COMMISSION ON COMMUNITY INVESTMENT AND INFRASTRUCTURE

RESOLUTION NO. 19-2023

AUTHORIZING A MEMORANDUM OF AGREEMENT WITH THE CITY AND COUNTY OF SAN FRANCISCO, ACTING THROUGH THE PORT OF SAN FRANCISCO, FOR THE PROPERTY MANAGEMENT AND MAINTENANCE OF CERTAIN PARCELS WITHIN THE MISSION BAY OPEN SPACE SYSTEM STARTING JULY 1, 2023, FOR A MAXIMUM AMOUNT NOT TO EXCEED $510,000 FOR A SIX-MONTH BUDGET CONSISTENT WITH THE APPROVED BUDGET FOR COMMUNITY FACILITIES DISTRICT NO. 5; MISSION BAY SOUTH REDEVELOPMENT PROJECT AREA

BASIS FOR RESOLUTION

WHEREAS, The Board of Supervisors approved, by Ordinance No. 327-98 (Oct. 26, 1998) and by Ordinance No. 335-98 (Nov. 2, 1998), the Redevelopment Plan for the Mission Bay North Project and the Redevelopment Plan for the Mission Bay South Project, respectively (collectively, the "**Redevelopment Plans**").; and,

WHEREAS, The Redevelopment Plans and related Plan Documents provide for, among other things, the development of parks and designate the location of parks in areas zoned for open space. The Redevelopment Plans define "Plan Documents" as implementing documents including without limitation any owner participation agreements, the Mission Bay South Design for Development, the Mission Bay North Design for Development and the Mission Bay Subdivision Ordinance and regulations adopter thereunder. The Redevelopment Plans expire in late 2028.; and,

WHEREAS, To implement the Redevelopment Plans, the Redevelopment Agency of the City and County of San Francisco ("**Former Agency**") entered into the Mission Bay North Owner Participation Agreement and the Mission Bay South Owner Participation Agreement (collectively, the "**OPAs**") whereby Catellus Development Corporation and its successors (the "**Owner**" or "**Master Developer**") were obligated to develop, among other things, public open space, parks and plazas on the designated open space parcels in the Mission Bay North Project Area and the Mission Bay South Project Area, as shown in Exhibit A (the "**Open Space Parcels**"; and,

WHEREAS, The Former Agency and the City and County of San Francisco, a municipal corporation and charter city (the "**City**"), entered into that certain Ground Lease dated for reference purposes as of November 16, 2001, as amended (the "**Ground Lease**"), whereby the Former Agency managed and maintained the Open Space Parcels after the Master Developer completed improvements and the City accepted them. Since entering into the Ground Lease, the Former Agency and the Successor Agency to the Former Agency (commonly known as the Office of Community Investment and Infrastructure or "OCII") have fulfilled the required maintenance and certain other Ground Lease obligations through a third party, private contractor; and,

WHEREAS, Under Redevelopment Dissolution Law, Cal. Health & Safety Code §§ 34170 et seq., and Board of Supervisors Ordinance No. 215-12 (Oct. 4, 2012), OCII has assumed the rights and obligations under the Redevelopment Plans, Plan Documents, and the Ground Lease, subject to certain state requirements to complete and dispose of redevelopment assets in an expeditious fashion; and,

WHEREAS, The City owns the fee interest in all of the Open Space Parcels and the Master Developer leases from the City those sites designated as future Open Space Parcels that have not yet been completed. In accordance with the Plan Documents, upon completion of the improvements to any particular Open Space Parcel, the City accepts the improvements, the lease with the Master Developer is terminated, and the Open Space Parcel is added to the Ground Lease between the City and OCII; and,

WHEREAS, Some of the Open Space Parcels are subject to Public Trust Law and the oversight of the States Lands Commission. Under Public Trust Law, the State of California owns and controls certain natural resources, such as tidal and submerged lands or those areas that were formerly tidal or submerged lands, for the purpose of protecting the public's interest in commerce, navigation, and fisheries. The State has designated the Port as trustee of certain Public Trust lands under the Burton Act (Chapter 1333 of Statutes 1968, as amended, the "**Burton Act Trust**") and are under the jurisdiction of the Port . The Port currently manages open space parcels subject to Public Trust Law and is familiar with the applicable State Lands Commission requirements; and,

WHEREAS, The Financing Plans to the OPAs required the Former Agency to undertake proceedings to form a community facilities district for the purpose of levying special taxes to fund the ongoing maintenance of the Open Space Parcels ; and,

WHEREAS, On December 21, 1999, the Former Agency formed, by Resolution No. 217-99 (the "**Resolution of Formation**"), the CFD No. 5 under the Mello-Roos Community Facilities Act of 1982, Gov't Code § 53311 et seq. The Resolution of Formation authorizes funding for services related to the ongoing operation, maintenance and repair of Open Space Parcels, as defined in the OPAs, until fiscal year 2043-44; and,

WHEREAS, Under the Resolution of Formation, the maintenance "[c]osts to be funded shall be in amounts and for such purposes as determined by the [Former] Agency, and shall include all personnel or third party costs related to such maintenance, costs of maintaining irrigation systems and other equipment directly related to such maintenance, maintenance or replacement as needed of landscape areas, water features, bathrooms, trash receptacles, park benches, planting containers, picnic tables and other equipment or fixtures installed in areas to be maintained, insurance costs and any other related overhead costs, along with Agency personnel, administrative and overhead costs related to such maintenance and the District or to contracting for and managing third parties in connection with such maintenance or the District, all to the end that Agency or the City will not need to expend their own funds to maintain open space areas . . . so long as the District is in place." Exhibit A (Description of Services to be Financed by the District) to Resolution No. 217-99 (Dec. 21, 1999); and,

WHEREAS, On Following a special election of qualified electors in CFD No. 5, the CFD No 5 levied a special tax to maintain the Open Space Parcels. CFD No. 5 funds will remain available to cover park maintenance costs until fiscal year 2043-44. The

Financing Plans to the OPAs provide that maintenance costs of the Open Space Parcels shall be payable from the proceeds of the special taxes and not from tax increment; and,

WHEREAS, Redevelopment Dissolution Law requires OCII to dispose of the Former Agency's real property interests, including the Ground Lease. The California Department of Finance approved Oversight Board Resolution No. 14-2015 (Nov. 23, 2015), which authorized, under Section 34191.5 of the Health and Safety Code, a long range property management plan ("**PMP**") for OCII that requires, among other things, termination of OCII's leasehold interests in the Open Space Parcels, but that acknowledges OCII's continuing administration of CFD No. 5 maintenance funds as separate from the Redevelopment Dissolution Law. Termination of the Ground Lease and transfer of its obligations to the City will require certain legislative action that will not occur until later in 2023, at the earliest; and,

WHEREAS, The Ground Lease authorizes OCII to fulfill its maintenance obligations through a contractor providing maintenance service. Currently, OCII has a contract with Parklab Open Space Management ("**POSM**"), which will expire on June 30, 2023. Prior to the termination of the Ground Lease, OCII seeks to enter into separate memoranda of agreements ("MOA") whereby the City, through RPD and Port, assume, effective July 1, 2023, the maintenance obligations required under the Ground Lease and currently provided under the POSM contract. The parties agree that the MOA is an interim measure and that the Ground Lease remains in effect. Upon the future Ground Lease termination, the Commission will consider a new agreement providing CFD No. 5 maintenance funds for the City's management of the Open Space Parcels; and,

WHEREAS, The Port manages 7.5 miles of waterfront subject to the Public Trust Law and Burton Act Trust that is home to popular destinations and attractions, historic districts, small businesses and robust maritime opportunities. The Port manages 150 acres of shoreline open spaces and parks that serve all of Californians and visitors from around the world. The Port works to advance environmentally and financially sustainable maritime, recreational, and economic opportunities for the City, Bay Area, and California; and,

WHEREAS, OCII now wishes to enter into the MOA to allow the City, acting through the Port, to operate and maintain certain Completed Premises and the future P22 park identified in the MOA as Port Open Space Parcels, subject to the Ground Lease, the Plan Documents, and the Resolution of Formation; and,

WHEREAS, The MOA amount of $510,000 covers a six month budget for maintenance costs of the Port Open Space Parcels and is consistent with Commission Resolution No. 12-2023 (April 18, 2023) approving the CFD budget for FY 2023-24; and,

WHEREAS, At its April 13, 2023 meeting, the Mission Bay Citizens Advisory Committee recommended to the Commission that it authorize the Executive Director to enter into a memorandum of agreement with the Port; and,

WHEREAS, Approval of the MOA with the Port is categorically exempt from the California Environmental Quality Act ("CEQA") pursuant to CEQA Guidelines Sections 15301 and 15304 because it authorizes the operation, repair, maintenance or minor alteration of existing facilities or topographical features with negligible or no expansion of existing uses and minor alterations to land; now, therefore, be it

RESOLVED, That the Commission authorizes the Executive Director to execute, substantially in the form of Exhibit A to this Resolution, the MOA with the Port in the amount of $510,000 for a six-month operating and capital budget related to the property management of the Port Open Space Parcels in the Mission Bay Open Space System starting July 1, 2023.

I hereby certify that the foregoing resolution was adopted by the Commission at its meeting of June 6, 2023 .

_____
Commission Secretary

Exhibit A: Memorandum of Agreement with the Port of San Francisco.

MEMORANDUM OF AGREEMENT

THIS MEMORANDUM OF AGREEMENT ("**MOA**") dated for reference purposes only as of [DATE], is entered into by and between the San Francisco Port Commission (the "**Port**"), and the Successor Agency to the Redevelopment Agency of the City and County of San Francisco, (commonly known as the Office of Community Investment and Infrastructure), a public body, organized and existing under the laws of the State of California and acting in its capacity as the Redevelopment Agency of the City and County of San Francisco Community Facilities District No. 5 ("**CFD No. 5**" or "**OCII**"), regarding the Mission Bay Parks.

RECITALS

A. The Board of Supervisors approved, by Ordinance No. 327-98 (Oct. 26, 1998) and by Ordinance No. 335-98 (Nov. 2, 1998), the Redevelopment Plan for the Mission Bay North Project and the Redevelopment Plan for the Mission Bay South Project, respectively (collectively, the "**Redevelopment Plans**").

B. The Redevelopment Plans and related Plan Documents provide for, among other things, the development of parks and designate the location of parks in areas zoned for open space. The Redevelopment Plans define "Plan Documents" as implementing documents including without limitation any owner participation agreements, the Mission Bay South Design for Development, the Mission Bay North Design for Development and the Mission Bay Subdivision Ordinance and regulations adopter thereunder. The Redevelopment Plans expire in late 2028.

C. To implement the Redevelopment Plans, the Redevelopment Agency of the City and County of San Francisco ("**Former Agency**") entered into the Mission Bay North Owner Participation Agreement and the Mission Bay South Owner Participation Agreement (collectively, the "**OPAs**") whereby Catellus Development Corporation and its successors (the "**Owner**" or "**Master Developer**") were obligated to develop, among other things, public open space, parks and plazas on the designated open space parcels in the Mission Bay North Project Area and the Mission Bay South Project Area, as shown in Exhibit A (the "**Open Space Parcels**" or the "**Premises**").

D. The Former Agency and the City and County of San Francisco, a municipal corporation and charter city (the "**City**"), entered into that certain Ground Lease dated for reference purposes as of November 16, 2001, as amended (the "**Ground Lease**"), whereby the Former Agency managed and maintained the Open Space Parcels after the Master Developer completed improvements and the City accepted them. Since entering into the Ground Lease, the Former Agency and its successor, OCII, have fulfilled the required maintenance and certain other Ground Lease obligations through a third party, private contractor.

E. Under Redevelopment Dissolution Law, Cal. Health & Safety Code §§ 34170 et seq., and Board of Supervisors Ordinance No. 215-12 (Oct. 4, 2012), OCII, as successor to the

Former Agency, has assumed the rights and obligations under the Redevelopment Plans, Plan Documents, and the Ground Lease, subject to certain state requirements to complete and dispose of redevelopment assets in an expeditious fashion.

F. The City owns the fee interest in all of the Open Space Parcels and the Master Developer leases the Open Space Parcels that have not yet been completed from the City. In accordance with the Plan Documents, upon completion of the improvements to any particular Open Space Parcel, the improvements are accepted by the City, the lease with the Master Developer is terminated, and the Open Space Parcel is added to the Ground Lease between the City and OCII. The Open Space Parcels that are completed, have been (or will be) accepted by the Port, and comprise the "**Completed Premises**" are more particularly described in Section 3 below and illustrated in Exhibit A.

G. Some of the Open Space Parcels are subject to the Burton Act (Chapter 1333 of Statutes 1968, as amended) (the "**Burton Act Lands**") and are under the jurisdiction of the Port. The remainder of the Open Space Parcels (the "**Non-Burton Act Lands**") are subject to the public trust for commerce, navigation and fisheries (the "**Public Trust**"). Under this MOA, the Port will be maintaining certain parcels subject to the Burton Act. The Burton Act Lands and the Non-Burton Act Lands are depicted on Exhibit A.

H. The Financing Plans to the OPAs required the Former Agency to undertake proceedings to form a community facilities district for the purpose of maintaining in good order, repair and condition, the applicable portions of the Premises and improvements thereon.

I. On December 21, 1999, the Former Agency formed, by Resolution No. 217-99 (the "**Resolution of Formation**"), the CFD No. 5 under the Mello-Roos Community Facilities Act of 1982, Gov't Code § 53311 et seq. The Resolution of Formation authorizes funding for services related to the ongoing operation, maintenance and repair of Open Space Parcels, as defined in the OPAs, until fiscal year 2043-44 .

J. Under the Resolution of Formation, the maintenance "[c]osts to be funded shall be in amounts and for such purposes as determined by the [Former] Agency, and shall include all personnel or third party costs related to such maintenance, costs of maintaining irrigation systems and other equipment directly related to such maintenance, maintenance or replacement as needed of landscape areas, water features, bathrooms, trash receptacles, park benches, planting containers, picnic tables and other equipment or fixtures installed in areas to be maintained, insurance costs and any other related overhead costs, along with Agency personnel, administrative and overhead costs related to such maintenance and the District or to contracting for and managing third parties in connection with such maintenance or the District, all to the end that Agency or the City will not need to expend their own funds to maintain open space areas . . . so long as the District is in place." Exhibit A (Description of Services to be Financed by the District) to Resolution No. 217-99 (Dec. 21, 1999).

K. Following a special election of qualified electors in CFD No. 5, the CFD No 5 levied a special tax to maintain the Open Space Parcels. CFD No. 5 funds will remain available

to cover park maintenance costs until fiscal year 2043-44. The Financing Plans to the OPAs provide that maintenance costs of the Open Space Parcels shall be payable from the proceeds of the special taxes and not from tax increment.

L. Redevelopment Dissolution Law requires OCII to dispose of the Former Agency's real property interests, including the Ground Lease. The California Department of Finance has approved, under Section 34191.5 of the Health and Safety Code, a long range property management plan ("**PMP**") for OCII that requires, among other things, OCII to terminate its leasehold interests in the Open Space Parcels, but that acknowledges OCII's continuing administration of CFD No. 5 maintenance funds, which are authorized under state authority separate from the Redevelopment Dissolution Law. Termination of the Ground Lease will require certain legislative action that will not occur until later in 2023.

M. The Ground Lease authorizes OCII to fulfill its maintenance obligations through a contractor providing maintenance service. Currently, OCII has a contract with Parklab Open Space Management ("**POSM**"), which will expire on June 30, 2023. Prior to the termination of the Ground Lease, OCII seeks to enter into this MOA for the purpose of having the City, through RPD or the Port, assume, effective July 1, 2023, the maintenance obligations required under the Ground Lease and currently provided under the POSM contract as to their respective portions of the Completed Premises. (OCII is entering into a similar MOA with RPD.) The parties agree that this MOA is an interim measure and that, upon the future Ground Lease termination, OCII and the City will enter into a new agreement whereby OCII provides CFD No. 5 maintenance funds for the City's management of the Open Space Parcels.

N. The Port manages 7.5 miles of waterfront subject the Public Trust and Burton Act Trust that is home to popular destinations and attractions, historic districts, small businesses and robust maritime opportunities. The Port manages 150 acres of shoreline open spaces and parks that serve all of Californians and visitors from around the world. The Port works to advance environmentally and financially sustainable maritime, recreational, and economic opportunities for the City, Bay Area, and California.

O. The parties now wish to enter into this MOA to allow the Port to operate and maintain the applicable portion of the Completed Premises and P22 park in a coordinated and integrated manner as described in this MOA, subject to the Ground Lease, the Plan Documents, and the Resolution of Formation.

NOW, THEREFORE, IT IS AGREED AS FOLLOWS:

AGREEMENT

1. RECITALS

The foregoing recitals are true and correct and are incorporated herein by this reference.

2. MANAGEMENT AND OPERATION OF COMPLETED PREMISES

(a) Management of Completed Premises. Port shall provide comprehensive property management services, including management, landscape, janitorial, general maintenance, and security services, to manage the Port Open Space Parcels (as defined below) for public use and enjoyment, as generally described herein and as described in more detail in Exhibit B, "Mission Bay Open Space Maintenance and Operational Standards" (the "**Maintenance and Operational Standards**"), consistent with the following provisions of the Ground Lease: (i) Section 10.1 [Maintenance and Repair Obligations]; (ii) Section 10.3 [Security]; and (iii) Section 11 [Utilities and Services], with respect to the Completed Premises.

(b) Insurance and Indemnity. OCII shall obtain and maintain the insurance required by Section 16 [Insurance] of the Ground Lease, and shall name City and Port each as additional insureds under such policies. OCII's indemnity pursuant to Section 19 [Indemnity] of the Ground Lease shall remain in full force and effect.

(c) Maintenance and Operational Standards. Port shall maintain in good order, repair and condition, the Port Open Space Parcels and all improvements thereon, consistent with the requirements of CFD No. 5 and the Plan Documents, including applicable Mission Bay North or South Financing Plans, except where Owner fails to pay the special taxes levied in CFD No. 5. Port agrees that its maintenance and repair obligations under Section 10.1of the Ground Lease include the obligation to maintain sidewalks on or adjacent to the Port Open Space Parcels.

(d) Quarterly Reports. Port shall provide quarterly reports describing budget to actual expenditures, landscape, janitorial and facilities maintenance activities, property conditions report, special events summary, and other matters reasonably requested by CFD No. 5 ("**Quarterly Reports**").

(e) Port Open Space Parcels. Commencing upon the start of the Term (as defined below), Port shall provide the services described in this MOA to and on the portions of the Completed Premises described as follows:

(ii) The Port will maintain and operate the following Open Space Parcels (collectively, the "**Port Open Space Parcels**"), which are part of the Completed Premises:

P18 of Bayfront Park
P21 of Bayfront Park
P23 of Bayfront Park
P24 of Bayfront Park

P22 of Bayfront Park upon the earlier of City acceptance or issuance of a license to Port in Fiscal Year 2023-2024.

(f) Modifications to the Maintenance and Operational Standards. Material changes to the Maintenance and Operational Standards shall require the approval of the Successor Agency Commission acting as the governing body for CFD No. 5 (commonly known as the Commission on Community Investment and Infrastructure), and any proposed modification is subject to the availability of funds in CFD No. 5. The Port shall submit a request for modification with supporting documentation, including cost estimates. The Approved Budget may not be exceeded without the approval of the City's Board of Supervisors and the Successor Agency Commission, in each of their sole discretion. The Port and OCIIshall employ appropriate practices to track scope amendments, which shall be detailed in the Quarterly Reports.

(g) Operations Plan. A primary objective of this MOA is to ensure the smooth and integrated operation and maintenance of the Completed Premises notwithstanding the separation of jurisdiction and maintenance responsibilities between the Port and RPD. Port staff agree to create an operations and program plan ("**Operations Plan**") for all of the Port Open Space Parcels that complies with the Maintenance and Operational Standards, subject to review and approval by OCII staff as CFD No. 5, and to meet quarterly, or such other period as requested by either Port or RPD, to review and update the Operations Plan as needed. The Operations Plan may include rules and regulations relative to the public's use of the Port Open Space Parcels; provided, however, that such rules and regulations are consistent with Section 7 of the Ground Lease.

(h) OCII Oversight. The qualified electors of CFD No. 5 voted to create a community facilities district and authorized a special tax assessment that OCII administers to fund the maintenance of the Open Space Parcels. OCII has the obligation to cause to be operated, maintained and repaired, the Open Space Parcels in good order, condition and repair. For so long as CFD No. 5 exists, OCII will review and approve the Maintenance and Operational Standards and the Operations Plan for the Completed Premises, subject to the availability of CFD No. 5 funds to implement the plan, after deducting its administrative costs. The parties agree to work together in good faith to maximize appropriate funding from CFD No. 5.

(i) Maintenance Responsibility Transfer. Port may transfer to another entity any and all maintenance responsibilities from time to time, with the consent of CFD No. 5 and the Port Commission, and any such transfer shall result in a corresponding change to the Maintenance and Operational Standards and the Approved Budget. Any such transfer shall be in writing, and the Port, in consultation with the Controller and the Mayor's Budget Director, will work with CFD No. 5 to ensure that the CFD No. 5 Funds are divided in accordance with the Approved Budget and Maintenance and Operational Standards.

(j) Coordination Meetings. Port, in consultation with CFD No. 5, shall meet and confer quarterly with representatives of the San Francisco Recreation and Park Department ("RPD"), to coordinate efforts, ensure consistency, and address any maintenance or repair issues. Each department shall designate a contact person for such matters. The initial contact persons are: for RPD, Eric Andersen (eric.andersen@sfgov.org), for Port, Tim Felton (tim.felton@sfport.com), and for CFD No. 5, Marc Slutzkin (marc.slutzkin@sfgov.org)..

(k) City Funding. Port shall each maintain the Port Open Space Parcels consistent with the Plan Documents, CFD No. 5 requirements, the Maintenance and Operational Standards and its Operations Plan, the Approved Budget and subject to available funding. Nothing in this MOA requires the Port to spend funds that have not been appropriated in its annual budget for the Port Open Space Parcels The Port shall seek budget authorizations and funding to maintain the Port Open Space Parcels consistent with the standards for maintenance set forth in this MOA and as may be agreed to by the Port from time to time; however any final budget decisions are subject to the approval of CFD No. 5, the Mayor, and the Board of Supervisors, each in their sole discretion.

(m) Authority Not Abridged. Nothing in this MOA is intended to limit the authority of OCII under the Redevelopment Plans, the Mission Bay Plan Documents, the Resolution of Formation, and Ground Lease or to limit the Charter authority or regulatory authority of the Port as it relates to the Port Open Space Parcels.

3. APPROVED BUDGET

(a) Approved Budget. The Port will provide the services and produce the deliverables described in the Maintenance and Operational Standards, and in accordance with the attached Exhibit C (the "**Approved Budget**"). The Approved Budget for the period of July 1, 2023 through December 31, 2023 is Five Hundred Ten Thousand Dollars ($510,000) in total, comprised of projected operating expenses and capital expenses. The Port agrees to submit an invoice to OCII each on the first day of each quarter and, if consistent with the Approved budget and this MOA, OCII agrees to reimburse the Port for services the Port performs in connection with the Port Open Space Parcels so invoiced no later than thirty (30) days after receipt of each invoice from the Port. Unless otherwise agreed to in writing by OCII, the Port agrees and acknowledges that OCII is not obligated to reimburse the Port for any costs or expenses that exceed $510,000 during the term of this MOA.

(b) Amendment of Approved Budget. The Approved Budget may be amended by the Successor Agency Commission after review and recommendation from the Executive Director, subject to the availability of funds in CFD No. 5. The Approved Budget may not be amended to equal or exceed One Million Dollars ($1,000,000) without approval of the City's Board of Supervisors, in its sole discretion.

(c) Supplies. The Port will be responsible for purchasing all supplies for its activities with respect to the Port Open Space Parcels from funds provided in the Approved Budget.

4. COMPLIANCE WITH MISSION BAY REDEVELOPMENT PLAN DOCUMENTS

In assuming operation, maintenance, and repair of the Port Open Space Parcels under this MOA, the Port agrees to comply with:

(a) Ground Lease. Section 10 (Security, Maintenance and Repairs), Section 11 (Utilities and Services), and Section 12 (Improvements) of the Ground Lease.

(b) CFD No. 5. All requirements of CFD No. 5 as they relate to the eligible use of CFD funds to operate, maintain, and repair the Port Open Space Parcels as authorized by this MOA.

(c) RMP. The Risk Management Plan for the Mission Bay Area ("**RMP**") as the RMP applies to parcels on which construction of improvements is complete, including but not limited to Sections 6.4.3, 5.3.5 and Appendix C of the RMP, attached as Exhibit D, Mission Bay Risk Management Plan. The City will not interfere with the OCII's compliance with the RMP in its activities under this MOA, and any other activities that may disturb soil or groundwater.

(d) Park Rules. The Ground Lease, at Section 7.4, provides that OCII may apply provisions of the City Park Code and Port Park Code (the "**Park Codes**"), subject to certain conditions ensuring that the Park Codes shall not adversely affect certain rights under Redevelopment Plan Documents, and OCII will so apply the Park Codes concurrently with the Successor Agency Commission's approval of this MOA. Subject to compliance with Section 7 [Use of the Premises] of the Ground Lease, the parties agree that the Port Open Space Parcels are and will generally remain open to members of the general public for use and enjoyment, consistent with other parks in the City, and subject to the Redevelopment Plans and related Plan Documents, applicable Municipal Codes including the Park Codes and other applicable laws, as amended from time to time.

5. PUBLIC TRUST, AND RESTRICTIONS

(a) BCDC Permit. The Port shall ensure that the Port Open Space Parcels will be used and maintained in accordance with applicable recorded restrictions and certain regulatory requirements imposed by the San Francisco Bay Conservation and Development Commission ("**BCDC**") under Permit No. 2000.005.006, dated October 11, 2016, as amended.

(b) Public Trust Requirements. The Open Space Parcels are subject to the requirements of the Mission Bay Exchange Act (Stats 1991 ch 1143; Stats 1997 ch 203). The Burton Act Lands are subject to the requirements of the Burton Act (Chapter 1333, Statutes of 1968), and the Non-Burton Act Lands are subject to the requirements of the California Public Resources Code section 6303, et seq., each as amended from time to time. The Port agrees to provide any required documents and reports to its regulatory agencies for Port Open Space Parcels. While the Port anticipates the cost of operating and maintaining the Burton Act Lands and the Non-Burton Act Trust Lands will significantly exceed any revenues received from these lands, the Port agrees to maintain accounting of such revenues and expenditures, and to comply with the following:

- All revenues received from trust lands and trust assets administered or collected by a trustee of granted public trust lands shall be expended only for those uses and purposes consistent with the public trust for commerce, navigation, and fisheries, and the applicable statutory grant.

- All funds received or generated from trust lands or trust assets shall be segregated in separate accounts from nontrust received or generated funds.

- To the extent required by an applicable statutory grant, on or before December 31 of each year, each trustee of public trust lands shall file with the State Lands Commission a detailed statement of all revenues and expenditures relating to its trust lands and trust assets, including obligations incurred but not yet paid, covering the fiscal year preceding submission of the statement.

- The statement shall be prepared in accordance with generally accepted accounting principles, and will conform to any standardized reporting form developed by the State Lands Commission.

6. EFFECTIVE DATE

The "**Effective Date**" of this MOA shall be when fully executed, and approved by the Successor Agency Commission and the Port Commission, but shall be no earlier than July 1, 2023.

7. TERM.

The "**Term**" of this MOA shall begin on the Effective Date and continue until such time as OCII may transfer (under Section 20.4 of the Ground Lease) the Port Open Space Parcels to the t City, acting through the Port, as successor to OCII (which transfer shall be subject to all required approvals including by the Board of Supervisors) but in no event longer than two (2) years after the Effective Date. Either party may terminate this MOA by providing not less than 180 days' notice to the other party. Any termination must be in writing, and any termination initiated by the Port will be subject to the prior approval of the Port Commission.

8. CONTROLLER CERTIFICATION OF FUNDS

Nothing in this MOA requires a City department to incur costs or expend funds that are not included in its annual budget, as approved by the City's Board of Supervisors and Mayor. This MOA is subject to the budgetary and fiscal provisions of City's Charter. Notwithstanding anything to the contrary contained in this MOA, there will be no obligation for the payment or expenditure of money by City unless the Controller first certifies, under Section 3.105 of City's Charter, that there is a valid appropriation from which the expenditure may be made and that unencumbered funds are available from the appropriation to pay the expenditure.

9. SIGNAGE

The Port as required will create and implement a signage program, so that the Port Open Space Parcels all share consistent regulation signs and policies regarding signs that are permitted and prohibited and that are consistent with Mission Bay North and South Signage Plans. So long as the Redevelopment Plans are in effect, the signage plan will be subject to the approval of OCII.

10. RESTRICTIONS ON USE; COMPLIANCE WITH LAW

(a) The Port will not use or permit the Port Open Space Parcels to be used in a manner that violates this MOA, the Ground Lease, the Redevelopment Plans and Plan-Documents, or that would materially interfere with the primary purposes of public access to the Port Open Space Parcels. Each City department acting as a trustee of the public trust for the Burton Act Trust Lands or the Non-Burton Act Lands will have the right to veto any use of the affected property that it determines is not consistent with the public trust or the requirements of any regulatory permit or approval.

(b) Except as otherwise described in the Operations Plan or this MOA, the Port will not, without the prior consent of OCII staff: (i) allow overnight stays at the Port Open Space Parcels; or (ii) conduct or allow activities that would prevent or materially impede public access to the Port Open Space Parcels.

(c) The Port will promptly notify OCII and the other if there has been a release of any hazardous materials in or around the Port Open Space Parcels. The Port will cooperate, with the City Attorney and OCII, in any action against the party responsible for the release.

11. NOTICE

Any notice given under this MOA shall be effective only if in writing and given by delivering the notice in person or by sending it first-class mail or certified mail with a return receipt requested or by overnight courier return receipt requested, with postage prepaid, at the following addresses, or at such other addresses as the agencies listed below may designate by notice as their new address:

Address for Port:	Deputy Director, Real Estate and Development Port of San Francisco Pier One San Francisco, CA 94111 Telephone No: (415) 274-0501 Fax No: (415) 274-0578
Address for OCII:	Thor Kaslofsky Executive Director 1 South Van Ness Ave., 5th Floor

San Francisco, CA 94103
Telephone No: (415) 749-2588
Fax No: (415) 749-2585
Email: thor.kaslofsky@sfgov.org

Any notice hereunder shall be deemed to have been given two (2) days after the date when it is mailed if sent by first-class or certified mail, one day after the date it is mailed, if sent by overnight courier, or upon the date personal delivery is made. For convenience of the parties, copies of notices may also be given by email, facsimile or telephone to the address or numbers set forth above or such other address or number as may be provided from time to time; however, no party may give official or binding notice by email, telephone or facsimile.

12. MINERAL RESERVATION

The State of California, pursuant to Section 2 of Chapter 1333 of the Statutes of 1968, as amended, has reserved all subsurface mineral deposits, including oil and gas deposits, on or underlying the Premises.

13. ENTIRE AGREEMENT

This MOA (including attached exhibits and attachments) contains the entire understanding between the parties with respect to the subject matter hereof.

14. Exclusive Benefit of Parties

The provisions of this MOA are for the exclusive benefit of the City departments and OCII, and not for the benefit of, nor give rise to any claim or cause of action by, any other person. This MOA shall not be deemed to have conferred any rights upon any person except the signatories to this MOA.

15. APPROVALS

All approvals under this MOA and any agreements contemplated hereby may be given by the Port Executive Director or her designees, except as otherwise specified herein or in the City Charter or the City's Municipal Code.

16. AMENDMENTS

This MOA may be amended only by a signed writing of OCII and the Port. The Port Executive Director, in consultation with the City Attorney, may execute written amendments on behalf of the Port, provided the amendments do not materially increase the obligations or liabilities of the Port, further the purposes of this MOA, and are in compliance with all applicable laws.

[REMAINDER OF PAGE LEFT BLANK]

IN WITNESS WHEREOF, the parties have caused this MOA to be executed as of the date written below.

CITY AND COUNTY OF SAN FRANCISCO, a municipal corporation operating by and through the SAN FRANCISCO PORT COMMISSION

By: _____
Elaine Forbes
Executive Director
Port of San Francisco

Date Signed:_____

SUCCESSOR AGENCY TO THE REDEVELOPMENT AGENCY OF THE CITY AND COUNTY OF SAN FRANCISCO, commonly known as the OFFICE OF COMMUNITY INVESTMENT AND INFRASTRUCTURE, a public body organized and existing under the laws of the State of California and acting under its authority as Community Facilities District No. 5

By: _____
Thor Kaslofsky
Executive Director
San Francisco Office of Community Investment and Infrastructure

Date Signed: _____

Approved as to form:
DAVID CHIU, City Attorney

By: _____
Michelle W. Sexton
Deputy City Attorney

Approved as to form:
James B. Morales
Successor Agency General Counsel

_____

Recreation and Park Commission Resolution No. _____

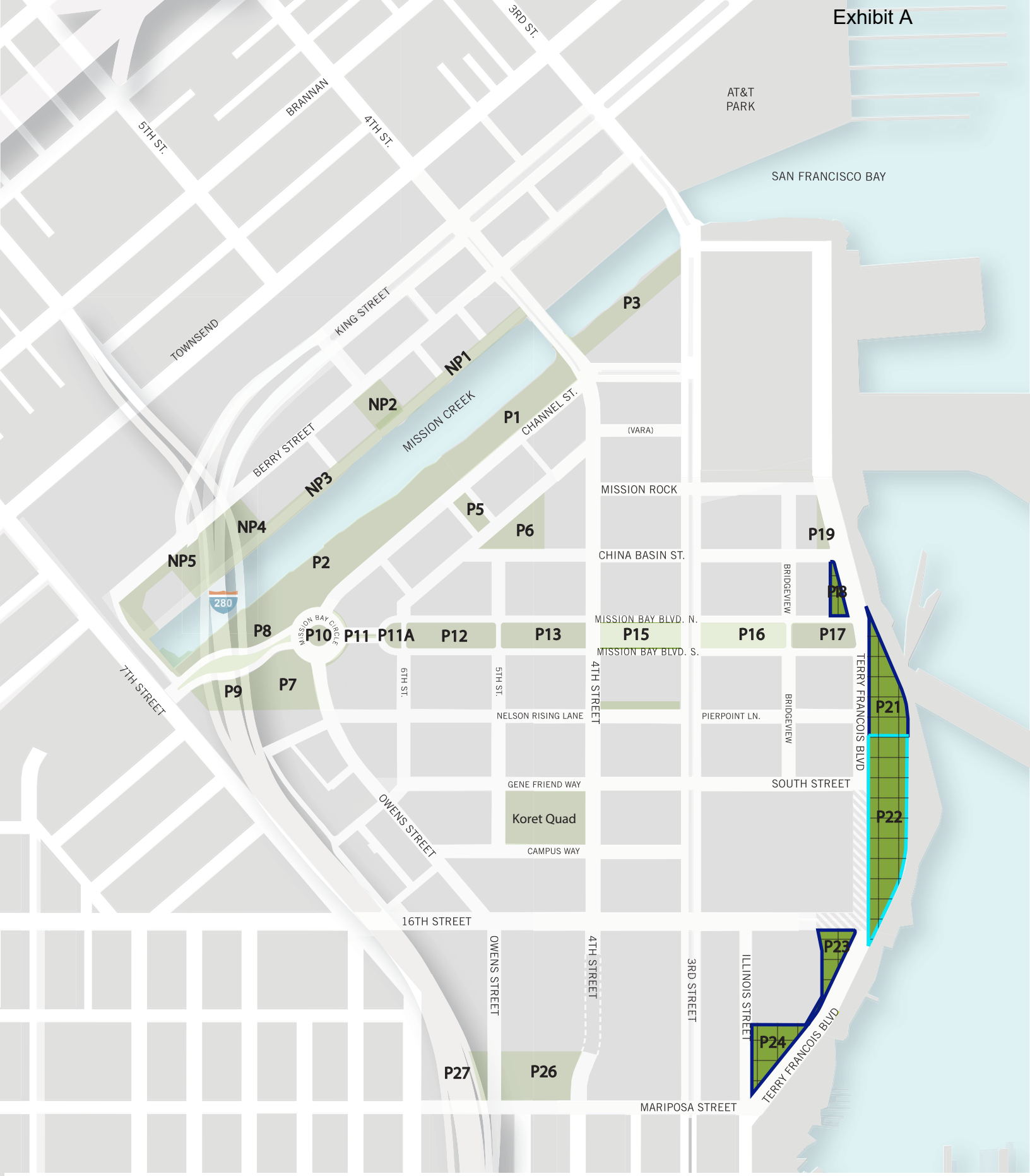
Port Commission Resolution No. _____

Commission on Community Infrastructure
and Investment Resolution No. _____

EXHIBIT A

COMPLETED PREMISES

Exhibit A



Under Construction
Complete

Port Maintained
Burton Act Trust

MISSION BAY OPEN SPACE MOA PORT

May 2023

0 200 800
100 400

EXHIBIT B

MISSION BAY OPEN SPACE
MAINTENANCE AND OPERATIONAL STANDARDS

The Departments will be responsible for the overall management of the property including landscape, janitorial, general maintenance, and security services, as well as any special conditions of the Mission Bay Open Space System improvements. The Departments will be responsible for *their respective* areas and components of the park improvements as shown on the plans, specifications, and project manuals provided to the Departments for each park as they are added to the Memorandum of Agreement.

The Departments will maintain the parks in a first-class condition and operate the parks so as to enhance the enjoyment and safety of the general public. Recreation and Parks defines first class condition as the park maintenance standards set by the City Controller. All Park improvements will be maintained in accordance with the park plans, as-built plans, project manual specifications, and manufacturer specifications unless otherwise agreed upon by OCII.

This Scope of Work is broken into four main sections: I) General Park Management, II) Landscaping Maintenance, III) Janitorial Services, and IV) Security Services.

I. Management

A. General Management. Departments will:

1. Manage their respective parks with internal Departmental staff skilled in park operations and maintenance. A staffing plan will be reviewed and approved by OCII on an annual basis.

2. Oversee the coordination of any services of subcontractors.

3. Maintain all park systems and improvements.

4. Certify that all the park improvements have been built in accordance with the plans and specifications.

5. Provide general supervision of field operations.

6. Act as public liaison and liaison with OCII for the park system.

7. Utilize, if needed, independent sub-contractors to fulfill its property management responsibilities under the Scope of Services. However, the Departments, will have final responsibility for the management, operation, maintenance, and security of the Mission Bay Open Space System.

8. Negotiate, secure and manage all subcontracts necessary for the provision of services in accordance with OCII and City Purchasing Policies.

9. Resolve conflicts with members of the public and day-to-day issues as they arise.

10. Attend to all legal responsibilities entailed in operations of the Mission Bay Open Space System. Assure compliance with all local, state and federal codes and regulations pertaining to the work, including those pertaining to workplace safety and toxic chemicals.

11. Conduct and assure quality control of all operations to the satisfaction of OCII and any technical consultants such as landscape architects, horticulturists, engineers, security advisors and others, which OCII may retain.

12. Assure that appropriate licensing and bonding is maintained for any Mission Bay Open Space System worker providing services where licensing or bonding is required.

13. Assure that appropriate training is given to all City staff.

14. Work cooperatively with the San Francisco Department of Public Works ("SFDPW") on Open Space Parcels' construction guarantee during the warranty period as described in the Public Improvement Agreement or Improvement Permit for each Open Space Parcel as provided by OCII.

15. Purchase appropriate furnishing, fixtures and equipment (FF&E) necessary for operations.

16. Update and implement an Emergency Preparedness Plan ("Plan") providing for the protection of life and property during emergencies, which may affect the Mission Bay Open Space System as listed in Attachment G`, Reporting Requirements. The Plan will follow existing departmental policies and procedures and outline management and staff responsibilities, evacuation procedures, management and staff duties in an emergency situation, and preventative maintenance such as maintaining life safety inspection and records logs.

17. The Contractor will work cooperatively with the San Francisco Police Department and San Francisco Fire Department on entrance and exit procedures and will coordinate the Plan with adjacent uses.

18. Be responsible for emergency preparedness training and relevant practice drills for all employees and subcontractors who work in the Mission Bay Open Space System.

19. Promptly obtain proper medical assistance for Departmental staff, Subcontractors, or any member of the public, as the need arises.

20. Guided by existing city policies, screen potential Departmental staff for any behavior or past record, which might indicate inappropriateness for employment in a family-oriented environment.

21. Maintain good working relations with adjacent users near Mission Creek and in the surrounding Mission Bay neighborhood. The Departments will also attend meetings of the Mission Bay Citizens Advisory Committee ("CAC") and respond to any concerns that the CAC may have.

22. Provide information about the Mission Bay parks on each Department's respective websites. Content shall include but not be limited to permitting and event information and general park information.

B. Permits and Reservations. Departments will:

1. Allocate all fee revenue into a projected solely used for the operations and maintenance of parks in Mission Bay

2. Ensure that limitations on occupancy and other life-safety codes are strictly enforced for all events.

3. Require that any event sponsor secures all appropriate local, state, and federal permits.

4. \

C. Management of Performance Areas. Departments will:

1. Be reimbursed for event services on a per event basis, by the event client for out-of-pocket staff charges incurred for a particular event.

2. Maintain the performance areas located in P1 (the landscaped steps and performance area) and P17 (the IPE wood deck) in good operating order and advise OCII of any repairs that may become necessary.

D. Special Conditions.

1. Public Use. Departments will:

i. Ensure that operations are planned and executed to maximize the public enjoyment of the Mission Bay Open Space System and minimize any disruption or inconvenience to the heavy public use of the site.
ii. The Departments will follow the Mission Bay Good Neighbor Policy and city code concerning noise producing activities and will consult with OCII on addressing community concerns.
iii. Generally schedule automatic irrigation systems for operations when the Mission Bay parks are closed.
iv. Ensure that movement of equipment or materials will be minimized in duration and impact to visitors.

2. Coordination with Adjacent Users. Departments will:
i. Coordinate with the affected user any park activity that might affect an adjacent user to the Mission Bay Open Space System, and make every reasonable effort to minimize the negative impact of any activity on such users. The other users include Oracle Park, Chase Center, UCSF, and the residential developments on the surrounding blocks. Such coordination will also extend to users on the blocks surrounding the park parcels should any Mission Bay Open Space System activity appear likely to negatively impact them.
ii. Coordinate with adjacent users to minimize and mitigate any potential negative impact on the Mission Bay parks by any adjacent use.
iii. Schedule any noise-gathering event or maintenance activity that might affect the Mission Creek Harbor Association, UCSF, or any adjacent user on days that would avoid or minimize such conflict.
iv. Coordinate its pedestrian and traffic control efforts, including street crosswalk control, with adjacent users.

E. Administration Support. Departments will:

1. Provide all necessary office support as it relates to the management of the property including issuing permits and providing public information.

2. Provide professional bookkeeping necessary to maintain the records as specified in this Contract.

3. Respond to all audit requests.

4. Separately budget and track all revenue and expenditure related to special events.

5. Separately track and budget all capital expenditure.

6. Provide all necessary office supplies and small equipment.

7. Maintain all outdoor areas and components and all related systems in an attractive, usable and safe condition, pursuant to OCII plans and specifications and manufacturer's recommendations. The Departments are responsible for all systems and improvements within the Mission Bay Open Space System. As-built record drawings for all park improvements will be provided to the Departments at Contract Commencement.

F. Engineering. The Departments shall perform the following tasks as applicable:

1. Manage the provision of all site utilities at all times, including but not limited to the following:
   i. Lighting & electrical systems
   ii. Irrigation electrical systems
   iii. Water (drinking fountains, irirgation) systems
   iv. Scavenger service.
   v. Portions of the stormwater drainage system for the bioswales within designated parks within the Mission Bay Open Space System is the responsibility of the San Francisco Public Utilities Commission ("PUC") and is excluded from this contract as outlined in Attachment J, Mission Bay Green Infrastructure Maintenance Manual. However, Recreation and Parks will coordinate with the PUC when maintenance of the stormwater drainage system in the bioswales is necessary. Port will notify the PUC if it notices any drainage issues, though the PUC retains liability for the drainage system. The surface landscaping and other non-stormwater drainage system features in the bioswales are included in the contract and shall be maintained as described in this Scope of Services and in accordance with Attachment J, Mission Bay Green Infrastructure Maintenance Manual, as may be amended from time to time.

2. Plumbing
   i. Clean sand traps yearly.
   ii. Inspect and clean drains daily.
   iii. Establish an annual testing program for back flow devices in accordance with the Public Utility Commission requirements.
   iv. Check water meters and valves on a periodic basis
   v. Service domestic hot water pumps.
   vi. Locate and map all water service valves.
   vii. Inspect all faucets and drinking fountains and repair any problems immediately.

3. Storm System, Sanitary System, City Water

i. Inspect regularly to assure proper working order.
ii. Immediately repair any breaks or other damage.
iii. Clear pipes and clean outs as necessary.
iv. Inspect and maintain sand interceptors.
v. Clear lines as necessary using approved mechanical methods.

4. Lighting & Electrical
   i. Maintain all electrical panels mechanical and lighting.
   ii. Complete regular rounds around the parks.
   iii. Replace lamps as necessary.
   iv. Clean fixtures regularly to provide full light levels.
   v. Inspect regularly for necessary maintenance or repair.
   vi. Routine maintenance per manufacturer's recommendations.
   vii. Responsibility for damage to utility lines and other site improvements resulting from maintenance work being performed.

5. Inspections. Where necessary and in consultation with OCII, schedule and coordinate the following inspections by subject matter experts or professionals:
   i. Safety inspection.
   ii. Storm system inspection.
   iii. Drainage inspection.
   iv. Woodwork inspection.
   v. Lighting inspection.
   vi. Vandalism inspection.
   vii. Horticultural inspection.

6. Decomposed Granite Paths
   i. In the event that any decomposed granite paths are included in any parks, maintain compaction in the decomposed granite paths at the firmness and stability level specified in the park specification manuals.
   ii. Keep free of any plant material.

9. Sports Courts
   i. Inspect condition of court surfaces, backboards and nets. Coordinate repairs and replacements as necessary.

G. Construction/Project Management. Departments will:

1. Attend construction related meetings during the development and construction of the Mission Bay Phase-In Parcels. Departments will provide advice and comments to OCII's on all matters related to park management, maintenance, operation, and security.

2. Inspect and work collaboratively with SFDPW on the Phase-In Parcels during the construction period and review construction work to ensure that work has been built in accordance with the park plans and specifications, and local building codes.

3. Review work plans, drawings, and schedules associated with the development and construction of the Mission Bay Phase-In Parcels.

4. Conduct inspections of Phase-In Parcels upon completion and assist OCII with the development of punch lists for outstanding construction items.

5. Concept design for parcels on City property will be reviewed and approved by the Recreation and Park Commission.

H. Signage. Departments will:

1. Departments will install park hours and rules signs on their respective parcels.

2. Implement OCII-approved informational signage program throughout the Mission Bay Open Space System.

3. Replace signs as information is updated or if damaged.

II. Landscape Maintenance

A. General. Departments will:

1. Provide supervised labor as necessary to maintain the outdoors and landscape components in an attractive, usable, and safe condition, pursuant to OCII specifications and manufacturer specifications.

2. Oversee all landscape operations for all park parcels.

3. The Departments will make any necessary major repairs or replacement of landscape items. The Departments will make repairs and replacement in a timely manner and in accordance with appropriate specifications.

4. Provide all landscape maintenance supplies and all equipment necessary for landscape maintenance tasks, including fuel and maintenance and repair tools.

5. Maintain all areas in a neat and orderly appearance. Remove all debris generated by maintenance work at the end of each day.

6. Attend maintenance walk-throughs with OCII (subcontractors to be present as requested)

7. Provide soil fertility and other test reports, with analysis, from testing laboratories if requested by OCII.

8. Provide vandalism and horticultural inspections upon request of OCII

9. Properly dispose of all rubbish, green waste, and recycling materials in the appropriate trash bins.

10. Port shall comply with all requirements of San Francisco's Integrated Pest Management ("IPM") Ordinance (Chapter 3, San Francisco Environment Code), and San Francisco's Zero Waste Ordinance

B. Plantings. Departments will perform the following tasks:

1. Lawn
   i. Provide all work necessary to maintain lawn in vigorous, healthy condition, including but not limited to, mowing, watering, edging, aerating, fertilizing, weeding, disease and pest control.

