SAN FRANCISCO DISTRICT

US Army Corps of Engineers

PUBLIC NOTICE

NUMBER: 24828S DATE: April 12, 2000
RESPONSE REQUIRED BY: May 12, 2000

Regulatory Branch
333 Market Street
San Francisco, CA 94105-2197 PROJECT MANAGER: Philip Shannin TELEPHONE: (415) 977-8445 Email: pshannin@spd.usace.army.mil

1. **Introduction:** The Hayward Area Recreation and Park District (HARD), through their agent (URS Greiner Woodward Clyde, 500 12th Street, Suite 200, Oakland, CA 94607-4014, phone 510-893-3600), has applied for a Department of the Army permit to excavate, place fill, and install structures, within Corps of Engineers jurisdiction, in order to enhance 153 acres of salt ponds and 171 acres of tidal marsh, north of Highway 92, in the City of Hayward, Alameda County, California. This application is being processed pursuant to the provisions of Section 10 of the Rivers and Harbors Act of 1899 (33 U.S. Code 403), and Section 404 of the Clean Water Act (33 U.S.C. 1344).

2. **Project Description:** As shown in the attached drawings, the applicant plans to excavate 8123 cubic yards of material from 2.13 acres of wetlands and other waters, and use this material to fill 3.74 acres of wetlands. 0.03 acre of other waters shall be filled with 8972 cubic yards of solid fill material, such as culverts and bridges. The location and type of all project activities are designated on Figure 2.

The overall goals of the enhancement project are to: 1) enhance wildlife habitat, 2) provide appropriate public access, interpretive, and educational opportunities 3) minimize operation and maintenance requirements, and 4) retain the physical characteristics of the historic landscape.

All work would occur within one of four areas: The former Oliver Brothers Salt Ponds (Oliver ponds), HARD Marsh, Salt Marsh Harvest Mouse Preserve (Preserve), and Interpretive Center Marsh (ICM). A description of the proposed work in each of these areas follows.

Former Oliver Brothers Salt Ponds

In the early 1990's, HARD acquired 153 acres of the former Oliver Brothers Salt Pond property, located just north of Highway 92. The property currently consists of seventeen ponds ranging in size from approximately 2.5 acres to 26.8 acres. The ponds are surrounded by a series of earthen berms and wooden dike structures, some of which no longer function. The elevation of the outboard levee crests ranges from 7 to 8 feet, whereas the internal levees are approximately 5.5 feet NGVD. Currently, the site has no operational, direct connection to the bay's tidal waters, but is flooded by precipitation and dries primarily via evaporation. The area is nearly devoid of vegetation and is used by the federally threatened western snowy plover (*Charadrius alexandrinus nivosus*) for nesting.

The purpose of the work in the Oliver ponds is to improve water control/distribution to enhance habitat for the western snowy plover. These activities include the following:

- **G1, G2, P** Install gated culverts between Oliver Channel and SP-1, between SP-1 and SP-17, and between SP-3 and SP-4. In total, 54 cubic yards of fill material would be removed from the three locations using appropriate excavation methods.
- **I** Remove existing debris and place fill in channel near SP-17. Approximately 22 cubic yards of clean, imported fill material would be placed in the pond at this location.
- **J** Connect existing ditch/ pond SP-17 to SP-6. This will require the removal of approximately 12 cubic yards of material, which would be disposed of at a suitable upland location.

- **K** Repair interior levee and existing wooden gate between SP-4 and SP-5. This would require the addition of 17 cubic yards of fill material. It is important to use the high saline material from on-site to minimize the potential for introduction of unwanted vegetation. Vegetation in this area would decrease potential nesting sites for western snowy plover.
- **L2, L3, L4, L5** Create interior levee breaks between SP-9 and SP-10, between SP-15 and SP-17, and in two places between SP-5 and SP-6. In total, 17 cubic yards of fill material would be removed. The removed material will be used to repair the existing levee structure between SP-4 and SP-5.
- **L8** Remove existing culvert and headwall at the western end of Oliver Channel. This would require the removal of 42 cubic yards of material, including a concrete culvert, riprap, and earthen fill material. Material would be disposed of at a suitable upland location.
- **M** Install levee with one 24-inch gated culvert at the northwest corner of SP-1. This would require approximately 64 cubic yards of clean, imported fill material.
- **N** Install pedestrian bridge with removable section. This would require the removal of 10 cubic yards of material to install the concrete bridge piles. In addition, access to the new bridge would require the installation of a new trail between the existing access road and the bridge. The distance between the two locations is approximately 52 feet, and is currently vegetated with pickleweed and associated saltmarsh plant species.

Hard Marsh

The HARD Marsh is located north of the Oliver ponds and covers 82 acres subdivided into seven interconnecting ponds. Currently there are three 36-inch culverts at the western end of the marsh to allow inflow of bay water. These culverts will be removed and the breach will be bridged in order to maintain continuous public access from the Bay Trail to Arthur Emms Trail, which enhancing tidal action to the ponds. Currently, the muted tidal exchange results in hyper-saline conditions in summer and fall (48 ppt). The surface area of the marsh is predominantly open water, with predominantly pickleweed (Salicornia spp.) salt marsh vegetation concentrated on the levees and eastern end of the marsh. More than 113 species of birds have been observed using the marsh, with as many as 4717 individuals at one time. Ground surface elevation in the marsh range from 1.95 to 3.58 feet NGVD and channel bottoms are in general range of 115 to 2.32 feet NGVD.

The purpose of the work in HARD Marsh is to increase tidal exchange and to convey more water to the ICM. The activities proposed here include the following.

- **C** Dredge the existing channel (from F to the ICM) to a depth of approximately –2.0 feet, and a bottom width of 5 feet. This would require the mechanical removal of approximately 7,500 cubic yards of channel sediments. Approximately 31 cubic yards of the excavated sediments would be used as fill at locations R1 and R2. The remainder would be placed at location D described below.
- **D** Up to 7, 500 cubic yards of material dredged from the Oliver Channel would be placed on the western portion of HM-3. The maximum elevation of the fill material would be 4.2 feet NGVD and it would be sloped down to 2.0 feet NGVD. This elevation was selected because it is optimal for pickleweed growth, between MHW and MHHW on the project site. The material would be placed adjacent to existing pickleweed stands, facilitating rapid colonization of this area by pickleweed and compensating for the temporary loss by inundation of pickleweed in the western portion of the HARD Marsh.
- **E** Breach levee road and install a 10-foot by 8-foot driveable box culvert. This would require the removal of approximately 33 cubic yards of fill material.
- **F** Remove existing levee, tide gates, and culverts and bridge the breach. This would require the removal of approximately 315 cubic yards of fill

material from the channel. The removed material would be disposed of at an appropriate upland location. The new bridge would be a 50' concrete span supported by piles. The piles would account for approximately 90 cubic yards of fill.

- **L6** Breach existing levee between HM-2 and HM-7. This would require the removal of 5 cubic yards of fill material.
- **L7** Widen existing breach in levee to approximately 17 feet. This would require the removal of approximately 30 cubic yards of material. This action would also impact approximately 800 square feet of wetland that is currently vegetated with pickleweed and alkali heath.
- **R1, R2** Place fill at the northwest and southwest corners of HM-3 to block tidal action and direct flow to the channel. This would require approximately 31 cubic yards of material that would be re-used from dredging the Oliver channel, C.

Interpretive Center Marsh

The ICM is a 5 acre pickleweed marsh, owned by HARD, with surface elevations that range from 2.5 to 2.8 feet NGVD. The Hayward Shoreline Interpretive Center is constructed on piles in this marsh. The marsh is fed via two 12-inch gated culverts from the Eastern Caltrans Ditch, located to the north of the ICM. The conditions of minimal inflow combined with high surface elevations in the marsh cause stagnant pools that fill with algae in the marsh. The dominant vegetation in the ICM is pickleweed, which covers more than 90 percent of the marsh.

The applicant intends to extend the Oliver Channel into the ICM, to increase tidal exchange and water circulation. This work is designated on Figure 2 as letter **C**.

