

CITY OF RICHMOND
Pt. Molate Community Advisory Committee

Monday, June 18, 2012 6:30 PM
Multi-Purpose Room, 440 Civic Center Plaza

AGENDA

Members:

Bruce Beyaert
Vice-Chair

Otheree Christian

Stephen M. Clark

Joan Garrett
Chair

Dorothy Gilbert

Toni Hanna

Jim Hite

Jeanne Kortz

Eduardo Martinez

Joseph Puleo

Steven Rosing

Rod Satre

Charles T. Smith

Nina G. Smith

Pam Stello

Mary H. Sundance

Eileen Whitty

- 1. Call to Order** (1 min.)
- 2. Roll Call** (1 min.)
- 3. Welcome and Meeting Procedures** (1 min.)

Individuals who would like to address the committee on matters not listed on the agenda may do so under Open Forum. Please file a speaker's card with the note taker prior to the commencement of Open Forum. Individuals who want to comment on an individual item, please file a speaker's card before the item is called. The standard amount of time for each speaker will be three minutes.

At 8:30 PM, any items remaining on the agenda that require immediate attention may be taken out of turn, as necessary. All other items will be continued to another or the following committee meeting in order to make fair and attentive decisions. This meeting adjourns at 9:00 PM. The meeting may be extended by a majority vote of the committee.

- 4. Agenda Review and Adoption** (2 min.)
The order in which items will be heard may be adjusted at this time. In addition, items may be removed from or placed on the Consent Calendar at this time.

- 5. Announcements through the Chair** (5 min.)
 - a. NOAA grant award to Baykeeper for marine debris cleanup: San Pablo peninsula
 - b. Update, CalTrans Scofield Ave./SRR bridge deck replacement project

- 6. Open Forum** (3 minutes per person limit)

- 7. Presentations, Discussion & Action Items** (80 min.)
 - a. Presentation of draft of Pt. Molate Beach Rehabilitation proposal for submission for awarding under the Cosco Busan Settlement fund Richmond specific grant. J. Garrett. (10 min) Discussion (5 min.) Quick summary review of other proposals being submitted for the Cosco Busan Settlement fund – Richmond specific grant. Bruce Bayaert (5 min.)
 - b. Presentation by Kirk Shellum of Nelson Environmental Remediation on mobile thermal desorption technology as an alternative for soil remediation at IR Site 3. (30 min.) Q&A (15 min.)
 - c. Presentation of Synopsis of Proposed Soil and Groundwater Management Plan for Point Molate. Bill Carson of Terraphase (10 min.) Q&A (5 min.)

- 8. Staff Reports** (5 min.)
Following discussion of each item, the Committee may vote to make recommendations to staff or to the City Council.
 - a. Committee Log for PMCAC inquiries to staff, contractors – (5 min.)

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9. Consent Calendar (2 min.)

Items on the consent calendar are considered matters requiring little or no discussion and will be acted upon in one motion

- a. APPROVE – PMCAC meeting minutes of May 21, 2012

10. Future Agenda Items (5 min.)

11. City Council Liaison Reports (10 min.)

- a. Report by Councilmember/Mayor McLaughlin regarding recent issues in Richmond relevant to the Advisory Committee. (5 min.)
- b. PMCAC appointment status – TBD (5 min.)

12. Chair and Sub-Committee Reports (23 min.)

Following discussion of each item, the Committee may vote to make recommendations to staff or to the City Council.

- a. Clean-Up and Restoration (15 min.)
- b. Community Outreach (5 min.)
- c. Chair – State of insurance policy endorsement, results of Legal Committee elections (3 min.)

13. Adjournment

Scheduled Meetings:

Committee Meeting, July 16, 2012 6:30pm

This meeting is held in a building that is accessible to people with disabilities. Persons with disabilities, who require auxiliary aids of services using city facilities, services or programs or would like information of the city's compliance with the American Disabilities Act (ADA) of 1990, contact: Rochelle Monk, City of Richmond (510) 620-6511 (voice).

Pt. Molate Community Advisory Committee Staff Liaison Contact: Craig K. Murray (510) 307-8140, craig_murray@ci.richmond.ca.us. Agenda and minute information on the PMCAC can be found on the City Clerk's web location: <http://ca-richmond2.civicplus.com/index.aspx?NID=2442>

PMCAC Repository Information is available at: <https://docs.google.com/open?id=0B9WXrZeb-72MzVkZWQ1ZDQtNWlwNC00ZjE4LTgxYjctOTQyMDk4Y2FjNDYw>

Update, NOAA grant award for Marine Debris Cleanup to Baykeeper for Pt. San Pablo peninsula

Emails from Ian Wren

June 6, 2012

I just wanted to let you know that it looks like we've received tentative approval for funding from NOAA to remove pilings and other marine debris from the shoreline near Point Molate. Nothing has been finalized yet, though NOAA is recommending us for funding of about \$45k, which should allow us to remove approximately 120 tons of material. I just wanted to make sure there have been no changes to the status of the area or any other objections to the project since we first discussed this. Should be an interesting project and NOAA is interested in possibly exploring additional removal of the in-water piers, which are the ultimate source of much of the materials on the shore.

Regards,

Ian Wren

June 6, 2012

Although this grant would only cover shoreline efforts, as you know there's still plenty to clean up there. Thanks for your support and I look forward to working on this. Ultimately, we're going to need some healthy volunteers to help with the heavy lifting so maybe I could speak with you guys about identifying good volunteer partners to get a reliable and capable group together - maybe athletes from local high schools or something along those lines.

On another note, I thought I read something about the possible re-opening of the Point Molate park. Is that still in the works?

Regards,

Ian Wren

June 6, 2012

Our application included funds for professional operation of a Bobcat or similar piece of equipment to address the large debris you're referring to but additional help would be helpful and may allow the funds to be stretched further. Most of the costs are associated with hauling and disposal, which can add up pretty quickly. Also, I'd like to expand the effort to include not just the beach area but as far up the point as is feasible.

Regards,

Ian Wren

June 6, 2012

I suppose the extent to which we work is largely up to your discretion, though my goal would be to remove as much large debris as possible with the funds available. I've attached our proposal as well as a map of the general project area - which shows areas extending from the Point Molate beach up to an area near the intersection of Western Drive and Richmond Lane. Of course not all these areas are accessible by land but there are a few good staging areas along Western Drive. I'm not sure which areas you're considering but if there is a way to work together that would be great.

Regards,

Ian Wren

Staff Scientist

[San Francisco Baykeeper](#)

785 Market St., Suite 850

San Francisco, CA 94103

t: [t: \(415\) 856-0444 x108](tel:(415)856-0444)

m: [m: \(415\) 810-6956](tel:(415)810-6956)

Marine Debris Removal and Sub-Tidal Habitat Conservation Program, Point Molate, San Francisco Bay, Contra Costa County, CA

Funding opportunity title: FY2012 Community-based Marine Debris Removal

Funding opportunity number: NOAA-NMFS-HCPO-2012-2003095

Applicant: San Francisco Baykeeper, 785 Market Street, San Francisco, CA 94103

DUNS No: 84-801-5660

Program Director: Ian Wren (San Francisco Baykeeper), (415) 856-0444 x. 108, ian@baykeeper.org

Federal funds requested: \$45,500 (\$42,000 of which contributes towards costs, including hauling and disposal, professional disposal services, safety and other equipment)

Expected non-federal match: \$45,333 (in the form of in-kind contributions: staff and volunteer time)

Total project cost: \$90,833

Project period: July 1, 2012 - December 1, 2012

On-the-ground activity start date: September 2012

NOAA Trust Resources to benefit from the project: Seagrass beds and other coastal habitat; commercial (e.g. Pacific herring) and recreational (e.g. striped bass and salmon) resources; threatened or endangered species (e.g. green sturgeon and Chinook salmon); marine mammals (i.e. harbor seals)

Area to be improved: Approximately 125 metric tons of creosote pilings, large tires, fishing tackle and other debris shall be removed, representing about 7,500 ft² of debris; resulting in the reduction of impacts to approximately 3-5 acres of eelgrass (*Zostera marina*) beds and associated subtidal and intertidal habitat.

Permits required: California NDPES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities – San Francisco Bay Regional Water Quality Control Board (contact person: Xavier Fernandez, (510) 622-5685 xafernandez@waterboards.ca.gov). Other consultations would be necessary through NOAA, the Bay Conservation and Development Commission, as well as the State Lands Commission.

Partner and volunteer support: Volunteers would include public participants, drawing from existing volunteers to San Francisco Baykeeper as well as community members to be recruited through partnership with the City of Richmond and other non-profit groups. Project partners include the City of Richmond and Point Molate Community Advisory Committee. Tasks include debris removal, monitoring and assessment.

Letters of support: William A. Lindsay, City Manager, City of Richmond, CA (landowner and partner); Brad McCrea, Regulatory Program Director, San Francisco Bay Conservation and Development Commission (state agency authorized to coordinate and implement public trust uses within San Francisco Bay and the 100-foot shoreline band). Refer to Attachment D.

Project Scope:

This proposed project is comprised of four tasks, serving to remove large marine debris from intertidal zones and enhance subtidal habitat within San Francisco Bay at Point Molate, in Richmond, California. Creosote piles and other large marine debris pose a threat to several NOAA trust resources, including coastal habitat, recreational and commercial fishery resources and seagrass beds. This project shall aim to encourage the replication of marine debris removal efforts around the San Francisco Estuary.

Task 1: Inventory and map existing marine debris along a 2.7 km stretch of San Francisco Bay shoreline at Point Molate, where approximately 800 creosote piles and equivalent debris are scattered along sandy beach, rocky intertidal zones and artificial structures.

Task 2: Remove large marine debris along a 2.7 km stretch of San Francisco Bay known as Point Molate. It is estimated that approximately 400 creosote pilings and other large debris, totaling approximately 125 metric tons and 7,500 to 8,500 square feet of total debris footprint, shall be removed through manual and mechanical means. Where unlikely to pose environmental impact, debris too large to be handled manually shall be removed from sandy and pebble beach through use of a professionally operated skip steer (e.g. Bobcat). Debris shall be relocated to staging areas where piles and other debris shall be stored on tarps prior to loading into 40 yd³ debris boxes. This area offers excellent roadside access and opportunities for debris box storage, parking and staging. Volunteers from the local community and other areas of the region shall be utilized where debris can be safely managed. Removal operations are expected to take place over three to four weeks in September and October 2012, depending on volunteer availability and permitting restrictions.

Task 3: Quarterly monitoring of marine debris deposition shall take place from December 2012 to June 2013 to determine potential re-accumulation of marine debris in this area and gauge restoration success.

Task 4: Outreach and education efforts shall take place throughout the project duration to educate agencies and community groups on the importance of marine debris removal, in order to replicate efforts throughout the San Francisco Estuary.

Proposal Narrative

1) Program Priorities and Description of Need

In 2010, NOAA National Marine Fisheries Service and Restoration Center, in collaboration with various California agencies, published a 50-year conservation plan for submerged areas of San Francisco Bay, titled the *San Francisco Bay Subtidal Habitat Goals Report*. The goal of this report is to provide resource managers, regulatory agencies, environmental groups, researchers, industry, and other interested parties the basic information needed to plan conservation, restoration, research, and protection activities related to subtidal habitat in the San Francisco Bay. This proposed program would implement recommendations of the *San Francisco Bay Subtidal Habitat Goals Report*, as well as objectives of the Marine Debris Research, Prevention and Reduction Act, by implementing a community-based marine debris removal program. Removal of numerous creosote pilings and other large debris from sandy beaches, intertidal areas and artificial structures (i.e. riprap) will result in multiple ecological benefits to NOAA trust resources, including reduction in the toxic effects of creosote and other contaminants; reduced restrictions for flow and sediment removal; reduction in the entrainment of other marine debris within piling complexes on the shore; and the restoration, re-creation and realignment of intertidal mudflats, sand flats, seagrass habitat and macro-algal beds.

To date, marine debris removal efforts along San Francisco Bay have generally been limited to removal of small debris and trash during annual shoreline cleanup events. In comparison, this program would result in the removal of approximately 140 metric tons of creosote-treated pilings, fishing tackle and other large marine debris on a 2.7 km section of the San Francisco Bay shoreline referred to as Point Molate, which is characterized by sandy beach, tidal flats, rocky outcroppings and artificial structures (Attachment A, *Site Photos*). This community-based restoration program would result in several beneficial ecological and socio-economic outcomes, including the conservation of soft-substrate habitat for eelgrass (*Zostera marina*), considered a high valued trust resource in San Francisco Bay. Point Molate is located in the low-income community of Richmond, Contra Costa County, CA, which has struggled to manage the natural and cultural resources at the site (Attachment B, *Proposed Project Area*). Through collaboration with the city and local community groups this program will provide social benefits for the residents of surrounding communities, in addition to long-term ecological improvements.

This program for marine debris removal and community-based stewardship of public trust resources works towards fulfilling several goals and objectives established in the *San Francisco Bay Subtidal Habitat Goals Report*: (1) Where feasible, remove artificial structures from San Francisco Bay that have negative or minimal beneficial habitat functions – *Artificial Structures Restoration Goal 1*; (2) Remove 6,500 tons of creosote pilings from areas of high piling concentration within 5 years - *Artificial Structures*

Restoration Action 1-1-2; (3) Promote and expand efforts to remove intertidal debris from shoreline and wetland areas - Marine Debris Control Action 2-3-1; (4) Increase native eelgrass populations in San Francisco Bay within 8,000 acres of suitable subtidal/intertidal area over a 50-year time frame – Submerged Aquatic Vegetation Restoration Goal 1; (5) Support hands-on involvement and community-based restoration programs that focus on San Francisco Bay intertidal and subtidal habitats - Public Access and Awareness Objective 1-4.

This proposed program builds on efforts conducted in Washington State and elsewhere to remove contaminated creosote pilings from shoreline areas, yet represents the first community-based program of its kind on San Francisco Bay. Point Molate is a section of an area more widely referred to as Point Richmond, which has been identified as a piling hot-spot by the *San Francisco Bay Subtidal Habitat Goals Report*. Aerial photographs and field investigations by Baykeeper, NOAA and the San Francisco Estuary Institute indicate that Point Molate currently maintains one of the highest concentrations of pilings and other large debris along San Francisco Bay. Approximately 700 pilings and other large marine debris are estimated to exist along the 2.7 km length of shoreline proposed for marine debris removal. This stretch of shoreline offers easy access for staging and disposal and a minimal likelihood of ecological disturbance, making it an excellent candidate area for removal efforts (Attachment B, *Potential Staging Areas*).

This is also an area that features high-quality habitat for eelgrass and other submerged aquatic vegetation (SAV). However, eelgrass in this area is found in lower densities than other nearby areas and unexplained die off of this perennial population has been observed in recent years. Mobilization of pilings on the shoreline edge likely results in disturbance of soft substrate and existing eelgrass beds, particularly during high tide events and storm surges. Removal of loose pilings and debris is expected to improve habitat conditions for subtidal vegetation along Point Molate and surrounding areas.

2) Outputs and Outcomes

Outputs

- a) Removal of approximately 125 tons of creosote pilings and other large marine debris from the eastern shores of San Francisco Bay at Point Molate (assuming removal of 400 piles, with average dimension of 1.3 ft. in diameter and 12 ft. long. and 45 lbs. per ft³), consistent with results of piling removal efforts in Puget Sound. Efforts shall result in the direct removal of approximately 7,500 square feet of marine debris and result in indirect habitat improvement of approximately 3-5 acres of subtidal and intertidal habitat.
- b) Utilization of approximately 640 volunteer hours for direct marine debris removal efforts.

- c) Development of a practical protocol for utilizing volunteers and operated equipment, where feasible, to remove large marine debris along ecologically sensitive portions of San Francisco Bay.
- d) Development of education and outreach material directed towards resource agencies, other community/non-profit groups and the scientific community.

Outcomes

- a) Permanent removal of high-priority marine debris from an area with significant seagrass beds and other subtidal habitat considered important populations of resources under NOAA stewardship, including commercial (e.g. Pacific herring), recreational (e.g. striped bass and salmon) and threatened or endangered species (e.g. green sturgeon and Chinook salmon);
- b) Implementation of core elements and actions of the *San Francisco Bay Subtidal Habitat Goals Report*, which was prepared by NOAA and other agencies with an interest in the long term restoration of San Francisco Bay and its public trust resources;
- c) Increased public awareness of marine debris issues in San Francisco Bay;
- d) Increased community involvement in marine debris removal and community-based restoration;
- e) Increased quality of sandy beach, intertidal and subtidal habitats;
- f) Increased understanding of methods and costs associated with marine debris removal along San Francisco Bay;
- g) Increased understanding of whether the Point Molate area serves as an on-going sink of large marine debris;
- h) Increased navigational safety through removal of potentially remobilized debris, and;
- i) Increased safe public access to shoreline areas in an economically disadvantaged community.

Tracking Outputs and Outcomes

Program progress will be tracked through production of two six-month program reports, including methods, data pertaining to the quantity and volume of marine debris removed, and a removal protocol for use in other urban estuaries. This report shall be submitted by January 1, 2013 and at the close of the contract period, July 1, 2013.

Measures of Output

- a) Marine debris shall be inventoried prior to and following removal efforts to establish quantitative measures of output, in terms of volume, weight and type of large debris removed.
- b) During the course of the marine debris removal program and subsequent monitoring efforts, volunteer data shall be recorded, including the number of volunteers, the scope of tasks undertaken, as well as the total number of hours spent.

- c) Following marine debris removal efforts a final report shall be prepared documenting the outputs of the removal efforts and a recommended protocol for subsequent removal efforts shall be developed for use by other community groups and agencies.
- d) Educational material regarding marine debris in San Francisco Bay, efforts to manage the problem, and ways in which the community can assist shall be presented on-line at baykeeper.org and presented to the public. Interaction with this material shall be quantified, based on web analytics and the number of groups and agencies presented to.

Measures of Outcome

- a) Short-term, high-impact community based marine debris removal effort, carried out with the support and approval of the community, regulators and natural resource agencies.
- b) Regulators confirm that removal and restoration efforts are consistent with the *San Francisco Bay Subtidal Habitat Goals Report*.
- c) Project results presented to at least two (2) public agencies and made available on-line; agencies utilize the project to assess progress towards reaching objectives identified in the *San Francisco Bay Subtidal Habitat Goals Report* and adapt management strategies accordingly.
- d) At least three (3) other community-based marine debris removal efforts use or adopt monitoring and removal protocols developed for this program within three (3) years at other locations with high shoreline concentrations of debris, funding permitted;
- e) Post-removal habitat assessment indicates improvement of public trust resources resulting from the removal of large marine debris.
- f) Post-project reporting provides recommendations regarding methods and costs associated with marine debris removal on San Francisco Bay.
- g) Post-removal monitoring indicates large marine debris is not re-accumulating.
- h) Post-removal monitoring and reporting indicates any remaining pilings located on the shore or intertidal zone shall not be re-mobilized, posing a threat to navigational safety.
- i) The City of Richmond encourages shoreline access and recreation in areas subject to marine debris removal, where access is currently prohibited; recreational fishermen shall be interviewed to determine perceived benefits, in terms of access and recreation.

3) Project Tasks

Task 1: Inventory and Map Existing Marine Debris along San Francisco Bay at Point Molate

Prior to marine debris removal, existing large marine debris shall be inventoried from the 2.7 km stretch of shoreline subject to removal efforts. The quantity and location of all creosote pilings, tires and other large debris shall be mapped and entered into a GIS for comparison against post-removal conditions.

Deliverables: maps and database of existing marine debris at Point Molate

Task 2: Remove Large Marine Debris along the shoreline of San Francisco Bay at Point Molate

During project start-up efforts a marine debris removal and monitoring plan shall be prepared for review by NOAA and other interested resource agencies to secure relevant permits and approvals. Based on consultation with the San Francisco Bay Conservation and Development Commission (BCDC) and San Francisco Bay Regional Water Quality Control Board (RWQCB), compliance with the California General Stormwater Construction NPDES permit will be necessary. Given that this project will not disturb subtidal areas this is the only permit requirement for this project. Project Manager for this program, Ian Wren, is a Certified Professional in Stormwater Quality (CPSWQ), qualified to prepare a Stormwater Pollution Prevention Plan (SWPPP) and oversee compliance efforts.

Debris removal efforts shall be conducted, consistent with protocols established in Appendix 6-1 of the *San Francisco Bay Subtidal Habitat Goals Report: Removal of Creosote-Treated Pilings and Structures from San Francisco Bay*, as well as Best Management Practices for Derelict Creosote Piling Removal, prepared by Washington's Department of Natural Resources Puget Sound Initiative. The *Subtidal Habitat Goals Report* established the proposed marine debris removal area as a high-priority site for removal of pilings and other debris from the intertidal zone. Removal shall be conducted manually, where possible, to remove small to medium-sized piling debris, fishing tackle and trash. This work shall be conducted primarily by volunteers overseen by San Francisco Baykeeper staff, Ian Wren and Tracy Corbin, who are both experienced in management of volunteers to conduct habitat restoration and coastal cleanup efforts. Safety shall take the highest priority during all program operations.

Larger debris shall be removed through use of a professionally operated skip steer (e.g. Bobcat) or mini-crawler crane. Heavy machinery will only be permitted to operate in areas where ecological impact will not occur and will be limited to sandy or pebble shorelines where impacts would be minimal. This site offers exceptional access and staging opportunities where all removed pilings and debris can be isolated on top of tarps in a designated area. Debris boxes (40 yd³) shall be delivered to the site and placed within a disused municipal park, where they can be loaded manually or by mini-crane, as necessary, prior to proper disposal at a Class II landfill, if necessary. Volunteers shall be screened to ensure physically fit participants are able to carry out the required tasks. Prior to any activities volunteers would be provided with and instructed on a training guide developed for this program. Safety training shall be provided, with appropriate equipment provided to all participants, including high-visibility vests, helmets and gloves.

During the course of removal efforts, which are expected to take place over a single 7-day period in September 2012, the quantity, volume, footprint area, weight and characteristics of marine debris removed shall be recorded to inform the total output of the program. Any remaining large debris shall

be mapped and catalogued to determine percent removal and re-accumulation, based on future inspections.

Deliverables: copies of relevant permits and approvals from the Regional Water Quality Control Board (contact person: Xavier Fernandez, (510) 622-5685 xafernandez@waterboards.ca.gov), QAPP, volunteer training guide, SWPPP

Task 3: Monitoring of Marine Debris Deposition

Following completion of Task 2, San Francisco Baykeeper staff shall conduct three rounds of quarterly monitoring from December 2012 to June 2013 to determine whether debris is re-accumulating at the project site and make qualitative assessments of habitat enhancement. Monitoring shall consist of determining the presence/absence of new marine debris within sub- and inter-tidal areas. While not likely, re-accumulation of pilings in the area would indicate the need for a comprehensive piling removal effort, which could be facilitated by Baykeeper, in coordination with the Coast Guard and other resource agencies, as needed. The results of this effort would be used to leverage additional funding for intertidal piling removal.

Deliverables: quarterly reports, data, two (2) six-month program reports

Task 4: Outreach and Education

Results of the program shall be presented to relevant agencies, such as the San Francisco Bay Regional Water Quality Control Board, BCDC and local governments and ports with responsibility for pier management and piling removal. Education and outreach materials shall also be developed to inform others of recommended approaches for removing large marine debris along the shoreline of San Francisco Bay and other urbanized waterways. Information regarding permitting, access, recommended equipment and BMPs designed to minimize shoreline impacts shall be included. This information shall be provided on the baykeeper.org website and in print format, upon request. For the purposes of grant reporting, Baykeeper shall document the number of agencies and individuals briefed on the program, the number of community groups that were consulted or provided information that would enable them to implement their own marine debris removal program, statistics regarding website traffic to pages regarding this program, and the number of interested parties provided print materials.

Deliverables: meeting/presentation attendance, powerpoints, website utilization statistics

4) Milestone Schedule (assuming June 2012 start-up)

Table 1. Milestone Schedule and Project Timeline

Project Tasks / Milestone	Start	Completion
Task 1: Inventory and Map Existing Marine Debris		
Task 1.1 Project start-up	July 2012	July 2012
Task 1.2 Site investigation, mapping and documentation	July 2012	August 2012
Task 2: Removal of Large Marine Debris		
Task 2.1 Development of QAPP, removal plan, volunteer training manual	August 2012	August 2012
Task 2.2 Seek permit approval from Regional Water Quality Control Board and complete consultations with NOAA, BCDC and State Lands Commission, as appropriate	June 2012	August 2012
Task 2.3 Contract with equipment operators and debris disposal company	Sept. 2012	Sept. 2012
Task 2.4 Marine debris removal	Sept. 2012	Oct. 2012
Task 2.5 Debris removal documentation	Nov. 2012	Nov. 2012
Task 3: Monitoring of Marine Debris Deposition and Eelgrass Condition		
Task 3.1 Quarterly monitoring of shoreline debris (3 monitoring events)	Dec. 2012	June 2013
Task 3.2 Six-month reporting (December 2012 and July 2013)	Dec. 2012	July 2013
Task 4: Outreach and Education		
Task 4.1 Present post-removal results to regional regulators and policy makers	Nov. 2012	June 2013
Task 4.2 Develop web-based material on facts about marine debris in SF Bay and practical insights on removal of large debris and provide presentations upon request	Dec. 2012	Jun. 2013
Task 4.3 Close grant		July 31, 2013

5) Programmatic Capability and Qualifications

In recent years Baykeeper has been awarded and managed several significant grants and financial assistance agreements – submitting all deliverables and reporting requirements to the satisfaction of the awardees. Support has continued throughout the economic downturn and we are poised to continue our efforts through sustainable contributions and sound fiscal management. Baykeeper maintains an in-house bookkeeper to ensure effective contract management and finance systems and a development team to ensure high-quality and on-time reporting commitments. To the best of our knowledge, we have adequately and timely reported on project activities and progress towards achieving the expected outputs and outcomes under all agreements entered into during our 23-year history.

Ian Wren, Baykeeper’s Staff Scientist, would manage this project with support from Tracy Corbin, Membership and Volunteer Coordinator, and Andrea Kopecky, Associate Attorney and Environmental Scientist. Resumes of the key project personnel are provided as Attachment E.

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Mr. Wren is a hydro-ecologist and former Habitat Restoration Specialist with experience developing management plans and overseeing volunteers and contractors under a range of circumstances, including wetland and terrestrial habitat restoration projects, construction sites and coastal cleanup days. He also has extensive experience managing public and private contracts and securing necessary permits. Of particular relevance to this project is the fact that Ian is a Certified Professional in Stormwater Quality (CPSWQ) and certified to develop SWPPPs and oversee construction projects in California, pursuant to the California NDPES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities. Tracy Corbin is Baykeeper’s volunteer coordinator with experience managing diverse groups during coastal cleanup events, on-the-water races and other events. Andrea Kopecky is one of Baykeeper’s attorneys, yet has extensive marine ecology and seagrass management experience of direct relevance to this project.

6) Potential Environmental Impacts

Information is provided here to assist Community-based Restoration Program staff in conducting a NEPA analysis. Photos and GIS figures have been provided within provided attachments to assist in this matter, yet with limited space available to make a robust assessment additional explanation and documentation may be required, which could be provided upon request.

