CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 98-072

ADOPTION OF SITE CLEANUP REQUIREMENTS FOR:

CATELLUS DEVELOPMENT CORPORATION
AND SF PACIFIC PROPERTY, INC.
PROPOSED EASTSHORE PARK PROPERTY
BERKELEY AND ALBANY (ALAMEDA COUNTY)
AND RICHMOND (CONTRA COSTA COUNTY)

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

1. **Site Location**: The site includes about 800 acres of uplands and non-uplands along the East Bay shoreline in Berkeley, Albany, and Richmond. The site comprises six properties: Berkeley Brickyard, Berkeley Meadow, Berkeley North Basin, Albany Plateau, Point Isabel, and Hoffman Marsh. The site is bayward of Interstate 80 and Interstate 580 and takes in about five miles of shoreline. The site is mostly vacant, and the land use on the opposite side of the highways is generally industrial/commercial.

2. **Site History**: The upland areas at the site were created by filling of submerged and tidal marsh areas over a multi-year period.

   a. Berkeley Brickyard: Filling occurred from the 1930s to the 1960s and consisted of construction debris and rip-rap. The property gets its name from the prevalence of bricks near the surface. A market/restaurant operates at the northeast corner of the property, and most of the remaining upland is used to stockpile and reprocess clean soils.

   b. Berkeley Meadow: Filling occurred from the 1930s to the 1960s and consisted of construction debris and municipal waste. The material was placed by the City of Berkeley under a lease agreement. The property is currently unused.

   c. Berkeley North Basin: Filling occurred from the 1930s to the 1950s and consisted of construction debris and municipal waste. The latter material was placed by the City of Berkeley under a lease agreement. The property is currently unused except for seasonal pumpkin and Christmas tree sales.

   d. Albany Plateau: Filling occurred from the 1950s to the early 1980s under lease with the City of Albany and the Albany Landfill Company, with most activity in the 1970s. Fill consists of construction debris. The property is currently unused, except for occasional overflow parking for Golden Gate Fields.

e. Point Isabel: Filling occurred from the 1950s to the late 1960s and consisted of concrete rubble, asphalt, and various earthen materials. During placement of this fill, lead-acid battery casing fragments were disposed at the site and used for road-bed materials. Catellus' predecessor conducted remedial investigation and site remediation activities in the 1980s with Board and DTSC oversight. Remediation included removing highly impacted soils/sediments and capping less impacted soils onsite. The property is currently used informally by local residents walking their dogs.

f. Hoffman Marsh: Filling of the upland occurred in the 1940s and 1950s, in preparation for construction of an ATSF railroad line. The fill type is unknown. The property is currently unused.

The properties are owned by SF Pacific Property, Inc. and Catellus Development Corporation (collectively, Catellus). Catellus was previously known as Santa Fe Pacific Realty Corporation. Catellus and its predecessors have owned and managed the site for over 50 years.

3. **Anticipated Park Use:** The site is part of a proposed land transaction between Catellus and the California Department of Parks and Recreation (DPR) and the East Bay Regional Park District (District). The site, along with another Catellus-owned shoreline property in Oakland and Emeryville (Emeryville Crescent), will be acquired by DPR and the District for use as a State park facility in order to preserve their significant habitat value and complete the East Bay Shoreline Trail and Park. This acquisition transaction is the immediate reason for this Order, as the parties to the transaction intend that necessary remediation be completed prior to the transfer of the properties to the public. The Board has been designated as the administering agency for environmental oversight by Cal/EPA pursuant to A.B. 2061 (Cal. Health & Safety Code §25260 et seq.).

4. **Named Dischargers**: Catellus Development Corporation and SF Pacific Property, Inc., are named as dischargers because they are the past and current property owners and because their predecessors owned and managed the property when fill was placed on or released to the site. If additional information is submitted indicating that other parties caused or permitted any waste to be discharged on the site where it entered or could have entered waters of the state, the Board will consider adding that party's name to this order.

5. **Regulatory Status**: Most of the site is currently not subject to Board order. The Point Isabel parcel was subject to Waste Discharge Requirements adopted by the Board on February 18, 1987, as Order No. 87-14. The waste discharge requirements required post-remediation monitoring to assure that metals in shallow groundwater and adjacent sediments remained below levels of concern. Post-remediation monitoring for the Point Isabel parcel has been performed. Further, this SCR requires risk management

measures for the Point Isabel parcel and the annual report for the properties. Therefore, the waste discharge requirements are no longer needed.