Salt Marsh Harvest Mouse Preserve

The Preserve covers 84 acres, 27 of which are owned by the State Lands Commission and managed by the East Bay Regional Park District. The remaining acreage is owned by the City of Hayward. The mouse preserve is a pickleweed marsh with both perimeter and internal channels. The surface elevation of the marsh plain ranges from approximately 2.17 to 2.87 feet NGVD and the channel bottoms range from –0.07 to 0.71 feet NGVD. The marsh receives direct precipitation and urban run-off from an Alameda County flood control channel, Line E. There are three 48-inch culverts that connect the preserve to the flood control channel.

Salt Marsh Harvest Mouse Preserve

The purpose of these improvements is to create new options for draining the Preserve during the rainy season (to keep mouse habitat from flooding) and to allow introduction of salt water in the early fall to enhance vegetation management options. These improvements are as follows.

- **A** Install new levee section, with two 24-inch gated culverts between the existing access road and preserve. This would require approximately 300 cubic yards of fill within the ditch and the disturbance of 540 square feet of pickleweed habitat on either side of the channel. The sides of the new levee are expected to revegetate from existing pickleweed seed stock.
- **B** Install two 36-inch gated culverts between the Preserve and the northwestern end of the eastern Caltrans ditch. Approximately 60 cubic yards of the excavated material would be used as backfill around the culverts.
- **L1** Breach existing levee between eastern Caltrans ditch and channel to increase tidal influence. This would require the removal of 105 cubic yards of material
- **S** The existing access levee (Arthur Emmes Trail) shall be raised about 7 feet. A portion of the 850 cubic yards of fill for the levee raise would be placed on levee slopes on top of pickleweed.

Access and Timing

Access and staging of equipment would be restricted to existing access roads. To avoid disturbance to nesting snowy plovers, construction would be limited to September through February.

3. **State Approvals:** The applicant states that he has notified the Regional Water Quality Control Board, San Francisco Bay Region, to determine the need for State water quality certification. If the State Water Resources Control Board determines that this project is consistent with the California Water Quality Control Plan, requirements adopted by the Regional Board, and Sections 301, 302, 303, 306 and 307 of the Clean Water Act, the State will issue a Certificate of Conformance with Water Quality Standards to the project proponent. Those parties concerned with any water quality problems that may be associated with this project should write to the Executive Officer, California Regional Water Quality Control Board, San Francisco Bay Region, 1515 Clay Street, Suite 1400, Oakland, California 94612.

The applicant has also been informed to contact the San Francisco Bay Conservation and Development Commission (BCDC) in order to ensure the project is consistent with the State's coastal zone management program.

4. **Environmental Assessment:** Corps of Engineers has assessed the environmental impacts of the action proposed in accordance with the requirements of the National Environmental Policy Act of 1969 (Public Law 91-190), and pursuant to Council on Environmental Quality's Regulations, 40 CFR 1500-1508, and Corps of Engineers' Regulations, 33 CFR 230 and 325, Appendix B. Unless otherwise stated, the Preliminary Environmental Assessment describes only the impacts (direct, indirect, and cumulative) resulting from activities within the jurisdiction of the Corps of Engineers. The supporting data used in the preparation of this Preliminary Environmental Assessment are on file in the South Section, Regulatory Branch, Corps of Engineers, 333 Market Street, San Francisco, California.

The Preliminary Environmental Assessment resulted in the following findings:

a. IMPACTS ON THE AQUATIC ECOSYSTEM

(1) Physical/Chemical Characteristics and Anticipated Changes

Substrate – This project shall modify the substrate in HARD Marsh, through the dredging of a new pilot channel and subsequent placement of this material in the marsh. This is expected to have a long term beneficial impact by increasing substrate diversity within the marsh.

Currents/Circulation – The installation of new culverts, levee breaks, and channel dredging will create a major long term improvement to tidal flow and circulation.

Drainage Patterns – The increased water flow may cause the formation of new drainage patterns in the marshes. The formations of such drainage patterns may increase the diversity of habitat in the marshes, resulting in a long-term beneficial impact.

Storm, Wave, Erosion Buffer of Wetland – No effect.

Erosion/Sedimentation Rate – The new channel will increase flows, which may change sedimentation rates. The applicants state since sedimentation has been accounted for in channel design, no effect is expected. However, the applicants plan on monitoring the new channel for a at least five years to ensure that it does not fill with sediment.

Water Supply (Natural) – It is expected that the proposed project will increase the supply of water entering the site from the bay, resulting in a long-term beneficial impact.

Water Quality – It is expected that the project will create a major, long-term beneficial impact to water quality. The increased water flow will allow greater amounts of nutrients and oxygen to enter the waters on site.

(2) Biological Characteristics and Anticipated Changes

Wetlands (Special Aquatic Site) – It is expected that this project shall have a major long-term beneficial impact on wetlands. Increased water circulation will increase the flow of nutrients and oxygen. It is expected that the algae which dominates the ICM marsh shall be reduced and that pickleweed vegetation shall increase, especially in HARD marsh, where the fill placement shall raise the marsh elevation.

Endangered Species – The project area is known to support populations of Western Snowy Plover (*Charadrius alexandriu nivosus*) and Salt Marsh Harvest Mouse (*Reithrodontomys reviventris*). The Corps initiated consultation on these species, with the Fish and Wildife Service of March 31, 2000. While this project may have minor short-term negative impacts on these species, major long-term beneficial impacts are expected after project completion.

Although the Oliver ponds were identified in the 1984 Fish and Wildlife Service California Clapper Rail (*Rallus longirostris*) Recovery Plan, no habitat currently exists on site. Enhancement of the site for clapper rails is incompatible with enhancement for snowy plovers. Since the rails do not currently use the site and their habitat shall not be enhanced, the project is expected to have no effect on this species.

Habitat for Fish, Other Aquatic Organisms, and Wildlife – Increasing the circulation of tidal flows throughout the property is expected to create a more productive and diverse ecosystem. Therefore, this project is expected to have a long term beneficial impact on wildlife

b. IMPACTS ON RESOURCES OUTSIDE THE AQUATIC ECOSYSTEM

(1) Physical Characteristics and Anticipated Changes

Air Quality – Project activity would have minor, short-term impacts on air quality in the vicinity of the project site. Based on the relatively minor size of the proposed project, limited to an evaluation of air quality impacts only within Corps of Engineers' (Corps) jurisdictional areas, the Corps has determined that the total direct and non-direct project emissions would not exceed the de minimis threshold levels of 40 CFR 93.153. Therefore, the proposed project would conform to the State Air Quality Implementation Plan (SIP) for California.

Noise Conditions – Construction activity would have minor, short term impacts on the ambient noise levels in the project site vicinity.

(2) Socioeconomic Characteristics and Anticipated Changes

Aesthetic Quality – Increased tidal flows in the ICM is expected to reduce the presence of algae, covering the marsh surface. Furthermore, the improvement of snowy plover habitat in the Oliver ponds is expected to increase the presence of this species. These changes are expected to have a major, long-term beneficial impact to aesthetics.

Employment – Construction of this project will require the employment of a local contractor and is, therefore, expected to have a minor, short-term beneficial impact on employment.

Recreational Opportunities – This project will increase public access to the site, for nature walks and birdwatching. This project shall, therefore, have a minor, long-term beneficial impact on recreational opportunities.

(3) Historic - Cultural Characteristics and Anticipated Changes

The Oliver ponds are designated as a Historic Landscape. A Corps of Engineers' archaeologist is currently conducting a cultural resources assessment of the permit area, involving review of published and

unpublished data on file with city, State, and Federal agencies. The Corps of Engineers will consult with the State Historic Preservation Officer to take into account any project effects on the Historic Landscape.

c. SUMMARY OF INDIRECT IMPACTS

None have been identified.

d. SUMMARY OF CUMULATIVE IMPACTS

None have been identified.

e. CONCLUSIONS AND RECOMMENDATIONS

Based on an analysis of the above identified impacts, a preliminary determination has been made that it will not be necessary to prepare an Environmental Impact Statement (EIS) for the subject permit application. The Environmental Assessment for the proposed action has, however, not yet been finalized and this preliminary determination may be reconsidered if additional information is developed.

