CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 93-081

FINAL DREDGED MATERIAL REUSE REQUIREMENTS FOR:

SONOMA BAYLANDS	CALIFORNIA STATE
SONOMA LAND TRUST	COASTAL CONSERVANCY

SONOMA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, finds that:

1. The Sonoma Land Trust and the California State Coastal Conservancy submitted a proposal for restoration of diked historic marshlands known as the Sonoma Baylands (hereinafter the Site). The restoration project is currently managed California State Coastal Conservancy, while the Sonoma Land Trust owns the property.

2. The purpose of the project is to re-create tidal wetlands habitat using dredged sediment.

3. The Site occupies 322 acres near Black Point, which is immediately northeast of the confluence of the Petaluma River and San Pablo Bay (Attachments B and C).

4. The Site consists of diked farmland of low agricultural value. The area was diked in the early 1920's, resulting in the loss of tidal wetland habitat. The Site was, and is currently used for farming of alfalfa.

5. The U.S. Army Corps of Engineers propose to conduct a "pilot" wetland restoration project (Pilot) on a portion of the Site. The Pilot project will entail placement of dredged material in a 30-acre corner of the 322-acre Baylands site.

6. The Sonoma Land Trust and California State Coastal Conservancy are the Project Proponents for the entire Site including the Pilot portion. Therefore, the Sonoma Land Trust and California State Coastal Conservancy are jointly responsible for compliance with these Requirements. The Project Proponents are also responsible for the operations throughout the entire project area including the pilot project area.

7. The placement of sediment at the Site from individual maintenance dredging projects is subject to state Water Quality Certification. Therefore, the Corps of

Engineers will be required to obtain water quality certification prior to placement of material at the pilot project area of the Site.

8. A discharge of water (effluent) will result from the handling and placement of dredged sediment at the Site. The effluent discharged during sediment placement is referred to as "decant water" or "return-flow".

9. These Requirements regulate effluent discharged as a result of dredged sediment placement, as well as the restoration of tidal marsh habitat to the Site.

10. These Requirements reflect the fact that such wetland restoration projects entail two distinct steps. First there is an initial placement of dredged material until target elevations are realized. Levees are then breached and tidal action is restored to the site. This first stage is hereinafter referred to as the "construction phase". Subsequent management of the Site and any corrective actions are referred to as the "post-construction phase" of the project.

11. These Requirements, and the attached Self-Monitoring Program (SMP) address both construction and post-construction phases.

12. Construction activities include placement and grading of sediments at the Site.

13. Post-construction activities will occur after tidal action has been restored to the Site. Long-term monitoring of the marsh habitat is a necessary part to ensure that wetland habitat functions and values at the Site are realized to the maximum extent possible, including any corrective actions that may be required.

14. The drying of the native soil at the Site has resulted in oxidation of organic soil matter. The drying, coupled with wind erosion, has resulted in subsidence at the site to elevations of between 1.5 and 3.3 feet <u>below</u> National Geodetic Vertical Datum (NGVD).

15. The importation of sediment at the Site will compensate for the loss of elevation which has occured due to subsidence. The Project Proponents have determined that the elevation of the site must be approximately 2 feet above NGVD in order for tidal lands to become established. Therefore the site has an approximate elevation deficit of 4 feet (Attachment D).

16. The restoration design relies not only on artificial filling of sediment (4 feet) but also natural settling or deposition of sediment (6-12 inches) due to tidal action (Attachment D).

17. The Project Proponents submitted a document entitled "Technical Studies", dated

September 9, 1991. The Technical Studies document was submitted by the Project Proponents as a technical basis for the restoration project. The Pilot Project sponsors (Corps of Engineers) also plan to utilize the Technical Studies as the basis for the pilot project. The Technical Studies document, includes reports on preliminary design and dredged material engineering.

18. The Project Proponents have estimated that complete Site restoration will require the placement of between 2.5 and 3.0 million cubic yards of sediment.

19. The proposed method of restoring marsh habitat to the Site is through the initial placement of dredged material because simple breaching of the perimeter dikes would dictate an additional 40 to 50 years for natural deposition of sediment to an elevation high enough to support tidal marsh vegitation. The Project Proponents have stated that reliance on natural sedimentation would ... "not allow for the site's use by endangered species for a long time."

20. The Project Proponents will construct temporary "peninsulas" running throughout the Site, which will function to reduce wind fetch and wave action. Once filled, the peninsulas will subside and become part of the marsh plain (Attachment E).