6. **Site Characteristics**: The site is about 25 % uplands and 75 % non-uplands, based on the line of highest tidal action. Specific characteristics are summarized below for each property:

   a. Berkeley Brickyard: The 365-acre property contains only 35 acres of uplands; the remainder is tidelands and submerged lands. Upland habitat consists of ruderal grassland and bare ground. Non-upland habitat consists of mudflats and open water. A small tidal flat is located at the northeastern portion of the property.

   b. Berkeley Meadow: The 73-acre property is all uplands. Habitat consists of ruderal grassland and seasonal wetlands. The latter are scattered, poorly-drained depressions in the fill material, ranging in size from 0.01 to 2 acres. Together, they comprise about 9 acres.

   c. Berkeley North Basin: The 223-acre property contains only 22 acres of uplands; the remainder is tidelands and submerged lands. Upland habitat consists of ruderal grassland and some bare ground. Non-upland habitat consists of mudflats and open water.

   d. Albany Plateau: The 82-acre property contains 41 acres of uplands; the remainder is tidelands and submerged lands. Upland habitat consists of ruderal grassland. Non-upland habitat consists of mudflats and open water. The property includes a separate 4-acre area subject to a City of Albany easement (Buchanan extenstion).

   e. Point Isabel: The 53-acre property contains 32 acres of uplands; the remainder is tidelands and submerged lands. Upland habitat consists of ruderal grassland and some bare ground. Non-upland habitat consists of mudflats and open water, incluing Hoffman Channel.

   f. Hoffman Marsh: The 11-acre property contains 5 acres of uplands; the remainder is tidelands. Upland habitat consists of ruderal grassland and some bare ground. Non-upland habitat consists of saltmarsh. The intertidal area appears to have been formed by sedimentation resulting from the installation of a railroad spur west of the property in the 1940s.

   The six general habitat types identified at the site are open water, subtidal benthos, tidal mudflat, intertidal marsh, seasonal wetland, and upland. The open water and subtidal benthos communities include various fish and invertebrate species that support resident water birds, such as cormorants and terns. The tidal mudflats provide habitat to

migratory shorebirds and waterfowl, which feed on invertebrates in the sediments. The intertidal marsh supports various invertebrates and birds. The uplands are generally dominated by non-native plants and opportunistic birds and mammals.

7. **Remedial Investigation**: Numerous technical reports have been prepared for the different properties at the site. These are listed and summarized in the May 1998 *Remediation and Risk Management Plan, East Shore Properties, Berkeley / Albany / Richmond*, (the Remediation and Risk Management Plan) prepared by ERM-West, Inc. and Erler & Kalinowski, Inc. for Catellus. Except as noted below, upland soil, non-upland sediment, and groundwater samples were analyzed for a full range of constituents, including metals, volatile organic compounds (VOCs), semi-volatile compounds (SVOCs), total petroleum hydrocarbons (TPH), and poly-chlorinated biphenyls (PCBs). Sediment and groundwater have been adequately investigated. Soil has been adequately investigated.

Average upland soil concentrations of metals and other constituents (when detected) are generally low, as reflected in the table below. Soil and groundwater action level exceedances are random, very localized and linked to the fill materials. No industrial activities are known to have taken place on the properties.

Constituent	Average Upland Shallow Soil Concentration (mg/kg)		Average Groundwater Concentration (mg/L)	
	Mean (1)	# samples [# non-detects]	Mean (2)	# samples [# non-detects]
Arsenic	6	189 [81]	0.074	92 [41]
Cadmium	1.8	173 [108]	0.009	93 [92]
Chromium	90	210 [0]	0.002	113 [85]
Copper	31	177 [1]	0.047	119 [74]
Lead	217	273 [2]	0.042	194 [177]
Mercury	0.5	251 [43]	0.0045	109 [105]
Nickel	101	192 [0]	0.028	99 [56]
Selenium	6	173 [172]	0.032	92 [71]
Zinc	91	179 [0]	0.087	123 [53]

Notes:

(1) Arithmetic mean of reported soil concentrations only; non-detect values were not used in the calculation (calculated would be lower if non-detect values were included). Average lead, chromium, nickel, mercury, copper, and arsenic soil concentrations will decrease after remedial activities have been completed (e.g. mean lead concentration will drop to 71 mg/kg and mean mercury concentration will drop to 0.2 mg/kg).

(2) Arithmetic mean of reported groundwater concentrations and one-half the detection limit for all non-detect samples.