Table 2. Potential Project Impacts Summary

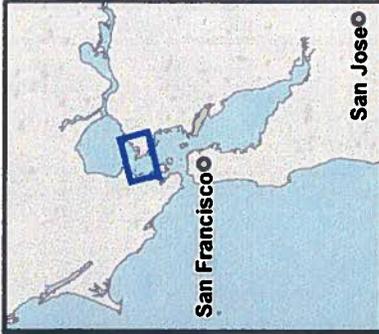
Sensitive Receptor	Potential Impacts	Proposed Mitigation	Less Than Significant After Mitigation
Native scrub habitat	Native scrub vegetation can be found upland of sandy beach and rock habitat along Point Molate, where creosote pilings have washed up during severe surges. Trampling and aggressive removal of pilings could result in significant impacts.	Prior to removal efforts all sensitive habitat shall be designated off-limits by volunteers and machinery.	Yes
Municipal park lands	A now closed municipal park with little native vegetation would serve as one of the staging and disposal areas. Without proper planning disposal activities could impact public property and existing infrastructure.	City of Richmond staff shall be consulted to determine appropriate staging areas and off-limit areas, to be designated by high-vis tape and monitored during removal operations.	Yes
Shorebird nesting impacts	During initial observations, none of the observed debris appeared to offer significant habitat opportunities and signs of nesting birds were not observed, yet the potential for impact is possible as a result of debris removal.	During initial mapping and assessment efforts (Task 1) an ecological assessment shall be carried out to determine existing nesting habitat and potential for impact. Removal operations would occur in late September, to minimize impacts and avoid nesting birds.	Yes

Sensitive Receptor	Potential Impacts	Proposed Mitigation	Less Than Significant After Mitigation
Rock outcroppings	Along sandy beach habitat within the proposed debris removal area rock outcroppings exist, which could be impacted through careless navigation of the skip steer.	Rock outcrops will be designated with high-vis tape and the professional operator shall be provided explicit instructions regarding areas he shall be permitted to enter and access.	Yes
Eelgrass beds	Eelgrass beds are found just offshore of the proposed marine debris removal areas. During low tide volunteers could access and disturb the beds. In addition, impacts could occur during monitoring and restoration efforts.	Volunteers for eelgrass monitoring and restoration shall be limited to experienced ecologists and well trained members of the public. All volunteers and Baykeeper staff members shall be trained on methods intended to minimize potential impacts and to avoid established beds wherever possible.	Yes

7) Quality Assurance / Quality Control

San Francisco Baykeeper will work with the NOAA and the San Francisco Bay Regional Water Quality Control Board to develop and implement a Quality Management Plan and Quality Assurance Project Plan (QAPP) to ensure that all debris removal, monitoring activities and data analysis are conducted and reported in a manner that guarantees the integrity of these activities. This plan will ensure the scientific validity of sampling, laboratory, and data analyses and reporting activities while minimizing environmental impact.

Two (2) six-month program reports will be prepared over the one year duration of the project and will summarize the results of the debris removal, assessment and monitoring, including maps, who performed tasks and results. Progress reports shall be submitted to NOAA via NOAA's Grants Online system no later than 30 days after each 6-month project period ends. A final report shall be submitted no later than 90 days after the expiration date of an award.



**Attachment B: Proposed Marine Debris Removal Area,
Point Molate, Contra Costa Co., CA**



Proposed Debris Removal Area



Caltrans Scofield Ave/SRR bridge deck replacement project update: June 4, 2012

Emails from Allyn Amsk.

Dear Stakeholders and Interested Parties:

You have been identified as being a stakeholder or interested party for the Interstate 580 Scofield and Western Drive Bridge Deck Replacement Project, and Caltrans would like to provide you with an update on this project. If you do not wish to receive future emails about this project, please let me know, and I will remove your email address from the list.

The I-580 Scofield/Western Drive deck replacement project is located just east of the Richmond San Rafael Bridge and will replace three bridge decks at the Scofield Avenue and Western Drive undercrossings. This important project will help to protect California's investment in its infrastructure.

Caltrans expects to begin construction in fall 2012. During construction, the eastbound I-580 Western Drive on-ramp will be closed for up to three months. During this ramp closure, a detour will be provided for vehicles three-quarter ton or smaller via an existing, paved bike path during the hours of 5:30 a.m. to 9:30 p.m. The maximum height for vehicles using the bike path detour is 9 feet. A flagger and pilot car will escort vehicles on the detour. Outside of these hours, vehicles three-quarter ton or smaller will access eastbound I-580 by driving westbound across the Richmond-San Rafael Bridge, exit at San Quentin, and then return to I-580 eastbound. Larger vehicles will not be permitted on the bike path at any time and will use the Richmond-San Rafael Bridge as a detour. During the three month closure, toll passes will be provided for businesses, residents, and local users of Western Drive required to use the Richmond-San Rafael Bridge as a detour.

Due to the use of the bike path as a detour during construction, bicycles will not be allowed to travel on the path. However, Caltrans will provide a shuttle service to transport bicyclists from Marine Street to Western Drive.

Caltrans will be providing more information to Stakeholders in the future, as well as:

- Coordinating with elected officials, the City of Richmond, and residents and businesses of Point Molate and Point Richmond.
- Making presentations to interested organizations or city committees.
- Updating the website with information about construction activities and lane/ramp closures.
- Emailing stakeholders when the website goes "live" with weekly updates.
- Holding an open house meeting in late summer 2012 to inform local residents and business operators of the project scope, toll pass system, and upcoming construction activities.
- Alerting businesses, residents, and stakeholders prior to significant construction events, such as the closure of the eastbound I-580 Western Drive on-ramp.

We appreciate your interest in this project to protect California's infrastructure investment. Please call or email if you have questions about the project. The website is located at

<http://www.dot.ca.gov/dist4/580scofieldave/>.

Allyn Amsk
Public Information Officer
Caltrans, District 4, Office of Public Affairs
Office (510) 286-5445 Dear Stakeholders and Interested Parties:

June 6, 2012

I would like to clarify and correct information about the use of the bike path, bicycle access to I-580, and the use of the bicycle shuttle.

During the closure of the eastbound I-580 Western Drive on-ramp, the bike path used as a detour for smaller vehicles will remain open for bikes. Although smaller vehicles will only be able to use this path from 5:30 a.m. to 9:30 p.m., the path will be open to bicyclists and pedestrians 24 hours per day.

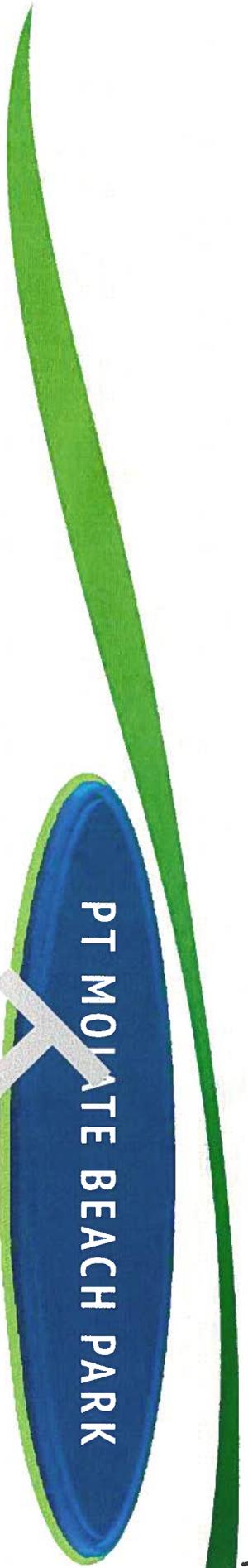
The shuttle service for bicyclists will be in place between Marine Street and Western Drive when bicycles are not allowed to use the mainline shoulder. In addition, westbound I-580 will be reopened to bicyclists after the westbound construction is complete. The eastbound I-580 portion is the only section that will be closed for the duration of the project.

Please call or email if you have questions or concerns about the project.

Thank you,

Allyn Amsk
Public Information Officer
Caltrans, District 4, Office of Public Affairs
Office (510) 286-5445

7A1



COSCO BUSAN SPILL SETTLEMENT - RICHMOND AND SPECIFIC FUNDING

PT. MOULATE BEACH PARK REHABILITATION PROPOSAL

June 7, 2012

Background

- Specific Fund Allotment to Richmond from Cosco Busan Spill Settlement
 - \$669K
 - To compensate public for loss of use of enjoyment of public beaches and parks
 - Focused on enhancing shoreline recreation, recreational fishing, and/or recreational boating
 - Projects should focus on water based recreation
- Pt. Molate Beach
 - Closed since 2004 for lack of maintenance funds
 - One time major shoreline destination
 - .33 miles of natural beach with gentle shape
 - Existing park area with mature trees
 - Affected by shoreline erosion



Settlement Fund Criteria

- benefit recreational resources similar to those affected by the Cosco Busan spill
- comply with applicable laws
- are cost effective
- provide a broad range of recreation benefits
- begin benefiting the public in the short-term
- provide benefits to the public over the long-term
- have adequate provisions for maintenance and oversight
- avoid collateral injury from project implementation
- have a high likelihood of success
- contribute to a comprehensive suite of funded projects
- have a complete and accurate estimate of project costs
- are beneficial to public health and safety
- provide opportunities for collaboration
- prevent any future injury that may be associated with the Cosco Busan spill
- avoid duplication of other efforts already ongoing at the same location

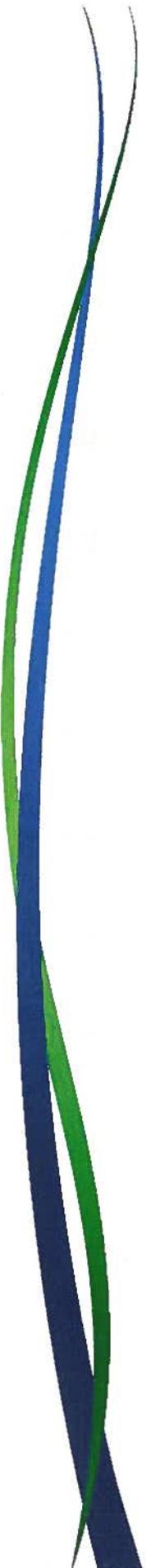
Project Cost Summary

- Re-opening of .33 mile beach strand with existing park area
 - Addition of personal comfort amenities
 - Addition of bluff protection, beach access, and park amenities
 - Upgrade and addition of park security measures
- Instant beach population: 75
- Design day population: 250
- Design and permitting costs: \$14,350
- Facility construction cost: \$113,550
- Scheduled Opening: May 2013
- Operations costs: \$8,900 / year
 - Ongoing low level maintenance to be provided by “Adopt a Beach” Program volunteers
 - Equipment and facilities maintenance to be provided by “Adopt a Beach” Program private and non-profit funding.

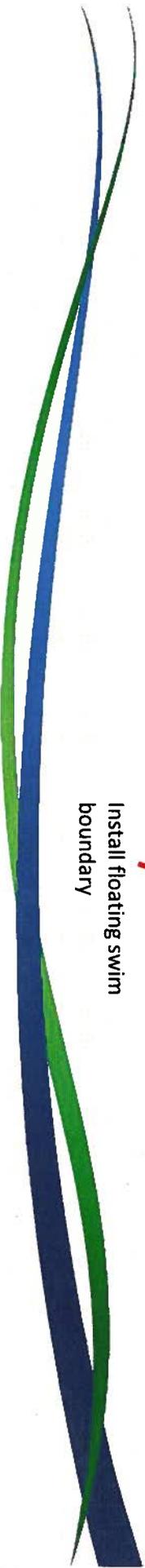


Project Goals and Constraints

- Goal: create in water and and park recreational space
 - That meets park standards
 - With minimal funding
 - Safe outdoor experience
- Constraints:
 - Remote Area
 - Off hour security issues
 - Grant funding covers capital only
 - Shifting bluff area
 - Unlikely to get funding for full ADA access amenities

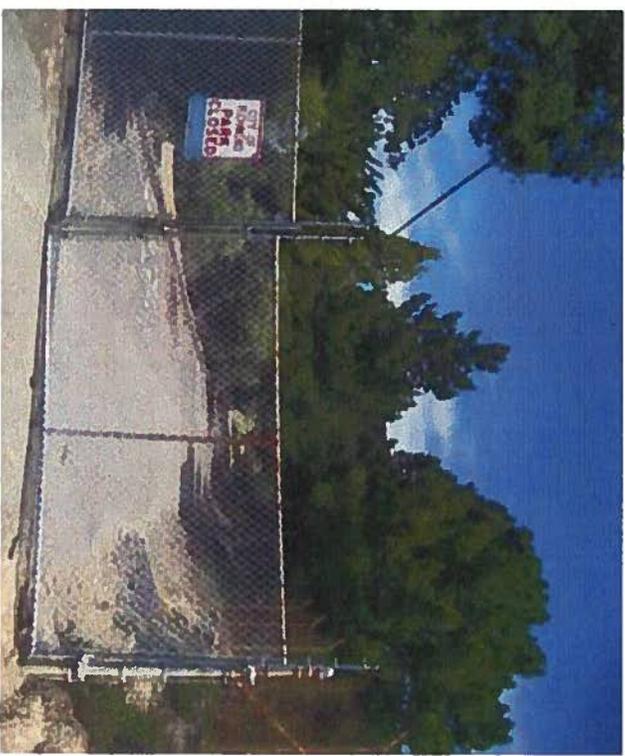


Project Footprint

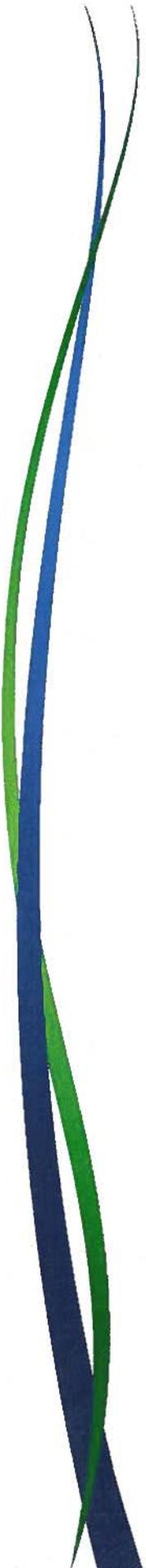


Perimeter Fencing and Signage

- Fencing
 - Perimeter fencing is structurally sound
 - Perimeter fencing should be cleaned and repainted
 - Entry gate should be replaced
 - Cost Estimate: \$3,275.00 (Richmond contractors)
- Signage
 - Need waypointing signs
 - New Park Entry Signs
 - Safety Signs
 - Hours and rules of operation
 - Safety and Rules signs at toilets
 - Parking rules signs in parking lot
 - Erosion warning signs on bluff
 - Duraplast mounted
 - Cost Estimate: \$ 900.00 (Richmond contractor)

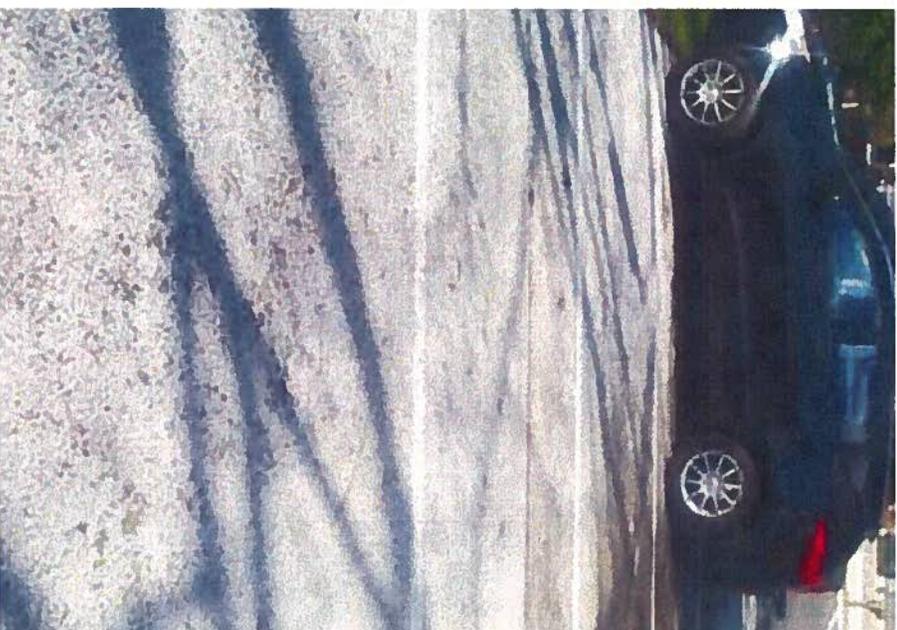


Park Entry



Parking Lot Resurfacing

- Permeable options
 - Porous pavement: \$6.80/sq. ft.
 - Pervious concrete: \$8.50/sq. ft.
 - Rolled sand and fine grain gravel \$4.20/sq ft.
 - Significantly lower maintenance than asphalt
 - Limits stormwater runoff
- Cost Estimate (installed)
 - Pavement: \$6.80/sq. ft. x 6K ft. = \$40,800
 - Concrete: \$8.50/sq. ft. x 6K ft. = \$51,000
 - Sand/gravel: \$3.00/sq. ft. x 6K ft. = \$18,000



Parking Lot Fencing

- Replace parking lot fencing with decorative, recycled timber fence
 - Extend fencing to southern end of park
 - Add an entrance gate at southern end
 - Revise central gates to be more access friendly
- Showcase upcycling creativity
 - Community participation for build and ongoing maintenance
 - Abundance of materials
 - Construction sites
 - Construction debris haul off sites
 - The beach itself!
 - Trimmed branches of trees in the beach park
- Cost Estimate: **\$1,600.00**
 - Materials: \$ 700.00
 - Labor: \$ 900.00 (for post hole anchoring and other structural elements – remainder of buildout can come from volunteers)

A simple cross bar fence



A double sided slatted fence

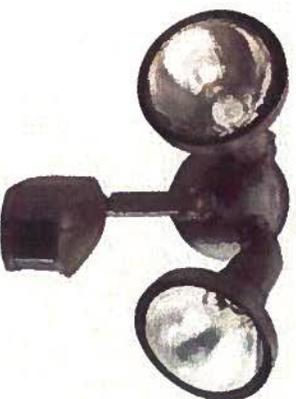
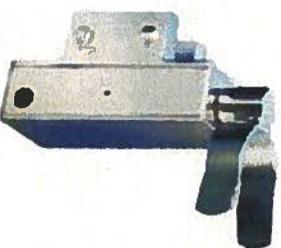


Decorative recyclables for gates – corrugate metal fence panel example



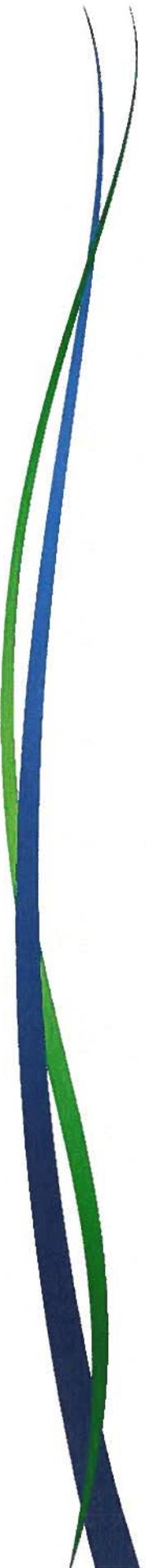
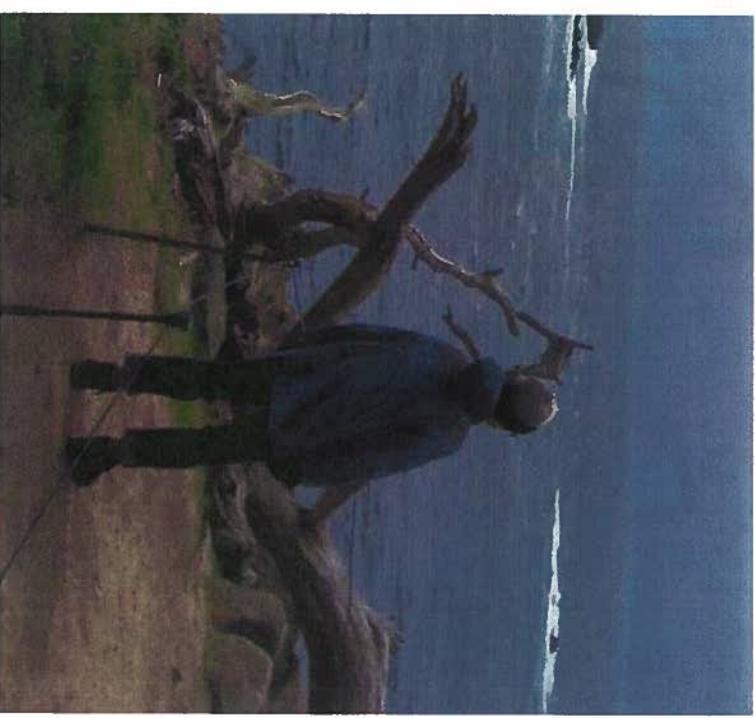
Security Features

- Timed, Remote Controlled Gate Locks
 - Activate on/off by time of day
 - Manual override
 - Wireless reset and alarm messaging
 - Push button 'help' @ main gate
- Mounted spot lights – motion sensor
 - Specific to movement mass
 - Wireless reset and alarm messaging
- Cost Estimate: \$2,040.00
 - 3 x Spot lights: \$ 1,240.00
 - 2 x Gate controls: \$800.00



Bluff Barrier

- Install stanchion and “lifeline” guard rail
 - Stanchions are post holed and horizontal bar anchored to allow for easy re-location
 - Protects view
 - Warning signs placed in back of barrier to alert visitors to state of bluffs
 - “lifelines” are vinyl covered steel
- Cost Estimate: \$6,350.00
 - Materials: \$2,350.00 for 350 ft. run
 - Labor: \$4,000.00

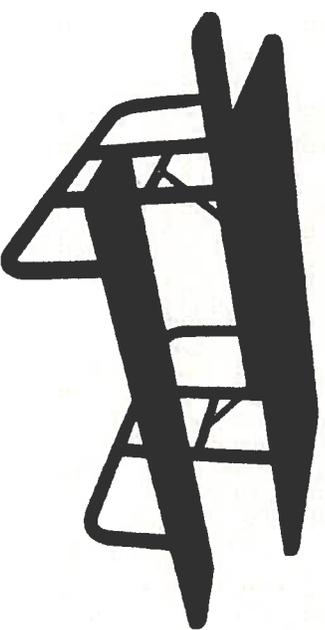


Picnic Table Replacement

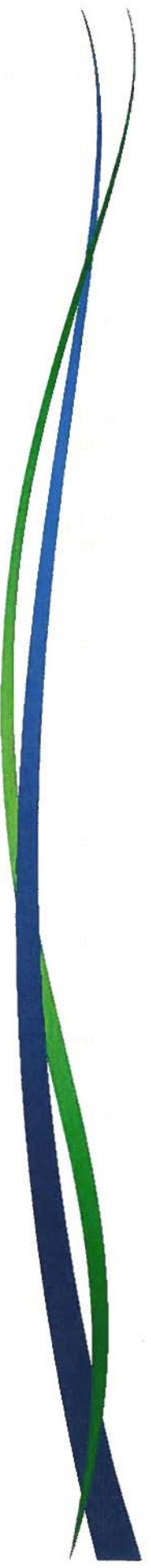
- Picnic Tables
 - Low maintenance vinylized metal grid
 - Anchorable
 - Relocatable
- Cost Estimate: \$6,768.00
 - 8 @ \$846.00 ea.



Existing tables

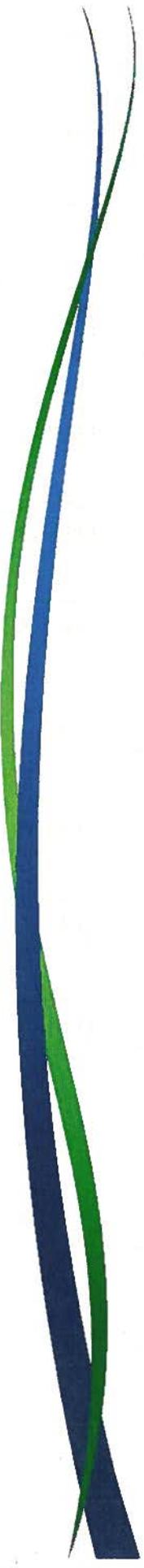


Proposed 8 seat metal grid table



BBQ Grill Replacement

- Theft Proof BBQ Grill replacement
 - Tamper proof swivel mounts
 - Rotating, multilevel grill
 - 360 deg. Rotating
 - Utility shelf
- Cost Estimate: \$2,760.00
 - 8 @ \$345.00 ea.

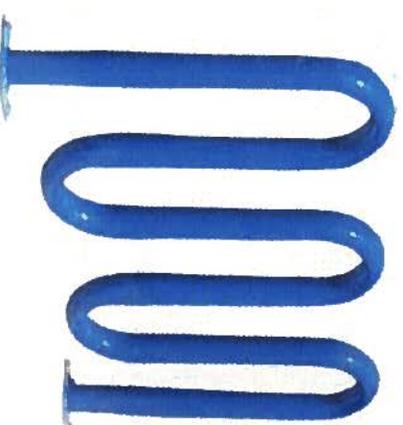


Bench Replacement & Racks

- Galvanized Bike Racks
 - Clustered at entrance to lawn (3)
- Metal grid sitting benches
 - Vinyl covered metal – low maintenance (6)
 - Placed in shade and vista spots throughout park
- Cost Estimate: \$4,488.00
 - 3 bike racks @ \$396.00 ea. = \$1,188
 - 6 sitting benches @ \$550.00 ea. = 3,300



Metal grid sitting benches

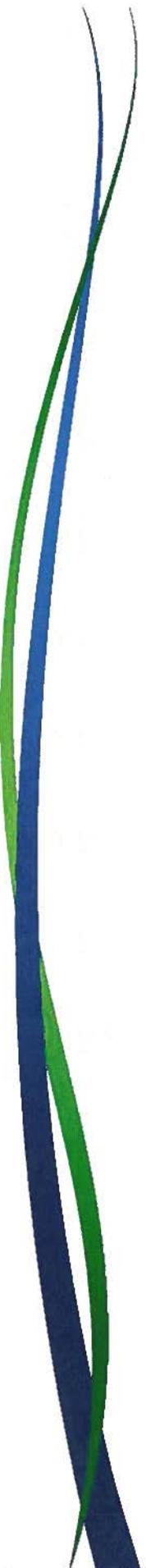


Galvanized bike racks



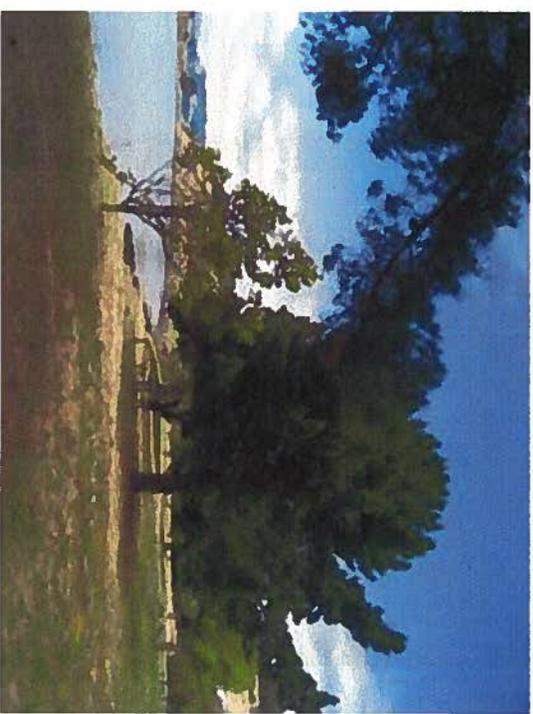
Beach Path

- Simple path from front grounds gate to beach access stairs - includes
 - Clearing/Grading
 - Granular Sub-base
 - Granular surfacing
 - Coastal Access and ADA compliant 10' width
- Cost Estimate (installed): \$3,150.00
 - 10' x 140' area
 - Cost: \$2.25/sq. ft. x 1.4K ft. = \$3,150



Landscaping

- Turf -
 - Currently widespread Bermuda Grass
 - Leave as is
 - Low maintenance
 - Comfortable
- Arboery -
 - Predominantly Monterey Cypress
 - Trim, Prune
 - Remove trees/bushes at access points
- Maintenance -
 - Provided by “Adopt a Beach”
 - Seasonal work details
- Initial Clearing Cost Estimate: \$800



Beach Access Staircase

- Install staircase at southern end of beach park for beach access
 - Of recycled wood – RR tie style – 10' wide to meet Coastal Commission access guidelines
 - Approximately 5 treads required
 - Trussed for stability
 - Railings of recycled natural wood
- Staircase would be temporary
 - Designed to weather well
 - Remove/replace with ADA compliant staircase/ramp when bluff erosion management solution implemented
- Cost Estimate: \$4,800.00
 - Materials: \$1,600.00
 - Labor: \$3,200.00

