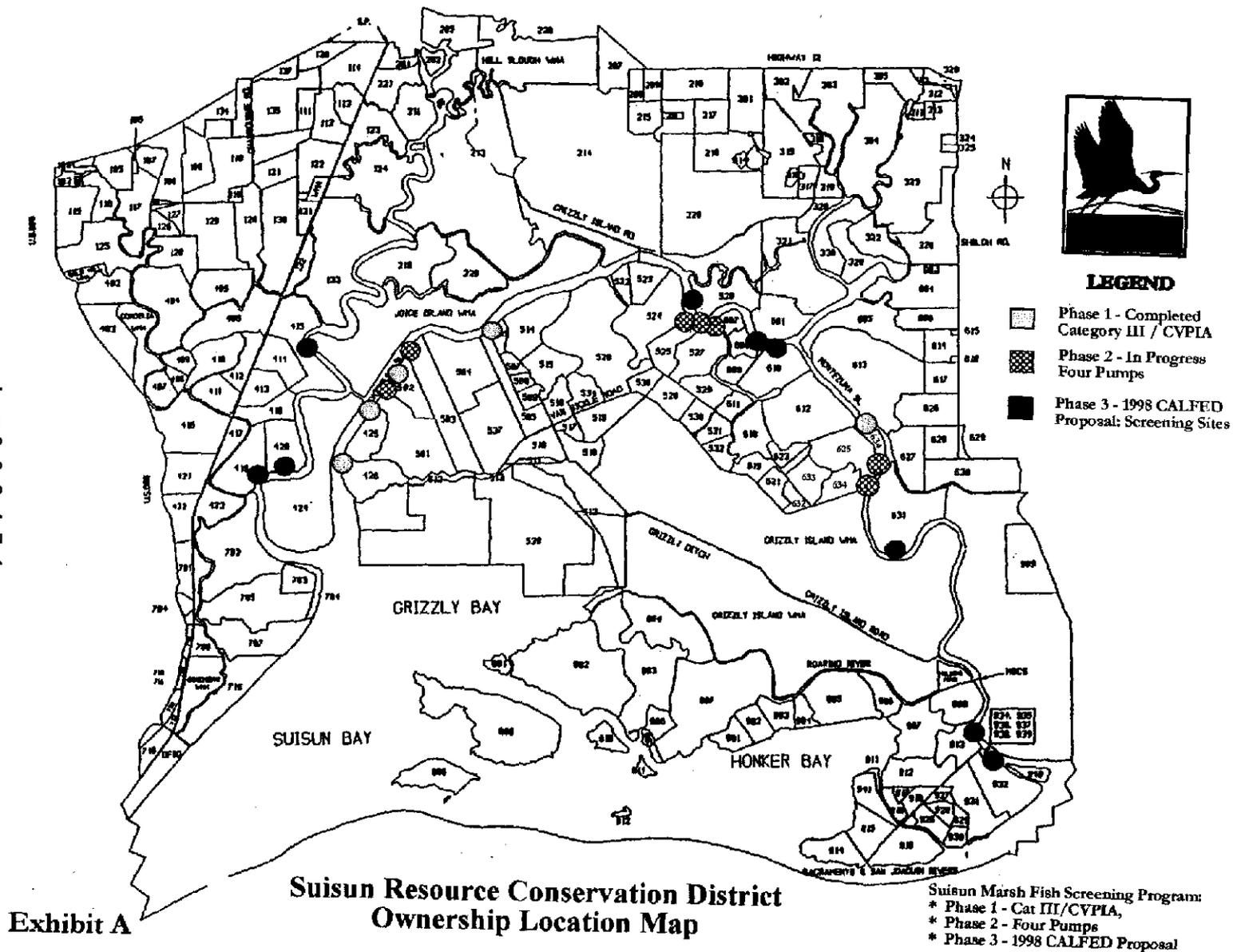
The design and construction team of the Suisun Marsh Fish Screening Program is a cooperative effort involving Suisun Resource Conservation District, Pacific Engineering, Borcalli and Associates, Inc., Intake Screens, Inc., EETS, Inc., and Wetland Construction. These organizations designed the fish screens to comply with the Department of Fish & Game, National Marine Fisheries Service and U.S. Fish and Wildlife flow requirements as well as to maximum useful life, to minimum power requirement, to optimize constructability, and to minimize construction, operation and maintenance costs.