A property-specific summary follows:

a. Berkeley Brickyard: Sampling at the property included about 44 soil samples, 8 groundwater grab samples, and one sediment sample. Upland soil and groundwater action levels were exceeded at one location each. (Action levels are described in finding 12 below - "Basis for Remediation Standards".)

b. Berkeley Meadow: Sampling at the property included about 187 soil samples and 34 groundwater grab samples. Upland soil and groundwater action levels were exceeded at several different locations (see table below). The extent of significant soil exceedances has been adequately defined.

c. Berkeley North Basin: Sampling at the property included about 135 soil samples, 10 groundwater samples, and one sediment sample. Upland soil and groundwater action levels were exceeded at several different locations (see table below). The extent of significant soil exceedances has been adequately defined).

d. Albany Plateau: Sampling at the property included about 244 soil samples, 4 groundwater grab samples, multiple samples from 11 monitoring wells, and one sediment sample. Upland soil and groundwater action levels were exceeded at several different locations (see table below). The extent of significant soil exceedances has been adequately defined

e. Point Isabel: Pre-remediation sampling at the property was extensive but was limited to metals (lead and zinc). Post-remediation sampling included 5 shallow soil samples (from the cap), multiple samples from 4 monitoring wells (full scan for most recent samples), and regular sampling from 10 sediment stations (sediment chemistry and shellfish tissue concentrations). Upland soil action levels were exceeded at a location on the south side of the Hoffman Channel. Groundwater action levels were exceeded recently only for nickel in several wells and in one well for copper. Lead concentrations in sediment and shellfish tissue have declined and have stabilized at local background levels following remediation, based on the 1996 and 1997 data.

f. Hoffman Marsh: Sampling at the property included 6 shallow upland soil samples, multiple samples from 1 monitoring well (metals, TPHd, TPHg and occasionally BTEX), 28 non-upland sediment samples, and 5 samples of sediment pore-water. Upland soils and groundwater did not exceed action levels. Sediment screening levels for metals were exceeded at several locations,

notably the northern marsh (T-6 transect) and the southern marsh (in vicinity of samples HM-SS-1 and HM-SS-2). However, sediment toxicity and bioaccumulation were not observed in site-specific studies done in the non-uplands as part of the Liquid Gold site investigation (see finding 9). In addition, constituents found in non-upland sediments are not linked to any Catellus upland source and are most likely from diffuse, offsite sources, including urban stormwater discharges.

The table below summarizes exceedances of action levels in soil, and groundwater for the various properties. In addition, the table identifies exceedances of sediment screening levels.

	Locations (constituent types) exceeding relevant levels in:		
Property	Soil	Sediment	Groundwater
Berkeley Brickyard	1 (SVOC)	-	1 (metals)
Berkeley Meadow	6 (metals) 1 (SVOC)	-	4 (metals) 2 (TPH)
Berkeley North Basin	8 (metals) 1 (PCB)	-	4 (metals)
Albany Plateau	10 (metals) 1 (PCB)	-	2 (SVOC) 2 (metals)
Point Isabel	1 (metals)	1 (metals)	4 (metals)
Hoffman Marsh	1 (metals)	11 (metals) 1 (PCB)	-

8. **Interim Remedial Measures**: Extensive remedial action has been completed at the Point Isabel property, including removal of soils and sediment with high lead concentrations, placement of moderately-impacted soils and sediment in engineered cells onsite, and soil capping and drainage controls to prevent migration of soil from the engineered cells. Ongoing risk management is needed at the Point Isabel property to assure cap integrity.

   Sediments in the northern portion of the Hoffman Marsh property (T-6 transect) were remediated by an adjacent property owner in the mid-1990s as part of the Liquid Gold site remediation. Other than the above actions, no interim remedial measures have been implemented at site. Remediation and/or risk-management measures need to be implemented in some site locations to reduce the threat to water quality, public health, and the environment posed by existing conditions.

9. **Adjacent Sites**: Three sites located near these properties have conducted remedial investigation and/or remediation: Emeryville Crescent, Albany landfill, and Liquid Gold.

a. Emeryville Crescent: Catellus Development Company owns about 500 acres of uplands and non-uplands at Emeryville Crescent, in the cities of Oakland and Emeryville. This property is also part of the proposed land transaction between Catellus and DPR/EBRPD. Site conditions are similar to those found at this site. On May 21, 1997, the Board adopted Order No. 97-069, Site Cleanup Requirements for this property. Soil remediation consistent with the 1997 order will occur later this year.

b. Albany Landfill: The former City of Albany landfill is located immediately west of the Albany Plateau property. From 1963 through 1983, it received construction wastes similar to those accepted at the Catellus property. The former landfill is subject to the landfill-closure requirements of Chapter 15 (23 CCR 2510-2601). In 1984, the Board issued Waste Discharge Requirements to the City for the former landfill and will be updating these Requirements later this year. The site may be used for parks or open space in the future.