2. Ground cover
   i. Provide all work specified for lawn, except mowing and thatching.
   ii. Trim as necessary to re-invigorate growth and maintain neat appearance.
   iii. Control any erosion potential.

3. Trees
   i. Provide all work necessary to achieve continued healthy growth, includes watering, checking, adjusting, and replacing stakes and ties, fertilizing if necessary, weeding, disease and pest control.
   ii. Prune as needed to create and maintain an attractive, strong, healthy and hazard-free branching structure.
   iii. Prune to maintain and accentuate each species' natural growing habits per instructions of the landscape architect.
   iv. Maintain limb clearances of street trees, as specified in the plans and specifications, pursuant to City standards.

4. Shrubs & perennials
   i. Provide all work as specified for trees, as applicable.
   ii. Shrubs shall be pruned as often as is necessary to maintain vigorous

growth and a neat appearance.

5. Weed control
   i. Hand weeding preferred.
   ii. RPD shall comply with all requirements of San Francisco's Integrated Pest Management ("IPM") Ordinance in their weed management activities.

6. Fertilization
   i. Fertilize as necessary to maintain vigorous, healthy growth.

7. Insect and Pest Management
   i. Departments shall comply with all requirements of San Francisco's Integrated Pest Management ("IPM") Ordinance (Chapter 3, San Francisco Environment Code). These requirements include but are not limited to: Using pesticides as a last resort, using only pesticides on the current SF Reduced Risk Pesticide List, posting notifications of all pesticide applications three days before treatment, leaving these postings for at least four days after treatment, and reporting all pesticide use in a format acceptable to the San Francisco Department of the Environment.
   ii. Department shall implement IPM activities under the guidance of it's IPM program staff that shall minimize the use of toxic chemical and gets rid of pests by methods that pose a lower risk to public and environmental health. Departments shall implement IPM activities as outlined below:
   iii. Inspect for diseases and pests and control any discovered diseases and pests using approved methods under the direction of the Departments IPM supervisor.
   iv. Monitor pest ecosystem to determine pest population, size, occurrence and natural predator population, if present.
   v. Consider a range of potential treatments for the pest problem and select control strategies that may be implemented effectively and in a manner that is long-lasting and the least disruptive effect on the environment.
   vi. Employ non-pesticide management tactics first. Consider the use of chemicals only as a last resort and select and use chemicals only within an IPM Program.
   vii. Determine the most effective treatment time, based on pest biology and other variables, such as weather, seasonal changes in wildlife use and local conditions.
   viii. Monitor treatment to evaluate effectiveness and continue monitoring records as part of the IPM program.

8. Root Care
   i. Inspect shrubs and raise any whose root crowns have settled below soil level.
   ii. Inspect trees and provide necessary root pruning for trees according to

appropriate standards.

9. Replacement of Plant Material
   i. Replace plant material, which is damaged or disfigured as a result of negligent acts or omissions in the performance of the work. Replacements shall be of similar size and species as damaged or disfigured plants.

10. Irrigation Scheduling and Maintenance
   i. Schedule system inspections and maintenance a minimum of once per month.
   ii. Set seasonal programming for the irrigation system.

11. Maintenance of Mulch and Decomposed Granite at Treewells
   i. Replenish bark areas and decomposed granite as needed.

III. Janitorial Services - Departments will perform the tasks in Section III as applicable.

A. General. Departments will:

1. Provide daily janitorial service to the public restrooms and daily service to the Mission Bay open space site office, to be established by the Department.

2. Provide additional janitorial services to the open space event areas in all parks as well as the public restrooms after each event use as requested by OCII. All Any additional janitorial services for special events to be paid for by event client.

3. Provide all janitorial and general maintenance supplies and equipment.

4. Properly dispose of all rubbish, green waste, and recycling materials in the appropriate Scavenger trash bins.

B. Exterior Structure & Grounds Services. Departments will:

1. Litter Control & Trash Collection
   i. Control litter throughout site daily.
   ii. Empty all external trash receptacles every morning or as needed and wipe them down as needed.
   iii. Keep recyclable glass, metal and paper separate, as provided by the trash receptacles, where possible and in accordance with SFE policy.
   iv. Immediately remove litter from all paths, pavilion areas, and the public sidewalk adjacent to all park parcels.

v. Keep Scavenger Service trash enclosure clean and free of debris. Hose and wipe down area as needed.

i. Provide litter control following major events to be paid on a per event basis by the event client.

2. Hardscape (including sports courts and kids play areas)

i. Sweep daily or as needed.
ii. Hose down as necessary.
iii. Inspect weekly for lifted, separated, cracked or other damaged paving.
iv. Clean all hardscape in all common areas on an as-needed basis.
v. Keep free of any plant materials.

3. Walls & Exterior Surfaces

i. Inspect and clean surfaces on a regular basis.
ii. Immediately remove postings.
iii. Remove and treat for graffiti pursuant to the specifications and manufacturer's recommendations.

4. Woodwork

i. Per approved standards, allow wood to weather naturally.
ii. Inspect regularly for cracking, splintering or other damage.
iii. Remove and treat for graffiti, in a manner according to appropriate standards.

5. Site Furniture and Kids Play Equipment

i. Maintain per manufacturer's recommendations.
ii. Inspect daily for necessary maintenance or repair.

6. Signage

i. Clean as needed to remove dirt or rust.
ii. Immediately remove any postings or graffiti.

7. Shoreline

i. Remove litter and debris from shoreline area along Mission Creek Channel.

1.

IV. Security Services

A. Security

1. Port will staff Mission Bay with a combination of contracted security and Port assigned SFPD officers to enforce the Port Code and provide security. 2 SFPD officers will be available 7 days per week from 9:00AM to

7:00PM. Port contracted security will have patrols available 24 hours per day, seven days per week. Emergencies will be delt with through the 911 system..

B. General Duties. Departments will:

1. Contracted security and Port assigned SFPD officers will be deployed according to the Departments policies and procedures for the work unit.

2. Provide additional security for special events on a per event basis with reimbursement provided by the event client.

3. Provide all security supplies and maintenance of security equipment.

4. Assist Mission Bay visitors with information as requested and maintain a helpful and courteous manner at all times.

5. Require that contract security personnel be uniformed and unarmed.

6. Endeavor to provide the same security officers to the same shift where possible and minimize changes in personnel.

7. Coordinate Mission Bay security activities with those of adjacent users, including Oracle Park, Chase Center, UCSF, residents, and other stakeholders.

8. Coordinate Mission Bay security activities with the San Francisco Police Department.

9. Refer violators of the City/Port Code to the appropriate social service agencies. The Departments will also refer those in need to appropriate social service agencies and will coordinate with such agencies to assist these agencies in the provision of the needed services.

10. Be responsible for all “incident response”, in collaboration with appropriate city agencies and within the scope and duties of the SFPD, and enforce the Port Code, including hours of operation.

P18 Port of SF Frequency Schedul of Landscape Maintenance

B.	Ground Cover Care	Daily	Weekly	Bi-Weekly	Monthly	X/Year	As Needed	Comments
1	Leaf Litter Removal	X						
2	Trash Removal	X						
3	Neat Appearance	X						
4	Weed Control - Hand pulling	X					X	
5	Irrigation Programming					2X		Seasonal/Water Conservation/Event
6	Irrigation Check				X			
7	Fertilize					2X		Or as required based on plant selection
8	Pest Control							
	a. Monitor	X						
	b. Snails					4X		
	c. Other Treatments							
9	Prune						X	Based on species/season
10	Edge						X	Based on species/season
11	Cultivate						X	Based on species/season
C.	**Tree & Shrub Care**	**Daily**	**Weekly**	**Bi-Weekly**	**Monthly**	**X/Year**	**As Needed**	**Comments**
1	Leaf Litter Removal		2X					Seasonal / Location
2	Trash Removal	X						
3	Neat Appearance	X						
4	Weed Control - Hand pulling	X					X	
5	Irrigation Programming					2X		Seasonal/Water Conservation/Event
6	Irrigation Check				X			
7	Fertilize					2X		Or as required based on plant selection
8	IPM							
	a. Monitor	X						
	b. Snails					4X		
	c. Treat trees					3X		
10	Pruning-Size, Lifting, Thinning						X	Based on species, season and age
11	Pruning-Tree Roots						X	
	Inspect shrubs	X						
	Raise plants that have settled						X	
13	Staking-Remove/Adjust	X						
14	Vine Training						X	
D.	**Paved Area Care**	**Daily**	**Weekly**	**Bi-Weekly**	**Monthly**	**X/Year**	**As Needed**	**Comments**
1	Leaf Litter Removal	X						
2	Trash Removal	X						
3	Neat Appearance	X						
4	Weed Control						X	
G.	**Special Considerations**	**Daily**	**Weekly**	**Bi-Weekly**	**Monthly**	**X/Year**	**As Needed**	**Comments**
1	Site Reviews/Inspections				X			
2	Landscape Maint.Report					4X		
3	Irrigation Report					4X		
5	Replace Controller Batteries						X	
6	Soil Moisture Checks		X	X				Trees bi-weekly
7	Soil Sample Testing					2X		
8	Soil Compaction Tests					4X		
9	Clean Valve Boxes					1X		
10	Equipment Cleaning/Maintenance		X					
11	Mulch Replenishment							NA

P18 Port of SF Frequency Schedule General Maintenance

	Daily	X/Wk	Weekly	Monthly	X/Year	As Needed	Comments
Litter Control							
Control litter	X						
Empty trash receptacles	X						
Control litter after events						X	Extra per event
Signage							
Inspect	X						
Remove postings/graffiti						X	Immediately
Clean	X						
Hardscape pathways							
Inspect	X						
Repair						X	Secure area and repair immediately
Preventative Maintenance					4X		
Site Furniture							
Inspect	X						
Cleaned			X			X	
Maintain/Repair						X	Per manufacturers recommendation
Lighting and Electrical							
Preventative Maintenance					2X		
Plumbing							
Inspect drains				X			
Storm System, Sanitary System, City Water & Fire Loop							
Inspect to ensure working order	X						
Repair breaks/damage						X	immediately
Clear pipes and clean outs						X	

P21 Port of SF Frequency Schedule of Landscape Maintenance

B.	Ground Cover Care	Daily	Weekly	Bi-Weekly	Monthly	X/Year	As Needed	Comments
1	Leaf Litter Removal	X						
2	Trash Removal	X						
3	Neat Appearance	X						
4	Weed Control - Hand pulling	X					X	
5	Irrigation Programming					2X		Seasonal/Water Conservation/Event
6	Irrigation Check				X			
7	Fertilize					2X		Or as required based on plant selection
8	Pest Control							
	a. Monitor	X						
	b. Snails					4X		
	c. Other Treatments							
9	Prune						X	Based on species/season
10	Edge						X	Based on species/season
11	Cultivate						X	Based on species/season
C.	**Tree & Shrub Care**	**Daily**	**Weekly**	**Bi-Weekly**	**Monthly**	**X/Year**	**As Needed**	**Comments**
1	Leaf Litter Removal		2X					Seasonal / Location
2	Trash Removal	X						
3	Neat Appearance	X						
4	Weed Control - Hand pulling	X					X	
5	Irrigation Programming					2X		Seasonal/Water Conservation/Event
6	Irrigation Check				X			
7	Fertilize					2X		Or as required based on plant selection
8	IPM							
	a. Monitor	X						
	b. Snails					4X		
	c. Treat trees					3X		
10	Pruning-Size, Lifting, Thinning						X	Based on species, season and age
11	Pruning-Tree Roots						X	
	Inspect shrubs	X						
	Raise plants that have settled						X	
13	Staking-Remove/Adjust	X						
14	Vine Training						X	
D.	**Paved Area Care**	**Daily**	**Weekly**	**Bi-Weekly**	**Monthly**	**X/Year**	**As Needed**	**Comments**
1	Leaf Litter Removal	X						
2	Trash Removal	X						
3	Neat Appearance	X						
4	Weed Control						X	
G.	**Special Considerations**	**Daily**	**Weekly**	**Bi-Weekly**	**Monthly**	**X/Year**	**As Needed**	**Comments**
1	Site Reviews/Inspections				X			
2	Landscape Maint.Report					4X		
3	Irrigation Report					4X		
5	Replace Controller Batteries						X	
6	Soil Moisture Checks		X	X				Trees bi-weekly
7	Soil Sample Testing					2X		
8	Soil Compaction Tests					4X		
9	Clean Valve Boxes					1X		
10	Equipment Cleaning/Maintenance		X					
11	Mulch Replenishment				X			

P21 Port of SF Frequency Schedule General Maintenance

	Daily	X/Wk	Weekly	Monthly	X/Year	As Needed	Comments
Litter Control							
Control litter	X						
Empty trash receptacles	X						
Control litter after events						X	Extra per event
Signage							
Inspect	X						
Remove postings/graffiti						X	Immidately
Clean	X						
Hardscape pathways							
Inspect	X						
Repair						X	Secure area and repair immediately
Preventative Maintenance					4X		
Bike racks							
Inspect	X						
Repair						X	
Walls and Exterior Surfaces							
Clean sitting wall surfaces			X				
Inspect	X						
Touch-up or repaint						X	
Site Furniture							
Inspect	X						
Cleaned			X			X	
Maintain/Repair						X	Per manufacturers recommendation
Lighting and Electrical							
Inventory all light bulbs and build stock							On-going
Replace lamps						X	
Clean fixtures					2X		
Inspect			X				
Repair						X	
Preventative Maintenance					2X		
Plumbing							
Inspect drains				X			
Preventive Maintenance Drains					3X		Enzymes or flush
Backflow device testing					1X		
Inspect water meters					1X		Or as needed
Preventive Maintenance Pumps				X			Repair as needed
Storm System, Sanitary System, City Water & Fire Loop							
Inspect to ensure working order	X						
Repair breaks/damage						X	immediately
Clear pipes and clean outs						X	

P22 Port of SF Frequency Schedule of Landscape Maintenance

A.	Lawn Care	Daily	Weekly	Bi-Weekly	Monthly	X/Year	As Needed	Comments
1	Leaf Litter Removal		2X					Seasonal / Location
2	Clipping Removal		X					
3	Neat Appearance	X						
4	Weed Control- Hand pulling	X					X	
5	Irrigation Programming					2X		Seasonal/Water Conservation/Event
6	Irrigation Check				X			
7	Fertilize					2X		
8	Pest Control							
	a. Monitor	X						
	b. Treat turf with Fertilizer including Dimension							As needed by Pest Control subcontractor
9	Mow		X					Seasonal Summer/Winter
10	Edge		X					
11	Aeration					2X		Spot aeration after events as needed
12	Dethatch						X	
13	Overseed turf after events						X	
B.	**Ground Cover Care**	**Daily**	**Weekly**	**Bi-Weekly**	**Monthly**	**X/Year**	**As Needed**	**Comments**
1	Leaf Litter Removal	X						
2	Trash Removal	X						
3	Neat Appearance	X						
4	Weed Control - Hand pulling	X					X	
5	Irrigation Programming					2X		Seasonal/Water Conservation/Event
6	Irrigation Check				X			
7	Fertilize					2X		Or as required based on plant selection
8	Pest Control							
	a. Monitor	X						
	b. Snails					4X		
	c. Other Treatments							
9	Prune						X	Based on species/season
10	Edge						X	Based on species/season
11	Cultivate						X	Based on species/season
C.	**Tree & Shrub Care**	**Daily**	**Weekly**	**Bi-Weekly**	**Monthly**	**X/Year**	**As Needed**	**Comments**
1	Leaf Litter Removal		2X					Seasonal / Location
2	Trash Removal	X						
3	Neat Appearance	X						
4	Weed Control - Hand pulling	X					X	
5	Irrigation Programming					2X		Seasonal/Water Conservation/Event
6	Irrigation Check				X			
7	Fertilize					2X		Or as required based on plant selection
8	IPM							
	a. Monitor	X						
	b. Snails					4X		
	c. Treat trees					3X		
10	Pruning-Size, Lifting, Thinning						X	Based on species, season and age
11	Pruning-Tree Roots						X	
	Inspect shrubs	X						
	Raise plants that have settled						X	
13	Staking-Remove/Adjust	X						
14	Vine Training						X	
D.	**Paved Area Care**	**Daily**	**Weekly**	**Bi-Weekly**	**Monthly**	**X/Year**	**As Needed**	**Comments**
1	Leaf Litter Removal	X						
2	Trash Removal	X						
3	Neat Appearance	X						
4	Weed Control						X	

G.	Special Considerations	Daily	Weekly	Bi-Weekly	Monthly	X/Year	As Needed	Comments
1	Site Reviews/Inspections				X			
2	Landscape Maint.Report					4X		
3	Irrigation Report					4X		
5	Replace Controller Batteries						X	
6	Soil Moisture Checks		X	X				Trees bi-weekly
7	Soil Sample Testing					2X		
8	Soil Compaction Tests					4X		
9	Clean Valve Boxes					1X		
10	Equipment Cleaning/Maintenance		X					
11	Mulch Replenishment				X			

P22 Port of SF Frequency Schedule General Maintenance

	Daily	X/Wk	Weekly	Monthly	X/Year	As Needed	Comments
Litter Control							
Control litter	X						
Empty trash receptacles	X						
Control litter after events						X	Extra per event
Signage							
Inspect	X						
Remove postings/graffiti						X	Immidately
Clean	X						
Hardscape pathways							
Inspect	X						
Repair						X	Secure area and repair immediately
Preventative Maintenance					4X		
Bike racks							
Inspect	X						
Repair						X	
Walls and Exterior Surfaces							
Clean sitting wall surfaces			X				
Inspect	X						
Touch-up or repaint						X	
Site Furniture							
Inspect	X						
Cleaned			X			X	
Maintain/Repair						X	Per manufacturers recommendation
Lighting and Electrical							
Inventory all light bulbs and build stock							On-going
Replace lamps						X	
Clean fixtures					2X		
Inspect			X				
Repair						X	
Preventative Maintenance					2X		
Plumbing							
Inspect drains				X			
Preventive Maintenance Drains					3X		Enzymes or flush
Backflow device testing					1X		
Inspect water meters					1X		Or as needed
Preventive Maintenance Pumps				X			Repair as needed
Storm System, Sanitary System, City Water & Fire Loop							
Inspect to ensure working order	X						
Repair breaks/damage						X	immediately
Clear pipes and clean outs						X	

P23 Port of SF Frequency Schedule of Landscape Maintenance

A.	Lawn Care	Daily	Weekly	Bi-Weekly	Monthly	X/Year	As Needed	Comments
1	Leaf Litter Removal		2X					Seasonal / Location
2	Clipping Removal		X					
3	Neat Appearance	X						
4	Weed Control- Hand pulling	X					X	
5	Irrigation Programming					2X		Seasonal/Water Conservation/Event
6	Irrigation Check				X			
7	Fertilize					2X		
8	Pest Control							
	a. Monitor	X						
	b. Treat turf with Fertilizer including Dimension							As needed by Pest Control subcontractor
9	Mow		X					Seasonal Summer/Winter
10	Edge		X					
11	Aeration					2X		Spot aeration after events as needed
12	Dethatch						X	
13	Overseed turf after events						X	
B.	**Ground Cover Care**	**Daily**	**Weekly**	**Bi-Weekly**	**Monthly**	**X/Year**	**As Needed**	**Comments**
1	Leaf Litter Removal	X						
2	Trash Removal	X						
3	Neat Appearance	X						
4	Weed Control - Hand pulling	X					X	
5	Irrigation Programming					2X		Seasonal/Water Conservation/Event
6	Irrigation Check				X			
7	Fertilize					2X		Or as required based on plant selection
8	Pest Control							
	a. Monitor	X						
	b. Snails					4X		
	c. Other Treatments							
9	Prune						X	Based on species/season
10	Edge						X	Based on species/season
11	Cultivate						X	Based on species/season
C.	**Tree & Shrub Care**	**Daily**	**Weekly**	**Bi-Weekly**	**Monthly**	**X/Year**	**As Needed**	**Comments**
1	Leaf Litter Removal		2X					Seasonal / Location
2	Trash Removal	X						
3	Neat Appearance	X						
4	Weed Control - Hand pulling	X					X	
5	Irrigation Programming					2X		Seasonal/Water Conservation/Event
6	Irrigation Check				X			
7	Fertilize					2X		Or as required based on plant selection
8	IPM							
	a. Monitor	X						
	b. Snails					4X		
	c. Treat trees					3X		
10	Pruning-Size, Lifting, Thinning						X	Based on species, season and age
11	Pruning-Tree Roots						X	
	Inspect shrubs	X						
	Raise plants that have settled						X	
13	Staking-Remove/Adjust	X						
14	Vine Training						X	
D.	**Paved Area Care**	**Daily**	**Weekly**	**Bi-Weekly**	**Monthly**	**X/Year**	**As Needed**	**Comments**
1	Leaf Litter Removal	X						
2	Trash Removal	X						
3	Neat Appearance	X						
4	Weed Control						X	

G.	Special Considerations	Daily	Weekly	Bi-Weekly	Monthly	X/Year	As Needed	Comments
1	Site Reviews/Inspections				X			
2	Landscape Maint.Report					4X		
3	Irrigation Report					4X		
5	Replace Controller Batteries						X	
6	Soil Moisture Checks		X	X				Trees bi-weekly
7	Soil Sample Testing					2X		
8	Soil Compaction Tests					4X		
9	Clean Valve Boxes					1X		
10	Equipment Cleaning/Maintenance		X					
11	Mulch Replenishment				X			

P23 Port of SF Frequency Schedule General Maintenance

	Daily	X/Wk	Weekly	Monthly	X/Year	As Needed	Comments
Litter Control							
Control litter	X						
Empty trash receptacles	X						
Control litter after events						X	Extra per event
Signage							
Inspect	X						
Remove postings/graffiti						X	Immidately
Clean	X						
Hardscape pathways							
Inspect	X						
Repair						X	Secure area and repair immediately
Preventative Maintenance					4X		
Bike racks							
Inspect	X						
Repair						X	
Walls and Exterior Surfaces							
Clean sitting wall surfaces			X				
Inspect	X						
Touch-up or repaint						X	
Site Furniture							
Inspect	X						
Cleaned			X			X	
Maintain/Repair						X	Per manufacturers recommendation
Lighting and Electrical							
Inventory all light bulbs and build stock							On-going
Replace lamps						X	
Clean fixtures					2X		
Inspect			X				
Repair						X	
Preventative Maintenance					2X		
Plumbing							
Inspect drains				X			
Preventive Maintenance Drains					3X		Enzymes or flush
Backflow device testing					1X		
Inspect water meters					1X		Or as needed
Preventive Maintenance Pumps				X			Repair as needed
Storm System, Sanitary System, City Water & Fire Loop							
Inspect to ensure working order	X						
Repair breaks/damage						X	immediately
Clear pipes and clean outs						X	

P24 Port of SF Frequency Schedule of Landscape Maintenance

A.	Lawn Care	Daily	Weekly	Bi-Weekly	Monthly	X/Year	As Needed	Comments
1	Leaf Litter Removal		2X					Seasonal / Location
2	Clipping Removal		X					
3	Neat Appearance	X						
4	Weed Control- Hand pulling	X					X	
5	Irrigation Programming					2X		Seasonal/Water Conservation/Event
6	Irrigation Check				X			
7	Fertilize					2X		
8	Pest Control							
	a. Monitor	X						
	b. Treat turf with Fertilizer including Dimension							As needed by Pest Control subcontractor
9	Mow		X					Seasonal Summer/Winter
10	Edge		X					
11	Aeration					2X		Spot aeration after events as needed
12	Dethatch						X	
13	Overseed turf after events						X	

B.	Ground Cover Care	Daily	Weekly	Bi-Weekly	Monthly	X/Year	As Needed	Comments
1	Leaf Litter Removal	X						
2	Trash Removal	X						
3	Neat Appearance	X						
4	Weed Control - Hand pulling	X					X	
5	Irrigation Programming					2X		Seasonal/Water Conservation/Event
6	Irrigation Check				X			
7	Fertilize					2X		Or as required based on plant selection
8	Pest Control							
	a. Monitor	X						
	b. Snails					4X		
	c. Other Treatments							
9	Prune						X	Based on species/season
10	Edge						X	Based on species/season
11	Cultivate						X	Based on species/season

C.	Tree & Shrub Care	Daily	Weekly	Bi-Weekly	Monthly	X/Year	As Needed	Comments
1	Leaf Litter Removal		2X					Seasonal / Location
2	Trash Removal	X						
3	Neat Appearance	X						
4	Weed Control - Hand pulling	X					X	
5	Irrigation Programming					2X		Seasonal/Water Conservation/Event
6	Irrigation Check				X			
7	Fertilize					2X		Or as required based on plant selection
8	IPM							
	a. Monitor	X						
	b. Snails					4X		
	c. Treat trees					3X		
10	Pruning-Size, Lifting, Thinning						X	Based on species, season and age
11	Pruning-Tree Roots						X	
	Inspect shrubs	X						
	Raise plants that have settled						X	
13	Staking-Remove/Adjust	X						
14	Vine Training						X	

D.	Paved Area Care	Daily	Weekly	Bi-Weekly	Monthly	X/Year	As Needed	Comments
1	Leaf Litter Removal	X						
2	Trash Removal	X						
3	Neat Appearance	X						
4	Weed Control						X	

G.	Special Considerations	Daily	Weekly	Bi-Weekly	Monthly	X/Year	As Needed	Comments
1	Site Reviews/Inspections				X			
2	Landscape Maint.Report					4X		
3	Irrigation Report					4X		
5	Replace Controller Batteries						X	
6	Soil Moisture Checks		X	X				Trees bi-weekly
7	Soil Sample Testing					2X		
8	Soil Compaction Tests					4X		
9	Clean Valve Boxes					1X		
10	Equipment Cleaning/Maintenance		X					
11	Mulch Replenishment				X			

P24 Port of SF Frequency Schedule General Maintenance

	Daily	X/Wk	Weekly	Monthly	X/Year	As Needed	Comments
Litter Control							
Control litter	X						
Empty trash receptacles	X						
Control litter after events						X	Extra per event
Signage							
Inspect	X						
Remove postings/graffiti						X	Immidately
Clean	X						
Hardscape pathways							
Inspect	X						
Repair						X	Secure area and repair immediately
Preventative Maintenance					4X		
Bike racks							
Inspect	X						
Repair						X	
Walls and Exterior Surfaces							
Clean sitting wall surfaces			X				
Inspect	X						
Touch-up or repaint						X	
Site Furniture							
Inspect	X						
Cleaned			X			X	
Maintain/Repair						X	Per manufacturers recommendation
Lighting and Electrical							
Inventory all light bulbs and build stock							On-going
Replace lamps						X	
Clean fixtures					2X		
Inspect			X				
Repair						X	
Preventative Maintenance					2X		
Plumbing							
Inspect drains				X			
Preventive Maintenance Drains					3X		Enzymes or flush
Backflow device testing					1X		
Inspect water meters					1X		Or as needed
Preventive Maintenance Pumps				X			Repair as needed
Inspect restroom faucets and toilets	X						Repair as needed
Storm System, Sanitary System, City Water & Fire Loop							
Inspect to ensure working order	X						
Repair breaks/damage						X	immediately
Clear pipes and clean outs						X	

EXHIBIT C

APPROVED BUDGET

Sources	
OCII Funding	$ 510,000
Total Sources	**$ 510,000**
Uses	
Maintenance Staffing	209,749
Parks Management Staffing	36,540
Security and Pest Control	18,020
Utilities	19,550
Materials and Supplies, Equipment	101,775
Overhead	170,344
Subtotal	$ 555,978
P22 Savings Due to Mid Year Delivery and Landscaping Warranty	(45,978)
Total Uses	**$ 510,000**

Exhibit D

RISK MANAGEMENT PLAN
MISSION BAY AREA
SAN FRANCISCO, CALIFORNIA

Submitted to:
California Regional Water Quality Control Board
San Francisco Bay Region

California Environmental Protection Agency
Department of Toxic Substances Control

Prepared by:
ENVIRON Corporation
Emeryville, CA

May 11, 1999
03-6381S

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GLOSSARY

ABAG	Association of Bay Area Governments
Agency	San Francisco Redevelopment Agency
BMP	Best Management Practices
BTEX	benzene, toluene, ethylbenzene and xylenes
Cal/EPA	California Environmental Protection Agency
City	City and County of San Francisco
DataRAM	Real-time dust monitoring instrument
Development	defined in Section 1.0
DTSC	Department of Toxic Substances Control
EHASP	Environmental Health and Safety Plan
Fill	defined in Section 4.3.5.5
Free Product	defined in Section 4.4
FSEIR	Final Subsequent Environmental Impact Report
General Permit	General Permit for discharge of stormwater from construction sites per SWRCB Order No. 92-08 DWQ, discussed in Section 4.3.3
HI	Hazard Index
ITL	Interim Target Level; defined in Section 3.1
Inorganics	Metals (identified in Appendix A), Asbestos, Fluoride and Sulfide
Interim Period	defined in Section 3.1
IRRM	Interim Risk Management Measures
Native Soils	defined in Section 1.0
NPDES	National Pollutant Discharge Elimination System
OVA	Organic Vapor Analyzer
OVM	Organic Vapor Meter
Owner	defined in Section 1.0
PAH	Polycyclic Aromatic Hydrocarbons
PCBs	Polychlorinated Biphenyls
PEL	Permissible Exposure Limit; defined in Section 4.3.8.2
PM_{10}	Particulate Matter with aerodynamic diameter less than 10 microns
PPE	Personal Protective Equipment; defined in Section 4.3.8.2
Redevelopment Plans	defined in Section 1.0
RMP	Risk Management Plan
RMP Area	defined in Section 1.0
RWQCB	Regional Water Quality Control Board for the San Francisco Bay Region
SSTL	Site Specific Target Level; defined in Section 4.3.5.5.1
SVOC	Semivolatile organic compounds
SFDPH	San Francisco Department of Public Health
SFDPW	San Francisco Department of Public Works
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TPH-d	Total Petroleum Hydrocarbons, in the diesel range
TPH-g	Total Petroleum Hydrocarbons, in the gasoline range
TPH-mo	Total Petroleum Hydrocarbons, in the motor oil range

GLOSSARY (Continued)

UCL	Upper confidence limit
UCSF	University of California, San Francisco
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VOC	Volatile Organic Compound

1.0 INTRODUCTION

This Risk Management Plan (RMP), prepared by ENVIRON for the Mission Bay area, presents the decision framework and the specific protocols for managing the chemicals in the soil and ground water in a manner that is protective of human health and the ecological environment, consistent with the existing and planned future land uses, and compatible with long-term phased development. The RMP delineates the specific risk management measures that must be implemented prior to, during, and after development of each parcel within the Mission Bay area. The RMP was prepared following extensive environmental investigations and human health and ecological risk analyses, all of which were conducted by ENVIRON under the direction of the San Francisco Regional Water Quality Control Board (RWQCB) and other relevant regulatory agencies principally between 1996 and 1998. The workplans, site investigations, risk evaluations, and technical memoranda prepared between 1996 and 1998, in addition to numerous agency correspondence, are all on file at the RWQCB. These documents, and other environmental documents relevant to the RMP Area (as defined herein) submitted to the RWQCB and the City and County of San Francisco (City) are specified in a Document Index maintained by the RWQCB and the San Francisco Department of Public Health (SFDPH), as described in Section 6.1.2. For purposes of this RMP, the term "RWQCB" refers to the Regional Water Quality Control Board for the San Francisco Bay Region, it's Executive Officer, or staff authorized to make decisions regarding the subject at issue.

This RMP was prepared solely for use within the RMP Area and is not intended to be applied for the management of risks within any area or project not otherwise explicitly identified in the RMP. The RMP satisfies the applicable provisions of mitigation measures J1 and J2 (and associated Mitigation Monitoring and Reporting Program), adopted by the San Francisco Board of Supervisors for the Mission Bay Project Area on October 19, 1998, that require that the project applicant develop and implement an RMP containing specified measures. Although this RMP sets forth the requirements to appropriately manage the chemicals in soil and ground water, the RMP is not intended to catalogue all other legal requirements that may apply to the project or to activities conducted within the RMP Area.

Current and future owners, occupants and managers, or contractors delegated or authorized to perform property maintenance or construction are required to comply with the measures identified in the RMP when engaging in the relevant activities discussed. A Covenant and Environmental Restriction ("Environmental Covenant") recorded against each parcel in the RMP Area will require Owner and/or Lessee (as described below) compliance with the RMP measures. The Environmental Covenant places responsibility for compliance with the Owner and/or Lessee of the parcel at the time the activity is conducted, even when such Owner or Lessee has contracted with another party to perform those measures. The term "Owner" or "Owners" as used in this RMP, shall mean those persons (whether individuals, corporations, or other legal entities) who, at such time when activities regulated by this RMP are conducted, hold title to a parcel in the RMP Area. With regard to any property held by more than one fee owner as part of a condominium or other common interest residential development where management of common areas is delegated to a homeowners association or other similar entity, the "Owner" for this RMP shall mean only the homeowners association or other similar entity, and individual unit or interest holders shall not be considered "Owners". The term "Lessee" or "Lessees" as used in this RMP shall mean those persons (whether individuals, corporations, or other legal entities) who, are entitled by ownership, leasehold, license, permit or other legal relationship with an Owner, to enter and exclusively occupy the RMP Area and to engage in activities that are regulated by this RMP. A former Owner or former Lessee, licensee, permittee, or other former holder of a property or contract right who, at such time when activities regulated by this RMP are conducted, no longer holds an interest in title to a parcel or no longer has a property or contract interest in a parcel, will not be considered an Owner or Lessee for purposes of this RMP.

Catellus Development Corporation (Catellus), the University of California at San Francisco (UCSF), the City and County of San Francisco (City), the Port of San Francisco, and the San Francisco Redevelopment Agency (Agency) have previously entered into a series of contractual agreements in which, for specified periods of time and for specified activities in particular areas, the one or another party has agreed to assume the responsibilities of the Owner of the parcel. The agreements may be modified over time, and new agreements may be executed among those parties and other parties. Nothing in this RMP is intended to nor will it abrogate those contractual commitments between the parties. The purpose of this RMP is to specify what

activities are required at particular times in particular areas. If contracts between the parties identify a performing entity for particular activities, then as between those parties that commitment shall govern.

The California Environmental Protection Agency (Cal/EPA) designated the San Francisco Regional Water Quality Control Board (RWQCB) as the "Administering Agency" under Assembly Bill (AB) 2061 on July 15, 1997. As the Administering Agency, the RWQCB is responsible for overseeing the site investigation and remediation of the Mission Bay area. The site investigations and risk evaluations were completed between December 1996 and April 1998 and were submitted to the RWQCB for their review and approval. On May 20, 1998 the RWQCB adopted Resolution 98-044, stating that the site investigations conducted in the Mission Bay area were complete and that the proposed plan for managing the remaining environmental conditions, through the preparation of an RMP and the submittal of an enforceable deed restriction, was satisfactory, recognizing that the investigation and remediation of the Free Product (as defined in Section 4.4) are being separately addressed in the RWQCB Order 98-028 (described further in Section 2.0). The human health standards that have been approved by the RWQCB as appropriate for the RMP Area (as defined herein) Mission Bay area are a cumulative cancer risk of $1x10^{-5}$ and a Hazard Index (HI) of 1.0. These are the standards that were used in all previous health risk evaluations, and are the standards that are appropriate to be used in any subsequent risk evaluations that may be conducted within the RMP Area.

The Mission Bay RMP Area (RMP Area) is identified in Figure 1. The RMP applies to all areas identified in Figure 1. As indicated in the Figure, the RMP Area generally consists of two Redevelopment Areas, Mission Bay North and Mission Bay South. However, the RMP Area and the two Redevelopment Area boundaries differ slightly along the banks of China Basin Channel and adjacent to San Francisco Bay, where instead of following the straight lines of the Redevelopment Area boundaries, the RMP Area extends to the edge of the high tide line, defined for the purposes of this RMP as 95 feet Mission Bay Datum elevation and covers the areas upland. A legal description of the RMP Area is included in Appendix H. Mission Bay North is approximately 65 acres in size and is generally bounded by Townsend and King Street to the northwest, Sixth and Seventh Streets to the southwest, Third and Fourth Streets to the northeast, and Berry Street and China Basin Channel to the southeast. Mission Bay North is located in a

mixed industrial and commercial area. Mission Bay South is approximately 230 acres and is generally bounded by China Basin Channel to the north, Third Street and San Francisco Bay to the east, Mariposa Street to the south, and Seventh Street to the west. Mission Bay South is located in a mixed industrial and commercial area.

The RMP Area will be developed as a mixed-use site, including multi-family housing (including both market rate and affordable, rental and for-sale units), public open space, retail and commercial uses, a hotel, a school, a police and fire station, and office, biotech, research and development facilities. In addition, approximately 43 acres will constitute an expansion campus for UCSF. A schematic of the Mission Bay land use plan is presented in Figure 2. When development is complete, the existing Native Soil (defined as soil that exists in the RMP Area prior to approval of the RMP) will be completely covered by buildings, streets, sidewalks and landscaping. All landscaped areas will contain between 1.0 and 1.5 feet of Fill (defined and discussed in Section 4.3.5.5). While there will be widely distributed public open space in the RMP Area, there will be no unrestricted access to the Native Soil.

Development of the Mission Bay RMP Area is anticipated to occur over many years. While development of the RMP Area is underway, many of the existing uses and structures would initially remain. However, over time, existing and interim uses and buildings would be replaced with land uses proposed within the Redevelopment Plans, which specifies the land use plans for Mission Bay North and South. Almost all buildings within the RMP Area will be demolished over time to permit full development of the RMP Area. Demolition activities will occur on a parcel-by-parcel basis, as development will be carried out in phases. The actual pace of construction will vary based on factors such as the rate of market absorption or by the availability of financing.

Soil and ground water investigations were conducted between 1996 and 1997 in order to characterize the environmental conditions in the RMP Area and to identify significant source areas that could impact human health and the environment. The site investigations discovered the presence of certain chemicals in the soils and ground water within the RMP Area. Because chemicals are present within the RMP Area, numerous risk evaluations were conducted to confirm that the site could be developed as planned, in a manner that would be safe for human health and the environment. This RMP represents the culmination of a series of investigations

and analyses, all of which were aimed at identifying the significant environmental conditions within the RMP Area, analyzing the impact of those conditions on human health and the environment, and developing the appropriate range of risk management measures that would be effective in reducing any potential impacts. The environmental documents used in the development of the RMP are specified in a reference list contained in Section 7.0 of this RMP. While this RMP provides a summary of the various environmental findings in the site-specific environmental investigations, the reader should refer to the reports in Section 7.0 for more details regarding the specific findings of these investigations.

Since the development of the RMP Area will occur in phases over many years, some parcels will be occupied while surrounding parcels will be under construction. Thus, the risk management measures governing the RMP Area are presented for three overlapping time periods: the time period prior to development (Section 3.0), the time period during development (Section 4.0) and the time period after development is complete (Section 5.0). The risk management measures described for the three overlapping time periods are all important components of an overall integrated RMP that will govern the phased development and occupancy of the RMP Area occurring over many years. The term "development" is defined as the construction of new buildings, roads, infrastructure, landscaping, driveways, regrading, paving or the demolition of existing buildings, when such activities will include the disturbance of Native Soils or contact with the ground water.

A general outline for the RMP, identifying those sections of the RMP that delineate the management measures applicable to the different activities and phases of the development, is provided below. The intent of the outline is to enable any user of the RMP (i.e., contractor, Owner, person with maintenance responsibilities) to advance directly to the sections of the document which govern their activities or responsibilities.

Section 2.0: General Background Information on the Constituents Detected

- Section 2.0 presents a brief summary of the existing environmental conditions in the RMP Area, as identified during the soil and ground water investigations.

Section 3.0: Risk Management Measures Applicable to Parcels Prior to Development

- Section 3.0 describes the risk management measures that need to be implemented on the parcels within the RMP Area prior to the development of the parcel. The management measures identified in this section are applicable to all parcels until the time at which the development of those parcels is initiated (at which point Section 4.0 will apply). The parties who are responsible for complying with the management measures described in Section 3.0 include Owners, Lessees, or some other entity, such as a property management company, designated or certified by the Owner to conduct property maintenance activities.

Section 4.0: Risk Management Measures to be Implemented During the Development of Parcels

- Section 4.0 describes the risk management measures to be implemented during the actual development of given parcels. These risk management measures include dust control measures, soil management protocols, storm water pollution prevention plan requirements, worker health and safety planning requirements, and a framework for complying with the Ordinance Requirements for Analyzing the Soil for Hazardous Wastes. Section 4.0 also identifies specific management measures that may need to be implemented when development activities occur in the Free Product Area, as identified in Figure 3 (defined and discussed in Section 4.4). The parties who are responsible for complying with the management measures described in Section 4.0 include Owners, Lessees, or some other entity, such as a contractor, designated or certified by the Owner or Lessee to conduct property development and/or maintenance activities.

Section 5.0: Risk Management Measures After Development of a Parcel is Complete

- Section 5.0 describes the long-term management measures that will be implemented at each parcel after the development of that parcel is complete.

These management measures will need to be followed to manage and maintain the cover (which will consist of buildings, streets and landscaped areas) and in the event that construction or further development occurs at some point in the future. The individuals who are responsible for complying with the management measures described in Section 5.0 include Owners, Lessees, or some other entity, such as a property management company designated or certified by the Owner or Lessee to conduct property maintenance activities.

Section 6.0: Regulatory Oversight and Enforcement of RMP

- Section 6.0 presents the regulatory oversight and enforcement mechanisms that will provide the structure for the risk management measures applicable to the RMP Area to remain in place and continue to be effective. This section identifies the process for modifying the RMP, and the mechanism through which Owners and Lessees will be notified of the RMP and informed of compliance obligations. This section also describes the Environmental Covenant that is recorded against each parcel and which will provide notice of and require compliance with the terms of the RMP. Additionally, this section describes the monitoring and reporting that will be required for each of the phases of the development and the process through which the RWQCB maintains the regulatory authority to enforce all provisions of the RMP.

2.0 PRINCIPAL ENVIRONMENTAL FINDINGS

2.1 Principal Environmental Conditions Identified During the Soil and Ground Water Investigations

This section provides a brief summary of the principal findings from the investigations conducted in Mission Bay North and Mission Bay South, highlighting those environmental conditions that guided the development of the risk management measures. The environmental investigations have been approved by the RWQCB as complete, and are on file at the RWQCB office and SFDPH, as described in Section 6.1. The information presented in this section has been summarized from the site investigation reports prepared for Mission Bay North (ENVIRON 1997) and Mission Bay South (ENVIRON 1998a; ENVIRON 1998b; ENVIRON 1998c). The reader should refer to these reports for more detail of the investigation results. As described in these reports, soil and ground water samples were analyzed for polychlorinated biphenyls (PCBs) and pesticides, semivolatile organic chemicals (SVOCs), volatile organic compounds (VOCs), total petroleum hydrocarbons in the gasoline, diesel and motor oil ranges, acidity and alkalinity (pH), asbestos and metals. Hydrogeologic findings, detailed discussions of chemical testing programs and the complete analytical data for each investigation are presented in the site investigation reports. Tabular summaries of the soil and ground water results are presented in Appendix A of this RMP. Impacts on water quality, public health and the environment posed by these compounds were evaluated in the context of the proposed land use. The results from the environmental investigations are as follows:

- Principal chemicals detected throughout the RMP Area were petroleum hydrocarbons and inorganics (which includes metals, such as lead). Total petroleum hydrocarbons (TPH) were detected throughout the RMP Area, in both the soil and the ground water. The majority of the detections correspond to the heavier end petroleum hydrocarbons, particularly in the diesel (TPH-d) and motor oil (TPH-mo) ranges. For the RMP Area as a whole, most of the higher detections of TPH are located in the region of former petroleum bulk storage, pipelines and transfer facilities near the Free Product Area (defined and discussed

in Section 4.4). Metals were detected throughout the RMP Area, in the soil and ground water. The distribution patterns of metals in the soil and ground water are not representative of isolated source areas; rather, the concentrations of metals are more likely related to the background concentrations associated with the Mission Bay fill materials placed at the turn of the century. Additionally, asbestos was detected in the soil throughout the RMP Area, and appears to be primarily associated with serpentinite rock which was imported to fill Mission Bay, although some areas contain serpentinite rock which is native to the Mission Bay area.

- Only low concentrations of Volatile Organic Compounds (VOCs), below risk-based site specific target levels (SSTLs), were detected in soil or ground water. Select volatiles (principally benzene, toluene, ethylbenzene and xylenes, collectively referred to as BTEX) were detected in limited concentrations, and tended to be concentrated around the former petroleum storage facilities.

- No chemicals were detected at concentrations that would pose a threat to human health or the aquatic ecosystem following the completion of the planned development, with the potential exception of the Free Product Area. Although the analyses have shown that the Free Product Area would not adversely impact human health either prior to or following completion of the planned development (ENVIRON 1998a; ENVIRON 1999), the potential impact that the free product may have on the aquatic ecosystem is the subject of additional investigations.

- The Free Product Area, east of Illinois Street near 16th Street (Figure 3), is the subject of additional investigations. These investigations are being conducted by a group of oil companies that formerly operated in the area, under RWQCB Order 98-028.

3.0 RISK MANAGEMENT MEASURES PRIOR TO DEVELOPMENT

3.1 Introduction

The purpose of the following section is to describe the interim risk management measures (IRMM) that will be implemented to minimize potential impacts associated with the exposed Native Soils that may exist on parcels within the RMP Area during the Interim Period, which is defined for each parcel as the period of time between: (i) the date that the RMP is approved and the Environmental Covenant is recorded against the parcel and; (ii) the commencement of development of that parcel. These management measures apply to all parcels within the RMP Area before development of the parcel commences; the IRMMs are developed to be protective of populations on both the undeveloped parcel and on developed parcels that may be located directly adjacent to areas that have not been developed and therefore may contain exposed Native Soils. The IRMMs are based, in part, on an analysis of the potential human health risks posed by the exposed Native Soils that exist on parcels within the RMP Area. The human health risk evaluation was conducted by developing chemical-specific interim target levels (ITLs) that will be protective of the human populations that could be exposed to the uncovered soils based on projected future uses, prior to commencement of development (ENVIRON 1999). A comparison of the concentrations of chemicals detected in soils to the health-based ITLs provided the basis for identifying areas where interim risk management measures are appropriate, and the foundation for developing an overall site-wide interim plan that will manage existing conditions in the RMP Area until development throughout the RMP Area is complete. Implementation of the IRMMs outlined in this section will reduce the potential human health impacts posed by exposed Native Soils prior to development, and will simultaneously fulfill other long-term property management objectives. Risk management measures outlined here are protective of human health and the environment during the respective Interim Periods for each parcel. The risk management measures that will be implemented to lessen impacts associated with the actual construction and development of parcels within the RMP Area (e.g., impacts associated with dust

generated during construction), including the soil management procedures and the measures to protect the construction workers involved in the buildout of the RMP Area, are discussed in Section 4.0.

3.2 Risk Management Measures to be Implemented on Parcels Prior to Commencement of Development

The risk management objective for the Interim Period is to protect current and future populations from the potential impacts associated with exposed Native Soils that exist on various parcels throughout the RMP Area. To achieve this objective, risk-based evaluations were conducted to determine whether exposure to Native Soils present on parcels within the RMP Area could pose a risk to populations who could be present in the RMP Area throughout the period of development. Health-based ITLs were calculated for each of the chemicals present in the exposed Native Soils using standard United States Environmental Protection Agency (USEPA) and Department of Toxic Substance Control (DTSC) risk assessment protocols. The ITLs were developed by assuming that human populations in the area could be exposed to the Native Soils through the inhalation of fugitive dusts, soil ingestion, and dermal contact exposure pathways for an extended 25- to 30- year period.

