ATTACHMENT D

Waste Discharge Requirements and Water Quality Certification for the South Bay Salt Pond Restoration Project, Phase 2

Water Quality Self-Monitoring Program (SMP)

Attachment D

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

SOUTH BAY SALT PONDS RESTORATION PROJECT, PHASE I

ORDER No. R2-2008-XXXX

WDID No. 2 019438001

A. GENERAL

1. Reporting responsibilities of waste dischargers are specified in Sections 13225(a), 13267(b), 13383 and 13387(b) of the California Water Code, and in this Water Board's Resolution No. 73-16.

2. The principal purposes of a monitoring program by a waste discharger, also referred to as self-monitoring program, are: (1) to document compliance with waste discharge requirements and prohibitions established by this Water Board, and (2) to facilitate self-policing by the waste discharger in the prevention and abatement of pollution arising from waste discharge.

B. SAMPLING AND ANALYTICAL METHODS

1. Sample collection, storage, and analyses shall be performed according to Code of Federal Regulations Title 40, Section 136 (40 CFR S136), or other methods approved and specified by the Executive Officer of this Water Board.

2. Water and soil analyses shall be performed by a laboratory certified for these analyses by the State Department of Public Health (DPH), or a laboratory waived by the Executive Officer from obtaining a DPH certification for these analyses, or by properly calibrated field equipment when approved by the Executive Officer of this Water Board.

3. The director of the laboratory whose name appears on the DPH certification, or his/her laboratory supervisor who is directly responsible for the analytical work performed shall supervise all analytical work including appropriate quality assurance/quality control procedures in his/her laboratory and shall sign all reports of such work submitted to the Water Board.

4. All monitoring instruments and equipment shall be properly calibrated and maintained to

ensure accuracy of measurements.

C. DEFINITION OF TERMS

1. Grab sample is defined as an individual sample collected in a short period of time not exceeding 15 minutes. It is used primarily in determining compliance with daily maximum limits and instantaneous maximum limits. Grab samples represent only the condition that exists at the time the sample is collected.

2. Duly authorized representative is one whose:

    a. Authorization is made in writing by a principal executive officer or ranking elected official;

    b. Authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as chief engineer, project manager, or field supervisor.

3. Instantaneous maximum is defined as the highest measurement obtained for the calendar day.

4. Median of an ordered set of values is that value below and above which there is an equal number of values, or which is the arithmetic mean of the two middle levels, if there is no one middle value.

5. Receiving waters refers to any water which actually or potentially receives surface water discharged from the South Bay Salt Ponds Restoration Project Area. The receiving waters in this case are the sloughs and San Francisco Bay surrounding the South Bay Salt Ponds.

6. 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.

7. Construction phase activities are defined as all site activities including 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.

8. Post-construction phase is defined as the period of time beginning when site construction is substantially completed, and tidal action has been restored to former salt ponds.

9. Post-construction phase activities are defined as all monitoring, site maintenance, and adaptive management activities that take place after construction is completed and tidal action has been restored to former salt ponds.

10. Project boundary shall be defined as the limit of the receiving waters at mean low low water level, which is the topographic contour representing an elevation of 0 ft. NAVD88.

D. SPECIFICATIONS FOR SAMPLING AND ANALYSES

The Discharger is required to perform sampling and analyses according to the schedule in **Tables S1 to S5** in accordance with the following conditions:

1. Receiving Waters

    a. In tidally-influenced receiving waters, samples shall be collected at each station as close to low tide as practicable.
    b. Samples of downstream receiving water shall be collected within the discharge plume and down current of the discharge point so as to be representative, unless otherwise stipulated.
    c. Samples of background receiving water shall be collected upcurrent of the discharge point.
    d. If feasible, samples shall be collected within one foot below the surface of the receiving water body and one foot above the channel or pond bottom.

E. DESCRIPTION OF SAMPLING STATIONS

1. A site plan drawing showing the location of all sampling points shall be submitted with all monitoring reports submitted under this Plan.

2. One receiving water sampling point shall be established at a point 100-150 feet upstream from the point of discharge into the receiving water, or if access is limited, at the first point upstream that is accessible.

3. Four receiving water sampling points shall be established downstream from the point of discharge. The first of these four sampling points shall be at the first location, directly downstream of the discharge point, that is accessible.