c. Liquid Gold: The Liquid Gold site is located immediately northeast of the Hoffman Marsh property in the city of Richmond. Tidal flows and stormwater runoff from portions of the Liquid Gold site drain onto the Hoffman Marsh property. Liquid Gold Oil Corporation ran an oil-recycling facility at this site from 1965 to 1982. USEPA placed the site on the National Priority List in the 1980s, due primarily to TPH pollution. DTSC was designated as the lead agency and oversaw site investigation and remediation in the 1980s and early 1990s. Remediation activities included removal of tanks and other facilities, removal of polluted soils, and removal of some polluted sediments, including some sediments in the northern portion of the Hoffman Marsh property (transect T-6). DTSC certified completion of remediation at the Liquid Gold site in 1996.

10. **Risk Assessment**: The May 1998 Remediation and Risk Management Plan includes a risk assessment which considers both human health risk and ecological risk. It is appropriate for the risk assessment to consider a range of recreational uses, given that park master planning will not commence until after the property transfer. It is appropriate to tailor the risk assessment to the site conditions, namely the lack of significant upland pollution sources and the relatively low average concentrations of constituents in upland soils.

a. Human Health Risk Assessment: Catellus proposes to use site-specific soil action levels based on USEPA Region 9 residential PRGs, adjusted for lower exposure durations typical of regional parks (regional park PRG). These action levels apply in uplands (including the 50-foot shoreline buffer). These action levels represent ceiling values rather than average values; the regional park PRG for each constituent is compared to an individual sample result rather than a site-wide average for that constituent. Upland soils at the site generally meet the

regional park PRGs; exceedances of these action levels and the ecological action levels are summarized in finding 7 above.

b. Ecological Risk Assessment: Catellus proposes to use ecological action levels and screening levels that address both terrestrial and wetland/marine species. These include: preliminary remediation goals used at DOE's Oak Ridge National Laboratory (mouse and woodcock), freshwater sediment quality values and NOAA's sediment values (ERMs). The DOE mouse values apply to upland areas, the woodcock and freshwater sediment values apply to the seasonal wetlands, and the NOAA ERM values apply to upland areas near the shoreline (a 50-foot wide upland buffer) and to non-uplands. These levels represent ceiling values rather than average values; the action level and screening level for each constituent is compared to an individual sample result rather than a site-wide average for that constituent. Upland soils at the site generally meet the ecological action levels; exceedances of these action levels and the human health action levels are summarized in finding 7 above.

c. Risk Management: Catellus proposes to apply the more stringent of human health and ecological action levels at the site to assure that both recreational users and the environment are protected. As deemed appropriate based on consideration of site-specific factors, remediation or risk management or a combination of the two are proposed where exceedances of action levels occur.

The Remediation and Risk Management Plan needs to provide more detail on the assumptions and rationale used in the risk assessment, including documentation of the technical basis for action levels protective of park visitors and maintenance workers.

11. **Remediation Plan**: The May 1998 Remediation and Risk Management Plan and June 1998 RRMP Addendum propose a remediation and risk management framework similar to that established in the Board's 1997 order for the Emeryville Crescent property. The framework defines three subareas: upland (lands above the line of highest tidal action), upland buffer (uplands within 50 feet of the line of highest tidal action), and non-upland (lands below the line of highest tidal action). The framework derives action levels for upland soil, upland buffer soil, and groundwater and screening levels for non-upland sediment in these subareas (see findings 10 and 12 for details).

The framework recommends remediation and/or risk management for all exceedances of human health action levels except in cases where mitigating factors limit potential exposure. The framework allows for remediation and/or risk management in cases where ecological action levels are significantly exceeded (e.g. single values significantly above an action level, multiple compounds above action levels, or clusters of exceedances). For upland soil, options include: soil excavation (with two feet of clean backfill) or provision of cover (such as vegetation, clean backfill, gravel, paving or building foundation). For upland buffer soil, risk management means maintenance

of such cover to minimize erosion. For groundwater, options include: no action (based on attenuation), source control measures (e.g. removal of impacted soils contributing to constituents in groundwater), and additional investigation or monitoring to demonstrate attenuation.

The Remediation and Risk Management Plan proposes soil remediation in fifteen locations (see table below). It proposes no further action for groundwater, based on anticipated attenuation of constituents detected in groundwater and site-specific evaluation of upland, including buffer zone, exceedances of groundwater action levels as described in Appendix E of the Remediation and Risk Management Plan. The Remediation and Risk Management Plan proposes continued risk management (cap maintenance) at the Point Isabel property. It proposes risk-management measures in portions of the upland buffer at the Berkeley North Basin and Albany Plateau and in non-uplands at the Hoffman Marsh property. At the Hoffman Marsh property, risk management measures include human access restrictions and maintenance of marsh vegetation. The Risk Management and Remediation Plan also proposes a $50,000 to $75,000 environmental offset project at the site in order to enhance wetland values in view of elevated metals concentrations in non-upland sediments at the Hoffman Marsh property.