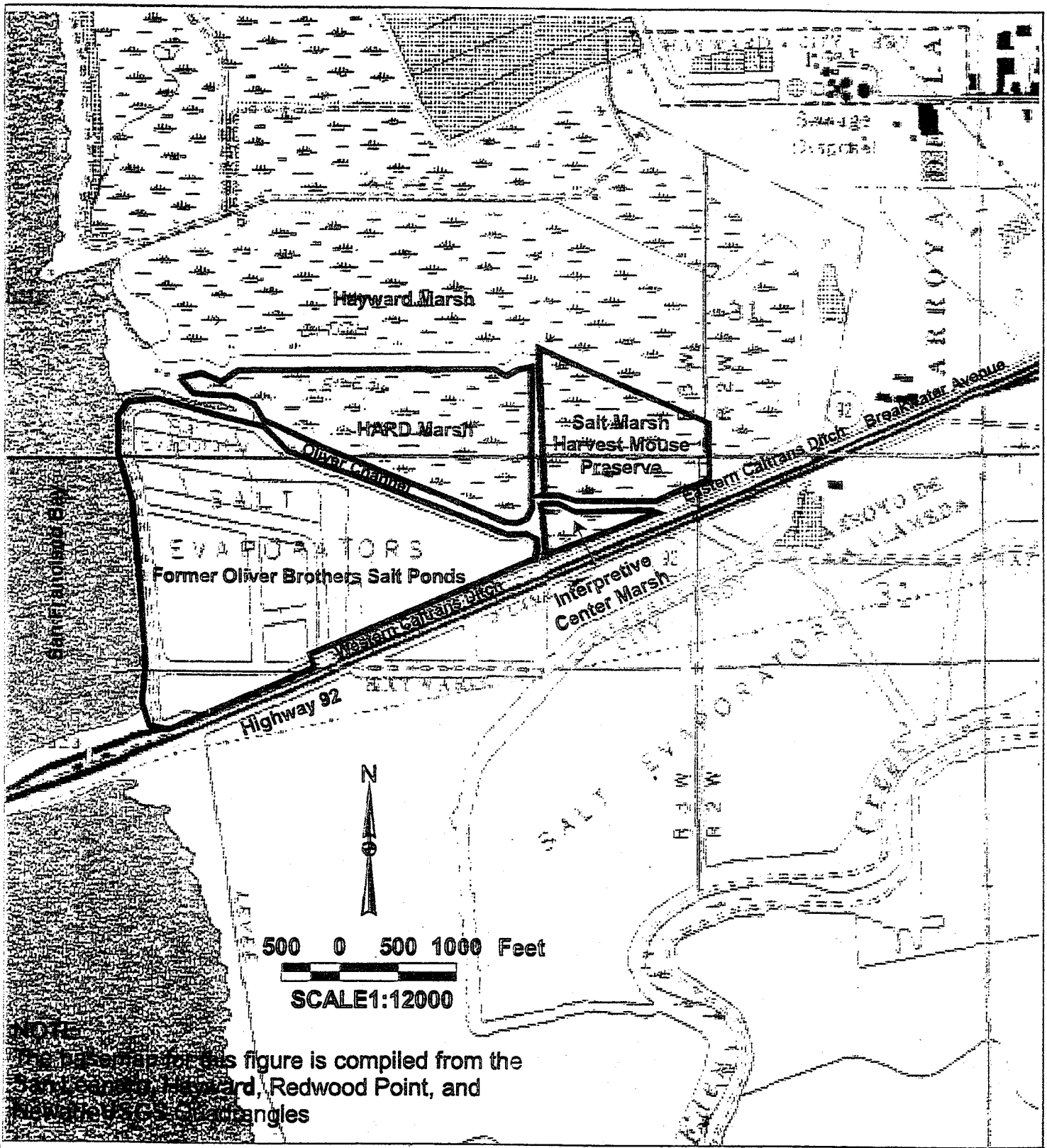
5. **Alternatives Analysis:** Evaluation of this activity's impacts will include application of the guidelines promulgated by the Administrator of the Environmental Protection Agency under Section 404(b) of the Clean Water Act (33 U.S.C. 1344(b)).

6. **Public Interest Evaluation:** The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest. Evaluation of the probable impacts the proposed activity may have on the public interest requires a careful weighing of all those factors, which become relevant in each particular case. The benefits, which reasonably may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. The decision whether to authorize a proposal, and if so the conditions under which it will be allowed to occur, are therefore determined by the outcome of the general balancing process. That decision will reflect the national concern for both protection and utilization of important resources. All factors and their cumulative impacts must be considered, relevant to the proposal. These factors include conservation; economics; aesthetics; general environmental concerns; wetlands; cultural values; fish and wildlife values; flood hazards; floodplain values; land use; navigation; shore erosion and accretion; recreation; water supply and conservation; water quality; energy needs; safety; food and fiber production; mineral needs; considerations of property ownership and, in general, the needs and welfare of the people.

7. **Consideration of Comments:** The Corps of Engineers is soliciting comments from the public, Federal, State and local agencies and officials, Indian Tribes, and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

8. **Submission of Comments:** Interested parties may submit, in writing, any comments concerning this activity. Comments should include the applicant's name, the number and the date of this Notice and should be forwarded so as to reach this office within the comment period specified on page one of this Notice. Comments should be sent to: Regulatory Branch, Attention: Philip Shannin. It is Corps policy to forward any such comments which include objections to the applicant for resolution or

rebuttal. Any person may also request, in writing, within the comment period of this Notice that a public hearing be held to consider this application. Requests for public hearings shall state, with particularity, the reasons for holding a public hearing. Additional details may be obtained by contacting the applicant whose address is indicated in the first paragraph of this Notice, or by contacting Philip Shannin of our office at telephone (415) 977-8445. Details on any changes of a minor nature made in the final permit action will be provided on request.