F. STANDARD OBSERVATIONS

1. Receiving Water and Discharge Pond

    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. Evidence of beneficial water use: presence of waterfowl or wildlife, fishermen, and other recreational activities in the vicinity of the sampling stations.
    e. Hydrographic condition, if relevant:

1) Time and height of corrected high and low tides (corrected to nearest NOAA location for the sampling date and time of sample and collection).
2) Depth of water columns, sampling depths, and pond water depth

f. Weather condition:
1) Air temperature.
2) Wind - direction and estimated velocity.
3) Precipitation - total precipitation during the previous five days and on the day of observation.

G. REPORTS TO BE FILED WITH THE WATER BOARD

Annual Self-Monitoring Reports: *Annual self-monitoring report*: The purpose of the report is to document discharge quality and compliance with waste discharge requirements prescribed by this Order, as demonstrated by the monitoring program data and the Discharger's operation practices. For each calendar year, a self-monitoring report (SMR) shall be submitted to the Board in accordance with the following:

1. The report shall be submitted to the Board no later than March 1 to:

California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612
ATTN: Executive Officer

2. *Letter of Transmittal:* Each report shall be submitted with a letter of transmittal. Such a letter shall include identification of changes to the project design, and any unplanned releases or failures that may have occurred since the preparation of the previous self-monitoring report. If unplanned releases are noted, then a discussion of the corrective actions taken or planned, and a time schedule for completion, shall be included. Additionally, this letter shall include the following:
    a. Order Number and WDID number (see cover sheet of this SMP);
    b. Identification of all violations of discharge limits or other discharge requirements found during the monitoring period;
    c. Details of the violations: parameters, magnitude, test results, frequency, and dates;
    d. The cause of the violations;
    e. Discussion of corrective actions taken or planned to resolve violations and prevent recurrence, and dates or time schedule of action implementation. If previous reports have been submitted that address corrective actions, reference to such reports is satisfactory;
    f. Signature: The letter of transmittal shall be signed by the Discharger's principal executive officer or ranking elected official, or duly authorized representative, and shall include the following certification statement:

"I certify under penalty of law that this document and all attachments have been prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. The information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

3. *Compliance Evaluation Summary:* Each report shall include a compliance evaluation summary. This summary shall include, for each parameter for which discharge limits are specified in the Order, the number of samples taken during the monitoring period, and the number of samples in violation of applicable discharge limits.

4. Map or Aerial Photograph: A map or aerial photograph shall accompany the report showing sampling and observation station locations.

5. *Results of Analyses and Observations*.
    a. Tabulations of all required analyses and observations, including parameter, sample date and time, sample station, and test result;
    b. If any parameter is monitored more frequently than required by this SMP, the results of this additional monitoring shall be included in the monitoring report, and the data shall be included in data calculations and compliance evaluations for the monitoring period;
    c. Calculations for all discharge limits that require averaging of measurements shall utilize an arithmetic mean, unless specified otherwise in this SMP.

6. *Data Reporting for Results Not Yet Available*: The Discharger shall make all reasonable efforts to obtain analytical data for required parameter sampling in a timely manner. The Board recognizes that certain analyses require additional time in order to complete analytical processes and result reporting. For cases where required monitoring parameters require additional time to complete analytical processes and reporting, and results are not available in time to be included in the SMR for the subjected monitoring period, such cases shall be described in the SMR. Data for these parameters, and relevant discussions of any observed violations, shall be included in the next following SMR after the data become available.

H. RECORDS TO BE MAINTAINED

1. Written reports, laboratory analytical reports, maintenance records, and other records shall be maintained by the Discharger and retained for a minimum of five years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or when requested by the Water Board. Such records shall show the following for each sample:

    a. Identity of sampling and observation stations by number.

b. Date and time of sampling and/or observations.

c. Method of sampling (See Section C - Definition of Terms).

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

e. Calculations of results.

f. Results of analyses and/or observations.

I, Bruce H. Wolfe, Executive Officer do hereby certify this Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in the Water Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Water Board Order No. R2-2008-XXXX.

2. Was adopted by the Water Board on **date**.

3. May be revised by the Executive Officer pursuant to U.S. EPA regulations (40 CFR 122.36); other revisions may be ordered by the Water Board.