SRCD currently possesses the equipment to both monitor and assist in maintaining these fish screen facilities. The computer system, software and radio tower for 24 hour surveillance has already been installed at the SRCD headquarters and is in use. Any new screens will be linked to the existing system by programming the software of the screen facility. A boom truck has been purchased to lift the screens off and set them on the platform for servicing, as well as tools and equipment including a power washer, a 500 gallon water tank, and generator to charge batteries when needed.

VII. Compliance With Terms and Conditions

The terms and conditions described in the CALFED application are agreeable with the Suisun Resource Conservation District and will be fully complied with. The Suisun Resource Conservation District is a local government / special district agency and has completed Form DI-2010 which is included with this proposal.

1-008471



1-008471

SUISUN RESOURCE CONSERVATION DISTRICT

SUISUN MARSH FISH SCREEN PROJECT
PHASE 3 (7 SCREENS)

DESIGN AND CONSTRUCTION SCHEDULE

Task	1998							1999								
	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept
1. Project Management (SRCD and B&A)																
2. Agency Coordination																
3. Finalize Design Criteria																
4. Prepare Construction/Fabrication/Operations Documents																
5. Fabrication/Construction																
6. Fabricate and Manufacture Goods																
7. Construct Project and Install Goods																
8. Prepare As-Built Drawings																
9. Test Facility and Deliver to SRCD																

1-008472

Exhibit B

June 25, 1998

1-008472

U.S. Department of the Interior

**Certifications Regarding Debarment, Suspension and
Other Responsibility Matters, Drug-Free Workplace
Requirements and Lobbying**

Persons signing this form should refer to the regulations referenced below for complete instructions:

Certification Regarding Debarment, Suspension, and Other Responsibility Matters - Primary Covered Transactions - The prospective primary participant further agrees by submitting this proposal that it will include the clause titled, "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transaction," provided by the department or agency entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions. See below for language to be used or use this form for certification and sign. (See Appendix A of Subpart D of 43 CFR Part 12.)

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transactions - (See Appendix B of Subpart D of 43 CFR Part 12.)

Certification Regarding Drug-Free Workplace Requirements - Alternate I. (Grantees Other Than Individuals) and Alternate II. (Grantees Who are Individuals) - (See Appendix C of Subpart D of 43 CFR Part 12)

Signature on this form provides for compliance with certification requirements under 43 CFR Parts 12 and 18. The certifications shall be treated as a material representation of fact upon which reliance will be placed when the Department of the Interior determines to award the covered transaction, grant, cooperative agreement or loan.

PART A: Certification Regarding Debarment, Suspension, and Other Responsibility Matters - Primary Covered Transactions

CHECK IF THIS CERTIFICATION IS FOR A PRIMARY COVERED TRANSACTION AND IS APPLICABLE.

- (1) The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:
- (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded by any Federal department or agency;
 - (b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
 - (c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and
 - (d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.
- (2) Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

PART B: Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transactions

CHECK IF THIS CERTIFICATION IS FOR A LOWER TIER COVERED TRANSACTION AND IS APPLICABLE.