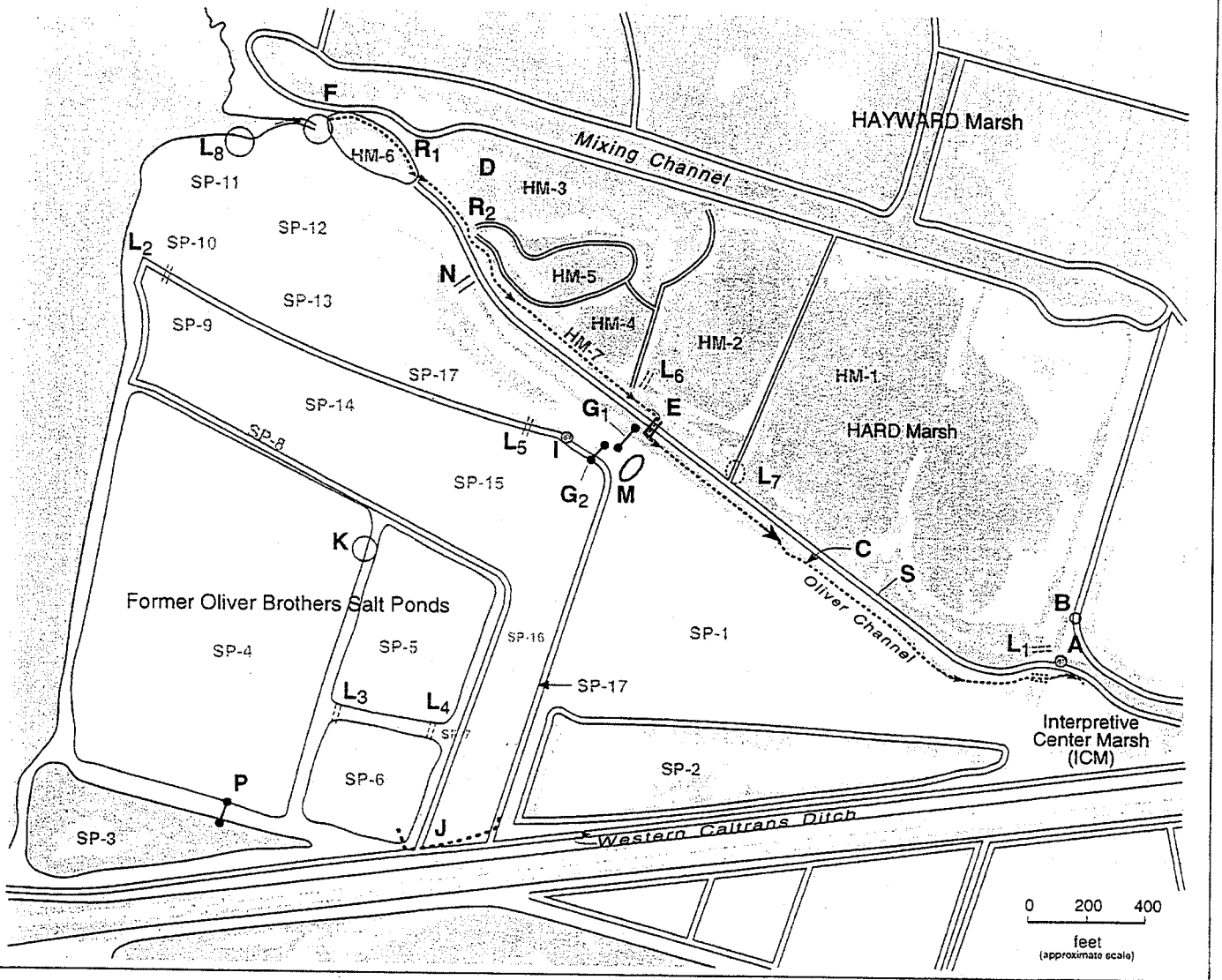


NOTE:
The basemap for this figure is compiled from the San Leandro, Hayward, Redwood Point, and Newark U.S.G.S. quadrangles

PURPOSE: PARK AND HABITAT ENHANCEMENT DATUM: MLLW ADJACENT PROPERTY OWNERS: 1. EAST BAY REGIONAL PARKS DISTRICT 2. CALTRANS 3. STATE LANDS COMMISSION	FIGURE 1 VICINITY MAP HAYWARD AREA RECREATION AND PARK DISTRICT 1099 E STREET HAYWARD, CA 94541	HAYWARD AREA RECREATION DISTRICT ENHANCEMENT PROJECT IN: HAYWARD AT: 4901 BREAKWATER AVE. COUNTY OF: ALAMEDA STATE: CA APPLICATION BY: HARD DATE: FEBRUARY 2000

Table 1: Potential Impacts of Proposed Activities

Location of Activity	Map ID	Activity	Corps Jurisdiction	Jurisdictional Area - Wetland (sq. feet)	Jurisdictional Area - Waters (sq. feet)	Volume - Fill (cubic yards)	Volume - Excavation (cubic yards)	Notes
Water/Wetland	A	Install levee with 2-24" gated culverts	Sections 10, 404	540	540	300	NA	Pickleweed is expected to re-vegetate sides of new levee (approx. 150 sq feet)
Wetland	B	Install 2-36" gated culverts	Section 10	400	NA	60	71	Excavated material will be used as backfill over new culverts
Water	C	Dredge channel	Section 10	NA	92,675	NA	7,500	Wetland areas potentially affected by construction equipment were included in Item "S"
Wetland	D	Place dredged material in HM-3	Section 404	144,000	NA	7469	NA	Dredged material to be placed in HM-3 to create elev. suitable for pickleweed colonization to mitigate for drowning HM-1 pickleweed by inc. water surface elev.
Wetland	E	Install 10' x 8' box culvert	Section 10	360	NA	17	33	Wetland areas potentially affected by this activity was subtracted from S to avoid duplication of areas
Water	F	Remove existing gates and install driveable bridge	Section 10	8	800	90	315	Bridge to be ~ 50'x16'x3'
Historic Salt Pond	G1	Install 2-24" gated culverts	Section 10	200	NA	25	30	
Historic Salt Pond	G2	Install 2-24" gated culverts	Section 10	120	NA	13	18	
Historic Salt Pond	I	Remove debris and install levee to prevent flooding	Section 10, 404	280	NA	22	NA	Debris will be disposed of at an off-site upland location
Historic Salt Pond	J	Continuation of ditch	Section 10	300	NA	NA	12	Material will be disposed of at an off-site upland location
Historic Salt Pond	K	Repair historic levee and culvert	Section 10	1750	NA	17	NA	Area to be approximately 70'x25'x1'. Material excavated from L2-L5 will be used for fill at this location.
Wetland	L1	Breach levee	Section 404	470	NA	NA	105	
Historic Salt Pond	L2	Breach levee	Section 10	80	NA	NA	5	The excavated material will be re-used at location K
Historic Salt Pond	L3, L4	Breach levee	Section 10	160	NA	NA	7	The excavated material will be re-used at location K
Historic Salt Pond	L5	Breach levee	Section 10	72	NA	NA	5	The excavated material will be re-used at location K
Wetland	L6	Breach levee	Section 404	80	NA	NA	5	
Water	L7	Widen breach	Section 404	800	680	NA	30	
Wetland	L8	Remove culvert and headwall	Section 10	NA	NA	NA	42	Material (headwall & culvert) will be disposed of off-site at an upland location
Historic Salt Pond	M	Install levee with 1-24" gated culvert	Section 10, 404	1400	NA	64	NA	
Water	N	Install pedestrian bridge with removal section	Section 10	100	120	10	10	Bridge to be approx. 6'x20'x2'
Historic Salt Pond	P	Install 1-24" gated culvert	Section 10	50	NA	4	6	Material removed will be used as backfill
Water	R1	Create blockage	Section 404	NA	426	25	NA	Will use material excavated from channel bottom as fill material
Water	R2	Create blockage	Section 404	NA	165	6	NA	Will use material excavated from channel bottom as fill material
Wetland	S	Raise existing levee	Section 10	13,665	NA	850	NA	Portion of levee raise material that may spill over the levee sides onto the picklweed.



LEGEND:

- **A** – Fill channel, add two 24"gated culverts-driveable
- **B** – Install two 36" gated culverts
- **C** – Dredge channel from F to ICM
- **D** – Placement of dredged material
- **E** – 10'x8' Box culvert, driveable
- **F** – Remove existing gates and install bridge
- **$G_{1,2}$** – Install two 24" gated culverts
- **I** – Remove existing debris and place fill in channel
- **J** – Continuation of ditch
- **K** – Repair levee and existing wooden gate
- **M** – Levee with 24" gated culvert
- **N** – Install pedestrian bridge with removable section
- **P** – Install 24" gated culvert
- **$R_{1,2}$** – Create blockage with dredged material
- **S** – Build up existing levee
- **L_1, L_2, L_3, L_4, L_5, L_6** – Levee breaks
- **L_7** – Widen breaks
- **L_8** – Remove blockage

PURPOSE:
Park and Habitat Enhancement
DATUM: NVGD
ADJACENT PROPERTY OWNERS:
1-East Bay Regional Park District
2-Caltrans
3-State Lands Commission