Rail road tie style stair treads embedded into the earth – recycled lumber



Weathered timber ideal for slats and railings

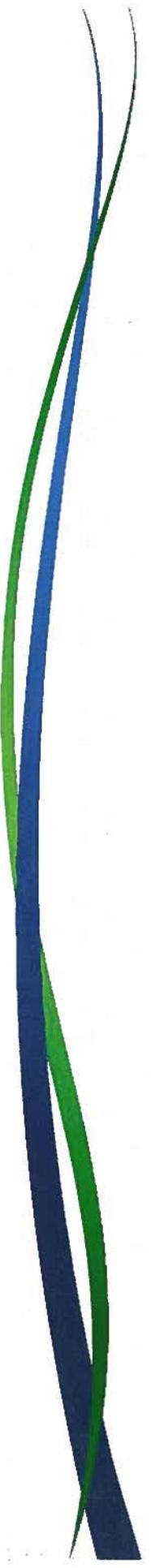
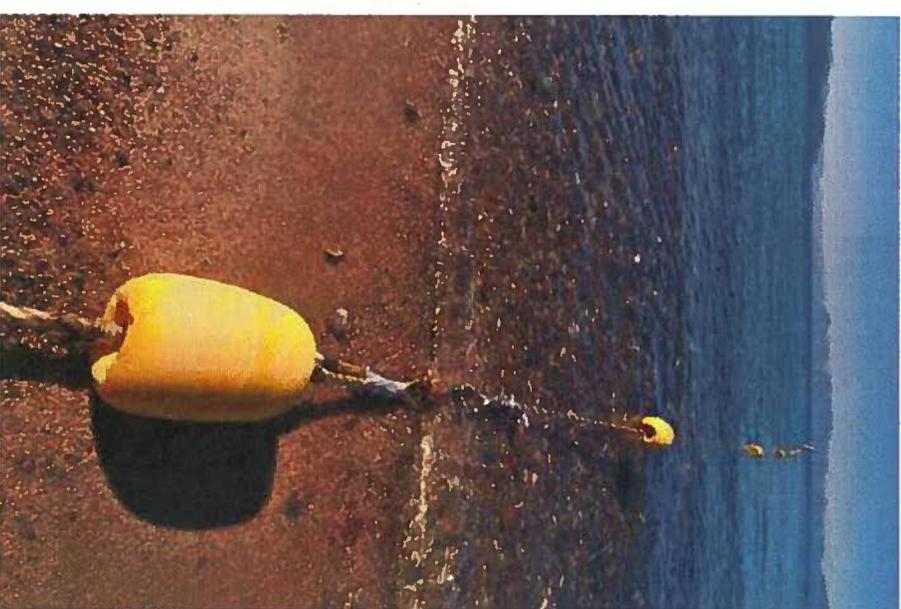


Perpendicular trussing anchors treads for stability



Beach Improvements

- Addition of swim area boundary lines
 - “dead man” terminated cement cylinder anchors
 - Bubble floats
 - Weighting lines for position stability
 - Removable off season
- Installation and maintenance by “Adopt a Beach”
 - provided by Richmond Yacht Club
 - and YRA SF Bay buoy detail
- Cost Estimate (with tackle): \$6665
 - \$ 1.90/ft for 350 foot run

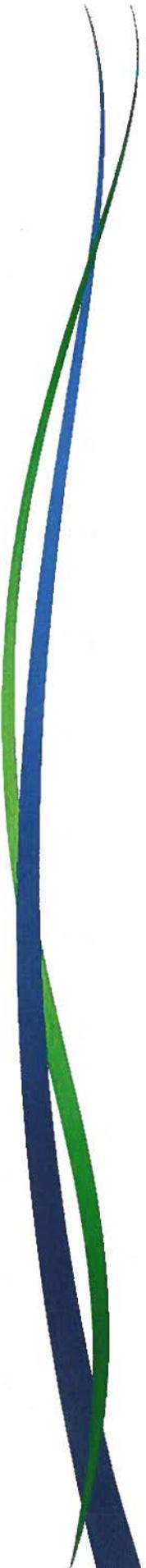


Toilet Facilities – Vault style

- Vault toilets
 - Pre-fab
 - No plumbing required
 - Low Maintenance
 - ADA Compliant
 - Recommend Double Vault Unit
 - Placed at center point of junction between lawn and parking lot
- Pricing
 - Includes excavation and backfill, installation, shipping, tax
 - Entry way slab paving
 - Cost Estimate: \$49,300.00

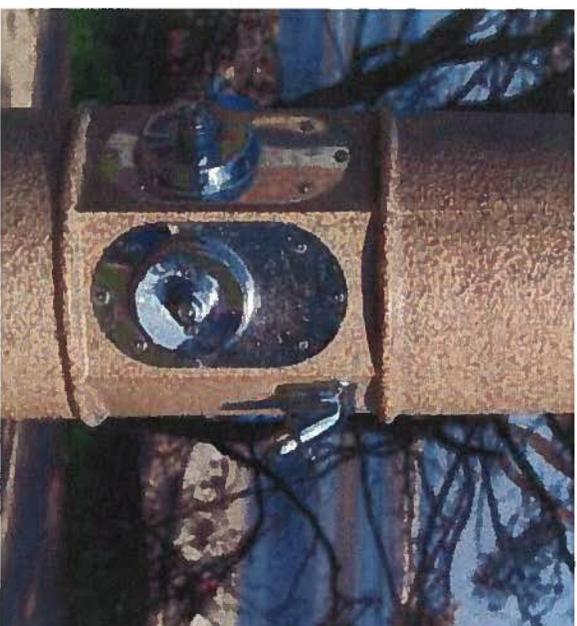


His and Hers non-plumbed pre-fab toilet facility



Outdoor Rinsing Shower

- Rinsing station
 - Cold water supply
 - Meterable
 - ADA compliant
 - Located centrally in park
 - Available in high grade polymer, stainless, or powder coat
 - Attach to existing aquascape line(s)
- Cost Estimate: \$4,400.00
 - Includes shipping, tax, surface pad installation and mount



Polymer outdoor rinse shower tower



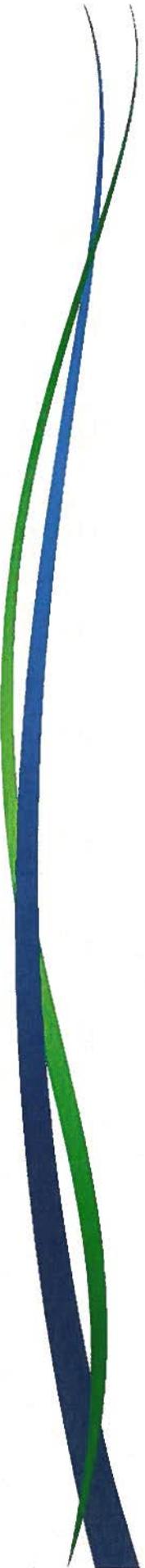
PT MOLATE BEACH PARK

REHAB

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Electrical

- TBC



Waste Containers & Collection

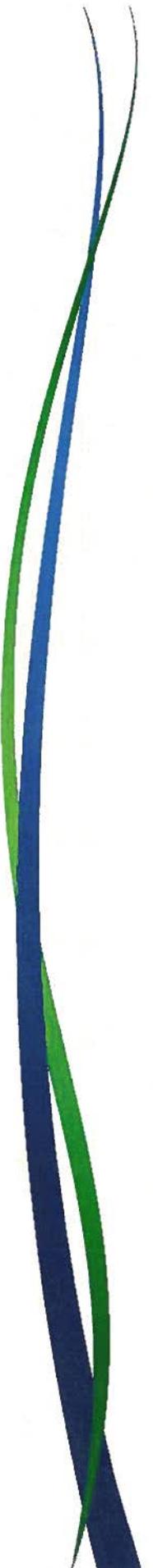
- Six general waste recepticals scattered throughout park
- Recycling Waste set located 50 feet away from toilets facing parking lot
- Collection
 - Contract for biweekly pickup of recyclables during summer
 - Contract for general containers to be emptied weekly during summer
 - Adopt a beach maintenance in off season
- Cost estimate: \$4,254.00
 - 6 x general containers @ 496.00 ea
 - 1 x three bin recyclable container @ \$1,278.00



Open top concrete general waste containers



3 Bin recyclables waste container



“Adopt a Beach” Program

- Community Collaboration to preserve and maintain Pt. Molate Beach
 - CFSPM, Watershed Project, RYC, PSPYH
 - Volunteer labor force to:
 - Maintain grounds
 - Keep Beach clean
 - Haul trash
 - Monitor
 - Maintain swim boundary
 - Project specific work details
 - Fencing
 - Large item haul away
 - Path maintenance

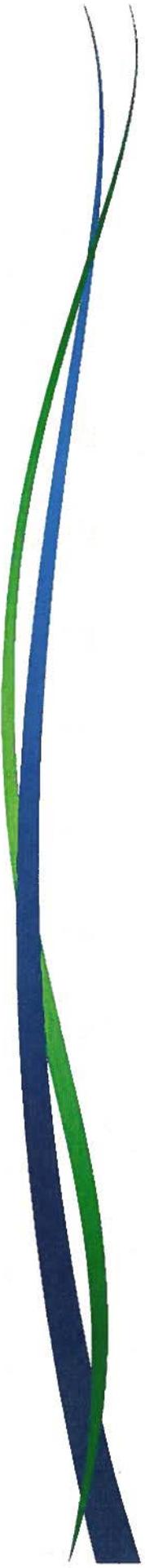


Renaissance of a Great Recreational Resource

- Returning to our roots
 - Pt. Molate Beach was at one time a major recreation area
 - Multi-generational popular weekend destination
- This would be one of the most spectacular parks to be re-invented in Richmond
 - One of the best swimming beaches in Contra Costa County
 - An important first step in the revitalization of Pt. Molate

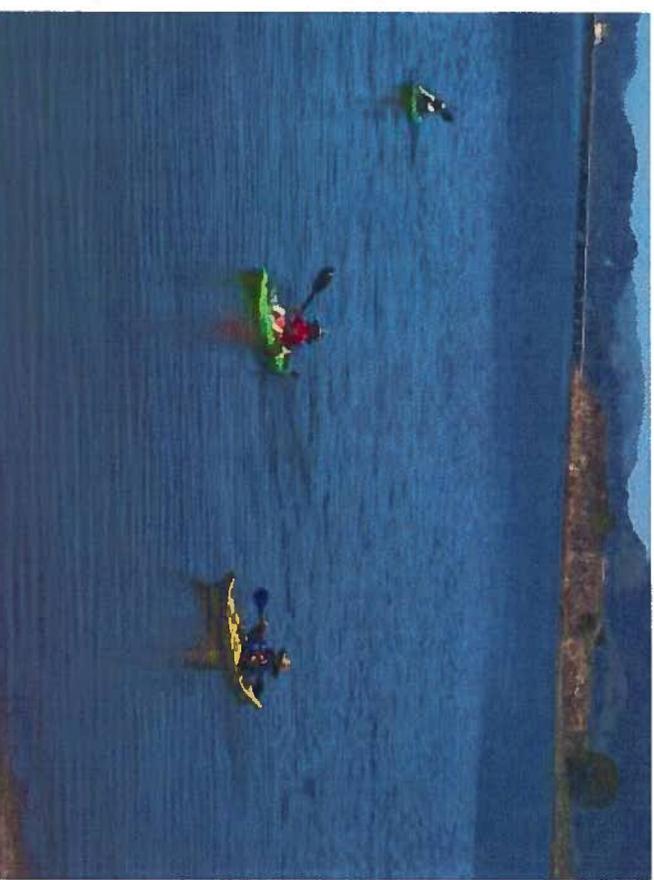


Pt. Molate Beach – April 2012



Summary

- **Project Meets Criteria**
 - Marine recreational rehabilitation
 - Partner outreach
 - Immediately implementable – short time frame to completion
- **Project Adequately Considers**
 - Security
 - Park baseline standards
 - Amenities
- **Project Cost is efficient**
 - Cost to utility/outcome ratio is high
 - Moderate overall project cost
 - Engages Richmond labor
 - Engages Richmond community to both use and maintain



Craig Murray

From: Bruce Beyaert [pointsanpablo@earthlink.net]
Sent: Thursday, June 07, 2012 2:52 PM
To: Craig Murray
Cc: Joan Garrett; Rod Satre
Subject: NER FOR PMCAC Agenda Packet June 18
Attachments: NER Marketing Brochure - 2012.pdf; ATT581326.htm

Craig,

Per email below, please put Nelson Environmental Remediation on June 18 PMCAC agenda for a 30' presentation followed by 15' presentation. Also, please include this email in agenda packet with attached NER brochure. Thanks very much.

Bruce

Bruce Beyaert

pointsanpablo@earthlink.net
 phone/fax 510-235-2835

Begin forwarded message:

From: "Kirk Shellum" <kirk@nergglobal.com>
Date: June 7, 2012 2:35:08 PM PDT
To: "Bruce Beyaert" <pointsanpablo@earthlink.net>
Cc: <dn@nergglobal.com>, <warren@nergglobal.com>, "Tyrel Watchell" <tyrel@nergglobal.com>, "Joan Garrett" <joan@vbsi.com>, "Rod Satre" <rdsatre@live.com>
Subject: RE: URGENT Agenda Packet Materials Needed Today for June 18 Point Molate Meeting

Hi Bruce:

Yes, please put Nelson Environmental Remediation Ltd. on the agenda for the 18th meeting. Our Presentation will take about 30 minutes and with Q/A it should be complete in 45 min.

We will require a projector and screen so we can present our MS Slide Show.

We will discuss the following:

- a. Our Thermal Technology
- b. Past projects
- c. Show photos of project in different locations
- d. Discuss different types of contamination
- e. Air quality permitting
- f. Discuss onsite recycling vs. offsite landfilling.
- g. Discuss future liability for the City.

Bruce, can you send me the physical address where we will be presenting and the time you would like us there? I will be flying in from Minnesota and Darryl Nelson will be flying in from Edmonton, AB Canada that day.

Thank you for arranging this opportunity for us. If you have any questions, please contact me directly.

Best regards,

Kirk Shellum

President NER, USA

Nelson Environmental Remediation USA, Ltd.

"Clean Dirt, No Doubt!"

(612) 869 – 1636, Office

(612) 325 – 0079, Mobile

kirk@nerglobal.com

www.nerglobal.com



Clean Dirt,

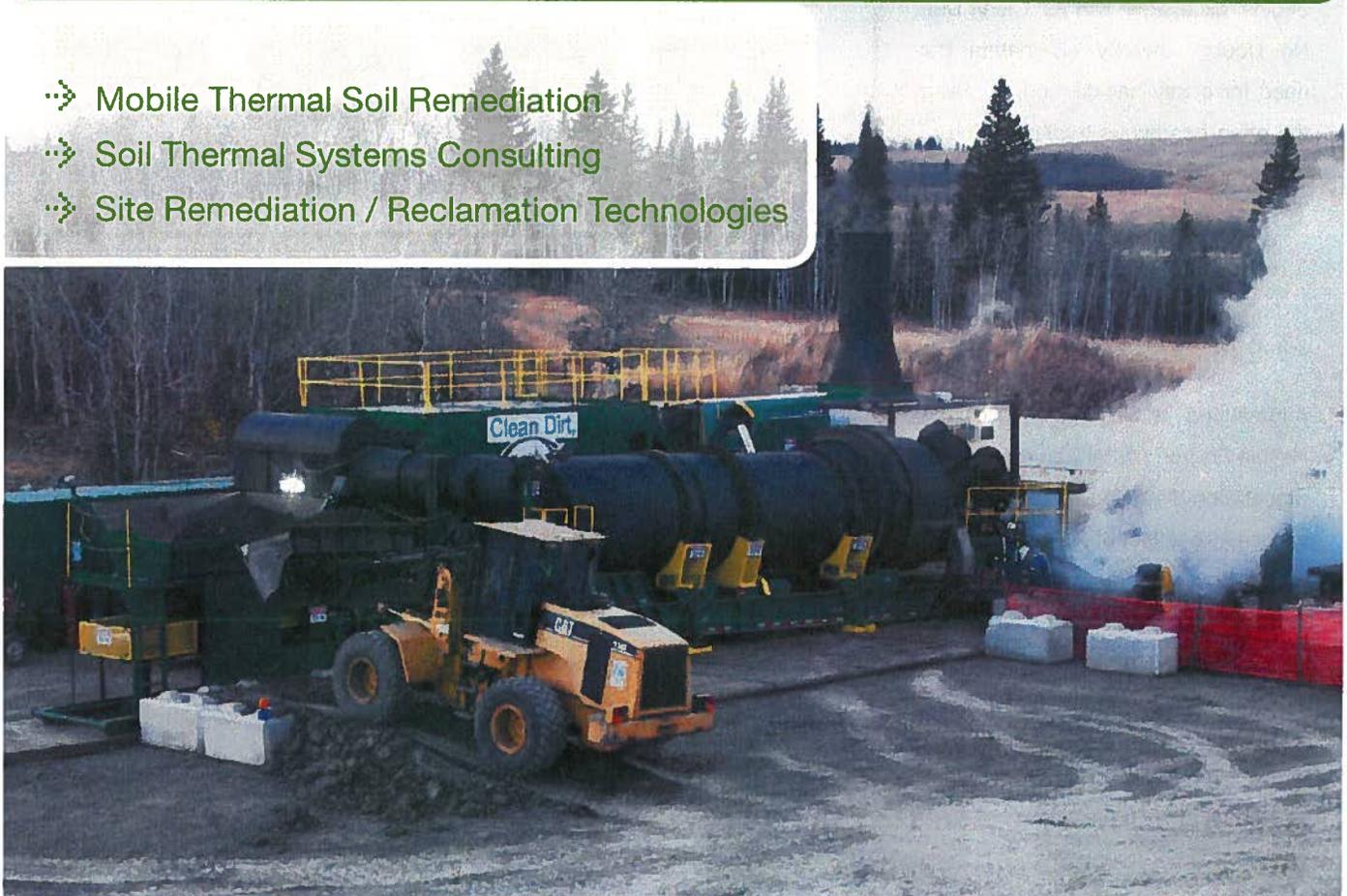


No Doubt!

www.nerglobal.com

→ Nelson Environmental Remediation Ltd.

- Mobile Thermal Soil Remediation
- Soil Thermal Systems Consulting
- Site Remediation / Reclamation Technologies



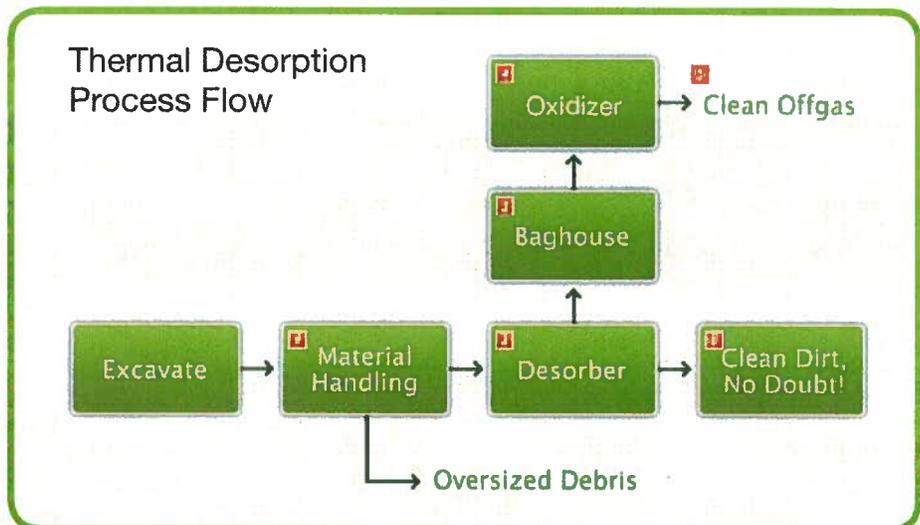
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Clean Dirt, No Doubt!

→ Mobile, Thermal Soil Remediation (MTSR)...

At NER, our mission is to safely and efficiently deliver, Clean Dirt, No Doubt! NER employs technology that delivers the certainty of achieving remediation criteria, as well as destruction of extracted organic contaminants insuring no harmful emission to atmosphere.

NER's Thermal Desorption Unit (TDU) technology delivers the Mobile Thermal Soil Remediation process, an Ex-Situ means of physically separating volatile and semi-volatile organic contaminants from soils. Contaminated soil is placed in the Primary Chamber (PC, Desorber or, Kiln), and heated to volatilize the associated hydrocarbons, effectively removing the toxins from soil as a gas stream. At this stage the clean soil exits the PC and is re-hydrated and cooled. This gas stream is then passed through a high-surface area baghouse/filtration unit, where dust and particulate is removed. In the final stage these gases further travel to a Secondary Chamber (SC, Afterburner or, Oxidizer) where the toxic molecules are rendered harmless. The treated material can then be returned to the original excavation site as, Clean Dirt, No Doubt!, thereby eliminating the need for costly backfill and, avoiding the often-dangerous transportation of soil to landfill.



→ Site Remediation/Reclamation Technologies

Augmenting its flagship Thermal Desorption Units (TDUs), Nelson Environmental Remediation Ltd. offers soil excavation, preparation (Allu'izing, Trommel screening) and re-compaction services via a fleet of Yellow Iron and mechanical reclamation/remediation equipment. From first bucket to final contouring, NER has the capability to offer its clientele cradle-to-grave environmental site management.

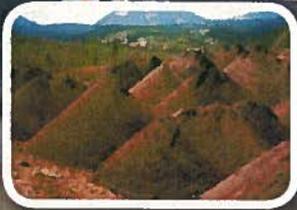




➤ The NER Advantage...

- Liability Elimination:** On-site Extraction & Destruction of Toxic Organic Compounds
- Time:** Large Volume Processing, 24 hrs./day, Year-Round, Any Climate
- Cost:** Competitive & Predictable
- Experience:** 15 Years Thermal Operations
- Clean:** Meets or Exceeds Regulatory Emission Levels
- Guaranteed Results:** Per Tonne, Clean Dirt Invoicing

NER specializes in Mobile Thermal Soil Remediation, the most environmentally sound way of eliminating toxicity in contaminated soils. Using technologically advanced Thermal Desorption Units (TDUs), NER can quickly reclaim a site regardless of what type of soil is present. From contaminated 'gumbo' clay or sand, flare pit materials to crude oil from pipeline ruptures, NER can remove contaminants in even the most remote sites or extreme weather conditions.



➤ Treat with Heat!



FRS

→ Blue Collar Professionalism...

Nelson Environmental Remediation, Ltd. (NER) is an Alberta, Canada – based environmental solutions corporation, formed in 1994 to diversify and extend the services of John Nelson Construction, Ltd. (est. 1960's). With over 40 years of earth moving experience, today's NER is continually poised to address the challenge of the world's increasing inventory of contaminated soil. By adapting to the widest range of weather and soil conditions and, operating 24 hours per day, 7 days per week, NER has successfully remediated over 1.5 million tonnes of material, on projects worldwide, ranging from the Arctic to the Tropics. From Operations and Administration, to Management and Sales, the ability of NER's team to adapt, work together and find solutions, is the backbone of the organization. NER learned long ago, that the successful operation of not only the flagship TDUs, but the Company itself, was largely dependent upon its ability to attract, and retain, quality people. Today, the NER family is strong, committed, experienced and ready to serve the challenging needs of its growing clientele.

→ Nelson Environmental Remediation Ltd.

Corporate Office:

26519-C, Township Road 530
Spruce Grove (Edmonton), Alberta,
T7X 3L5 Canada

Toll Free. 888-960-8222

Main. 780-960-3660

Fax. 780-962-6885

Email. info@nerglobal.com

Montreal, Quebec, Canada

(Sales Office) Ph: 866-711-7645

Weyburn, Saskatchewan, Canada

(Sales Office) Ph: 888-960-8222

Seattle, Washington, USA

(USA Headquarters)

Ph: 206-922-2129

Minneapolis, Minnesota, USA

(Sales Office) Ph: 612-869-1636

Chaumont, France

(European Headquarters)

Ph: 03-25-30-39-10

www.nerglobal.com



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No Doubt!
www.nerglobal.com

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REVISED INTERNAL DRAFT
SOIL AND GROUNDWATER MANAGEMENT PLAN
FORMER NAVAL FUEL DEPOT POINT MOLATE
RICHMOND, CALIFORNIA

On Behalf of

City of Richmond
450 Civic Center Plaza
Richmond, CA 94804

Prepared for

Mr. James Levine
Upstream Point Molate
2000 Powell Street, Suite 920
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Acronyms and Abbreviations

AES	Analytical Environmental Services
ACM	asbestos-containing material
AHREA	Asbestos Hazard Emergency Response Act
APE	Area of Potential Effect
AST	above ground storage tank
BAAQMD	Bay Area Air Quality Management District
BAT/BCT	Best Available Technology/Best Control Technology
BIA	Bureau of Indian Affairs
BCDC	San Francisco Bay Conservation and Development Commission
bgs	below ground surface
BMP	Best Management Practices
BRAC IV	Base Realignment and Closure Act IV
CAC	Certified asbestos consultant
Cal/OSHA	California Department of Industrial Relations, Division of Occupational Safety and Health
CASQA	California Stormwater Quality Association
CCEHD	Contra Costa County Environmental Health Department
CCR	California Code of Regulations
CDFG	California Department of Fish and Game
CFR	Code of Federal Regulations
CHHSL	California Human Health Screening Levels
CIH	Certified Industrial Hygienist
City	City of Richmond
COC	Contaminants of Concern
CRUP	Covenant to Restrict Use of Property
DOT	Department of Transportation
DTSC	Department of Toxic Substance Control
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
ESLs	Environmental Screening Levels
ETCA	Early Transfer Cooperative Agreement
FRF	fuel recovery facility
FOSET	Finding of Suitability for Early Transfer
FOST	Finding of Suitability to Transfer
FPAL	Fuel Product Action Levels
HAZWOPER	Hazardous Waste Operations Training
HSAs	Hazard Safety Analyses
HSP	Health and Safety Plan
HUD	US Department of Housing and Urban Development

IR	Installation Restoration
ITSI	Innovative Technical Solutions, Inc.
JP-5	Jet Propellant 5
LBP	lead-based paint
LRP	Legally Responsible Person
LUC	land use control
mg/cm ²	milligrams per square centimeter
mg/L	milligrams per liter
mg/m ³	milligrams per cubic meter
mph	miles per hour
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
Navy	Department of the Navy
NFD	Naval Fuel Depot
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NTU	nephelometric turbidity unit
OHP	Office of Historic Preservation
OSHA	Occupational Safety and Health Administration
OSWER	Office of Solid Waste and Emergency Response
OVA	organic vapor analyzer
PAH	Polynuclear Aromatic Hydrocarbons
PCB	polychlorinated biphenyl
PDR	Personal Data Rams
PG&E	Pacific Gas and Electric Company
PID	photoionization detector
PGWTP	packaged groundwater treatment plant
PMMP	Post-Closure Maintenance and Monitoring Plan
PPE	personal protective equipment
ppmv	parts per million by volume
PRD	Permit Registration Documents
QSD	Qualified SWPPP Developer
RACM	regulated asbestos containing material
RCRA	Resource Conservation and Recovery Act
RWQCB	San Francisco Bay Regional Water Quality Control Board
SAP	Sampling and Analysis Plan
SGWMP	Soil and Groundwater Management Plan
SHPO	State Historical Preservation Office
SMARTS	Stormwater Multi-Application and Report Tracking System
STLC	soluble threshold limit concentration
SVOC	semi-volatile organic compound
SWPPP	Stormwater Pollution Prevention Plan

SWRCB	State Water Resources Control Board
TCLP	toxicity characteristic leaching procedure
Terraphase	Terraphase Engineering Inc.
TPH	total petroleum hydrocarbons
TSD	treatment, storage, and disposal
TTLIC	total threshold limit concentration
Upstream	Upstream Point Molate LLC
US	United States
USA	Underground Service Alert
USACE	U.S. Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
UST	underground storage tank
VOC	Volatile Organic Compound

1.0 INTRODUCTION

This Soil and Groundwater Management Plan (SGWMP) was prepared by Terraphase Engineering Inc. (Terraphase) on behalf of Upstream Point Molate LLC (Upstream). The SGWMP was prepared for activities that may disturb soil or produce groundwater at the Former Naval Fuel Depot Point Molate (NFD Point Molate, the “Site”). The Site is located in Richmond, California (Figure 1). The Site is a former United States (US) Department of Navy (“Navy”) fuel storage facility, which consisted of a series of underground fuel storage tanks (USTs) capable of storing up to 40 million gallons of fuel. Historical releases of fuel occurred during transfer of fuel to and from the USTs.

This SGWMP was completed in response to Task 2 of San Francisco Bay Regional Water Quality Control Board (RWQCB) Order #R2-2011-0087, which states:

“The Discharger shall propose a Soil and Groundwater Management Plan for the Facility, acceptable to the Executive Officer, identifying how soils and affected groundwater will be managed for any phase of cleanup activities at the Facility, including initial cleanup as well as cleanups related to discoveries during any future development of the Facility.

The plan must propose how soil and groundwater will be sampled and analyzed during all phases of remediation and development, and how test results will be used to protect Facility workers and future occupants and visitors from residual pollutants. The plan shall describe the protocol to be followed for all sampling, field measurements, analytical techniques, and the sequence and methods of any proposed remediation.