- (1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.
- (2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

DI-2010
June 1995
(This form replaces DI-1953, DI-1954,
DI-1955, DI-1956 and DI-1957)

PART C: Certification Regarding Drug-Free Workplace Requirements

CHECK IF THIS CERTIFICATION IS FOR AN APPLICANT WHO IS NOT AN INDIVIDUAL

Alternate I. (Grantees Other Than Individuals)

A. The grantee certifies that it will or continue to provide a drug-free workplace by:

- (a) Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the grantee's workplace and specifying the actions that will be taken against employees for violation of such prohibition;
- (b) Establishing an ongoing drug-free awareness program to inform employees about--
 - (1) The dangers of drug abuse in the workplace;
 - (2) The grantee's policy of maintaining a drug-free workplace;
 - (3) Any available drug counseling, rehabilitation, and employee assistance programs; and
 - (4) The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace;
- (c) Making it a requirement that each employee to be engaged in the performance of the grant be given a copy of the statement required by paragraph (a);
- (d) Notifying the employee in the statement required by paragraph (a) that, as a condition of employment under the grant, the employee will --
 - (1) Abide by the terms of the statement; and
 - (2) Notify the employer in writing of his or her conviction for a violation of a criminal drug statute occurring in the workplace no later than five calendar days after such conviction;
- (e) Notifying the agency in writing, within ten calendar days after receiving notice under subparagraph (d)(2) from an employee or otherwise receiving actual notice of such conviction. Employers of convicted employees must provide notice, including position title, to every grant officer on whose grant activity the convicted employee was working, unless the Federal agency has designated a central point for the receipt of such notices. Notice shall include the identification number(s) of each affected grant;
- (f) Taking one of the following actions, within 30 calendar days of receiving notice under subparagraph (d)(2), with respect to any employee who is so convicted --
 - (1) Taking appropriate personnel action against such an employee, up to and including termination, consistent with the requirements of the Rehabilitation Act of 1973, as amended; or
 - (2) Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency;
- (g) Making a good faith effort to continue to maintain a drug-free workplace through implementation of paragraphs (a) (b), (c), (d), (e) and (f).

B. The grantee may insert in the space provided below the site(s) for the performance of work done in connection with the specific grant:

Place of Performance (Street address, city, county, state, zip code)

Suisun Marsh, Suisun City, Solano County, California 94585

Check if there are workplaces on file that are not identified here.

PART D: Certification Regarding Drug-Free Workplace Requirements

CHECK IF THIS CERTIFICATION IS FOR AN APPLICANT WHO IS AN INDIVIDUAL

Alternate II. (Grantees Who Are Individuals)

- (a) The grantee certifies that, as a condition of the grant, he or she will not engage in the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance in conducting any activity with the grant;
- (b) If convicted of a criminal drug offense resulting from a violation occurring during the conduct of any grant activity, he or she will report the conviction, in writing, within 10 calendar days of the conviction, to the grant officer or other designee, unless the Federal agency designates a central point for the receipt of such notices. When notice is made to such a central point, it shall include the identification number(s) of each affected grant.

DI-2010
June 1995
(This form replaces DI-1963, DI-1964,
DI-1965, DI-1966 and DI-1983)

**PART E: Certification Regarding Lobbying
Certification for Contracts, Grants, Loans, and Cooperative Agreements**

^{XX}
CHECK IF CERTIFICATION IS FOR THE AWARD OF ANY OF THE FOLLOWING AND
THE AMOUNT EXCEEDS \$100,000: A FEDERAL GRANT OR COOPERATIVE AGREEMENT;
SUBCONTRACT, OR SUBGRANT UNDER THE GRANT OR COOPERATIVE AGREEMENT.

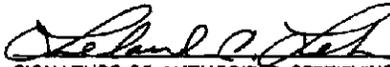
CHECK IF CERTIFICATION IS FOR THE AWARD OF A FEDERAL
LOAN EXCEEDING THE AMOUNT OF \$150,000, OR A SUBGRANT OR
SUBCONTRACT EXCEEDING \$100,000, UNDER THE LOAN.

The undersigned certifies, to the best of his or her knowledge and belief, that:

- (1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, and officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
- (3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

As the authorized certifying official, I hereby certify that the above specified certifications are true.


SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL

LELAND C. LEHMAN, EXECUTIVE DIRECTOR

TYPED NAME AND TITLE

DATE JULY 1, 1998