Figure 2

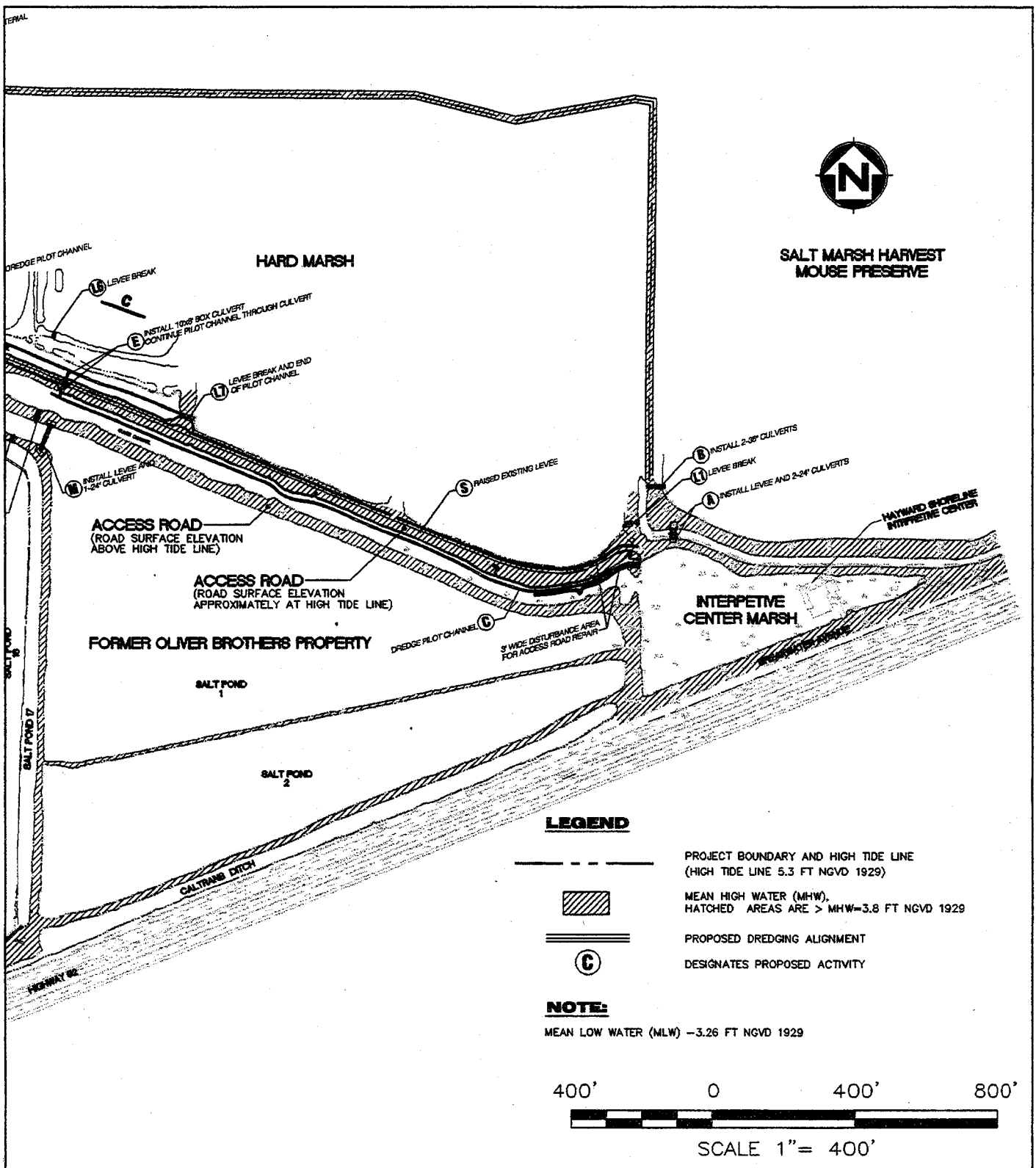
Locations of Proposed Activities

HARD
1099 E Street, Hayward, CA 94541

HARD
Enhancement Project

IN COUNTY OF: Alameda
APPLICIATION BY: HARD
DATE: March 2000

51-09967075.00-33000/031700/gos



PURPOSE:
Park and Habitat Enhancement

DATUM: NGVD 1929

ADJACENT PROPERTY OWNERS:
1 – East Bay Regional Park District
2 – Caltrans
3 – State Lands Commission

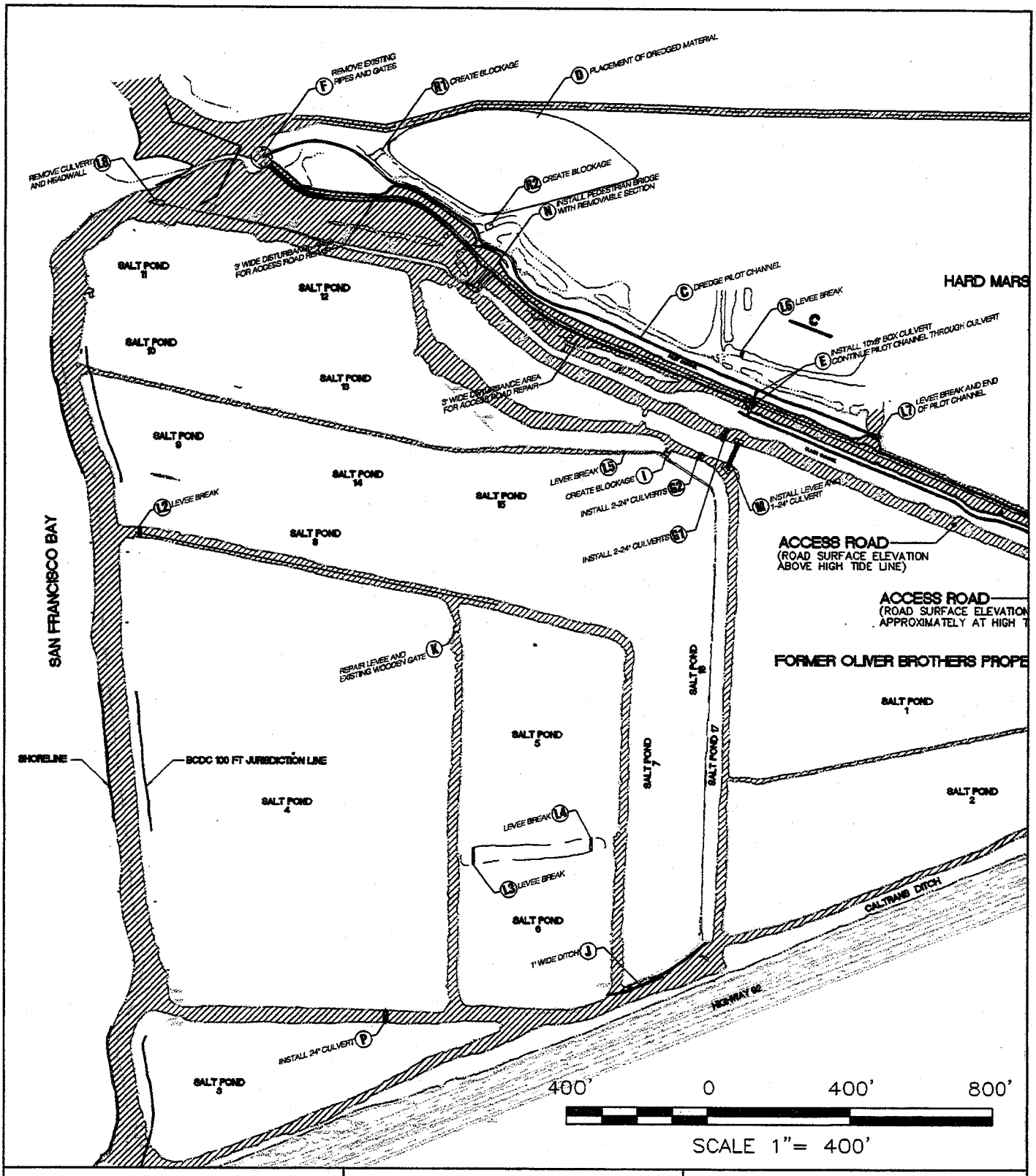
Figure 3
sheet 1 of 2

Jurisdictional Map

HARD
1099 E Street, Hayward, CA 94541

HARD
Enhancement Project

IN COUNTY OF: Alameda
APPLICATION BY: HARD
DATE: February 2000



PURPOSE:
Park and Habitat Enhancement

DATUM: NGVD 1929

ADJACENT PROPERTY OWNERS:

1 – East Bay Regional Park District
2 – Caltrans
3 – State Lands Commission

Figure 3
sheet 2 of 2

Jurisdictional Map

HARD
1099 E Street, Hayward, CA 94541

HARD
Enhancement Project

IN COUNTY OF: Alameda
APPLICATION BY: HARD
DATE: February 2000

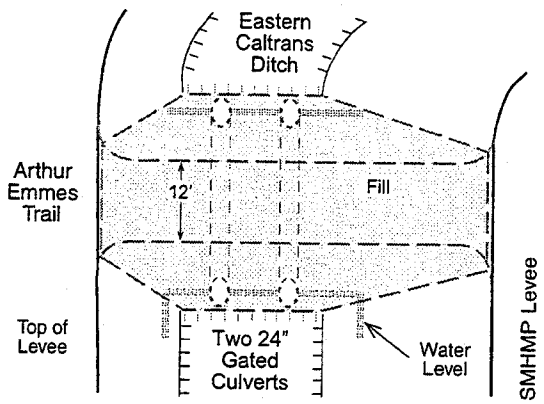
LEGEND

- Volume to fill, or feature to add
- Volume to excavate, or feature to remove
- 'Cut' section through concrete, etc.
- Crest of Levee
- Toe of Levee
- Buried or hidden object or feature
- Approximate water level
- Other existing contact or surface
- Contact or surface to be created
- Trail border

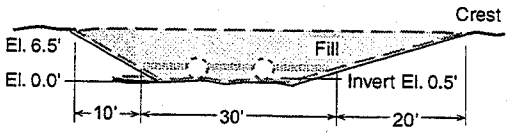
(A) INSTALL LEVEE AND CULVERTS

PLAN VIEW

APPROX. SCALE 1"= 30'



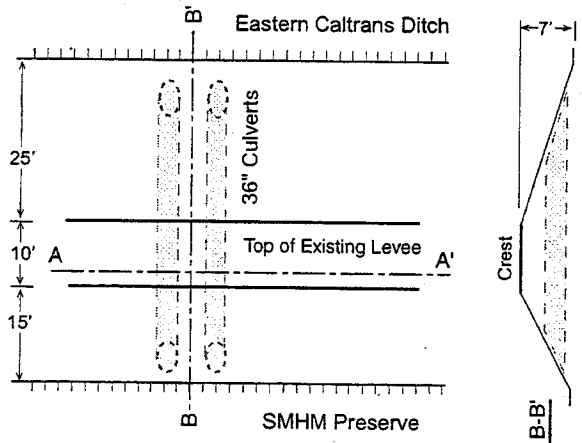
SECTION VIEW



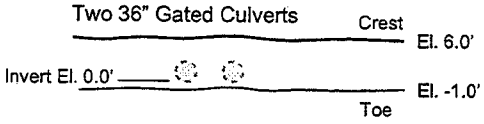
(B) INSTALL CULVERTS

PLAN VIEW

APPROX. SCALE 1"= 30'



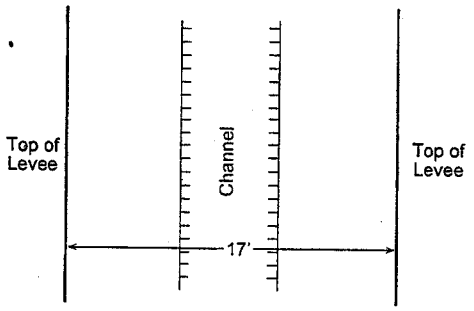
SECTION A-A'



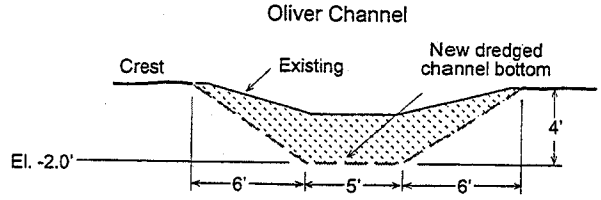
(C) DREDGE CHANNEL

PLAN VIEW

APPROX. SCALE 1"= 10'



SECTION VIEW



PURPOSE:
Park and Habitat Enhancement
DATUM: NGVD
ADJACENT PROPERTY OWNERS:
1-East Bay Regional Park District
2-Caltrans
3-State Lands Commission

Figure 4

Details of Locations A, B, C

HARD
1099 E Street, Hayward, CA 94541

HARD
Enhancement Project

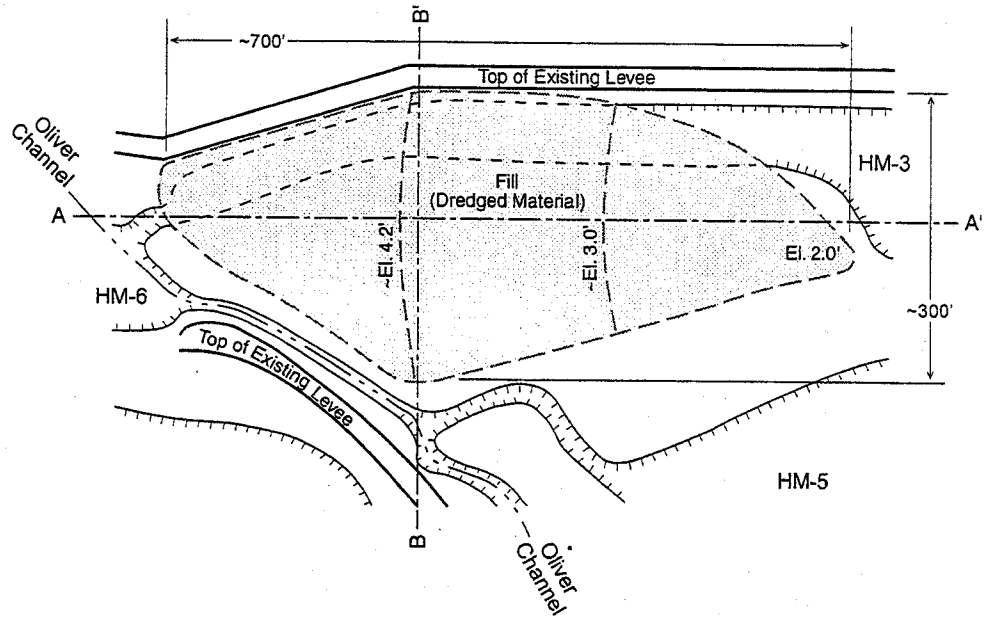
IN COUNTY OF: Alameda
APPLICIATION BY: HARD
DATE: March 2000

51-09967075.00-31000/031700/gos

(D) PLACEMENT OF DREDGED MATERIAL

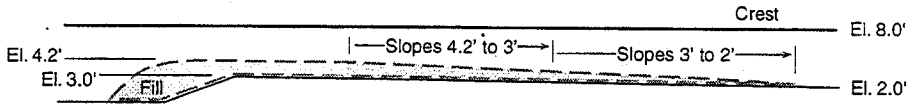
PLAN VIEW

APPROX. SCALE 1"= 200'

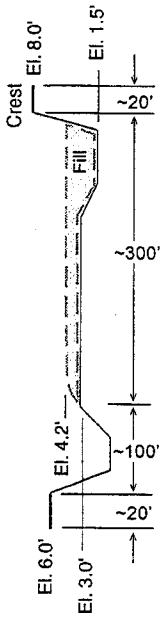


SECTION A-A'

Vertical Exaggeration 10X



SECTION B-B'



Vertical Exaggeration 10X

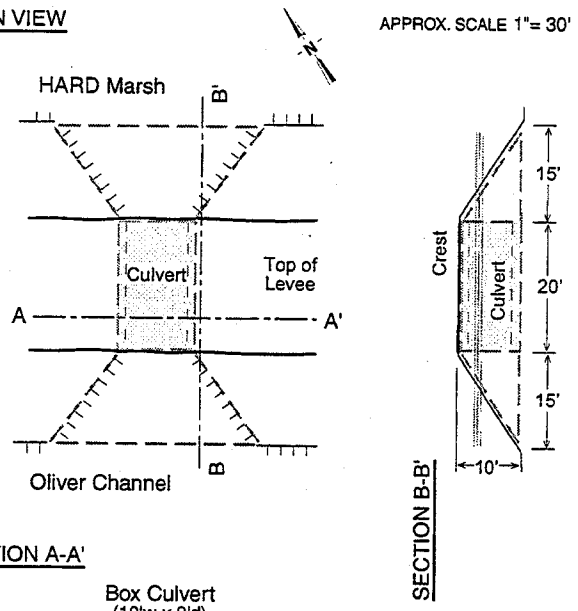
Note: Drawings are "Case 2" measurements from aerial (3.3 acres, approx. 7500 CY = volume). Fill will occur in channel, in marsh area.