21. The Project Proponents intend to foster the re-creation of tidal marsh habitat at the Site. However, it is widely accepted that if at a given point, the final sediment elevations are insufficient for the establishment of marsh vegetation (i.e., too deep), then the result will likely be a mudflat. The Project Proponents propose to fill the Site such that after 10 years, about 20% of the site would be mud flat and the remainder would be salt marsh (Attachment F).

22. Mudflats are Waters of the State and are also beneficial to the ecological health of the Bay. However, the initial establishment of mud flats at the Site could result in the eventual creation of marsh habitat on a landward portion of the Site.

23. Construction of the project and placement of dredged material will result in the loss of 56 acres of jurisdictional wetlands (seasonal), pursuant to Clean Water Act, Section 404.

24. The Board finds that the wetlands that will be created by this project provide sufficiant mitigation for the loss of jurisdicational wetlands at the Site.

25. The Corps of Engineers propose to place sediment from maintenance dredging of the Petaluma River approach channel ("Petaluma Across the Flats") during construction of the Pilot Project. Maintenance dredging activities are exempt from CEQA (pursuant to Cal. Code Regs, Title 14 § 15304).

26. The Project Proponents have prepared a Negative Declaration in order to conform with the California Environmental Quality Act (CEQA) for preparation of the Site (e.g., flood levee construction, grading), referred to in the Technical Studies report as Phase I.

27. The Project Proponents propose to place sediment from the Port of Oakland deepening project ("the 42-foot project"). An EIS/EIR is in preparation for the Deepening project which will address the environmental impacts of sediment placement at the Site.

28. The Board has issued numerous permits and Waste Discharge Requirements for the discharge of effluent from dredge material disposal and rehandling sites. Elements of this permit are analogous to Waste Discharge Requirements (WDR). The Project Proponents are a Discharger pursuant to the Porter-Cologne Water Quality Act.

29. The Project will result in the discharge of effluent via two weir boxes or "spillways" which will control flow from the levied area (Attachment F).

30. The Project Proponents will control effluent quality by limiting flow at the weirs and by enhancing settling within the diked settling areas.

31. The receiving waters for the purposes of this permit include San Pablo Bay, the mouth of the Petaluma River, and adjacent wetland areas.

32. The beneficial uses of San Pablo Bay are:

    a. Water contact recreation.
    b. Non-contact water recreation
    c. Warm and cold water habitat
    d. Wildlife habitat
    e. Marine habitat
    f. Preservation of rare and endangered species
    g. Fish Migration and spawning
    h. Navigation
    i. Preservation of Rare and endangered species
    j. Fish Spawning
    k. Estuarine Habitat

33. The Board, on September 16, 1992, adopted a revised Water Quality Control Plan (Basin Plan) which contains water quality objectives for San Pablo Bay. The requirements of this document are consistent with that Plan.

34. The action to adopt discharge requirements for this facility is exempt from the provisions of the California Environmental Quality Act (CEQA), in accordance with Section 15301, Title 14, California Administrative Code.

35. Long-term monitoring of the Site will be conducted by the Project Proponents or by a subsequent trustee, who is likely to be the U.S. Fish and Wildlife Service. The Fish and Wildlife Service has proposed eventually taking over responsibility for the site as inclusion in the Agency's wildlife refuge system. These Requirements will be re-issued when there is a change in ownership.

36. The Project Proponents have submitted an outline of long-term marsh monitoring for the Site. Monitoring will include routine measurement of such parameters as: elevation, soil texture, vegetation percent cover and type, analyses of infrared and aerial photography, and conventional water quality indicators. Additional surveys for birds, fish and invertebrates organisms are proposed.

37. The Board has notified the Project Proponents and interested agencies and persons of its intent to prescribe Requirements for this discharge.

38. The Board, in a public meeting, heard and considered all the comments pertaining to the project.

IT IS HEREBY ORDERED that the California Coastal Conservancy and the Sonoma Land Trust, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, shall comply with the following:

A. DISCHARGE PROHIBITIONS:

1. The direct discharge of wastes (including dredged sediment material) to surface waters or surface water drainage courses is prohibited.