The plan shall be consistent with and incorporate all applicable mitigation measures set forth in the certified EIR [Environmental Impact Report]. The plan shall address equipment and the schedule of activities, proposed measures to limit fugitive emissions from site remediation and trucking activities, general soil removal and backfilling specifications, dewatering and discharge activities during the remedy process, and the proposed groundwater treatment activities to protect surrounding groundwater and surface water resources.”

Further, this report is intended to meet the requirements of mitigation measure 11-1 from the Environmental Impact Report (EIR; Analytical Environmental Services [AES] 2011) as follows:

“To protect construction personnel from potential exposure to undiscovered hazardous materials, a site-specific hazardous materials inadvertent discovery plan (Plan) or an equivalent soil and groundwater management plan (SMP) that addresses inadvertent discovery of hazardous materials, shall be developed for the project prior

to any grading or ground disturbing activities. The Plan shall define protocols to be implemented if suspected contamination is found during mass grading and excavation activities associated with site development. The Plan shall identify how soils and affected groundwater are to be managed require hourly field measurements within active excavation areas during hillside UST excavation. The Plan shall also include hourly field measurements within active soil stockpile areas and confined spaces. The Plan shall be implemented by a registered engineer and shall include hourly field measurements for undiscovered contaminants using a photo ionization detector (PID) for measuring volatile organic compounds (VOCs), and, if deemed necessary by the engineer, soil samples would be collected and analyzed for petroleum hydrocarbons in areas of suspected contamination.

If suspected contamination is found during construction activities, all work shall stop in the immediate area and a safe zone for construction personnel shall be established. The extent of contamination shall be assessed to determine whether there is a significant health risk to construction personnel working on-site. The SMP would also include construction personnel safety protocols according to Occupational Safety and Health Administration (OSHA) guidelines to be implemented as part of the SMP. The Tribe shall ensure through contractual obligations that OSHA guidelines are followed during construction activity and any potential removal of affected soils.”

This plan allows for and describes protocols that must be followed in order to complete soil disturbance and building demolition activities at the Site. Examples of activities covered by this plan include, but are not limited to, landscaping, installing and maintaining utilities, grading, trenching, installing deep foundations, drilling borings for subsurface exploration or monitoring well installation, building demolition and constructing subsurface structures. This plan covers all portions of the Site except for Installation Restoration (IR) Site 3 and IR Site 4 (Figure 2) which are currently undergoing site specific remediation activities. Planned subsurface disturbances associated with soil and groundwater remediation activities at IR Site 3 and IR Site 4 must be addressed on a site-specific basis as described in the RWQCB Order.

Prior to conducting any activities that may disturb soil or groundwater at the Former NFD Point Molate, the Contractor responsible for the work shall obtain permission from the RWQCB to perform the work unless the work consists of activities that have been pre-approved by the RWQCB to be conducted using the procedures contained in this SGWMP.

1.1 Background

1.1.1 Property History

In 1941, Point Molate was acquired by the Navy for use as a Naval Fuel Depot. Beginning in 1942, the Navy used NFD Point Molate for fuel storage and distribution for the Pacific Fleet.

Fuel storage and supply operations ceased in May 1995. Former NFD Point Molate became a closing base under the Base Realignment and Closure Act IV (BRAC IV) program in September 1995, and operational closure of the facility occurred in September 1998. In September 2003, approximately 372 acres of the depot were transferred to the City of Richmond (the "City") under a Finding of Suitability to Transfer (FOST; Navy 2003). The remaining 40 acres of the 412-acre federal facility, which include IR Site 1, IR Site 3, and IR Site 4 were transferred to the City on March 29, 2010 on the basis of a Finding of Suitability for Early Transfer (FOSET) (Navy 2008b).

The Navy and the City of Richmond (the City) entered into an Early Transfer Cooperative Agreement (ETCA; Navy 2008a) where the City would complete environmental remediation activities to satisfy the requirements of the RWQCB Order.

1.2 Purpose

The purpose of this SGWMP is to document the procedures to be used in conducting subsurface activities and demolition activities at the Former NFD Point Molate which may disturb soil contaminated with anthropogenic materials or produce groundwater containing anthropogenic materials.

This SGWMP addresses procedures and requirements pertaining to the following specific types of site activities but can be applied to other soil disturbing activities:

- Soil disturbing activities, including:
 - trenching
 - excavations
 - landscaping
 - installing and maintaining utilities
 - grading
 - installing deep foundations
 - drilling borings for subsurface exploration or monitoring well installation
 - constructing subsurface structures
- Building demolition
- Dewatering of excavations and trenches
- Waste hauling and disposal

This SGWMP is intended to meet the requirements of the RWQCB Order (Task 2), the mitigation measures applicable to these activities described in the EIR (AES 2011), and the Covenant to Restrict Use of Property (CRUP; Contra Costa County 2010). The requirements of RWQCB Order Task 2 were previously described in Section 1.0. The EIR mitigation measures (See Appendix A for text of applicable mitigation measures) include:

- MM 1-1: Compliance with National Pollutant Discharge Elimination System (NPDES) Construction General Permit
- MM 2.1f: Development of spill prevention and countermeasures plan, as necessary
- MM 2.1 u: Conservation of top soil
- MM 2-1 v. Disposal of encountered groundwater
- MM 2-2: Preparation of Erosion and Sediment Control Plan
- MM 3-1 through 3-15: Specific dust and erosion control mitigation measures
- MM 4-2 through 4-4: Mixed Riparian area avoidance and setbacks
- MM 4-5 and 4-6: Setbacks from beach strand
- MM 4-7 and 4-8: Tidal wetland and eel grass avoidance
- MM 4-10 through 4-12: Wetland fill avoidance as feasible
- MM-4-13 and 4-14: Suisun Aster Mitigation Area
- MM 4-15 through 4-17: Special status and bird survey and avoidance measures
- MM 4-20 and 4-21: Bat survey and avoidance requirements
- MM 7-1: Soil Disposal Plan
- MM 7-2: Traffic flow notification for impacts to Western Drive
- MM 7-3: Construction Coordination Planning
- MM 9-4: Construction waste recycling
- MM 11-1: Development of Soil and Groundwater Monitoring Plan

The requirements of the CRUP (Section 4.01b) include:

- RWQCB-approved dewatering plan, and
- RWQCB-approved soil and groundwater management plan

The requirements of the CRUP are described more fully in Section 3 of this document.

1.3 Approach

This SGWMP identifies the specific procedures and protocols that are to be used during soil disturbance activities, and groundwater-related activities, such as dewatering of excavations, with the goal that the activities are conducted in a manner that is protective of human health and the environment and in a manner that does not interfere with investigation or remediation of the site.

This SGWMP provides the background information on the types and hazards associated with chemical contamination that has been historically found in samples collected at the Site (Appendix B). This SGWMP does not address specific construction safety or OSHA worker safety requirements. Individuals and companies performing construction work at the Site are responsible for complying with federal, state, and local requirements that are not addressed in this document. No contractor may perform work at the Former NFD Point Molate without having prepared a site-specific health and safety plan (HSP) which provides procedures to be

used to protect workers from all hazards they may encounter related to their specific activities.

This SGWMP will be effective upon approval by the RWQCB and will remain in effect until both the RWQCB and the City agree that it is no longer necessary.

The City and/or Upstream (or their agents) may respond to emergency situations requiring subsurface disturbances according to the processes and procedures defined in Section 10 of this SGWMP. All other activities will follow the protocols developed in the other sections of this document.

1.4 Enforcement

This document is subject to enforcement by the approving regulatory agencies. Failure to comply with the provisions in this document could result in fines, penalties, administrative orders, judicial enforcement, and injunctive relief.

Only the RWQCB can approve or issue a variance from this SGWMP. Requests for variance from this plan must be submitted in writing to the RWQCB and the City. No work shall be conducted that is not in conformance with this SGWMP prior to receiving written approval from the RWQCB and concurrence from the City.

Depending on the actual activities, the following permits and consultations (and others) may also be required and are not discussed in detail in this SGWMP to conduct soil disturbance, dewatering or building demolition activities at the Former NFD Point Molate:

- San Francisco Bay Conservation and Development Commission (BCDC) Permit for work within 100 feet of the high tide line
- Richmond Building Permit for construction of structures
- United States Army Corps of Engineers (USACE)/RWQCB 401/404 Permit for fill or work in wetland and waters of the United States
- California Department of Fish and Game (CDFG) Consultation for work near sensitive species
- National Marine Fisheries Service Consultation for work in San Francisco Bay that may impact sensitive fish species

1.5 Contractor Acceptance

The contractor and all site personnel will be familiar with this SGWMP and its conditions. All site personnel will review this plan, attend training as described in Section 13, and sign the Soil and Groundwater Management Plan Review and Acceptance Form (Appendix C) acknowledging their compliance with this plan before starting work at the Site. It will be the responsibility of the City of Richmond (or their designee) as the Site owner and responsible party to disseminate the SGWMP to the appropriate parties.

2.0 ENVIRONMENTAL CHARACTERIZATION OF THE FORMER NFD POINT MOLATE

Point Molate operated as a Naval Fuel depot for over 50 years and based on this activities legacy contamination of soil, groundwater and soil gas have been investigated and at most locations remediated to the satisfaction of the RWQCB. This Section describes the contamination that has been detected at the Site in the Past and the recognized contaminants of concern detected throughout the Site.

It should be noted that this SGWMP does not apply to IR Site 3 and IR Site 4 because future remedial activities are planned for these two areas. The final scope of the remedial activities has not yet been approved by the RWQCB. As such, the post-remedial nature of contaminants and the distribution of contaminated media in IR Site 3 and IR Site 4 are unknown. Following the completion of the remedial activities in these areas, the SGWMP will be updated to include IR Site 3 and IR Site 4. Until the RWQCB approves that the remedial activities at IR Site 3 and IR Site 4 are complete, no intrusive activities beyond the top 24 inches are permitted in these areas without prior written approval of the RWQCB.

The following key site investigation documents describing the Site are available for review:

- Phase II Remedial Investigation Report (TetraTechEMI [TtEMI] 2000),
- Corrective Action Plan (CAP) for IR Site 3 (Bechtel 2005),
- Field Summary Letter Report: Hillside Underground Storage Tank Soil Sampling Report (ChaduxTt 2009)
- Wet-Season Semiannual Groundwater Monitoring Report (Terraphase 2011b)
- Dry-Season Semiannual Groundwater Monitoring Report (Terraphase 2012c)
- Fourth Quarter 2011 Installation Restoration Site 1 Landfill Post-Closure Monitoring Report (Terraphase 2012a)
- Annual 2011 Underground Storage Tank Monitoring Report (Terraphase 2012b)

2.1 Contaminants of Concern

Based on the above investigations and Monitoring Reports, contaminants of concern (COCs) in soil at the Former NFD Point Molate include:

- Petroleum hydrocarbons
 - Bunker fuel
 - Jet Propellant 5 (JP-5)
 - Diesel fuel
- Metals
- Polynuclear aromatic hydrocarbons (PAHs)
- Volatile organic compounds (VOCs)

COCs in groundwater at the Former NFD Point Molate include:

- Petroleum hydrocarbons
 - Bunker fuel
 - JP-5
 - Diesel fuel
- VOCs

Additionally buried solid waste (See Section 2.4) containing the above COCs has been placed in IR Site 1 and at IR Site 3.

2.2 Soil

Areas of known environmental impact are shown on Figure 2. They include:

- IR Site 1 – Closed RCRA Landfill
 - Petroleum hydrocarbons
 - Solid waste
- IR Site 3 – Former Treatment Ponds Area
 - Petroleum hydrocarbons
 - Metals
 - PAHs
 - VOCs
 - Solid waste
- IR Site 4 – Drum Lots 1 and 2
 - VOCs (Drum Lot 2 only)
 - Petroleum hydrocarbons
- USTs numbered 1 through 20, collectively referred to as the Hillside USTs
 - Petroleum hydrocarbons

Descriptions of the histories and extent of anthropogenic compounds at each of these areas of known environmental impact are presented in the Phase II Basewide Remedial Investigation Report (TtEMI 2000).

2.3 Groundwater

The areas of known groundwater impact include:

- IR Site 1 – Closed Resource Conservation and Recovery Act (RCRA) Landfill
 - Petroleum hydrocarbons
- IR Site 3 – Former Treatment Ponds Area
 - Petroleum hydrocarbons
 - VOCs
- IR Site 4 – Drum Lots 1 and 2
 - VOCs (Drum Lot 2 only)
 - Petroleum hydrocarbons
- Hillside USTs
 - Petroleum hydrocarbons

Free product petroleum hydrocarbons are present in some areas of the Site as described in the most recent groundwater monitoring report (Terraphase 2012a). These areas are largely confined to the immediate vicinity of some of the hillside USTs and IR Site 3.

Descriptions of the history and extent of anthropogenic compounds at each of these areas of known environmental impact are presented in the Phase II Basewide Remedial Investigation Report (TtEMI 2000). Groundwater monitoring results are presented in the semi-annual groundwater monitoring reports prepared for the Former NFD Point Molate. The most recent semi-annual groundwater monitoring report (at the time of the preparation of this SGWMP) is for the 2011 dry season monitoring event (Terraphase 2012c).

2.4 Solid Waste

There are two known areas of solid waste disposal, IR Site 1 and IR Site 3. It should be noted that the present version of this SGWMP does not apply to IR Site 3. IR Site 2 (Sandblasting Areas) had been previously contaminated with sandblast grit. All sandblast grit was removed from the known areas of sandblast grit disposal (TtEMI 1998). Sandblast grit encountered in other areas of the Former NFD Point Molate should be considered to be hazardous and the appropriate procedures detailed in Section 5.8.1 of this SGWMP should be implemented if additional sandblast grit is encountered at the Site.

2.4.1 IR Site 1

From approximately 1957 until 1979, IR Site 1 was primarily used for disposal of construction and landscaping debris. An investigation was conducted in 1998 to determine the general nature and extent of the waste in the landfill. The estimated volume of fill at IR Site 1 was 20,000 cubic yards (TtEMI 2001a). A soil cover for IR Site 1 was designed in 2001 and constructed in 2002. The soil cover is 3-feet thick, has drainage controls and a monitoring system, and was hydroseeded with an annual native grass for erosion protection. The area of the IR Site 1 soil cover area is shown on Figure 2.

2.4.2 IR Site 3

Industrial waste was encountered below the foundations of the former fuel recovery facility (FRF) in IR Site 3 during the March 2001 removal of sumps, piping, and the above ground storage tanks (ASTs) within the former FRF. These waste materials included batteries (approximately the size that would be used in a motor vehicle), steel cables, wood (including pilings), glass bottles, brick, concrete, 5-gallon unlabeled steel containers, and one 55-gallon drum. A buried dock was also encountered, indicating that some of the subsurface wastes could predate the Navy's ownership of the site. Some additional exploratory excavation was conducted, and the extent of the waste area was estimated to be 120 feet long by 60 feet wide. The maximum vertical extent of waste was estimated to be from 2 to 9 feet below ground surface (bgs). Only a thin (approximately 1-foot-thick)

layer of waste was found in some areas (See Figure 2 for the location and extent of the FRF). The volume of waste was estimated to be 2,800 cubic yards (TtEMI 2001c). Piles of debris can be seen on the 1949 aerial photograph in the vicinity of the former FRF. By 1959 the FRF had been constructed in the former debris area.

2.5 USTs

Two-million-gallon USTs are generally located on the hillsides of the Site. Soil and groundwater contamination detected adjacent to the USTs and former valve boxes are the result of historic spillage and leakage. Free-phase product has been observed at some UST locations. However, those observations are generally limited in extent. As of May 2008, the Regional Water Board had approved closure for 9 of 20 USTs (Tanks 1, 7, 9, 10, 11, 14, 16, 17, and 20). The UST structures remain in place and have not been filled.

The latest round of groundwater monitoring conducted in October/November 2011 indicates that there is 1.06 feet of free product on the groundwater table downhill of Tank 5. Free product was also detected on the groundwater at the groundwater well located downhill of Tank 8 at a thickness of 0.01 feet (Terraphase 2012a).

3.0 SUMMARY OF EXISTING DEED RESTRICTION

As discussed below, the CRUP requires RWQCB approval of soil disturbance more than 24 inches below ground surface across the majority of the Site. Upon the approval of this SGWMP by the RWQCB, the RWQCB approves these activities in these areas with the exception of IR Site 3 and IR Site 4, which are subject to further remediation as long as the activities are conducted in compliance with this document.

3.1 Summary of Covenant to Restrict Use of Property

A land use control document (LUC) has been developed and recorded for the Former NFD Point Molate. The LUC in this situation is known as a covenant to restrict use, or CRUP, which was recorded in Contra Costa County on March 29, 2010. The CRUP protects the public during the completion of site remediation activities and provides for the necessary access to complete those activities. In some cases, the CRUP may need to be amended as appropriate, depending on the scope of each proposed cleanup action for areas of the Site that do not meet unrestricted use standards. Upstream and the City of Richmond are required to propose amendments to the CRUP, as needed, for Regional Water Board review and approval.

The CRUP places use and activity restrictions on the Site (FOSET Property and the 2003 CRUP; Figure 2) until the RWQCB makes the written determination that the necessary remedial actions have been completed or that the restrictions are no longer necessary to protect human health or the environment. In accordance with the CRUP, the Site (FOSET Property and the 2003 CRUP) shall not be used for any of the following purposes:

- A residence including any mobile home or factory-built housing constructed or installed for use as residential human habitation.
- Hospitals for humans, schools for persons under 21 years of age, day care centers for children, or any permanently occupied human habitation.

In accordance with the CRUP, the Owner or Occupant shall not engage in any of the following activities in or on the Site (FOSET Property or the 2003 CRUP Property), without written approval of the RWQCB:

- Remove and dispose of contaminated soil or groundwater unless in accordance with all applicable Federal, State and local regulations governing removal, transport, and disposal of hazardous substances and hazardous waste;
- Conduct dewatering activities unless in accordance with a RWQCB-approved dewatering workplan;
- Disturb or use existing groundwater monitoring wells and other test wells without the prior written approval of the RWQCB;
- Disturb or excavate soils greater than twenty-four (24) inches below ground surface for any purpose other than environmental investigation or remediation unless

Owner or Occupant provides prior notice to, and obtains approval of, the RWQCB to the extent, and in the manner, such approval is required under an approved soil and groundwater management plan applicable to the relevant area and the proposed excavation is implemented in a manner consistent with the requirements of that soil and groundwater management plan; if the excavation is consistent with the requirements of the applicable soil and groundwater management plan, and that plan does not require additional prior approval by the RWQCB, then no such approval is required for the specific excavation work. If the RWQCB has not approved a soil and groundwater management plan applicable to the area, or if the proposed excavation is inconsistent with the requirements of the soil and groundwater management plan, Owner or Occupant shall obtain RWQCB approval prior to disturbing any soils as described above.

- Install groundwater production wells nor use the groundwater for residential, municipal, agricultural, or industrial uses without the written approval of the RWQCB.
- Use or access USTs or property on or around the USTs for a distance of 150 feet from the perimeter of the UST for any reason in a manner that may disrupt the structural integrity of the USTs, unless a licensed structural engineer certifies that such use, in conjunction with any appropriate mitigation measures, would not adversely affect the structural integrity of the UST, and the local government entity that issues permits for the installation of USTs gives its prior approval for such use.
- Install, place, cover or load the top of any UST with any combination of structures, vehicles, or equipment, unless a licensed structural engineer certifies that such activity, in conjunction with any appropriate mitigation measures, would not adversely affect the structural integrity of the UST, and the local government entity that issues permits for the installation of USTs gives its prior approval to such activity. This restriction shall apply to all USTs.
- Remove any UST, or disturb the soil in preparation for removing a UST, unless in accordance with a RWQCB-approved workplan for such removal or disturbance.

3.2 Summary of LUC at IR Site 1

The CRUP prescribes restrictions in the long-term operation and maintenance of the landfill in IR Site 1. According to the CRUP, the land in IR Site 1 shall not be used for any of the following purposes:

- A residence including any mobile home or factory-built housing constructed or installed for use as residential human habitation; and
- Hospitals for humans, schools for persons under 21 years of age, day care centers for children, or any permanently occupied human habitation.

In addition, the CRUP places the following activity restrictions on IR Site 1:

- Engaging in any activity which disturbs, breaches, or otherwise affects the integrity of the soil cover; and
- Extracting or using groundwater for any purpose other than monitoring, remediation, or construction dewatering.

4.0 PREPARATORY AND PLANNING ACTIVITIES

Procedures required for planning and preparation prior to the beginning of soil disturbance or demolition activities are summarized below.

4.1 Health and Safety

The Contractor will verify that all personnel engaged in the work who may be exposed to impacted soil or groundwater, including air emissions from these media, will have:

- reviewed this SGWMP and signed the Soil and Groundwater Management Plan Review and Acceptance Form (Appendix C);
- reviewed the site-specific HSP prepared by the Contractor and submitted to the City of Richmond Public Works Agency;
- reviewed specific Hazard Safety Analyses (HSAs) for each task (where there is an applicable HSA) they will personally be involved in to inform them of task-specific hazards;
- attended a daily tailgate safety meeting to address the hazards of the work being conducted on site that day; and,
- obtained the required Hazardous Waste Operations (HAZWOPER) Training and Medical Monitoring, if necessary.

Required elements of the contractor HSP will include, but will not be limited to:

- Excavation procedures
- Requirement of OSHA Competent Person for side slopes evaluation
- Air monitoring
- Dust monitoring
- Management of stockpile areas
- Traffic safety, including coordination with Dutra (and/or other neighboring site owners) at their entrance to Western Drive

4.2 Site-Specific Work Plans

Site-specific work plans are required within the Former NFD Point Molate for complex subsurface disturbance activities such as construction of subsurface structures, installation of utilities, or major grading. The work plan will provide details of how the soil and/or groundwater will be managed, and, at a minimum, should include the following:

- Site description and background;
- Design criteria, plans, and specifications;
- Description of known impacts at the project site;
- Environmental controls implemented to address known impacts;
- Clean-up goals;

- Work schedule; and
- Description of subsurface disturbance equipment and method.

4.3 Notifications

At least 48 hours prior to the start of intrusive site activities, the Contractor will notify the following parties:

- RWQCB Case Officer
- City of Richmond Department of Public Works
- Contra Costa County Department of Environmental Health (for work in proximity to IR Site 1 and monitoring well installations and destruction)

4.4 Contra Costa County Well Installation/Destruction Permit

For investigatory borings of greater than 5 feet below ground surface or installation or destruction of groundwater wells, Contra Costa County Environmental Health Department (CCEHD) requires submittal and approval of a well permit. These permits typically require submittal a minimum of 5 days prior to commencing the work activities. Additionally CCEHD requires an inspector to be present during well seal construction or abandonment and sealing of investigatory soil boring location or monitoring wells.

4.5 Mobilization of Equipment to the Site

Equipment mobilized to the Site should be clean and free of soil and contamination. This equipment should be in good working order and have no active leaks from engine or hydraulic lines.

4.6 Utility Clearance

All underground utility and buried structure locations must be identified before any ground-disturbing activities take place. Underground Service Alert (USA) shall be notified no less than 48 hours prior to conducting activities and additional underground clearance must be performed by a private licensed utility surveyor.

4.7 Stockpile Area Identification

Soil stockpile areas will be identified prior to soil disturbance or demolition activities commence. A soil stockpile area map will be prepared and submitted to the City of Richmond Department of Public Works a minimum of 48 hours prior to beginning work. At a minimum, the soil stockpiling map will show locations where working stockpiles of uncontaminated soil, contaminated soil, and import materials will be located. Additionally, based on the activities anticipated, the soil stockpile map shall show the location of import material stockpile areas, demolition debris stockpile areas and other construction material

accumulation areas (utility material, building materials, erosion control supplies, etc.).
Stockpiles cannot be placed in the following areas:

- IR Site 3 and IR Site 4, without written approval of the RWQCB;
- restricted areas per the biological and cultural constraints described in Section 4.8.

4.8 Biological and Cultural Resources Restricted Areas

Prior to commencing field work, the following areas should be delineated, as shown on Figures 3a and 3b:

- mixed riparian habitat setbacks
- beach strand habitat setbacks
- tidal wetland and eel grass avoidance
- wetland area buffer zones
- Suisun Marsh aster setback
- bird nest exclusion areas (as necessary)

4.8.1 Mixed Riparian Habitat Setbacks

Per Mitigation Measure 4-2 (AES 2011), the on-site, mixed riparian habitat shown on Figures 3a and 3b shall be avoided to the maximum extent feasible. Additionally per Mitigation Measure 4-3 (AES 2011), a setback of at least 50 feet shall be established (i.e., staked) around all areas of mixed riparian habitat unless the soils, slope, hydrology, vegetation and runoff potential of adjacent construction areas dictate that a greater buffer distance is required. Prior to the onset of intrusive activities, high visibility fencing shall be installed to delineate the riparian setbacks. A qualified biologist shall be present during any soil or ground disturbance, or construction activities that ensue within the vicinity of the fenced riparian setbacks. The qualified biologist shall act as a construction monitor to ensure the fencing remains intact and that construction activities do not penetrate these avoidance buffers.

In accordance with Mitigation Measure 4-4 (AES 2011), if complete avoidance of mixed riparian habitat is not feasible and/or the project design cannot be reconfigured to avoid the mixed riparian habitat areas on-site, a Lake or Streambed Alteration Agreement (Fish & Game Code Section 1600 et seq.) shall be obtained from the CDFG and habitat replacement ratios defined within the permit conditions shall be implemented for development on fee lands.

4.8.2 Beach Strand Habitat Setbacks

Per Mitigation Measure 4-5 (AES 2011), the beach strand habitat on-site shall be completely avoided to the maximum extent feasible. To assure avoidance and avoid impacts to the beach strand habitat on-site (and BCDC jurisdictional areas), the existing

roadways shall be used to the extent feasible. Improvement of the existing roadways may be implemented as necessary, but no new roadways shall be built in the vicinity of the beach strand habitat on-site.

In accordance with Mitigation Measure 4-6 in the EIR (AES 2011), setbacks shall be established (i.e., staked) around the beach strand habitat within the footprint and vicinity of field activities. The minimum setbacks are shown on Figures 3a and 3b. Setback distances for areas of beach strand habitats shall be approved through consultation with BCDC, taking into account the soils, slope, hydrology, vegetative cover, and runoff potential of areas adjacent to beach strand habitat where activities will occur. Prior to start of soil disturbance activities, high visibility fencing will be installed to delineate the beach strand setbacks to the extent the fence can remain intact when completing the work. A qualified biologist shall be present during field activities that take place within the vicinity of the fenced beach strand setbacks. A qualified biologist shall act as a construction monitor to ensure the fencing remains intact and that construction activities do not penetrate these setback buffers. If complete avoidance is not feasible, consultation with or improvement permit from BCDC would need to be completed prior to beginning the work. Any impacts to beach strand habitat would require explicit approval by BCDC and conditions for such impacts would be specified within a permit, if applicable.

4.8.3 Tidal Wetland and Eel Grass Avoidance

Per Mitigation Measure 4-7, the tidal marsh habitat on-site shall be completely avoided. A minimum setback of 50 feet is required around the tidal marsh habitat on-site as a means of preventing any impacts to it from project work as shown on Figures 3a and 3b. The exact width of the tidal marsh setback shall likely be a specified condition of the BCDC permit(s) in work in the vicinity of the tidal wetlands at the Site. Prior to the onset of project work in vicinity of the tidal wetland, high visibility fencing shall be installed to delineate the tidal marsh setback. A qualified biologist shall be present during soil disturbance work to ensure compliance with the setback. The qualified biologist shall act as a construction monitor to ensure the fencing remains intact and that construction activities do not penetrate this setback buffer with prior written approval of the RWQCB.

Per Mitigation Measure 4-8, the eelgrass bed habitat on-site shall be completely avoided during construction activities. Since the Eel Grass habitat is located in the submerged lands part of the project. Work in this area is not contemplated as part of the activities described in the SGWMP and would require significant consultation with appropriate regulatory agencies including BCDC and National Marine Fishery Service.

4.8.4 Wetland Area Buffer Zones

In accordance with Mitigation Measure 4-10 in the EIR (AES 2011), contact with wetlands and/or waters of the U.S. should be avoided to the maximum extent feasible. Setbacks of 50 feet should be established around each of the wetland features within the vicinity of the

area of soil disturbance activities, unless an evaluation of the soils, slope, hydrology, vegetation and runoff potential indicate that a greater buffer distance is required. The minimum setback distances are shown on Figure 3a and 3b. Setbacks should be established by installing high-visibility fencing prior to the start of soil disturbance activities to the extent feasible while implementing the work. A qualified biologist will be present during field activities that take place in or in the vicinity of wetland/other waters avoidance buffer zones. The qualified biologist will act as a construction monitor to make sure the fencing remains intact and that field activities do not cross into the wetland avoidance buffer areas.