For non-uplands, the Remediation and Risk Management Plan proposes no remediation of sediments exceeding screening levels because (i) the exceedances (which occur primarily at the Hoffman Marsh property) appear to be caused by diffuse, offsite sources and not by any Catellus upland source, (ii) site-specific studies at the Point Isabel and Hoffman Marsh properties have shown no ecological impacts at these sediment concentrations and (iii) the environmental offset project (above) will provide offsetting ecological benefits. The Board may, in future, address sediment screening level exceedances at the site through a watershed management approach. Such an approach would consider all pollution sources and could result in current and/or future property owners and possibly other parties being responsible for sediment remediation. Current and future property owners of the Hoffman Marsh property will fully satisfy any obligations they may have for participating in a watershed management approach at this property, given factors (i) through (iii) above and provided that the discharger implements a source-identification study or equivalent work that would facilitate any future watershed management approach. This exemption would not apply to (i) any sediment exceedances identified in the future at the other site properties or (ii) sediment pollution caused by future releases at the Hoffman Marsh property. ("Future releases" does not include any migration of existing elevated concentrations in sediments.)

	Number of locations (constituent types) to be remediated:		
Property	Soil	Sediment	Groundwater
Berkeley Brickyard	-	-	-

Berkeley Meadow	3 (metals, SVOCs)	-	-
Berkeley North Basin	3 (metals)	-	-
	1 (PCB)		
Albany Plateau	6 (metals)	-	-
	1 (PCB and metals)		
Point Isabel	1 (metals)	-	-
Hoffman Marsh	-	*	-

* environmental offset proposed in lieu of remediation of non-upland sediments

12. **Basis for Remediation Standards**

a. General: State Board Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California," applies to this discharge and requires attainment of background levels of water quality, or the highest level of water quality which is reasonable if background levels of water quality cannot be restored. Remediation levels other than background must be consistent with the maximum benefit to the people of the State, not unreasonably affect present and anticipated beneficial uses of such water, and not result in exceedance of applicable water quality objectives. Action levels established herein are, in some instances, above background levels but meet the above tests.

State Board Resolution No. 92-49, "Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304," applies to this discharge. This order and its requirements are consistent with the provisions of Resolution No. 92-49, as amended.

b. Beneficial Uses: The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on June 21, 1995. This updated and consolidated plan represents the Board's master water quality control planning document. The revised Basin Plan was approved by the State Water Resources Control Board and the Office of Administrative Law on July 20, 1995, and November 13, 1995, respectively. A summary of regulatory provisions is contained in 23 CCR 3912. The Basin Plan defines beneficial uses and water quality objectives for waters of the State, including surface waters and groundwaters.

Board Resolution No. 89-39, "Sources of Drinking Water," defines potential sources of drinking water to include all groundwater in the region, with limited exceptions for areas of high TDS, low yield, or naturally-high contaminant levels. Groundwater underlying and adjacent to the site is not a potential source of drinking water due to naturally high TDS.

The potential beneficial uses of groundwater underlying the site include: freshwater replenishment to surface waters.

The existing and potential beneficial uses of San Francisco Bay Central include:

. Ocean, commercial, and sport fishing
. Estuarine habitat
. Industrial service supply
. Navigation
. Industrial process supply
. Preservation of rare and endangered species
. Water contact and non-contact recreation
. Shellfish harvesting
. Fish migration and spawning

c. Basis for Soil Action Levels: In upland areas, soil action levels will be the lower of human health and ecological action levels (regional park PRGs and DOE/mouse PRGs, respectively) but not less than background soil concentrations. Additional action levels - NOAA/ERMs adjusted for background soil concentrations - will apply in upland buffer areas to protect non-uplands from constituents in eroded upland-buffer soils. Remediation and risk management measures implemented in locations where there are significant exceedances of these action levels will reasonably protect human health and the environment.

d. Basis for Sediment Screening Levels: In non-upland areas, sediment screening levels will be set at ecological screening values - NOAA/ERMs - but not less than background concentrations and applied consistent with the framework established in Order No. 97-069 (site cleanup requirements for Emeryville Crescent property).

e. Basis for Groundwater Action Levels: Action levels for groundwater are based on water quality objectives for saltwater species, as shown in the Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) or, where a Basin Plan value is not available, based on relevant USEPA National Ambient Water Quality Criteria for Salt Water Aquatic Life Protection. In the 50-foot shoreline buffer, groundwater action levels are equal to the water quality objectives. In the uplands above the 50-foot shoreline buffer, groundwater action levels are ten times the water quality objectives. This multiple reflects the predicted attenuation of constituents in groundwater that occurs at the site as discussed in the Remediation and Risk Management Plan, given the chemical-specific characteristics, site-specific hydrogeological conditions, and the Board's prior experience with groundwater at various shoreline sites. A site-specific evaluation is made for each exceedance of the groundwater action levels.