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Bruce H. Wolfe
Executive Officer

Attachments: Tables S1 to S5

TABLE S1: MONITORING FOR ALVISO PONDS

Sampling Station:	D.O.	pH	Temp	Salinity	Sample Function
A-A2W-1	A	A	A	A	Discharge
A-A3W-1	A/B	A/B	A/B	A/B	Discharge
A-A3W- Guadalupe Slough	C	C	C	C	Receiving Water
A-A7-1	A/B	A/B	A/B	A/B	Discharge
A-A7- Alviso Slough	C	C	C	C	Receiving Water
A-A14-1	A	A	A	A	Discharge
A-A16-1	A	A	A	A	Discharge
A-A16- Artesian Slough	C	C	C	C	Receiving Water

LEGEND FOR TABLE S1

A = For time periods between June and October when the Discharger is not monitoring its discharge continuously in accordance with Table S1 or S2A/B, it shall collect weekly grab samples before pond water mixes with receiving water. For days it collects pond water samples or downloads continuous monitoring data, the Discharger shall also report standard observations, as described in Section F.1 (a-d) of the SMP. Additionally, the Discharger shall report the time of sample collection and alternate the time it collects weekly grab samples between the morning and the afternoon to the maximum extent practicable. Based on weekly grab samples and standard observations, the Discharger shall consider implementing continuous monitoring, as necessary, to help craft management decisions.

B = From July 28 to October 10, the Discharger shall monitor discharge ponds A3W and A7 before pond water mixes with receiving water using a continuous monitoring device.

C = Receiving water slough samples shall be collected monthly from July through October in accordance with Sections D and E of this SMP. For days it collects receiving water samples, the Discharger shall also report standard observations, as described in Section F of the SMP, and document if it collected samples at flood tide, ebb tide, or slack tide. Additionally, the Discharger shall record a daily estimate of the quantity and time-period of discharge based on pond water levels and the strength of tides.

TABLE S2A: APPLIED STUDY MONITORING [1]

Pond	Sampling Period	Season
A3W	May 27 to June 6	Early – Mid Summer
A16	June 16 to June 27	
A14	July 7 to July 18	
A3W	July 28 to August 8	Mid – Late Summer
A16	August 18 to August 29	
A14	September 8 to September 19	
A3W	September 29 to October 10	Fall
A16	October 20 to October 31	
A14	November 10 to November 21	

TABLE S2B – APPLIED STUDY MONITORING FOR POND SYSTEMS A3W, A16, and A14 DURING SAMPLE PERIODS in TABLE S2A

Sample type	Frequency	Pond locations	Sample Size
Datasonde	**Continuous, 15 minute intervals**	**Intake, discharge, deep and shallow areas within pond**	**> 1000 readings per location**
DO Transects	**Twice per sample period [2]**	**2 perpendicular transects across pond**	**Approximately 20 readings per transect**
Nutrients (N, P)	**Once per sample period**	**Intake, discharge, deep and shallow areas within pond**	**3 samples per location**
Chlorophyll (a)	**Once per sample period**	**Intake, discharge, deep and shallow areas within pond**	**3 samples per location**
BOD	**Once per sample period**	**Intake, discharge, deep and shallow areas within pond**	**3 samples per location**
Pore-water filters or Sediment Oxygen Demand	**Once per sample period**	**Intake, discharge, deep and shallow areas within pond**	**1 reading each**
Meterological measurements	**Continuous during sample period**	**One location on a levee**	**Not applicable**
Solar Radiation	**Continuous during sample period**	**Union City, CIMIS station data**	**Not applicable**
Flow	**Once per sample period**	**Intake, discharge, and stage**	**1 reading each**

[1] The Applied Study for the Alviso Ponds is for the 2008 Monitoring Season. In the 2008 Annual Self-Monitoring Report, the Discharger shall recommend continuation and/or changes to this Applied Study for the 2009 Monitoring Season.
[2] The sampling periods are shown in Table S2A.