The results of the risk-based evaluations indicated that exposure to the chemicals present in the Native Soils through the inhalation of fugitive dusts generated from natural wind erosion will not adversely impact the health of either current or future populations who may be present in or adjacent to the RMP Area. In addition, mean chemical concentrations in surface soil (estimated by calculating the 95 percent upper confidence limit (UCL) of the arithmetic mean) were below the ITLs developed under assumptions of long-term (i.e., 25 to 30 years) direct contact pathways (i.e., soil ingestion and dermal contact). However, several individual locations within the RMP Area contain chemicals (primarily metals) that exceed the health-based ITLs. The health-based ITLs (Tables B-1 through B-3), a comparison of the lowest of the ITLs to concentrations detected within the RMP Area (Table B-4), and a figure indicating the specific locations where levels of chemicals exceed the health-based ITLs (Figure B-1), are presented in Appendix B.

Although a review of the average concentrations of chemicals in surface soils indicates that even long-term (i.e., 25 to 30 year) direct contact with exposed Native Soil would not be expected to adversely impact human health, any form of risk management that minimizes long-term direct contact with the Native Soils will be effective in minimizing potential risks associated with long-term direct contact with the soils and will be protective of all individuals that may be present in the RMP Area throughout the Interim Period. Risk management measures which will restrict unauthorized access to the exposed Native Soils will minimize the potential for long-term direct contact, and will provide additional benefits such as limiting the unauthorized use of the RMP Area by trespassers, reducing the potential for unauthorized dumping, and improving the overall aesthetic quality of the area. Given the multiple benefits gained from controlling access, the following IRMMs will be implemented by Owners or their designees:

i) Install Fencing and Gates to Restrict Unauthorized Access to Exposed Native Soils. Fencing and gates will be installed on all parcels that contain areas of exposed Native Soils, as depicted in Figure B-2. The fences will be chain link or equivalent fences that are a minimum of 6 feet in height. The fences will be of sufficient integrity such that they can withstand adverse weather conditions (e.g., heavy rains or winds). As indicated in Figure B-2, the portions of the RMP Area that are not fenced include: i) areas that are covered by asphalt, concrete, or buildings; or ii) railroad right-of-ways which are covered with a minimum of one-foot of ballast (aggregate). The installation of fencing will restrict unauthorized access to vacant parcels with exposed Native Soil. Fencing will also limit the potential for vehicles to travel on unauthorized areas and generate dusts. In addition to the installation of fencing, "No Trespassing" signs will be posted every 250 feet to inform individuals that access to the fenced areas is illegal. Fencing will remain until the areas of exposed Native Soils are covered or until development of a parcel commences, at which time the management measures governing the development of a parcel (described in Section 4.0) must be

followed. It is the responsibility of the Owner or Lessee of each parcel (or the Owner or Lessee's delegate) to maintain fencing.

ii) Install Fencing on Parcels that Become Vacant During the Interim Period. Any parcels where demolition or other activities will result in the uncovering of soils during the Interim Period shall be fenced within three working days after demolition so that access to any exposed Native Soils on the parcels is restricted. As described above, fencing will be maintained until development of the parcel commences or the parcel is paved or otherwise covered.

iii. Regulatory Approval Required for Specified Interim Uses. As described in the Redevelopment Plans, there will from time to time be additional industrial/commercial uses which may occur in areas with exposed Native Soils within the RMP Area prior to the time "development", as defined in Section 1.0, occurs. A comparison of the maximum concentrations detected in the surface soils to the ITLs developed for the commercial/industrial scenario indicates that only substantial daily contact with exposed Native Soils occurring for more than two and one-half years would potentially be of concern and would warrant any form of further evaluation or regulatory approval[1]. New interim leases, which would permit substantial contact with exposed Native Soils for more than two and one-half years are not permitted, absent written approval of the RWQCB. The phrase "substantial contact with exposed Native Soils" would include any enterprise whose primary area of activity was located over or in the exposed Native Soils. An example of a new interim lease that would require RWQCB approval would include a parking lot operation located on exposed Native Soils where employees could potentially be continuously exposed to such Native Soils for more than 2.5

[1] The threshold exposure period of two and one half years was determined by adjusting the commercial worker ITLs to account for worker exposures that might occur for periods of less than the assumed 25 years. Commercial worker ITLs developed assuming daily direct contact with soils for 2.5 years (as opposed to the default assumption of 25 years) are less than the maximum concentrations detected in the surface soil across the RMP Area.

years. Examples of contact with exposed Native Soils which are not substantial in nature are businesses whose route of egress and ingress involve driving or walking across such Native Soils or involves employee parking on such Native Soils.

iv) Notification of Tenants. All Lessees and other tenants in the RMP Area will be notified by the Owner that the existing cover (asphalt, concrete, vegetation) is to remain intact. Lessees and tenants will be informed of the need to adopt certain health and safety measures, described in Section 4.0 of this RMP, if such measures are necessary.

v) Conduct All Subsurface Repair Work in Compliance with the Worker Health and Safety Guidelines. All subsurface repair work where workers will come into direct contact with Native Soils, such as the repair of an existing utility or sewer line, will be conducted in compliance with the relevant health and safety guidelines, as described in Section 4.0.

vi) Conduct Periodic Monitoring. In order to verify that the risk management measures that are implemented remain effective in restricting unauthorized access to exposed Native Soils during development of the RMP Area, the RMP Area will be inspected on a quarterly basis by the respective property Owners (or designees). The inspections will be conducted to verify that the access restriction measures are in place, and will identify areas where temporary fencing might need to be reinstalled. Additionally, the monitoring will include inspections of the asphalt-covered areas to verify that breaches in the existing cover have not occurred. A breach in the cover is a condition in which prolonged direct contact with Native Soils could occur. If the inspections identify areas where the fencing has been removed, or the existing cover has been breached, then one of the following response actions will be implemented as soon as reasonably practicable: 1) restore the fencing or install new fencing; or 2) repair the cover. Owners shall

submit copies of the quarterly inspection reports to the RWQCB and the SFDPH by January 31 of each year on an annual basis. A Reporting Checklist is presented in Appendix C, identifying each management measure and the specific reporting requirements for the different periods of development. A sample inspection sheet, which contains the minimum items that are to be inspected during the monitoring program, is also provided in Appendix C.

vii) Existing Soil Stockpiles: Management of soil stockpiles that exist within the RMP Area prior to the commencement of development, will occur in accordance with the soil stockpile procedures delineated in Section 4.3.5.2.

Implementation of these IRMMs will control access to exposed Native Soils that exist within the RMP Area and may exist throughout the Interim Period, and will protect the health of individuals who may be present during the phased development and occupancy of the RMP Area. This Section 3.0 is not intended to and does not set forth all environmental requirements unrelated to hazardous materials which might apply to the RMP Area prior to development, such as general dust control requirements. Any such applicable requirements will continue to apply independent of the RMP.

4.0 RISK MANAGEMENT MEASURES DURING DEVELOPMENT

4.1 Introduction

The purpose of the following section is to identify the appropriate risk management measures that will be implemented to control potential impacts to human health and the environment associated with exposure to constituents present in the soil and ground water that could result from the construction activities and development of the RMP Area. The risk management measures were developed following the identification and analysis of each potential impact; implementation of these management measures will protect human health, including on-site construction workers, nearby residents and workers, and the environment from potential impacts that may arise during the construction and development of the RMP Area. As described below in Section 4.3.11, additional sampling may be required on individual development parcels in order to comply with the Ordinance Requirements for Analyzing the Soil for Hazardous Wastes in Appendix F. Depending on the results obtained during any additional sampling, supplemental management measures, in addition to the management measures identified below, may be required on a parcel-by-parcel basis.

Section 4.2 identifies the potential activities associated with the construction and development of the RMP Area that could impact human health and the ecological environment. The risk management measures that will be implemented during development within the RMP Area are described in Section 4.3. Section 4.4 describes measures to be implemented in the Free Product Area in addition to those described in Section 4.3.

4.2 Identification of Development Activities that Could Impact Human Health and/or the Ecological Environment

Development activities in the RMP Area are likely to include various site preparation activities, such as but not limited to excavation, stockpiling, trenching, grading, backfilling and dewatering that will disturb the Native Soils and ground water within the RMP Area.

Based on the types of constituents detected in the Native Soils and ground water (discussed in Section 2.0), the potential events or activities associated with the development of

the RMP Area that could result in potential impacts on human health and/or the ecological environment without implementation of appropriate risk management measures are listed below.

- Dust generation associated with soil excavation and trenching, grading and loading activities, backfilling, movement of construction and transportation equipment, and fugitive dust generation from winds traversing an exposed soil stockpile;
- Off-site transport of soils as sediments through surface water run-off from exposed soil stockpiles and graded areas;
- The inadvertent creation of horizontal conduits from utility trenches resulting in preferential pathways for ground water flow within the RMP Area;
- Management/movement of soils during construction;
- Identification of unknown subsurface structures and unknown areas of contamination;
- Unauthorized access to site during construction; and
- Dewatering activities.

The risk management measures that will control potential impacts associated with each of the events or activities listed above are described in the following section. Management measures that will be implemented to control potential impacts on the construction worker, contractors and short-term intrusive workers who may be engaged in limited excavation activities such as utility repair, are also described below.

4.3 Risk Management Measures to be Implemented During Development Activities

The following subsections identify the risk management measures that will be implemented to reduce potential impacts from the development of the RMP Area and describe the compliance monitoring that will be implemented during development. The risk management measures described below are applicable to all locations within the RMP Area. Additional management measures that will be implemented during development within the Free Product Area are described in Section 4.4.

4.3.1 Dust Control

Contractors will implement the following dust control measures during development activities in order to minimize and control the generation of dust. Effective dust control will reduce potential impacts on construction workers, and will simultaneously control nuisance dust and dust containing chemicals from migrating outside of the development area to surrounding populations. Dust control measures will minimize dust that may be generated from excavation and trenching activities, grading, the loading of trucks, truck traffic, and soil stockpiles. The dust control measures described below apply to soil stockpiles that are in place for less than a 30-day period (referred to as construction stockpiles). Management measures specific to stockpiles that are stored for more than 30 days are identified in Section 4.3.5.2.

Prior to the initiation of development on a given parcel, the Owner, Lessee, or their designee (most likely a contractor) will submit to SFDPH and to the RWQCB written notification indicating whether the proposed development is of the type that will require dust monitoring, as described in Section 4.3.2.

4.3.1.1 Specific Dust Control Measures

The dust control measures that will be implemented at all construction sites within the RMP Area are identified below. The dust control measures identified below correspond to the PM_{10} control measures recommended by the Bay Area Air Quality Management District (BAAQMD) in their California Environmental Quality Act Guidelines. The BAAQMD dust control guidelines are to be implemented during construction activities regardless of whether chemicals are present in the soil. Some of the dust control measures recommended by the BAAQMD, as described below, are similar to the measures that will be implemented to control off-site runoff, described in Section 4.3.3. Where management measures specified to control dust are different from those specified to control off-site runoff, the more stringent of the measures will apply.

The following dust control measures will be implemented at construction sites of all sizes:

- Water all active construction areas at least twice a day or as necessary to prevent visible dust plumes from migrating outside of the parcel under development.
- Enclose, cover, water twice daily, or apply (non-toxic) soil binders to exposed construction stockpiles. Management measures for stockpiles stored for more than 30 days are described under Section 4.3.5.2.
- Mist or spray water while loading transportation vehicles.
- Minimize drop heights while loading transportation vehicles.
- Use tarpaulins or other effective covers for trucks carrying soils that travel on streets.
- Pave, apply water three times per day, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites.
- Sweep daily all paved access routes, parking areas and staging areas.
- Sweep street daily if visible soil material is carried onto public streets.

If construction sites are greater than four acres in size, then the following additional dust control measures will be implemented:

- Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (previously graded areas inactive for ten days or more).
- Limit traffic speeds on unpaved roads to 15 miles per hour (mph).
- Install sandbags or other erosion control measures to prevent silt runoff to public roadways (discussed further under the control of off-site runoff, Section 4.3.3).
- Replant vegetation in disturbed areas as quickly as possible.

The following additional optional dust control measures may be implemented by the contractor, as necessary, particularly if windy conditions persist before the area being developed is covered. A determination as to whether optional dust control measures should be implemented will be made by the contractor on a case-by-case basis based, in

part, on the results of the Dust Plan outlined in 4.3.2. Additional control measures that could be implemented to reduce dust may include:

- Installing wheel washers for all exiting trucks, or wash off the tires or tracks of all trucks and equipment leaving the site.
- Installing wind breakers, or plant trees/vegetative wind breakers at windward sides(s) of construction areas.
- Suspending excavation and grading activities when winds (instantaneous gusts) exceed 25 mph.
- Limiting the area subject to excavation, grading and other construction activities at any one time.

4.3.1.2 Documentation of Dust Control Measures

Contractors will keep daily logs of all dust control measures that are implemented throughout the course of the day. Logs will be kept on file for three months following the completion of the activities that triggered implementation of the dust control measures.

4.3.2 Dust Plan

In conjunction with the dust control measures identified above, the Owner or Lessee, (or some other entity, such as a contractor, designated or certified by the Owner or Lessee), will follow this dust plan (the "Plan") during construction activities to demonstrate that the health and safety of all off-site populations (where off-site refers to areas outside of the construction zone) is not being adversely impacted by the construction/development activities based on the chemicals that could be attached to the dusts. Potential exposures to the onsite construction worker are discussed in Section 4.3.8. If the Plan described in the following sections is implemented, then additional regulatory approvals will not be required.

A screening-level risk analysis was conducted to determine the potential impacts associated with unmitigated dusts generated during construction activities (ENVIRON 1998b). Based on the results of the risk analysis, it was concluded that as long as the annual average respirable dust levels at off-site receptor locations remained below 250 $\mu g/m^3$, exposure to the

chemicals that may be attached to the dusts will not adversely impact human health. This analysis assumed that exposure to the dusts will occur continuously for 20 years. Accordingly, the Plan has been devised to verify that the long-term average off-site dust levels to which individuals could be exposed during the course of the 20-year development are at or below the 250 $\mu g/m^3$ target level.

The Plan is comprised of two parts. The first part identifies those conditions where real-time dust monitoring is not required. The exclusion of certain sites from the dust monitoring requirements was based on a conservative screening-level analysis. Those sites where it was concluded that off-site annual average concentrations would not exceed 250 $\mu g/m^3$ were identified, and will be exempt from the dust monitoring requirements. The second part of the Plan presents a real-time dust monitoring program (the "Program"). An Owner or Lessee (or some other entity, such as a contractor, or qualified consultant, designated or certified by the Owner or Lessee) can implement the following procedures or can choose to prepare its own monitoring program, as long as it has, at a minimum, the elements of the Program described in Part II below. In the sections below, 'Site' is defined as the area on which the development by that contractor is occurring. 'Dust-generating activity' is defined to be the activity for which dust monitoring may be necessary, and includes grading, excavation, trenching, soil stockpiling, backfilling, the handling and movement of Native Soils, or vehicular traffic on an unpaved surface.

4.3.2.1 Part I: Sites Excluded from Dust Monitoring Program

Implementation of a dust monitoring program will not be necessary if it can be shown that the off-site annual average concentration will not exceed 250 $\mu g/m^3$. Listed below are situations for which PM_{10} (i.e., particulate matter with aerodynamic diameter less than 10 microns in diameter) concentrations will not exceed an annual average concentration of 250 $\mu g/m^3$, even assuming the dust control measures identified in Section 4.3.1 have not been implemented. The following examples are not intended as a comprehensive list; if an Owner or Lessee (or some other entity, such as a contractor, or qualified consultant, designated or certified by the Owner or Lessee) can demonstrate to the RWQCB other conditions satisfying the 250 $\mu g/m^3$ threshold, a monitoring program will not be required.

Note that even if a monitoring program is not required, the dust control measures discussed in Section 4.3.1 are still required.

- Potentially exposed populations are not closer than the distances shown in Figure 4. Worst-case annual average concentrations were modeled using USEPA's SCREEN3 air dispersion model to determine the distance at which ambient concentrations will be below an annual average of 250 $\mu g/m^3$. Modeling was performed for an area source using an uncontrolled emission rate of 51 lb/acre/day (used in the Mission Bay Final Subsequent Environmental Impact Report (FSEIR) as the estimate of emissions from construction sites) and worst-case meteorological conditions.

  Figure 4 presents the relationship between the size of the Site (determined by either the length or width of the Site, whichever is greater) and the distance at which the annual average concentration will be below 250 $\mu g/m^3$, and identifies those combinations where dust monitoring will not be required. Conditions that fall above the line in Figure 4 would not require any dust monitoring, whereas conditions below the line would require implementation of the dust monitoring program described below. As an example, if the length of the Site (widest or longest dimension) is 440 feet, dust monitoring would need to be conducted if receptors (i.e., off-site workers or residents) are located within 100 feet of the Site.

- Repair or maintenance of underground utility lines. In contrast to large grading projects, underground utility maintenance or repair projects are typically relatively narrow in depth and width would thus not normally provide a significant source area for dust to be generated and sustained. A dust monitoring program will not be implemented during underground utility maintenance or repair work.

- Dust-generating activities that occur for less than four weeks. The analysis from which the acceptable dust concentration was derived assumes that the exposure would occur continuously for 20 years. A four-week project represents less than 0.4 percent of this total assumed 20-year exposure period. Since it is unlikely that dust-generating activities occurring for a period of less than four weeks will contribute significantly to an individual's total dust exposure during construction activities in the RMP Area, dust generating activities that occur for less than four weeks will not require any dust monitoring.

4.3.2.2 Part II: Dust Monitoring Program

The objective of the Dust Monitoring Program (the "Program") is to collect data that is reflective of the levels of dusts generated during construction activities so that additional dust suppression measures can be implemented, if necessary, to reduce potential impacts to nearby populations. The Program will consist of real-time monitoring for PM_{10} concentrations, as discussed in the following sections. Except as exempted in Section 4.3.2.1 above, the Program must be implemented during the period when development of the Site will involve dust-generating activities. However, once the development of a Site reaches a point that dust-generating activities are no longer occurring, dust monitoring will not be necessary. Compliance with the Program will be the responsibility of the Owner or Lessee (or some other entity, such as a contractor, or qualified consultant, designated or certified by the Owner or Lessee). Construction personnel will be periodically briefed in the field about the substance of the Program and will inform the construction supervisor if the dust levels exceed the criteria.

4.3.2.2.1 Monitoring Equipment

Monitoring will be performed for PM_{10} using a portable real-time dust monitor, such as a DataRAM or equivalent instrument. The monitor will have a minimum detection limit of no more than 100 $\mu g/m^3$, a minimum accuracy of 1 $\mu g/m^3$ or 1 percent, and should be

calibrated to greater than 250 $\mu g/m^3$. Calibration of the monitor will be based on the manufacturer's specifications.

4.3.2.2.2 Sampling Frequency

There are two options available for sampling frequency that meet the objectives of the Program. For Option One, sampling will occur during the first two days of a new operation involving dust-generating activities, as well as every day that a new dust-generating activity occurs on the Site. Samples will be collected once per hour, for a duration of 10-15 minutes, by a site walker carrying the dust monitor. If the concentrations on-site never exceed 250 $\mu g/m^3$ during these first two days, sampling will occur one day per week for the remainder of the dust-generating activity, unless the 10-minute average concentration exceeds 250 $\mu g/m^3$ during one of the once-a-week sampling events. If the 10-minute average concentration exceeds 250 $\mu g/m^3$ during one of the once-a-week sampling events, then sampling must occur daily or until two successive day sampling events occur with no exceedance of the 250 $\mu g/m^3$ threshold.

For Option Two, sampling will occur continuously during any dust-generating activity. The dust monitor will be set up in one location, as discussed below. The monitor will be checked four times during the course of the day to ensure that concentrations are not exceeding an average of 250 $\mu g/m^3$.

4.3.2.2.3 Sampling Locations

Samples will be collected as close to the center of the dust-generating activity as possible. In this way, samples will represent worst-case levels of dust to which the nearby populations could be exposed. Samples typically should be collected from an approximate height of five feet above the ground surface.

If sampling is occurring with a site walker (Option One), the walker should start as close to the dust-generating activity as possible. If the concentrations are approaching 250 $\mu g/m^3$, the walker should move towards the downwind Site boundary and continue to take measurements without interfering with the construction activities. Factors that will be taken into account when selecting the walker's route and destination will include the

local wind direction, the location of the dust generation, the location of the nearest Site boundary and the nearest off-site receptors. A demonstration that the levels within or directly downwind of the dust-generating activities are below 250 $\mu g/m^3$ is sufficient documentation that levels off-site are well below the threshold.

If sampling is occurring through the use of continuous monitoring (Option Two), the monitor should be stationed as close to the dust-generating activity as possible without interfering in the activity. When the monitor needs to be stationed at the edge of the dust-generating activity due to the nature of the dust-generating activity, the monitor should be placed on the downwind side of the Site. Unless site-specific data to the contrary is available, downwind will be to the east-southeast of the dust generating activity (consistent with the information used in FSEIR). As with Option One, other factors should also be taken into account when locating the monitor, including the local wind direction, the location of the dust generation, the location of the nearest Site boundary and the nearest off-site receptors. It should be noted that during the course of the day, it may be necessary to relocate the dust monitor as any of these Site conditions change. A demonstration that the levels within or directly downwind of the dust-generating activities are below 250 $\mu g/m^3$ is sufficient documentation that levels off-site are well below the threshold.

4.3.2.2.4 Recording of Quantitative Measurements

All PM_{10} data should be logged with a data recorder, downloaded from the DataRAM or equivalent instrument, and attached to the field logbook. Notes regarding the location of the monitors, the dust generating activities, and the nearby populations should also be recorded in the field logbook. In addition, any recommended mitigation and follow-up measurements will also be recorded.

4.3.2.2.5 Sampling Personnel

The sampling personnel should be selected at the initiation of the project, along with a backup person, in case the first person is absent. The individual conducting the sampling

should be an individual experienced with the operation and handling of the sampling equipment to be used.

4.3.2.2.6 Criteria for Emissions Mitigation Activities

If the on-site, day-long average concentrations exceed 250 $\mu g/m^3$, additional dust suppression measures as discussed in Section 4.3.1 shall be implemented for the next day, assuming the dust-generating activity continues to occur. Furthermore, additional dust suppression measures should be implemented if visible dust plumes are seen crossing the site boundary, regardless of the measured PM_{10} concentrations.

4.3.2.2.7 Reporting Requirements

If the on-site, day long average concentrations exceed 250 $\mu g/m^3$, the RWQCB and the SFDPH will be notified by telephone as soon as practicable. A brief letter report describing the exceedance, and the response undertaken by the contractor to achieve compliance will be submitted to the RWQCB and the SFDPH within 5 business days after the exceedance.

4.3.3 Control of Off-Site Runoff

To minimize risks associated with storm water runoff during construction, Storm Water Pollution Prevention Plans (SWPPP) that meet the objectives of the San Francisco RWQCB will be developed by the Owner or Lessee (or some other entity, such as a contractor, designated or certified by the Owner or Lessee) which undertakes construction activities in the RMP Area. Preparation and implementation of a SWPPP is required regardless of whether any chemicals are present in the soil. A primary goal of the SWPPP is to reduce or eliminate off-site discharge of sediments and other pollutants during construction activities. If these procedures are implemented, then potential releases of chemicals in the soils will also be controlled. The SWPPPs will be prepared in accordance with SWRCB Order No. 92-08 DWQ (the "General Permit") and guidelines contained in the following documents: *"Information on Erosion and Sediment Controls for construction Projects: A Guidebook (RWQCB 1998a)* or later edition; and *"Erosion and Sediment Control Field Manual"* second or later edition (RWQCB, 1998b),

or succeeding regulatory guidance documents. The provisions of the General Permit require the implementation of Best Management Practices ("BMPs") to control and abate the discharge of sediments, the monitoring of the BMPs to verify their effectiveness in controlling discharges, and revising the BMPs, if necessary.

For the RMP Area, the SWPPP development will be divided into two sequential phases: 1) the development of a "Conceptual SWPPP" that covers the entire Mission Bay RMP Area; and 2) the development of site-specific SWPPPs prepared for each applicable individual construction project. A brief description of each of the two phases is provided below.

Phase 1: Conceptual SWPPP for Mission Bay RMP Area

The Conceptual SWPPP prepared for the entire RMP Area is to be submitted to the RWQCB within 120 days after approval of the RMP. The general process for preparing the Conceptual SWPPP is described in Chart I-1 of Appendix I. As indicated in Chart I-1, the Conceptual SWPPP will consider the proposed outline presented in Table I-1 (in Appendix I), and will include those general elements that are practicable to include during the conceptual phase and that are not dependent on the specific details of the construction activities which will not be known until later. The Conceptual SWPPP will also address the pollution prevention measures for dry and wet months from construction related activities.

The initial step in the development of the Conceptual SWPPP is to define the organizational structure for the site-specific SWPPPs' Pollution Prevention Teams (PPTs) that will be responsible for preparing, implementing, and monitoring compliance with each of the site-specific SWPPPs. The Conceptual SWPPP will identify the essential roles of these PPTs and will describe the responsibilities each team will have in implementing, monitoring and enforcing its own site-specific SWPPP. Additionally, the training requirements for the members of each site-specific SWPPPs' PPT will be described in the Conceptual SWPPP.

Phase 2: Site-Specific SWPPPs

Following development of the Conceptual SWPPP, site-specific SWPPPs will be prepared as individual parcels in the RMP Area are developed. The overall process for preparing the site-specific SWPPP is described in Chart I-2 of Appendix I. The site-specific SWPPP will follow

the proposed outline in Table I-1. A site-specific SWPPP must be developed by the Owner or the Lessee which undertakes the construction activities (or some other entity, such as a contractor, designated or certified by the Owner or Lessee) for each construction project in the RMP Area greater than one acre in size, if the construction activities will involve soil disturbance as defined in 40 CFR Parts 122-124 and State Water Resources Control Board (SWRCB) Order 92-08 DWQ. As indicated in Chart I-2, the site-specific SWPPPs will largely follow the Conceptual SWPPP, but will include additional site-specific pollution prevention procedures and specific inspection, monitoring and record keeping procedures for the given construction activities at that particular development area. Site inspections, to determine the effectiveness of the BMPs and identify repair needs, will be conducted routinely during the dry months and more frequently during the wet months. In conformance with the Conceptual SWPPP, the site-specific SWPPP will identify the name, organization and phone numbers of the Pollution Prevention Team members who are responsible for preparing, implementing, monitoring compliance, enforcing, and revising the site-specific SWPPP, if necessary The site-specific SWPPP will include requirements that those with inspection responsibilities are qualified and/or trained in the field of erosion and sediment control practices and are familiar with the storm water pollution control rules and regulations.

Compliance with the site-specific SWPPP is the responsibility of the Owner or the Lessee which undertakes the construction activities (or other entity, such as a contractor who is knowledgeable in erosion and sediment control, designated or certified by the Owner or Lessee).

The SWPPPs will identify, at a minimum, the following BMPs[2], or substantially equivalent measures as described in detail in the above references (ABAG 1995 and RWQCB 1998b).

- Minimize dust during demolition, grading, and construction by lightly spraying exposed soil on a regular basis.

[2] These nine BMPs are requirements set forth in the FSEIR.

- Minimize wind and water erosion on temporary soil stockpiles by spraying with water during dry weather and covering with plastic sheeting or other similar material during the rainy season (October through April).
- Minimize the area and length of time during which the site is cleared and graded.
- Prevent the release of construction pollutants such as cement, mortar, paints, solvents, fuel and lubricating oils, pesticides, and herbicides by storing such materials in a bermed, or otherwise secured area.
- As needed, install filter fences around the perimeter of the construction site to prevent off-site sediment discharge. Prior to grading the bank slopes of China Basin Channel for the proposed channel-edge treatments, install silt or filter fences to slow water and remove sediment. As needed, properly trench and anchor the silt or filter fences so that they stand up to the forces of tidal fluctuation and wave action and do not allow sediment-laden water to escape underneath them.
- Follow design and construction standards found in *The Manual of Standards for Erosion and Sediment Control Measures* (ABAG 1995) for the placement of riprap and stone size.
- Install and maintain sediment and oil and grease traps in local stormwater intakes during the construction period, or otherwise properly control oil and grease discharges.
- Clean wheels and cover loads of trucks carrying excavated soils before they leave the construction site.
- Implement a hazardous material spill prevention, control, and cleanup program for the construction period. As needed, the program would include measures such as constructing swales and barriers that would direct any potential spills away from the Channel and the Bay and into containment basins to prevent the movement of any materials from the construction site into water.

Additional BMPs that may be included in the SWPPPs include the following:

- Stabilize all banks during rainy months using Interim or Permanent BMPs (e.g., an erosion control blanket).
- All construction entrances and exit points will be stabilized per RWQCB Erosion Control Field Manual to minimize tracking of mud outside the parcel boundaries.

4.3.4 Methods to Minimize the Potential for Creating Conduits

Utility trenches will be constructed within the RMP Area for the installation of underground utilities along alignments in the streets and on individual parcels. The trench depths could vary from approximately two to ten feet below ground surface (bgs). In general, the depth to ground water in the RMP Area is between two to ten feet bgs. If the trenches extend into the ground water, then the presence of such trenches could create a horizontal conduit for ground water flow and migration of chemicals. The management measures that will be implemented to minimize the potential for creating horizontal conduits include the following:

- Material that is less permeable than the surrounding soil will be placed through a variety of methods at 300-foot intervals and at the RMP Area boundaries along the trench to disrupt the flow within the trench backfill. One method during initial trench backfilling is the construction of a short section backfilled with a concrete or cement and bentonite mixture. Another method is the creation of a clay plug by compacting clay around the pipe for about a five-foot section of trench. A third method is the installation of barrier collars around the pipes by forming and pouring concrete in place. The appropriate method will be determined by a qualified environmental professional.

The ground water monitoring data collected to date have identified only one "plume" area (i.e., the Free Product Area) where the preferential ground water flow through the trenches could result in the migration of chemicals to nonimpacted areas. Nevertheless, to assure control of chemicals by way of preferential horizontal ground water flow, one or more of the management measures identified above will be incorporated by the contractor as standard trench construction protocol wherever the trenches in the RMP Area extend below the surface of the ground water,

unless a qualified environmental professional determines that the ground water conditions do not warrant such measures.

4.3.5 Soil Management Protocols During Site Development

The following section presents the management protocols for handling, moving, stockpiling, and reusing soils during the development of the RMP Area and delineates the contingency protocols to be followed when unknown contamination or underground structures are identified.

4.3.5.1 Measures to Minimize Dust and Erosion from Soil Movement and Handling

Throughout the development of the RMP Area, soil may be handled and moved from one portion of the Project Area to another location (See Appendix D: Soil Reuse Within the Mission Bay Area). Impacts from soil movement can result from exposures to dusts generated during the soil handling and movement, and from exposures to soils that have been transported outside of the development area either with a truck or through off-site runoff.

Potential impacts associated with the handling and movement of Native Soils will be addressed through the implementation of the dust control plan (see Section 4.3.1), and the SWPPP. The dust control measures are described in Section 4.3.1, and the requirements of the SWPPP are described in Section 4.3.3.

4.3.5.2 Management of Soil Stockpiles

Soil which is excavated within the RMP Area may need to be stockpiled before it is re-used. There are three potential concerns associated with the stockpiling of soils: dust generation, erosion, and unauthorized access to the stockpiles. The risk management measures that will be implemented to control each of these impacts are described below. The management measures described below apply to soil stockpiles that are in place for a period of greater than 30 days.

4.3.5.2.1 Risk Management Guidelines to Control Dust from Soil Stockpiles

As previously described in Section 4.3.1.1, the performance standard applicable to all stockpiled soils is to prevent visible dust plumes from migrating outside the parcel boundary. Water will be used to mitigate dust generation during the creation, movement, or use of the soil stockpiles. Over-watering, which could result in excessive runoff, will be avoided. Dust palliatives or other methods of dust control may be used if water proves to be inadequate.

While stockpiles are in place, dust will be controlled either through the use of a cover, or an alternative method that provides equivalent protection. If the stockpiles are covered, the cover will consist of either anchored plastic sheeting, hydroseeding (spraying a mixture of grass seed and mulch to create a vegetative cap), or an equivalent cover. The method of covering will be determined based on anticipated time the stockpiles will be in place, weather conditions (i.e., whether favorable to hydroseeding or not), and other practical factors such as the size of the stockpiles. If, however, stockpiles are to be in place and unused for one year or greater, then the stockpile will be covered with either hydroseeding or an equivalent cover.

4.3.5.2.2 Risk Management Guidelines to Control Erosion from Stockpiles

If soil stockpiles are to be in place during the rainy season (generally October through April), they will be covered with anchored plastic sheeting, hydroseeding, or an equivalent cover to minimize erosion of the soil. The method of covering will be determined based on anticipated time the stockpiles will be in place, weather conditions (i.e., whether favorable to hydroseeding or not), and other practical factors such as the size of the stockpiles. As described above, if stockpiles are to be in place and unused for one year or greater, the stockpile will be covered with either hydroseeding or an equivalent cover. Stockpiles that are placed within the boundaries of an active construction parcel greater than one-acre in size will not require additional erosion control measures, because the SWPPP will contain specific provisions to prevent off-site sediment discharges. As previously described in Section 4.3.3, the SWPPP may require that filter fences (or equivalent BMPs) be installed around the perimeter of the

construction site to prevent off-site sediment discharge, if necessary. Filter fences (or equivalent BMPs) would likewise capture any sediments that may erode from the covered stockpile in place during the rainy season. The sediment traps that will be placed at the local stormwater intakes will also prevent sediments, including those that may result from erosion of the stockpiles, from entering the City's storm water system. Further details of storm water management will be included in the SWPPP (described in Section 4.3.3).

If, however, soil stockpiles are to be placed outside of the boundaries of a one acre active construction site, then additional erosion control measures may be appropriate, particularly if the stockpiles will be in place during the rainy season. To further prevent stockpile erosion, a silt fence constructed of geotextile fabric and hay bales (or other appropriate BMPs) will be constructed around all stockpiles that are placed outside of a construction site and that will exist for a period of greater than six months. Such fencing shall be placed so as to be able to encompass within the fenced area the volume of soil stockpiled.

4.3.5.2.3 Risk Management Guidelines to Control Access to Stockpiles

Access to all stockpiles located within the boundaries of an active construction site will be controlled by six-foot chain link fences or equivalent with lockable gates or, in a street, other appropriate barrier that will limit unauthorized access to the construction site (see Section 4.3.6). Additionally, warning signs will be posted on the fences to inform visitors that access is prohibited. Access to any stockpiles located outside of an active construction site will be restricted by placing fences with locked gates around the stockpiles and placing appropriate warning signs on the fences and gates.

4.3.5.2.4 Inspections of Soil Stockpiles

The Owner (or some other entity, such as a contractor, designated or certified by the Owner) shall conduct quarterly inspections of the soil stockpiles to ensure the integrity of covers, berms, and silt fences (as applicable), and to verify that the fencing is in place and that gates are locked and that the warning signs are visible. In the case of washouts of soil, the soil will be replaced to the stockpile and the area will be seeded or otherwise

appropriately covered. In cases where anchored plastic sheeting is present, visible rips longer than six inches and wider than 1/4-inch will be sealed with membrane patches or replaced. The results of the quarterly inspections and a description of any material repairs undertaken will be reported to the RWQCB and the SFPDH by January 31 of each year. The RWQCB will be notified when the soil stockpiles have been fully removed.

4.3.5.3 Reuse of Native Soil within the RMP Area

The DTSC and RWQCB have determined that the soil within the RMP Area may be moved around, managed and reused within the RMP Area without triggering hazardous waste regulatory requirements, provided that the reuse is conducted in accordance with an RMP that specifies the soil management procedures. The soil management procedures are described in Section 4.3.5. Soil that is excavated and remains within the RMP Area will be placed under buildings or other covered areas such as streets, sidewalks, parking lots, roads or landscaping as described below under Section 4.3.5.5; provided, however, that before any soil removed from portions of the RMP Area currently designated for commercial use is placed as fill in any portion of the RMP Area designated for residential use, the Owner will determine that the placement of such soil in the residential area is consistent with the human health risk Site Specific Target Levels (SSTLs) as established and approved for the RMP Area (ENVIRON 1998a) (a copy of the SSTLs is provided in Appendix E). Native Soil will not be used in the RMP Area in any manner other than described in this Section 4.3.5.3, unless the owner submits to the RWQCB supporting documentation and obtains written approval from the RWQCB.

4.3.5.4 Soil Disposal

Many of the projected construction activities in the RMP Area will require limited excavation of Native Soil to construct building pilings, elevator shafts, and other facilities. Other construction activities will require soil to be added for grading. The net balance of soil in the RMP Area is likely to be such that most excavated soil will be used for grading within the RMP Area. Based on this condition, off-site soil disposal is likely

to be limited. Any soil disposed of off-site is subject to all applicable federal and state laws and regulations.

The nature of much of the Native Soil in the RMP Area is historic fill which includes construction debris, rock, glass, wood, bricks, bay mud and may contain other debris, such as pieces of metal. For use of the soil as fill material it may be necessary to remove material greater than four inches in diameter. Material not suitable for use as fill will be profiled and disposed of in accordance with all applicable laws and regulations.

4.3.5.5 Soil for Landscaped Areas

This Section 4.3.5.5 applies to landscaped areas accessible for human use. This section does not apply to landscaped areas (such as grassy swales) enclosed with fencing, covered with grates, or similarly protected to effectively prevent human access. Materials that will be used for landscaped areas will consist of imported materials whose composition is sand, topsoil or fill that meets the prevailing commercial standards for fill used in commercial developments, or onsite material (such as Native Soil) that has been approved by the RWQCB ("Fill") in accordance with Section 4.3.5.3. The minimum depth of Fill that will be required for the landscaped areas will be between 1.0 and 1.5 feet. This depth of Fill is selected because generally accepted risk assessment protocols assume individuals with access to surface soils may be exposed to the top 1.0 to 1.5 feet of soil. Before any Fill (including in the tree wells) is placed on top of the Native Soils in the landscaped areas, a water permeable synthetic netting fabric will be placed on top of the Native Soils, and the Fill will be placed on top of this fabric. The purpose of this fabric is as a "marker" to assist in identifying whether erosion of the Fill down to the level of the Native Soils has occurred. Irrigation systems, (defined as that portion of the system between the valve and the sprinkler head) in the landscaped areas are to be placed in Fill. The fabric will be in color other than brown or black, and will have a minimum tensile strength of 50 lbs/foot.

4.3.5.6 Contingency Protocols for Identifying Unknown Areas of Contamination and/or Unknown Underground Structures

The protocols to be followed in the event that unknown areas of contamination and/or underground structures are identified during site development are described in this section. These protocols will be conducted by the Owner, Lessee, or some other entity, such as a contractor or qualified consultant, designated or certified by the Owner or Lessee.

4.3.5.6.1 Procedures for Discovery of Unknown Areas of Contamination

Site development activities may result in the identification of previously unknown areas or types of contamination. The Soil Analysis Report, prepared per the requirements described in Appendix F and described further in Section 4.3.11, will summarize the results of the analytic testing that have been conducted on the parcel prior to Site development activities. A review of the Soil Analysis Report will allow the contractor to know the types of compounds which were previously discovered on the parcel, the magnitude of the detections, and the specific locations where they were discovered. This information, and other information in the RMP Area, will guide the contractor in determining whether an encountered environmental condition is unknown and therefore will trigger contingency monitoring, as described in the succeeding paragraphs below.

Unknown conditions which may trigger contingency monitoring procedures during site development include, but are not limited to, the following:

- oily, shiny, or saturated soil or Free Product in previously undocumented areas;
- soil with a significant chemical or hydrocarbon-like odor in previously undocumented areas;
- significantly discolored soil that reasonably indicates a concentrated source of metals within the RMP Area other than metals naturally occurring or otherwise known to be present in the Native Soils.

Upon the discovery of one of the conditions identified above, and if the conditions on the parcel vary materially from those previously documented in the RMP Area such that they could require either alternative or additional RMP measures to protect human health or additional calculations and assessments to confirm that the existing RMP measures will be sufficiently protective, the contractor will conduct the contingency monitoring.

Contingency monitoring, if conducted, will consist of the following steps: If unknown areas of potential concentrated metals are encountered, additional analyses should be conducted for the suspected constituents to assess the potential leachability of the metals, or the RWQCB should be contacted for assistance in determining if additional sampling and potential mitigation is necessary. If the encountered materials are suspected to be volatiles, the following contingency monitoring procedures may be followed:

i) Conduct contingency monitoring by taking organic vapor readings using an organic vapor meter (OVM) or an organic vapor analyzer (OVA) to screen for the presence of fuel, oil, or solvents. If the OVM/OVA indicates that an unknown area of fuel, oil, or solvents has been detected, then the RWQCB will be notified to determine if additional sampling is appropriate prior to continuing construction in that area. Such additional characterization will not be required if the RWQCB concurs that the risk management measures currently specified in this RMP already mitigate the risk of the chemicals detected in this area. OVM or equivalent screening methods will be conducted by experienced personnel only.

ii) If an unknown area of fuel, oil or solvents has been identified, and the RWQCB has requested additional characterization, the following steps will be taken:

   a) Samples will be collected from the identified area and analyzed for volatiles and/or TPH compounds, depending on the suspected type of contamination. The sampling strategy will be discussed with the RWQCB prior to the initiation of the sampling activities. Analytical results

collected from the suspected source will be compared to the health-based site-specific target levels (SSTLs) developed and approved for the RMP Area (ENVIRON 1998a) (a copy of the SSTLs is provided in Appendix E). If the levels are below the relevant health-based SSTLs, and the RWQCB concludes that the potential for ecological impacts is insignificant and does not require mitigation, then soil removal activities will not be required and the soil may be temporarily stored elsewhere pending reuse in the RMP Area. All soils will be contained during transport within the RMP Area so as to minimize the potential for spillage.

b) If the soil contains volatiles or petroleum constituents at levels that exceed the relevant health-based SSTLs, or if the RWQCB concludes that the potential for ecological impacts requires mitigation, then management measures, such as the following, will be undertaken:

1. remove soil and dispose of off-site;
2. install physical barrier, such as a vapor barrier or passive venting system, to prevent the accumulation of vapors in indoor environment;
3. stockpile soil and aerate onsite, or in a staging area as may be appropriate, in compliance with all applicable laws and regulations;
4. conduct *in situ* bioremediation measures;
5. implement liquid or vapor extraction measures.

The appropriateness of one of the above management measures over another will depend on many factors, such as the type of constituent detected, the size of the identified impacted area, and the estimated cost of implementing the remedy.

c) If Free Product is encountered, its areal extent and thickness will be characterized. The RWQCB will determine the appropriate response to the Free Product based on recommendations from the Owner or Lessee (or some other entity such as a contractor or qualified environmental consultant designated by the Owner or Lessee).

d) The Owner or Lessee (or some other entity such as a contractor or qualified consultant designated by the Owner or Lessee) shall report the results of the sampling activities and the proposed course of action (e.g., no action necessary, soil excavation and off-site disposal, on-site treatment and soil reuse) to the RWQCB and obtain concurrence before implementing the remedial measures. Notification of the proposed action will also be provided to SFDPH. Construction activities in the specific area where the unknown conditions were identified will resume following the completion of the additional sampling activities and the implementation of any required responses.

4.3.5.6.2 Requirements for Underground Structures

During the course of excavation and construction activities within the RMP Area, it is possible that underground storage tanks (UST), sumps, maintenance pits for rail cars or other underground structures that were not discovered during previous site searches will be discovered. For example, USTs may be identified during grading and site excavation activities by the presence of vent pipes that extend above the ground surface, product distribution piping that leads to the UST, fill pipes, back fill materials and the UST itself. Other structures might not have any features that extend above the surface, and could be unearthed when construction equipment comes into contact with them. As described below under Section 4.3.8.1, Environmental Health and Safety Guidelines, the on-site Health and Safety Officer will conduct periodic briefing meetings with all construction personnel on the procedures and reporting requirements to be undertaken when underground structures are identified. The following section outlines the measures that

govern identification and removal of UST, and appropriate measures for addressing other underground structures identified during development.

4.3.5.6.2.1 Removal Requirements for Underground Storage Tanks

Chapter 6.7 of the California Health and Safety Code contains the specific requirements for removing and remediating contamination associated with a leaking UST. While the City of San Francisco's Local Oversight Program (LOP) is responsible for overseeing the removal of any UST, the RWQCB will maintain responsibility for overseeing environmental investigations and responses arising from releases from any UST in the RMP Area. Accordingly, in the event that a UST or appurtenant piping is discovered during construction and development of the RMP Area, then the RWQCB will be notified. Environmental investigations and responses required following removal of the UST will be conducted under the direction of the RWQCB and in accordance with the specific provisions delineated in Chapter 6.7 of the Health and Safety Code.

4.3.5.6.2.2 Procedures Governing the Identification, Investigation and Potential Removal of Other Subsurface Structures

For other subsurface structures that may have been related to former use and storage of chemicals, such as underground vaults and sumps, the following procedures should be followed to determine the proper disposition of the encountered structure.

i) The structure should be inspected to assess whether it contains any indication of chemical residuals or free liquids other than water. This determination will be made with field observations by the Owner or Lessee's designated environmental engineer relying on visual observations, detection of chemical odors, and the results of vapor monitoring using a field OVM/OVA (as described above). If there is no indication based on visual, odor, or OVM/OVA readings, that chemicals are or were present within the vault or sump, then removal of the structure is not necessary for environmental reasons.

ii) If a sump or vault contains liquids that appear, based on field observations (visual, odor, or OVM/OVA readings) to be chemical-containing, then the following steps shall be undertaken:

a) Characterize the chemical-containing liquids and/or soils, and determine the appropriate response action. Chemical-containing liquids are to be sampled for profiling purposes then properly removed and disposed under the direction of the Owner or Lessee's designated environmental engineer. The RWQCB would be notified prior to the selection of an appropriate response.

Chemical-containing soils are to be characterized as described above under 4.3.5.6.1. The procedures used to determine the appropriate action for the soils are identical to those described above in 4.3.5.6.1.

b) Inspect the sump or vault for cracks and holes once the liquids and/or chemical-containing soils are removed.

1) If, based on the opinion of the Owner or Lessee's designated environmental engineer, it is determined that the structure of the sump or vault is intact, and that subsurface releases of the chemicals to the underlying soils did not likely occur, then removal of the sump or vault is not required for environmental reasons.

2) If the physical inspection of the vault or sump suggests that chemicals may have been released to the underlying soils, then:

A) Conduct additional environmental investigations of the underlying soils to determine whether a release, sufficient to warrant removal, has occurred. If, based on the opinion

of the Owner or Lessee's designated environmental engineer, it is determined that a release, sufficient to warrant removal, has not occurred, then removal of the sump or vault is not required for environmental measures; or

B) Remove the sump or vault under the guidance of the Owner or Lessee's designated environmental engineer. Response to the chemicals in the soils underlying the sump or vault, if necessary, will be consistent with the procedures described above in Section 4.3.5.6.1.

4.3.6 Access Control During Construction

The potential for trespassers or visitors to gain access to construction areas and come into direct contact with potentially contaminated soils or ground water will be controlled through the implementation of the following access and perimeter security measures:

- Except in streets, fence construction site to prevent pedestrian/vehicular entry except at controlled (gated) points. Gates will be closed and locked during non-construction hours. Fencing will consist of a six foot chain link or equivalent fence unless particular safety considerations warrant the use of a higher fence.
- In streets, use a combination of K-rails or similar barriers and fences with locked gates.
- Post "No Trespassing" signs every 250 feet.

Implementation of appropriate site-specific measures as outlined above would reduce the potential for trespassers or visitors to access construction areas and to come into direct contact with soil or ground water. The access control measures will be detailed in the Environmental Health and Safety Plan (EHASP) (see Section 4.3.8) that will be developed prior to the initiation of construction activities. Compliance with the specific access control measures is the

responsibility of the Owner or Lessee (or other entity, such as a contractor designated or certified by the Owner or Lessee).