Under some circumstances, when fill of the wetlands or intrusion into the buffer is unavoidable, the work shall include written approval of the RWQCB as well as appropriate aquatic resource permits as discussed in Mitigation Measure 4-11 and 4-12.

4.8.5 Suisun Marsh Aster Setback

In accordance with Mitigation Measure 4-13 in the EIR (AES 2011), contact with the Suisun Marsh aster population and its on-site habitat should be avoided. Setbacks of 50 feet will be established around the total area where the population occurs, using high-visibility fencing prior to the start of soil disturbance activities. The minimum setback distances are shown on Figure 3b. A qualified botanist will be present during soil disturbance activities in the vicinity of the Suisun Marsh aster setback. The qualified botanist shall act as a construction monitor to ensure that the fencing remains intact and that soil disturbance activities do not penetrate this setback.

In accordance with Mitigation Measure 4-14 in the EIR (AES 2011), if complete avoidance of the Suisun Marsh aster population cannot be reasonably achieved, and impacts to this species are unavoidable, consultation shall be initiated with the CDFG. Upon CDFG approval, the impacted individual plants shall be transplanted out of their existing locations and into an equivalent and suitable wetland feature(s) that occurs within an established on-site open space preserve. A qualified botanist shall determine the exact transplanting locations and shall supervise all of the transplanting activities. Transplanting activities shall occur during the fall months, prior to the onset of heavy rains and inundation of seasonal wetland features to minimize transplant stress to the plants and ensure transplant success. Transplanting activities shall not occur in the spring, summer, or winter months, unless prior approval from the CDFG is obtained.

4.8.6 Bird Nest Surveys and Exclusion Areas (As Necessary)

Per Mitigation Measure 4-15 (AES 2011), special-status and/or migratory bird and raptor species have potential to nest within the project site. Generally, the nesting season extends from February through September, with peak activity taking place from March through June. If any field activities are scheduled to occur during the nesting season, pre-construction bird surveys will be conducted. Pre-construction surveys for any nesting bird species will be conducted by a qualified wildlife biologist throughout all areas that are

within 500 feet of any proposed field activity. The surveys will occur no more than 14 days prior to the scheduled onset of field activities. If field activities are delayed or halted for more than 14 days, another pre-construction survey for nesting bird species will be conducted. If no nesting birds are detected during the preconstruction surveys, no additional surveys are required.

Per Mitigation Measure 4-16 (AES 2011), if special-status nesting bird species are observed within 500 feet of field work areas during the surveys, consultation will be initiated with the CDFG and/or the United States Fish and Wildlife Service (USFWS). Through consultation, an appropriate course of action, acceptable setbacks, and a suitable monitoring plan will be determined. If non-special-status nesting birds are observed during the surveys, an appropriate setback will be determined based on the species, the location of the nest(s), and other pertinent biological attributes. Avoidance setbacks will be established around all active nest locations using stakes and high-visibility fencing. Typical setbacks are 250 feet for bird species and 500 feet for raptor species. The nesting bird setbacks shall be completely avoided during the duration of field activities and the fencing must remain intact. The fencing may be removed when a qualified wildlife biologist confirms that nests are no longer occupied and all fledglings have left.

Per Mitigation Measure 4-17 (AES 2011), if impacts (i.e., take) to federal or state threatened or endangered bird species are unavoidable, an incidental take permit from the USFWS/CDFG is required.

4.8.7 Bat Surveys and Evacuation (as necessary)

Per Mitigation Measure 4-20, a qualified wildlife biologist shall conduct pre-construction (i.e., any site disturbances) surveys within all potentially suitable bat habitats (i.e., buildings which would be modified or demolished, the pier, and the eucalyptus woodland) that occur within the site and vicinity of any proposed construction activities. If no bats and/or evidence of bats (i.e., guano) are detected during the pre-construction surveys, no additional surveys are required.

Per Mitigation Measures 4-21, if bats and/or evidence of bats are detected during the pre-construction (i.e., any site disturbances) surveys, a qualified bat biologist (i.e., specialist) will facilitate bat evacuation and removal. This typically entails the installation of exclusionary (e.g., mist) nets around occupied habitats while the bats are away from their roosts. The netted habitats shall be monitored frequently at appropriate times and intervals to ensure that all the bats have left the roosts and that no bats re-enter during the entire duration of all field activities. The exclusionary nets will be removed after field activities are completed.

4.8.8 Cultural Resources

Per Mitigation Measure 5-2, in the event that any prehistoric, historic, or paleontological resources are discovered during earth-moving activities, all work within 50 feet of the resources will be halted and a qualified archaeologist or paleontologist, as appropriate, shall be consulted to evaluate the significance of the find. If any find is determined to be significant by the qualified professional, then appropriate agency and project representatives and the qualified archaeologist and/or paleontologist will meet to determine the appropriate course of action. All significant cultural or paleontological materials recovered will be subject to scientific analysis, professional museum curation, and a report will be prepared by the qualified archaeologist or paleontologist according to current professional standards.

If human bone or bone of unknown origin is found during site disturbances (field work), all work shall stop within 50 feet of the find and the Contra Costa County Coroner shall be contacted immediately. If the discovery of human remains is made on federal trust land, the Bureau of Indian Affairs (BIA) archaeologist shall be contacted immediately. If the remains are determined to be Native American, the coroner shall notify the Native American Heritage Commission (NAHC) who shall identify the most likely descendant. The most likely descendant shall work with the BIA, as appropriate, to develop a plan for re-interment of the human remains and any associated artifacts. No additional work will take place within the immediate vicinity of the find until the identified actions have been implemented.

4.8.9 Historical Archeological Site Avoidance and Monitoring

Per Mitigation Measure 5-1, all soil disturbing activities within CA-CCO-506H and CA-CCO-283 (shown on Figure 3b) will be avoided unless a Programmatic Agreement between the City of Richmond, State Historical Preservation Office (SHPO), the Tribe and the BIA is developed to manage such activities. Construction monitoring by a qualified archaeologist shall monitor all earth disturbing activities with 50 feet buffer of these cultural resources.

4.9 Specific Preparation for Demolition Work

In addition to the above protocols that must be followed prior to all soil disturbance, dewatering and demolition work, the following additional activities are required prior to beginning demolition activities at the Site.

4.9.1 City of Richmond Demolition Permit

A permit from the City of Richmond must be obtained prior to demolition of any structures. As part of the permit application process, the following information is required:

- A “Demolition – Utility Disconnect Verification” form must be signed by Pacific Gas and Electric Company (PG&E) and submitted verifying that utilities have been disconnected;
- The Bay Area Air Quality Management District (BAAQMD) must provide certification that there is not asbestos present in the structures; and
- A Pest Control Clearance Certification from a California state licensed exterminator clearing the structure to be demolished must also be provided as part of the permit application.

4.9.2 Asbestos Containing Material Survey

Notification must be made to the BAAQMD at least 10 working days (except in special circumstances) prior to commencement of demolition. As required by the BAAQMD Rule 11-2-303.8, a structure must be thoroughly surveyed for the presence of asbestos-containing material (ACM), including Class I and Class II non-friable ACM, prior to beginning any demolition. The quantity and location of the asbestos samples collected should be based on the US Environmental Protection Agency (EPA) Asbestos Hazard Emergency Response Act (AHERA) regulations. The survey must be performed by a certified asbestos consultant (CAC) who is certified by the California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA) and who has taken and passed an EPA-approved Building Inspector course. The survey shall include sampling and the results of laboratory analysis of the asbestos content of all suspected ACM. This survey shall be made available, upon request by an air pollution control officer from BAAQMD, prior to the commencement of any regulated ACM (RACM) removal or any demolition. RACM is any ACM that is friable. If the suspect ACM is determined to contain greater than 1% asbestos, abatement activities must occur prior to demolition. RACM and Class I and Class II non-friable ACM that will be rendered friable must be removed prior to building demolition. This rule does not apply if the owner or operator asserts that the material to be renovated is RACM and will be handled in accordance with the provisions of BAAQMD Rules 11-2-303, 304 and 401. Abatement activities are described in detail in Section 7.1. Sample collection is described further in the SAP (Appendix D).

4.9.3 Lead Based Paint Surveys

If paint is present on the building to be demolished and the building pre-dates 1978, representative paint chip samples should be sampled for lead to help evaluate OSHA work practices prior to demolition activities. Samples will be collected as described in the Sampling and Analysis Plan (SAP) (Appendix D).

The U.S. EPA and Department of Toxic Substances Control (DTSC) require that lead-based paint equal to or greater than the US Department of Housing and Urban Development (HUD) definition of lead-based paints (greater or equal to 1 milligram per square centimeter [mg/cm^2] or 0.5 percent lead by weight) be removed prior to demolition if the

paint is loose and peeling. Representative composite building samples for waste characterization should also be collected in accordance with American Society for Testing and Materials Standard E 1908-97. Lead based paint sampling should be performed by a California certified Inspector/Assessor or a California certified sampling technician, under the direction of a California certified Inspector/Assessor. Sample collection is described further in the SAP (Appendix D).

Further, if lead-based paint is identified on the building structure (greater or equal to 1 mg/cm² or 0.5 percent lead by weight), near-surface soil samples (within the drip line of the building, generally less than 10 feet from the structure) shall be collected around the structure to determine the potential for residual soil lead contamination, and appropriate soil remediation shall be completed as described in Section 7.3. Soil sample collection from the drip line of buildings is described in Appendix D.

4.9.4 Bat Surveys

A qualified biologist shall conduct a pre-demolition survey within the buildings to be demolished. If no evidence of bats is detected, no additional surveys are required. If bats and/or evidence of bats are detected during the pre-demolition surveys, a qualified bat biologist (i.e., specialist) shall facilitate bat evacuation and removal. This typically entails the installation of exclusionary (e.g., mist) nets around occupied habitats while the bats are away from their roosts. The netted habitats shall be monitored frequently at appropriate times and intervals to sure that all the bats have left the roosts and that no bats re-enter during the duration of the demolition activities.

4.9.5 Utility Disconnections

All utilities must be disconnected and capped prior to demolition in accordance with the 2010 California Building Code Chapter 33, Section 3303.6. Proof of the utility disconnections must be provided as part of the City of Richmond demolition permit process.

4.9.6 Historical Building Survey

Per Mitigation Measure 5-1, demolition of structures within the Winehaven National Historical District shall not occur without written approval by the City of Richmond Public Works and only compliance with requirements of the SHPO and in compliance with the other elements of this mitigation measure.

The Winehaven District is located within the boundaries of the former NFD Point Molate as shown on Figure 3a. The Winehaven District is listed on the National Register of Historic Places. If a non-contributing element is to be demolished within the boundaries of the Winehaven District, a request for consultation with the State of California Office of Historic Preservation (OHP) must be made pursuant to Section 106 of the National Historic

Preservation Act. A formal letter requesting the consultation should be sent to OHP. The letter should include (at a minimum) the following information:

- The date of construction of the building/structure to be demolished.
- A project description.
- A map clearly identifying the project area.
- Photographs of the direct Area of Potential Effect (APE; i.e., the structure to be demolished) and the indirect APE.
- If ground disturbance is required or the building or structure is over 50 years of age, a search of the California Historical Resources Information System will be requested.

If any of the contributing buildings within the Winehaven District are to be disturbed or altered, the 1995 Historical American Building Survey Documentation must be updated and proposed modifications are subject to review by the OHP.

5.0 EARTHWORK CONTROL MEASURES FOR SOIL DISTURBING ACTIVITIES

Control measures to be implemented during earthwork activities include, but are not limited to, the following:

- dust control measures;
- decontamination of construction equipment and transportation vehicles;
- dust and air monitoring at the Site or work area perimeter during earthwork;
- storm water management and associated best management practices (“BMPs”);
- identification and handling of potentially contaminated soil
- protocols for evaluating potentially contaminated
- working in non-contaminated soils
- working in contaminated soils
- excavation sampling
- import soil evaluation
- biological monitoring, as necessary; and
- archeological monitoring as necessary.

5.1 Dust Control

Dust control measures will be performed during construction activities at the Site to reduce dust generation to minimize the exposure of construction workers to dust, and to prevent dust from migrating off-Site. Dust generation may be associated with excavation activities, truck traffic, wind traversing uncovered soil stockpiles, loading of transportation vehicles, or other earthwork activities.

5.1.1 Dust Management Measures

The following dust management measures shall be followed:

- All work will cease if sustained wind speeds exceed 15 miles per hour (mph) or wind gusts exceed 25 mph. “Sustained” is defined as greater than 5 minutes in a period of one hour. During periods of stop work due to excessive wind speed, all soil stockpiles will be tarped and the facility water truck will continuously water bare soil surfaces. Work will not recommence until the wind speed has been less than 15 mph for at least 30 minutes.
- All construction vehicles entering the construction site shall enter the Site through graveled or non-toxic dust suppressant-treated roadways.
- Off-road parking and travel will be forbidden unless required.
- Vehicle speeds will be limited to 15 miles per hour on the Site.
- Speed limit signs shall be placed at the site entrances.

- All stockpiles which are not being actively built will be tarped or sprayed with a non-toxic chemical dust suppressant acceptable to the RWQCB.

5.1.2 Dust and Air Mitigation Measures

These mitigation measures from the EIR shall be followed:

- MM 3-1: Water all active construction areas at least three times daily during dry weather.
- MM 3-2: Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard.
- MM 3-3: Pave or apply non-toxic soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites.
- MM 3-4: Sweep daily, with water sweepers, all paved access roads, parking areas, and staging areas at construction sites.
- MM 3-5: Sweep streets daily, with water sweepers, if visible soil material is carried onto adjacent public streets.
- MM 3-6: Hydroseed or apply non-toxic soil stabilizers to inactive construction areas (previously graded areas inactive for 10 days or more).
- MM 3-7: Enclose, cover, water twice daily or apply non-toxic soil binders to exposed stockpiles (dirt, sand, etc.).
- MM 3-8: Limit traffic speeds on unpaved roads to 15 mph.
- MM 3-9: Install sandbags or other erosion control measures to prevent silt runoff to public roadways.
- MM 3-10: Replant vegetation in disturbed areas as quickly as possible.
- MM 3-11: Install wheel washers for all exiting trucks, or wash off the tires or tracks of all trucks and equipment leaving the site.
- MM 3-12: Install windbreaks, or plant trees/vegetative windbreaks at windward side(s) of construction areas.
- MM 3-13: Suspend excavation and grading activity when winds (instantaneous gusts) exceed 25 mph.
- MM 3-15: Heavy, diesel-powered equipment idling shall be limited to two minutes.

5.1.3 Active Controls

The following active controls shall be followed:

- The project water truck will circulate around the project area to maintain adequate soil moisture.
- Soil drop heights during truck loading will be reduced to the greatest degree practicable. If necessary, a fire hose will be used to wet down soil as it is being loaded to mitigate dust.
- All trucks hauling soil will be tarped before leaving the loading area.

- All trucks will be decontaminated before leaving the site in accordance with Section 5.2.
- Paved areas within the Site will be swept with the project Street Sweeper at the beginning of the work day, at noon, and at the close of the work day and more often if required.
- A temporary fence with a solid surface (tarps) will be erected upwind of the excavation area and any stockpiles.

5.2 Decontamination of Construction Equipment and Transportation Vehicles

To minimize tracking of potentially contaminated soil onto roadways, all construction equipment and transportation vehicles that contact soil will be decontaminated prior to leaving the Site. Decontamination methods will include scraping, brushing, or vacuuming to remove dirt on vehicle exteriors and wheels. In the event that these dry decontamination methods are not adequate, methods such as steam cleaning, high-pressure washing, and cleaning solutions will be used, as necessary, to thoroughly remove accumulated dirt and other materials. Wash water resulting from decontamination activities will be collected and managed in accordance with all applicable laws and regulations. Collected wash water that is free of soap or detergent may be filtered and managed along with water generated from dewatering as described in Section 6.0.

5.3 Dust and Air Monitoring

Dust and air monitoring will be performed to ensure that site workers and offsite populations are not exposed to unsafe concentrations of airborne contaminants. The Contractor shall assign a minimum of qualified site worker per work area to be responsible for air monitoring. When utilized, field monitoring instruments will be calibrated on a daily basis in conformance with the manufacturer's recommendations.

5.3.1 Dust Monitoring

On-site dust monitoring will be performed during soil disturbing and demolition activities. Dust monitoring will be performed on an hourly basis, within 100 feet of the soil disturbing activities, using a Ringelmann No.1 Chart. If the reading on the chart is No. 1 or greater for more than 3 minutes in an hour, work will be stopped and dust management measures will be enhanced.

If work involves the disturbance of potentially contaminated or contaminated soil, perimeter dust and air monitoring will be performed as described in Section 5.3.3.

5.3.2 Work Zone Air Monitoring

Work-zone air monitoring will be performed by the Contractor to protect their worker's Health and Safety as necessary. These procedures must be included in the Contractor-

prepared HSP. Air monitoring will be performed if potentially contaminated soil is identified at the work site. Air monitoring activities will be conducted in general accordance with the procedures outlined within the EPA guidance document entitled, "Superfund Program Representative Sampling Guidance, Volume 2: Air (Short-Term Monitoring), Interim Final. 1995. EPA 540/R-95/140. (Office of Solid Waste and Emergency Response [OSWER] Directive 9360.4-09, PB 96-963206)."

5.3.3 Perimeter Air Monitoring

Per Mitigation Measure 11-1 (AES 2011), perimeter air and dust monitoring ("perimeter monitoring") will be performed during large-scale soil disturbing activities (>1 acre) and in areas where potentially contaminated soil has been identified by the contractor. Perimeter monitoring will be performed within 50 feet of the boundary of the soil disturbing activity to verify that Contractor implemented control measures performed at the project site are adequate to prevent dust and volatile contaminants from leaving the Site. The perimeter monitoring shall be performed under the oversight of a professional engineer or certified industrial hygienist independent of the Contractors personnel.

Real-time air monitoring of total dust will be performed using real-time aerosol monitors Personal Data Rams (PDRs) with data loggers to provide immediate information for the total dust levels present. The PDRs will be positioned along the perimeter of the work site, at locations most likely to be in the direction of off-site dust migration from the excavation depending on the wind direction on the day and time of work. Two PDRs will be placed at a height of five feet on fences in the downwind direction to monitor for dust being generated in the excavation and one PDR will be placed upwind of the excavation to measure ambient dust concentrations.

Wind speed and direction will be continuously monitored using a portable calibrated wind sock. Wind speed will also be measured every hour using a hand-held anemometer and the readings recorded in the daily field notes. As discussed in Section 5.1.2, work will stop if the sustained wind speed exceed 15 mph or wind gusts exceeds 25 miles per hour (mph).

The action level for dust concentrations will be 0.150 milligrams per cubic meter (mg/m^3), as measured by the PDRs along the fence lines outside of the excavation area. This action level is equivalent to the EPA's National Ambient Air Quality Standards (NAAQS), which are based on risk to human health.

Perimeter monitoring of airborne VOCs will be monitored using a hand-held PID. PID readings will be collected hourly at the downwind site boundary and twice a day at a location upwind of the excavation to measure ambient VOC concentrations. The action level for VOCs at the site perimeter will be 5 parts per million by volume (5 ppmv). If this action level is exceeded, a second reading will immediately be collected. If the second reading confirms the exceedance of the action level, work will stop, and the efficacy of

engineering controls will be evaluated to ensure that they are capable of maintaining the concentration of airborne VOCs at background levels below the action level.

Concentrations of VOCs and particulates as well as calibration notes for the instrumentation will be documented daily at the perimeter through completion of a daily field log.

If the time-weighted average for a work day exceeds the target levels, the RWQCB, City of Richmond Department of Public Works and BAAQMD shall be notified and dust suppression techniques shall be enhanced the following work day. If enhanced dust suppression measures do not sufficiently reduce dust levels for two consecutive days, a construction stand day down day will be enforced and an Enhanced Dust Suppression Plan describing the increased effort and new techniques will be developed by the Contractor and submitted to the City of Richmond Department of Public Works. Work shall not resume until the City of Richmond approves the Enhanced Dust Suppression Plan

5.4 Storm Water Management

All work that will disturb more than one acre of land area or any soil disturbing activities that are part of a common plan of development that disturbs more than one acre of land will be conducted under the State of California's *General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities* (Construction General Permit) Order No. 2009-0009-DWQ as amended by Order No. 2010-0014-DWQ (NPDES No. CAS000002), issued by the State Water Resources Control Board (SWRCB). In accordance with the Construction General Permit, Permit Registration Documents (PRDs) will be submitted to the SWRCB via the Stormwater Multi-Application and Report Tracking System (SMARTS) by the Legally Responsible Person (LRP), or authorized personnel (i.e., Approved Signatory) under the direction of the LRP. The project-specific PRDs include:

- Notice of Intent (NOI);
- Risk Assessment;
- Site Map;
- Annual Fee;
- Signed Certification Statement; and
- Stormwater Pollution Prevention Plan (SWPPP).

The SWPPP will also be submitted to the RWQCB for review per Task 12 of the RWQCB Order No. R2-2011-0087. A SWPPP Template is available on the California Stormwater Quality Association's (CASQA's) Stormwater Best Management Practice Handbook Portal: Construction (CASQA 2010). In accordance with the Construction General Permit, Section XIV, the SWPPP should be designed taking into account the following:

- Pollutants and their sources, including construction site erosion, are controlled;

- Non-stormwater discharges are identified and either eliminated, controlled, or treated; and
- BMPs are effective and result in the reduction or elimination of pollutants in stormwater discharges and authorized non-stormwater discharges from construction activity to the Best Available Technology/Best Control Technology (BAT/BCT) standard.

For projects that disturb less than one acre of land but are located within the setback areas for seasonal wetlands, tidal wetlands, or mixed riparian (Figures 3a and 3b), a project erosion control plan that identifies appropriate structural BMPs specific to the project activity will be prepared by a Professional Engineer and Qualified SWPPP Developer (QSD) including BMPs designed to protect the wetland or riparian areas.

BMPs are measures used to prevent or reduce the potential of pollution from any type of activity. BMPs are a very broad class of measures and may include processes, procedures, scheduling activities, prohibitions on practices, and other management practices to prevent or reduce storm water pollution. For sites with soil disturbance in excess of 1 acre, applicable BMPs will be identified in the SWPPP for erosion control, sediment control, non-storm-water controls, materials and waste management, and post-construction storm water controls. The CASQA website (www.casqa.org) contains factsheets for BMPs that may be implemented on the Site. The BMP factsheets include descriptions and installation/construction requirements for the BMPs. The classes of BMPs available for managing stormwater on the Site are described in the sections below.

5.4.1 Erosion Control BMPs

Erosion controls provide effective reduction or elimination of sediment-related pollutants in stormwater discharges from the Site. Erosion controls, also referred to as soil stabilization, consist of source control measures that are designed to prevent soil particles from detaching and becoming transported in stormwater runoff. Erosion control BMPs protect the soil surface by covering and/or binding soil particles.

The following practices can be implemented to provide effective temporary and final erosion control during construction:

- Adjust the construction schedule to allow for sufficient time to install erosion controls when rain is forecast.
- Preserve existing vegetation where required and when feasible.
- Control the disturbed areas such that the Contractor is able to implement erosion control BMPs quickly and effectively.

- Stabilize non-active areas within 14 days of cessation of construction activities or sooner if stipulated by local requirements.
- Control erosion in concentrated flow paths by applying erosion control blankets or fiber rolls along the graded slopes of the lagoon.
- Prior to the completion of construction, apply permanent erosion control (vegetation) to remaining disturbed soil areas.
- Maintain sufficient erosion control materials onsite to allow implementation in conformance with this SWPPP.

5.4.2 Sediment Control BMPs

Sediment controls are temporary or permanent structural measures that are intended to complement the selected erosion control measures and reduce sediment discharges from the active construction areas. Sediment controls are designed to intercept and settle out soil particles that have been detached and transported by the force of water.

The following sediment control BMPs can be used at the Site:

- Silt fences or fiber rolls can be used to prevent sediment from entering a water body or wetland.
- Inlet protection (such as straw wattle, hay bales, or filter fabric) can prevent sediment from entering the inlets.
- The entrances/exits from the Site can be constructed so that sediment is not tracked off the Site.
- The access roads around the Site can be packed dirt and/or gravel and watered as needed during construction activities.
- A tire wash can be utilized at the construction exit to remove sediment from tires and under carriages and to prevent sediment from being transported onto public roadways.
- Water or chemical dust suppressants can be applied as necessary to prevent or alleviate dust nuisance generated by construction activities. Covering small stockpiles or areas is an alternative to applying water or other dust palliatives.

5.4.3 Non-Stormwater Control BMPs

Non-stormwater discharges consist of discharges which do not originate from storm events. Non-stormwater discharges into stormwater collection systems or waterways, which are not authorized under the Construction General Permit, are prohibited. Non-

stormwater discharges for which a separate NPDES permit is required by the local RWQCB are prohibited unless coverage under the separate NPDES permit has been obtained for the discharge. The selection of non-stormwater BMPs is based on the construction activities (vehicle maintenance, storage, and fueling) with a potential for non-stormwater discharges.

The Construction General Permit provides allowances for specified non-stormwater discharges that do not cause erosion or carry other pollutants. Steps should be taken, including the implementation of appropriate BMPs, to ensure that unauthorized discharges are eliminated, controlled, disposed, or treated on-site. Discharges of construction materials and wastes, such as fuel or paint, resulting from dumping, spills, or direct contact with stormwater runoff, are also prohibited.

- When non-stormwater and accumulated precipitation (stormwater) must be removed from a work location to proceed with construction work or to provide vector control, manage the discharge of pollutants.
- Vehicles and equipment should be cleaned so that oil, grease, and/or fuel will not enter the waterways.
- Use offsite facilities, fuel in designated areas, enclose or cover stored fuel, implement spill controls, and train employees and subcontractors in proper fueling procedures.
- If maintenance activities cannot be done at an offsite facility, work should be performed in designated areas only, while providing cover for materials stored outside, checking for leaks and spills, and containing and cleaning up spills immediately.

5.4.4 Materials Management and Waste Management BMPs

Materials management control practices consist of implementing procedural and structural BMPs for handling, storing and using construction materials to prevent the release of those materials into stormwater discharges. The amount and type of construction materials to be utilized at the Site will depend upon the type of construction and the length of the construction period. The materials may be used continuously, such as fuel for vehicles and equipment, or the materials may be used for a discrete period, such as soil binders for temporary stabilization.

Materials and waste management pollution control BMPs should be implemented to minimize stormwater contact with construction materials, wastes and service areas, and to prevent materials and wastes from being discharged off-site. The primary mechanisms for stormwater contact that should be addressed include:

- Direct contact with precipitation
- Contact with stormwater run-on and runoff
- Wind dispersion of loose materials
- Direct discharge to the storm drain system through spills or dumping
- Extended contact with some materials and wastes, such as asphalt cold mix and treated wood products, which can leach pollutants into stormwater.

Housekeeping should be part of daily operations. Good housekeeping includes proper operations and maintenance of processes and equipment, proper storage of materials and wastes, maintaining routine cleanup schedules, maintaining well-organized work areas, and promoting safe work habits of personnel. Specific good housekeeping procedures to be implemented should include:

- Maintaining clean and orderly work areas, with regular sweeping at least once per week indoors and outdoors;
- Regular removal of garbage and waste material;
- Prompt cleanup of spilled materials to prevent migration;
- Proper material and waste storage practices, including adequate aisle space to provide for material transfer and easy access in the event of an emergency; and
- Neat and accessible storage of housekeeping and spill response kits (brooms, vacuums, absorbents, foams, neutralizing agents, containment booms, etc).

The following controls can be used to prevent pollutants from entering the stormwater on the Site:

- Materials will be stored in the staging area.
- Minimize hazardous material use on site.
- Materials will be stored in the staging area and will be watered if necessary to reduce dust generation.
- In the event of a spill (such as fuel), spill kits will be used to prevent the discharge of the contaminant to the storm water.
- Solid waste generated as part of the construction activities will be contained in the staging area and disposed of regularly at an off-site landfill location.

- Use materials properly and dispose of wastes to prevent or reduce the discharge of pollutants to storm water from hazardous waste.