2. The discharge shall not cause degradation of any water supply.

3. The discharge shall remain within the designated disposal area at all times.

4. The dredge and disposal shall not cause a nuisance as defined in Section 13050(m) of the California Water Code.

B. SPECIFICATIONS

1. Sediments accepted by the Project Proponents shall be appropriately characterized, both chemically and toxicologically, and shall be acceptable for use in the creation of wetlands, as determined by the Executive Officer of the Regional Board. Characterization of sediments considered for placement at the Site shall include:

   a) priority pollutants (contaminants), grain size and conventional parameters, and a toxicity test (standard solid-phase amphipod toxicity test or other approved method).

   b) testing shall be conducted in accordance with the U.S Army Corps of Engineers' Interim Testing Guidelines, Public Notice 93-2, and in accordance with other applicable guidelines published by the Corps of Engineers and U.S. Environmental Protection Agency.

   c) leachate testing and analyses for heavy metals and organic compounds, in accordance with Specification B.2., below.

2. Sediments placed at the Site shall not contain concentrations of any chemical constituents in exceedance of levels specified in the Sediment Screening Criteria (Attachment A) or in subsequent criteria established by the Regional Board or Executive Officer of the Regional Board, unless stipulated in writing by the Executive Officer of the Regional Board.

3. The Project Proponents shall maintain the Site so as to ensure that the sediment is inundated by tidal flow and is not allowed to become substantially dry, in accordance with the approved site design.

C. EFFLUENT LIMITATIONS

The following effluent limits apply to the Site during the construction and sediment placement phase of the project and are subject to Tier I monitoring requirements as specified in the SMP.

Decant or return water discharged at points identified by the Project Proponents as "spillways" shall not exceed the following limits of quality at any time:

(i)	pH:	6.5 - 8.5
(ii)	Settleable matter:	1.0 ml/hr
(iii)	Dissolved sulfide:	0.1 mg/l

D. RECEIVING WATER LIMITATIONS

1. The placement of sediment shall not cause:

   a. Floating, suspended or deposited macroscopic particulate matter or foam in waters of the State at any place more than 100 feet from the point of discharge of the return flow.

   b. Alteration of apparent color beyond present natural background levels in Waters of the State at any place more than 100 feet from the point of discharge of the return flow.

   d. Visible floating, suspended, or deposited oil or other products of petroleum origin in Waters of the State at any place.

   e. Waters of the State to exceed the following quality limits at any point:

Dissolved Oxygen	5.0 mg/l minimum When natural factors cause lesser concentrations, then this discharge shall not cause further reduction in the concentration of dissolved oxygen.
Dissolved Sulfide	0.1 mg/l maximum.
pH	A variation of natural ambient pH by more than 0.2 pH units.

Toxic or other deleterious substances	None shall be present in concentrations or quantities which may cause deleterious effects on aquatic biota, wildlife or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentrations.

2. Turbidity of the waters of the State at any point beyond the 100 feet of the point of discharge shall not increase above background levels by more than the following:

Receiving Waters Background (NTU)	Incremental Increase
<50 units	5 Units, maximum
50-100 units	10 units, maximum
>100 units	10% of background, maximum

3. The groundwater shall not be degraded as a result of the sediment disposal and handling operation.

E. PROVISIONS

1. The discharge of silt, sand, soil, clay or other earthen materials from the Site in quantities sufficient to cause deleterious bottom deposits or turbidity or discoloration in excess of natural background levels in surface waters is prohibited.

2. Filling operations shall cease immediately whenever violations of requirements are detected through implementation of the Self-Monitoring Program (SMP) and operations shall not resume until alternative methods of compliance are provided. The Project Proponents shall notify the Regional Board immediately whenever violations are detected, and operations shall not resume until the Executive Officer of the Regional Board has approved the corrective action plan that will provide alternative methods of compliance.

3. The Project Proponents shall file with the Regional Board self-monitoring reports performed according to the schedule included in any Self-Monitoring Program issued by the Executive Officer.

4. All reports pursuant to these Provisions shall be prepared under the supervision

of a registered civil engineer or certified engineering geologist.

5. The Project Proponents shall ensure that the foundation of the site, the levees surrounding the site, and the structures which control leachate, decant water, or surface drainage, are designed and constructed according to current earthquake engineering standards.

6. The Project Proponents shall install any additional monitoring devices required to fulfill the terms of this Self-Monitoring Program, or as amended, and issued to the Project Proponents in order that the Board may evaluate compliance with the conditions of this order.

7. The discharge of any hazardous, designated or non-hazardous waste as defined in Title 23, Division 3, Chapter 15 of the California Administrative Code, to the disposal site is prohibited. Only dredged material that has been demonstrated to be inert, pursuant to Chapter 15, Title 23, CCR, may be discharged to the Site.