4.3.7 Protocols for Dewatering Activities

Dewatering could be initiated within the RMP Area to facilitate excavation and subsurface construction work, such as the installation of foundations, to proceed without the constraint of working in wet conditions. Uncontrolled and extensive dewatering could adversely impact ground water by drawing ground water that contains chemicals toward the dewatered area thus causing those areas to be degraded with chemicals. If it is determined that building construction necessitates the use of dewatering methods, and the dewatering activities are to occur in or around a known area of contamination (e.g., the Free Product Area) the following risk management measures will be implemented to minimize potential impacts:

- Conduct preliminary estimates of the amount of water that will need to be removed for the specific construction activity.

- Based on the location of the proposed dewatering, determine whether the volume of water that would need to be removed would result in the enlargement of an existing ground water plume, if present, or significant alterations in the ground water flow patterns in the RMP Area.

- If the estimates of the volume and location of the ground water dewatering suggest that such activities are not likely to result in the enlargement of a ground water plume, or significant alterations in the flow patterns, then simple dewatering methods, such as the those employed through the use of a sump pump, would be implemented. These simple methods would be sufficient to prevent ground water from accumulating in an open excavation or trench.

- If, based on the opinion of the Owner or Lessee's qualified environmental engineer, dewatering is likely to result in the enlargement of an existing ground

water plume or result in significant alterations in ground water flow, such as could occur in the Free Product Area, then other engineering techniques will be employed to minimize the potential dewatering impacts. One engineering technique that could be employed involves the installation of sheetpiles. In this example, the excavations will first be ringed with sheetpiles. With proper installation, sheet piles limit the volume of water entering the excavation and thus limit the dewatering operation's effect on surrounding ground water flow paths. Dewatering pumps installed inside the area surrounded by sheetpiles will lower the ground water level. Properly installed sheet piles that are interlocked and driven through dense clay materials will effectively limit ground water flow through the piles and minimize the volume of water being pumped. The appropriateness of one engineering technique over another will depend on the construction specifications and other site-specific factors and will be determined by the Owner or Lessee's qualified environmental engineer on a site-by-site basis.

- All water removed during dewatering activities will be discharged in accordance with appropriate permits from the City . It is anticipated that ground water removed during dewatering activities would be discharged into the City's sewer system. Discharge of ground water into the City's sewer system would be conducted in compliance with a discharge permit issued by the San Francisco Department of Public Works (SFDPW) or the Public Utilities Commission. If direct discharge to the surface water is determined to be the appropriate method for disposal of ground water removed during dewatering, permits issued by the RWQCB under the National Pollution Discharge Elimination System would be required. Compliance with the provisions of the discharge permit is the responsibility of the Owner or Lessee (or other entity such as a contractor or qualified environmental consultant designated or certified by the Owner or Lessee). Alternatively, it may be desirable to use the water generated during dewatering activities to control dust. If the shallow ground water is to be used for

this purpose, the Owner or Lessee will obtain advanced approval from the RWQCB on a parcel-by-parcel basis.

4.3.8 Construction Worker Management Measures

During construction activities, workers that may directly contact the Native Soil and/or the ground water will conduct the work in accordance with California Occupational Safety and Health Administration (Cal/OSHA) training and worker protection rules and regulations. The types of hazards that construction workers, or other workers involved in soil disruptive activities, are most likely to encounter include identifying previously unknown structures or areas of contamination, and having direct contact with fill materials that contain inorganic constituents and petroleum compounds and ground water that contains limited quantities of inorganics and petroleum products. Cal/OSHA is the state agency that is responsible for monitoring compliance with worker health and safety laws and requirements. Compliance with standard Cal/OSHA regulations, particularly Title 8, Chapter 4, "Division of Industrial Safety", will minimize the potential impacts associated with excavation activities, as the intent of these standards is to prepare workers for the types of hazards that are likely to be encountered during such activities. All activities conducted within the RMP Area must be in compliance with current Cal/OSHA rules and regulations, even if not expressly noted in this RMP. Further, all workers involved in subsurface activities must conduct the work in compliance with an Environmental Health and Safety Plan (EHASP). The EHASP will be an additional mechanism that will protect workers engaging in intrusive work. To achieve that goal, the EHASP will delineate the specific potential hazards associated with contact with Native Soils or ground water on the parcel under development, will specify to all workers that the fill material is likely to contain inorganic constituents, petroleum compounds and, on a parcel-by-parcel basis, other constituents, and will define the methods to be employed to minimize the hazards associated with such activities.

The minimum health and safety guidelines for all intrusive workers within the RMP Area, and a discussion of the components of the environmental health and safety plans, are provided below. Compliance with all aspects of the EHASP is the responsibility of the individuals engaged in the intrusive activities. An EHASP that meets the requirements specified in Section 4.3.8.2 will not require any further environmental approvals by any city agency, or

any state agency which participated in the designation of the RWQCB as the Administering Agency for the RMP Area under Chapter 6.65 of the California Health and Safety Code. EHASPs prepared for any construction projects will be submitted to the RWQCB as soon as reasonably practicable prior to the initiation of construction. Nothing in this RMP requires that construction workers working in the RMP Area comply with Cal/OSHA standards for Hazardous Waste Operations and Emergency Response, unless such workers are required to comply with those requirements under Cal/OSHA rules and regulations.

4.3.8.1 Environmental Health and Safety Guidelines

While this RMP establishes the minimum requirements for an EHASP, the EHASP is a stand alone document developed by the Owner or Lessee's designated contractor or qualified environmental consultant prior to the initiation of any construction activities that would disrupt the Native Soils. It is the responsibility of the individual preparing the EHASP to verify that the components of the EHASP are consistent with current worker health and safety rules and regulations. All workers, including utility repair workers or other workers who may directly contact Native Soil or the ground water, would perform all activities in accordance with an EHASP. Consistent with the Cal/OSHA standards, an EHASP would not be required for workers such as carpenters, painters or others, who would not be performing activities that disrupt the Native Soils.

The EHASP will be designed to identify, evaluate and control safety and health with respect to the chemicals present in the soil and ground water. The EHASP will require that the on-site Health and Safety Officer conduct periodic briefing meetings (tailgate meetings) with construction personnel on the reporting requirements to be undertaken when underground structures are identified. Compliance with all aspects of the EHASP is the responsibility of the party conducting the construction activities.

4.3.8.2 Components of the Environmental Health and Safety Plans

The objectives of the EHASP are 1) to identify, evaluate and control site health and safety hazards related to the Native Soils or ground water, thereby helping to ensure the health and safety of all field personnel involved in the development activities on-site; and 2) to

inform all contractors and subcontractors of the known chemical conditions present at the site so they are able to make prudent health and safety decisions related to soils and ground water that will protect the health of the workers and the surrounding community throughout the development of the site.

The following section presents the minimum requirements for all EHASPs that will be prepared prior to construction.

General Information

This section of the EHASP will contain general information about the site, including the location of the site, the objectives of the work that the EHASP is intended to cover, and the name of the individual(s) who prepared the EHASP. This section will also contain a brief summary of the possible hazards associated with the soil and ground water conditions at the site. Based on the known conditions in the RMP Area, the principal hazards posed by the soils and ground water that construction workers will encounter will be direct contact with the inorganics present in the Native Soils and ground water.

Key Personnel/Health and Safety Responsibilities

This section of the EHASP will identify the key personnel by name, and will include identification of the Project Manager, the Site Supervisor, Site Safety Officer, and the subcontractors that will be working at the site. All workers at a given parcel who will potentially contact Native Soils or ground water will be provided a copy of the EHASP and briefed as to its contents. The health and safety responsibilities of each individual will be described in this section of the EHASP.

Facility/Site Background

Background information is provided in this section of the EHASP concerning past operations, the types of contaminants that may be encountered, and a brief description of the types of construction activities that will be conducted at the site. The description of the construction activities will focus on those activities that will result in the movement of Native Soils, and/or the potential for workers to have direct contact with the soil or the

ground water. This section will provide a general map indicating the location of the site under construction, highlighting those particular areas where soil movement activities or direct contact with ground water may occur. The types of contaminants that may be encountered during the construction activities that will be clearly identified in the EHASP include the following: inorganics (including metals and asbestos), petroleum hydrocarbons, and potentially low levels of volatiles (including methane) and semivolatiles.

Job Hazard Analysis/Hazard Mitigation

A description of the hazards associated with the specific construction activities that give rise to contact or potential contact with Native Soils or ground water is presented in this section of the EHASP. The hazards that will be discussed include, at a minimum, chemical, temperature and explosion hazards, if applicable. As part of the job hazard analysis, the EHASP will identify the chemicals likely to be encountered during the construction activities, and will present a table indicating the symptoms of exposure and the relevant regulatory exposure limits for each compound (i.e., the Cal/OSHA Permissible Exposure Limit (PEL)). The procedures to mitigate the hazards identified in the job hazard analysis are also presented in this section of the EHASP. The principal measure that will mitigate the hazards associated with chemicals present in soil and ground water will be the use of appropriate Personal Protective Equipment (PPE).

Air Monitoring Procedures

The air monitoring procedures will be detailed in the EHASP. The air monitoring that will be conducted during the site construction activities includes monitoring for both volatile constituents and respirable dust. The objectives and monitoring protocols for each are described below.

Air Monitoring for Volatiles

Air monitoring for volatile constituents will be conducted in the event that unknown areas of contamination are identified during the construction activities. The purpose of the air

monitoring as described in the EHASP is to verify that the workers are not exposed to levels of volatiles that exceed the Cal/OSHA PELs, the relevant exposure standards for workers. The presence of those constituents with the lowest OSHA PELs will dictate the level of PPE that will be required. Of the volatiles that are likely to be present within the RMP Area, the chemical with the lowest OSHA PEL is benzene, with a PEL of 1 ppm.

If previously unknown areas of contamination are identified, real time air monitoring for volatiles will be conducted using an OVM/OVA. Monitoring will be conducted within the breathing zone of the workers. Sustained 5-minute readings in the worker's breathing zone in excess of 1 ppm will require additional sampling methods to determine whether any of the chemicals with OSHA PELs of 1 ppm are present in the breathing zone. The most common chemical-specific monitoring instrument that provides real-time data is the Draeger Tube. Draeger tubes for benzene, and a few of the chlorinated solvents that also have OSHA PELs of 1 ppm (i.e., 1,2-dichloroethane, 1,1-dichloroethylene, 1,1,2,2-tetrachloroethane, and vinyl chloride) may be used to measure the concentration of vapors in the worker's breathing zone if the sustained 5-minute readings using the OVM/OVA exceed 1 ppm above background.

The table below summarizes the protocols in effect as of 1999 for conducting the volatile monitoring, including the instrument, the frequency and duration of the air monitoring, the specific actions levels and the mitigation measures that should be taken in the event that the trigger levels are reached. All of these actions are based on protecting the health of the workers involved in the construction activities. It is the responsibility of the individual preparing the EHASP to verify that the air monitoring protocols and action levels are consistent with current worker health and safety rules and regulations.

Real-Time Air Monitoring for Volatiles

Instrument	Calibration Gas Standard	Frequency/Duration of Air Monitoring	Action Level Above Background	Action[a]
OVM/OVA Calibrated daily	100 ppm isobutylene	5 minutes	For unknown constituents:	
			< 1 ppm	Work Proceeds in Level D
			1 – 5 ppm	Don Respirator (Level C, with cartridge appropriate for the exposure)
			> 5 ppm	Discontinue Work. Contact Health and Safety Coordinator to determine appropriate action
Draeger Tube for Benzene, 1,2-DCA, tetrachloroethane, vinyl chloride, and 1,1-DCE	none required	Immediately following OVM/OVA reading above background in breathing zone	For known constituents:	
			< OSHA PEL	Work Proceeds in Level D
			> OSHA PEL	Don Respirator (Level C, with cartridge appropriate for the exposure)
			> 10 times OSHA PEL	Discontinue Work. Contact Health and Safety Coordinator to determine appropriate action

[a] Levels of Personal Protective Equipment, identified as Level D and Level C, are described in the following section.

Air Monitoring for Particulates

As described in Section 4.3.2.2, air monitoring for particulates will be conducted to demonstrate that the health and safety of the off-site populations is not being impacted by the development/construction activities. Dust monitoring, where appropriate, will verify that concentrations of PM_{10} at the site boundary do not exceed 250 $\mu g/m^3$.

Additional dust monitoring to verify that the workers are not exposed to nonvolatile constituents at levels greater than the chemical-specific OSHA PELs for nonvolatiles is not warranted[3]. If significant levels of asbestos from the serpentinite-rock in the Native Soils are likely to be disturbed during the construction activities, or if other suspect material is unearthed during construction, such as pipe insulation material, then personal monitoring for asbestos may be appropriate. In that circumstance, a determination as to whether personal monitoring for asbestos is warranted will be based on the conditions specific to the parcel being developed.

Personal Protective Equipment

This section of the EHASP will identify the appropriate required PPE that will adequately protect the workers from the hazards related to contact with Native Soils or ground water that are expected to be encountered at the site. Personal Protective Equipment is selected based on the known contaminants present at a site, and the known route(s) of entry into the human body. The primary constituents present within the RMP Area that workers will be exposed to include the inorganic constituents (including metals) present in the

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[3] A screening-level evaluation was performed to determine the level of dust that would result in a potential exceedance of the chemical-specific OSHA PELs. The equation used to calculate the level of dust that would result in a potential exceedance of the chemical-specific OSHA PELs is as follows:

$$\text{Dust Level}\left(mg/m^3\right) = \frac{\text{OSHA PEL}\left(mg/m^3\right)}{\text{Average Soil Concentration}\ \left(mg/kg\right)} \times \text{Conversion Factor}\left(10^6\, mg/kg\right)$$

Using the 95 percent Upper Confidence Limit (UCL) of the arithmetic mean to estimate the average concentration of each of the nonvolatile constituents present in the soil, the level of dust that would need to be present within the workers breathing zone over an eight-hour period in order to exceed a chemical-specific OSHA PEL is 54 mg/m^3. Given the fact that dust levels greater than 5 mg/m^3 would seriously reduce visibility, and would cause unpleasant deposits in the eyes, ears and nasal passages, it is highly unlikely that levels of dust would ever reach sustained concentrations of 5 mg/m^3. Thus, additional dust monitoring to determine whether workers are exposed to nonvolatile constituents at levels greater than the OSHA PELs is not necessary.

Native Soil. The primary exposure routes include direct contact with the Native Soils (i.e., dermal contact with soil and incidental ingestion). Based on the known conditions in the Project Area, the minimum level of PPE for intrusive workers that will come into direct contact with Native Soils or ground water will be modified Level D. For the RMP Area, modified Level D protection will include a long-sleeved shirt, long pants, gloves, and boots. If unknown areas of contamination are identified during the construction activities, and if the air monitoring for volatiles indicates that the levels of volatiles present in the breathing zone exceed the OSHA-PELs, then the worker PPE will be upgraded to Level C. Upgrading to Level C is accomplished by donning a half-face air purifying respirator with the appropriate cartridge. Certain construction activities, such as the installation of utility trenches could result in workers coming into direct contact with ground water. The contact is expected to be minimal, because Cal/OSHA regulations prohibit accumulation of water in open excavation. However, limited direct contact with ground water could occur. In the event that excavations are occurring in areas with shallow ground water, additional PPE that will minimize contact with water, including water repellant gloves and boots, will be worn by workers.

Work Zones and Site Security Measures

This section of the EHASP will identify the specific work zones of the site, and will describe the site security measures such as the placement of barricades, fencing, access control and access logs. The work zone will be defined as the area of the site where the Native Soil movement or ground water activities are being conducted. All workers within the work zone who will have direct contact with the Native Soils or ground water will perform the work in compliance with all aspects of the EHASP. The support zone will be located outside of the work zone, but within the boundaries of the site. All end-of-the day cleanup operations, such as cleaning of the trucks wheels (for vehicles exiting the site that could be tracking Native Soils offsite), and the removal of any PPE, will occur in the support zone. If possible, the support zone will be located in close proximity to the entry and exit point of the site. The entire site will be fenced to control pedestrian

and vehicular entry, except at controlled (gated) points. The fences will remain locked during non-construction hours, and all visitors will be required to sign a visitor log.

Decontamination Measures

This section of the EHASP will describe the specific procedures that will be used to decontaminate both equipment and personnel. Decontamination measures will include cleaning the wheels of all vehicles in the support zone prior to their exiting the site, if applicable. Additionally, any contaminated PPE will be removed and placed in a designated area in the support zone prior to leaving the site.

General Safe Work Practices

This section of the EHASP will discuss the general safe work practices to be followed at the site, including entry restrictions, tailgate safety meetings, use of PPE, personal hygiene, hand washing facilities, eating and smoking restrictions, the use of warning signs and barricades, and any special precautions that may be specific to the site.

Contingency Plans/Emergency Information

This section of the EHASP will provide information regarding the procedures to be followed in the event of an emergency. The location of specific emergency equipment, such as eyewash, first aid kit and a fire extinguisher, and emergency telephone numbers and contacts are identified. A map indicating the route to the nearest hospital is also provided in this section of the EHASP. San Francisco General Hospital is the closest hospital to the RMP Area. The address and phone number for San Francisco General is as follows:

San Francisco General Hospital
1001 Potrero Avenue
San Francisco, CA
(415) 206-8111

4.3.9 Quarterly Reports During Development

During periods of development on a given parcel that could result in disturbance of Native Soils or ground water, the Owner, Lessee, or their designee will prepare a quarterly status report summarizing the activities occurring on that parcel. The primary purpose of the quarterly report is to keep the regulatory agencies apprised of the conditions arising during development. The quarterly status report will summarize the dust control measures being implemented, the results of the dust monitoring program, and any notification requirements that were triggered by the dust monitoring. Additionally, the quarterly report will summarize the results of the soil stockpile inspections, the discovery of any unknown contaminants or underground structures, and all response actions undertaken to manage such conditions. The quarterly report will be submitted within 30 days after the end of the calendar quarter to the SFDPH and the RWQCB. The Owner may request that the reports be submitted on a less frequent basis, if, based on the scale of the development, the anticipated time that the development activities will be occurring, or based on experience to date the Owner believes that less frequent reporting is appropriate. Upon the expressed approval of the RWQCB, the summary status reports may be submitted on an alternative, less frequent schedule. Quarterly reports will not be required for periods of development that will last less than four weeks.

4.3.10 Documentation of the Completion of Construction Work

At the conclusion of the development activities on parcels within the RMP Area, all Native Soils remaining on that parcel will be covered by buildings, parking lots, roads, sidewalks, or landscaping with between 1.0 to 1.5 feet of Fill, as specified in Sections 4.3.5.3 and 4.3.5.5. Following development of each parcel, a completion letter documenting that the cover is in place and is in compliance with Sections 4.3.5.3 and 4.3.5.5 of the RMP will be submitted to the RWQCB and the SFDPH. The completion letter will include a figure that will identify the location of any buildings, parking lots, roads, sidewalks and landscaping on the developed parcel.

4.3.11 Framework for Complying with the Ordinance Requirements for Analyzing the Soil for Hazardous Wastes

All construction activities in the RMP Area must comply with the Ordinance Requirements for Analyzing the Soil for Hazardous Wastes in Appendix F. Prior to the initiation of site development activities, a site contractor proposing to disturb 50 cubic yards or more of soil at sites located bayward of the 1851 high tide line must conduct environmental assessments of that soil to determine if the chemicals are of sufficient concentration to cause the soil to be designated as hazardous waste, in connection with obtaining a building permit. Figure 5 presents a map of the 1851 high tide line.

As described in Appendix F, chemicals present at levels that exceed the state or federal hazardous waste levels trigger the need for the site contractor to propose measures, through a Site Mitigation Report, to address any significant health or environmental impacts, if any exist, prior to obtaining a building permit.

The framework provided below summarizes the steps that will be followed to implement and comply with the Ordinance Requirements for Analyzing the Soil for Hazardous Wastes in Appendix F. As described in the preceding sections, the overall RMP for the entire RMP Area enumerates the various site mitigation measures that will be implemented throughout the development of the RMP Area and that will mitigate potential risks to human health and the environment that could be caused by the presence of chemicals in the soils or ground water. These measures will be completed at all times during the course of development, regardless of whether a building permit is required. As described more fully below, the approved RMP will become the Site Mitigation Report referred to in the Ordinance Requirements for Analyzing the Soil for Hazardous Wastes in Appendix F and in the framework below, unless additional sampling conducted to comply with Appendix F indicates that the measures contained in the RMP are not sufficient. Unless additional measures not addressed in the RMP are necessary to mitigate risks, a separate Site Mitigation Report will not be submitted. The following steps shall be followed to implement compliance with the Ordinance Requirements for Analyzing the Soil for Hazardous Wastes:

(1) Prior to obtaining a building permit from the City for a particular development activity in a portion of the RMP Area, the Owner, Lessee, or their designee will obtain confirmation from the SFDPH that the site history and sampling completed for that portion of the RMP Area (hereafter the "Site") to date are either (a) adequate to meet the Ordinance Requirements for Analyzing the Soil for Hazardous Wastes, in Appendix F or (b) must be supplemented. In making this determination, the Owner, Lessee, or their designee will consider the analytes that had been analyzed in previous sampling events. As an example, methane sampling may be required.

(2) If the Owner, Lessee, or their designee or SFDPH determine that supplementation of the site history or sampling is required, the Owner, Lessee or their designee will supplement the site history or sampling according to the Ordinance Requirements for Analyzing the Soil for Hazardous Wastes in Appendix F.

(3) After the Owner, Lessee, or their designee and SFDPH determine that the site history and sampling are complete, the Owner, Lessee, or their designee will review the sampling results to confirm that the RMP, using the risk-based corrective action approach and health-based criteria previously adopted by the RWQCB for the RMP Area in its approval of Mission Bay risk assessments (ENVIRON 1998a) satisfies the requirements in Appendix F for a Site Mitigation Report (i.e., a qualified person is prepared to certify that the RMP will mitigate significant health and environmental risks).

(4) If the Owner, Lessee, or their designee determines that the RMP meets the criteria set forth in Step Three above, the Owner, Lessee or their designee will submit supporting documentation of that determination to the SFDPH and will provide the necessary certification required under the Ordinance Requirements for Analyzing the Soil for Hazardous Wastes presented in Appendix F.

(5) If the Owner, Lessee, or their designee determines that the RMP does not meet the criteria set forth in Step Three above, the Owner, Lessee or their designee will submit a site-specific RMP Supplement to the SFDPH and the RWQCB containing additional risk mitigation or management measures for that Site. The submittal of the site-specific RMP Supplement will be accompanied by a certification necessary under the Ordinance Requirements for Analyzing the Soil for Hazardous Wastes presented in Appendix F.

The certification shall confirm that the site-specific RMP Supplement, using the risk-based corrective action approach and the health-based criteria previously adopted for the RMP Area in approval of Mission Bay risk assessments, satisfies the requirements in Appendix F for a Site Mitigation Report (i.e., a qualified individual is prepared to certify that the site-specific RMP Supplement will mitigate significant health and environmental risks).

(6) Upon receipt of the certification specified in Steps Four or Five, the SFDPH will confirm that the Owner's or Lessee's certification is complete, that the applicant will have complied with the requirements of the Ordinance Requirements for Analyzing the Soil for Hazardous Wastes presented in Appendix F upon completion of the mitigation measures applicable prior to and during construction, and will forward the certification to SFDPW so that the building permit may be issued.

(7) Upon the completion of construction, the Owner, Lessee, or their designee will submit certification to the SFDPH that it has carried out those measures specified in the RMP or the Site-specific RMP Supplement (which satisfies the requirements for the Site Mitigation Report, as specified in Steps Three or Five) applicable prior to and during construction. Upon receipt of the certification, the SFDPH will provide the Owner, Lessee or their designee and the SFDPW with written notification that the Owner has complied with all requirements of the Ordinance Requirements for Analyzing the Soil for Hazardous Wastes presented in Appendix F.

4.4 Additional Management Measures Applicable to Development in the Free Product Area

A part of the RMP Area contains a measurable thickness of free petroleum product on the ground water table ("Free Product"), resulting from the historic use of that area for bulk petroleum storage and transport by numerous oil companies. The area affected by Free Product is located in the southeast quadrant of the RMP Area. As was summarized in Section 2.0, and presented in the risk assessments, the presence of Free Product will not adversely affect the health of the future populations in the area, either before or after development. However, additional management measures may be warranted when developing in the designated Free Product Area

(defined below) in order to minimize impacts on construction workers and the environment. These additional measures are specified below. If Free Product is encountered in an area that is not contained in the Free Product Area (as that geographic area is deemed to change over time), then the procedures in Section 4.3.5.6.1 (Procedures for Discovery of Unknown Areas of Contamination) will apply.

All measures described below would be implemented in addition to other applicable risk management measures required by this RMP. These measures only apply to work in the area designated below as the Free Product Area.

While many of these measures apply directly to the construction contractors, it is the responsibility of the Owner of the parcel under construction or the Lessee who has contracted for construction to ensure that the contractor will comply with these measures.

4.4.1 Areas Presently Known as of April 1999 to be Impacted by Free Product

The area that is presently known (as of April 1999) to be impacted, or partially impacted, by the presence of Free Product is located east of Illinois Street, near the east end of 16th Street and includes portions of the following specific parcels: P22, P23, 29 and 32, in addition to the public rights-of-way that run between these parcels, as indicated on Figure 3 (the "Free Product Area"). The Free Product Area is the subject of an investigation being conducted under the RWQCB Order 98-028 by a group of oil companies that formerly operated in the area. As the investigation conducted by the oil companies and the RWQCB proceeds, the Free Product Area may expand or contract.

Prior to beginning development, an Owner or Lessee developing a parcel in the area delineated on Figure 3 and marked as "Potentially Impacted Development Area" will determine whether the Free Product Area has changed to encompass areas different from that shown as the Free Product Area in Figure 3 by contacting the RWQCB to request updated information about the configuration of the Free Product Area. If the configuration of the area with Free Product has changed, the new configuration shall be the Free Product Area.

4.4.2 Additional Management Measures

The risk management measures outlined below will be implemented, in addition to the measures required as described in previous sections of the RMP, during any work in the Free Product Area.

i) The Owner or Lessee will verify with RWQCB that proposed construction activities will not impede the effectiveness of any ongoing or proposed RWQCB-required investigations and/or remediation by submitting development plans to the RWQCB in writing 30 days before construction begins. The RWQCB will notify the Owner or Lessee within those 30 days if the development plans will impede that effectiveness, and in that event, the RWQCB and the Owner will determine appropriate modifications to the plans. If the need for emergency repair work arises, then the notification will be provided as soon as reasonably practicable.

ii) The Owner's or Lessee's designated contractor or environmental consultant will ensure that real time air monitoring using the OVM/OVA and/or an appropriate combustible gas meter is conducted when Free Product is encountered to ensure that levels of volatiles are below OSHA standards and that methane and other gases remain below explosive levels.

iii) A contractor installing sheet piling or support piles or any other subsurface structures that extend below the water table, within 50 feet of the shoreline, will obtain the advanced opinion of the Owner's or Lessee's qualified environmental engineering consultant that such activities, as designed, will not cause the release of Free Product into San Francisco Bay.

iv) Design engineers directing construction contractors installing underground utilities (such as water, sewer, storm drain, electrical and fiber optic cables) will determine whether a change in the location or elevation of such installation is possible to avoid or minimize pipe or conduit contact with any Free Product and

which piping materials are appropriate for use in the Free Product Area over the design-life of the utility.

v) Any excavated soils that contain free-flowing petroleum hydrocarbons (as measured by the leaking of such liquids into the excavation within 30 minutes after the excavated material is removed) will not be reused onsite, and the construction contractor will arrange for the lawful disposition of such materials outside of the RMP Area in accordance with all applicable laws given the content of such soils.

vi) Any soils excavated from the Free Product Area that contain evidence of free-phase petroleum hydrocarbons that are not free-flowing (i.e., they do not leak into the excavation within 30 minutes as described in Section 4.4.2(v)) will also not be reused on site but will be disposed of outside the RMP Area in accordance with all applicable laws and regulations unless a qualified environmental professional determines that such soil may be appropriately managed onsite in accordance with the provisions of this RMP. The presence of non-free flowing, free-phase petroleum hydrocarbons will be determined during field observations by the presence of liquid hydrocarbon residual staining on excavation equipment (i.e., backhoe bucket or shovel) or by the presence of visible separate-phase petroleum hydrocarbons in the soil.

vii) Soils excavated from the Free Product Area that contain visible evidence of petroleum hydrocarbons will not be reused below the water table unless the RWQCB confirms that such reuse is appropriate and will not materially impact water quality. For purposes of this RMP, the water table includes the saturated soil zone immediately above the water table.

viii) Areas excavated for the installation of public utilities will be backfilled with controlled density backfill that will prevent the re-infiltration of Free Product into

the trench. An example of a controlled density backfill material for trenches that will prevent re-infiltration of Free Product is "Bode-Flow" fill material, a flowable concrete mix. Any such material placed in public right of way areas must satisfy the City's geotechnical requirements as set forth in City specifications.

4.5 Process for Selecting and Approving a Daycare Center and/or School Location

The Redevelopment Plans allow for the siting of daycare centers in any of the major land use districts. In addition, it is anticipated that parcel 14 will be developed as a school.

4.5.1 Daycare Centers or Schools Within Areas Currently Designated for Residential Uses

Environmental conditions in areas with land use designations allowing for residential development (as shown in Figure 2) have been evaluated and have been shown to be safe for future children and adult residential populations. Children present at a daycare center or school could be exposed to chemicals in the soils and ground water through the same exposure pathways as the child residents evaluated in the risk assessment. The primary analytical difference in analyzing exposure pathways between child residents and children present at a daycare center or school is that the residential children are assumed to be present in their home 24-hours per day, whereas the children that could be present at the daycare center or school are assumed to be present at the daycare center or school for a portion of the day. Since the portions of the RMP Area planned for residential development have been shown to be safe for on-site residents, including on-site children, any of these residential areas would also be considered safe for children that could be enrolled in the daycare center or school. Therefore, if a school or daycare center is planned on sites in any of the areas with land use designations allowing residential use, no additional analyses are necessary.

4.5.2 Daycare Center or Schools Within Areas Currently Designated for Nonresidential Uses

Since the location of daycare centers are not known, and the location of future schools is not certain, additional risk evaluations are required before schools or daycare centers can be sited in the nonresidential areas. The following approach would be implemented once the location of these uses is selected in order to assess whether or not local environmental conditions must be modified, or the location of a daycare center or school moved.

Areas designated for nonresidential development have been shown to be safe for the future human populations who would be present and in the areas. Consistent with risk assessment guidelines, the evaluation of commercial exposures assumes that the populations that could be exposed to chemicals present in soil and/or ground water would be adults. Although children would be present periodically in these areas, their exposure to chemicals would be less than the adult employees who are present for extended periods of time. However, if a daycare center or school is proposed to be constructed within an area designated for nonresidential use, then child populations would be present in the area for more extended periods of time. The following discusses the approach for determining if a nonresidential area is appropriate for child school or daycare populations.

In order to evaluate the appropriateness of a given nonresidential area for the placement of a daycare center or school, additional risk analyses would be conducted at that point in time when the specific location of the daycare center or school is selected. Once the specific location has been proposed, the chemical concentrations detected in local soil and ground water would be compared to the risk-based residential SSTLs (Appendix E). If the cumulative exposures resulting from the presence of chemicals in both the soil and ground water around the proposed location are below the residential SSTLs, then the proposed location would be appropriate for the children at the daycare center or school. If the cumulative exposures are above the residential SSTLs, then other approaches, such as the development of SSTLs specific for a child at a daycare center or a child at a school, could also be used to assess whether the use of a particular nonresidential area for either a daycare center or a school would be safe for the proposed use. Risk evaluations conducted to support the use of a particular area for either a daycare center or a school would be submitted to the RWQCB for their review and approval.

5.0 RISK MANAGEMENT MEASURES AFTER DEVELOPMENT IS COMPLETE

5.1 Introduction

The purpose of the following section is to identify the appropriate risk management measures that will be implemented to reduce long-term risks to human health and the environment from residual chemicals present in the soil and ground water after the development of parcels in the RMP Area is complete. The identification of the appropriate risk management measures was based on a comprehensive human health and ecological risk evaluation conducted to determine whether the existing environmental conditions would pose a risk to human health or the environment given the specific development plans for the RMP Area. Implementation of the management measures identified in this section is the responsibility of each Owner, Lessee, or their delegates with relevant property maintenance responsibilities.

The potential human health and ecological risks posed by the chemical constituents in the soil and ground water after development is complete are identified and discussed in Section 5.2. Section 5.3 describes the long-term risk management measures to be implemented in the RMP Area.

5.2 Identification of Potential Human Health and Ecological Impacts After Development is Complete

As described in Section 1.0, a human health and ecological risk assessment was conducted to determine whether the presence of chemicals in the soil or ground water would adversely impact human health or the environment once development of the RMP Area was complete. The populations included in the risk evaluation and the pathways through which each of the populations could be exposed to the chemicals present in the soil and ground water once development of the RMP Area is complete is presented in Appendix G. The conclusion of the risk assessment is that none of the chemicals is present at concentrations that will pose a threat to human health following the completion of the planned development. Further, with the potential exception of the Free Product Area, none of the chemicals is present at concentrations that would adversely impact the aquatic ecosystem. The potential ecological impacts associated with the

Free Product Area is the subject of a separate investigation which is being conducted in accordance with RWQCB Order No. 98-028.

5.3 Long-Term Management of Risks After Development is Complete

The purpose of the following section is to describe the long-term management measures that will be undertaken to mitigate potential long-term risks to human health and the environment after construction and development of parcels in the RMP Area is completed and in the event of further construction or development at some point in the future. The components of the long-term risk management of the RMP Area are as follows:

- Covering of the RMP Area;
- Limiting future residential development within the RMP Area to preclude single family homes with private front yards or back yards;
- Restricting the future use of ground water for domestic, industrial or irrigation purposes through recordation of the Environmental Covenant;
- Providing protocols for future subsurface activities; and
- Implementing a long-term monitoring program.

These long-term risk management measures are discussed in the following sections. Compliance with all aspects of the RMP and the specific institutional controls that must remain in place during the occupancy of the RMP Area, is the specific responsibility of the Owner, Lessee or their delegates of each development area and is described further in Section 6.0.

5.3.1 Covering of the RMP Area

After development, all Native Soils will be covered by buildings, parking lots, roads, sidewalks or landscaping with between 1.0 and 1.5 feet of Fill, unless alternative measures are approved by the RWQCB. Any future development must ensure that Native Soils are precluded from contact with humans, by using buildings, pavement or appropriate Fill for landscaping.

5.3.2 Limitations on Future Development Within the RMP Area

The parcels within the RMP Area with land use designations permitting future residential development are identified in Figure 2. As indicated, the parcels targeted for residential use in Mission Bay North and Mission Bay South area are as follows:

- **Mission** Bay North: Parcels N1, N2, N3, N3a, N4, N4a and N5
- **Mission Bay South**: Parcels 2, 3, 4, 5, 6, 7, 9, 9a, 10, 10a, 11, 12, 13 and X2

Residential development within the RMP Areas identified above will be limited to preclude single family homes with private front or back yards. If residential development were to allow individual Owners or Lessees to have access to Native Soils, then those individuals would be subject to the applicable provisions of the RMP (Section 4.0).

If the Redevelopment Plans are amended to permit residential uses in areas currently designated for nonresidential use, then further risk assessment analysis will be conducted before additional residences could be built in these areas.

5.3.3 Use of Ground Water Within the RMP Area

The ground water within the RMP Area may not be used for domestic, industrial or irrigation purposes. Ground water wells will not be installed within the RMP Area except for environmental monitoring or dewatering purposes or for RWQCB-approved remediation. Environmental monitoring wells within the RMP Area would be installed in compliance with any City guidelines and would be secured and locked to prevent unauthorized access to the ground water. The ground water within the RMP Area would remain unused unless at some point in the future an assessment of the risks from direct exposure to the ground water is conducted and subsequently if the RWQCB as the Administering Agency under AB2061 approves the use of the ground water. The provision is detailed in the Environmental Covenant recorded against the properties within the RMP Area.

5.3.4 Protocols for Future Subsurface Activities

Entities contracting with Owners or Lessees to conduct maintenance, construction, or repair work which would result in the disturbance of soils under buildings, parking lots, walkways or landscaped areas would be bound by the specific requirements set forth in Section 4.0, as appropriate. Following construction, excavation, or soil disturbance, all Native Soil will be covered as described in Section 5.3.1 so that direct contact with the Native Soils will be precluded.

5.3.5 Long-Term Monitoring Program

After the construction of the permanent improvements on any parcel in the RMP Area, the Owner (or some other entity such as a Lessee, which has by contract assumed the Owner's responsibility for compliance with the RMP after development) shall conduct an annual physical inspection of the property that confirms the following:

- The Native Soils continue to have the cover specified in Section 5.3.1 and the cover is maintained such that Native Soils are not exposed;
- Single family homes with private front or back yards are not developed within the RMP Area in accordance with Section 5.3.2;
- Ground water is not being used for domestic, industrial or irrigation purposes, as required in Section 5.3.3 and
- To the extent that the Owner or other entity procured subsurface work, the protocols for the subsurface activities were followed, as required by Section 5.3.4.

A Reporting Checklist is presented in Appendix C, identifying each management measure and the specific reporting requirements for the different periods of development. A sample monitoring form identifying the items that should be included in the annual physical inspection is presented in Appendix C. Owners shall submit the annual inspection report to the RWQCB and the SFDPH by January 31 of each year. As indicated, the physical integrity of the cover, both the Fill in the landscaped areas and the asphalt/concrete in the other areas, will be monitored to verify that prolonged direct contact with Native Soils will not occur. For the landscaped areas,

the identification of breaches in the landscaping will be aided by the synthetic fabric that will be placed between the Native Soils and the Fill during the initial development of the landscaped areas. If during the inspections, the synthetic fabric is observed, then this will serve as an indication that the Fill has deteriorated significantly and that the Fill needs repair. Similarly, the inspections of the asphalt or concrete covered areas will focus on identifying areas where breaches in the cover, and the potential for prolonged direct contact with exposed Native Soils could occur. Descriptions of the condition of the asphalt or concrete covered areas will be noted in the inspection reports, and any necessary repairs will be conducted and documented. As the risk analyses have indicated that it is only the potential for prolonged (i.e., 25 to 30 year) daily direct contact with Native Soil that warrants management, an annual inspection/monitoring and repair program is appropriate.

6.0 REGULATORY OVERSIGHT AND ENFORCEMENT OF RMP

The purpose of this Section is to describe the regulatory oversight and enforcement mechanisms that will provide the structure for the risk management measures applicable to the RMP Area to remain in place and continue to be effective. Each Owner of any portion of the RMP Area will be notified of the RMP and its contents, and required to comply with it. This Section describes how and where the RMP will be maintained, and specifies the process through which Owners and Lessees will be notified of the RMP and informed of compliance obligations. Additionally, this Section identifies the monitoring/reporting requirements and enforcement procedures that can be exercised by the RWQCB to ensure compliance with all provisions of the RMP.

6.1.1 Public Repositories of the RMP

The RMP for the entire RMP Area shall be maintained in two locations:

- With the Administrative Clerk of the Regional Water Quality Control Board for the San Francisco Bay Region in a file labeled "Mission Bay Risk Management Plan Area" and maintained in the public record room for active RWQCB oversight sites. This file shall be available for public review during the normal business hours in the public record room.
- With the SFDPH for the City and County of San Francisco in a file labeled "Mission Bay Risk Management Plan Area" and available for public review during the normal business hours of the Department of Public Health.

Each page of the RMP approved by the RWQCB shall be dated with the month and year that the RWQCB has approved the RMP or its modifications. A page shall be added to the front of each copy of the RMP when modifications are inserted, indicating the dates and pages of the substitutions.

6.1.2 Contents of RMP Area File

Both the RWQCB and SFDPH will maintain an index for all RMP Area technical reports and data submitted. It shall include any technical reports submitted to the RWQCB or SFDPH for the RMP Area, including without limitation, any reports or documents submitted to comply with the Ordinance Requirements for Analyzing the Soil for Hazardous Wastes in Appendix F. These files shall be available for public review during normal business hours.

6.2 Modifications to the RMP

It is anticipated that the provisions of the RMP may need to be amended from time to time. Examples of circumstances that may require RMP modifications include but are not limited to:

- When currently unanticipated conditions are encountered during construction, the response to which is not specified in this RMP and it is believed that the conditions may recur;
- When the manner of construction used for particular buildings in the RMP Area is materially changed and necessitates different safeguards; or
- Evolving construction or landscape technologies or techniques allow the long-term management of risks identified in Section 5.0 to be accomplished in a different but equally protective ways.

This list is not exhaustive but merely representative of the kinds of changes that may trigger the need for appropriate modifications over the life of this project.

A proposed RMP modification will not be presented to the RWQCB unless the following entities concur in proposing the amendment: (i) the current Owner of the affected parcel; and (ii) Catellus, the City and/or the Redevelopment Agency, and the Regents of the University of California, to the extent that the proposed RMP modification affects RMP compliance obligations that are imposed upon them in their agreements with each other. All modifications proposed to the RWQCB must include a certification from the Owner that the Owner has reviewed all relevant technical reports and data on file with both the RWQCB and SFDPH, and that the modification complies with the FSEIR.

When such affected parties concur upon a proposed modification to the RMP, they will jointly present such proposed modifications to the RWQCB for their approval. The RWQCB will review the proposed changes, request any additional background information if needed, and issue a decision regarding the proposal within 45 days of receipt of a fully complete application supporting the requested modification. The decision of the RWQCB regarding the request for modification shall be considered final and shall be accepted by all involved parties except that any aggrieved party can request that a RWQCB decision which is contrary to their interests be reviewed by the RWQCB itself at a regularly scheduled public hearing. Once the RWQCB has approved the RMP modifications, the RMP changes will be filed in the RWQCB public copy and with the Department of Public Health. The procedures for modification and review of the RMP proposed modifications set forth in this Section 6.0 are in addition to, and not in lieu of, any procedures for advance review, notice, approval and dispute resolution set forth in private contracts between Catellus Development Corporation, UCSF, the City, and the Redevelopment Agency.

6.3 Notification of Owners and Lessees and Identification of Compliance Obligations

An Environmental Covenant is recorded in the Official Records of the City and County of San Francisco against each parcel in the RMP Area and runs with the real property under California Civil Code 1471. The Environmental Covenant references the RMP and requires compliance with its provisions.

Because the Environmental Covenant is recorded, the Covenant will be provided to the Owners in the RMP Area, who will also become bound to comply, as a matter of law, with the Environmental Covenant. The Owners who have executed or become bound by the Environmental Covenant have also agreed by its terms to provide a copy of the RMP governing the parcel being transferred to applicable transferees.

The Environmental Covenant provides, among other things, that:

- Each Owner or Lessee will be deemed by their purchase, leasing or exclusive possession of the parcel within the RMP Area to be in compliance with the Environmental Covenant and the RMP. Recordation of the Environmental

Covenant shall be binding on all Owners and Lessees, regardless of whether a copy of the Environmental Covenant has been attached to or incorporated into any given deed or lease.

- In all future leases, licenses, permits or other agreements between, on the one hand, an Owner or Lessee, and, on the other hand, another entity, which authorizes such entity to undertake or to engage in subject to one or more requirements in this RMP, the Owner or Lessee will provide a copy of the RMP or its relevant provisions to such parties prior to the execution of the agreements and ensure that the agreements contain covenants that (i) such entity will comply with the RMP (to the extent the RMP applies to such parties' activities); (ii) that such entity will obligate other entities with which it contracts for construction, property maintenance or other activities that may disturb Native Soil or ground water to comply with the applicable provisions of the RMP; and, (iii) such entity (and the entities with which it so contracts) will refrain from interfering with the title Owners' or Lessees' compliance with the RMP.
- In all agreements between an Owner and another entity provided for access to an affected parcel for the purpose of environmental mitigation, monitoring or remediation ("Environmental Response") by such entity, the Owner will provide the entity with a copy of the RMP prior to execution of the agreement and ensure that the agreements contain covenants by the entity that the entity will (i) comply with the RMP (to the extent the RMP applies to the entity's activities); and (ii) obligate any person or company with which it contracts for Environmental Response that may disturb Native Soil or ground water to comply with the applicable provisions of the RMP.

6.4 Monitoring and Reporting

There are several junctures during the development of the RMP Area where this RMP, by its terms, requires monitoring and/or reporting. The monitoring and reporting requirements prior to, during, and after development are identified below. A Reporting Checklist, identifying each

management measure and the specific reporting requirements for the different periods of development, is presented in Appendix C.

6.4.1 Prior to Commencement of Development

The Owner or Lessee (or some other entity, such as a property management company, designated or certified by the Owner or Lessee) shall follow the pre-development monitoring requirements described in Sections 3.2(v) and 3.2(vi). Appendix C presents a checklist summarizing the reporting requirements for parcels prior to the initiation of development.

6.4.2 During Development

- Prior to the initiation of construction activities within the Free Product Area, the Owner or Lessee will notify the RWQCB as described in Section 4.4.2(i).
- Prior to the commencement of development, the Owner or Lessee shall submit the dust monitoring notification to the RWQCB and the SFDPH, as described in Section 4.3.1.
- The Owner or Lessee (or some other entity, such as a contractor, designated or certified by the Owner or Lessee) shall document implementation of the dust control measures, as described in Section 4.3.1.2 and shall comply with the requirements of the Dust Monitoring Program, set forth in Section 4.3.2.2. Further, the Owner or Lessee (or some other entity, such as a contractor, designated or certified by the Owner or Lessee) shall comply with the specific reporting requirements of the Dust Monitoring Program, as described in Section 4.3.2.2.7.
- The Owner or Lessee (or some other entity, such as a contractor, designated or certified by the Owner or Lessee) must prepare, prior to certain types of construction activities, a Storm Water Pollution Prevention Plan (SWPPP), (as described in Section 4.3.3), must submit the SWPPP to the RWQCB, and must comply with the provisions detailed in the SWPPP.

- The Owner or Lessee (or some other entity, such as a contractor, designated or certified by the Owner or Lessee) shall conduct quarterly inspections of any soil stockpiles as described in Section 4.3.5.2.4.
- The Owner or Lessee (or some other entity, such as a contractor, designated or certified by the Owner or Lessee) will provide any notification required under state, federal or local law and will provide notice of such conditions to the RWQCB as the Administering Agency for the RMP Area whenever the construction contractor encounters: (i) unknown areas of contamination in the soil or ground water, per the notification requirements described in Section 4.3.5.6.1(i) and 4.3.5.6.1(ii)(d); (ii) any other unanticipated environmental condition, the response to which is not specified in the RMP; (iii) other indications of a release of hazardous substances or hazardous materials which is required by state or federal law to be reported to a state environmental agency; (iv) a UST, per the notification requirements described in Section 4.3.5.6.2.1; or (v) any underground structure such as a sump, vault, or other subsurface structure if it is determined that the structure was related to former use and storage of chemicals and/or releases to the underlying soils occurred, as described in Sections 4.3.5.6.2.2 (ii)(a) and 4.3.5.6.2.2(ii)(b)(2).
- The Owner or Lessee's designated contractor will submit the EHASP to the RWQCB prior to the initiation of construction if the construction project is projected to last more than four weeks, as described in Section 4.3.8.
- The Owner or Lessee (or some other entity, such as a contractor, designated or certified by the Owner or Lessee) will prepare the quarterly status report, as described in Section 4.3.9.
- The Owner or Lessee (or some other entity, such as a contractor, designated or certified by the Owner or Lessee) will prepare a completion letter, as described in Section 4.3.10.

Appendix C presents a checklist summarizing the reporting requirements for parcels during the period of development.

6.4.3 After Development is Complete

After the construction of the permanent improvements on any parcel in the RMP Area, the Owner or Lessee (or some other entity such as a long-term lessee, which has by contract assumed the Owner's or Lessee's responsibility for compliance with the RMP after development) shall follow the long-term monitoring program described in Section 5.3.5. Appendix C presents a checklist summarizing the reporting requirements for parcels after development of the parcel is complete.