5.4.5 Stockpile Management BMPs

All stockpiles of material at the Site (including import soil and excavation spoils) shall at a minimum follow the protocols:

- Minimum of 50 foot separation from concentrated flows of storm water, drainage courses, and inlets shall be maintained.
- Runoff should be diverted around or away from the stockpile on the upstream perimeter.
- Stockpiles are considered inactive if they will not be access for more than 14 days.
- Inactive stockpiles are required to be covered with plastic tarps or non-toxic soil binder immediately if they are not scheduled to be used within 14 days.
- Protect inactive stockpiles (or portions thereof) from storm water run-on using temporary perimeter sediment barriers such as fiber rolls, silt fences, sandbags, gravel bags, or equivalent approved by Professional Engineer and QSD.
- Active Stockpiles shall be covered on all days with potential of precipitation or active rainfall.
- Stockpiles of Portland cement concrete rubble, asphalt concrete, asphalt concrete rubble, aggregate base, or aggregate sub base should be covered at all time they are not in use for more than one day and on all days with potential of precipitation or active rainfall.
- Ensure that stockpile coverings are installed securely to protect from wind and rain. Some plastic covers withstand weather and sunlight better than others. Select cover materials or methods based on anticipated duration of use.

All stockpile BMPS are required to maintained in good working order and shall be inspected at a minimum once per week in the rainy season from October 15th through April 15th. During the dry season monthly inspection by the Contractor is required. If the project is subject to an individual SWPPP, the SWPPP may require additional inspection as necessary.

Contaminated soil, if stockpiled, should be staged on 10-mil thick plastic sheeting, surrounded by berms and covered as described in Section 8.5.2.

5.4.6 Control of Run-on and Runoff

Surface water runoff and runoff shall be controlled by directing flowing water away from critical areas and by reducing runoff velocity. Diversion structures such as terraces, dikes, and ditches shall collect and direct runoff water around vulnerable areas to prepared drainage outlets. Surface roughening, berms, check dams, hay bales, use of permeable paving surfaces or other similar measures shall be used to reduce runoff velocity and erosion.

If surface water does come in contact with contaminated soil, it should be handled in accordance with the procedures described below in Section 6.3 (Extraction and Management of Contaminated Groundwater).

5.4.7 Post-Construction Storm water Management BMPs

Post-construction BMPs are permanent measures installed during construction, designed to reduce or eliminate pollutant discharges from the Site after construction is completed.

The following erosion controls can be used at the Site on disturbed or exposed areas:

- Vegetation/hydroseeding;
- Straw or wood mulch;
- Soil binders; an alternative to mulches;
- Geotextiles and mats (slopes where erosion hazard is high and vegetation will be slow to establish); and
- Compost blankets.

5.5 Identification of Potentially Contaminated Soil

Areas subject to this plan have either received regulatory closure, or have not been identified as requiring further remediation, or are the large USTs that have not received regulatory closure. Petroleum hydrocarbons are the primary type of contaminant expected to be encountered.

It will be the contractor's responsibility to identify potentially contaminated soils during intrusive work activities and proceed accordingly. The initial evaluation of the presence of potentially contaminated soil will be based primarily on contractor field observations.

Soil potentially contaminated by petroleum hydrocarbons can be identified in the field by the following:

- Non-aqueous-phase liquids (free product)

- Petroleum odor
- Soil staining
- Elevated readings indicated by an organic vapor analyzer (OVA) or other field equipment.

Areas immediately adjacent to USTs have a higher-than-average potential for containing petroleum-contaminated soil and/or groundwater.

Other indicators of potentially contaminated soil include the presence of sand blast grit and miscellaneous buried debris, abandoned underground tanks/pipes or other unanticipated types of contamination. When potential contamination that is related to petroleum has been discovered, the Contractor shall follow the protocol discussed for areas where petroleum concentrations exceed the Maintenance Worker Fuel Product Action Levels (FPALs; See Section 5.6).

Site management and equipment operators will survey the work area at the beginning of each workday and routinely throughout each day during demolition and construction operations to check for the presence of potentially contaminated soil. Equipment operators, management, and other field personnel should be notified of any potential impacted soil within the work area. These locations should be clearly marked with paint, flagging, etc.

5.6 Protocol for Evaluation of Potentially Contaminated Soil

If potentially contaminated soil is identified, the presence of contaminants should be confirmed by taking the following steps:

1. Stop operations in the vicinity of the potentially contaminated soil.
2. Soil grab samples should be collected by qualified personnel, with OSHA 40-hour HAZWOPER training, working under the supervision of a California Professional Geologist or California Registered Professional Engineer. Samples will be collected and analyzed as described in the SAP (Appendix D). As dictated by the field construction schedule, expedited (24-hour) turnaround may be required.
3. Soil samples shall be analyzed for
 - a. Total Petroleum Hydrocarbons (TPH) for diesel and bunker fuel by EPA Method 8015B
 - b. VOCs by EPA Method 8260B
 - c. PAHs by EPA Method 8270C

4. Site management and field personnel should use their best judgment to assess whether additional sampling and analysis is needed to delineate the extent of encountered impacted soil, including those cases where the field observations and laboratory TPH results suggest increasing concentration trends laterally.

All contaminated soil and soil considered to be potentially contaminated must be managed in accordance with applicable regulations, health and safety requirements, and the applicable procedures described in this plan. Potentially contaminated stockpiles shall not exceed 200 cubic yards prior to sampling.

5.6.1 Screening of Soil Analytical Data

The analytical results will be reviewed by a qualified geologist or engineer to evaluate whether excavation/construction can continue. The analytical results will be screened against applicable FPALs established for the Site (TtEMI 2001b), which are presented in Table 1. The following screening approach will be used:

- a. If the depth at which the work is being conducted is greater than 5 feet from the groundwater table and concentrations are below Residential FPALs, work can continue without further testing, special soil handling, or further provisions. This soil is considered non-contaminated and can be handled in accordance with Section 5.7.
- b. If the depth at which the work is being conducted is less than 5 feet from the groundwater table and concentrations are below the Subsurface Soil Near Groundwater FPALs and the Residential FPALs, work can continue without further testing, special soil handling, or further provisions. This soil is considered non-contaminated and can be handled in accordance with Section 5.7.
- c. Soil is considered contaminated if 1) detected concentrations are above Residential FPALs for work conducted greater than 5 feet from the groundwater table; or 2) if the concentrations are above the Residential FPALs and the Subsurface Soil Near Groundwater FPALs for work conducted less than 5 feet from the groundwater table. If the detected concentrations are above the criteria outlined in 1) and 2), but are below Maintenance Worker FPALs, work can continue, with the following procedures and provisions:
 - i. Follow notification procedures in Section 5.6.2
 - ii. Store contaminated soil in separate stockpiles from non-contaminated soil; follow stockpiling procedures presented in Section 8.5.2
 - iii. After excavation is complete, collect soil sampled from the excavation sidewalls and floor, following procedures presented in Section 5.9

- iv. Perform waste characterization of contaminated soil using procedures presented in Section
- d. If concentrations are above Maintenance Worker FPALs, soil is considered contaminated. Suspend excavation/construction operations and complete the following:
 - i. Follow notification procedures in Section 5.6.2
 - ii. Consult with qualified geologist or engineer to prepare work plan for additional sampling and additional environmental control protocols that should be implemented in order to continue work

5.6.2 Notifications of Contaminated Soil

Upon discovery and confirmation of contaminated soils, the Contractor is responsible for notifying the following parties in writing within 24 hours of receipt of analytical data.

- RWQCB Case Officer
- City of Richmond Department of Public Works

The written notification shall include the following information:

- Site map showing the approximate location of the contaminated soil
- Physical description of the contamination and approximate quantities
- Analytical data and comparison to appropriate screening criteria
- Indication of whether work has been suspended and when a work plan for additional sampling will be submitted to the RWQCB, as necessary

5.7 Work in Non-Contaminated Soil

If no potentially contaminated soil is identified or potentially contaminated soils are identified as non-contaminated, work can continue with observation by trained Contractor personnel. The soil can continue to be managed as uncontaminated unless potential contamination is observed during subsequent subsurface disturbance.

Non-contaminated soil will be managed as follows:

- Soil stockpiles will be managed as described in Section 5.4.5.
- Excavated non-contaminated soil will be reused at the site to the extent feasible. Non-contaminated soil may be placed within 100 feet of the location from which it

was excavated. The RWQCB can extend the area for placement with a written waiver.

Any excess soil remaining after the work is complete will be removed from the soil excavation/construction site and either disposed of offsite in an appropriate manner or stored for use in other areas of the site, in accordance with inactive stockpile procedures contained in Section 5.4.5.

5.8 Work in Petroleum Contaminated Soil

5.8.1 Petroleum-Contaminated Soil

Petroleum-contaminated soil (and potentially contaminated soil until such time that sampling data shows the soil is non-contaminated) will be managed as follows:

- The soil will be stockpiled as described in Section 5.4.5 with the additional measures described in Section 8.5.2.

Soil exceeding residential FPALs and the Subsurface Soil Near Groundwater FPALs if within 5 feet of the groundwater table cannot be reused at the Site without written permission from the RWQCB.

- If the soil contains known hazardous waste, or there is reason to suspect that the soil contains hazardous waste, reuse at the site is prohibited.
- Contaminated soil will be characterized, managed and disposed of in accordance with procedures presented in Sections 8.0 and 9.0.
- Equipment and clothing coming in contact with contaminated media shall be disposed of properly or decontaminated prior to leaving the immediate work area where the contaminated soil was encountered.

5.9 Excavation Sampling and Analysis

Post-excavation soil sampling and analysis will be conducted in project areas where contaminated soils were identified.

The number and location of soil samples to be collected will depend on the conditions encountered in the field. Samples should be collected under the direction of a qualified Professional Geologist or Registered Professional Engineer. In general, a sampling grid should be established for the excavation floor and sidewalls. One excavation floor confirmation soil sample should be obtained per 50 by 50 square feet grid, or part thereof. For the excavation sidewalls, one soil sample collected every 50 horizontal feet of sidewall and every 10 feet of vertical excavation, or part thereof.

The types of analyses required will depend on area conditions, field observations, and the known history of the area under investigation. However, given the general history and nature of contamination at the Site, the required analytes and analyses required will be:

- TPH for diesel and bunker fuel by EPA Method 8015B
- VOCs by EPA Method 8260B
- PAHs by EPA Method 8270C

This data will be submitted by a qualified Professional Geologist or Engineer to the RWQCB within 30 days of collection. The data submittal shall include an evaluation whether soil remaining after excavation exceeds FPALs (Table 1) and recommendations for further remedial or investigatory action, as necessary. The sampling and analysis will be performed in accordance with the SAP (Appendix D). If concentrations of contaminants exceed FPALs (Table 1), the excavation will remain open if conditions permit. Prior to backfilling an excavation where the excavation sampling exceed the clean-up goals, RWQCB must approve of the data submittal and recommendations in writing.

5.10 Import Soil

Import soil will be required for various construction activities at the Site. Prior to delivery to the Site, representative samples of soil proposed for imported to the Site shall be collected and analyzed as described in this section. The sampling requirements will follow guidance in the DTSC *Information Advisory, Clean Imported Fill Material* (DTSC 2001), as summarized below.

Volume of Borrow Area Stockpile	Samples per Volume
Up to 1,000 cubic yards	1 sample per 250 cubic yards
1,000 to 5,000 cubic yards	4 samples for first 1000 cubic yards +1 sample per each additional 500 cubic yards
Greater than 5,000 cubic yards	12 samples for first 5,000 cubic yards + 1 sample per each additional 1,000 cubic yards

The fill will be tested for the analytes listed below:

- Metals listed in California Title 22 (EPA Method 6010/6020/7471). If the detected concentrations of one (or more) metal analytes exceed the 10 times the soluble threshold limit concentration (STLC) value (defined in Title 22 CCR, Chapter 11), then each sample that exceeds this threshold shall be analyzed for STLC for that analyte. Currently the only metals that this applies to are barium, beryllium and lead as the screening criteria discussed below for other metals are less than 10 times the STLC.

- Pesticides and polychlorinated biphenyls (PCBs; EPA Method 8081/8082)
- Semi-volatile organic compounds (SVOCs; EPA Method 8270)
- VOCs (EPA Method 8260)
- TPH – gasoline, diesel, and motor oil (modified EPA Method 8015)

In general soil will be rejected if organic or metals contamination is detected, however soil may be further considered if chemicals are detected below the screening criteria which are defined as the lowest level for the contaminant from the RWQCB Region 2 Environmental Screening Levels (ESLs) for shallow soils (less than 3 meters below ground surface) for residential land use, where groundwater is not a current or potential source of drinking water (RWQCB 2008) or the California Human Health Screening Levels (CHHSLs) in soil for residential land use (DTSC 2005). Arsenic results will be compared to 12 mg/kg (equal to one half the background level of 24 mg/kg for arsenic at NFD Point Molate). Soils with concentrations less than the screening criteria can only be imported with RWQCB approval. Prior to use on-site, the RWQCB must approve all fill material, except as noted below.

Sand and aggregate to be used for construction of paved areas, such as roads, parking areas, and sidewalks, will be obtained from commercial aggregate suppliers in the San Francisco Bay Area. Non-recycled aggregate will not be tested for COCs, and RWQCB approval of such material is not required. Recycled aggregate will be tested for COCs as discussed above.

5.11 Biological Monitoring

Biological monitoring during soil disturbance activities is required per the EIR when work is being conducted in and around ecologically sensitive areas. As shown on Figures 3a and 3b, portions of the site described as follows require qualified biological monitoring:

- mixed riparian habitat setbacks (Section 4.8.1)
- beach strand habitat setbacks (Section 4.8.2)
- tidal wetland / eel grass avoidance (Section 4.8.3)
- wetland area buffer zones (Section 4.8.4)
- Suisun Marsh aster setbacks (Section 4.8.5)

Additionally if bird nest are identified during the required pre-construction surveys, biological monitoring may be required of exclusion area (Section 4.8.6.). The biological monitor will be required during all active soil disturbance activities with in the areas shown on Figures 3a and 3b.

5.12 Cultural Resource Monitoring

Cultural resource monitoring during soil disturbance activities is required per the EIR when work is being conducted in and around cultural resource areas. As shown on Figure 3b, portions of the site described as follows require oversight by a qualified archeologist (Section 4.8.9):

- CA-CCO-506H
- CA-CCO-283

Soil disturbance with in the Cultural Resource Areas is currently prohibited and monitoring is required if work extends to within the buffer areas.

6.0 DE-WATERING MANAGEMENT

Control measures to be implemented during dewatering activities include, but are not limited to, the following:

- identification and handling of contaminated water
- Extraction and Management of Un-Contaminated Groundwater
- Extraction and Management of Contaminated Groundwater
- biological monitoring, as necessary (follow procedures in Section 5.11); and
- cultural resource monitoring as necessary (follow procedures in Section 5.12).

Dewatering could be initiated at the Site to facilitate excavation and subsurface construction work. Uncontrolled and extensive dewatering could adversely impact groundwater by drawing groundwater that contains contamination toward the dewatering area, thus causing those areas to be degraded with contaminants. If it is determined that construction activities require the use of dewatering, the following measures should be followed to minimize the potential impacts.

6.1 Identification of Contaminated Waters

All extracted groundwater should be assumed contaminated until shown otherwise. If dewatering is to be performed as part of construction activities at the Site, a review of the most recent groundwater monitoring report available at the time the project is planned should be conducted. If no groundwater data exists in the proposed construction area, groundwater in the planned work areas should be sampled prior to dewatering and analyzed to determine appropriate management and disposal practices. For small projects it may be feasible to store the water in tanks pending analytical results. For larger projects, groundwater should be sampled. Sample collection is described further in the SAP (Appendix D). Analytes for groundwater are required to include TPH (diesel and bunker fuel), VOCs, PAHs, BTEX compounds, metals, pH, and flash point depending on the location of work within the Site and the observed conditions of the groundwater.

To be considered uncontaminated and qualify for discharge to a storm drain under the General Permit, the groundwater analytical results shall not contain a hazardous substance equal to or in excess of quantities established in Table 2.

Groundwater with analytical results above the quantities established in Table 2 should be considered contaminated. In addition, water with a visible petroleum sheen should be considered contaminated and handled in accordance with the procedures described in Section 6.3.

Liquids with a pH less than 2 or greater than 12.5 or a flash point of less than 60.5°C (141°F), are considered hazardous and will require off-Site disposal at a hazardous waste facility (discussed in Section 6.3.2).

6.2 Extraction and Management of Un-Contaminated Groundwater

6.2.1 Discharge to Storm Drain

If the results of sampling indicate the extracted groundwater is not contaminated, the extracted groundwater may be discharged to a nearby storm drain under the Construction General Permit. The discharge must meet the requirements of Part III.C of the Construction General Permit. Part III.C is related to non-stormwater discharges including non-impacted groundwater dewatering. The discharger must also follow best management practices documented in any active SWPPP prepared for the work. Additionally non-storm water discharges must follow the following BMPs derived from *Stormwater Best Management Practice Handbook Portal: Construction* (CASQA 2010) to mitigate potential discharge of sediment laden or turbid waters:

- Notify the RWQCB and City of Richmond Public Works of intent to discharge non-contaminated and non-storm water to the storm drain a minimum of 48 prior to discharge
- Monitor the discharge location and the location where the storm drain discharges to a drainage course or San Francisco Bay for erosive conditions
- Maintain daily record of approximate quantity of dewatering discharge and condition of treatment train
- Weir tank(s) shall be utilized prior to discharge, unless other BMP is approved by the RWQCB in writing. Multiple parallel weir tanks may be utilized prior to discharge to the storm drain. The number of weir tanks shall be determined by a professional engineer based on estimated flow volume, constituents of concern, and residency period
- Treatment capacity (i.e., volume and number of tanks) should provide at a minimum the required volume for discrete particle settling for treatment design flows.
- Periodic cleaning is required based on daily visual inspection or reduced flow.
- Oil and grease disposal should be conducted by a licensed waste disposal company.
- Discharge shall not exceed 250 nephelometric turbidity units (NTU).

6.2.2 Sampling and Analyses

Monitoring of the extracted groundwater should continue during dewatering activities. Monitoring should be conducted approximately daily during the first one weeks of operation and then weekly thereafter. Turbidity analysis shall be conducted daily regardless of duration of dewatering activities. Samples should be collected immediately prior to discharge to the storm drain and analyzed for the COCs identified for the work area. The minimum constituents of concern shall be:

- TPH (diesel and bunker fuel) utilizing silica gel clean-up preparation techniques

- SVOCs
- Turbidity
- pH

Turbidity and pH should be measured in the field with a calibrated portable instrument suited for these measurements. The remaining samples shall be run on a 24-hour expedited turn around. If concentrations of petroleum related compounds exceed the criteria described Table 2, the groundwater is considered contaminated and protocols described in Section 6.3 should be implemented. If turbidity exceeds criteria in Table 2, the sediment loading reduction techniques should be modified to increase efficiency. If turbidity is exceeded or pH is out of range on 3 consecutive days, work shall be suspended and the RWQCB shall be notified.

6.3 Extraction and Management of Contaminated Groundwater

If the results of the analytical testing indicate the groundwater is contaminated, the groundwater will require treatment prior to discharge to the sanitary sewer (if available) or storm drain or off-site disposal at an approved facility. Liquids that are identified as hazardous will require off-Site disposal.

6.3.1 Treatment

To the extent feasible groundwater should be treated through the existing on-Site packaged groundwater treatment plan (PGWTP) located at Site 3. If the on-Site PGWTP is not operating or the water cannot be treated with the on-Site treatment plant, other options for handling the water exist. An individual NPDES permit (separate from the General Construction Permit) will be required discharge to a storm drain and will identify the treatment and sampling requirements and frequency required to evaluate compliance with the permit requirements. Treatment system design shall be submitted to the RWQCB for review and approval prior to utilization. Typical contaminants encountered in groundwater at the Site are petroleum related and can likely be treated with granular activated carbon.

Un-treated and treated water may be discharged to a sanitary sewer under permit and approval by the local sanitary sewer purveyor. Currently sanitary sewer infrastructure at the Site is not available. Treatment system design shall be submitted to the City of Richmond Municipal Sewer District Sanitary Service for review and written approval prior to discharging to sanitary sewer.

6.3.2 Disposal

Non-hazardous liquids may be disposed off-Site at a landfill (see Section 9.3) or at the Richmond Municipal Sewer District. Prior approval must be gained from either disposal facility and submittal of analytical data will be required as part of the approval process.

Hazardous liquids must be disposed off-Site at an approved hazardous waste facility (see Section 9.4).

7.0 BUILDING DEMOLITION

Control measures to be implemented prior to and during building demolition activities include, but are not limited to, the following:

- Asbestos Abatement
- Lead-Based Paint Abatement
- Drip line soil remediation
- Hazardous waste characterization
- Management of Recycled materials
- Management of Non-recyclable materials

7.1 Asbestos Abatement

Federal, State, and local requirements govern the removal of asbestos or suspected ACM, including the demolition of structures where asbestos is present. These requirements are promulgated by the EPA, federal and state OSHA, DTSC, and the BAAQMD. All friable (crushable by hand) ACMs, or non-friable ACMs subject to damage, must be abated prior to demolition in accordance with applicable requirements. Friable ACM must be disposed of as an asbestos waste at an approved facility. Non-friable ACM may be disposed of as non-hazardous waste at landfills that will accept such wastes. Workers conducting asbestos abatement must be trained in accordance with State and federal OSHA requirements.

Worker health and safety in California is regulated by Cal/OSHA. California standards for workers dealing with hazardous materials (including hazardous wastes, asbestos, and lead) are contained in California Code of Regulations (CCR) Title 8 and include practices for all industries (General Industrial Safety Orders), and specific practices for construction, and hazardous waste operation and emergency response. Cal/OSHA conducts on-site evaluations and issues notices of violation to enforce necessary improvements to health and safety practices.

Contractors hired to remove ACM shall submit a written ACM abatement plan certified by a qualified CAC to the City of Richmond Public Works Agency at least 48 hours prior to beginning ACM abatement activities and BAAQMD at least 10 days in advance.

The work plan for the removal of ACM shall at a minimum contain the following elements:

- Approximate schedule
- Specification of abatement methods
- Containment of ACM
- Protection of workers including air monitoring
- Clean up during and after abatement
- Waste management and disposal
- Record keeping

A licensed asbestos abatement contractor shall perform the removal. During abatement, the work area shall be isolated to protect against contamination of other areas and ensure that there is no release of asbestos to other portions of the Site and shall be marked with signage containing the following text: "DANGER ASBESTOS, CANCER AND LUNG DISEASE HAZARD, KEEP OUT, AUTHORIZED PERSONNEL ONLY, RESPIRATORS AND PROTECTIVE CLOTHING REQUIRED IN THIS AREA."

Less than 30 days after completion of the ACM abatement, a report prepared by a professional engineer documenting the removal and waste tracking shall be submitted to the City of Richmond Public Works Agency.

7.2 Lead Based Paint Abatement

Federal and State regulations govern the demolition of structures where lead or material containing lead is present. Regulations pertaining to demolition of structures with lead-based paint (LBP) are promulgated by the EPA, DTSC, and the HUD. If lead-based paint is identified, federal and State construction worker health and safety regulations shall be followed during demolition activities. Any lead-based paint shall be removed by a qualified lead abatement contractor and disposed of in accordance with existing hazardous waste regulations if the concentration of lead exceeds applicable waste thresholds. Hazardous wastes must be appropriately managed, labeled, transported, and disposed of in accordance with local, State, and federal requirements by trained workers. State and federal construction worker health and safety regulations require air monitoring and other protective measures during demolition activities where lead-based paint is present.

Contractors hired to remove LBP shall submit a written LBP abatement plan certified by a qualified Professional Engineer or Certified Industrial Hygienist (CIH) to the City of Richmond Public Works Agency at least 48 hours prior to beginning LBP abatement activities.

The work plan for the removal of LBP shall at a minimum contain the following elements:

- Approximate schedule
- Specification of abatement methods
- Containment of LBP
- Protection of workers including air monitoring
- Clean up during and after abatement
- Waste management and disposal
- Record keeping

Less than 30 days after completion of the LBP abatement, a report prepared by a professional engineer documenting the removal and waste tracking shall be submitted to the City of Richmond Public Works Agency.

7.3 Drip-Line Lead Affect Soil Remediation

If concentration of lead in soil in the drip line area (within 10 feet of the outside building wall) exceed the criteria on Table 1, soil shall be removed until confirmation sample shows that concentrations are below the criteria. Sampling is described in Appendix D. This soil shall be managed and disposed of off-site in accordance with the protocols described in Sections 8.0 and 9.0. Less than 30 days after completion after removal of the soil, a written report prepared by a professional engineer documenting the removal shall be submitted the RWQCB and City of Richmond Public Works Agency.

7.4 Hazardous Waste Characterization

RACM (greater than 1%) is considered a non-RCRA California hazardous waste. The U.S. EPA does not regulate asbestos waste as hazardous waste under RCRA. Non-friable bulk ACM is not considered a hazardous waste and is not subject to regulation under Title 22, Division 4.5, of the California Code of Regulations. However, not all landfills will accept this type of waste.

During LBP abatement, LBP materials must be disposed of as a State and/or federal hazardous waste if the concentration of lead exceeds applicable waste thresholds. LBP is considered a state hazardous waste if the total threshold limit concentration (TTLC) concentration exceeds 1,000 mg/kg or if the STLC exceeds 5 milligrams per liter (mg/L). It is considered a federal RCRA hazardous waste if the toxicity characteristic leaching procedure (TCLP) result exceeds 5 mg/L.

7.5 Recyclable Debris

Title 4, Chapter 418-14 of the Contra Costa County Ordinance Code requires that at least fifty percent by weight of the total construction and demolition debris generated by a demolition or construction project covering five thousand square feet or more is diverted from landfills through recycling unless the owner has been granted a diversion requirement adjustment pursuant to Section 418-14.012.

To the extent possible, recoverable metal should be segregated from other wastes and transported to licensed metal recycling facility. Tanks and pressure vessels (if encountered) can only be designated for recycling if they comply with the requirements of Section 67383.3 in Title 22 of the California Code of Regulations and they have been rendered non-functional.

Non-hazardous concrete and asphalt may be designated for recycling at an off-Site permitted facility. Concrete that exhibits heavy staining or deposits or has a history suggesting sufficient exposure to chemicals of concern, including contact with soils in locations where significant environmental impacts have been detected, will be investigated further to verify it is suitable for recycling.

7.6 Non-recyclable Debris

All demolition debris that will not be recycled will be loaded into trucks and hauled to a disposal facility for further recycling or landfill.

Hazardous materials, such as fluorescent light tubes, ballasts, smoke detectors, and mercury switches, must be removed from the buildings prior to demolition. These items should be managed and disposed of by the demolition contractor(s) in accordance with applicable universal and hazardous waste regulations. These items should be transported and disposed of separately from the building material demolition debris.

Federal, State and local worker health and safety regulations shall apply to demolition activities, and required worker health and safety procedures shall be incorporated into the contractor's specifications for the project.

8.0 WASTE MANAGEMENT

Waste streams should be segregated. Additionally, incompatible wastes (e.g., flammable and corrosive wastes) should be segregated. Wastes of the same matrix, contamination, and the same source may be aggregated to facilitate storage and disposal. Hazardous wastes shall only be aggregated if carrying the same hazardous waste codes. In any case, hazardous waste shall not be diluted unless specifically allowed by state and federal regulations.

8.1 Waste Characterization for Off-Site Disposal

Soil and building debris that is to be disposed off-Site will be sampled for waste characterization to evaluate waste disposal options. The number of samples to be collected for waste characterization will depend on the volume of soil to be disposed and on the requirements of the waste-receiving facility. In general, a minimum of one sample will be collected for every 500 cubic yards of waste to be disposed and one sample per project area where soil was unearthed. The sampling protocols are included in the SAP (Appendix D).

At a minimum samples of waste soil should be analyzed for:

- a. TPH for diesel and bunker fuel by EPA Method 8015B
- b. VOCs by EPA Method 8260B
- c. PAHs by EPA Method 8270C

Additionally lead should be analyzed for soil that will be removed from the Drip line of LBP affected structures. Additional analysis may be required by the waste receiving facility or to evaluate the waste as a hazardous waste.

8.2 Hazardous Waste

Title 22 CCR Section 66262 and 40 Code of Federal Regulations (CFR) Part 262 consists of regulations applicable to the generation, storage, management, and accumulation of hazardous wastes. Hazardous wastes should be removed from the Site within 90 days from the date of generation. California regulations impose a 90-day hazardous waste accumulation time period regardless of how much hazardous waste is generated. PCB containing wastes exceeding 50 ppm should be removed within 30 days from the date of generation. The date of generation is the day that a waste is first placed in a container or tank.