PURPOSE: Park and Habitat Enhancement **DATUM:** NGVD **ADJACENT PROPERTY OWNERS:** 1-East Bay Regional Park District 2-Caltrans 3-State Lands Commission	**Figure 5** **Details of Location D** HARD 1099 E Street, Hayward, CA 94541	**HARD** **Enhancement Project** **IN COUNTY OF:** Alameda **APPLICIATION BY:** HARD **DATE:** March 2000

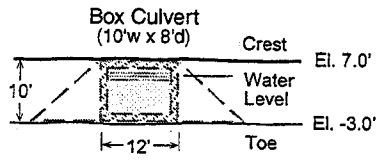
51-09967075.00-33000/020600/gos

(E) INSTALL BOX CULVERT

PLAN VIEW

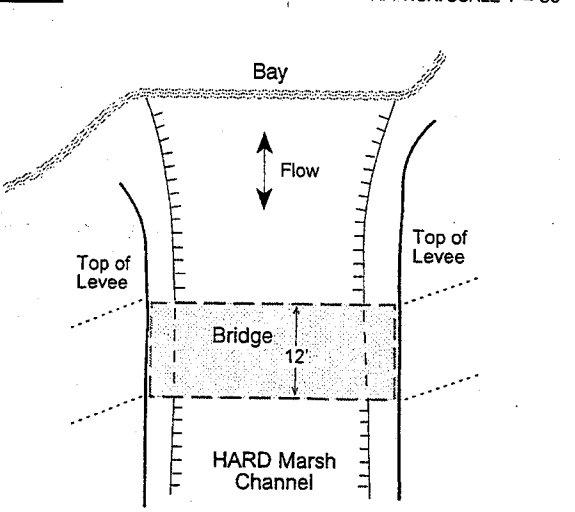


SECTION A-A'

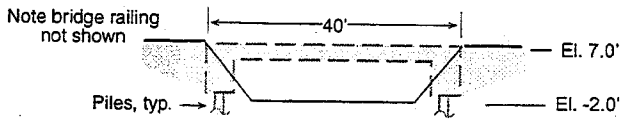


(F) INSTALL BRIDGE

PLAN VIEW



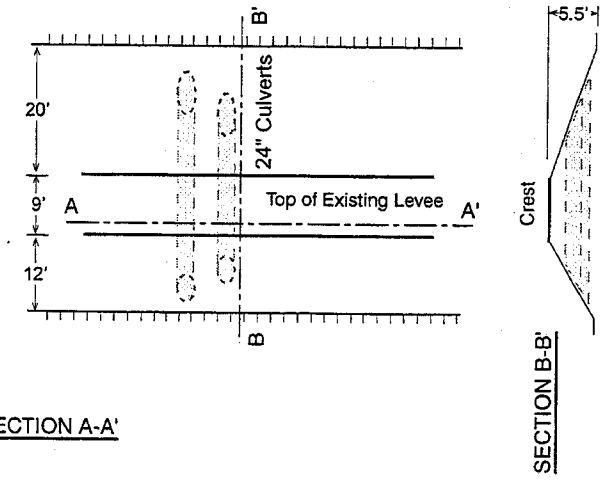
SECTION VIEW



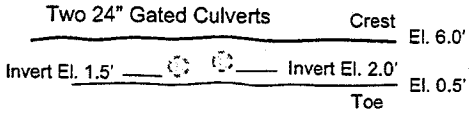
(G1) (G2) CULVERT INSTALLATION

PLAN VIEW

G1 between Oliver Channel and SP-1
G2 between SP-1 and SP-17

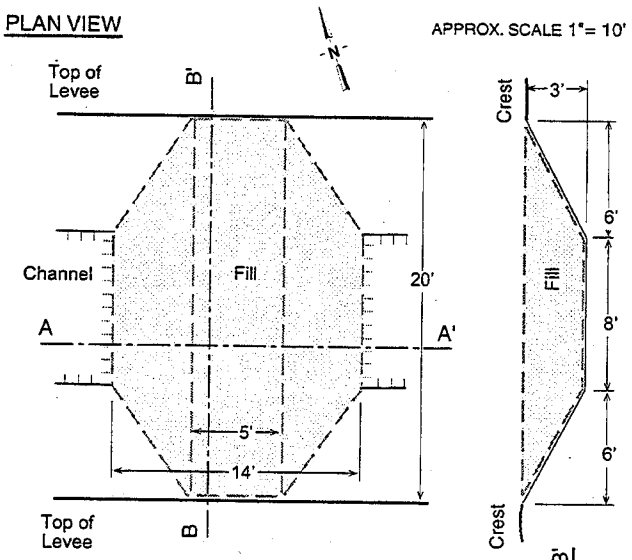


SECTION A-A'

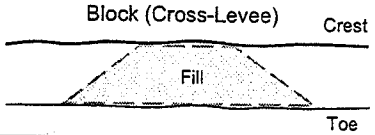


(I) CREATE BLOCKAGE

PLAN VIEW



SECTION A-A'



PURPOSE:
Park and Habitat Enhancement
DATUM: NGVD
ADJACENT PROPERTY OWNERS:
1-East Bay Regional Park District
2-Caltrans
3-State Lands Commission

Figure 6

Details of Locations E, F, G, I

HARD
1099 E Street, Hayward, CA 94541

HARD
Enhancement Project

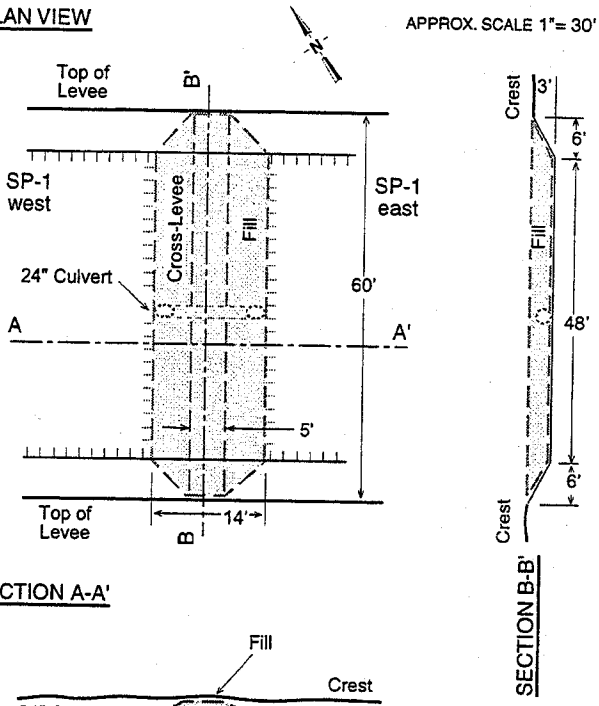
IN COUNTY OF: Alameda
APPLICIATION BY: HARD
DATE: March 2000

51-09967075.00-31000/031700/gos

(M) LEVEE AND CULVERT INSTALLATION

PLAN VIEW

APPROX. SCALE 1"= 30'

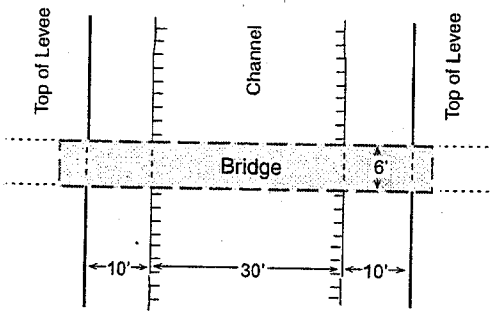


SECTION A-A'