6.5 Enforcement Authority

Responsibility for determining whether RMP requirements have been breached and, if so, the initiation of any enforcement action where it is appropriate shall rest with the RWQCB. The information provided to the RWQCB, as set forth in Section 6.4 will apprise the RWQCB of the status of RMP compliance for the RMP Area. Upon learning that a particular parcel is not RMP compliant, the RWQCB has the authority to enforce the provisions of the Porter Cologne Water Quality Control Law, Sections 13000, *et seq.* of the Water Code, against certain entities, including those who have caused or permitted the discharge of pollutants to land where it may create a nuisance. Additionally, as the stated beneficiary of the Environmental Covenant, the RWQCB may enforce the RMP restrictions through a civil action brought against an Owner or a Lessee which is not in compliance with the RMP.

The RWQCB's enforcement activity is separate from and in addition to the enforcement authority retained by the City in ensuring compliance with Appendix F requirements during construction.

7.0 REFERENCES

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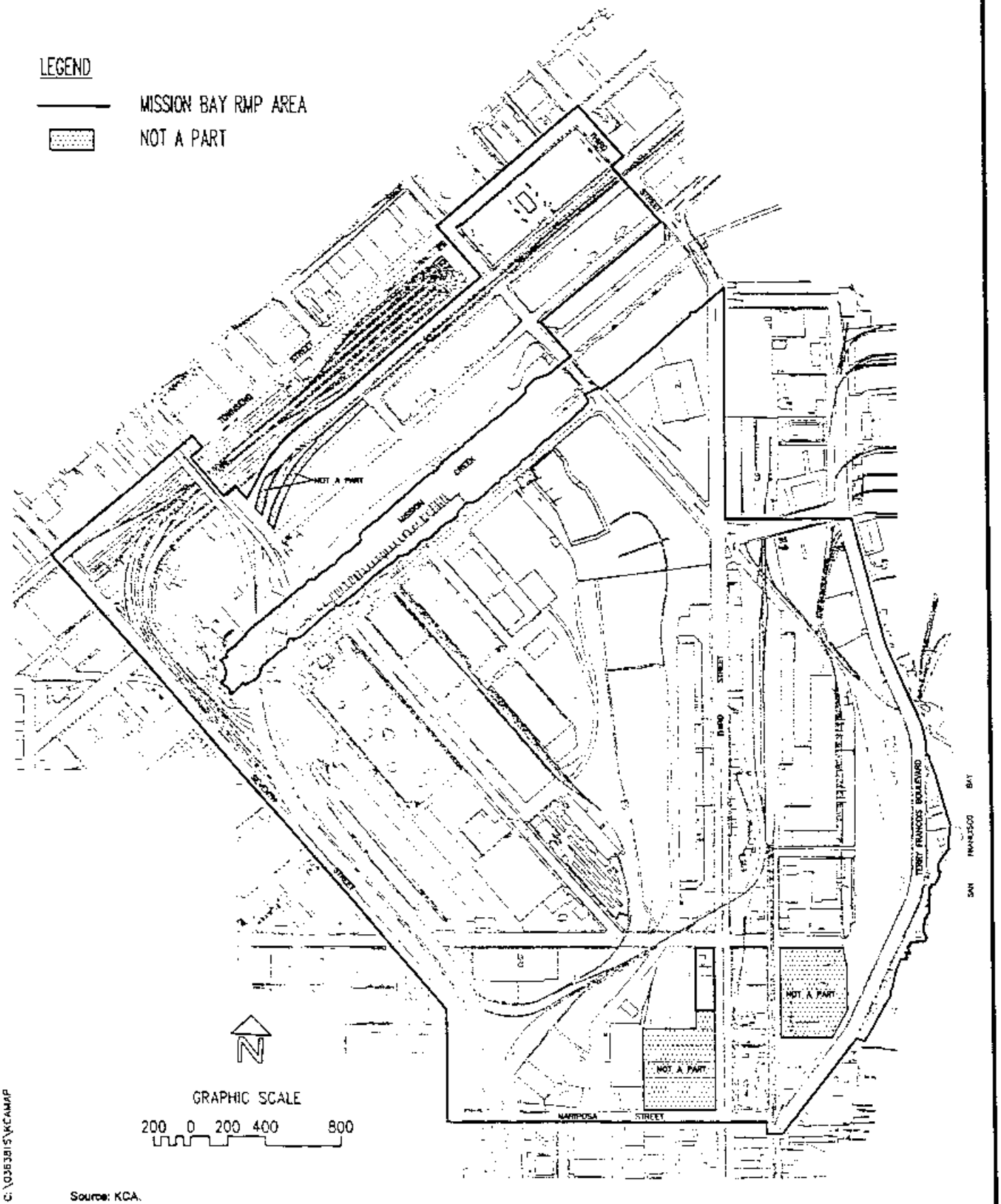
Regional Water Quality Control Board (RWQCB). 1998b. *Erosion and Sediment Control Field Manual (Note: date in manual is not listed).*

FIGURES



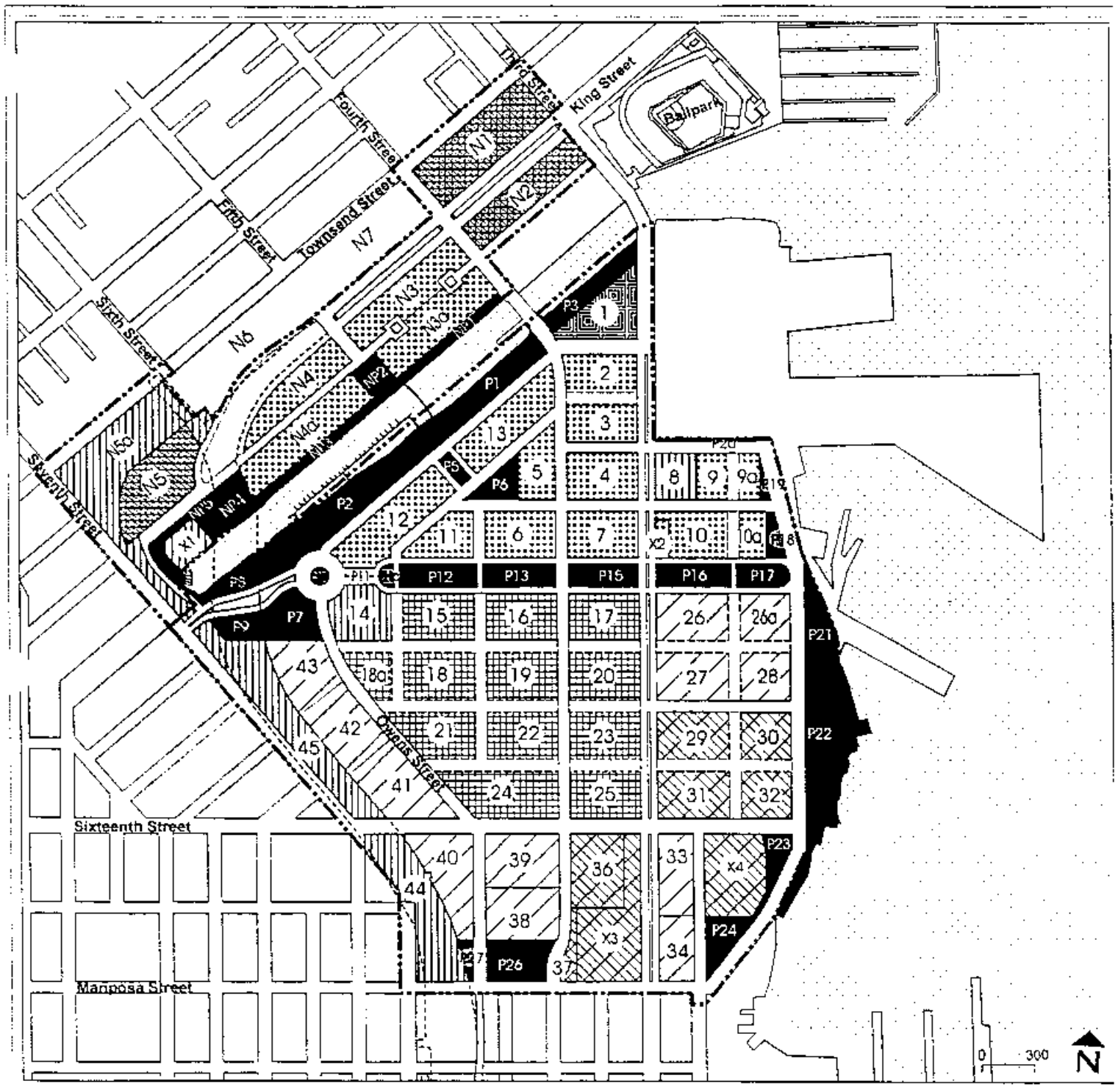
ENVIRON

6001 Shellmound St., Suite 700, Emeryville, CA 94608

Mission Bay RMP Area
Catellus Mission Bay
San Francisco, California

Figure 1

Drafter: RS | Date: 5/24/99 | Contract Number: 03-6381S | Approved: | Revised:



OPEN SPACE

HOTEL
(Mixed use including Retail)

UCSF

COMMERCIAL INDUSTRIAL / RETAIL

MISSION BAY RESIDENTIAL
(Mixed use including neighborhood serving Retail)

COMMERCIAL INDUSTRIAL
(Mixed use including neighborhood serving Retail)

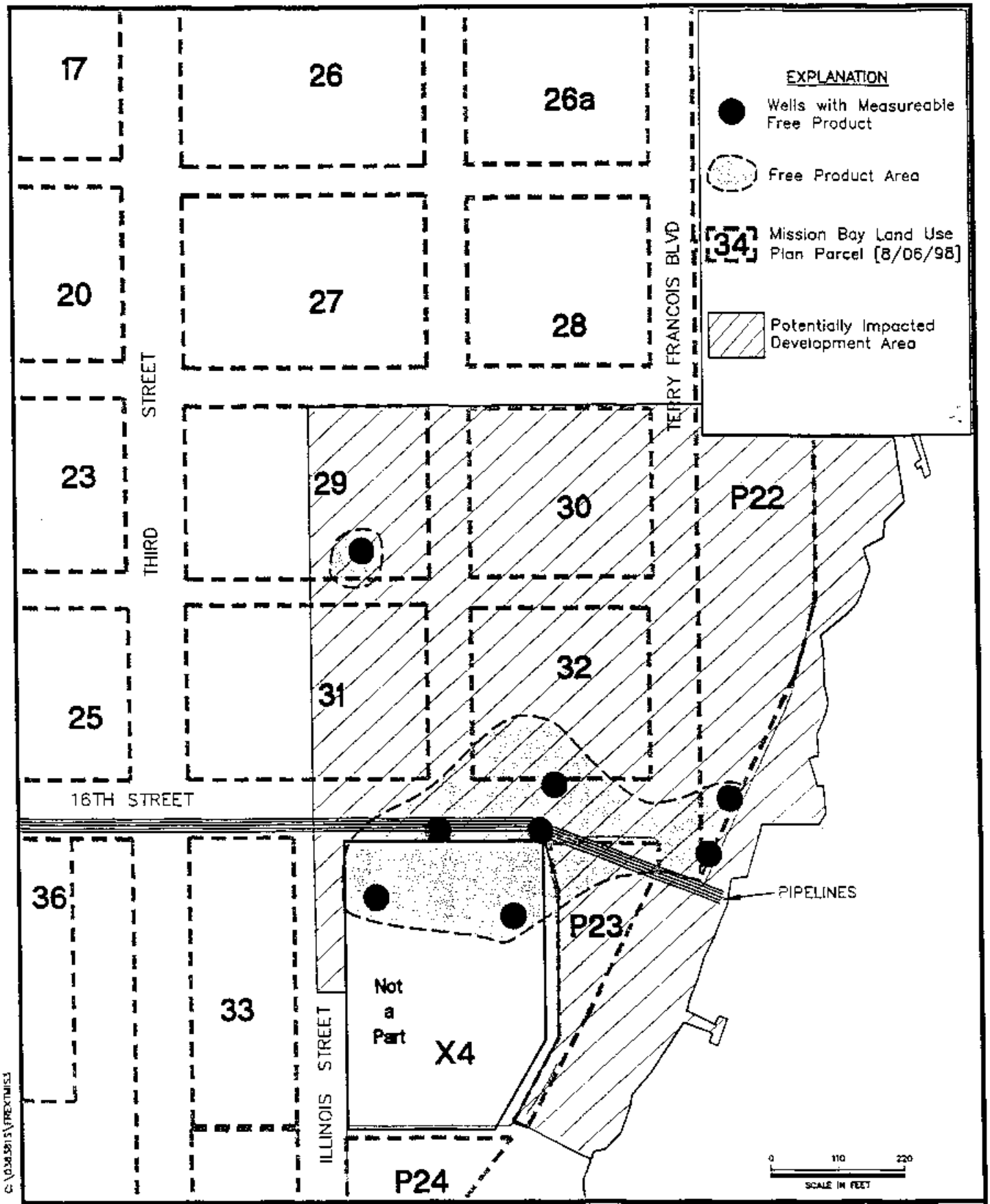
PUBLIC FACILITIES
(School, Police, Fire, Pump Station, Rail and Area below Freeway)

MISSION BAY NORTH RETAIL
(Mixed use including Entertainment uses, Housing, City-serving and neighborhood Retail)

Figure 2: MISSION BAY LAND USE PLAN

SWINERTON FAIN PARTNERS — SAN FRANCISCO, CALIFORNIA — CATELLUS DEVELOPMENT CORPORATION

Date: April 1999



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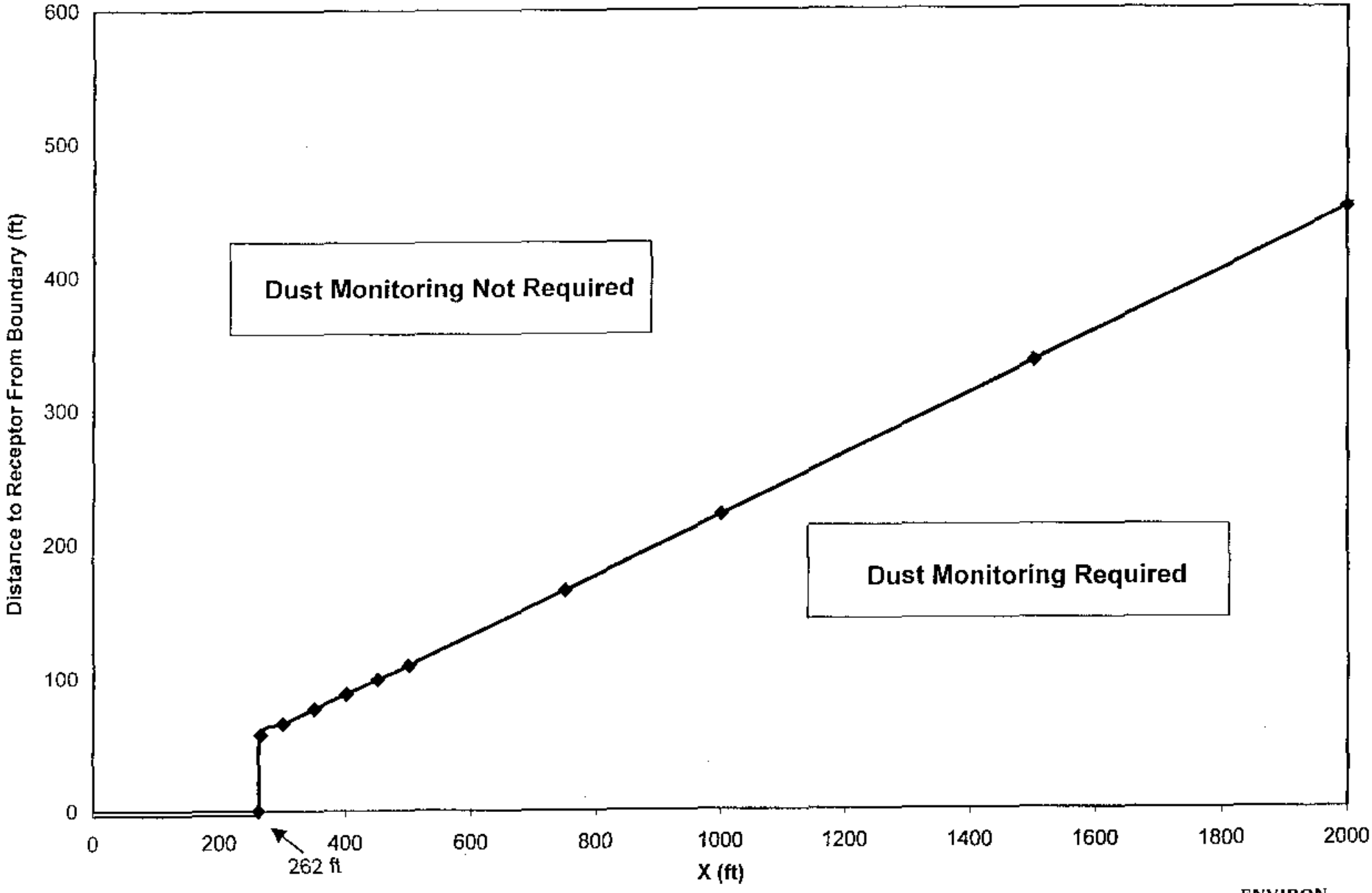
Identification of Free Product Area
RMP Area
Catellus Mission Bay

Figure
3

Drafter: RS | Date: 4/23/99 | Contract Number: 03-6381S | Approved: | Revised:

Fig 4. Site Conditions Where Dust Monitoring is Required:

Relationship Between Length of Site and Distance to Nearest Receptor Where Annual Average Dust Concentrations Equal 250μg/m^3



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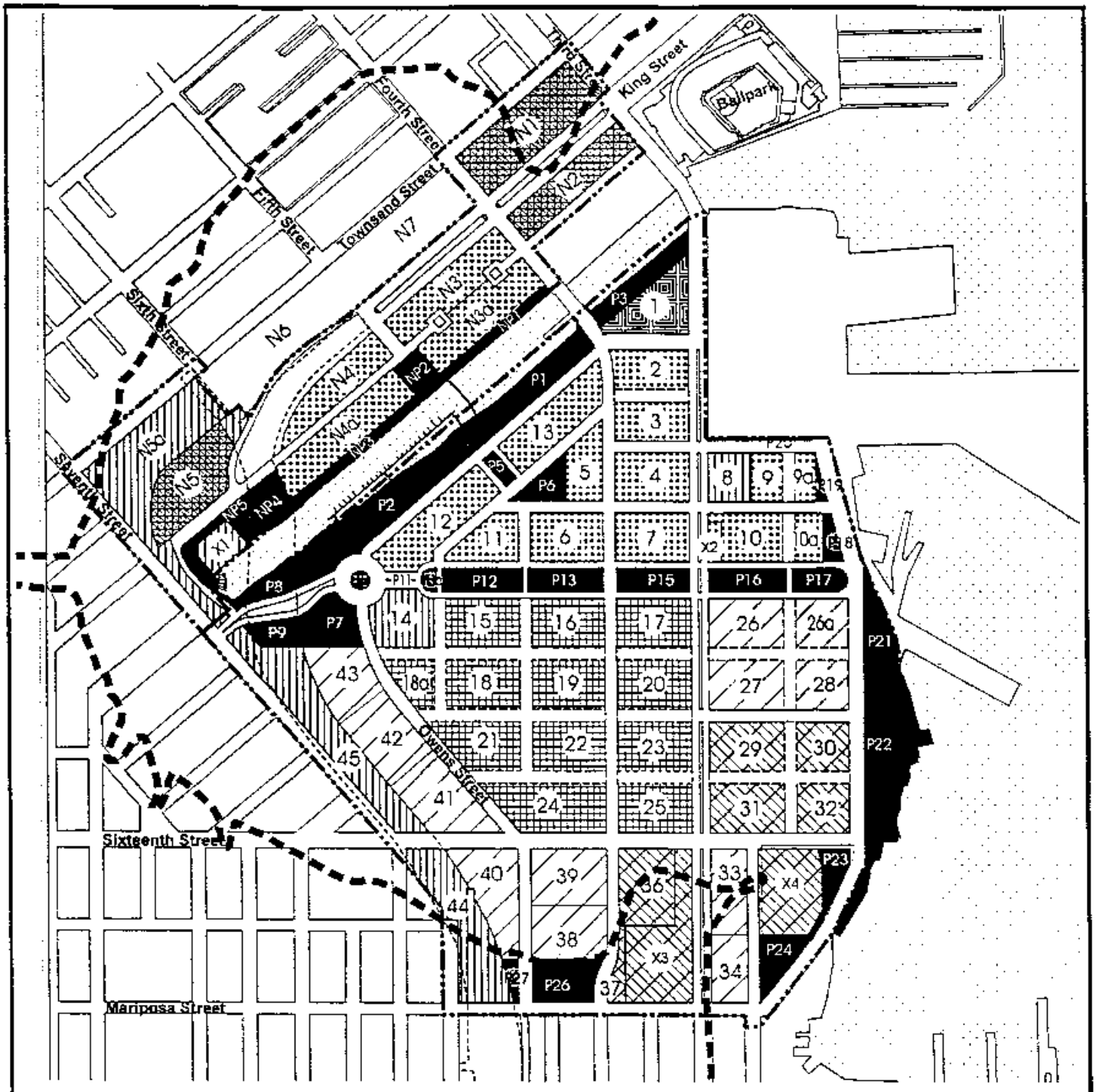


KEY:

1851 MISSION BAY SHORELINE COAST

APPROXIMATE BOUNDARY OF AREA COVERED BY RMP

N

0 600

SCALE IN FEET

ENVIRON

1851 High-Tide Line
Mission Bay RMP Area
Mission Bay, San Francisco, California

Figure **5**

Drafter: RS Date: 12/2/98 Contract Number: 03-6381S Approved: Revised:

APPENDIX A

Analytical Results for Soil and Ground Water

Appendix A
Analytical Results for Soil and Ground Water

LIST OF TABLES

TABLE A-1: SUMMARY OF DETECTED COMPOUNDS IN SOIL
Mission Bay North
Catellus Mission Bay
San Francisco, California

		MW-1		MW-2		MW-3		MW-4		MW-5		MW-6		MW-7	
ANALYTE	Units	2.0 - 3.	5.0 - 6.0'	1.0 -2.0'	2.5 - 3.5'	1.5 - 2.5'	4.5 - 5.5'	1.5 - 2.0'	5.5 - 6.5'	1.0 -2.0'	2.5 - 3.5'	1.0 - 1.5'	2.5 - 3.5'	1.0 - 2.0'	2.5 - 3.0'
Volatile Organic Compounds - EPA 8260 (EPA 8240 list of compounds)															
Acetone	µg/kg	--	< 20	--	< 20	--	25	--	< 20	--	< 20	--	< 20	--	71
Petroleum Hydrocarbons - EPA 8015M															
Diesel	mg/kg	89 YH	< 1	9.9 YH	9.2 YH	12 YH	2.5 YH	240 YH	76 YH	54 YH	200 YH	110 YH	3.9 YH	140 YH	200 YH
Motor Oil	mg/kg	230	< 5	59 H	110 H	65 H	9 Y	410	53 YL	480 YH	680 YL	820	13 YL	880	2,500
Semi-Volatile Organic Compounds - EPA 8270															
4-Methylphenol	µg/kg	< 330	< 330	< 330	< 330	< 330	< 330	< 670	< 330	< 330	< 3300	< 670	< 330	< 3300	< 1700
Naphthalene	µg/kg	< 330	< 330	< 330	< 330	< 330	< 330	< 670	< 330	< 330	2,400 J	< 670	< 330	< 3300	< 1700
Acenaphthene	µg/kg	< 330	< 330	< 330	< 330	< 330	< 330	< 670	< 330	< 330	2,900 J	< 670	< 330	< 3300	< 1700
Dibenzofuran	µg/kg	< 330	< 330	< 330	< 330	< 330	< 330	< 670	< 330	< 330	1,800 J	< 670	< 330	< 3300	< 1700
Fluorene	µg/kg	< 330	< 330	< 330	< 330	< 330	< 330	< 670	< 330	< 330	3,200 J	< 670	< 330	< 3300	< 1700
Phenanthrene	µg/kg	< 330	< 330	< 330	< 330	< 330	820	600 J	< 330	< 330	17,000	< 670	< 330	< 3300	< 1700
Anthracene	µg/kg	< 330	< 330	< 330	< 330	< 330	< 330	< 670	< 330	< 330	6,900	< 670	< 330	< 3300	< 1700
Fluoranthene	µg/kg	< 330	< 330	< 330	< 330	< 330	1,300	1,100	< 330	< 330	17,000	390 J	< 330	< 3300	< 1700
Pyrene	µg/kg	< 330	< 330	< 330	< 330	< 330	2,200	1,500	< 330	< 330	20,000	580 J	< 330	< 3300	< 1700
Benzo(a)anthracene	µg/kg	< 330	< 330	< 330	< 330	< 330	1,100	850	< 330	< 330	9,300	< 670	< 330	< 3300	< 1700
Chrysene	µg/kg	< 330	< 330	< 330	< 330	< 330	1,200	920	< 330	< 330	9,900	380 J	< 330	< 3300	< 1700
Benzo(b)fluoranthene	µg/kg	< 330	< 330	< 330	< 330	< 330	990	730	< 330	< 330	5,000	< 670	< 330	< 3300	< 1700
Benzo(k)fluoranthene	µg/kg	< 330	< 330	< 330	< 330	< 330	1,300	1,200	< 330	< 330	7,700	370 J	< 330	< 3300	< 1700
Benzo(a)pyrene	µg/kg	< 330	< 330	< 330	< 330	< 330	1,300	1,300	< 330	< 330	7,800	420 J	< 330	< 3300	< 1700
Indeno(1,2,3-cd)pyrene	µg/kg	< 330	< 330	< 330	< 330	< 330	340	500 J	< 330	< 330	1,800 J	< 670	< 330	< 3300	< 1700
Benzo(g,h,i)perylene	µg/kg	< 330	< 330	< 330	< 330	< 330	360	540 J	< 330	< 330	2,000 J	< 670	< 330	< 3300	< 1700

TABLE A-1: SUMMARY OF DETECTED COMPOUNDS IN SOIL
Mission Bay North
Catellus Mission Bay
San Francisco, California

Title 22 Metals - EPA Methods 6010/7470														
Antimony	mg/kg	7.0	< 2.9	< 2.8	< 2.9	< 3.0	< 2.8	6.0	< 2.9	< 2.9	< 3.0	< 2.9	< 2.9	< 3.0	< 2.9
Arsenic	mg/kg	5.9	2.3	5.3	9.0	5.2	6.1	4.2	1.0	5.3	3.8	7.2	4.8	4.7	12
Barium	mg/kg	63	15	150	120	190	41	180	20	58	300	140	32	130	110
Beryllium	mg/kg	0.11	< 0.096	0.23	0.25	0.43	0.11	0.23	< 0.098	0.23	0.53	0.25	0.099	0.23	0.13
Cadmium	mg/kg	1.6	0.42	0.75	0.55	0.73	0.56	1.0	0.39	0.57	0.51	1.6	0.44	1.1	1.2
Chromium	mg/kg	44	25	54	40	61	21	21	25	31	32	29	24	56	17
Cobalt	mg/kg	9.3	3.8	11	6.4	11	4.7	6.3	3	7.7	15	9.8	3.9	11	7.0
Copper	mg/kg	220	0.78	37	60	20	35	26	< 0.49	30	37	81	8.1	15	76
Lead	mg/kg	200	9.8	170	270	8.0	150	140	3.8	150	12	250	36	41	200
Mercury	mg/kg	1.2	< 0.10	0.14	1.7	0.35	0.91	1.8	< 0.095	0.35	0.61	0.98	0.92	0.30	0.53
Molybdenum	mg/kg	< 0.97	< 0.96	< 0.95	< 0.95	< 0.99	< 0.95	< 1.0	< 0.98	< 0.96	< 1.0	< 0.97	< 0.96	< 1.0	< 0.97
Nickel	mg/kg	51	17	100	24	56	16	24	12	29	36	31	18	66	24
Selenium	mg/kg	1.1	0.67	2.2	1.6	2.9	1.5	0.93	0.61	2.2	3	1.4	0.45	0.65	1.0
Silver	mg/kg	< 0.48	< 0.48	< 0.47	0.83	< 0.49	< 0.47	< 0.50	< 0.49	< 0.48	< 0.50	0.58	< 0.48	< 0.50	< 0.49
Thallium	mg/kg	1.1	< 0.24	< 0.24	< 0.24	1.0	< 0.24	0.54	0.50	1.2	3.1	0.61	0.51	0.68	< 0.24
Vanadium	mg/kg	33	19	34	27	36	26	20	20	35	52	28	18	39	30
Zinc	mg/kg	220	16	120	110	49	69	260	21	78	50	180	24	50	130
Pesticides and PCBs - EPA 8080															
4,4'-DDD	µg/kg	< 6.0	< 6.0	< 6.0	< 6.0	< 60	< 60	< 6.0	< 6.0	< 30	< 30	< 60	< 60	< 120	< 240
4,4'-DDT	µg/kg	< 6.0	< 6.0	< 6.0	< 6.0	< 60	< 60	< 6.0	18	< 30	< 30	< 60	< 60	< 120	< 240
Aroclor-1254	µg/kg	< 12	< 12	< 12	< 12	< 120	< 120	< 12	< 12	390	< 60	< 120	< 120	< 240	< 480
Other Analyses/General Chemistry															
Fluoride	mg/kg	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	7.0	< 2.5	< 2.5	2.6	2.9	< 2.5	< 2.5	< 2.5
Chromium VI	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.17	< 0.05	0.11	< 0.05	< 0.05	0.16	< 0.05
Asbestos	%	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1-5% (1)	ND
pH	pH	7.5	8.1	9.4	8.1	8.7	8.9	7.6	7.0	9.1	8.6	7.8	9.0	7.7	7.6
Methane	ppmv	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	5.4	< 5.00

TABLE A-1: SUMMARY OF DETECTED COMPOUNDS IN SOIL
Mission Bay North
Catellus Mission Bay
San Francisco, California

		MW-8		MW-9		MW-10		MW-11		MW-12		MW-13		MW-14	
ANALYTE	Units	2.5 - 3.5'	4.0 - 5.0'	1.0 - 2.0'	2.5 - 3.5'	1.0 - 2.0'	2.5 - 3.5'	1.0 -2.0'	4.0 - 5.0'	0.5 - 1.5'	4.0 - 5.0'	1.0 -2.0'	4.0 - 5.0'	1.0 - 2.0'	3.5 - 4.5'
Volatile Organic Compounds - EPA 8260 (EPA 8240 list of compounds)															
Acetone	µg/kg	--	48	--	45	--	< 20	--	< 20	--	< 20	--	< 20	--	< 20
Petroleum Hydrocarbons - EPA 8015M															
Diesel	mg/kg	50 YH	93 YH	60 YH	130 YH	15 YH	2.7 YH	20 YH	41 YH	37 YH	< 1	3.1 YH	< 1	13 YH	70 YH
Motor Oil	mg/kg	340 Y	150 Y	220 Y	890 Y	71 Y	25	80H	2,800 H	170 YH	< 5	12 Y	< 5	120 H	240 H
Semi Volatile Organic Compounds - EPA 8270															
4-Methylphenol	µg/kg	< 1700	460	< 330	< 1700	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330
Naphthalene	µg/kg	< 1700	< 330	< 330	< 1700	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330
Acenaphthene	µg/kg	< 1700	< 330	< 330	< 1700	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330
Dibenzofuran	µg/kg	< 1700	< 330	< 330	< 1700	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330
Fluorene	µg/kg	< 1700	< 330	< 330	< 1700	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330
Phenanthrene	µg/kg	< 1700	< 330	< 330	< 1700	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330
Anthracene	µg/kg	< 1700	< 330	< 330	< 1700	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330
Fluoranthene	µg/kg	1,200 J	< 330	< 330	< 1700	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330
Pyrene	µg/kg	1,900	< 330	< 330	< 1700	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330
Benzo(a)anthracene	µg/kg	980 J	< 330	< 330	< 1700	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330
Chrysene	µg/kg	1,100 J	< 330	< 330	< 1700	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330
Benzo(b)fluoranthene	µg/kg	< 1700	< 330	< 330	< 1700	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330
Benzo(k)fluoranthene	µg/kg	1,400 J	< 330	< 330	< 1700	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330
Benzo(a)pyrene	µg/kg	1,300 J	< 330	< 330	< 1700	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330
Indeno(1,2,3-cd)pyrene	µg/kg	< 1700	< 330	< 330	< 1700	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330
Benzo(g,h,i)perylene	µg/kg	< 1700	< 330	< 330	< 1700	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330	< 330

TABLE A-1: SUMMARY OF DETECTED COMPOUNDS IN SOIL
Mission Bay North
Catellus Mission Bay
San Francisco, California

Title 22 Metals - EPA Methods 6010/7470														
Antimony	mg/kg	< 3.0	< 2.9	< 2.9	< 2.9	< 2.9	< 3.0	< 2.9	< 3.0	< 3.0	< 2.9	< 3.0	< 2.9	< 3.0	140
Arsenic	mg/kg	7.2	16	6.4	3.9	3.1	2.6	5.4	5.5	7.5	3.8	2.9	3.9	5.4	9.8
Barium	mg/kg	300	1,100	240	100	70	50	350	90	150	120	78	150	98	120
Beryllium	mg/kg	0.32	1.3	0.31	0.17	0.19	0.14	0.41	< 0.10	0.36	0.38	0.35	0.45	0.33	0.23
Cadmium	mg/kg	1.0	0.84	1.7	0.92	0.70	0.59	1.3	1.3	0.57	0.40	0.32	0.35	1.2	2.2
Chromium	mg/kg	30	12	39	37	40	37	46	24	28	75	52	24	48	37
Cobalt	mg/kg	7.2	5.9	16	6.4	7.2	6	12	7.4	9.7	12	7.8	9.2	10	7.7
Copper	mg/kg	75	91	30	120	6.0	1.7	15	82	50	10	12	9.7	18	37
Lead	mg/kg	300	220	7.4	430	7.1	2.2	10	100	130	9.0	46	11	20	340
Mercury	mg/kg	3.6	2.9	< 0.095	0.30	< 0.095	< 0.10	< 0.091	0.13	0.37	0.13	0.17	< 0.10	0.13	0.099
Molybdenum	mg/kg	< 1.0	1.6	< 0.98	< 0.95	< 0.98	< 1.0	< 0.98	1.2	< 1.0	< 0.98	< 0.99	< 0.97	< 1.0	< 0.98
Nickel	mg/kg	27	14	37	42	30	27	47	34	33	62	32	31	47	23
Selenium	mg/kg	1.0	0.76	1.2	0.65	0.85	0.81	0.37	< 0.25	2.4	2.0	1.7	2.1	0.49	< 0.24
Silver	mg/kg	0.60	< 0.48	< 0.49	< 0.48	< 0.49	< 0.50	< 0.49	< 0.50	< 0.50	< 0.49	< 0.50	< 0.49	< 0.50	0.77
Thallium	mg/kg	1.6	< 0.24	2.6	0.50	0.75	< 0.25	1.3	0.79	0.52	2.5	0.31	0.62	< 0.25	< 0.24
Vanadium	mg/kg	30	40	56	24	28	27	37	40	34	40	39	24	42	32
Zinc	mg/kg	200	170	45	190	33	17	53	88	100	36	55	42	44	6500
Pesticides and PCBs - EPA 8080														
4,4'-DDD	µg/kg	< 240	< 6.0	< 6.0	7.3	< 120	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0
4,4'-DDT	µg/kg	< 240	< 6.0	< 6.0	< 6.0	< 120	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0
Aroclor-1254	µg/kg	< 480	< 12	< 12	< 12	< 240	< 12	< 12	< 12	< 12	< 12	< 12	< 12	< 12	< 12
Other Analyses/General Chemistry														
Fluoride	mg/kg	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	2.6	< 2.5	2.9	3.1	< 2.5	< 2.5	3.3	< 2.5
Chromium VI	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.19	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Asbestos	%	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
pH	pH	7.4	7.4	7.4	7.5	8.3	8.3	8.4	7.9	8.6	8.1	7.6	7.0	8.5	7.7
Methane	ppmv	< 5.00	11	< 5.00	5.7	5.2	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00

TABLE A-1: *SUMMARY OF DETECTED COMPOUNDS IN SOIL*
Mission Bay North
Catellus Mission Bay
San Francisco, California

NOTES:

All data presented in the *Results of Investigation, Mission Bay North of Channel Report.* Prepared by ENVIRON, April 22, 1997

"--" indicates not analyzed.

"< xx" indicates not detected above laboratory detection limit xx.

Y = Sample exhibits fuel pattern which does not resemble standard; see Appendix B for discussion.

H = Heavier hydrocarbons than indicated standard; see Appendix B for discussion.

L = Lighter hydrocarbons than indicated standard; see Appendix B for discussion.

J = Estimated. High sample dilution results in elevated detection limits; see Appendix B for discussion.

ND = Not detected.

(1) Chrysotile asbestos.

For a complete listing of chemical results in soil, see Appendix B.

TABLE A-2: SUMMARY OF DETECTED COMPOUNDS IN GROUND WATER
Mission Bay North
Catellus Mission Bay
San Francisco, California

ANALYTE	Units	MW-1	MW-2	MW-3	MW-4	MW-5	MW-5 [DUP]	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14
Volatile Organic Compounds - EPA 8260 (EPA 8240 list of compounds)																
Carbon Disulfide	µg/L	< 1.0	2.9	< 1.0	< 1.0	14	7.4	< 1.0	2.5	< 1.0	< 1.0	1.6	1.1	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethene	µg/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.6	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethene	µg/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	7.1	< 1.0	< 1.0	< 1.0	< 1.0
Chloroform	µg/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.8
Trichloroethene	µg/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	7.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	7.4	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/L	< 1.0	< 1.0	< 1.0	2.8	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	180	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	16	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	47	< 1.0	< 1.0	< 1.0
m,p-Xylenes	µg/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	46	< 1.0	< 1.0	< 1.0
o-Xylene	µg/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	43	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons - EPA 8015M																
Gasoline	µg/L	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	8,300 YH	< 50	< 50	< 50
Diesel	µg/L	66 YH	350 YH	850 YH	920 Y	550	330	55 YH	170 YH	150 YH	1,200 YH	280 Y	48,000	110 Y	93 Y	700 YH
Motor Oil	µg/L	< 300	670 Y	1,700 Y	< 300	< 300	< 300	< 300	390	< 300	3,600	540 Y	7,100 YL	< 300	< 300	830 L
Semi-Volatile Organic Compounds - EPA 8270																
Naphthalene	µg/L	< 9.4	< 9.4	< 9.7	< 9.4	< 9.7	< 9.6	< 9.4	< 9.4	< 9.4	< 9.8	< 9.4	5,500	< 9.5	< 9.4	< 9.5
2-Methylnaphthalene	µg/L	< 9.4	< 9.4	< 9.7	< 9.4	< 9.7	< 9.6	< 9.4	< 9.4	< 9.4	< 9.8	< 9.4	1,400	< 9.5	< 9.4	< 9.5
Acenaphthene	µg/L	< 9.4	< 9.4	< 9.7	< 9.4	< 9.7	< 9.6	< 9.4	< 9.4	< 9.4	< 9.8	< 9.4	830	< 9.5	< 9.4	< 9.5
Dibenzofuran	µg/L	< 9.4	< 9.4	< 9.7	< 9.4	< 9.7	< 9.6	< 9.4	< 9.4	< 9.4	< 9.8	< 9.4	450 J	< 9.5	< 9.4	< 9.5
Fluorene	µg/L	< 9.4	< 9.4	< 9.7	< 9.4	< 9.7	< 9.6	< 9.4	< 9.4	< 9.4	< 9.8	< 9.4	520	< 9.5	< 9.4	< 9.5
Phenanthrene	µg/L	< 9.4	< 9.4	< 9.7	< 9.4	< 9.7	< 9.6	< 9.4	< 9.4	< 9.4	< 9.8	< 9.4	690	< 9.5	< 9.4	< 9.5
bis(2-Ethylhexyl)phthalat	µg/L	< 9.4	< 9.4	< 9.7	< 9.4	< 9.7	< 9.6	< 9.4	< 9.4	< 9.4	12	< 9.4	< 500	< 9.5	13	< 9.5

TABLE A-2: SUMMARY OF DETECTED COMPOUNDS IN GROUND WATER
Mission Bay North
Catellus Mission Bay
San Francisco, California

ANALYTE	Units	MW-1	MW-2	MW-3	MW-4	MW-5	MW-5 [DUP]	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14
Title 22 Metals - EPA Methods 6010/7470																
Antimony	µg/L	< 60	< 60	< 60	< 60	< 60	< 60	< 60	< 60	< 60	< 60	220	< 60	< 60	< 60	< 60
Arsenic	µg/L	28	38	32	11	6.2	< 5.0	< 5.0	< 5.0	27	9.3	< 5.0	8.4	5.7	< 5.0	6.6
Barium	µg/L	41	110	37	22	260	270	46	48	64	25	82	260	15	68	38
Chromium	µg/L	< 10	< 10	< 10	13	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Cobalt	µg/L	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	21	< 20	< 20	110	< 20
Lead	µg/L	< 3.0	< 3.0	< 3.0	13	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	8.2	4.4	< 3.0	< 3.0	< 3.0	< 3.0
Mercury	µg/L	< 0.20	< 0.20	< 0.20	0.27	0.22	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	0.21	< 0.20	0.20	0.26
Molybdenum	µg/L	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	31	< 20	< 20
Nickel	µg/L	< 20	< 20	24	< 20	< 20	< 20	< 20	< 20	< 20	< 20	36	< 20	< 20	190	< 20
Thallium	µg/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	10	11	< 5.0	< 5.0	28	< 5.0
Vanadium	µg/L	< 10	< 10	< 10	18	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Zinc	µg/L	< 20	26	33	59	21	38	51	23	< 20	< 20	130	110	52	180	59
General Chemistry																
pH	pH	6.7	7.2	7.3	7.4	7.6	7.7	7.3	7.1	7.1	7.4	6.9	6.9	7.9	6.6	7.5

NOTES:
All data presented in the *Results of Investigation, Mission Bay North of Channel Report*, Prepared by ENVIRON, April 22, 1997
[DUP] indicates duplicate sample.
"<xx" indicates not detected above laboratory detection limit xx.
Y = Sample exhibits fuel pattern which does not resemble standard; see Appendix B for discussion.
H = Heavier hydrocarbons than indicated standard; see Appendix B for discussion.
L = Lighter hydrocarbons that indicated standard; see Appendix B for discussion.
J = Estimated. High sample dilution results in elevated detection limits; see Appendix B for discussion.
For a complete listing of chemical results in ground water, see Appendix B.

TABLE A-3: DETECTIONS OF PESTICIDES AND PCBs IN SOIL
Mission Bay South
Catellus Mission Bay
San Francisco, California

Compound	Total # of Samples	# of Detections	Detection Frequency	Range (µg/kg)
Aldrin	205	1	<1%	160
Dieldrin	205	1	<1%	120
Endosulfan I	205	1	<1%	160
Endrin	205	1	<1%	31
HCH (gamma) Lindane	205	1	<1%	160
Heptachlor	205	1	<1%	160
Heptachlor Epoxide	205	2	1%	12 - 160

Notes:

All data presented in the *Results of Investigation, Mission Bay South of Channel Report*, Prepared by ENVIRON, February 4, 1998

Polychlorinated biphenyls (PCBs) were not detected in soil samples collected during the South of Channel investigation.

For a complete listing of pesticides and PCB results in soil, see Table D-1 in Appendix D.

TABLE A-4: DETECTIONS OF PAHs IN SOIL
Mission Bay South
Catellus Mission Bay
San Francisco, California

Compound	Total # of Samples	# of Detections	Detection Frequency	Range (µg/kg)
Noncarcinogenic				
2-Methylnaphthalene	205	1	<1%	1,100
Acenaphthene	205	1	<1%	1,600
Acenaphthylene	205	2	1%	1,700 - 2,100
Anthracene	205	2	1%	2,500 - 6,900
Benzo(g,h,i)perylene	205	4	2%	340 - 2,600
Fluoranthene	205	10	5%	330 - 7,700
Fluorene	205	1	<1%	2,900
Naphthalene	205	1	<1%	1,500
Phenanthrene	205	14	7%	330 - 17,000
Pyrene	205	10	5%	370 - 14,000
Carcinogenic				
Benz[a]anthracene	205	7	3%	350 - 11,000
Benzo[a]pyrene	205	8	4%	390 - 8,700
Benzo[b]fluoranthene	205	13	6%	340 - 9,600
Benzo[k]fluoranthene	205	5	2%	410 - 3,000
Chrysene	205	8	4%	430 - 6,800
Dibenz[ah]anthracene	205	1	<1%	460
Indeno[1,2,3-cd]pyrene	205	4	2%	330 - 3,200

Notes:
All data presented in the *Results of Investigation, Mission Bay South of Channel Report*, Prepared by ENVIRON, February 4, 1998
PAH = Polycyclic aromatic hydrocarbons
For a complete listing of PAH results in soil, see Table D-2 in Appendix D.

TABLE A-5: DETECTIONS OF OTHER SEMIVOLATILE ORGANIC COMPOUNDS IN SOIL AND GROUND WATER

Mission Bay South
Catellus Mission Bay
San Francisco, California

Compound	Media	Total # of Samples (1)	# of Detections	Detection Frequency	Range (ppb)
Dibenzofuran	Soil	205	1	<1%	2,000
2,4-Dimethylphenol	GW	105	1	1%	47
2-Methylphenol	GW	105	1	1%	33
4-Methylphenol	GW	105	1	1%	79
DEHP (2)	GW	105	1	1%	31
Phenol	GW	105	1	1%	13

Notes:

All data presented in the *Results of Investigation, Mission Bay South of Channel Report*, Prepared by ENVIRON, February 4, 1998

(1) The total number of ground water samples does not include seven duplicate samples. For the seven duplicate samples, a detection in either the primary or duplicate was called a detection and the average of the values was taken as the sample concentration, using half the detection limit if either was a non-detect.

(2) Bis(2-ethylhexyl)phthalate (DEHP) is a common field and laboratory contaminant

GW = Ground water sample

ppb = parts per billion (µg/kg for soil and µg/L for ground water)

For a complete listing of semivolatile organic compound results in soil and ground water, see Table D-2 in Appendix D.

TABLE A-6: DETECTIONS OF PAHs IN GROUND WATER
Mission Bay South
Catellus Mission Bay
San Francisco, California

Compound	Total # of Samples (1)	# of Detections	Detection Frequency	Range (µg/L)
Noncarcinogenic				
2-Methylnaphthalene	105	1	1%	270
Acenaphthene	105	3	3%	11 - 120
Fluoranthene	105	1	1%	32
Naphthalene	105	3	3%	17 - 1,400
Phenanthrene	105	3	3%	11 - 120
Pyrene	105	2	2%	13 - 42
Carcinogenic				
Benzo[b]fluoranthene	105	1	1%	22

Notes:

All data presented in the *Results of Investigation, Mission Bay South of Channel Report*, Prepared by ENVIRON, February 4, 1998

(1) = Seven duplicate samples were not counted as additional samples. For the seven duplicate samples, a detection in either the primary or duplicate was called a detection and the average of the values was taken as the sample concentration, using half the detection limit if either was a non-detect.

PAH = Polycyclic aromatic hydrocarbons

For a complete listing of PAH results in soil, see Table D-2 in Appendix D.

TABLE A-7: DETECTIONS OF VOLATILE ORGANIC COMPOUNDS IN SOIL
Mission Bay South
Catellus Mission Bay
San Francisco, California

Compound	Total # of Samples (1)	# of Detections	Detection Frequency	Range (µg/kg)
Freon 113	105	1	1%	8.2
Freon 11	105	1	1%	5
2-Butanone	105	9	9%	11 - 120
2-Hexanone	105	1	1%	16
Acetone (2)	105	24	23%	14 - 770
Benzene	105	6	6%	13 - 270
Carbon Disulfide	105	5	5%	5.2 - 43
Chloroform	105	1	1%	6.2
Ethylbenzene	105	5	5%	7.3 - 2,700
Methylene Chloride (2)	105	12	11%	10 - 110
Styrene	105	1	1%	51
PCE	105	1	1%	11
Toluene	105	11	10%	5 - 4,300
TCE	105	1	1%	110
m & p-Xylenes	105	7	7%	5 - 8,000
o-Xylene	105	5	5%	5 - 4,900

Notes:

All data presented in the *Results of Investigation, Mission Bay South of Channel Report*, Prepared by ENVIRON, February 4, 1998

(1) Shallow soil samples were not tested for volatile organic compounds since it is unlikely these compounds would persist in surface soils due to their volatile nature.