13. **Future Changes to Action Levels**: The goal of this remedial action is to restore the beneficial uses of the site. If full restoration of beneficial uses is not technologically nor economically achievable within a reasonable period of time, then the discharger may request modification to the action levels.

14. **Basis for 13304 Order**: The discharger has caused or permitted waste to be discharged or deposited where it is or probably will be discharged into waters of the State and creates or threatens to create a condition of pollution or nuisance.

15. **Cost Recovery**: Pursuant to California Water Code Section 13304, the discharger is hereby notified that the Board is entitled to, and may seek reimbursement for, all reasonable costs actually incurred by the Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this order.

16. **Lead Agency:** This action is taken by the Board as the designated administering agency with sole jurisdiction for supervising all aspects of the site investigation and remediation of the site, pursuant to Cal. Health & Safety Code § 25264. Upon satisfactory completion of the remedial actions specified in this Order (not including long-term operation and maintenance), the Board will issue a certificate of completion. Except as otherwise provided in Cal. Health & Safety Code § 25265, the issuance of a certificate of completion by this Board shall constitute a determination that the discharger has complied with the requirements of all state and local laws, ordinance, regulations, and standards that are applicable to the site investigation and remedial action for which the certificate is issued.

17. **CEQA**: This action is an order to enforce the laws and regulations administered by the Board. As such, this action is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to Section 15321 of the Resources Agency Guidelines.

18. **Notification**: The Board has notified the discharger and all interested agencies and persons of its intent under California Water Code Section 13304 to prescribe site cleanup requirements for the discharge, and has provided them with an opportunity to submit their written comments.

19. **Public Hearing**: The Board, at a public meeting, heard and considered all comments pertaining to this discharge.

IT IS HEREBY ORDERED, pursuant to Section 13304 of the California Water Code, that the discharger (or its agents, successors, or assigns) shall cleanup and abate the effects described in the above findings as follows:

A. PROHIBITIONS

1. The discharge of wastes or hazardous substances in a manner which will degrade water quality or adversely affect beneficial uses of waters of the State is prohibited.

2. Further significant migration of wastes or hazardous substances through surface or subsurface transport to waters of the State is prohibited.

3. Activities associated with the subsurface investigation and remediation which will cause significant adverse migration of wastes or hazardous substances are prohibited.

B. REMEDIATION/RISK MANAGEMENT PLAN AND STANDARDS

1. **Implement Remediation and Risk Management Plan**: The discharger shall implement the Remediation and Risk Management Plan described in finding 11.

2. **Soil Action Levels**: Exceedances of soil action levels in Table 1, attached hereto, will be addressed for all upland soils located 0 to 2 feet below ground surface as specified in the Remediation and Risk Management Plan (see task 2).

3. **Groundwater Action Levels**: Exceedances of groundwater action levels in Table 1, attached hereto, will be addressed for all shallow groundwater as specified in the Remediation and Risk Management Plan (see task 2).

C. TASKS

1. ADDENDUM TO REMEDIATION/RISK MANAGEMENT PLAN

COMPLIANCE DATE: August 15, 1998

Submit a technical report acceptable to the Executive Officer addressing risk assessment details. The report should include technical documentation of the assumptions and rationale used in the risk assessment, including documentation of the technical basis for action levels protective of park visitors and maintenance workers.

2. WORKPLAN FOR OFF-SITE SOURCE IDENTIFICATION

COMPLIANCE DATE: August 15, 1998

Submit a workplan acceptable to the Executive Officer to identify potential off-site sources of elevated sediment levels at the Hoffman Marsh property. The workplan should address those constituents found at elevated concentrations, including at least arsenic, lead, mercury, and zinc. The workplan should use current and historical sources of information to identify potential sources of constituents in reasonable proximity to the Hoffman Marsh property (i.e. located within one mile of the property or at a greater distance in the principal drainage to the property to the extent of industrial activities). The workplan should describe methods to be used, any interim work products, and an implementation schedule. The report may be combined with the Task 1 addendum (above).