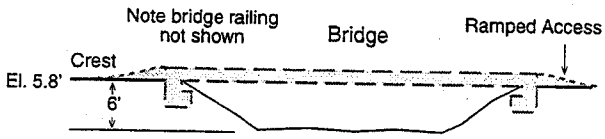
(N) PEDESTRIAN BRIDGE INSTALLATION

PLAN VIEW

APPROX. SCALE 1"= 30'



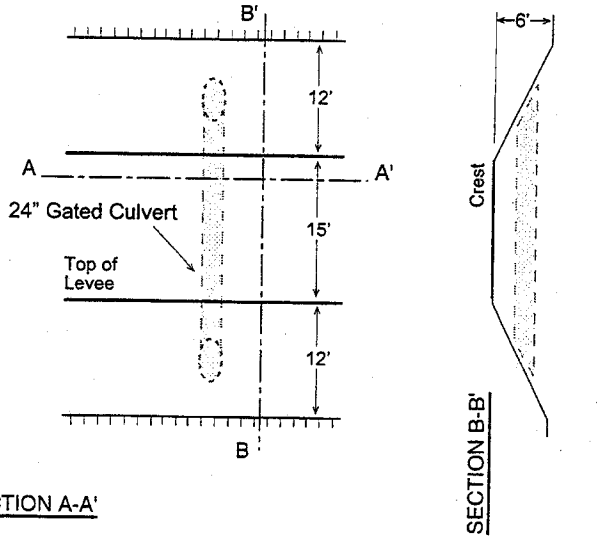
SECTION VIEW



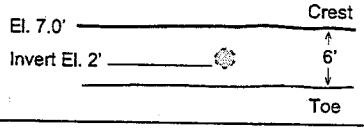
(P) CULVERT INSTALLATION

PLAN VIEW

APPROX. SCALE 1"= 20'



SECTION A-A'

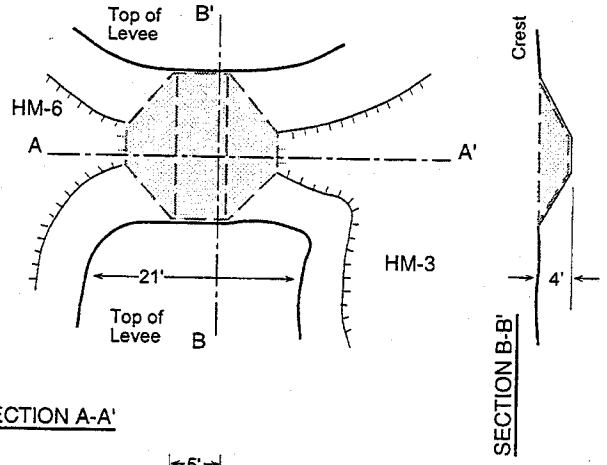


(R1) (R2) CREATE BLOCKAGE

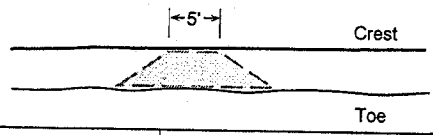
PLAN VIEW

APPROX. SCALE 1"= 20'

Representative of two locations to be filled with dredged material:
R1 is between HM-3 and HM-6, and R2 is between HM-3 and HM-5



SECTION A-A'



PURPOSE:
Park and Habitat Enhancement
DATUM: NGVD
ADJACENT PROPERTY OWNERS:
1-East Bay Regional Park District
2-Caltrans
3-State Lands Commission

Figure 7

Details of Locations M, N, P, R

HARD
1099 E Street, Hayward, CA 94541

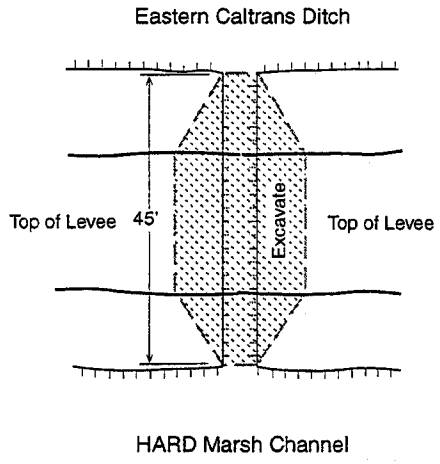
HARD
Enhancement Project

IN COUNTY OF: Alameda
APPLICIATION BY: HARD
DATE: March 2000

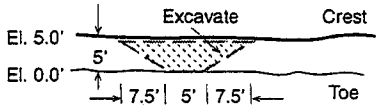
51-09967075.00-31000/031700/gos

L1 L7 CREATE LEVEE BREAKS

PLAN VIEW — APPROX. SCALE 1"= 30'



SECTION VIEW



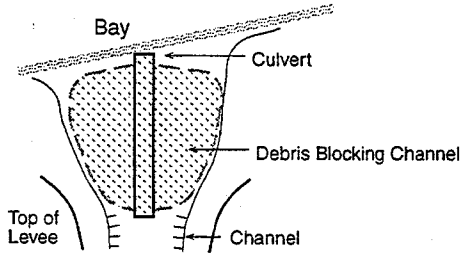
L7 Between HM-1 and HM-7 in HARD Marsh

PLAN VIEW — Same as L1 above, except: Levee 40' wide

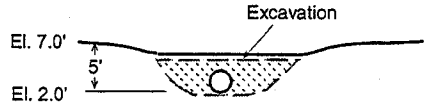
SECTION VIEW — Same as L1 above, except: Excavation top of levee El. 4.0'

L8 REMOVE CULVERT AND DEBRIS

PLAN VIEW — APPROX. SCALE 1"= 30'



SECTION VIEW

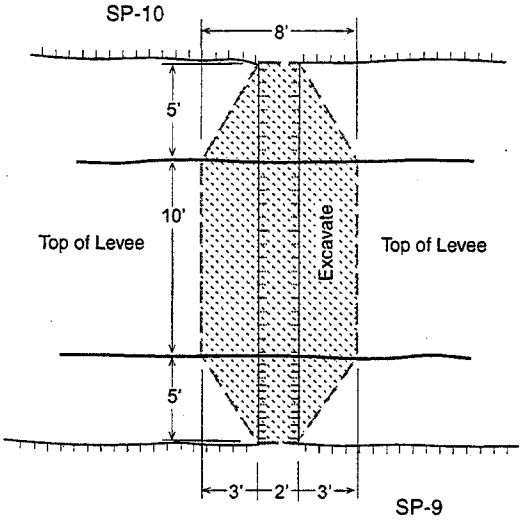


L2 L3 L4 L5 L6 CREATE LEVEE BREAKS

PLAN VIEW (Representative for all) — APPROX. SCALE 1"= 10'

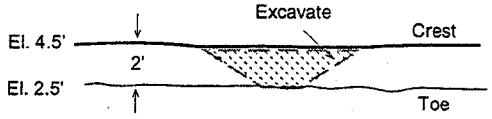
Representative of the four interior salt pond levee breaks (L2, L3, L4, L5) and the levee break on the southwest side of HM-2 (L6)

This example is the one between SP-9 and SP-10 (L2)



SECTION VIEWS

L2 Between SP-9 and SP-10



L3 Between SP-5 and SP-6

Same as L2 above, except:
Channel bottom El. 1.0', levee crest El. 3.0' and 5' wide

L4 Between SP-5 and SP-6

Same as L2 above (same as, and same levee as L3), except:
Channel bottom El. 1.0', levee crest El. 3.0' and 5' wide

L5 Between SP-15 and SP-17

Same as L2 above, except:
Channel bottom El. 2.9', levee crest El. 4.9' and 9' wide

L6 Between HM-2 and HM-7

Same as L2 above, except:
Channel bottom El. 1.6', levee crest El. 3.6' and 10' wide

PURPOSE:
Park and Habitat Enhancement
DATUM: NGVD
ADJACENT PROPERTY OWNERS:
1-East Bay Regional Park District
2-Caltrans
3-State Lands Commission

Figure 8

Details of Locations L1 to L8

HARD
1099 E Street, Hayward, CA 94541

HARD
Enhancement Project

IN COUNTY OF: Alameda
APPLICIATION BY: HARD
DATE: March 2000

51-09967075.00-31000/031700/gos