(2) Common laboratory contaminant.

PCE = Tetrachloroethene

TCE = Trichloroethene

For a complete listing of volatile organic compound results in soil, see Table D-3 in Appendix D.

TABLE A-8: DETECTIONS OF VOLATILE ORGANIC COMPOUNDS IN GROUND WATER
Mission Bay South
Catellus Mission Bay
San Francisco, California

Compound	Total # of Samples (1)	# of Detections	Detection Frequency	Range (µg/L)
TCA	105	2	2%	1.5 - 2.6
1,1-DCA	105	1	1%	1.5
cis-1,2-DCE	105	1	1%	31
trans-1,2-DCE	105	1	1%	6.9
Acetone (2)	105	1	1%	5.5
Benzene	105	9	9%	1.0 - 240
Carbon Disulfide	105	3	3%	1.3 - 8.7
Chlorobenzene	105	1	1%	5.0
Chloroform	105	4	4%	1.0 - 23
Ethylbenzene	105	3	3%	1.3 - 2.4
PCE	105	1	1%	1.3
Toluene	105	4	4%	1.0 - 41
TCE	105	1	1%	3.6
m & p-Xylenes	105	7	7%	1.6 - 34
o-Xylene	105	3	3%	2.5 - 12
Vinyl Chloride	105	1	1%	38

Notes:

All data presented in the *Results of Investigation, Mission Bay South of Channel Report*, Prepared by ENVIRON, February 4, 1998

(1) = Seven duplicate samples were not counted as additional samples. For the seven duplicate samples, a detection in either the primary or duplicate was called a detection. The higher of the two results is reported in the range.

(2) Common laboratory contaminant.

TCA = 1,1,1-Trichloroethane
1,1-DCA = 1,1-Dichloroethane
cis-1,2-DCE = cis-1,2-Dichloroethene
trans-1,2-DCE = trans-1,2-Dichloroethene
PCE = Tetrachloroethene
TCE = Trichloroethene

For a complete listing of volatile organic compound results in ground water, see Table D-3 in Appendix D

TABLE A-9: DETECTIONS OF METALS IN SOIL
Mission Bay South
Catellus Mission Bay
San Francisco, California

Compound	Total # of Samples	# of Detections	Detection Frequency	South of Channel		LBNL Fill/Colluvium (1)			California Soils (2)		
				Range (mg/kg)	95% UCL (mg/kg)	Range (mg/kg)	95% UCL (mg/kg)	95% UCL (mg/kg)	Range (mg/kg)	95% UCL (mg/kg)	95% UCL (mg/kg)
Antimony	205	16	8%	6.2 - 325	8.8	1.0 - 5.0	5.9	3.0	<1.0 - 2.0	---	---
Arsenic	205	183	89%	1.1 - 247	17	0.25 - 66	14	7.3	0.3 - 69	12	8.3
Barium	205	204	100%	2.0 - 5,250	277	0.99 - 1,200	359	147	150 - 1,500	716	748
Beryllium	205	120	59%	0.2 - 4.7	0.4	0.08 - 1.0	0.9	0.5	ND - 3.0	2.0	0.7
Cadmium	205	52	25%	0.52 - 15.2	0.9	0.05 - 3.5	1.5	0.5	0.01 - 22	7.1	5.1
Chromium	205	205	100%	6.4 - 1,710	226	11 - 102	91	55	10 - 1,500	142	159
Chromium VI	205	14	7%	0.05 - 4.4	0.1	---	---	---	---	---	
Cobalt	205	204	100%	2.0 - 119	26	2.5 - 110	22	17	ND - 50	18	15
Copper	205	204	100%	2.9 - 3,520	162	0.3 - 107	60	32	5.0 - 300	61	59
Lead	205	192	94%	1.2 - 47,900	927	0.5 - 211	15	14	ND - 300	40	37
Mercury	205	128	62%	0.1 - 32.7	1.1	0.05 - 0.76	0.3	0.2	0.01 - 1.5	1.0	0.2
Molybdenum	205	8	4%	2.1 - 8.6	1.4	0.25 - 4.6	3.2	1.4	ND - 5.0	2.4	0.8
Nickel	205	204	100%	7.8 - 2,650	375	2.0 - 140	120	64	<5.0 - 200	49	46
Selenium	205	1	<1%	0.88	0.4	0.5 - 17	5.6	2.0	<0.1 - 1.5	1.1	0.3
Silver	205	15	7%	1.0 - 4.6	0.8	0.2 - 4.0	2	0.6	<0.5 - 5.0 (3)	---	
Thallium	205	2	1%	0.78 - 1.0	1.7	0.5 - 110	43	11	---	---	
Vanadium	205	205	100%	8.9 - 218	40	0.79 - 377	78	54	30 - 500	139	140
Zinc	205	205	100%	11 - 3,880	257	24 - 112	92	60	25 - 212	107	140

Notes:

All data presented in the *Results of Investigation, Mission Bay South of Channel Report*, Prepared by ENVIRON, February 4, 1998

95% UCL = 95% Upper Confidence Limit of the arithmetic mean.

(1) Background values in fill/colluvium from *Protocol for Determining Background Concentrations of Metals in Soils at Lawrence Berkeley National Laboratory (LBNL)* (LBNL August 1995).

(2) Background values in California soils from Elements in North American Soils (Dragun and Chiasson 1991).

(3) Range for soils in western United States.

For a complete listing of metals results in soil, see Table D-4 in Appendix D.

TABLE A-10: DETECTIONS OF METALS IN GROUND WATER
Mission Bay South
Catellus Mission Bay
San Francisco, California

Compound	Total # of Samples (1)	# of Detections	Detection Frequency	Range (mg/L)	95% UCL (mg/L)
Antimony	105	2	2%	0.061 - 0.064	0.038
Arsenic	105	80	76%	0.002 - 0.170	0.013
Barium	105	104	99%	0.018 - 9	0.559
Cadmium	105	2	2%	0.0014 - 0.006	0.001
Chromium	105	80	76%	0.001 - 0.083	0.006
Cobalt	105	11	10%	0.011 - 0.025	0.007
Copper	105	80	76%	0.001 - 0.120	0.011
Lead	105	56	53%	0.001 - 0.370	0.024
Mercury	105	7	7%	0.0002 - 0.0015	0.00015
Molybdenum	105	7	7%	0.020 - 0.087	0.015
Nickel	105	105	100%	0.0014 - 0.250	0.023
Selenium	105	11	10%	0.0022 - 0.0094	0.002
Silver	105	1	1%	0.0013	0.001
Vanadium	105	17	16%	0.010 - 0.069	0.009
Zinc	105	23	22%	0.020 - 0.700	0.054

Notes:

All data presented in the *Results of Investigation, Mission Bay South of Channel Report*, Prepared by ENVIRON, February 4, 1998

(1) Seven duplicate samples not counted as additional samples. For the seven duplicate samples, a detection in either the primary of duplicate was called a detection and the average of the values was taken as the sample concentration, using half the detection limit if either was a non-detect.

Beryllium and Thallium were not detected in South of Channel ground water.

For a complete listing of metals results in ground water, see Table D-4 in Appendix D.

TABLE A-11: DETECTIONS OF TOTAL PETROLEUM HYDROCARBONS IN SOIL
Mission Bay South
Catellus Mission Bay
San Francisco, California

Compound	Total # of Samples	# of Detections	Detection Frequency	Range (mg/kg)
TPH Gasoline Range	205	13	6%	1.2 - 490
TPH Diesel Range	205	51	25%	1.9 - 12,000
TPH Motor Oil Range	205	116	57%	5 - 4,300

Notes:

All data presented in the *Results of Investigation, Mission Bay South of Channel Report*, Prepared by ENVIRON, February 4, 1998

TPH Gasoline Range = Includes compounds identified as total petroleum hydrocarbons (TPH) gasoline as well as hydrocarbons in the unknown volatile hydrocarbon range.

TPH Diesel Range = Includes compounds identified as TPH diesel as well as unknown hydrocarbons in the diesel range.

TPH Motor Oil Range = Includes compounds identified as TPH motor oil as well as unknown hydrocarbons in the motor oil range.

For a complete listing of total petroleum hydrocarbon results in soil, see Table D-5 in Appendix D.

TABLE A-12: DETECTIONS OF TOTAL PETROLEUM HYDROCARBONS IN GROUND WATER
Mission Bay South
Catellus Mission Bay
San Francisco, California

Compound	Total # of Samples (1)	# of Detections	Detection Frequency	Range (mg/L)
TPH Gasoline Range	105	17	16%	0.052 - 36
TPH Diesel Range	105	40	38%	0.068 - 330
TPH Motor Oil Range	105	30	29%	0.13 - 4.7

Notes:

All data presented in the *Results of Investigation, Mission Bay South of Channel Report*, Prepared by ENVIRON, February 4, 1998

(1) = Seven duplicate samples were not counted as additional samples. For the seven duplicate samples, a detection in either the primary or duplicate was called a detection and the average of the values was taken as the sample concentration, using half the detection limit if either was a non-detect.

TPH Gasoline Range = Includes compounds identified as total petroleum hydrocarbons (TPH) gasoline as well as hydrocarbons in the unknown volatile hydrocarbon range.

TPH Diesel Range = Includes compounds identified as TPH diesel as well as unknown hydrocarbons in the diesel range.

TPH Motor Oil Range = Includes compounds identified as TPH motor oil as well as unknown hydrocarbons in the motor oil range.

For a complete listing of total petroleum hydrocarbon results in ground water, see Table D-5 in Appendix D.

TABLE A-13: SUMMARY OF pH IN SOIL AND GROUND WATER
Mission Bay South
Catellus Mission Bay
San Francisco, California

Compound	Total # of Samples (1)	Range	Standard	# of Samples Exceeding Standard	Exceedence Frequency
pH in Soil	205	5.2 - 11.1	5.0 - 9.0 (2)	6	3%
pH in Ground Water	105	6.7 - 11.3	6.5 - 8.5 (3)	5	5%

Notes:

All data presented in the *Results of Investigation, Mission Bay South of Channel Report*, Prepared by ENVIRON, February 4, 1998

(1) The total number of ground water samples does not include seven duplicate samples. For the seven duplicate samples, a detection in either the primary or duplicate was called a detection and the average of the values was taken as the sample concentration, using half the detection limit if either was a non-detect.

(2) = Background concentration in soils from Elements in North American Soils (Dragun and Chiasson 1991).

(3) = Secondary MCL from *Drinking Water Regulations and Health Advisories* (USEPA October 1996).

For a complete listing of pH results in soil and ground water, see Table D-6 in Appendix D.

TABLE A-14: DETECTIONS OF ASBESTOS IN SOIL
Mission Bay South
Catellus Mission Bay
San Francisco, California

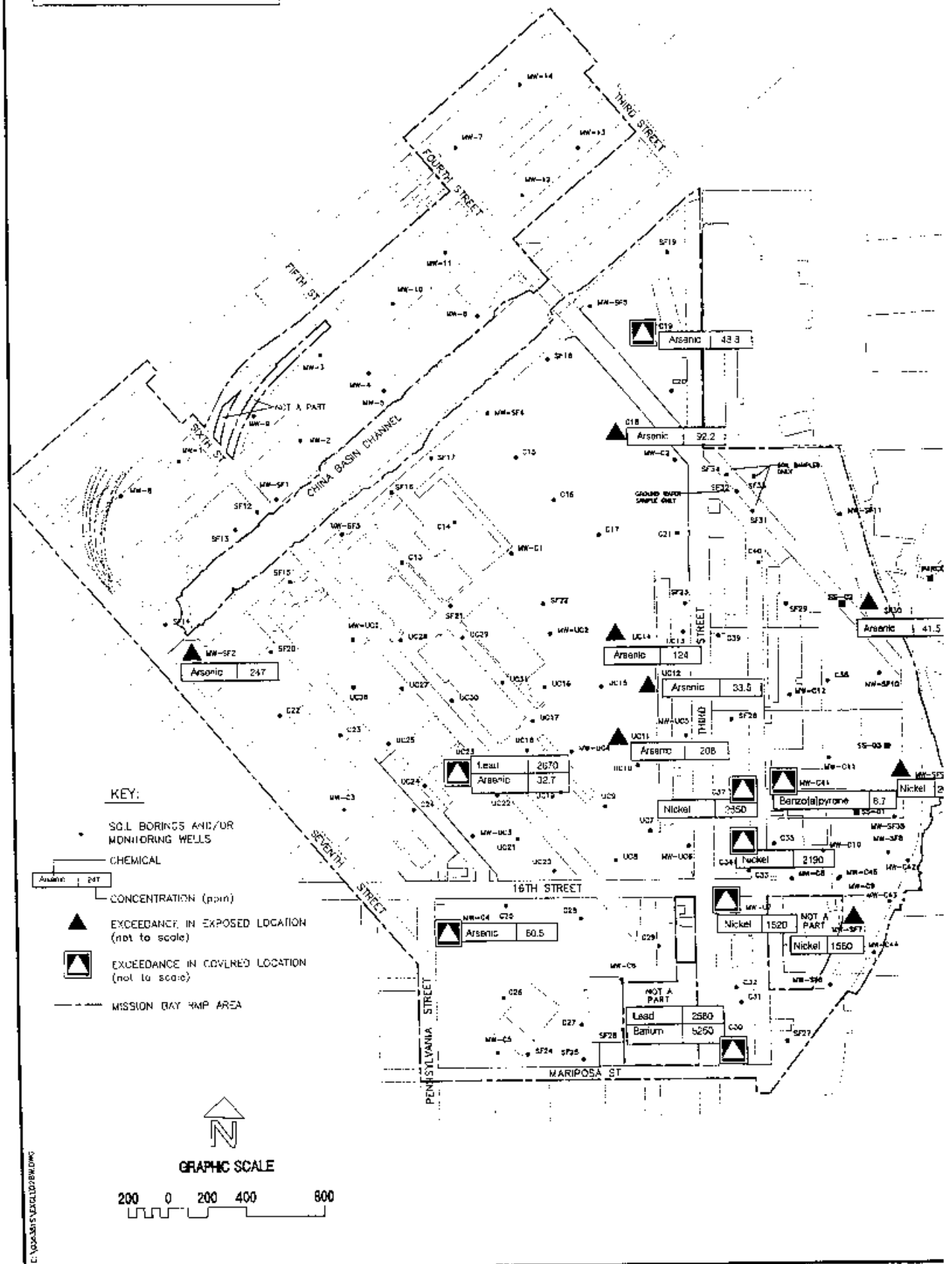
Level	Total # of Samples	# of Detections	Detection Frequency
Trace (<1%)	205	29	14%
1 - 5%	205	9	4%
5 - 10%	205	6	3%
10 - 30%	205	3	1.5%
65 - 75%	205	2	1%

Notes:

All data presented in the *Results of Investigation, Mission Bay South of Channel Report*, Prepared by ENVIRON, February 4, 1998

For a complete listing of asbestos results in soil, see Table D-6 in Appendix D.

Arsenic	24
Barium	4380
Benzo[a]pyrene	8
Lead	2259
Nickel	1478



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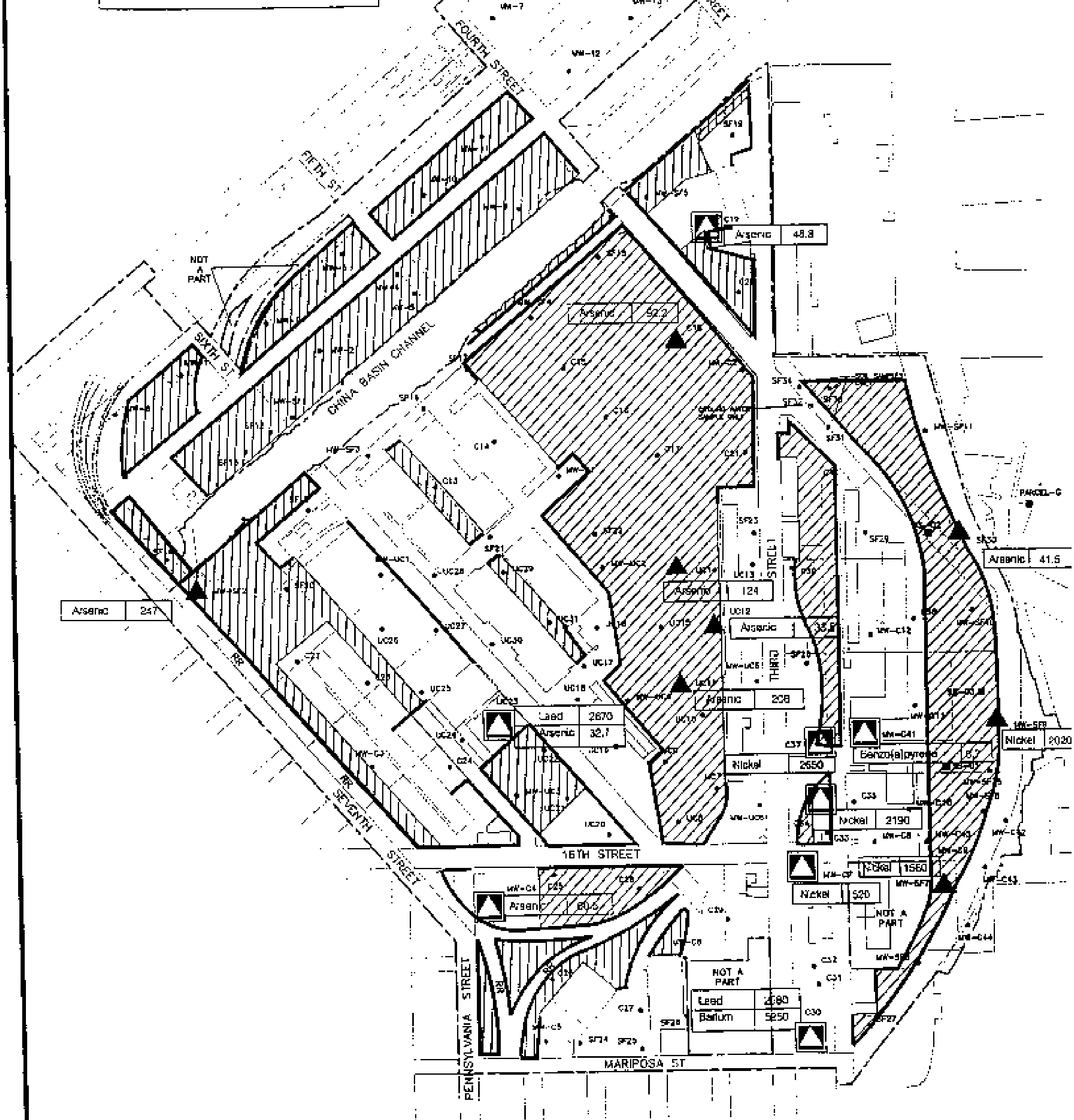
Exceedances of Non-Intrusive Population ITLs in Shallow Soil
Mission Bay RMP Area
San Francisco, California

Fig B

Drafter: RS | Date: 5/23/89 | Contract Number: 03-63B1S | Approved: | Revised:

CHEMICAL	LOWEST ITL (ppm)
Arsenic	24
Barium	4360
Benzo[a]pyrene	1.8
Lead	2259
Nickel	1478



KEY:

- APPROXIMATE LOCATION OF FENCE
- SOIL BORINGS AND/OR MONITORING WELLS
- CHEMICAL / CONCENTRATION (ppm) — Arsenic 247
- EXCEEDANCE IN EXPOSED LOCATION (not to scale)
- EXCEEDANCE IN COVERED LOCATION (not to scale)
- MISSION BAY RMP AREA
- APPROXIMATE LOCATION OF EXPOSED NATIVE SOIL
- RR RAILROAD RIGHT OF WAY

N

GRAPHIC SCALE

250 0 250 500

C:\0363815\FENCE.NYA

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Approximate Location of Fencing
Mission Bay RMP Area
San Francisco, California

Figure B-

Drafter: RS | Date: 5/23/99 | Contract Number: 03-6381S | Approved: | Revised:

APPENDIX B

Health-Based Interim Target Levels (ITLs)

APPENDIX B
Health-Based Interim Target Levels (ITLs)

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TABLE B-1
SOIL INTERIM TARGET LEVELS (ITLs)
PROTECTIVE OF CARCINOGENIC EFFECTS
(mg/kg)

Chemical	Current Populations		
	Nearby Resident Age-Adjusted	On-Site Commercial Worker	On-Site Trespasser Age-Adjusted
Polycyclic Aromatic Hydrocarbons (PAHs)			
2-Methylnaphthalene	N/A	N/A	N/A
Acenaphthene	N/A	N/A	N/A
Acenaphthylene	N/A	N/A	N/A
Anthracene	N/A	N/A	N/A
Benz[a]anthracene	SAT (3,448)[a]	SAT (27)	SAT (18)
Benzo(g,h,i)perylene	N/A	N/A	N/A
Benzo[a]pyrene	SAT (345)	2.7	1.8
Benzo[b]fluoranthene	SAT (3,448)	SAT (27)	SAT (18)
Benzo[k]fluoranthene	SAT (3,448)	SAT (27)	SAT (18)
Chrysene	SAT (34,000)	SAT (272)	SAT (180)
Dibenz[ah]anthracene	SAT (328)	SAT (7.9)	SAT (5.3)
Fluoranthene	N/A	N/A	N/A
Fluorene	N/A	N/A	N/A
Indeno[1,2,3-cd]pyrene	SAT (3,448)	SAT (27)	SAT (18)
Naphthalene	N/A	N/A	N/A
Phenanthrene	N/A	N/A	N/A
Pyrene	N/A	N/A	N/A
Metals			
Antimony	N/A	N/A	N/A
Arsenic	112	29	24
Barium	N/A	N/A	N/A
Beryllium	160	12	10
Cadmium	90	191	951
Chromium, trivalent	N/A	N/A	N/A
Chromium, hexavalent	2.6	5.4	22
Cobalt	N/A	N/A	N/A
Copper	N/A	N/A	N/A
Lead	N/A	N/A	N/A
Mercury	N/A	N/A	N/A
Molybdenum	N/A	N/A	N/A
Nickel	1,478	3,145	15,673
Selenium	N/A	N/A	N/A
Silver	N/A	N/A	N/A
Thallium	N/A	N/A	N/A
Vanadium	N/A	N/A	N/A
Zinc	N/A	N/A	N/A

TABLE B-1
SOIL INTERIM TARGET LEVELS (ITLs)
PROTECTIVE OF CARCINOGENIC EFFECTS
(mg/kg)

Chemical	Current Populations		
	Nearby Resident Age-Adjusted	On-Site Commercial Worker	On-Site Trespasser Age-Adjusted
Petroleum Hydrocarbons			
TPH-Gasoline	N/A	N/A	N/A
TPH-Diesel	N/A	N/A	N/A
TPH-Residual	N/A	N/A	N/A

N/A = not applicable

[a] The ITL indicated in parentheses represents an ITL that is greater than the soil saturation limit for that compound. The ITL represents a conservative, health-protective estimate of the concentration of chemical that can be present in the soil without exceeding the target risk level.

TABLE B-2
SOIL INTERIM TARGET LEVELS (ITLs)
PROTECTIVE OF CHRONIC NONCARCINOGENIC HEALTH EFFECTS
(mg/kg)

Chemical	Current Populations				
	Nearby Resident Adult	Nearby Resident Child	On-Site Commercial Worker	On-Site Trespasser Adult	On-Site Trespasser Child
Polycyclic Aromatic Hydrocarbons (PAHs)					
2-Methylnaphthalene	SAT (2,920,000)[b]	SAT (1,250,000)	SAT (46,000)	SAT (85,000)	SAT (11,500)
Acenaphthene	SAT (4,380,000)	SAT (1,880,000)	SAT (69,000)	SAT (128,000)	SAT (17,000)
Acenaphthylene	SAT (2,920,000)	SAT (1,250,000)	SAT (46,000)	SAT (85,000)	SAT (11,500)
Anthracene	SAT (21,900,000)	SAT (9,390,000)	SAT (347,000)	SAT (639,000)	SAT (86,000)
Benz[a]anthracene	SAT (2,920,000)	SAT (1,250,000)	SAT (46,000)	SAT (85,000)	SAT (11,500)
Benzo(g,h,i)perylene	SAT (2,920,000)	SAT (1,250,000)	SAT (46,000)	SAT (85,000)	SAT (11,500)
Benzo[a]pyrene	SAT (2,920,000)	SAT (1,250,000)	SAT (46,000)	SAT (85,000)	SAT (11,500)
Benzo[b]fluoranthene	SAT (2,920,000)	SAT (1,250,000)	SAT (46,000)	SAT (85,000)	SAT (11,500)
Benzo[k]fluoranthene	SAT (2,920,000)	SAT (1,250,000)	SAT (46,000)	SAT (85,000)	SAT (11,500)
Chrysene	SAT (2,920,000)	SAT (1,250,000)	SAT (46,000)	SAT (85,000)	SAT (11,500)
Dibenz[ah]anthracene	SAT (2,920,000)	SAT (1,250,000)	SAT (46,000)	SAT (85,000)	SAT (11,500)
Fluoranthene	SAT (2,920,000)	SAT (1,250,000)	SAT (46,000)	SAT (85,000)	SAT (11,500)
Fluorene	SAT (2,920,000)	SAT (1,250,000)	SAT (46,000)	SAT (85,000)	SAT (11,500)
Indeno[1,2,3-cd]pyrene	SAT (2,920,000)	SAT (1,250,000)	SAT (46,000)	SAT (85,000)	SAT (11,500)
Naphthalene	SAT (2,920,000)	SAT (1,250,000)	SAT (46,000)	SAT (85,000)	SAT (11,500)
Phenanthrene	SAT (21,900,000)	SAT (9,390,000)	SAT (347,000)	SAT (639,000)	SAT (86,000)
Pyrene	SAT (2,190,000)	SAT (939,000)	SAT (35,000)	SAT (64,000)	SAT (8,600)
Metals					
Antimony	29,200	12,514	764	1,859	206
Arsenic	21,900	9,386	524	1,193	139
Barium	10,220	4,380	12,949	81,429	20,332
Beryllium	416,100	178,329	3,868	9,332	1,032
Cadmium	73,000	31,286	1,994	5,030	543

TABLE B-2
SOIL INTERIM TARGET LEVELS (ITLs)
PROTECTIVE OF CHRONIC NONCARCINOGENIC HEALTH EFFECTS
(mg/kg)

Chemical	Current Populations				
	Nearby Resident Adult	Nearby Resident Child	On-Site Commercial Worker	On-Site Trespasser Adult	On-Site Trespasser Child
Chromium, trivalent	73,000,000	31,285,714	1,910,423	4,647,990	515,707
Chromium, hexavalent	365,000	156,429	10,020	25,382	2,733
Cobalt	21,170	9,073	23,640	124,719	23,441
Copper	2,701,000	1,157,571	70,686	171,976	19,081
Lead[a]	29,295	10,748	4,203	25,909	2,259
Mercury	6,278	2,691	164	400	44
Molybdenum	365,000	156,429	9,552	23,240	2,579
Nickel	1,460,000	625,714	38,208	92,960	10,314
Selenium	365,000	156,429	9,552	23,240	2,579
Silver	365,000	156,429	9,552	23,240	2,579
Thallium	5,840	2,503	153	372	41
Vanadium	511,000	219,000	13,373	32,536	3,610
Zinc	21,900,000	9,385,714	573,127	1,394,397	154,712
Petroleum Hydrocarbons					
TPH-Gasoline	SAT (4,015,000)	SAT (1,720,000)	SAT (74,000)	SAT (145,000)	SAT (18,800)
TPH-Diesel	SAT (37,230,000)	SAT (16,000,000)	SAT (686,000)	SAT (1,350,000)	SAT (174,000)
TPH-Residual	SAT (294,000,000)	SAT (126,000,000)	SAT (5,420,000)	SAT (10,600,000)	SAT (1,380,000)

N/A = not applicable

[a] Lead evaluated using LEADSPREAD (see Section 6.3).

[b] The ITL indicated in parentheses represents an ITL that is greater than the soil saturation limit for that compound. The ITL represents a conservative, health-protective estimate of the concentration of chemical that can be present in the soil without exceeding the target risk level.

TABLE B-3
LOWEST SOIL INTERIM TARGET LEVELS
(mg/kg)

Chemical	Current Populations				
	Nearby Resident Adult	Nearby Resident Child	On-Site Commercial Worker	On-Site Trespasser Adult	On-Site Trespasser Child
Polycyclic Aromatic Hydrocarbons (PAHs)					
2-Methylnaphthalene	SAT (2,920,000)[a]	SAT (1,250,000)	SAT (46,000)	SAT (85,000)	SAT (11,500)
Acenaphthene	SAT (4,380,000)	SAT (1,800,000)	SAT (69,000)	SAT (128,000)	SAT (17,000)
Acenaphthylene	SAT (2,920,000)	SAT (1,250,000)	SAT (46,000)	SAT (85,000)	SAT (11,500)
Anthracene	SAT (21,900,000)	SAT (9,390,000)	SAT (347,000)	SAT (639,000)	SAT (86,000)
Benz[a]anthracene	SAT (3,448)	SAT (3,448)	SAT (27)	SAT (18)	SAT (18)
Benzo(g,h,i)perylene	SAT (2,920,000)	SAT (1,250,000)	SAT (46,000)	SAT (85,000)	SAT (11,500)
Benzo[a]pyrene	SAT (345)	SAT (345)	2.7	1.8	1.8
Benzo[b]fluoranthene	SAT (3,448)	SAT (3,448)	SAT (27)	SAT (18)	SAT (18)
Benzo[k]fluoranthene	SAT (3,448)	SAT (3,448)	SAT (27)	SAT (18)	SAT (18)
Chrysene	SAT (34,000)	SAT (34,000)	SAT (272)	SAT (180)	SAT (180)
Dibenz[ah]anthracene	SAT (328)	SAT (328)	SAT (7.9)	SAT (5.3)	SAT (5.3)
Fluoranthene	SAT (2,920,000)	SAT (1,250,000)	SAT (46,000)	SAT (85,000)	SAT (11,500)
Fluorene	SAT (2,920,000)	SAT (1,250,000)	SAT (46,000)	SAT (85,000)	SAT (11,500)
Indeno[1,2,3-cd]pyrene	SAT (3,448)	SAT (3,448)	SAT (27)	SAT (18)	SAT (18)
Naphthalene	SAT (2,920,000)	SAT (1,250,000)	SAT (46,000)	SAT (85,000)	SAT (11,500)
Phenanthrene	SAT (21,900,000)	SAT (9,390,000)	SAT (347,000)	SAT (639,000)	SAT (86,000)
Pyrene	SAT (2,190,000)	SAT (939,000)	SAT (35,000)	SAT (64,000)	SAT (8,600)
Metals					
Antimony	29,200	12,514	764	1,859	206
Arsenic	112	112	29	24	24
Barium	10,220	4,380	12,949	81,429	20,332
Beryllium	160	160	12	9.7	9.7
Cadmium	90	90	191	951	543
Chromium, trivalent	73,000,000	31,285,714	1,910,423	4,647,990	515,707
Chromium, hexavalent	2.6	2.6	5.4	22	22.1
Cobalt	21,170	9,073	23,640	124,719	23,441
Copper	2,701,000	1,157,571	70,686	171,976	19,081
Lead	29,295	10,748	4,203	25,909	2,259
Mercury	6,278	2,691	164	400	44
Molybdenum	365,000	156,429	9,552	23,240	2,579
Nickel	1,478	1,478	3,145	15,673	10,314
Selenium	365,000	156,429	9,552	23,240	2,579
Silver	365,000	156,429	9,552	23,240	2,579
Thallium	5,840	2,503	153	372	41
Vanadium	511,000	219,000	13,373	32,536	3,610
Zinc	21,900,000	9,385,714	573,127	1,394,397	154,712

TABLE B-3
LOWEST SOIL INTERIM TARGET LEVELS
(mg/kg)

Chemical	Current Populations				
	Nearby Resident Adult	Nearby Resident Child	On-Site Commercial Worker	On-Site Trespasser Adult	On-Site Trespasser Child
Petroleum Hydrocarbons					
TPH-Gasoline	SAT (4,015,000)	SAT (1,720,000)	SAT (74,000)	SAT (145,000)	SAT (18,800)
TPH-Diesel	SAT (37,230,000)	SAT (16,000,000)	SAT (686,000)	SAT (1,350,000)	SAT (174,000)
TPH-Residual	SAT (294,000,000)	SAT (126,000,000	SAT (5,420,000	SAT (10,600,000	SAT (1,380,000)

[a] The ITL indicated in parentheses represents an ITL that is greater than the soil saturation limit for that compound. The ITL represents a conservative, health-protective estimate of the concentration of chemical that can be present in the soil without exceeding the target risk level.

TABLE B-4
COMPARISON OF SITE DATA AND ITLs FOR NON-INTRUSIVE POPULATIONS

Chemical	Lowest Non-Intrusive Population ITL (mg/kg)	Maximum Surface Soil Concentration (mg/kg)	Maximum Concentration Exceeds ITL	Number of Surface Soil Exceedances	Number of Covered Surface Soil Exceedances	Number of Exposed Surface Soil Exceedances	95% UCL Concentration in Surface Soil[a] (mg/kg)
Polycyclic Aromatic Hydrocarbons (PAHs)							
2-Methylnaphthalene	SAT (11,500)[b]	ND	no	NA	NA	NA	
Acenaphthene	SAT (17,000)	ND	no	NA	NA	NA	
Acenaphthylene	SAT (11,500)	2.1	no	NA	NA	NA	
Anthracene	SAT (86,000)	2.5	no	NA	NA	NA	
Benz[a]anthracene	SAT (18)	5.9	no	NA	NA	NA	
Benzo(g,h,i)perylene	SAT (11,500)	2.6	no	NA	NA	NA	
Benzo[a]pyrene	**1.8**	**8.7**	**yes**	**1**	**1**	**0**	**1.1**
Benzo[b]fluoranthene	SAT (18)	9.6	no	NA	NA	NA	
Benzo[k]fluoranthene	SAT (18)	3.0	no	NA	NA	NA	
Chrysene	SAT (180)	5.6	no	NA	NA	NA	
Dibenz[ah]anthracene	SAT (5.3)	ND	no	NA	NA	NA	
Fluoranthene	SAT (11,500)	7.7	no	NA	NA	NA	
Fluorene	SAT (11,500)	ND	no	NA	NA	NA	
Indeno[1,2,3-cd]pyrene	SAT (18)	3.2	no	NA	NA	NA	
Naphthalene	SAT (11,500)	ND	no	NA	NA	NA	
Phenanthrene	SAT (86,000)	9.3	no	NA	NA	NA	
Pyrene	SAT (8,600)	11	no	NA	NA	NA	
Metals							
Antimony	206	51	no	NA	NA	NA	
Arsenic	**24**	**247**	**yes**	**9**	**3**	**6**	**18**
Barium	**4,380**	**5,250**	**yes**	**1**	**1**	**0**	**298**
Beryllium	10	0.99	no	NA	NA	NA	
Cadmium	90	4.3	no	NA	NA	NA	
Chromium, trivalent	515,707	1,560	no	NA	NA	NA	

TABLE B-4
COMPARISON OF SITE DATA AND ITLs FOR NON-INTRUSIVE POPULATIONS

Chemical	Lowest Non-Intrusive Population ITL (mg/kg)	Maximum Surface Soil Concentration (mg/kg)	Maximum Concentration Exceeds ITL	Number of Surface Soil Exceedances	Number of Covered Surface Soil Exceedances	Number of Exposed Surface Soil Exceedances	95% UCL Concentration in Surface Soil[a] (mg/kg)
Chromium, hexavalent	2.6	1.0	no	NA	NA	NA	
Cobalt	9,073	117	no	NA	NA	NA	
Copper	19,081	639	no	NA	NA	NA	
Lead	**2,259**	**2,670**	**yes**	**2**	**2**	**0**	**293**
Mercury	44	8.9	no	NA	NA	NA	
Molybdenum	2,579	5.6	no	NA	NA	NA	
Nickel	**1,478**	**2,650**	**yes**	**5**	**3**	**2**	**308**
Selenium	2,579	2.90	no	NA	NA	NA	
Silver	2,579	4.6	no	NA	NA	NA	
Thallium	41	2.6	no	NA	NA	NA	
Vanadium	3,610	164	no	NA	NA	NA	
Zinc	154,712	907	no	NA	NA	NA	
Petroleum Hydrocarbons							
TPH-Gasoline	SAT (18,800)	1.3	no	NA	NA	NA	
TPH-Diesel	SAT (174,000)	2,700	no	NA	NA	NA	
TPH-Residual	SAT (1,380,000)	3,200	no	NA	NA	NA	

NA = not applicable

[a] Concentration in exposed and covered surface soil.

[b] The ITL indicated in parentheses represents an ITL that is greater than the soil saturation limit for that compound. The ITL represents a conservative, health-protective estimate of the concentration of chemical that can be present in the soil without exceeding the target risk level.

APPENDIX C

Inspection/Monitoring Sample Form

Reporting Checklist

Period of Development	Risk Management Measure	Reporting Requirement
Pre-Development	1. Access Restriction Measures a) Fences b) Asphalt/Concrete Cover 2. Monitoring of Soil Stockpiles	Annual report to RWQCB and SFDPH pursuant to Section 3.2(v) and Section 3.2 (vi).
During Development	1. Dust Control Measures 2. Dust Monitoring 3. Control of Off-site Runoff: Storm Water Pollution Prevention Plan 4. Management of Soil Stockpiles 5. Protocols to Manage/Control the Identification and/or Release of Unknown Contaminants from Underground Structures or USTs.	**Prior to Commencement of Development** • Submit dust monitoring notification to RWQCB and SFDPH pursuant to Section 4.3.1. • Submit EHASP to RWQCB pursuant to Section 4.3.8 • Notification to the RWQCB prior to initiation of development in the Free Product Area, pursuant to Section 4.4.2 (i). • Submit site-specific SWPPP to RWQCB pursuant to Section 4.3.3 **During Development** • Notification to RWQCB and SFDPH if daily average dust levels exceed the dust monitoring target concentration, pursuant to Section 4.3.2.2.7. • Notification to RWQCB and SFDPH of the identification of unknown underground structures and unknown contaminants pursuant to Section 4.3.5.6. • Annual report to RWQCB and SFDPH documenting inspections of soil stockpiles pursuant to Section 4.3.5.2.4. • Quarterly status report to RWQCB and SFDPH during development pursuant to Section 4.3.9. **Conclusion of Development** • Completion letter regarding cover submitted to the RWQCB and SFDPH pursuant to Section 4.3.10.
Post Development	1. Cover a) Asphalt/Concrete b) Landscaping 2. No Single Family Homes 3. No Use of Groundwater 4. Subsurface Activities Conducted in Compliance with Health and Safety Protocols	Annual report submitted to RWQCB and SFDPH pursuant to Section 5.3.5.

INSPECTION/MONITORING SAMPLE FORM [a]:
LONG-TERM MONITORING AFTER DEVELOPMENT IS COMPLETE

Parcel ID: _____

Owner: _____

Individual Conducting Inspection: _____

Date of Inspection: _____

1) LANDSCAPED AREAS

Description of Condition:

_____

_____

_____

_____

Description of Repairs/Areas Requiring Repairs:

_____

_____

_____

_____

Date of Repair:

_____

_____

_____

_____

2) ASPHALT AND/OR CONCRETE COVER

Description of Condition:

_____

_____

_____

_____

Description of Repairs/Areas Requiring Repairs:

Date of Repair:

3) ARE SINGLE FAMILY RESIDENCES PRESENT?

Yes ☐ No ☐

Comment:

4) CONFIRMATION THAT GROUND WATER USE IS NOT OCCURING

Yes ☐ No ☐

Comment:

5) CONFIRMATION THAT SUBSURFACE ACTIVITIES CONDUCTED IN COMPLIANCE WITH HEALTH AND SAFETY PROTOCOLS

Yes ☐ No ☐

Comment:

* The items provided in this form are intended to be examples only; it is the Owner's responsibility to determine whether other items, categories, or types of descriptions are relevant and should be included in the annual submittal to the RWQCB.

INSPECTION/MONITORING SAMPLE FORM [a]:
PRIOR TO DEVELOPMENT

Parcel ID: _____

Owner: _____

Individual Conducting Inspection: _____

Date of Inspection: _____

1) FENCES

Description of Condition:

_____

_____

_____

_____

Description of Repairs/Areas Requiring Repairs:

_____

_____

_____

_____

Date of Repair:

_____

_____

_____

_____

2) ASPHALT AND/OR CONCRETE COVER

Description of Condition:

_____

_____

_____

_____

Description of Repairs/Areas Requiring Repairs:

Date of Repair:

3) SOIL STOCKPILES

Description of Condition:

Description of Repairs/Areas Requiring Repairs:

Date of Repair:

* The items provided in this form are intended to be examples only; it is the Owner's responsibility to determine whether other items, categories, or types of descriptions are relevant and should be included in the annual submittal to the RWQCB.

APPENDIX D

Soil Reuse Within RMP Area

EPA

Pete Wilson
Governor

San Francisco
Bay Regional
Water Quality
Control Board

2101 Webster St. #500
Oakland, CA
94612
(510) 286-1255
FAX (510) 286-1380

Mr. Jim Adams
Catellus Development Corporation
201 Mission Street, 2nd Floor
San Francisco, CA 94105

Date: February 26, 1998
File: 38S0044
2169.6035

Subject: ENVIRON's Proposed Soil Reuse
Mission Bay Project Area
San Francisco, California

Dear Mr. Adams.

Regional Board Staff have reviewed ENVIRON's proposed soil reuse for the Mission Bay Project Area and have received comments from Department of Toxic Substances Control (DTSC) as well as from Elaine Warren, Deputy City Attorney for the City and County of San Francisco. Board Staff held an advisory meeting under the AB2061 process regarding the issue of reuse of soils for the Mission Bay Project Area (Site) which were or will be generated at the site during redevelopment. Board Staff and DTSC have determined that such soil may be reused on site without triggering hazardous waste regulatory requirements. DTSC's approval was addressed in a December 10, 1997 letter to our staff.

Based on this information, Regional Board Staff, along with DTSC, concur that reuse of soils in the Mission Bay Project Area is acceptable if conducted in accordance with Risk Management Plans (RMPs) that specify soil management procedures for the project. RMPs are to be prepared prior to development of the Project Area and submitted for review and approval by the RWQCB prior to implementation.

This letter is not intended as a substitute for Catellus' compliance with the Maher Ordinance (San Francisco Public Works Code, Article 20, Section 1000 et seq.). If you have any questions, please contact Mr. Vic Pal at (510) 286-0687.

Sincerely,

Steve Morse
Chief, Toxics Clean-Up Division

cc: Doug Stimpson, Catellus
✓Phil Fitzwater, ENVIRON
Elaine Warren, City Attorney
Deborah Schmall, Landels Ripley & Diamond
Stephanie Cushing, DPH
Janet Naito, DTSC

Cal/EPA

Department of
Toxic Substances
Control

700 Heinz Avenue
Suite 200
Berkeley, California
94710-2737

Pete Wilson
Governor

Peter M. Rooney
Secretary for
Environmental
Protection

December 10, 1997

Mr. Steve Morse
Regional Water Quality Control Board
2101 Webster Street, Suite 500
Oakland, California 94612

Dear Mr. Morse:

SOIL REUSE WITHIN THE MISSION BAY PROJECT

The Department of Toxic Substances Control (DTSC) has completed its review of Environ's request to manage soils in the Mission Bay Project Area including the current stockpiled areas as an "area of contamination". Environ submitted information on both November 19 and December 3, 1997 as part of this demonstration. Based on an evaluation of this information, DTSC agrees that the "area of contamination" for soil management purposes can be applied for this Project.

If you have any questions, please contact me at (510) 540- 3843.

Sincerely,

Barbara J. Cook, P.E., Chief
Northern California - Coastal
Cleanup Operations Branch

cc: Margaret Peischl
Environ
5820 Shellmound Street, Suite 700
Emeryville, California 94608

APPENDIX E

Health-Based Site-Specific Target Levels (SSTLs) for Volatile Constituents

APPENDIX E
Health-Based Site-Specific Target Levels (SSTLs) for Volatile Constituents

LIST OF TABLES

TABLE E-1: Soil Site-Specific Target Levels Protective of Carcinogenic Effects (mg/kg)
RMP Area
Catellus Mission Bay
San Francisco, California

Chemical	Populations				
	Off-Site Resident Age-Adjusted	Off-Site Commercial Worker	On-Site Commercial Worker	On-Site Park Visitor Age-Adjusted	On-Site Resident Age-Adjusted
TPH-Gasoline	N/A	N/A	N/A	N/A	N/A
TPH-Diesel	N/A	N/A	N/A	N/A	N/A
TPH-Motor Oil	N/A	N/A	N/A	N/A	N/A
1,1,1-Trichloroethane	N/A	N/A	N/A	N/A	N/A
1,1,2-Trichloro-1,2,2-trifluoroethane	N/A	N/A	N/A	N/A	N/A
1,1-Dichloroethane	SAT (1,100)b	SAT (3,700)b	SAT (1,400)b	SAT (3,900)b	460
1,2-Dichloroethylene (cis)	N/A	N/A	N/A	N/A	N/A
1,2-Dichloroethylene (trans)	N/A	N/A	N/A	N/A	N/A
2-Butanone (MEK)	N/A	N/A	N/A	N/A	N/A
2-Hexanone	N/A	N/A	N/A	N/A	N/A
Acetone	N/A	N/A	N/A	N/A	N/A
Benzene	63	210	77	220	26
Carbon disulfide	N/A	N/A	N/A	N/A	N/A
Chlorobenzene	N/A	N/A	N/A	N/A	N/A
Chloroform	340	1,100	410	1,200	140
Ethylbenzene	N/A	N/A	N/A	N/A	N/A
m & p-Xylene(s)	N/A	N/A	N/A	N/A	N/A
Methylene chloride	1,900	SAT (6,200)b	2,300	SAT (6,600)b	780
o-Xylene	N/A	N/A	N/A	N/A	N/A
Styrene	N/A	N/A	N/A	N/A	N/A
Tetrachloroethylene (PCE)	SAT (300)b	SAT (970)b	SAT (360)b	SAT (1,000)b	SAT (120)b
Toluene	N/A	N/A	N/A	N/A	N/A
Trichloroethylene (TCE)	SAT (630)b	SAT (2,100)b	SAT (760)b	SAT (2,200)b	260
Trichlorofluoromethane	N/A	N/A	N/A	N/A	N/A
Vinyl chloride	23	75	28	81	9.5

N/A = not applicable; chemical is not considered to be a carcinogen.

SAT -- The calculated SSTL (i.e., the soil concentration which corresponds to the target risk levels used in the evaluation) exceeds the soil saturation limit for that compound.

[b] = The SSTL indicated in parentheses represents an SSTL that is greater than the soil saturation limit for that compound. The SSTL represents a conservative, health-protective estimate of the concentration of chemical that can be present in the soil without exceeding the target risk level, and has been provided in order to estimate the cumulative risk associated with the presence of multiple chemicals.