3. **OFF-SITE SOURCE IDENTIFICATION REPORT**

COMPLIANCE DATE: July 1, 1999

Submit a technical report acceptable to the Executive Officer documenting completion of necessary tasks identified in the Task 2 workplan. The report may be combined with the Task 4 report (below).

4. **IMPLEMENTATION OF REMEDIAL ACTIONS**

COMPLIANCE DATE: July 1, 1999

Submit a technical report acceptable to the Executive Officer documenting completion of remedial actions for soil proposed in the Remediation and Risk Management Plan. The technical report should also document initiation of risk management measures proposed in the Remediation and Risk Management Plan.

5. **Delayed Compliance**: If the discharger is delayed, interrupted, or prevented from meting one or more of the completion dates specified for the above tasks, the discharger shall promptly notify the Executive Officer and the Board may consider revision to this Order.

D. PROVISIONS

1. **No Nuisance**: The storage, handling, treatment, or disposal of polluted soil or groundwater shall not create a nuisance as defined in California Water Code Section 13050(m).

2. **Good Operation and Maintenance (O&M)**: The discharger shall maintain in good working order and operate as efficiently as possible any facility or control system installed to achieve compliance with the requirements of this Order.

3. **Cost Recovery**: The discharger shall be liable, pursuant to California Water Code Section 13304, to the Board for all reasonable costs actually incurred by the Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order. If the site addressed by this Order is enrolled in a State Board-managed reimbursement program, reimbursement shall be made pursuant to this Order and according to the procedures established in that program. Any disputes raised by the discharger over reimbursement amounts or methods used in that program shall be consistent with the dispute resolution procedures for that program.

4. **Access to Site and Records**: In accordance with California Water Code Section 13267(c), the discharger shall permit the Board or its authorized representative:

   a. Entry upon premises in which any pollution source exists, or may potentially exist, or in which any required records are kept, which are relevant to this Order.

   b. Access to copy any records required to be kept under the requirements of this Order.

   c. Inspection of any monitoring or remediation facilities installed in response to this Order.

   d. Sampling of any groundwater or soil which is accessible, or may become accessible, as part of any investigation or remedial action program undertaken by the discharger.

5. **Self-Monitoring Program**: The dischargers shall comply with the monitoring requirements set forth in the Remediation and Risk Management Plan and shall submit annual reports as set forth therein. Annual reports shall be submitted 30 days after each calendar year, starting with calendar year 1998.

6. **Contractor / Consultant Qualifications**: All technical documents shall be signed by and stamped with the seal of a California registered geologist, a California certified engineering geologist, or a California registered civil engineer.

7. **Lab Qualifications**: All samples shall be analyzed by State-certified laboratories or laboratories accepted by the Board using approved EPA methods for the type of analysis to be performed. All laboratories shall maintain quality assurance/quality control (QA/QC) records for Board review. This provision does not apply to analyses that can only reasonably be performed on-site (e.g. temperature).

8. **Document Distribution**: Copies of all correspondence, technical reports, and other documents pertaining to compliance with this Order shall be provided to the following agencies:

   a. City of Berkeley
   b. City of Albany
   c. City of Richmond
   c. Cal/EPA - Department of Toxic Substances Control (Site Mitigation)

   The Executive Officer may modify this distribution list as needed.

9. **Reporting of Changed Owner or Operator**: The discharger shall file a technical report on any changes in site occupancy or ownership associated with the property described in this Order.

10. **Reporting of Hazardous Substance Release**: If any hazardous substance is discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, the discharger shall report such discharge to the Regional Board by calling (510) 286-1255 during regular office hours (Monday through Friday, 8:00 to 5:00).

    A written report shall be filed with the Board within five working days. The report shall describe: the nature of the hazardous substance, estimated quantity involved, duration of incident, cause of release, estimated size of affected area, nature of effect, corrective actions taken or planned, schedule of corrective actions planned, and persons/agencies notified.

    This reporting is in addition to reporting to the Office of Emergency Services required pursuant to the Health and Safety Code.

11. **Rescission of Existing Order:** This Order supercedes and rescinds Order No. 87-14 (waste discharge requirements for the Point Isabel property).

12. **Periodic SCR Review**: The Board will review this Order periodically and may revise it when necessary. The discharger may request revisions and upon review the Executive Officer may recommend that the Board revise these requirements.

I, Loretta K. Barsamian, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on July 15, 1998.