8.3 Waste Storage Areas

Roll-off bins, drums, and tanks of hazardous wastes should be stored in a temporary accumulation area (less than 90 days) designated before the project begins. The designated storage area should be secure. State regulations allow for satellite accumulation of hazardous waste provided that the generator complies with the states satellite accumulation rules found in 22 CCR 6626.34, which require that:

- Storage containers are in good condition (no rusting or defects).
- Wastes are compatible with the container.
- Containers remain closed except when adding or removing wastes.
- Containers are not opened, handled, moved, or stored in a manner that may rupture or cause the container to leak.
- Areas used for container storage are inspected weekly. Inspections must be documented in a field notebook.

Hazardous waste storage areas shall contain emergency equipment sufficient to respond to the hazard posed by the waste. Typical items in a hazardous waste storage area include fire extinguishers, decontamination equipment, personal protective equipment (PPE), and portable eyewash. Spill control equipment (e.g., sorbent pads) should be available in the waste storage areas and where liquids are transferred from one vessel to another.

Waste material should be stored in a planned and orderly manner that does not endanger the safety of people working in the vicinity. Ensure storage containers (such as drums, tanks or bins) or stockpiles are stable. Storage containers, such as drums, tanks or bins, should be placed in an area where they can be easily accessed to aid in safe handling and loading. Hazardous materials must be stored in accordance with the individual requirements.

8.4 Labels

Every waste container is required to be properly labeled. The type of label is dependent upon the container size and/or the contents of the container. The marking on the labels must be permanent and legible, and the completed label must be clearly visible on the container.

The labeling of waste containers should be in accordance with 49 CFR 172, 173, and 178. Labels should include the type of waste, location where the waste was generated, and accumulation start date. Containers, roll-off bins, and tanks used to store/accumulate wastes (including soil and groundwater) shall include one of the following labels:

- “Analysis Pending” – Temporary or handwritten label until analytical results are received and reviewed. This label should include the accumulation start date.
- “Hazardous Waste” - Preprinted hazardous waste label with the following information:
 - Accumulation start date
 - Generator name
 - EPA identification number for site
 - Waste codes
 - For containers of less than 110 gallons, the manifest number must be on the label before transporting.
 - RACM must include the additional warning on the label:
“Danger Contains Asbestos Fibers
Avoid Creating Dust
Cancer and Lung Disease Hazard”
- “Nonhazardous Waste” – Preprinted labels with the following information:
 - Accumulation start date
 - Generator name
 - EPA identification number for site
 - Waste-specific information (e.g., contaminated soil)

Where applicable, the major hazards on the label (e.g., flammable, oxidizer, and carcinogen) should be included on the label.

Hazardous waste labels can be purchased from the following suppliers:

- Label Master; 5724 North Pulasaki Road, Chicago, IL 60646 (800) 621-5808
- Lab Safety Inc., P.O. Box 1368, Janesville, WI 53547 (800) 356-0783
- HCL Labels, Inc., 510 East Maude Ave., Sunnyvale, CA 94086 (800) 421-6710

8.5 Methods to Store Wastes

Wastes shall be stored in one of the following manners and according to the following requirements.

8.5.1 Asbestos Containing Materials

RACM must be contained in one of the following ways:

- In sealed, leak-tight, non-returnable containers (e.g., plastic bags of at least 6-mil thickness, cartons, drums, or cans) from which the fibers cannot escape. Additionally, you must wet the wastes to prevent fibers from blowing around in the event that the container is broken. 40 CFR 61.150, or,
- For bulk waste that will not fit into such containers without additional breaking, wet it to prevent blowing of fibers in case the wrapping is broken, then wrap it so it will be leak-tight and seal it with packaging or duct tape. If you are placing the wrapped and sealed waste directly in trailers or drop-boxes, you need to line the

container with plastic sheeting and covered it with a tarp. (CCR, title 13, section 66263.23.)

8.5.2 Contaminated Stockpiles

Non-hazardous contaminated soils may be stockpiled at the Site. At a minimum, the following procedures should be followed for stockpiling contaminated soils in addition to the provisions described for all stockpiles in Section 5.4.5:

- Stockpiles should be placed on plastic sheeting near the disturbance areas or within a designated storage area.
- Stockpiles shall be provided with cover and perimeter berm to prevent rupture and release or infiltration of liquids.
- Minimum 10-mil thick plastic sheeting polyethylene sheeting shall be used for liners and covers.
- The perimeter berm, typically hay bales placed beneath the liner, shall be constructed to allow for collection of any free liquids draining from the stockpile.
- Covers and perimeter berms shall be secured in-place when not in use and at the end of each work day, or as necessary to prevent wind dispersion or runoff from major precipitation events.
- Accumulated free liquids on the underlying liner shall be pumped (or otherwise removed) to a container for characterization and disposal per Section 9.
- Accumulation dates shall be maintained in a field notebook for waste stored on site in stockpiles including the date of placement and a general description of the location of excavation.

8.5.3 Drums

Drums of wastes should be transported to the designated accumulation area for the project. Drums and roll-off bins (Section 8.5.4) can be utilized to store hazardous soil waste as necessary. Hazardous and non-hazardous waste soil drums should be kept in separate locations. Drums should be inspected and inventoried upon arrival to the Site by the Contractor for signs of contamination and/or deterioration.

Adequate aisle space (e.g., 30 inches) shall be provided for containers such as 55-gallon drums to allow the unobstructed movement of personnel and equipment. A row of drums should be no more than two drums wide. Each drum should contain its own label.

Drums should remain covered except when removing or adding waste to the drums. Covers should be properly secured at the end of each work day. Drums should be disposed of with its contents.

Secondary containment shall be provided for drums of liquid hazardous waste or hazardous wastes that are incompatible with other wastes or materials stored nearby.

8.5.4 Roll-off Bins

Covered roll-off bins or drums (Section 8.5.3) may also be used to temporarily store wastes including any waste characterized as hazardous waste unless alternative storage mechanism has been approved by the RWQCB in writing. Hazardous wastes should not be stored on Site for longer than 90 days.

- Roll off-bins shall be inspected upon arrival on Site by the Contractor. Any roll-off bins that arrive with contents in them should be rejected.
- Roll-off bins for hazardous materials should be provided with covers and disposable liners. Liners shall be disposed of as contaminated debris.
- When not in use, securely fastened covers should be installed on all roll-off bins.
- Old labels should be removed.

8.5.5 Portable Tanks

When large quantities of wastewater are generated and stored for short periods of time prior to disposal, portable tanks will be used. To meet the requirements of 22 CCR 66262.34(d)(1) that provide special conditions for use of portable tanks, the storage will be limited to a maximum of 60 consecutive days. Tanks used for storage will meet the following requirements:

- Tanks shall be inspected upon arrival onsite for signs of deterioration and contamination. Any tank that arrives on site already containing liquid content should be rejected.
- Tanks shall be provided with covers.
- Each tank shall be labeled. Tanks containing hazardous waste will be marked with the accumulation start date, composition and physical state of the wastes, waste properties, and name and address of generator.
- Tanks containing hazardous waste or incompatible liquids should be provided with secondary containment.
- Inspections of each tank should be conducted daily.

- Tank valves should be equipped with a chain and lock

8.6 Manifests/Shipping Documentation

Shipping documentation for demolition debris should follow the requirements outlined in Section 9.0.

9.0 WASTE TRANSPORT AND DISPOSAL

The transportation and disposal of liquid, soil, and solid waste generated at the Site will be performed in accordance with all applicable federal, state, and local laws, regulations, and ordinances.

This section is intended to meet the requirements of MM 7-1: Soil Disposal Plan from the EIR (AES 2011). This mitigation measure states that the Soil Disposal Plan shall include, but not be limited to, the following:

- Soil haul truck routes
- Soil disposal sites
- Barge route (not allowable under this plan, without approval of the RWQCB and other applicable regulatory agencies and in compliance with additional mitigation measures discussed in the EIR [AES 2011])
- Traffic safety mitigation
- Road and right-of-way deterioration restoration funding (road deterioration from the remediation work shall be included with the scope of the Contractor to the extent they cause such deterioration)
- Limits on times haul trucks and barges can operate.
- A two week notice shall be given to residents of the San Pablo Peninsula regarding any temporary blockage on Western Drive.
- Determine alternate construction and operational access routes during times of roadway construction in the vicinity of the project site.

Additionally, this section is intended to meet the requirements of MM 7-3: Construction Coordination Plan for remediation waste soil operations from the EIR (AES 2011). Per this requirement the protocol present in this SGWMP will be followed and California Department of Transportation will also be notified 24-hours in advance of when 20 or more truck of waste materials are leaving the site per day.

The results of characterization and profile sampling will be used to determine how the wastes should be transported and disposed. A contractor licensed for commercial transportation shall transport nonhazardous waste. In the event that a generated waste is hazardous, the transporter must be licensed in accordance with 49 CFR 171-179. A copy of the documentation indicating that the selected transporter has appropriate licenses must be received prior to transport of any waste material.

When necessary, water spray or mist will be applied for dust control purposes during soil or solid waste loading activities. Each truck will receive the proper placards and paperwork prior to leaving the Site.

Prior to leaving the Site, the exterior of the transporting vehicle (including the tires), will be cleaned in order to remove any waste material present and to prevent material being tracked into public roadways. Tarps will be secured over loaded solid materials to prevent release of soil or dust during transport. Prior to leaving the Site, all trucks will be inspected by the Contractor to ensure that the payloads are properly loaded and adequately covered, the vehicles are cleaned of soil, and that the shipment is properly documented. Loading, decontamination and covering loads will not be permitted in the public right-of-ways including Western Drive and Western Drive shall remain passable to traffic 24 hours per day and 7 days per week to all traffic including Emergency Response vehicles per mitigation measure 7-2 of the EIR (AES 2011).

9.1 Trucking Requirements

The Contractor will be responsible for weighing loads at a certified scale. For each load of material, weight measurements shall be obtained for each full and empty container, dump truck, or tanker truck. Disposal quantities will be based on the difference of weight measurements between full and empty container, dump truck, or tanker truck. Weights will be recorded on the waste manifest or bill of lading. The contractor should provide copies of weight tickets with the final manifest or bill of lading/invoice to the City of Richmond or their designated representative within 2 weeks of off-site disposal.

The Contractor must observe the following practices when hauling and transporting wastes off-Site:

- Obey all state, federal, and local requirements for transportation of wastes.
- Minimize impacts to general public traffic. Trucks entering/merging onto any roadway or highway shall be separated by a minimum of one minute travel time.
- Repair road damage caused by construction and/or hauling traffic.
- Clean up material spilled in transit.
- Line and cover trucks/trailers used for hauling contaminated materials to prevent releases.
- Decontaminate vehicles prior to reuse, other than hauling contaminated material.
- All personnel involved in off-Site disposal activities should follow safety and spill response procedures outlined in the HSP.

- No materials from other projects may be combined with materials from the Site.
- Trucks transporting liquids must be sealed.

9.2 Recyclable Materials

To the extent possible, recoverable metal should be segregated from other wastes and transported to a licensed metal recycling facility. Tanks and pressure vessels (if encountered) can only be designated for recycling if they comply with the requirements of Section 67383.3 in Title 22 of the California Code of Regulations and they have been rendered non-functional. The following licensed metal recycling facilities are located near the Site:

- Simms Metal Management
600 South 4th Street
Richmond, California 94804

Non-hazardous concrete and asphalt may be designated for recycling at an off-Site permitted facility. Concrete that exhibits heavy staining or deposits or has a history suggesting sufficient exposure to chemicals of concern, including contact with soils in locations where significant environmental impacts have been detected, will be investigated further to verify it is suitable for recycling. The following licensed facilities are located near the Site and will take asphalt and concrete for recycling:

- Dutra Materials
961 Western Dr.
Richmond, CA 94801

Other recycling facilities may be acceptable based on City of Richmond written approval.

9.3 Non-Hazardous Waste Disposal

Wastes that have been characterized as non-hazardous and do not exhibit the Department of Transportation (DOT) hazard class characteristics are not regulated under DOT rules for hazardous materials transport. Materials classified as Class II or Class III Waste will be transported to a Class II or Class III (Subtitle D) facility. There are several Class II and Class III landfills within 150 miles of the Site. These include:

- Keller Canyon Landfill (Class II)
901 Bailey Road
Pittsburg, California
925-449-6349
- Livermore, California
925-455-7300
- Hay Road Landfill (Class II)
6426 Hay Road
Vacaville, California
707-678-4718
- Altamont Landfill (Class II)
10840 Altamont Pass Road

- Ostrom Road Landfill (Class II)
5900 Ostrom Road
Wheatland, California
530-743-6321
- Forward Inc. Landfill (Class II)
9999 S Austin Road
Manteca, California
209-982-4298
- Austin Road Landfill (Class III)
9999 S Austin Road
Manteca, California
209-982-4298
- Guadalupe Landfill (Class III)
15999 Guadalupe Mines Road
- San Jose, California
408-268-1666
- Vasco Road Landfill (Class III)
4001 North Vasco Road
Livermore, California
925-447-0491
- Kirby Canyon Landfill (Class III)
910 Coyote Creek Golf Drive
Morgan Hill, California
408-779-2206
- Newby Island Landfill (Class III)
1601 Dixon Landing Road
Milpitas, California
408-432-1234

Other Class II or Class III facilities may be acceptable based on City of Richmond written approval.

9.4 Hazardous Waste Disposal

Hazardous wastes transported offsite for disposal or recycling will be performed in accordance with the DOT Hazardous Material Transportation regulations of 49 CFR Parts 171 through 180, 40 CFR Part 262, Part B, and Title 22 CCR Section 66262, which involve packaging, placarding, labeling, and manifesting requirements. Materials classified as Class I Waste will be transported to an appropriate Class I (RCRA Subtitle C) Treatment, Storage, and Disposal (TSD) facility. There are three Class I landfills within 500 miles of the Site. These include:

- Kettleman Hills Landfill (215 miles from the Site)
35251 Old Skyline Road
Kettleman City, California
559-309-7688
- Clean Harbors Facility (260 miles from the Site)
2500 West Lokern Road
Buttonwillow, California
661-762-6200
- US Ecology Facility (445 miles from the Site)
Highway 95 - 12 miles South of
Beatty, Nevada
775-553-2203

Other Class I facilities may be acceptable based on City of Richmond written approval.

9.5 Transportation and Disposal Manifests and Logs

Transportation of wastes (soil, demolition debris, etc.) shall be inventoried the day of transportation from the Site using the Transportation and Disposal Log (Appendix E) by the Contractor. A carbon copy or Xerox copy of the initial manifest or bill of lading form for each load shall be retained on site and attached to the Transportation and Disposal Log. All required transportation manifests shall be prepared and signed by the City of Richmond or an official representative. This information will be submitted daily to the City of Richmond Public Works Agency or their designated representative.

When the waste is profiled as non-hazardous waste, a proper shipping document (such as a bill of lading or invoice) of the hauler will be used to document and accompany each shipment. At a minimum, the non-hazardous waste shipping document should include the following information:

- Name and address of waste generator.
- Name and address of waste transporter.
- Name and address of disposal facility.
- Description of the waste.
- Quantity of waste shipped.

If the waste is profiled as hazardous waste, the Uniform Hazardous Waste Manifest form will be used to track the movement of the hazardous material from the point of generation to the point of ultimate disposition. Prior to transporting the material off-Site, an authorized representative will sign each hazardous waste manifest. The hazardous waste hauler will then sign the manifest and distribute one signed copy to the Contractor. A copy of the hazardous waste manifest for each truckload should be maintained for the duration of the work. At a minimum, the Uniform Hazardous Waste Manifest form must include the following information:

- Name and address of waste generator.
- Name and address of waste transporter.
- Name and address of disposal facility.
- Description of the waste.
- Quantity of waste shipped.

9.6 Haul Routes

Transportation of materials will take place on arterial streets and/or freeways, approved for truck traffic, to reduce potential impact on the local neighborhood. Trucks approaching the NFD Point Molate from Interstate 580 (I-580) will use the exit labeled Western Drive, Point Molate. Designated loading areas must be established as part of the planning process for work that will be conducted within the NFD Point Molate and will vary depending on location, scope and phase of work. In general, the transport trucks will exit the Site on Western Drive towards I-580. A caution sign will alert drivers to nearby truck traffic related to Dutra Quarry. Signage will direct drivers to bear left onto Western Drive. If it becomes necessary, a flag person will be stationed at this intersection to coordinate truck traffic entering and exiting the site as well as Dutra Quarry. Appendix F includes the general routes that will be followed to various waste disposal facilities from NFD Point Molate.

9.7 Hauling Hours of Operation

Transportation of materials can take place from 6am to 6pm. To the extent possible, there will be no loading or transporting at night.

10.0 EMERGENCY ACTIONS

If an emergency situation arises that requires medical attention, containment assistance, or other emergency assistance, dial 911 and follow emergency procedures given in the Contractor's Health and Safety Plan.

An emergency response subsurface disturbance is any immediately necessary activity that would result in the disturbance of soil, such as utility pipeline repair activities that cannot wait until for all the control measures in this report to be implemented. To the extent feasible, the Contractor or City of Richmond personnel completing the emergency action shall follow the protocols in the SGWMP. Upon identification of a situation requiring emergency subsurface disturbance, the RWQCB, City of Richmond, and CCEHD should be notified within 24 hours. This section provides the procedures that will be followed for emergency response subsurface disturbances.

10.1 Utility Repair

If emergency utility repair is required, it should be assumed the soil has the potential to be contaminated and the procedures for handling excavated soil should be stockpiled as described in Section 8.5.2.

10.2 Landslides

In the event of a landslide, the area of the landslide should be inspected immediately to mitigate any flooding hazard that might result from a blockage of drainage routes. It should be assumed that soil removed from a landslide has the potential to be contaminated and should be stored and handled in accordance with the procedures in Section 8.5.2.

11.0 NOTIFICATIONS AND REPORTING

Table 3 provides contact information for the notification and reporting discussed in this SGWMP. Additional notifications should be made to other entities identified not identified on the table (such as PG&E, Cal-OSHA, etc.) as appropriate and required by law.

This Section summarizes these reporting and notifications.

11.1 City of Richmond Department of Public Works

The following activities require notification to the City of Richmond Department of Public Works:

- Intent to conduct soil disturbing activities (48-hour prior to commencing)
- Perimeter air monitoring location exceeds target criteria (within 24 hours of occurrence)
- Discovery of contaminated soils (within 24 hours of confirmation that soils exceed criteria)
- Intent to discharge non-contaminated and non-storm water to the storm drain (48-hour prior to commencing)
- Circumstances that require emergency response (within 24 hours of incident)

The following activities require submittals to the City of Richmond Department of Public Works:

- Contractor Health and Safety Plan (Section 4.1)
- Stockpile Area identification Map (Section 4.7)
- Demolition Permit (Section 4.9)
- Enhance Dust Suppression Plan (Section 5.3)
- SWPPP (Section 5.4)
- ACM Abatement Plan (Section 7.1)
- LBP Abatement Plan (Section 7.2)
- Drip Line Lead Affected Soil Removal Summaries (Section 7.3)
- Waste Tracking Forms and Manifests (Section 9.5)

11.2 RWQCB

The following activities require notification to the RWQCB:

- Intent to conduct soil disturbing activities (48-hour prior to commencing)
- Perimeter air monitoring location exceeds target criteria (within 24 hours of occurrence)
- Discovery of contaminated soils (within 24 hours of confirmation that soils exceed criteria)
- Intent to discharge non-contaminated and non-storm water to the storm drain (48-hour prior to commencing)

- Turbidity or pH out of compliance on non-storm water discharge to storm drain (within 24 hours)
- Circumstances that require emergency response (within 24 hours of incident)

The following activities require submittals to the RWQCB:

- Request for variance form this plan (Section 1.4)
- SWPPP (Section 5.4; to State Water Resource Control Board also)
- Work plan for additional sampling in areas with confirmed contaminated soils (Section 5.6)
- NPDES permit application and treatment system design for dewatering activities of contaminated groundwater (Section 6.3)

11.3 Contra Costa County Environmental Health Department

The following activities require notification to the CCEHD:

- Work with the buffer areas of IR Site 1 disposal area (48-hour prior to commencing)

The following activities require submittals to the CCEHD:

- Investigatory borings and monitoring well construction and abandonment permit applications (Section 4.4)

11.4 Bay Area Air Quality Management District

The following activities require notification to the BAAQMD:

- Asbestos abatement work will be occurring (10 days prior to work commencing)
- Perimeter air monitoring location exceeds target criteria (within 24 hours of occurrence)

11.5 Other Notifications

The following activities require notification of other agencies and parties:

- California DOT that more than 20 waste trucks per day will be leaving the site (24-hours prior to commencing the work)
- USA prior to digging (48-hours prior to commencing the work)
- Contra Costa County Coroner upon discovery of human remains
- NAHC upon discovery of human remains that are confirmed to be of Native American descent

12.0 PROTECTION OF EXISTING ENVIRONMENTAL CONTROL FEATURES

The following Site features must be protected during construction activities.

12.1 Groundwater Monitoring Wells

Groundwater monitoring wells are shown on Figure 4. These wells require route monitoring as part of the site-wide groundwater monitoring activities that are required at the Site. If a monitoring well is damaged during construction activities, it must be replaced under a permit from CCEHD.

12.2 Landfill Cap

In accordance with the existing land use restrictions, no activities shall be conducted within the boundaries of IR Site 1 (the landfill) that will disturb the soil cover (the cap).

12.3 UST French Drains and Outfalls

No intrusive activities or driving on top of the structurally closed large UST is permitted without written approval of the RWQCB and CCEHD.

French drains at each UST are intended to direct surface water away from the structural joint between the tank ceiling and upper sidewalls. There are at least two outfalls for the French drain at each UST. Rip-rap is placed at each outfall to reduce erosion. The locations of the USTs and French drain outfalls are shown on Figure 5.

13.0 CONTRACTOR TRAINING

13.1 General Site Personnel

Site personnel will be familiar with this SGWMP and the project-specific HSP, which will be prepared by the Contractor. A minimum of one hour of training will be provided to all site personnel. Following the training, site personnel will sign the Soil and Groundwater Management Plan Review and Acceptance Form (Appendix C).

Workers will receive training on the potential hazards associated with exposure to suspected contaminated soil for each work task they may need to perform. The training should be of sufficient length to cover the following topics, at a minimum:

- Description of contamination that has been historically found at the Site (Section 2);
- The types of hazards site personnel may be exposed to during each work task, including, but not limited to, chemical hazards (Section 2.0);
- The potential health risks associated with chemical hazards present at the Site (Appendix B);
- How to identify potentially contaminated soil (Section 5.5);
- How to identify potentially contaminated groundwater (Section 6.0);
- Description of biological and cultural restricted areas (Section 4.8); and
- The use and limitations of PPE

14.0 OTHER MANAGEMENT PLANS

The following plans have already been created and the routine monitoring and maintenance activities described are conducted regularly. The activities described in these plans will be performed in compliance with the SGWMP and must continue until the appropriate regulatory agency approves that the monitoring activities described in the plans are no longer required:

- LTGW Monitoring - Groundwater Monitoring is required at the Site. The *Site-Wide Groundwater Monitoring Plan* (GWMP; Terraphase 2011a) describes the groundwater monitoring activities required at the Site.
- Landfill Monitoring and Maintenance Plan - The *Final Postclosure Maintenance and Monitoring Plan (PMMP), Site 1 Final Cover, Naval Fuel Depot Point Molate* (TtEMI 2002) describes the long-term maintenance and monitoring requirements for the Site 1 Landfill Cover.
- UST Inspection and Maintenance Plan - The *Post-Closure UST Maintenance and Monitoring Plan* (Innovative Technical Solutions, Inc. [ITSI] 2005) describes the long-term maintenance and monitoring requirements for the 20 USTs that remain at the Site.
- PGWTP NPDES OM&M - Monitoring of the PGWTP must comply with the provisions set forth Attachment E of the California Regional Water Quality Control Board (RWQCB) Order No. R2-2012-0012, NPDES Permit No. CAG912002, titled "GENERAL WASTE DISCHARGE REQUIREMENTS FOR: Discharge or Reuse of Extracted and Treated Groundwater Resulting from the Cleanup of Groundwater Polluted by Volatile Organic Compounds (VOC), Fuel Leaks and Other Related Wastes (VOC and Fuel General Permit)."

15.0 REFERENCES

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- _____. 2008b. Finding of Suitability for Early Transfer, Disposal Areas 3, 5, 10, and 13, Naval Fuel Depot Point Molate, Richmond, California. September 12.
- Department of Toxic Substances Control (DTSC). 2001. Information Advisory Clean Imported Fill Material. October.
- _____. 2005. Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties. January.
- Innovative Technical Solutions, Inc. (ITSI). 2005. Final Post-Closure UST Maintenance and Monitoring Plan, Former Naval Fuel Depot Point Molate, Richmond, California. December 22.
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_____. 2012c. Dry-Season Semi-Annual Groundwater Monitoring Report, Former Naval Fuel Depot Point Molate, Richmond, California. April 19.

TetraTechEMI (TtEMI). 1998. Naval Fuel Depot Point Molate, Richmond, California. Sandblast Grit Areas (Site 2) Removal Action Final Completion Report. November.

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_____. 2001c. Installation Restoration Site 3 Field Work Summary Letter Report. Naval Fuel Depot Point Molate, Richmond, California. October 10.

_____. 2002. Final Postclosure Maintenance and Monitoring Plan (PMMP), Site 1 Final Cover, Naval Fuel Depot Point Molate. August 30.

TABLES

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Table 1
Fuel Product Action Levels
Former Naval Fuel Depot Point Molate
Richmond, California

Chemical	Residential (mg/kg) ^a	Maintenance Worker ^b (mg/kg)	Subsurface Soil Near Groundwater (mg/kg)
			≤ 5 ft ^c
TPHg (Gasoline)	1,030 ^d	5,900 ^e	1,690
TPHd (Diesel)	1,380 ^e	6,700 ^e	1,950
TPHr (Residual/Fuel Oil)	1,900 ^e	9,400 ^e	2,730
Benzene	0.60	5.0	1
Toluene	530	12,800	14
Ethylbenzene	840	6,600	19
Xylenes	1,080	109,000	4,340
Carcinogenic PAHs			
Benzo(a)pyrene	0.04	0.15	9
Benzo(b)fluoranthene	0.43	1.50	64
Benzo(k)fluoranthene	0.43	1.50	64
Benzo(a)anthracene	0.43	1.50	23
Chrysene	4.30	15	151
Noncarcinogenic PAHs			
Anthracene	5,900	17,800	1,120
Benzo(g,h,i)perylene	620	1,700	19,500
Fluoranthene	820	2,300	1,160
Fluorene	770	2,300	220
Naphthalene	480	2,300	140
Phenanthrene	600	1,700	410
Pyrene	620	1,700	910

Notes:

mg/kg = milligrams per kilogram

TPH = total petroleum hydrocarbons

PAH = polycyclic aromatic hydrocarbons

a = Fuel constituents present at less than 10 feet below ground surface

b = Action level based on park maintenance worker/groundskeeper, but also includes construction worker, less than 10 feet below ground surface.

c = Soil cleanup levels are risk-based for maintenance worker, less than 5 feet above the highest groundwater level but less than 10 feet below ground surface.

d = Based on n-hexane as a surrogate compound

e = Based on naphthalene as a surrogate compound

Source

TetraTech EM, Inc. 2001. Final Fuel Product Action Level Development Report, Naval Fuel Depot Point Molate, Richmond, California. August 31.

Table 2
Groundwater Criteria for Discharge to Storm Drain

Former Naval Fuel Depot Point Molate
 Richmond, California

Analyte	Units	Criteria
Water Quality Parameter		
pH	SU	6.5 to 8.5
Turbidity	NTU	250
Petroleum Hydrocarbons		
TPH (gas or diesel)	µg/L	50
TPH (bunker)	µg/L	300
Volatile Organic Compounds		
Benzene	µg/L	5
Total Xylenes	µg/L	5
Ethylbenzene	µg/L	5
Toluene	µg/L	5
Polycyclic Aromatic Hydrocarbons		
Benzo(a)anthracene	µg/L	0.020
Benzo(a)pyrene	µg/L	0.020
Benzo(b)fluoranthene	µg/L	0.020
Benzo(k)fluoranthene	µg/L	0.020
Dibenzo(a,h)anthracene	µg/L	0.020
Indeno(1,2,3-cd)pyrene	µg/L	0.020

Notes:

µg/L = micrograms per litre

NTU = nephelometric turbidity unit

SU = standard units

TPH = total petroleum hydrocarbons

References:

San Francisco Bay Regional Water Quality Control Board (RWQCB). 2012. General Waste Discharge Requirements for Discharge or Reuse of Extracted and Treated Groundwater Resulting from the Cleanup of Groundwater Polluted by Volatile Organic Compounds (VOC), Fuel Leaks and Other Related Wastes (VOC and Fuel General Permit), Order R2-2012-0012 NPDES No. CAG912002. February 8.