TAB -2: Soil Site-Specific Target Levels Protective of Noncarcinogenic Effects (t)
RMF .a
Catellus Mission Bay
San Francisco, California

Chemical	Populations							
	Off-Site Resident		Off-Site Commercial Worker	On-Site Commercial Worker	On-Site Park Visitor		On-Site Resident	
	Adult	Child			Adult	Child	Adult	Child
TPH-Gasoline	SAT (34,000)b	SAT (2,900)b	SAT (40,000)b	SAT (15,000)b	SAT (36,000)b	SAT (10,000)b	SAT (14,000)b	SAT (1,200)b
TPH-Diesel	SAT (350,000)b	SAT (68,000)b	SAT (430,000)b	SAT (160,000)b	SAT (620,000)b	SAT (240,000)b	SAT (150,000)b	SAT (28,000)b
TPH-Motor Oil	SAT (5,500,000)b	SAT (1,900,000)b	SAT (7,400,000)b	SAT (2,700,000)b	SAT (16,000,000)b	SAT (6,700,000)b	SAT (2,300,000)b	SAT (790,000)b
1,1,1-Trichloroethane	SAT (180,000)b	SAT (15,000)b	SAT (210,000)b	SAT (77,000)b	SAT (190,000)b	SAT (54,000)b	SAT (74,000)b	SAT (6,300)b
1,1,2-Trichloro-1,2,2-trifluoroethane	SAT (19,000,000)b	SAT (1,600,000)b	SAT (22,000,000)b	SAT (8,000,000)b	SAT (20,000,000)b	SAT (5,600,000)b	SAT (7,700,000)b	SAT (660,000)b
1,1-Dichloroethane	SAT (64,000)b	SAT (5,500)b	SAT (75,000)b	SAT (28,000)b	SAT (67,000)b	SAT (19,000)b	SAT (26,000)b	SAT (2,300)b
1,2-Dichloroethylene (cis)	SAT (6,300)b	540	SAT (7,400)b	SAT (2,700)b	SAT (6,600)b	SAT (1,900)b	SAT (2,600)b	220
1,2-Dichloroethylene (trans)	SAT (13,000)b	1,100	SAT (15,000)b	SAT (5,500)b	SAT (13,000)b	SAT (3,800)b	SAT (5,200)b	450
2-Butanone (MEK)	SAT (1,900,000)b	SAT (180,000)b	SAT (2,200,000)b	SAT (800,000)b	SAT (2,000,000)b	SAT (620,000)b	SAT (770,000)b	SAT (73,000)b
2-Hexanone	4,300	370	5,000	1,800	4,500	1,300	1,800	150
Acetone	SAT (760,000)b	71,000	SAT (890,000)b	SAT (330,000)b	SAT (810,000)b	SAT (250,000)b	SAT (310,000)b	29,000
Benzene	SAT (1,100)b	93	SAT (1,300)b	SAT (470)b	SAT (1,100)b	330	SAT (450)b	38
Carbon disulfide	SAT (130,000)b	SAT (11,000)b	SAT (150,000)b	SAT (54,000)b	SAT (130,000)b	SAT (38,000)b	SAT (52,000)b	SAT (4,400)b
Chlorobenzene	SAT (13,000)b	SAT (1,100)b	SAT (15,000)b	SAT (5,600)b	SAT (14,000)b	SAT (3,900)b	SAT (5,300)b	SAT (460)b
Chloroform	SAT (6,500)b	560	SAT (7,600)b	SAT (2,800)b	SAT (6,800)b	SAT (2,000)b	SAT (2,700)b	230
Ethylbenzene	SAT (180,000)b	SAT (16,000)b	SAT (210,000)b	SAT (78,000)b	SAT (190,000)b	SAT (55,000)b	SAT (75,000)b	SAT (6,400)b
m & p-Xylene(s)	SAT (1,300,000)b	SAT (110,000)b	SAT (1,500,000)b	SAT (550,000)b	SAT (1,300,000)b	SAT (380,000)b	SAT (530,000)b	SAT (45,000)b
Methylene chloride	SAT (40,000)b	SAT (3,400)b	SAT (46,000)b	SAT (17,000)b	SAT (42,000)b	SAT (12,000)b	SAT (16,000)b	1,400
o-Xylene	SAT (1,300,000)b	SAT (110,000)b	SAT (1,500,000)b	SAT (550,000)b	SAT (1,300,000)b	SAT (380,000)b	SAT (530,000)b	SAT (45,000)b
Styrene	SAT (190,000)b	SAT (19,000)b	SAT (220,000)b	SAT (81,000)b	SAT (210,000)b	SAT (67,000)b	SAT (78,000)b	SAT (7,900)b
Tetrachloroethylene (PCE)	SAT (6,200)b	SAT (540)b	SAT (7,300)b	SAT (2,700)b	SAT (6,600)b	SAT (1,900)b	SAT (2,600)b	SAT (220)b
Toluene	SAT (72,000)b	SAT (6,200)b	SAT (85,000)b	SAT (31,000)b	SAT (76,000)b	SAT (22,000)b	SAT (30,000)b	SAT (2,600)b
Trichloroethylene (TCE)	SAT (4,600)b	SAT (400)b	SAT (5,400)b	SAT (2,000)b	SAT (4,900)b	SAT (1,400)b	SAT (1,900)b	160
Trichlorofluoromethane	SAT (190,000)b	SAT (16,000)b	SAT (220,000)b	SAT (80,000)b	SAT (200,000)b	SAT (56,000)b	SAT (77,000)b	SAT (6,600)b
Vinyl chloride	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

N/A = not applicable; an RfD for vinyl chloride has not been established by Cal/EPA or USEPA

SAT = The calculated SSTL (i.e., the soil concentration which corresponds to the target risk levels used in the evaluation) exceeds the soil saturation limit for that compound.

[b] = The SSTL indicated in parentheses represents an SSTL that is greater than the soil saturation limit for that compound. The SSTL represents a conservative, health-protective estimate of the concentration of chemical that can be present in the soil without exceeding the target risk level, and has been provided in order to estimate the cumulative risk associated with the presence of multiple chemicals.

TABLE E-3: Ground Water Site-Specific Target Levels Protective of Carcingenic Effects (mg/L)
RMP Area
Catellus Mission Bay
San Francisco, California

Chemical	Populations				
	Off-Site Resident Age-Adjusted	Off-Site Commercial Worker	On-Site Commercial Worker	On-Site Park Visitor Age-Adjusted	On-Site Resident Age-Adjusted
TPH-Gasoline	N/A	N/A	N/A	N/A	N/A
TPH-Diesel	N/A	N/A	N/A	N/A	N/A
TPH-Motor Oil	N/A	N/A	N/A	N/A	N/A
1,1,1-Trichloroethane	N/A	N/A	N/A	N/A	N/A
1,1,2-Trichloro-1,2,2-trifluoroethane	N/A	N/A	N/A	N/A	N/A
1,1-Dichloroethane	120	260	96	960	50
1,2-Dichloroethylene (cis)	N/A	N/A	N/A	N/A	N/A
1,2-Dichloroethylene (trans)	N/A	N/A	N/A	N/A	N/A
2-Butanone (MEK)	N/A	N/A	N/A	N/A	N/A
2-Hexanone	N/A	N/A	N/A	N/A	N/A
Acetone	N/A	N/A	N/A	N/A	N/A
Benzene	6	13	5	50	3
Carbon disulfide	N/A	N/A	N/A	N/A	N/A
Chlorobenzene	N/A	N/A	N/A	N/A	N/A
Chloroform	57	120	45	450	24
Ethylbenzene	N/A	N/A	N/A	N/A	N/A
m & p-Xylene(s)	N/A	N/A	N/A	N/A	N/A
Methylene chloride	460	980	360	3,600	190
o-Xylene	N/A	N/A	N/A	N/A	N/A
Styrene	N/A	N/A	N/A	N/A	N/A
Tetrachloroethylene (PCE)	7	14	5	52	3
Toluene	N/A	N/A	N/A	N/A	N/A
Trichloroethylene (TCE)	37	78	29	290	15
Trichlorofluoromethane	N/A	N/A	N/A	N/A	N/A
Vinyl chloride	0.11	0.24	0.088	0.88	0.046

N/A = not applicable; chemical is not considered to be a carcinogen

TABLE E-4: Ground Water Site-Specific Target Levels Protective of Noncarcinogenic Effects (mg/L)
RMP Area
Catellus Mission Bay
San Francisco, California

Chemical	Populations							
	Off-Site Resident		*Off-Site* Commercial Worker	*On-Site* Commercial Worker	On-Site Park Visitor		On-Site Resident	
	Adult	Child			*Adult*	*Child*	*Adult*	*Child*
TPH-Gasoline	>S (170)b	71	>S (230)b	86	>S (582)b	>S (250)b	68	29
TPH-Diesel	>S (42000)b	>S (26000)b	>S (60000)b	>S (22000)b	>S (190000)b	>S (91000)b	>S (17000)b	>S (11000)b
TPH-Motor Oil	>S (310000)b	>S (200000)b	>S (460000)b	>S (170000)b	>S (1500000)b	>S (700000)b	>S (130000)b	>S (82000)b
1,1,1-Trichloroethane	>S (3600)b	>S (1600)b	>S (5100)b	>S (1900)b	>S (13000)b	>S (5500)b	1,500	670
1,1,2-Trichloro-1,2,2-trifluoroethane	>S (14000)b	>S (5800)b	>S (19000)b	>S (7000)b	>S (48000)b	>S (20000)b	>S (5600)b	>S (2400)b
1,1-Dichloroethane	3,800	1,600	5,300	1,900	>S (13000)b	>S (5700)b	*1,600*	*670*
1,2-Dichloroethylene (cis)	240	110	340	130	860	370	100	44
1,2-Dichloroethylene (trans)	*570*	*250*	790	290	2,000	860	230	100
2-Butanone (MEK)	>S (3200000)b	>S (1400000)b	>S (4400000)b	>S (1600000)b	>S (11000000)b	>S (4800000)b	>S (1300000)b	>S (570000)b
2-Hexanone	*770*	*350*	*1,100*	*400*	*2,800*	*1,200*	320	140
Acetone	>S (1200000)b	510,000	>S (1700000)b	610,000	>S (4200000)b	>S (1800000)b	490,000	210,000
Benzene	58	25	81	30	200	88	*24*	*10*
Carbon disulfide	2,100	920	>S (3000)b	1,100	>S (7500)b	>S (3200)b	880	380
Chlorobenzene	>S (1100)b	>S (500)b	>S (1600)b	>S (580)b	>S (4000)b	>S (1700)b	460	200
Chloroform	*590*	*260*	820	300	2,100	900	240	100
Ethylbenzene	>S (8900)b	>S (4100)b	>S (13000)b	>S (4600)b	>S (32000)b	>S (14000)h	>S (3700)b	>S (1700)b
m & p-Xylene(s)	*>S (70000)b*	*>S (31000)b*	*>S (97000)b*	*>S (36000)b*	*>S (250000)b*	*>S (110000)b*	>S (29000)b	>S (13000)b
Methylene chloride	5,200	2,300	7,300	2,700	18,000	8,000	2,200	940
o-Xylene	>S (70000)b	>S (31000)b	>S (98000)b	>S (36000)b	*>S (250000)b*	*>S (110000)b*	*>S (29000)b*	*>S (13000)b*
Styrene	>S (24000)b	>S (12000)b	>S (34000)b	>S (13000)b	>S (93000)b	>S (42000)b	>S (10000)b	>S (5000)b
Tetrachloroethylene (PCE)	76	33	110	39	>S (270)b	110	31	13
Toluene	*>S (3600)b*	*>S (1600)b*	*>S (5000)b*	>S (1800)b	>S (13000)b	>S (5500)b	>S (1500)b	>S (640)b
Trichloroethylene (TCE)	150	63	200	75	510	220	60	26
Trichlorofluoromethane	950	410	*>S (1300)b*	*490*	*>S (3300)b*	*>S (1400)b*	*390*	*170*
Vinyl chloride	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

N/A = not applicable; an RfD for vinyl chloride has not been established by Cal/EPA or USEPA

>S = The calculated SSTL (i.e., the ground water concentration which corresponds to the target risk levels used in the evaluation) exceeds the solubility limit for that compound.

[b] = The SSTL indicated in parentheses represents an SSTL that is greater than the maximum possible dissolved concentration. The SSTL represents a conservative, health-protective estimate of the concentration of chemical that can be present in the ground water without exceeding the target risk level, and has been provided in order to estimate the cumulative risk associated with the presence of multiple chemicals.

APPENDIX F

Ordinance Requirements for Analyzing the Soil for Hazardous Wastes

SAN FRANCISCO PUBLIC WORKS CODE

ARTICLE 20

ANALYZING THE SOIL FOR HAZARDOUS WASTES

SEC. 1001 ANALYSIS REQUIRED.

(a) Applicants for any building permit shall comply with the requirements of (Section 1002) Article 22A of the San Francisco Public Health Code when:

1. The permit is for a construction project that involves the disturbance of at least 50 cubic yards of soil; and
2. The parcel of land or part thereof on which the construction or part thereof will occur is located
   (A) Bayward of the high-tide line as indicated on the Historic San Francisco Maps, prepared by the State of California, State Lands Commission, State Lands Division and filed with the Recorder of the City and County of San Francisco pursuant to Chapter 1333 of the 1968 Statues, as amended by the California Legislature, for reference in conjunction with the map and description of lands, situated in the City and County of San Francisco, that were transferred to the City and County of San Francisco under Chapter 1333. The Director of Public Health shall prepare and maintain for public distribution a map that reflects this line.
   (B) In any area of the City and County of San Francisco designated by the Director of Public Health pursuant to Section (1008) 1232 of the Health Code.

(b) The Director may waive the requirements imposed by this Section if the applicant demonstrates that the property has been continuously zoned as residential under the City Planning Code since 1921, has been in residential use since that time, and the Director has no other reason to believe that the soil may contain hazardous wastes.

(c) Notwithstanding the provisions of Subsection (a), the Director has authority to require soil analysis pursuant to the provisions of this Article as part of any building permit

application when the Director has reason to believe that hazardous wastes may be present in the soil at the construction site.))

SEC. 1004. PERMIT APPROVAL.

(a) Except for site permits issued pursuant to San Francisco Building Code Section 303(g), once the Director of Public Health has determined that the required site history, soil sampling and analyses were conducted and the report contains the information required by Section 1003, the Director of Public Works may approve or disapprove the application subject to the terms and limitations of this Section. The Director of Public Works may issue a site permit pursuant to San Francisco Building Code Section 303(g) prior to the time an applicant complies with this Article, provided, however, that the Director of Public Works shall not issue any addenda pursuant to Building Code Section 303(g), except addenda necessary to carry out the soil sampling or site mitigation measures required by this Article, until the applicant has complied with all applicable provisions of this Article. The holder of a site permit and any addenda necessary to comply with this Article shall proceed with approved addenda work at his own risk, without assurance that approvals for the remaining addenda or for the entire building will be granted.

(a) If the soil sampling and analysis report indicates that there are no hazardous wastes present in the soil, the Director of Public Health shall provide the applicant and the Director of Public Works with written notification that the applicant has complied with the requirements of this Article. The Director of Public Works may thereafter approve or disapprove the building permit application.

(b) If the soil sampling and analysis report indicates that the site is listed on the National Priorities List or the list of hazardous substances release sites published by the California Department of Health Services, the project applicant shall provide to the Director of Public Health certification or verification from the appropriate federal or state agency that any site mitigation required by the federal or state agency has been completed and complete the -certification procedure set forth in Section 1005. After receipt of the certification required by Section 1005, the Director of Public Health shall provide the applicant and the Director of Public Works with written notification that the applicant has

complied with the requirements of this Article. Thereafter, the Director of Public Works may approve or disapprove a building permit.

(c) Unless Subsection (b) is applicable, if the soil sampling and analysis report indicates that hazardous wastes are present in the soil, the applicant shall do the following before the Director of Public Works may approve or disapprove the building permit application:

1. Submit a site mitigation report prepared by a qualified person to the Director of Public Works and the Director of Public Health.

   A. For the purposes of this Section, a qualified person is defined as one or more of the following who is registered or certified by the State of California: soil engineer, civil engineer, chemical engineer, engineering geologist, geologist, hydrogeologist, Industrial hygienist or environmental assessor.

   B. The site mitigation report shall contain the following information:

      i. A determination by the qualified person as to whether the hazardous wastes in the soil are causing or are likely to cause significant environmental or health and safety risks, and if so, recommended measures that will mitigate the significant environmental or health arid safety risks caused or likely to be caused by the presence of the hazardous waste in the soil. If the report recommends mitigation measures it shall identify any soil sampling and analysis that it recommends the project applicant conduct following completion of the mitigation measures to verify that mitigation is complete.

      ii. A statement signed by the person who prepared the report certifying that the person the is a qualified person within the meaning of this Section and that in his or her judgment either no mitigation is required or the mitigation measures identified, if completed, will mitigate the significant environmental or health and safety risks caused by or likely to be caused by the hazardous wastes in the soil.

2. Complete the site mitigation measures identified by the qualified person in the site mitigation report. The Director of Public Works may issue any permits or addenda to site permits necessary for the applicant to carry out the site mitigation measures; and

3. Complete the certification procedure set forth in Section 1005. After receipt of the certification required by Section 1005, the Director of Public Health shall provide the applicant and the Director of Public Works with written notification that the applicant has complied with the requirements of this Article.

(d) For the purposes of completing the requirements of this Article, the time limitations set forth in Section 303(a)1.B. of the San Francisco Building Code do not apply.

SAN FRANCISCO HEALTH CODE

ARTICLE 22A

ANALYZING SOILS FOR HAZARDOUS WASTE

SEC. 1220. DEFINITIONS.

In addition to the general definitions applicable to this Code, whenever used in this Article, the following terms shall have the meanings set forth below:

(a) "Applicant" means a person applying for any building permit as specified by Section 106.1 of the San Francisco Building Code.

(b) "Certified laboratory" means a laboratory certified by the California Department of Health Services, pursuant to the provisions of Section 25198 of the California Health and Safety Code, for analyzing samples for the presence of hazardous waste.

(c) "Director" means the Director of the San Francisco Department of Public Health or the Director's designee.

(d) "Director of Building Inspection" means the Director of the Department of Building Inspection of the City and County of San Francisco.

(e) "Hazardous waste" means any substance that meets the definition of hazardous waste in Section 25117 of the California Health and Safety Code or Appendix X of Division 4.5, Chapter 10, Article 5 of Title 22 California Administrative Code.

SEC. 1221. APPLICABILITY OF ARTICLE.

Pursuant to Section 1001 of the San Francisco Public Works Code, an Applicant shall comply with this Article.

SEC. 1222. WAIVER OF REQUIREMENTS FOR COMPLIANCE.

Director may waive the requirements imposed by this Article if the Applicant demonstrates that the property has been continuously zoned as residential under the City Planning Code since 1921, has been in residential use since that time, and no evidence has been presented to create a reasonable belief that the soil may contain hazardous wastes. The Director shall provide the

Applicant and the Director of Building inspection with written notification that the requirements of this Article have been waived.

SEC. 1223. DIRECTOR'S DISCRETIONARY AUTHORITY TO REQUIRE COMPLIANCE.

In addition to those areas defined pursuant to Section 1221, the Director has authority to require soil analysis pursuant to the provisions of this Article as part of any building permit application when the Director has reason to believe that hazardous wastes may be present in the soil at the property.

SEC. 1224. SITE HISTORY.

The Applicant shall provide to the Director a site history for the property prepared by an individual with the requisite training and experience described in regulations adopted pursuant to Section 1232, The site history shall contain a statement indicating whether the property is listed on the National Priorities List, published by the United States Environmental Protection Agency pursuant to the federal Comprehensive Environmental Response Compensation and Liability Act, 42 U.S.C. Section 9604(c)(3) or listed as a hazardous substance release site by the California Department of Toxic Substances Control or the State Water Resources Control Board pursuant to the California Hazardous Substances Account Act, Health and Safety Code Section 25356. The applicant shall file the site history with the Director and the certified laboratory.

SEC. 1225. SOIL SAMPLING AND ANALYSIS.

(a) Analysis of Sampled Soil. The Applicant shall cause a professional geologist, civil engineer, or engineering geologist who is registered or certified by the State of California, or a certified laboratory to take samples of the soil on the property to determine the presence of hazardous wastes in the soil. The following types of analyses shall be conducted, unless an alternative proposal is approved by the Director:

(1) inorganic persistent and bioaccumulative toxic substances as listed in Section 66261.24(a)(2)(A) of Title 22 of the California Administrative Code;

(2) volatile organic toxic pollutants as listed in 40 Code of Federal Regulations, 122, Appendix D, Table II;

(3) PCBs;

(4) pH levels;

(5) cyanides:

(6) methane and other flammable gases;

(7) total petroleum hydrocarbons;

(8) semi-volatile compounds;

(9) hazardous wastes designated by the Director pursuant to Section 1232 and;

(10) any other hazardous waste that either the Director or the certified laboratory, after an examination of the site history, has reason to conclude may be present on, the property. The Director shall make any such determination within 30 days of filing by the applicant of the site history.

(b) Procedures for Soil Sampling. Soil sampling shall be conducted in accordance with procedures for sampling soils approved by the California Department of Toxic Substances Control or the State Water Resources Control Board and the San Francisco Bay Regional Water Quality Control Board.

(c) Testing of Sampled Soil. Samples shall be analyzed by a certified laboratory in accordance with methods for analyzing samples for the presence of hazardous wastes approved by the California Department of Toxic Substances Control or the State Water Resources Control Board and the San Francisco Bay Regional Water Quality Control Board.

SEC. 1226. SOIL ANALYSIS REPORT.

(a) Contents. The Applicant shall submit a soil analysis report prepared by the persons conducting the soil sampling and analysis to the Director, the California Department of Toxic Substances Control, the San Francisco Bay Regional Water Quality Control Board and to other agencies as directed by the Director. The report shall include the following information:

(1) The names and addresses of the persons and the certified laboratory that conducted the soil sampling, the soil analysis and prepared the report:

(2) An explanation of the sampling and testing methodology;

(3) The results of the soil analyses;

(4) Whether any of the analyses conducted indicate the presence of hazardous wastes and, for each, the level detected and the state and federal minimum standards, if any:

(5) The state and federal agencies to which the presence of the hazardous wastes has been reported and the date of the report;

(6) A statement that the certified laboratory, after examination of the site history, has no reason to conclude that hazardous wastes other than those listed in Section 1225(a)(1) through (a)(9) were likely to be present on the property;

(b) Review by Director. The Director shall determine whether the site history, soil sampling and analyses required by this Article were conducted and whether the report required by this Section is complete. If the site history, soil sampling or analyses were not conducted or the report does not comply with the requirements of this Section, the Director shall notify the applicant in writing within 30 days of receipt of the report, indicating the reasons the report is unacceptable. A copy of the notification shall be sent to the Director of Building Inspection.

(c) No Wastes Present. If the soil sampling and analysis report indicates that there are no hazardous wastes present in the soil, the Director shall provide the Applicant and the Director of Building Inspection with written notification that the Applicant has complied with the requirements of this Article.

SEC. 1227. KNOWN HAZARDOUS WASTE SITE.

If the soil sampling and analysis report or site history indicates that the property is listed on the National Priorities List or the list of California Hazardous Substances Account Act release sites, the Applicant shall provide to the Director certification or verification from the appropriate federal or state agency that any site mitigation required by the federal or state agency has been completed and complete the certification procedure set forth in Section 1229. Certification by a

competent state or federal agency that mitigation measures have been properly completed shall constitute a conclusive determination and shall be binding upon the Director.

SEC. 1228. APPLICANT'S RESPONSIBILITY UPON DISCOVERY OF HAZARDOUS WASTES.

Unless Section 1227 is applicable, if the soil sampling and analysis report indicates that hazardous wastes are present in the soil, the Applicant shall submit a site mitigation report prepared by a qualified person to the Director.

(a) For the purposes of this section, a qualified person is defined as one or more of the following who is registered or certified by the State of California: soil engineer, civil engineer, chemical engineer, engineering geologist, geologist, hydrologist, industrial hygienist or environmental assessor.

(b) The site mitigation report shall contain the following information:

(1) A determination by the qualified person as to whether the hazardous wastes in the soil are causing or are likely to cause significant environmental or health and safety risks, and if so, recommend measures that will mitigate the significant environmental or health and safety risks caused or likely to be caused by the presence of the hazardous waste in the soil. If the report recommends mitigation measures it shall identify any soil sampling and analysis that it recommends the project applicant conduct following completion of the mitigation measures to verity that mitigation is complete.

(2) A statement signed by the person who prepared the report certifying that the person is a qualified person within the meaning of this section and that in his or her judgment either no mitigation is required or the mitigation measures identified, if completed, will mitigate the significant environmental or health and safety risks caused by or likely to be caused by the hazardous wastes in the soil.

(3) Complete the site mitigation measures identified by the qualified person in the site mitigation report; and

(4) Complete the certification required by Section 1229.

SEC. 1229. CERTIFICATION.

(a) Contents. The Applicant shall certify under penalty of perjury to the Director that:

(1) If Section 1227 is applicable, the Applicant has received certification or verification from the appropriate state or federal agency that mitigation is complete.

(2) If Section 1228 Is applicable:

(A) A qualified person has determined in the site mitigation report that no hazardous wastes in the soil are causing or are likely to cause significant environmental or health and safety risks, and the qualified person recommends no mitigation measures; or

(B) The Applicant has performed all mitigation measures recommended in the site mitigation report, and has verified that mitigation is complete by conducting follow-up soil sampling and analysis, if recommended in the site mitigation report.

(b) Applicant Declarations. The certification shall state:

"The Applicant recognizes that it has a nondelegable duty to perform site mitigation; that it. and not the City, is responsible for site mitigation: that it, not the City, attests to and is responsible for the accuracy the representations made in the certification, and that it will continue to remain liable and responsible, to the extent such liability or responsibility is imposed by state and federal law, for its failure to perform the site mitigation."

SEC. 1230. NOTIFICATION TO DIRECTOR OF BUILDING INSPECTION.

After receipt of the certification required by Section 1229, the Director shall provide the Applicant and the Director of Building Inspection with written notification that the Applicant has complied with the requirements of this Article.

SEC. 1231. MAINTENANCE OF REPORT BY DIRECTOR.

The site history, soil analysis report certification and related documents shall become a part of the file maintained by the Department.

SEC. 1232. RULES AND REGULATIONS.

(a) Adoption of Rules. The Director may adopt, and may thereafter amend, rules, regulations and guidelines that the Director deems necessary to implement the provisions of this ordinance. For the purposes of this Article, a public hearing before the Health Commission shall be held prior to the adoption or any amendment of the rules, regulations and guidelines recommended for implementation. In addition to notices required by law, the Director shall send written notice, at least 15 days prior to the hearing, to any interested party who sends a written request to the Director for notice of hearings related to the adoption of rules, regulations and guidelines pursuant to this Section.

In developing such regulations, the Director shall consider, inter alia, state and federal statutes and regulations pertaining to hazardous wastes with the purpose of coordinating local regulations with them.

(b) Guidelines for Regulations. Rules, regulations and guidelines may address among others, the following subjects:

(1) Minimum standards for acceptable site histories. The minimum standards shall be designed to assist interested persons including, but nut limited to, the Director of Building inspection, other state and local public agencies and certified testing laboratories, to evaluate whether analyses, other than those required by Section 1225(a)(1) through (a)(9), must be conducted to detect the presence in the soil of hazardous wastes and to determine what analyses are appropriate.

(2) Minimum education and experience requirements for the persons who prepare site histories pursuant to Section 1224. In making this determination, the Director shall consider relevant those academic disciplines and practical experience which would qualify an individual to evaluate a property in San Francisco and identify prior uses made of the property that may be relevant in determining whether there are hazardous wastes in the soil and what analyses, if any, are appropriate to identify them.

(3) Precautionary measures to minimize long-term exposure to hazardous wastes that cannot be removed or are not required to be removed by the site mitigation plan.

(4) Designation of areas. Designation of areas in the City, in addition to the area described in Section 1001 of the San Francisco Public Works Code, where the Director has reason to believe that the soils may contain hazardous wastes and the designation of the analyses specified in Section 1225 that shall be conducted in each area.

(5) Designation of additional hazardous wastes. The designation of additional hazardous wastes, other than those listed in Section 1225(a)(1) through (a)(9), for which analyses must be conducted. The designation shall be based on a determination by the Director that there is a reasonable basis to conclude that such other hazardous wastes may be in the soil. The designation may be made applicable to a specified area or areas of the City or city-wide as determined by the Director.

(5) Waiver from Requirements for Analyses. The exclusion of hazardous wastes from the analysis requirements set forth in Section 1225 upon a determination that the hazardous waste does not pose a significant present or potential hazard to human health and safety or to the environment.

SEC. 1233. NOTIFICATION TO BUYER.

The Director shall prepare and maintain to, public distribution a summary of the requirements of this Article. The seller or the seller's agent involved in the sale or exchange of any real property located bayward of the high-tide line as indicated on the Historic San Francisco Maps as described in Article 20 of the Public Works Code and as reflected on the map prepared and maintained for public distribution by the Director and in those areas designated by the Director pursuant to section 1223 shall provide a copy of the summary to the buyer or buyers and shall obtain a written receipt from the buyer or buyers acknowledging receipt of the summary. Failure to give notice as required by this section shall not excuse or exempt the buyer of the property from compliance with the requirements of this Article.

SEC. 1234 NONASSUMPTION OF LIABILITY.

In undertaking to require certain building or grading permits to include soil analyses for the presence of hazardous wastes, the City and County of San Francisco is assuming an undertaking only to promote the general welfare. It is not assuming, nor is it imposing on itself or on its officers and employees, any obligation for breach of which it is liable for money damages to any person who claims that such breach proximately caused injury.

SEC. 1235. CONSTRUCTION ON CITY PROPERTY.

All departments, boards, commissions and agencies of the City and County of San Francisco that authorize construction or improvements on land under their jurisdiction under circumstances where no building or grading permit needs to be obtained pursuant to the San Francisco Building Code shall adopt rules and regulations to insure that the same site history, soil sampling, analyzing, reporting, site mitigation and certification procedures as set forth in this Article are followed. The Directors of Public Health and Building Inspection shall assist the departments, boards, commissions and agencies to insure that these requirements are met.

SEC. 1236. SEVERABILITY.

If any section, subsection, subdivision, paragraph, sentence, clause or phrase of this Article or any part thereof, is for any reason to be held unconstitutional or invalid or ineffective by any court of competent jurisdiction, such decision shall not affect the validity or effectiveness of the remaining portions of this Section or any part thereof. The Board of Supervisors hereby declares that it would have passed each section, subsection, subdivision, paragraph, sentence, clause or phrase thereof irrespective of the fact that any one or more sections, subsections, subdivisions, paragraphs, sentences, clauses or phrases be declared unconstitutional or invalid or ineffective.

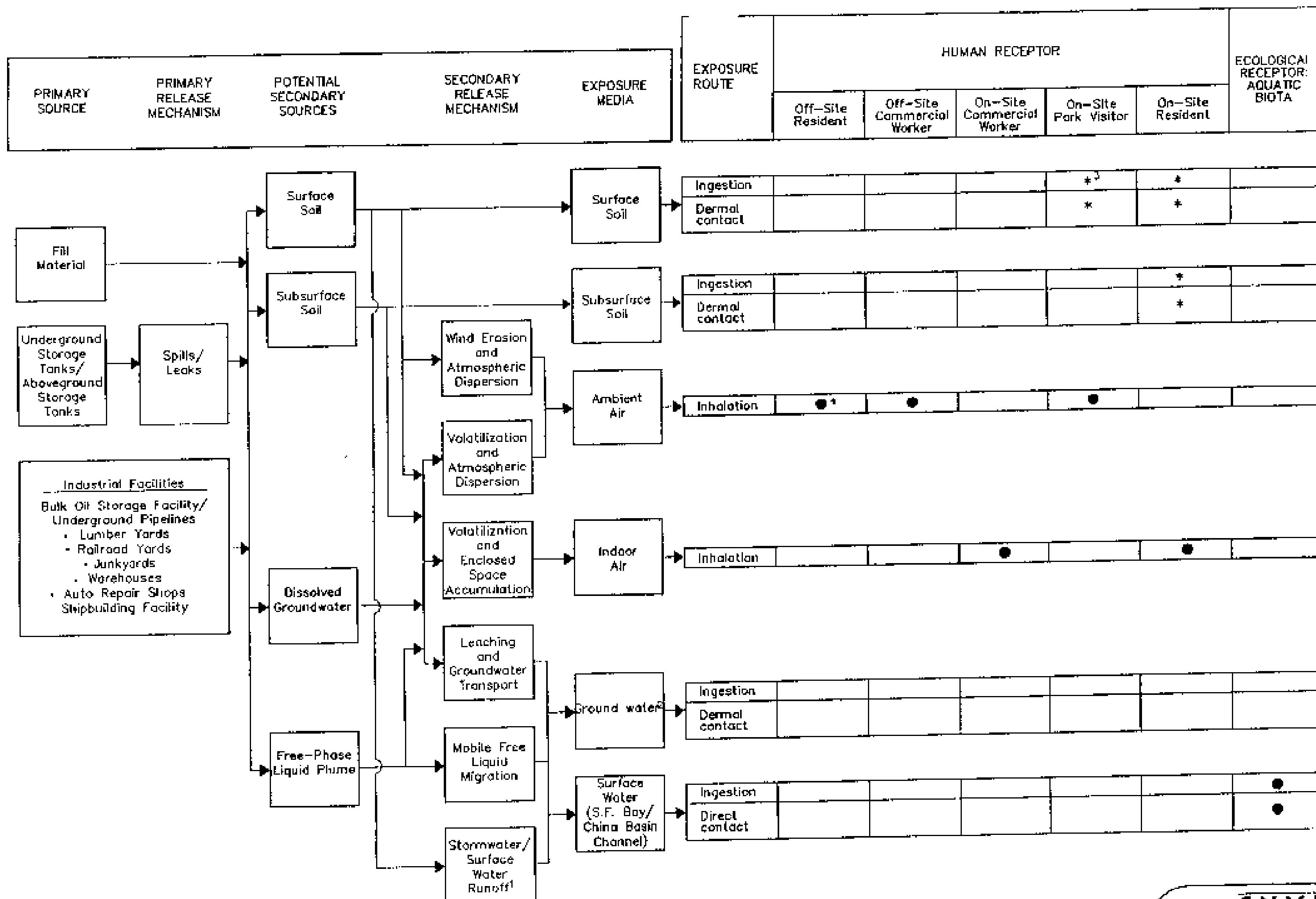
SEC. 1237. FEES.

The Director is authorized to charge the following fees to defray the costs of document processing and review, consultation with applicants, and administration of this Article: (1) an initial fee of $390, payable to the Department, upon filing a site history report with the Department; and (2) an additional fee of $130 per hour for document processing and review and

applicant consultation exceeding three hours or portion thereof, payable to the Department, upon filing of the certification required pursuant to Section 1229.

APPENDIX G:

Conceptual Site Model for Risk Evaluation: After Development is Complete



e runoff during construction will be olled as discussed in Section 4.5.3. ing construction, the site will be ed by parking lots, parking ures, streets, building foundations, caping and parks (covered fill), will prevent runoff from contacting chemicals present in soils. As such, ce water runoff does not represent chanism through which chemicals e released.

2. Ground water beneath the site is not and will not be used as a source of drinking water as it is not suitable for such uses due to high Total Dissolved Solids (TDS) and limited yield. Thus, residents and commercial workers will not have any direct contact (i.e., through either ingestion or dermal contact) with ground water. Dermal contact with ground water that could potentially occur during construction or other subsurface digging activities will be controlled through implementation of management measures described in Section 4.3.B.

3. Park and landscaped areas will be covered by between 1.0 and 1.5 feet of Fill. The remainder of the South of Channel Area will be paved. Further, the implementation of the long-term management measures described in Section 5.3 will prevent uncontrolled subsurface digging activities, precluding all pathways in which direct contact with constituents in the soil could occur. Therefore, these pathways are considered incomplete and are not included in the evaluation.

4. ● Potentially complete exposure pathways for further consideration.

ENVIRON

5820 Shellmound Street, Suite 700, Emeryville, California 94608

Conceptual Site Model for Risk Evaluation: After Development is Complete
Mission Bay Project
San Francisco, California

DATE: 5/10/99 | DRAFTER: RS | CONTRACT NUMBER: 03-6381S | FIGURE: **G-1**

EXHIBIT
RISK MANAGEMENT PLAN AREA
LEGAL DESCRIPTION

ALL THAT CERTAIN REAL PROPERTY SITUATE IN THE CITY AND COUNTY OF SAN FRANCISCO, STATE OF CALIFORNIA, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE INTERSECTION OF THE NORTHEASTERLY LINE OF SIXTH STREET WITH THE SOUTHEASTERLY LINE OF BERRY STREET, SAID INTERSECTION HAVING A COORDINATE OF NORTH 468817.32, EAST 1451868.98 IN THE CALIFORNIA COORDINATE SYSTEM OF 1927, ZONE 3; THENCE ALONG SAID SOUTHEASTERLY LINE OF BERRY STREET SOUTH 46°18'07" WEST 990.05 FEET TO THE SOUTHWESTERLY LINE OF SEVENTH STREET; THENCE ALONG SAID SOUTHWESTERLY LINE OF SEVENTH STREET SOUTH 43°41'53" EAST 440.00 FEET TO THE SOUTHEASTERLY LINE OF CHANNEL STREET, AND BEING THE TRUE POINT OF BEGINNING; THENCE CONTINUING ALONG SAID SOUTHWESTERLY LINE OF SEVENTH STREET SOUTH 43°41'53" EAST 2,017.19 FEET TO THE WESTERLY LINE OF PENNSYLVANIA STREET; THENCE ALONG SAID WESTERLY LINE OF PENNSYLVANIA STREET SOUTH 3°10'56" EAST 600.92 FEET TO THE SOUTHERLY LINE OF MARIPOSA STREET; THENCE ALONG SAID SOUTHERLY LINE OF MARIPOSA STREET NORTH 86°49'04" EAST 1,690.17 FEET TO THE WESTERLY LINE OF ILLINOIS STREET; THENCE ALONG SAID WESTERLY LINE OF ILLINOIS STREET SOUTH 3°10'56" EAST 63.85 FEET; THENCE NORTH 86°49'04" EAST 80.00 FEET TO A POINT ON THE EASTERLY LINE OF ILLINOIS STREET, LAST SAID POINT BEING ON THE MISSION BAY PROJECT BOUNDARY AS DESCRIBED IN SENATE BILL 1215, FILED WITH THE STATE OF CALIFORNIA SECRETARY OF STATE ON AUGUST 4, 1997; THENCE ALONG SAID MISSION BAY PROJECT BOUNDARY THE FOLLOWING COURSES AND DISTANCES; THENCE NORTH 35°06'05" EAST 616.30 FEET; THENCE NORTHEASTERLY ALONG AN ARC OF A CURVE TO THE LEFT, TANGENT TO THE PRECEDING COURSE WITH A RADIUS OF 440.00 FEET THROUGH A CENTRAL ANGLE OF 4°39'09" AN ARC DISTANCE OF 35.72 FEET; THENCE LEAVING SAID BOUNDARY ALONG A LINE AT AN ELEVATION OF 95.00 FEET BASED ON CITY AND COUNTY OF SAN FRANCISCO DATUM PLUS 100.00 FEET, THE FOLLOWING COURSES AND DISTANCES SOUTH 71°56'38" EAST 44.73 FEET; THENCE NORTH 32°05'50" EAST 44.70 FEET; THENCE NORTH 26°06'52" EAST 167.45 FEET; THENCE NORTH 27°31'13" EAST 72.27 FEET; THENCE NORTH 1°47'26" EAST 33.63 FEET; THENCE NORTH 34°14'26" EAST 12.47 FEET; THENCE NORTH 9°57'00" EAST 38.39 FEET; THENCE NORTH 10°48'46" EAST 58.04 FEET; THENCE NORTH 17°31'11" EAST 16.19 FEET; THENCE NORTH 22°04'13" EAST 15.59 FEET; THENCE NORTH 22°29'13" EAST 29.41 FEET; THENCE SOUTH 88°21'19" EAST 17.63 FEET; THENCE NORTH 10°30'55" EAST 2.19 FEET; THENCE SOUTH 84°19'48" EAST 11.80 FEET; THENCE NORTH 2°49'59" WEST 6.90 FEET; THENCE NORTH 81°58'44" WEST 3.13 FEET; THENCE NORTH

26°32'34" EAST 3.73 FEET; THENCE NORTH 12°55'05" EAST 5.22 FEET; THENCE NORTH 3°29'34" WEST 12.18 FEET; THENCE NORTH 63°36'32" EAST 13.43 FEET; THENCE NORTH 69°38'30" WEST 12.08 FEET; THENCE NORTH 66°42'30" EAST 13.11 FEET; THENCE NORTH 23°56'57" WEST 26.75 FEET; THENCE NORTH 50°01'38" EAST 18.03 FEET; THENCE NORTH 0°58'25" WEST 8.96 FEET; THENCE NORTH 76°50'06" EAST 33.97 FEET; THENCE NORTH 45°15'40" EAST 6.62 FEET; THENCE NORTH 86°57'45" EAST 25.93 FEET; THENCE SOUTH 88°16'06" EAST 6.48 FEET; THENCE NORTH 68°59'26" EAST 6.98 FEET; THENCE NORTH 28°34'08" EAST 5.90 FEET; THENCE NORTH 4°28'33" WEST 14.98 FEET; THENCE NORTH 88°10'50" EAST 8.70 FEET; THENCE NORTH 35°12'31" WEST 34.21 FEET; THENCE NORTH 1°47'10" EAST 68.36 FEET; THENCE NORTH 3°13'27" WEST 1.50 FEET; THENCE SOUTH 86°59'17" EAST 4.95 FEET; THENCE NORTH 51°17'55" EAST 5.13 FEET; THENCE NORTH 12°03'47" EAST 17.02 FEET; THENCE NORTH 39°15'40" EAST 13.66 FEET; THENCE NORTH 13°55'33" EAST 7.34 FEET; THENCE NORTH 2°21'50" WEST 34.82 FEET; THENCE NORTH 44°30'04" WEST 1.95 FEET; THENCE SOUTH 77°15'27" WEST 8.61 FEET; THENCE NORTH 36°29'57" EAST 13.78 FEET; THENCE NORTH 8°00'48" WEST 10.39 FEET; THENCE NORTH 15°31'27" EAST 5.94 FEET; THENCE NORTH 16°07'00" WEST 6.62 FEET; THENCE NORTH 8°42'48" EAST 25.57 FEET; THENCE NORTH 35°09'08" WEST 5.88 FEET; THENCE NORTH 4°53'35" WEST 13.43 FEET; THENCE NORTH 5°57'25" EAST 21.80 FEET; THENCE NORTH 54°48'15" EAST 10.86 FEET; THENCE NORTH 11°30'22" EAST 9.78 FEET; THENCE NORTH 71°32'38" EAST 15.21 FEET; THENCE NORTH 36°27'15" EAST 16.88 FEET; THENCE NORTH 20°28'01" EAST 15.13 FEET; THENCE NORTH 34°08'38" EAST 4.15 FEET; THENCE NORTH 16°19'31" EAST 24.06 FEET; THENCE NORTH 1°17'38" EAST 12.96 FEET; THENCE NORTH 49°18'12" WEST 12.53 FEET; THENCE NORTH 5°34'11" WEST 32.72 FEET; THENCE NORTH 17°28'19" EAST 14.72 FEET; THENCE NORTH 31°17'32" EAST 84.18 FEET; THENCE NORTH 64°30'58" EAST 6.69 FEET; THENCE NORTH 16°30'04" WEST 8.67 FEET; THENCE NORTH 0°03'26" WEST 7.54 FEET; THENCE NORTH 51°04'22" WEST 6.53 FEET; THENCE NORTH 3°25'02" EAST 107.32 FEET; THENCE NORTH 14°36'49" WEST 20.21 FEET; THENCE NORTH 23°13'03" WEST 19.47 FEET; THENCE NORTH 28°16'44" WEST 13.15 FEET; THENCE NORTH 13°35'32" WEST 32.73 FEET; THENCE NORTH 25°13'56" WEST 17.78 FEET; THENCE NORTH 16°25'20" WEST 63.24 FEET; THENCE NORTH 18°11'49" WEST 117.90 FEET; THENCE NORTH 23°49'29" WEST 88.39 FEET; THENCE NORTH 10°43'24" WEST 18.66 FEET; THENCE SOUTH 87°40'13" WEST 10.65 FEET TO A POINT ON SAID MISSION BAY PROJECT BOUNDARY; THENCE ALONG SAID MISSION BAY PROJECT BOUNDARY THE FOLLOWING COURSES AND DISTANCES; THENCE NORTH 2°19'47" WEST 3.00 FEET; THENCE NORTHERLY ALONG AN ARC OF A CURVE TO THE LEFT, WITH A RADIUS OF 481.57 FEET THROUGH A CENTRAL ANGLE OF 24°30'49", AN ARC DISTANCE OF 206.04 FEET; THENCE TANGENT TO THE PRECEDING CURVE NORTH 26°50'36" WEST 402.03 FEET; THENCE NORTHWESTERLY ALONG AN ARC OF A CURVE TO THE RIGHT, TANGENT TO THE PRECEDING COURSE WITH A RADIUS OF 236.29 FEET, THROUGH A CENTRAL ANGLE OF 9°00'04" AN ARC DISTANCE OF 37.12 FEET; THENCE TANGENT TO THE PRECEDING CURVE NORTH 17°50'32" WEST 679.08 FEET; THENCE

SOUTH 86°49'04" WEST 282.39 FEET; THENCE SOUTH 17°34'00" EAST 2.58 FEET; THENCE SOUTH 86°49'04" WEST 397.43 FEET TO THE EASTERLY LINE OF THIRD STREET; THENCE ALONG SAID EASTERLY LINE OF THIRD STREET NORTH 3°10'56" WEST 1,237.57 FEET; THENCE LEAVING SAID BOUNDARY ALONG A LINE AT AN ELEVATION OF 95.00 FEET BASED ON CITY AND COUNTY OF SAN FRANCISCO DATUM PLUS 100.00 FEET, THE FOLLOWING COURSES AND DISTANCES; SOUTH 47°31'01" WEST 192.71 FEET; THENCE SOUTH 81°32'20" WEST 21.78 FEET; THENCE SOUTH 53°06'40" WEST 9.15 FEET; THENCE SOUTH 19°20'03" WEST 6.56 FEET; THENCE SOUTH 2°40'00" WEST 9.87 FEET; THENCE SOUTH 46°33'24" WEST 126.70 FEET; THENCE SOUTH 44°53'10" WEST 44.27 FEET; THENCE SOUTH 44°23'58" WEST 40.11 FEET; THENCE SOUTH 40°28'07" WEST 29.51 FEET; THENCE SOUTH 52°01'51" WEST 14.76 FEET; THENCE SOUTH 41°11'07" WEST 14.90 FEET; THENCE SOUTH 48°42'33" WEST 63.76 FEET; THENCE SOUTH 46°33'40" WEST 132.22 FEET; THENCE SOUTH 49°26'17" WEST 71.28 FEET; THENCE SOUTH 49°00'09" WEST 72.23 FEET; THENCE NORTH 69°35'04" WEST 8.10 FEET; THENCE NORTH 55°15'28" WEST 8.56 FEET; THENCE SOUTH 58°52'18" WEST 81.65 FEET; THENCE SOUTH 30°20'49" EAST 35.64 FEET; THENCE SOUTH 5°59'31" WEST 19.74 FEET; THENCE SOUTH 52°36'12" WEST 13.09 FEET; THENCE SOUTH 35°01'47" WEST 29.78 FEET; THENCE SOUTH 49°24'29" WEST 38.10 FEET; THENCE SOUTH 38°38'29" WEST 54.69 FEET; THENCE SOUTH 49°35'04" WEST 44.46 FEET; THENCE SOUTH 33°31'22" WEST 12.43 FEET; THENCE SOUTH 60°28'30" WEST 16.61 FEET; THENCE SOUTH 33°01'30" WEST 11.32 FEET; THENCE SOUTH 62°08'06" WEST 12.50 FEET; THENCE SOUTH 43°06'26" WEST 48.88 FEET; THENCE SOUTH 57°34'14" WEST 32.52 FEET; THENCE SOUTH 33°55'46" WEST 25.13 FEET; THENCE SOUTH 56°45'58" WEST 16.11 FEET; THENCE SOUTH 13°24'57" WEST 11.99 FEET; THENCE SOUTH 42°25'15" WEST 14.86 FEET; THENCE SOUTH 40°27'45" WEST 21.62 FEET; THENCE SOUTH 55°00'28" WEST 25.04 FEET; THENCE SOUTH 41°50'15" WEST 21.78 FEET; THENCE SOUTH 78°34'37" WEST 17.05 FEET; THENCE SOUTH 22°39'15" WEST 25.26 FEET; THENCE SOUTH 47°03'39" WEST 46.71 FEET; THENCE SOUTH 62°03'27" WEST 14.13 FEET; THENCE SOUTH 36°10'39" WEST 25.94 FEET; THENCE SOUTH 60°01'21" WEST 34.27 FEET; THENCE SOUTH 35°29'48" WEST 14.74 FEET; THENCE SOUTH 17°03'19" WEST 19.97 FEET; THENCE SOUTH 66°03'30" WEST 20.40 FEET; THENCE SOUTH 48°16'39" WEST 41.48 FEET; THENCE SOUTH 40°06'06" WEST 46.06 FEET; THENCE SOUTH 48°18'24" WEST 45.40 FEET; THENCE SOUTH 56°22'09" WEST 25.95 FEET; THENCE SOUTH 86°10'54" WEST 29.61 FEET; THENCE SOUTH 51°33'49" WEST 16.52 FEET; THENCE SOUTH 36°10'39" WEST 23.65 FEET; THENCE SOUTH 47°56'30" WEST 22.00 FEET; THENCE SOUTH 16°42'56" WEST 32.86 FEET; THENCE SOUTH 49°53'08" WEST 46.50 FEET; THENCE SOUTH 64°43'19" WEST 22.72 FEET; THENCE SOUTH 38°49'28" WEST 17.70 FEET; THENCE SOUTH 55°21'30" WEST 18.90 FEET; THENCE SOUTH 36°38'33" WEST 30.82 FEET; THENCE SOUTH 60°53'13" WEST 15.53 FEET; THENCE SOUTH 37°04'24" WEST 28.00 FEET; THENCE SOUTH 59°22'58" WEST 28.54 FEET; THENCE SOUTH 70°23'57" WEST 26.75 FEET; THENCE SOUTH 37°30'59" WEST 52.47 FEET; THENCE SOUTH 60°16'06" WEST 19.86 FEET; THENCE SOUTH 44°21'48" WEST 31.66 FEET; THENCE