8. The Project Proponents shall remove and relocate any wastes which are discharged at this site in violation of these requirements.

9. The Project Proponents shall file with this Board a report of any material change or proposed change in the character, location, or quantity of this waste discharge. For the purpose of these requirements, this includes any proposed change in the boundaries of the project areas, discharge points or ownership of the site.

10. The Project Proponents shall maintain a copy of this Order at the site so as to be available at all times to site operating personnel.

11. The property owner and site operator is considered to have full responsibility for correcting any and all problems which arise in the event of a failure which results in an unauthorized release of waste or wastewater.

12. The Project Proponents shall maintain all devices or design features installed in accordance with this Order such that they function without interruption for the life of the operation.

13. The Project Proponents shall permit the Regional Board or its authorized representative, upon presentation of identification:

    a. Entry on to the premises on which wastes are located or in which records are kept.

    b. Access to copy any records required to be kept under the terms and

conditions of this Order.

c. Inspection of any treatment equipment, monitoring equipment or monitoring method required by this Order.

d. Sampling of any discharge surface or ground water covered by this Order.

14. This Order does not remove liability under federal, state or local laws, regulations or rules of other programs and agencies nor does this Order authorize the discharge of wastes without appropriate permits from other agencies or organizations.

15. This Order shall remain in effect until December 31, 1999.

I, Steven R. Ritchie, Executive Officer, do hereby certify that the foregoing is a full, complete and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on July 21, 1993.

STEVEN R. RITCHIE
EXECUTIVE OFFICER

Attachments:

A: Self Monitoring Program (SMP).
B: Vicinity map.
C: Location map.
D: Diagram showing typical cross section of marsh.
E. Site map showing site after 10 years.
F. Site map showing spillways.
G. Sediment Screening Criteria

CALIFORNIA REGIONAL WATER QUALITY CONTROL PLAN
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

SONOMA BAYLANDS
WETLANDS RESTORATION SITE

PART A

I. GENERAL

A. Basis

Reporting responsibilities of the Project Proponents' as "waste dischargers" are specified in Sections 13225(a), 13267(b), 13268, 13383, 13387(b) of the California Water Code and this Regional Board's Resolution No. 73-16 and the Environmental Protection Agency's Discharge Monitoring Report (Form 3320-1).

B. Purpose

The principle purposes of a monitoring program by a discharger, also referred to as a Self-Monitoring Program, are to 1) document compliance with effluent requirements and prohibitions established by this Regional Board, 2) facilitate self-policing by the discharger in the prevention and abatement of pollution arising from improper effluent, 3) to develop or assist in the development of effluent or other limitations, discharge prohibitions, national standards of performance, pretreatment and toxicity standards, and other standards, and 4) to prepare water and wastewater quality inventories.

C. Sampling and Analytical Methods

Sample collection, storage and analyses shall be performed according to 40 CFR, section 136, or other methods approved by the Executive Officer of this Regional Board.

Water and effluent analyses shall be performed by a laboratory approved by the

Department of Health Services (DHS) or a laboratory approved by the Executive Officer.

All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

Routine sampling shall follow Quality Assurance/ Quality Control procedures including the use of field, equipment and laboratory blanks and laboratory surrogate samples.

All Quality Assurance/Quality Control measures and results shall be reported along with the data.

II. DEFINITION OF TERMS

Construction Phase is defined as that period of time when the site is prepared for marsh restoration and includes all activities leading up to the restoration of tidal action.

Construction Phase Activities are defined as all site activities involving the movement of soil or sediment, such as placement of dredged material via slurry techniques, excavation of trenches and toe drains and all other soil handling such as berm and levee construction.

Post Construction Phase is defined as the period of time beginning when site construction is substantially completed and tidal action has been restored to the site.

Post Construction-Phase Activities are defined as all monitoring activities and remedial actions which take place after construction is completed and tidal action has been restored.

Grab Sample is defined as an individual sample collected in a short period of time not exceeding 15 minutes. Grab samples shall be collected during normal peak flows for the parameter of interest. It is to be used primarily in determining compliance with daily maximum limits and instantaneous maximum limits. Grab samples only represent the condition that exists at the time the water and effluent are collected.

Instantaneous Maximum is defined as the highest measurement obtained during a calendar day.

Duly Authorized Representative is one whose:

a. authorization is made in writing by a principle executive officer, or

b. authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity (e.g, field supervisor, project manager, chief engineer).