TABLE S3 – MONITORING FOR EDEN LANDING PONDS

Sampling Station:	D.O.	pH	Temp	Salinity	Sample Function
E-2-10	A	A	A	A	Discharge at Pond E2
E-2C-14	A/B	A/B	A/B	A/B	Discharge at Pond E2C
E-2C – Alameda Flood Control Channel	C	C	C	C	Receiving Water
E-8A-NC	A	A	A	A	Discharge at E8A
E-8A-1	A	A	A	A	Discharge at Pond E9
E-11-1	A/B	A/B	A/B	A/B	Discharge at Pond E10

LEGEND FOR TABLE S3

A = For time periods between June and October when the Discharger is not monitoring its discharge continuously in accordance with Table S3 and S4A/B, it shall collect weekly grab samples before pond water mixes with receiving water. For days it collects pond water samples or downloads continuous monitoring data, the Discharger shall also report standard observations, as described in Section F.1 (a-d) of the SMP. Additionally, the Discharger shall report the time of sample collection and alternate the time it collects weekly grab samples between the morning and the afternoon to the maximum extent practicable. Based on weekly grab samples and standard observations, the Discharger shall consider implementing continuous monitoring, as necessary, to help craft management decisions.

B = From July 7 to October 10, the Discharger shall monitor discharge pond E10 before pond water mixes with receiving water using a continuous monitoring device. The Discharger shall also continuously monitor discharges from Pond System E2C, between July 7 and October 10, if discharge gates are open at 25% or more of their discharge capacity.

C = Receiving water slough samples shall be collected monthly from July through October in accordance with Sections D and E of this SMP, if discharge gates are open at 25% or more of their discharge capacity from the E2C system. For days it collects receiving water samples, the Discharger shall also report standard observations, as described in Section F of the SMP, and document if it collected samples at flood tide, ebb tide, or slack tide. Additionally, the Discharger shall record a daily estimate of the quantity and time-period of discharge based on pond water levels and the strength of tides.

TABLE S4A: APPLIED STUDY MONITORING [1]

Pond	Sampling Period	Season
E10	July 7 to July 18	Early – Mid Summer
E10	September 8 to September 19	Mid – Late Summer
E10	November 10 to November 21	Fall

TABLE S4B – APPLIED STUDY MONITORING FOR POND SYSTEM E10 DURING SAMPLE PERIODS IN TABLE S4A

Sample type	Frequency	Pond locations	Sample Size
Datasonde (DO, pH, temperature, salinity)	Continuous, 15 minute intervals	Intake, discharge, deep and shallow areas within pond	> 1000 readings per location
DO Transects	Twice per sample period [2]	2 perpendicular transects across pond	Approximately 20 readings per transect
Nutrients (N, P)	Once per sample period	Intake, discharge, deep and shallow areas within pond	3 samples per location
Chlorophyll (a)	Once per sample period	Intake, discharge, deep and shallow areas within pond	3 samples per location
BOD	Once per sample period	Intake, discharge, deep and shallow areas within pond	3 samples per location

[1] The Applied Study for the Pond E10 is for the 2008 Monitoring Season. In the 2008 Annual Self-Monitoring Report, the Discharger shall recommend continuation and/or changes to this Applied Study for the 2009 Monitoring Season

[2] The sampling periods are shown in Table S4A.

TABLE S5 – MONITORING FOR PHASE I ACTIONS [1]

Ponds	Sample Function	pH	Temp	D.O.	Salinity
A5, A7, A8, A8S	Discharge	C	C	C	C
	Receiving water	M	M	M	M
A16	Discharge	C	C	C	C
	Applied Study	A	A	A	A
	Receiving water	M	M	M	M
SF2	Discharge	C	C	C	C
	Applied Study	A	A	A	A
E12, E13	Discharge	C	C	C	C
	Applied Study	A	A	A	A
	Receiving Water	M	M	M	M

A = Based on monitoring data collected for the 2008 Monitoring Season (see Tables S2A, S2B, S4A, and S4B Applied Studies for Alviso and Eden Landing Ponds), the Discharger shall submit a proposal for an Applied Study for Ponds A16, SF2, E12, and E13 by March 1, 2009.

C = Once the Discharger implements Phase I actions, it shall monitor continuously from May through October.

M = Once the Discharger implements Phase I actions, it shall monitor monthly from May through October.

[1] Once the Discharger has implemented Phase I actions and monitored in accordance with the frequency specified Table S5 for one year, it shall recommend continuation and/or changes to the requirements of Table S5 in its Annual Self-Monitoring Report