SOUTH 73°40'32" WEST 36.15 FEET; THENCE SOUTH 76°13'42" WEST 11.90 FEET; THENCE SOUTH 35°35'18" WEST 32.05 FEET; THENCE SOUTH 54°15'41" WEST 56.20 FEET; THENCE SOUTH 49°00'58" WEST 91.18 FEET; THENCE SOUTH 44°55'37" WEST 124.43 FEET; THENCE SOUTH 49°48'38" WEST 115.00 FEET; THENCE NORTH 89°37'27" WEST 17.44 FEET; THENCE SOUTH 44°29'30" WEST 13.23 FEET; THENCE SOUTH 4°52'32" WEST 7.48 FEET; THENCE SOUTH 47°12'29" WEST 11.91 FEET; THENCE SOUTH 79°30'07" WEST 9.90 FEET; THENCE SOUTH 45°14'04" WEST 31.81 FEET; THENCE SOUTH 39°03'20" WEST 15.43 FEET; THENCE SOUTH 45°32'37" WEST 109.26 FEET; THENCE SOUTH 44°52'07" WEST 50.71 FEET; THENCE SOUTH 61°20'38" WEST 34.61 FEET; THENCE SOUTH 58°31'36" WEST 12.75 FEET; THENCE NORTH 0°00'53" WEST 4.15 FEET; THENCE NORTH 89°09'04" WEST 23.61 FEET; THENCE SOUTH 31°13'25" WEST 27.05 FEET; THENCE SOUTH 0°50'30" EAST 21.14 FEET; THENCE SOUTH 58°49'22" WEST 27.08 FEET; THENCE SOUTH 38°56'46" WEST 10.96 FEET; THENCE SOUTH 69°13'10" WEST 5.41 FEET; THENCE SOUTH 46°45'13" WEST 122.22 FEET; THENCE SOUTH 12°19'48" WEST 39.73 FEET; THENCE SOUTH 33°11'37" WEST 41.19 FEET; THENCE SOUTH 55°34'32" WEST 57.25 FEET; THENCE SOUTH 76°49'34" WEST 8.83 FEET; THENCE NORTH 24°24'30" WEST 11.97 FEET; THENCE SOUTH 62°23'18" WEST 8.84 FEET; THENCE SOUTH 32°49'40" WEST 21.47 FEET; THENCE SOUTH 51°37'07" WEST 15.22 FEET; THENCE SOUTH 39°02'24" WEST 39.75 FEET; THENCE SOUTH 65°25'05" WEST 10.02 FEET; THENCE NORTH 36°53'25" WEST 13.85 FEET; THENCE NORTH 13°31'40" EAST 11.45 FEET; THENCE NORTH 36°34'00" WEST 8.98 FEET; THENCE NORTH 46°19'26" WEST 15.78 FEET; THENCE NORTH 67°21'11" WEST 12.94 FEET; THENCE SOUTH 74°36'55" WEST 2.56 FEET; THENCE NORTH 58°13'39" WEST 11.14 FEET; THENCE NORTH 46°47'58" WEST 13.08 FEET; THENCE NORTH 45°35'16" EAST 11.63 FEET; THENCE SOUTH 67°38'55" EAST 6.25 FEET; THENCE NORTH 24°14'41" EAST 18.22 FEET; THENCE NORTH 9°33'12" EAST 10.15 FEET; THENCE NORTH 11°27'18" EAST 9.84 FEET; THENCE NORTH 0°57'56" WEST 18.87 FEET; THENCE NORTH 12°54'14" WEST 19.09 FEET; THENCE NORTH 24°34'44" WEST 19.91 FEET; THENCE NORTH 37°11'21" WEST 21.14 FEET; THENCE NORTH 42°55'41" WEST 7.20 FEET; THENCE NORTH 41°45'56" EAST 20.01 FEET; THENCE NORTH 74°56'13" EAST 14.21 FEET; THENCE NORTH 53°08'45" EAST 4.62 FEET; THENCE NORTH 9°56'25" WEST 13.99 FEET; THENCE NORTH 19°10'19" EAST 14.43 FEET; THENCE NORTH 42°16'53" EAST 16.68 FEET; THENCE NORTH 66°21'01" EAST 16.21 FEET; THENCE NORTH 40°52'55" EAST 69.82 FEET; THENCE NORTH 53°44'17" EAST 6.03 FEET; THENCE NORTH 36°56'53" EAST 77.84 FEET; THENCE NORTH 47°21'57" EAST 335.23 FEET; THENCE NORTH 71°58'01" EAST 8.92 FEET; THENCE NORTH 39°07'37" EAST 43.76 FEET; THENCE NORTH 52°26'00" EAST 20.39 FEET; THENCE SOUTH 85°45'21" EAST 8.49 FEET; THENCE SOUTH 71°23'39" EAST 8.87 FEET; THENCE NORTH 43°42'54" EAST 31.57 FEET; THENCE NORTH 44°47'29" EAST 17.42 FEET; THENCE NORTH 42°44'48" EAST 8.15 FEET; THENCE NORTH 57°25'38" EAST 34.64 FEET; THENCE NORTH 34°27'03" EAST 14.08 FEET; THENCE NORTH 52°52'36" EAST 21.61 FEET; THENCE NORTH 77°45'57" EAST 12.78 FEET; THENCE NORTH 36°18'33" EAST 8.05 FEET; THENCE NORTH 18°54'43" EAST 11.44 FEET; THENCE

NORTH 38°25'06" EAST 43.20 FEET; THENCE NORTH 55°22'16" EAST 24.89 FEET; THENCE NORTH 67°07'19" EAST 11.03 FEET; THENCE NORTH 51°15'46" EAST 29.41 FEET; THENCE NORTH 32°40'26" EAST 10.55 FEET; THENCE NORTH 49°40'42" EAST 37.77 FEET; THENCE NORTH 35°46'40" EAST 20.16 FEET; THENCE NORTH 9°58'30" WEST 32.88 FEET; THENCE NORTH 33°49'31" EAST 30.54 FEET; THENCE NORTH 82°14'49" EAST 7.95 FEET; THENCE NORTH 33°42'23" EAST 14.25 FEET; THENCE NORTH 64°30'10" EAST 19.18 FEET; THENCE NORTH 41°50'14" EAST 21.95 FEET; THENCE NORTH 53°23'36" EAST 37.05 FEET; THENCE NORTH 36°18'34" EAST 13.95 FEET; THENCE NORTH 48°01'32" EAST 56.11 FEET; THENCE NORTH 36°28'52" EAST 14.40 FEET; THENCE NORTH 53°40'39" EAST 18.07 FEET; THENCE NORTH 42°55'30" EAST 30.62 FEET; THENCE NORTH 48°28'55" EAST 20.09 FEET; THENCE NORTH 42°17'34" EAST 10.48 FEET; THENCE NORTH 54°13'51" EAST 18.06 FEET; THENCE NORTH 25°38'42" EAST 9.38 FEET; THENCE NORTH 44°49'33" EAST 33.54 FEET; THENCE NORTH 45°36'54" EAST 19.55 FEET; THENCE NORTH 45°35'02" EAST 36.23 FEET; THENCE NORTH 47°37'24" EAST 34.77 FEET; THENCE NORTH 39°23'35" EAST 21.01 FEET; THENCE NORTH 58°05'41" EAST 9.60 FEET; THENCE NORTH 41°38'15" EAST 22.77 FEET; THENCE NORTH 70°26'20" EAST 24.06 FEET; THENCE NORTH 27°33'17" EAST 8.43 FEET; THENCE SOUTH 44°56'51" EAST 2.73 FEET; THENCE NORTH 48°50'55" EAST 8.43 FEET; THENCE NORTH 44°47'27" EAST 12.07 FEET; THENCE NORTH 32°27'07" EAST 5.29 FEET; THENCE NORTH 40°58'16" WEST 3.31 FEET; THENCE NORTH 46°00'25" EAST 9.33 FEET; THENCE NORTH 34°15'24" EAST 9.56 FEET; THENCE NORTH 40°16'44" EAST 16.60 FEET; THENCE NORTH 43°59'49" EAST 6.66 FEET; THENCE NORTH 38°31'41" EAST 14.33 FEET; THENCE NORTH 45°48'04" EAST 59.81 FEET; THENCE NORTH 53°30'26" EAST 30.41 FEET; THENCE NORTH 41°57'57" EAST 11.02 FEET; THENCE NORTH 57°55'45" EAST 12.42 FEET; THENCE NORTH 37°20'03" EAST 33.56 FEET; THENCE NORTH 53°02'30" EAST 20.38 FEET; THENCE NORTH 54°25'24" EAST 9.95 FEET; THENCE NORTH 32°51'49" EAST 9.07 FEET; THENCE NORTH 79°41'52" EAST 4.30 FEET; THENCE NORTH 39°24'23" EAST 44.62 FEET; THENCE NORTH 56°10'24" EAST 37.31 FEET; THENCE NORTH 47°11'45" EAST 30.23 FEET; THENCE NORTH 42°04'23" EAST 32.69 FEET; THENCE NORTH 55°29'24" EAST 24.51 FEET; THENCE NORTH 48°38'05" EAST 35.23 FEET; THENCE NORTH 42°08'03" EAST 25.96 FEET; THENCE NORTH 41°21'50" EAST 16.28 FEET; THENCE NORTH 50°44'41" EAST 71.89 FEET; THENCE NORTH 42°22'22" EAST 28.42 FEET; THENCE NORTH 36°57'06" EAST 31.19 FEET; THENCE NORTH 1°31'35" WEST 21.33 FEET; THENCE NORTH 35°25'57" EAST 26.19 FEET; THENCE NORTH 40°57'21" EAST 25.90 FEET; THENCE NORTH 52°20'58" EAST 27.67 FEET; THENCE NORTH 72°06'16" EAST 26.61 FEET; THENCE NORTH 66°28'58" EAST 30.25 FEET; THENCE NORTH 58°16'00" EAST 28.21 FEET TO A POINT ON THE NORTHWESTERLY LINE OF CHANNEL STREET, LAST SAID POINT BEING ON SAID MISSION BAY PROJECT BOUNDARY; THENCE ALONG SAID MISSION BAY PROJECT BOUNDARY THE FOLLOWING COURSES AND DISTANCES: THENCE NORTH 46°18'07" EAST 138.75 FEET TO THE NORTHEASTERLY LINE OF FOURTH STREET; THENCE ALONG SAID NORTHEASTERLY LINE OF FOURTH STREET NORTH 43°41'53" WEST 240.00 FEET TO THE SOUTHEASTERLY LINE

OF BERRY STREET; THENCE ALONG SAID SOUTHEASTERLY LINE OF BERRY STREET NORTH 46°18'07" EAST 825.95 FEET TO THE SOUTHWESTERLY LINE OF THIRD STREET; THENCE ALONG SAID SOUTHWESTERLY LINE OF THIRD STREET NORTH 43°41'53" WEST 392.50 FEET; THENCE LEAVING SAID SOUTHWESTERLY LINE OF THIRD STREET NORTH 46°18'07" EAST 82.50 FEET TO THE NORTHEASTERLY LINE OF THIRD STREET; THENCE ALONG SAID NORTHEASTERLY LINE OF THIRD STREET NORTH 43°41'53" WEST 357.50 FEET TO THE NORTHWESTERLY LINE OF TOWNSEND STREET; THENCE ALONG SAID NORTHWESTERLY LINE OF TOWNSEND STREET SOUTH 46°18'07" WEST 990.95 FEET TO THE SOUTHWESTERLY LINE OF FOURTH STREET; THENCE ALONG SAID SOUTHWESTELRY LINE OF FOURTH STREET SOUTH 43°41'53" EAST 357.50 FEET TO THE NORTHWESTERLY LINE OF KING STREET; THENCE ALONG SAID NORTHWESTERLY LINE OF KING STREET SOUTH 46°18'07" WEST 972.85 FEET; THENCE LEAVING SAID NORTHWESTERLY LINE OF KING STREET SOUTH 51°53'27" WEST 275.69 FEET; THENCE SOUTH 46°18'07" WEST 63.42 FEET; THENCE SOUTHWESTERLY ALONG AN ARC OF A CURVE TO THE RIGHT, TANGENT TO THE PRECEDING COURSE WITH A RADIUS OF 672.00 FEET THROUGH A CENTRAL ANGLE OF 21°46'49" AN ARC DISTANCE OF 255.45 FEET; THENCE TANGENT TO THE PRECEDING CURVE SOUTH 24°31'18" WEST 186.53 FEET TO THE NORTHEASTERLY LINE OF SIXTH STREET; THENCE ALONG SAID NORTHEASTERLY LINE OF SIXTH STREET NORTH 43°41'53" WEST 90.33 FEET; THENCE LEAVING SAID NORTHEASTERLY LINE OF SIXTH STREET SOUTH 46°18'07" WEST 82.50 FEET TO THE SOUTHWESTERLY LINE OF SIXTH STREET; THENCE ALONG SAID SOUTHWESTERLY LINE OF SIXTH STREET NORTH 43°41'53" WEST 275.00 FEET TO THE SOUTHEASTERLY LINE OF TOWNSEND STREET; THENCE ALONG SAID SOUTHEASTERLY LINE OF TOWNSEND STREET NORTH 46°18'07" EAST 82.50 FEET; THENCE LEAVING SAID SOUTHEASTERLY LINE OF TOWNSEND STREET NORTH 43°41'53" WEST 82.50 FEET TO THE NORTHWESTERLY LINE OF TOWNSEDND STREET; THENCE ALONG SAID NORTHWESTERLY LINE OF TOWNSEND STREET SOUTH 46°18'07" WEST 990.06 FEET TO THE SOUTHWESTERLY LINE OF SEVENTH STREET; THENCE ALONG SAID SOUTHWESTERLY LINE OF SEVENTH STREET SOUTH 43°41'53" EAST 1,190.00 FEET TO THE TRUE POINT OF BEGINNING.

CONTAINING 13,186,836 SQUARE FEET, MORE OR LESS.

THE BEARINGS USED IN THE ABOVE DESCRIPTION ARE ON THE CALIFORNIA COORDINATE SYSTEM OF 1927, ZONE 3. MULTIPLY THE ABOVE DISTANCES BY 0.999928 TO OBTAIN GRID DISTANCES.

EXCEPTING THEREFROM THE FOLLOWING DESCRIBED PARCELS:

PARCEL ONE

COMMENCING AT THE INTERSECTION OF THE SOUTHERLY LINE OF SIXTEENTH STREET (90.00 FEET WIDE) WITH THE EASTERLY LINE OF THIRD STREET (100.00 FEET WIDE) AND CONTINUING EASTERLY ALONG THAT SOUTHERLY LINE OF SIXTEENTH STREET NORTH 86°49'04" EAST 260.00 FEET TO A POINT ON THE EASTERLY LINE OF ILLINOIS STREET (80.00 FEET WIDE), THAT POINT BEING THE NORTHWESTERLY CORNER OF PARCEL ONE AS DESCRIBED IN THE DEED TO ESPRIT DE CORPS, A CALIFORNIA CORPORATION, RECORDED ON JULY 12, 1988, ON REEL E634 AT IMAGE 1334, DOCUMENT NO. E203992, IN THE OFFICE OF THE RECORDER OF THE CITY AND COUNTY OF SAN FRANCISCO, THAT POINT ALSO BEING THE TRUE POINT OF BEGINNING OF THIS DESCRIPTION; THENCE ALONG THE NORTHERLY LINE OF THAT PARCEL ONE NORTH 86°49'04" EAST 335.00 FEET; THENCE ALONG THE EASTERLY LINE OF THAT PARCEL ONE SOUTH 14°29'32" EAST 107.08 FEET; THENCE SOUTH 3°10'56" EAST 232.00 FEET; THENCE SOUTH 26°50'57" WEST 72.77 FEET TO THE MOST EASTERLY CORNER OF PARCEL TWO AS DESCRIBED IN SAID DEED; THENCE ALONG THE EASTERLY LINE OF THAT PARCEL TWO SOUTH 26°50'57" WEST 92.41 FEET; THENCE ALONG THE SOUTHERLY LINE OF THAT PARCEL TWO SOUTH 86°49'04" WEST 273.33 FEET TO THE EASTERLY LINE OF ILLINOIS STREET; THENCE ALONG THE WESTERLY LINE OF THAT PARCEL TWO NORTH 3°10'56" WEST 80.00 FEET TO THE SOUTHWESTERLY CORNER OF THAT PARCEL ONE; THENCE ALONG THE WESTERLY LINE OF THAT PARCEL ONE NORTH 3°10'56" WEST 400.00 FEET TO THE TRUE POINT OF BEGINNING, AND CONTAINS 3.762 ACRES OF LAND, MORE OR LESS.

PARCEL TWO

BEGINNING AT THE INTERSECTION OF THE NORTHERLY LINE OF MARIPOSA STREET (66.00 FEET WIDE) WITH THE WESTERLY LINE OF THIRD STREET (100.00 FEET WIDE); THENCE ALONG SAID WESTERLY LINE OF THIRD STREET NORTH 3°10'56" WEST 531.47 FEET; THENCE LEAVING SAID WESTERLY LINE SOUTH 86°51'05" WEST 100.00 FEET; THENCE SOUTH 3°10'56" EAST 98.49 FEET; THENCE SOUTH 86°49'04" WEST 280.00 FEET THENCE SOUTH 3°10'56" EAST 433.04 FEET TO THE NORTHERLY LINE OF MARIPOSA STREET; THENCE ALONG SAID NORTHERLY LINE NORTH 86°49'04" EAST 380.00 FEET TO THE TRUE POINT OF BEGINNING, AND CONTAINS 4.004 ACRES OF LAND, MORE OR LESS.

PARCEL THREE

COMMENCING AT A POINT ON THE SOUTHEASTERLY LINE OF EXISTING KING STREET, DISTANT THEREON N. 46°17'30" E., 138.50 FEET FROM THE INTERSECTION OF SAID SOUTHEASTERLY LINE WITH THE NORTHEASTERLY LINE OF EXISTING

SIXTH STREET; THENCE ALONG SAID SOUTHEASTERLY LINE OF EXISTING KING STREET N. 46°17'30" E., 120.29 FEET; THENCE FROM A TANGENT THAT BEARS S. 32°12'52" W., ALONG A CURVE TO THE LEFT WITH A RADIUS OF 599.00 FEET, THROUGH AN ANGLE OF 28°24'02", AN ARC LENGTH OF 296.91 FEET TO SAID NORTHEASTERLY LINE OF EXISTING SIXTH STREET; THENCE ALONG LAST SAID LINE N. 43°41'53" W., 52.89 FEET; THENCE FROM A TANGENT THAT BEARS N. 70°01'07" E., ALONG A CURVE TO THE RIGHT WITH A RADIUS OF 639.00 FEET, THROUGH AN ANGLE OF 14°40'30", AN ARC LENGTH OF 163.67 FEET TO THE POINT OF COMMENCEMENT.

CONTAINING 9,009 SQUARE FEET, MORE OR LESS.

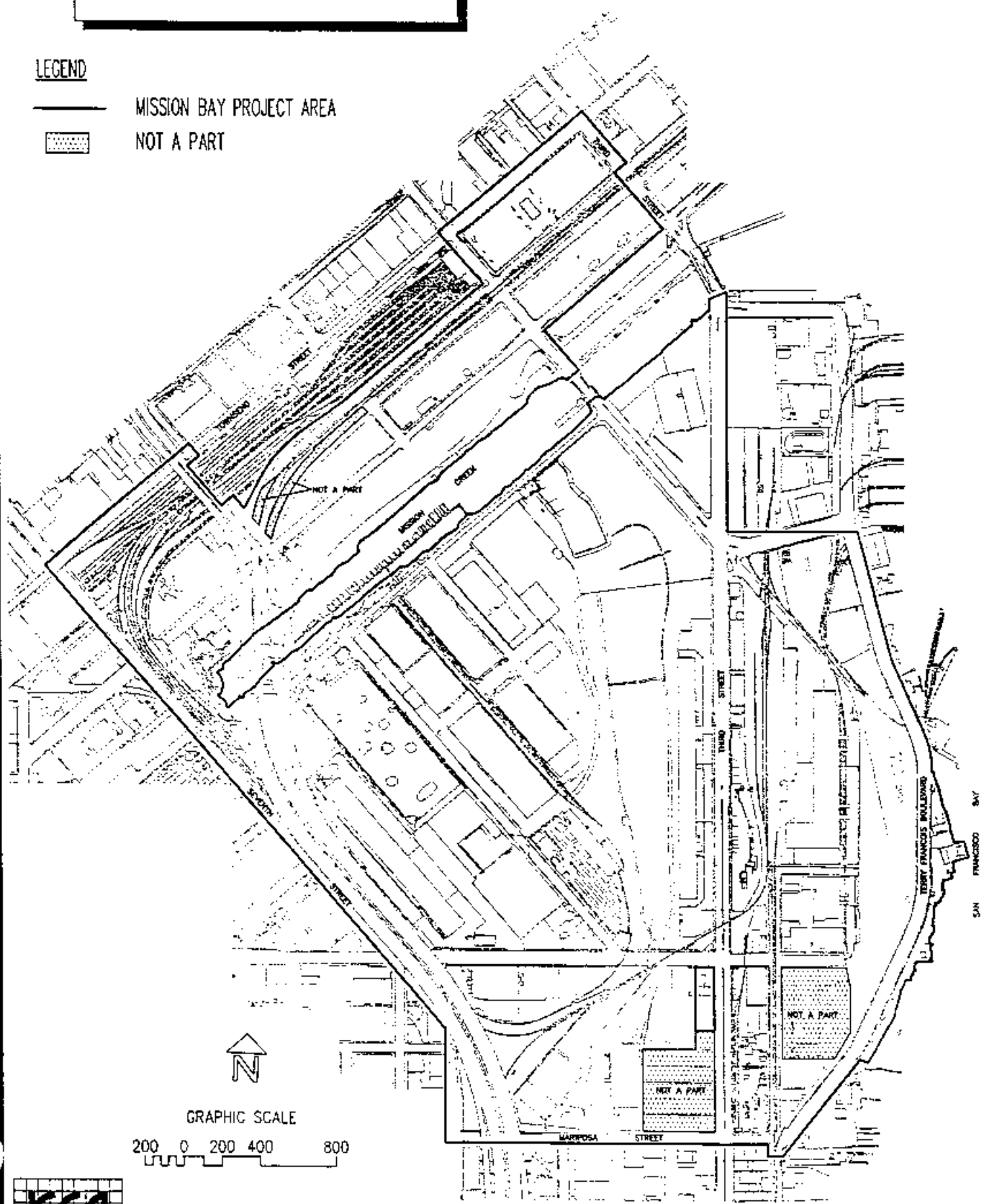
PARCEL FOUR

COMMENCING AT A POINT ON THE SOUTHWESTERLY LINE OF EXISTING FIFTH STREET, DISTANT THEREON S. 43°42'30" E., 16.19 FEET FROM THE INTERSECTION OF SAID SOUTHWESTERLY LINE OF EXISTING FIFTH STREET WITH THE SOUTHEASTERLY LINE OF EXISTING KING STREET; THENCE ALONG SAID SOUTHWESTERLY LINE OF EXISTING FIFTH STREET S. 43°42'30" E., 41.00 FEET; THENCE S. 46°17'30" W., 57.10 FEET; THENCE S. 44°27'32" W., 250.13 FEET; THENCE FROM A TANGENT THAT BEARS S. 46°17'30" W., ALONG A CURVE TO THE LEFT WITH A RADIUS OF 876.00 FEET, THROUGH AN ANGLE OF 36°16'32", AN ARC LENGTH OF 554.62 FEET TO THE NORTHEASTERLY LINE OF EXISTING SIXTH STREET; THENCE ALONG LAST SAID LINE N. 43°41'53" W., 49.05 FEET; THENCE FROM A TANGENT THAT BEARS N. 11°49'56" E., ALONG A CURVE TO THE RIGHT WITH A RADIUS OF 916.00 FEET, THROUGH AN ANGLE OF 32°19'37", AN ARC LENGTH OF 516.82 FEET; THENCE N. 45°50'27" W., 9.64 FEET; THENCE N. 46°17'30" E., 341.54 FEET TO THE POINT OF COMMENCEMENT.

CONTAINING 36,015 SQUARE FEET, MORE OR LESS.

Figure 1

MISSION BAY PROJECT AREA



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SHEET 1 OF 1

5/23/99

APPENDIX I:

SWPPP Development Process

TABLE I-1
Proposed Outline for the SWPPP

Title Page

Certification Page

Amendments

Introduction

Source Identification

A. Topography Map

B. Site Map

1. Areas of Soil Disturbance
2. Surface Water Locations
3. Areas of Existing Vegetation
4. Location of Control Practices Used During Construction
5. Drainage Patterns and Slopes Anticipated After Major Grading Activities are Completed
6. Areas Used to Store Soils and Wastes
    a) Soil Storage
    b) Waste Storage
    c) Materials Storage
7. Vehicle and Equipment Storage and Service Areas
8. Existing and Planned Paved Areas and Buildings
9. Location of Post-Construction Control Practices

Narrative Descriptions

A. Existing Site Conditions

B. Site Estimates and Description of On Site Soil

C. Pollutants Likely to be Present in Storm Water Discharges

D. Toxic Materials

E. Erosion and Sediment Control Practices

TABLE I-1

Proposed Outline for the SWPPP *(Continued)*

1. General Practices
2. Soil Stabilization
3. Practices to Reduce Tracking Sediment Onto Public and Private Roads
4. Wind Erosion
    a) Dust control
    b) Sweeping
5. Practices to Minimize Contact with Storm Water
    a) Construction Vehicles and Equipment
        i. Maintenance
        ii. Fueling
        iii. Washing
    b) Materials
6. Construction Material Loading, Unloading, and Access Areas
7. Waste Management and Disposal
    a) Concrete Wash-Out
    b) Concrete / Asphalt Debris
    c) Miscellaneous Waste
8. Preconstruction Control Practices

F. Non-Storm Water Management

G. Maintenance, Inspection, and Repair of Structural Controls

H. Spill Prevention Control
    1. Minor Spills
    2. Major Spills

TABLE I-1

Proposed Outline for the SWPPP *(Continued)*

I. Post-Construction Storm Water Management

J. Personnel Training

K. List of Contractors / Subcontractors

L. Other Plans

M. Monitoring

1. General Plan Summary
2. Site Inspections
3. Compliance Certification
4. Noncompliance Reporting
5. Records

CHART I-1
SWPPP DEVELOPMENT PROCESS - CONCEPTUAL SWPPP FOR RMP AREA

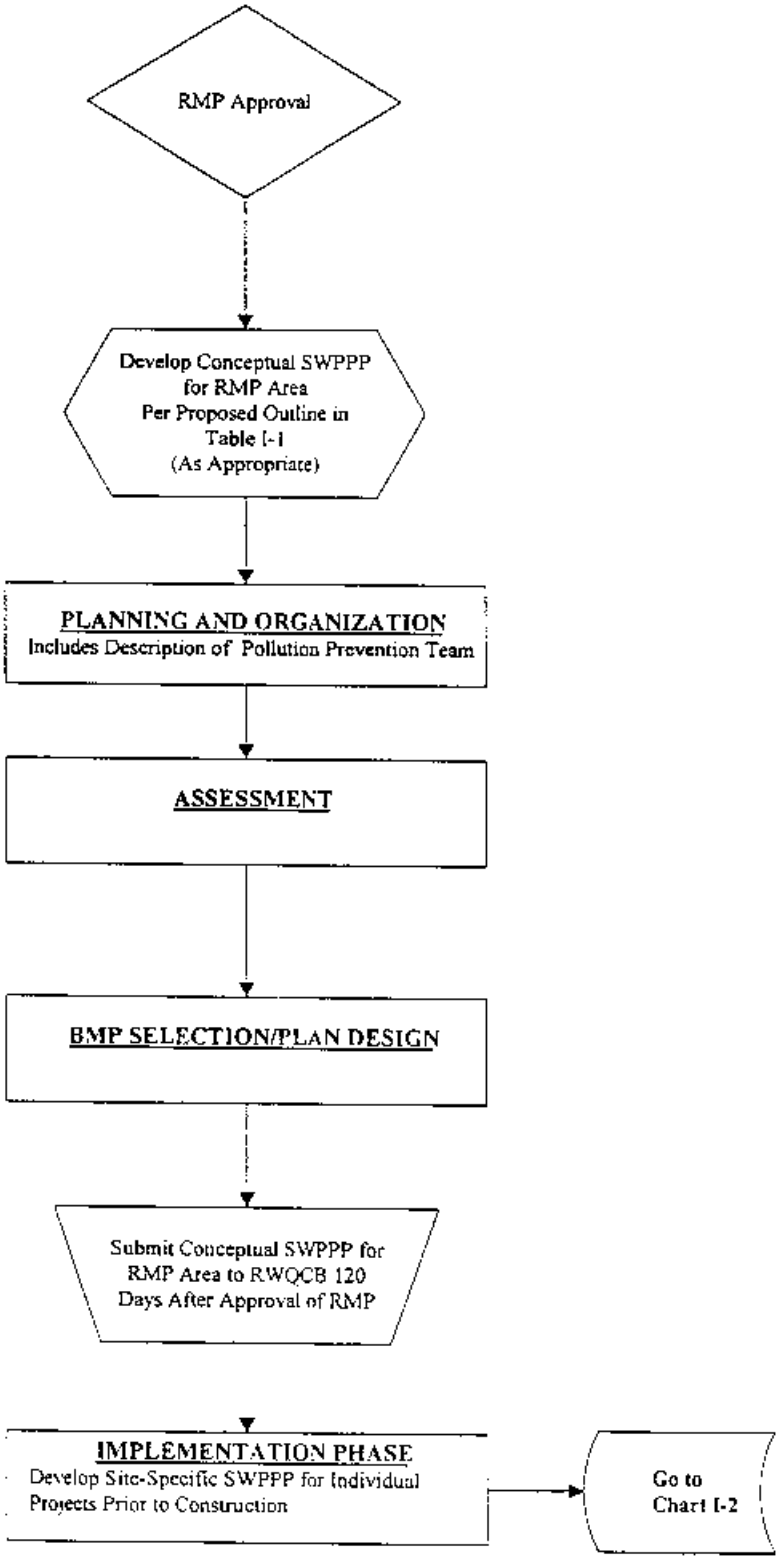
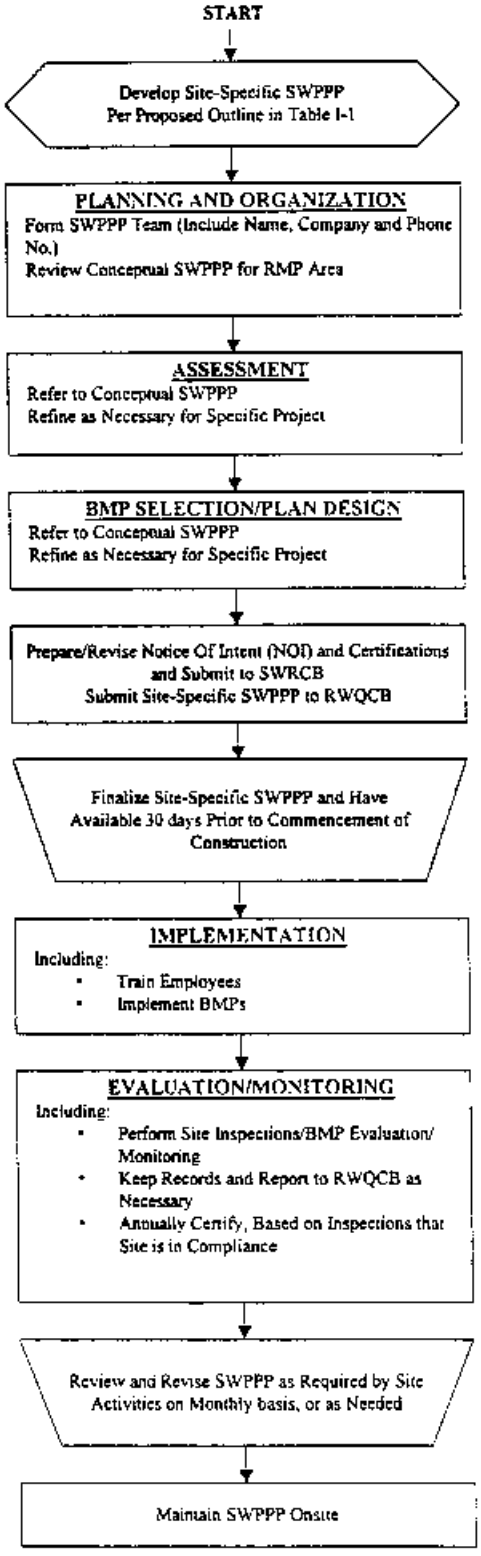
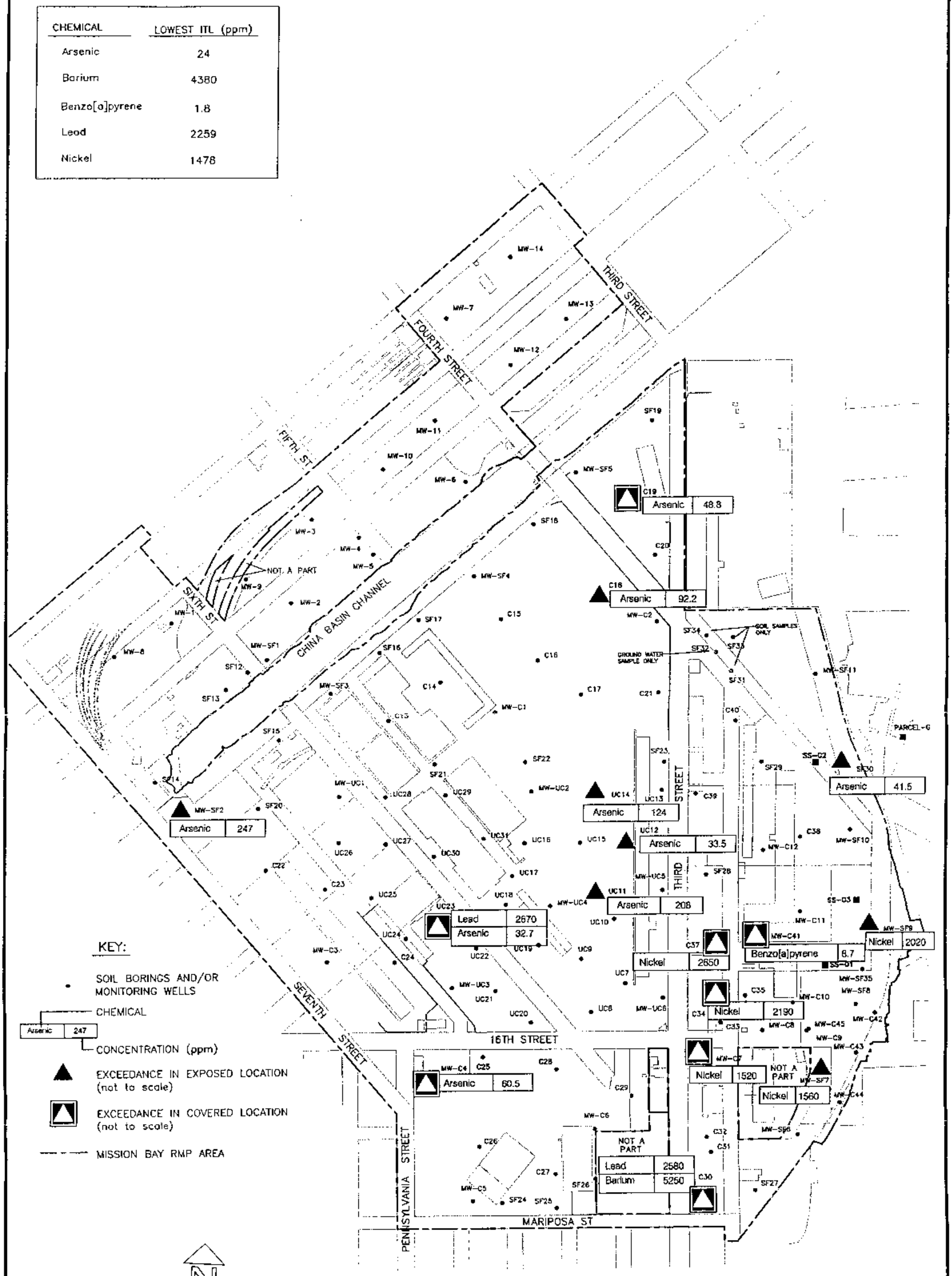


CHART I-2
SWPPP DEVELOPMENT PROCESS - SITE SPECIFIC SWPPP



CHEMICAL	LOWEST ITL (ppm)
Arsenic	24
Barium	4380
Benzo[a]pyrene	1.8
Leod	2259
Nickel	1478



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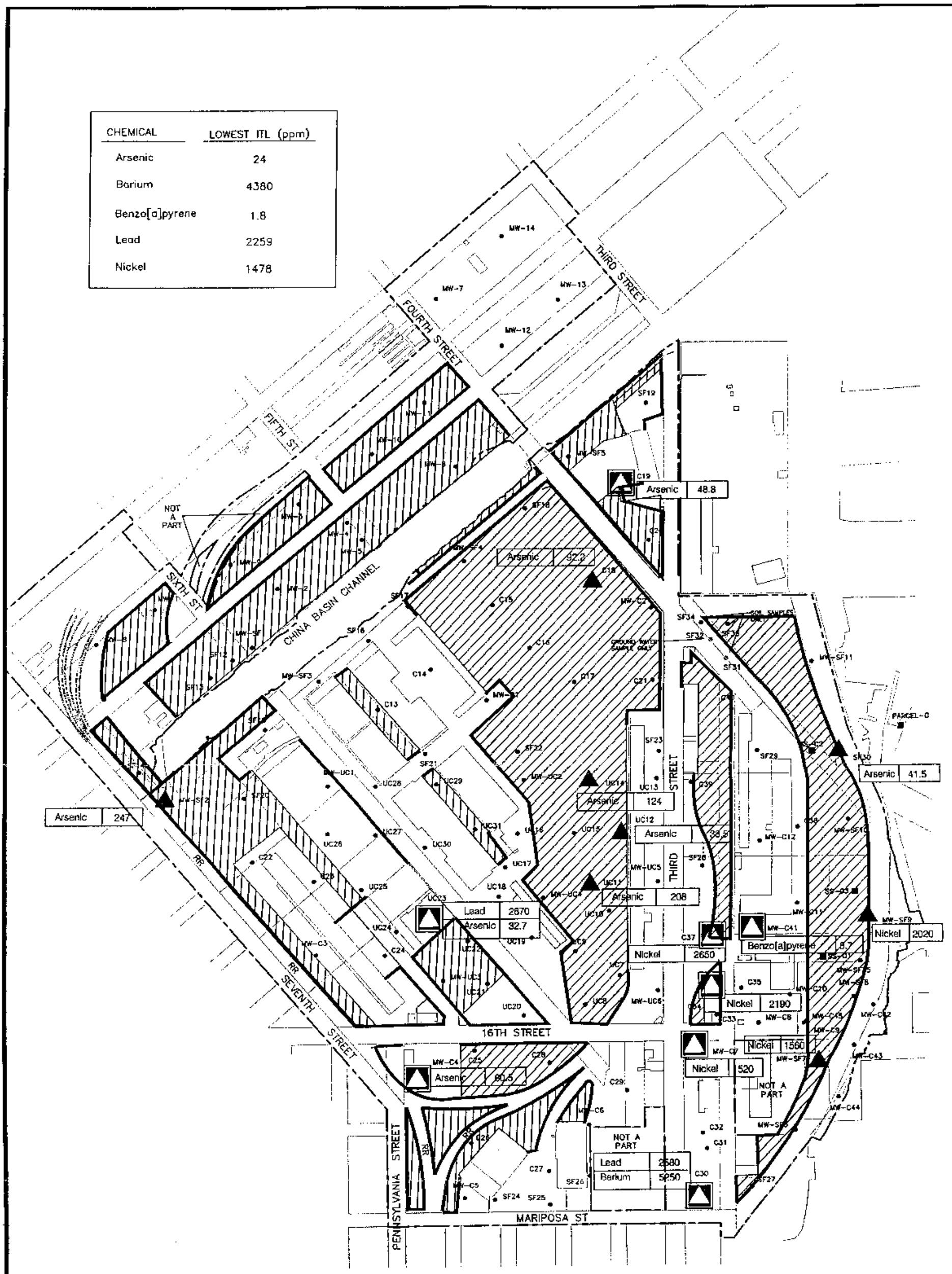
Exceedances of Non-Intrusive Population ITLs in Shallow Soil
Mission Bay RMP Area
San Francisco, California

Figure B-1

Drafter: RS | Date: 5/23/99 | Contract Number: 03-6381S | Approved: | Revised:

CHEMICAL	LOWEST ITL (ppm)
Arsenic	24
Barium	4380
Benzo[a]pyrene	1.8
Lead	2259
Nickel	1478



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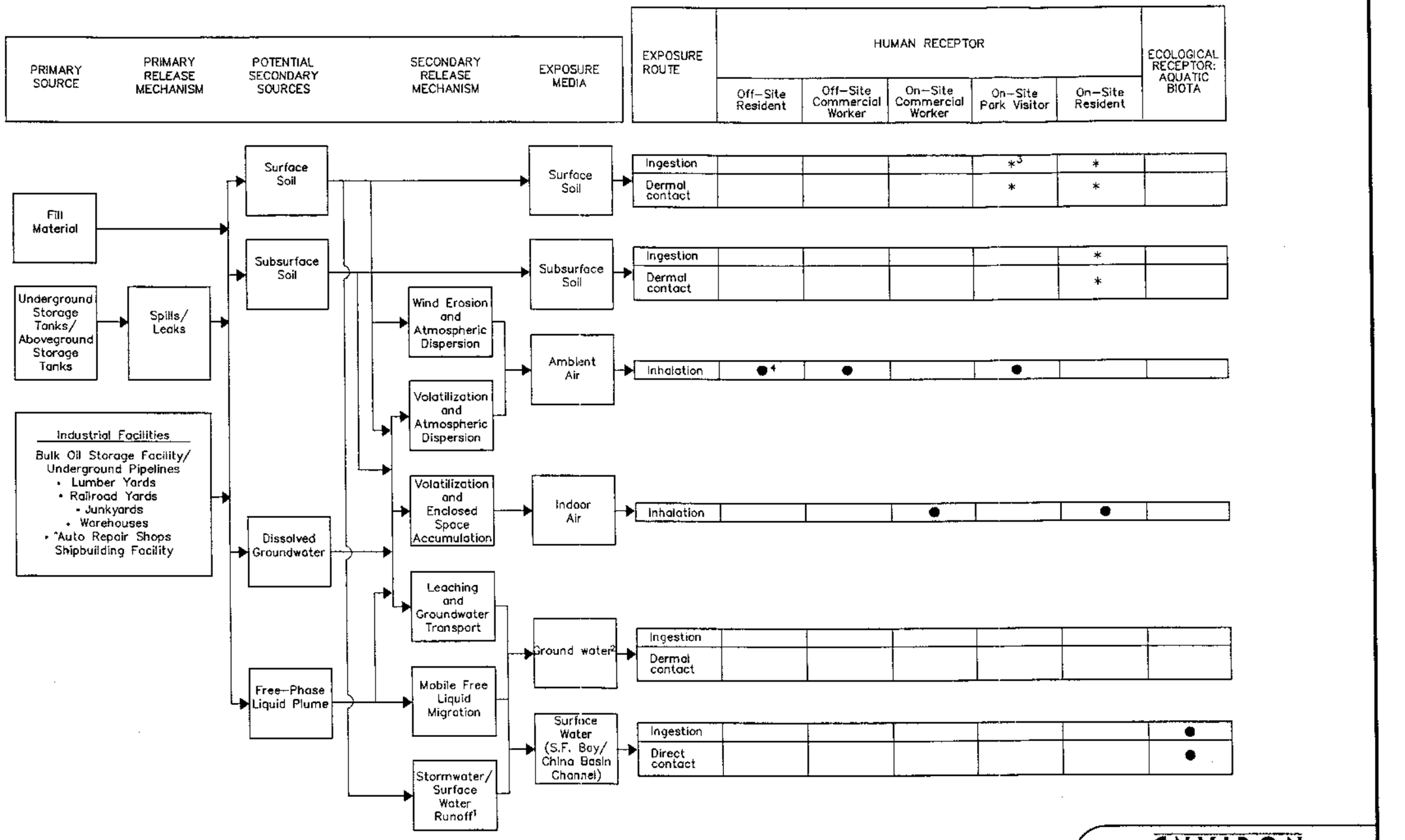
Approximate Location of Fencing
Mission Bay RMP Area
San Francisco, California

Figure
B-2

Drafter: RS | Date: 5/23/99 | Contract Number: 03-6381S | Approved: | Revised:



1. Offsite runoff during construction will be controlled as discussed in Section 4.3.3. Following construction, the site will be covered by parking lots, parking structures, streets, building foundations, landscaping and parks (covered fill), which will prevent runoff from contacting any chemicals present in soils. As such, surface water runoff does not represent a mechanism through which chemicals will be released.

2. Ground water beneath the site is not and will not be used as a source of drinking water as it is not suitable for such uses due to high Total Dissolved Solids (TDS) and limited yield. Thus, residents and commercial workers will not have any direct contact (i.e., through either ingestion or dermal contact) with ground water. Dermal contact with ground water that could potentially occur during construction or other subsurface digging activities will be controlled through implementation of management measures described in Section 4.3.8.

3. Park and landscaped areas will be covered by between 1.0 and 1.5 feet of Fill. The remainder of the South of Channel Area will be paved. Further, the implementation of the long-term management measures described in Section 5.3 will prevent uncontrolled subsurface digging activities, precluding all pathways in which direct contact with constituents in the soil could occur. Therefore, these pathways are considered incomplete and are not included in the evaluation.

4. ● Potentially complete exposure pathways for further consideration.

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Conceptual Site Model for Risk Evaluation: After Development is Complete
Mission Bay Project
San Francisco, California

DATE:	CONTRACT NUMBER:	FIGURE
5/10/99	03-6381S	G-1
DRAFTER: RS	APPROVED:	REVISED:

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