Loretta K. Barsamian
Executive Officer

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FAILURE TO COMPLY WITH THE REQUIREMENTS OF THIS ORDER MAY SUBJECT YOU TO ENFORCEMENT ACTION, INCLUDING BUT NOT LIMITED TO: IMPOSITION OF ADMINISTRATIVE CIVIL LIABILITY UNDER WATER CODE SECTIONS 13268 OR 13350, OR REFERRAL TO THE ATTORNEY GENERAL FOR INJUNCTIVE RELIEF OR CIVIL OR CRIMINAL LIABILITY

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Attachments: Site Map
Table of Action Levels

Table 1 - Action Levels for Upland Soil and Groundwater

Constituents of Concern (by category)	Upland Soil All (mg/kg) (1)	Upland Soil Buffer (mg/kg) (2)	Groundwater Non-buffer (mg/l) (3)	Groundwater Buffer (mg/l) (4)
METALS:				
Antimony	340		5	0.5
Arsenic	14*	70	0.36	0.036
Barium	1,170			
Beryllium	1.7			
Cadmium	33	9.6	0.093	0.0093
Chromium	91.4*	370	0.5	0.05
Cobalt	51,000			
Copper	415	270	0.029	0.0029
Lead (5)	840	218	0.056	0.0056
Mercury	0.9	0.71	0.00025	0.000025
Molybdenum	16.4			
Nickel	345	120.2*	0.071	0.0071
Selenium	5.7		0.71	0.071
Silver	4,300	3.7	0.023	0.0023
Thallium	42.5*		2.13	0.213
Vanadium	237			
Zinc	1,140	410	0.58	0.058
VOCS:				
Benzene			5.1	0.51
Chlorobenzene			1.29	0.129
Chloroform			64	6.4
1,4-Dichlorobenzene			1.29	0.129
Trichloroethene (TCE)			2.0	0.2
Tetrachloroethene (PCE)			4.5	0.45
Ethylbenzene			0.43	0.043
Toluene			50	5
SVOCS:				
Anthracene	5.7**	1.1	0.3	0.03
Benzo(a)anthracene	3.9	1.6		
Benzo(a)pyrene	0.39	1.6		
Benzo(b)fluoranthene	3.9			
Benzo(g,h,i)perylene	20,000			
Bis(2-ethylhexyl)-phthalate	640		0.059	0.0059
Chrysene	7.2**	2.8		
Di-n-octyl-phthalate			2.94	0.294

Constituents of Concern (by category)	Upland Soil All (mg/kg) (1)	Upland Soil Buffer (mg/kg) (2)	Groundwater Non-buffer (mg/l) (3)	Groundwater Buffer (mg/l) (4)
Fluoranthene	27,000	5.1		
Indeno(1,2,3-cd)pyrene	3.9			
2-Methyl naphthalene	11,000	0.67		
4-Methyl phenol	3,600			
Naphthalene	242**	2.1	2.35	0.235
N-Nitroso-diphenylamine	600		3,300	330
Phenanthrene	8,100	1.5	0.3	0.03
Pyrene	100**	2.6		
OTHER:				
TPHg (6)	1,000		3 to 30	0.3 to 3
TPHd (6)	1,000	520	3 to 30	0.3 to 3
PCB-1254	11.8			
PCB-1260	0.63			
Total PCBs	1.5	0.18		
Total PAHs		44.8	0.15	0.015

Notes:

1. Lesser of human health and ecological action levels. Human health action levels are "regional park PRGs", based on USEPA Region 9 preliminary remediation goals (PRGs) for residential use (1996) as adjusted for typical regional-park exposure duration. Ecological action levels are from DOE Oak Ridge ecological risk assessment (Lockheed-Martin, "Preliminary Remediation Goals for Ecological Endpoints", 1996, white-footed mouse). These action levels apply to buffer and non-buffer soils.
2. From National Oceanic and Atmospheric Administration, Effect Range Median Levels (NOAA ERMs), Long et al., 1995. Where the column 1 action level is more stringent than the column 2 action level for a given constituent, the column 1 value takes precedence (e.g. arsenic) in the upland buffer.
3. Ten times relevant water quality objectives for saltwater organisms.
4. Using relevant water quality objectives for saltwater organisms.
5. Upland soil action level for lead based on cleanup goals calculated in human health risk assessments conducted for several Bay Area sites, including the Presidio Army Base in San Francisco.
6. TPHg and TPHd action levels for groundwater based on literature survey of chronic-toxicity in aquatic species and on site-specific chronic-toxicity studies at San Francisco International Airport. Lower value represents concentration that caused no effects in 90% of studies identified in literature survey. Higher value represents no-effect concentration based on SFIA studies.

* Corrected for ambient soil concentrations as reported in LBNL 1995.

** Soil-saturation concentration (adjusted downward from health-based value).