III. SPECIFICATIONS FOR SAMPLING AND ANALYSES

The Project Proponents are required to perform sampling and analyses as found in Part B of this SMP in accordance with the following conditions:

A. Effluent

1. Grab samples of effluent shall be collected during periods of maximum flows.

2. Total ammonia nitrogen shall be analyzed and un-ionized ammonia calculated whenever bioassay test results fail to meet specified percent survival.

3. If two consecutive samples of a constituent monitored on a weekly basis exceed applicable monthly effluent limits, then the sampling frequency shall be increased to daily until the additional sampling shows that the most recent weekly moving average is in compliance with the weekly limit.

4. If analytical results are received showing any instantaneous maximum limit is exceeded, a confirmation sample shall be taken within 24 hours and results known within 24 hours of the sampling.

5. If any instantaneous maximum limit for a constituent is exceeded in the confirmation sample (s), then the discharge shall be terminated until the cause of the violation is found and corrected.

6. For other violations, the Project Proponents shall implement procedures that are acceptable to the Executive Officer on a case by case basis.

B. Receiving Waters

1. Receiving water sampling shall be conducted on days coincident with composite sampling of effluent.

2. Receiving water samples shall be collected at each station on each sampling day during the period within 1 hour following low slack water. Where sampling at lower slack water is not practical, sampling shall be performed during the higher slack water period. Samples shall be collected within the discharge plume and down current of the discharge point so as to be representative, unless otherwise stipulated.

3. Samples shall be taken within one foot below the surface of the receiving water body, unless otherwise stipulated.

C. Standard Observations

1. Receiving Water

a. Floating and suspended materials of waste origin (to include oil, grease, algae, and other macroscopic particulate matter): presence or absence, source and size of affected area.

b. Discoloration and turbidity: description of color, source and size of affected area.

c. Odor: presence or absence, characterization, source, distance of travel and wind direction.

d. Hydrographic condition including: time and height of corrected low and high tides; and, depth of water columns and sampling depths.

e. Weather condition including: air temperatures, wind direction and velocity and precipitation.

2. Effluent

a. Floating and suspended materials of waste origin (to include oil, grease, algae, and other macroscopic particulate matter): presence or absence, source and size of affected area.

b. Odor: presence or absence, characterization, source, distance of travel and wind direction.

3. Beach and Shoreline

a. Waste material or construction debris: presence or absence, characterization, source, distance of travel.

D. Records to be Maintained

1. Written reports, strip charts, calibration and maintenance records, and other records shall be maintained by the Project Proponents and accessible at all times. Records shall be kept for a minimum of three years. Records shall include notes and observations for each sample as follows:

a. Identity of each sampling and observation station by number.

b. Date and time of sampling.

c. Method of composite sampling.

d. Type of bioassay used.

e. Date and time analyses are started and completed and the name of person conducting analyses.

f. Complete procedure used, including method of preserving sample and identity and volumes or reagents used. A reference to a specific section of Standard Methods is satisfactory.

g. Calculations of results.

h. Results of analyses and/or observations.

2. A tabulation shall be maintained showing the following flow data for effluent stations:

a. Total flow or volume on a daily basis.

b. Maximum and minimum flows for each month.

IV. REPORTS TO BE FILED WITH THE REGIONAL BOARD

A. Report of Permit Violations

In the event that this permit is violated, the Project Proponents shall notify the Regional Board by telephone immediately and shall notify the Regional Board in writing within seven working days. A written report shall include time and date of incident, duration and estimated volume of discharge or bypass. The report shall include a detailed discussion of the reasons for the non-compliance and what steps were or will be taken to correct the failure and prevent it from occurring again.

Additionally, the Project Proponent shall accelerate the monitoring program immediately after the violation has been detected.

B. Self-Monitoring Reports

1. Construction Monitoring Reports: For all construction-phase activities, written reports shall be filed regularly for each calendar **month** and filed no later than the fifteenth of each month. The construction reports shall include the following:

a. A transmittal Letter which includes identification of changes to the project design and any unplanned releases or failures that have occurred since the last reporting period.

b. A Monitoring report which details: the magnitude of the releases or failures; any discharge limit exceedances; dates of all exceedances; cause of the failures, releases or other violations; any corrective actions taken or planned; and the schedule for completion of corrective action.

c. Monitoring reports and the letter transmitting reports shall be assigned by a principle executive officer(s) of the California State Coastal Conservancy, or by a duly authorized representative of that person.

d. The construction monitoring reports shall include a summary of effluent and receiving water sampling, as required by Part B.III, and Table 1, below.

2. Post-Construction Monitoring Reports: The Project Proponent shall submit a report of long-term monitoring of the Site after construction is complete. The Post-Construction reports shall be filed with the Regional Board on an annual basis, as specified in Part B.IV, below. The Post-Construction monitoring reports shall describe the results of routine marsh monitoring as specified in an approved monitoring plan.

3. Annual Reports: For both Construction and Post-Construction phase activities, the Project Proponents shall submit an Annual Report to the Regional Board covering the activities of the previous year. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year.

   In addition, the report shall contain a comprehensive discussion of the compliance record and the corrective actions taken or planned which may be needed to bring the Project Proponents into full compliance with this permit.

C. Post-Construction Monitoring Plan

A proposal for the development of a monitoring plan for post-construction wetland monitoring shall be submitted for review, within 30 days of the issuance of these requirements. the proposal shall include a time schedule. The proposal and subsequent plan shall be subject to approval by the Executive Officer.

D. The Self-monitoring program monthly reports and annual reports shall be filed with the Regional Board as follows:

Executive Officer
California Regional Water Quality Control Board
San Francisco Bay Region
Suite 500
2101 Webster Street
Oakland, CA 94612

CALIFORNIA REGIONAL WATER QUALITY CONTROL PLAN
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

SONOMA BAYLANDS
WETLANDS RESTORATION SITE

PART B

The Project Proponents shall implement the following monitoring program for effluent sampling and reporting and for long-term site management.

I. CONSTRUCTION PHASE MONITORING

During site construction, effluent sampling shall take place at all times that there is a discharge, as described below:

A. Description of Sampling Stations

1. Receiving Waters-Effluent (Return Flow)

Spillway-West.	Located within 20 feet of the discharge to the tidal channel in the outboard marsh.
Spillway-East.	Located within 20 feet of the discharge to the tidal channel in the outboard marsh.

B. Receiving Waters-Offshore

A sampling point shall be located at least 100 feet offshore of the discharge to San Pablo Bay at the confluence of the tidal channels and San Pablo Bay; up and downstream of the discharge as dictated by local tide and current pattern.

C. General Operations

The following information shall be provided to the Regional Board on a quarterly

basis.

1. Sediment Handling

   a. Rate of slurry sediment placement per hour and per 24 hour period.

   b. Volume of slurry sediment placed weekly, corrected for water (cubic yards)

II. SCHEDULE OF SAMPLING AND ANALYSIS FOR CONSTRUCTION PHASE ACTIVITIES

TABLE 1.
Construction Monitoring

Parameter	Spillways (2)	Offshore-upgradient	Offshore-down-gradient
Type of Sample	Grab	Grab	Grab
Settleable Matter (ml/1-hr)	Daily	------	------
pH	Daily	------	------
Dissolved Sulfide (mg/l)	Daily (field) Weekly (lab)*	------	------
Dissolved Oxygen (mg/l)	Daily	------	------
Temperature (°C)	Daily	Weekly	Weekly
Turbidity (NTU)	Weekly	Weekly	Weekly
Bioassay (96-hr)	Bi-monthly**	------	------
Contaminant Analyses:	Weekly (lab)	------	------
Heavy Metals			
PAH			

* To be performed if D.O. drops below 5.0 mg/l.

** Test to be carried out using standard ASTM protocol for Pacific Oyster (Crassostea gigas) larvae or other method as approved by the Executive Officer.

III. SCHEDULE OF MONITORING FOR POST-CONSTRUCTION PHASE

Monitoring of the Site shall be reported to the Regional Board as part of the Project Proponents' annual report to the Regional Board.

A. The Project Proponents shall monitor the restoration of marsh habitat and water quality at the site. A proposal for the development of a monitoring plan for post-construction wetland monitoring shall be submitted for review, within 30 days of the issuance of these requirements. the proposal shall include a time schedule. In addition to onsite monitoring, the plan shall include monitoring of offshore affects in the outboard marsh. The proposal and subsequent plan shall be subject to approval by the Executive Officer.

I, Steven R. Ritchie, Executive Officer, do hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedures set forth in this Regional Board's Resolution No. 73-16, in order to obtain data and document compliance with discharge requirements established in Regional Board Order No. 93-081.

2. Was adopted by the Board on July 21, 1993.

3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the Project Proponents, and revisions will be ordered by Executive Officer or Regional Board.

Steven R. Ritchie
Executive Officer

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