State Water Resources Control Board (SWRCB). 2010. National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities Order 2009-00009-DWQ (amended by 2010-0014-DWQ) NPDES No. CAS000002. November 16.

Table 3**Notification Contact List**

Former Naval Fuel Depot Point Molate

Richmond, California

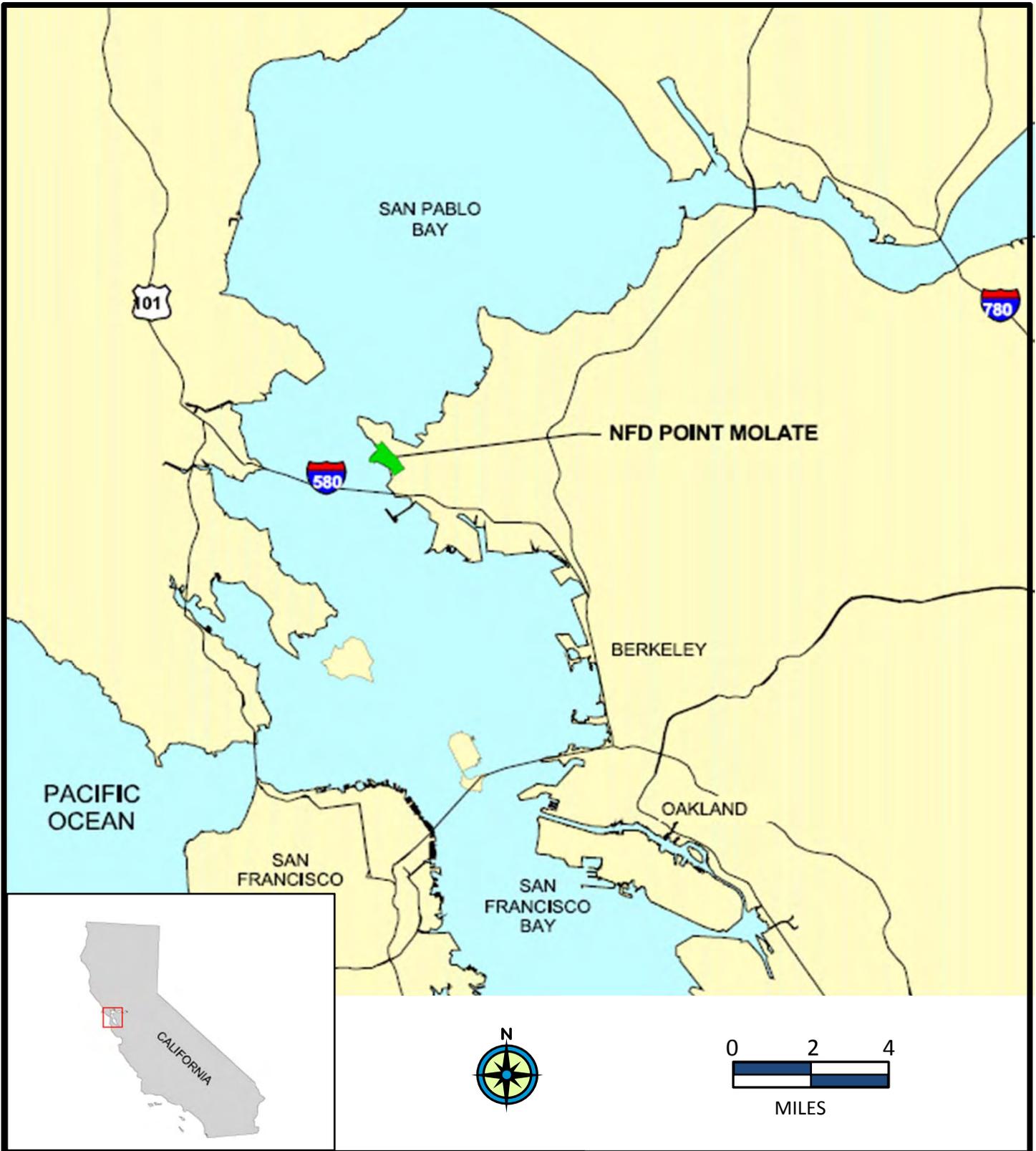
Contact	Contact Name	Phone
Emergency Notification (within 24 hours)		
Regional Water Quality Control Board	George Levya	(510) 622-2379
City of Richmond Department of Public Works	Yader A. Bermudez	(510) 231-3008
Contra Costa County Environmental Health Department	Lori Braunesreither	(925) 692-2528
Additional Notifications (as required)		
Bay Area Air Quality Management District*		(415) 749-4762
California Department of Transportation		(510) 286-4444
Contra Costa County Coroner		(925) 313-2850
Native American Heritage Commission		(916) 653-4082
PG&E		1-800-743-5000
Cal OSHA (excavation deeper than 4-feet requiring entry)		(510) 622-2891
USA (Dig Alert)		(800) 227-2600

* Demolition Notification forms can also be obtained from the BAAQMD website at

<http://www.baaqmd.gov/Divisions/Compliance-and-Enforcement/Asbestos-Programs/Asbestos-ATCM.aspx>

FIGURES

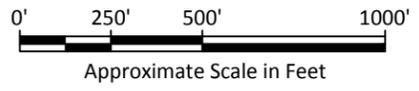
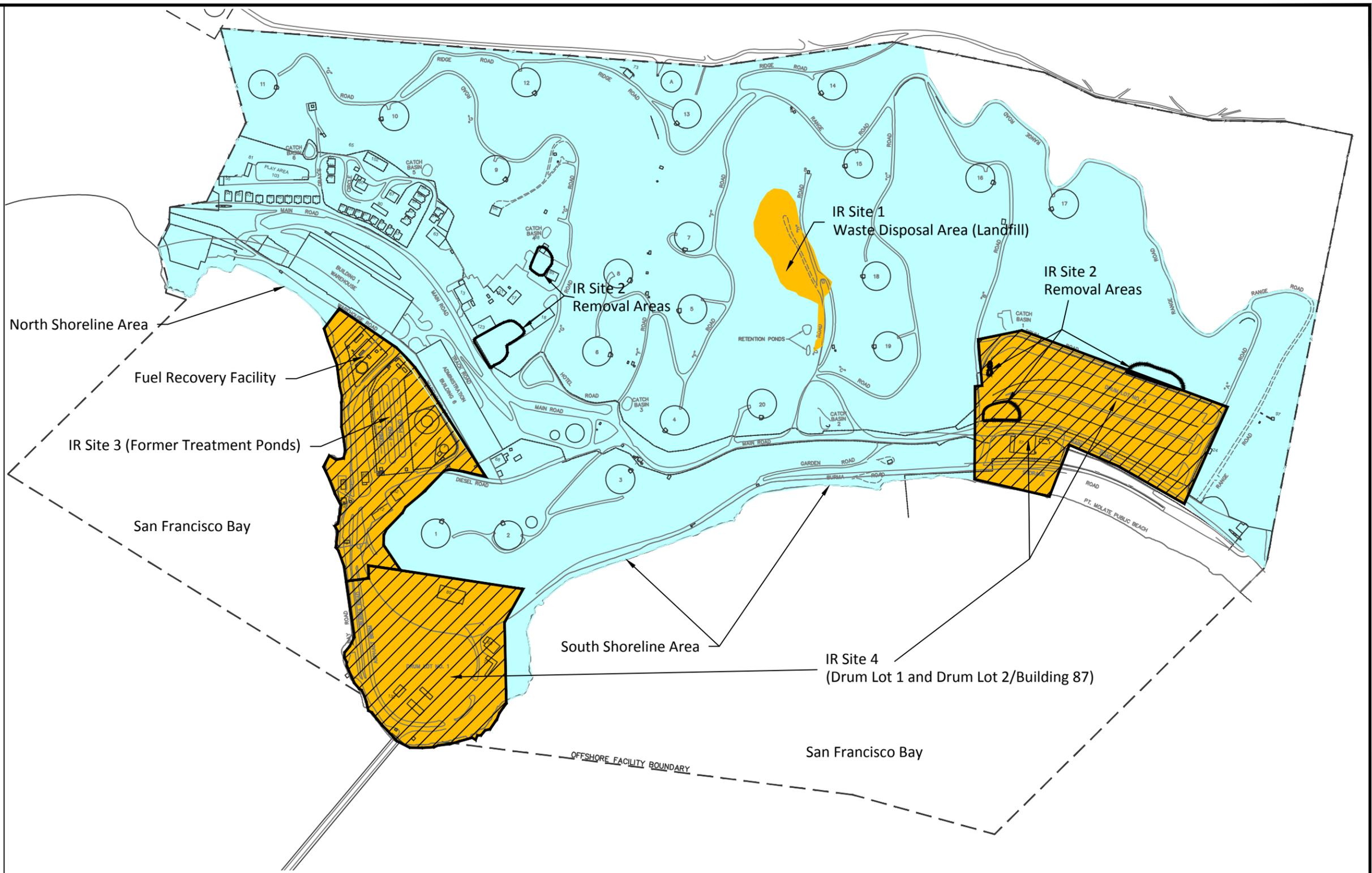
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SAFETY FIRST	CLIENT: Upstream Point Molate, LLC	Site Location Map
	PROJECT: IR Site 3 Soil Gas Investigation	
	PROJECT NUMBER: 0001.001.024	FIGURE 1

LEGEND

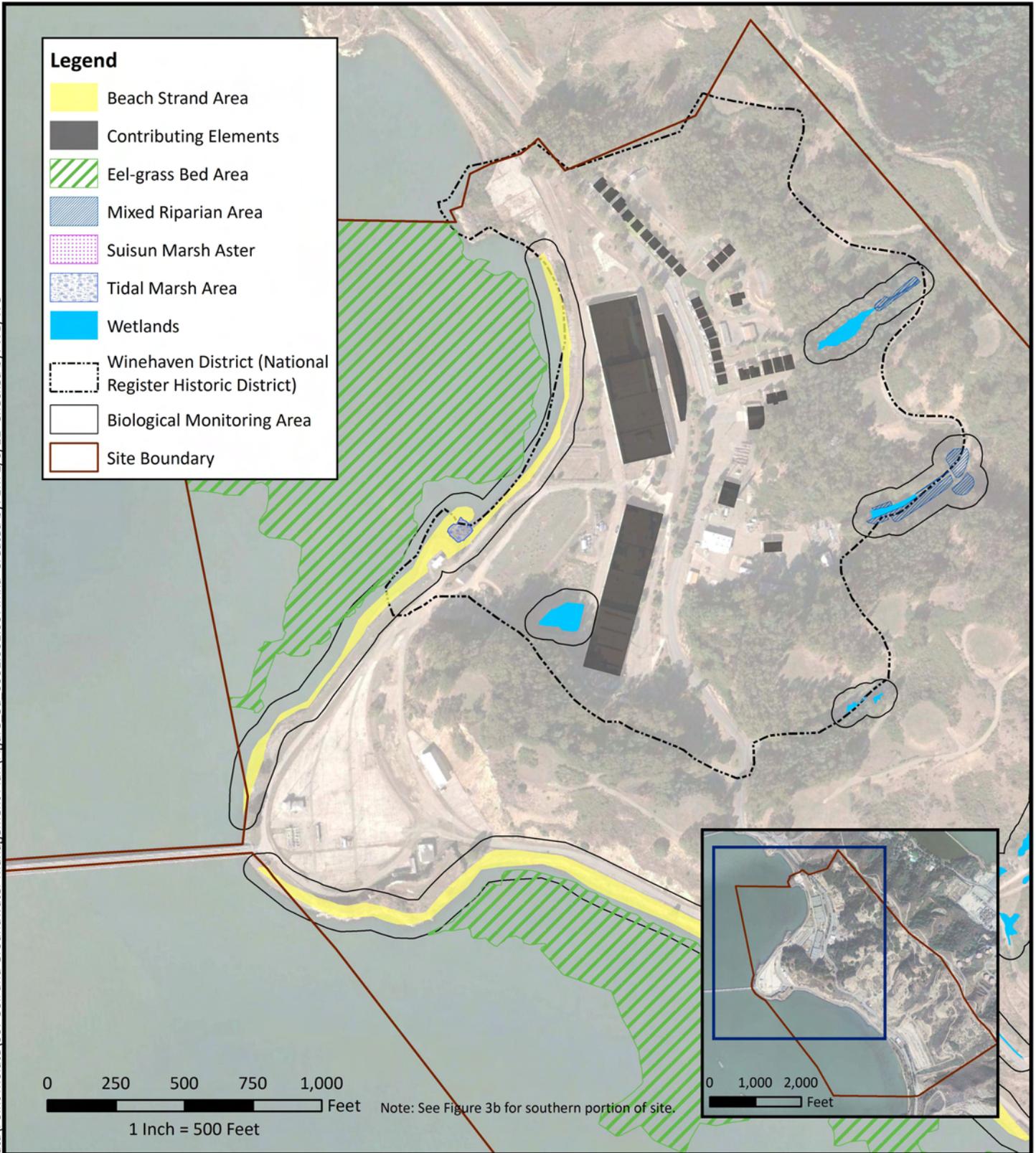
-  Former Underground Storage Tank
-  Not the Subject of this Soil and Groundwater Management Plan (IR Site 3 and IR Site 4)
-  Property Boundary
-  FOSET Property
-  2003 CRUP Property



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	CLIENT:	Upstream Point Molate, LLC	Site Features
	PROJECT:	Point Molate Soil and Groundwater Management Plan	
	PROJECT NUMBER:	0001.001.007	Figure 2

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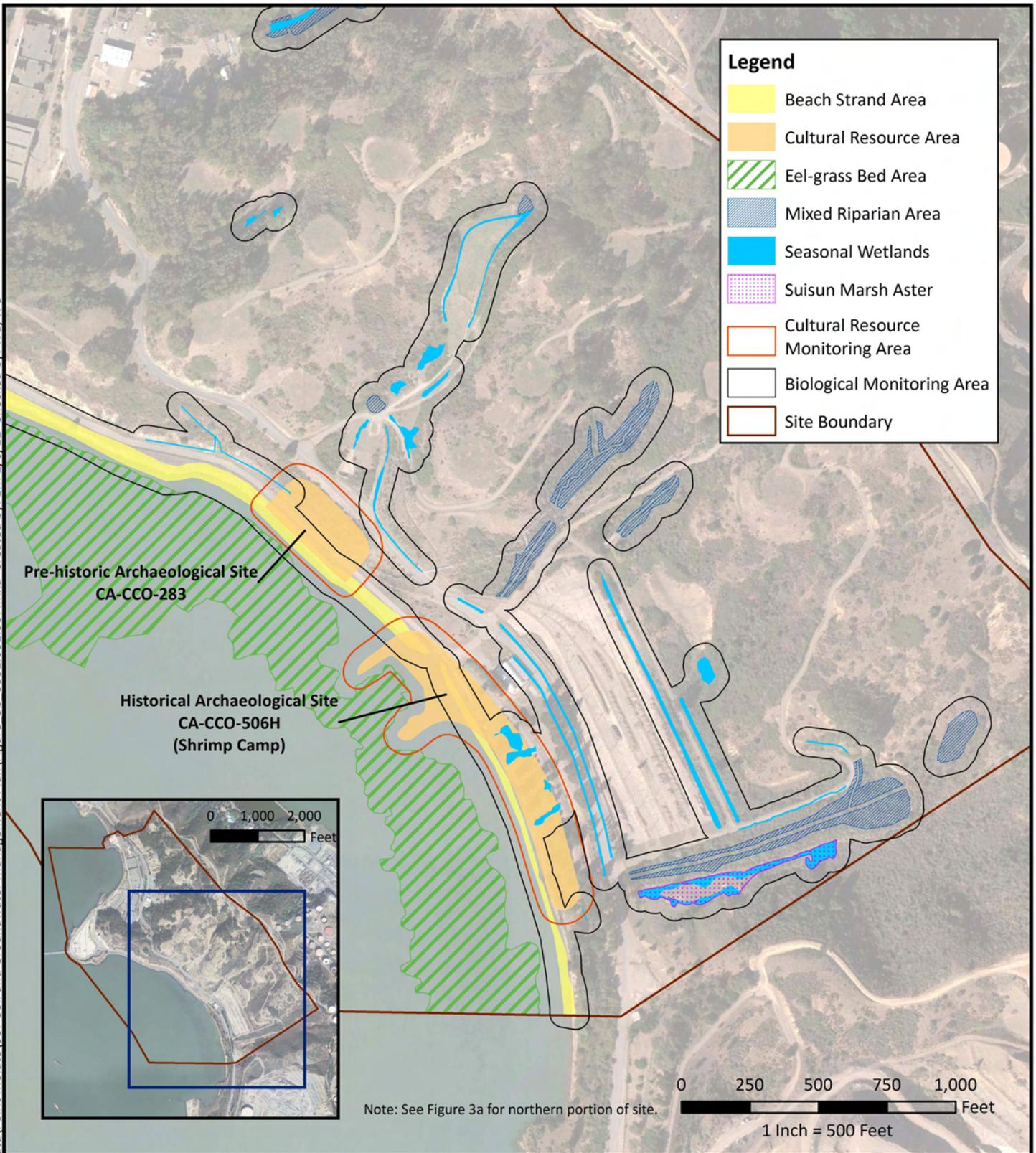
SAFETY FIRST

CLIENT:	Upstream Point Molate, LLC
PROJECT:	Point Molate Soil and Groundwater Management Plan
PROJECT NUMBER:	0001.001.007

**Biological and Cultural
Resource Restrictions North**

FIGURE 3a

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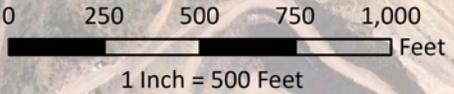


Legend

- Beach Strand Area
- Cultural Resource Area
- Eel-grass Bed Area
- Mixed Riparian Area
- Seasonal Wetlands
- Suisun Marsh Aster
- Cultural Resource Monitoring Area
- Biological Monitoring Area
- Site Boundary



Note: See Figure 3a for northern portion of site.

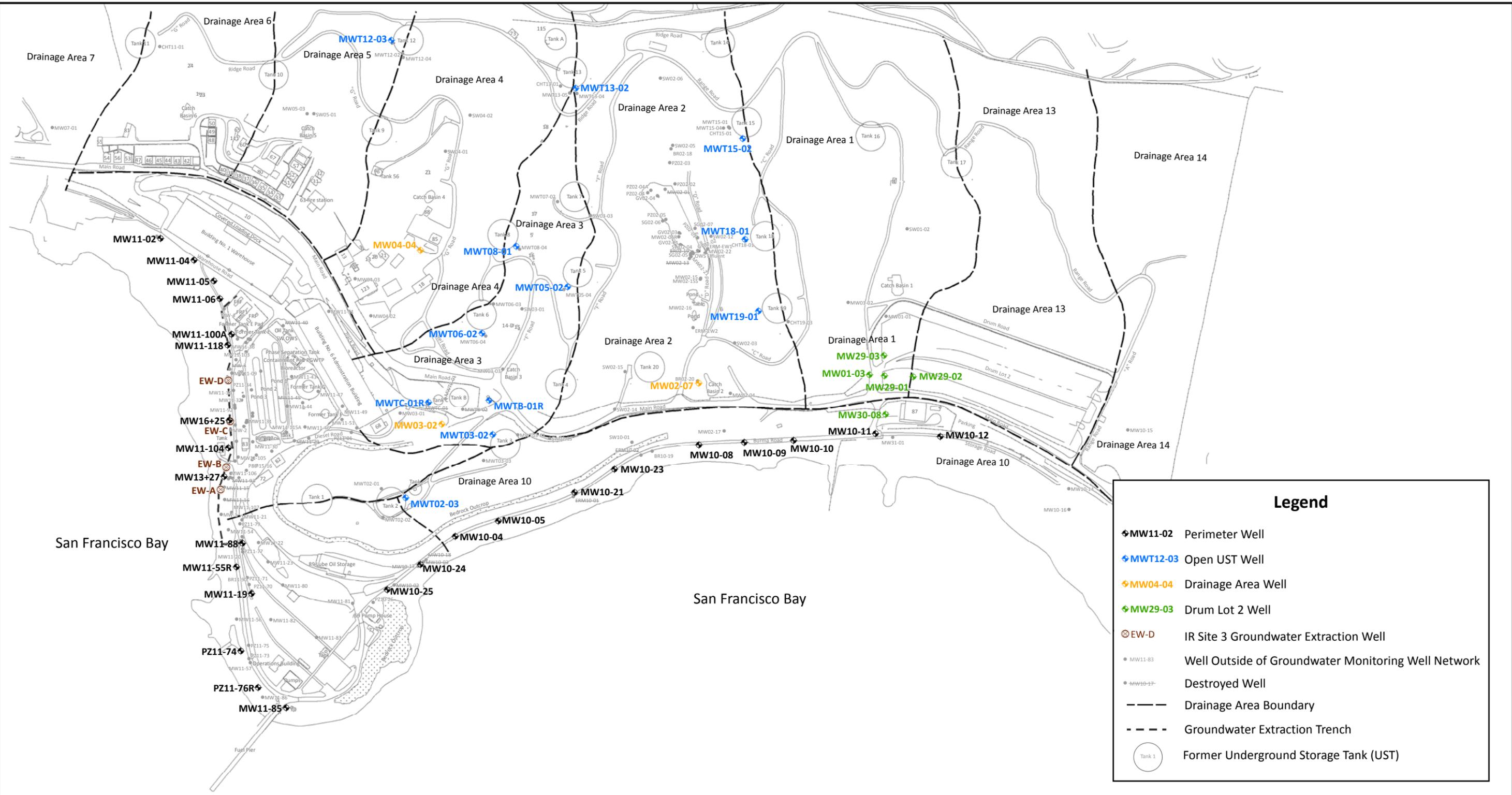


	SAFETY FIRST	CLIENT: Upstream Point Molate, LLC
		PROJECT: Point Molate Soil and Groundwater Management Plan
		PROJECT NUMBER: 0001.001.007

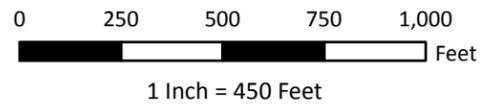
Biological and Cultural Resource Restrictions South

FIGURE 3b

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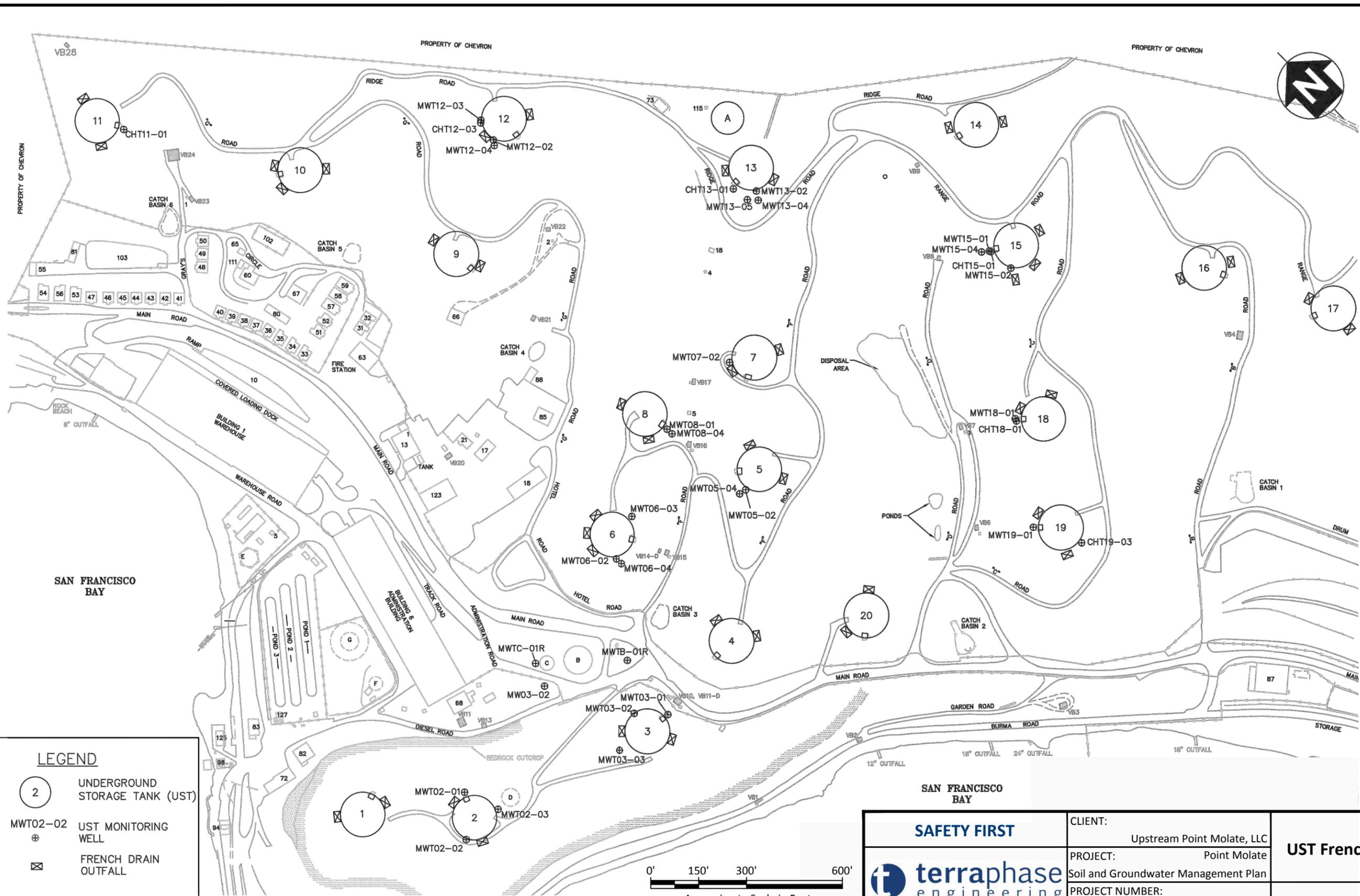


Legend	
◆ MW11-02	Perimeter Well
◆ MWT12-03	Open UST Well
◆ MW04-04	Drainage Area Well
◆ MW29-03	Drum Lot 2 Well
⊗ EW-D	IR Site 3 Groundwater Extraction Well
● MW11-83	Well Outside of Groundwater Monitoring Well Network
● MW10-17	Destroyed Well
---	Drainage Area Boundary
- - -	Groundwater Extraction Trench
○ Tank 1	Former Underground Storage Tank (UST)



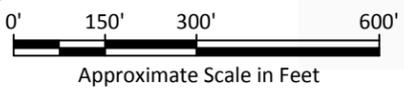
<p>SAFETY FIRST</p>	CLIENT: Upstream Point Molate, LLC	<p>Groundwater Monitoring Well Locations</p> <p>FIGURE 4</p>
	PROJECT: Point Molate Soil and Groundwater Management Plan	
	PROJECT NUMBER: 0001.001.007	

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LEGEND

- 2 UNDERGROUND STORAGE TANK (UST)
- ⊕ UST MONITORING WELL
- X FRENCH DRAIN OUTFALL



 	CLIENT: Upstream Point Molate, LLC	UST French Drain Locations Figure 5
	PROJECT: Soil and Groundwater Management Plan	
PROJECT NUMBER: 0001.001.007		

APPENDIX A

APPLICABLE MITIGATION MEASURES

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REVISED INTERNAL DRAFT
APPENDIX A
APPLICABLE MITIGATION MEASURES
FORMER NAVAL FUEL DEPOT POINT MOLATE
RICHMOND, CALIFORNIA

On Behalf of

City of Richmond
450 Civic Center Plaza
Richmond, CA 94804

Prepared for

Mr. James Levine
Upstream Point Molate
2000 Powell Street, Suite 920
Emeryville, CA 94608

Prepared by

Terraphase Engineering Inc.
1404 Franklin Street, Suite 600
Oakland, California 94612

June 12, 2012

Project Number 0001.001.007



File Ref: AppA-NFDPM Mitigation Measures-0001.001.007

CONTENTS

- MM 1-1: Compliance with NPDES Construction General Permit
- MM 2.1f: Development of spill prevention and countermeasures plan, as necessary
- MM 2.1 u: Conservation of top soil
- MM 2-1 v. Disposal of encountered groundwater
- MM 2-2: Preparation of Erosion and Sediment Control Plan
- MM 3-1 through 3-15: Specific dust and erosion control mitigation measures
- MM 4-2 through 4-4: Mixed Riparian area avoidance and setbacks
- MM 4-5 and 4-6: Setbacks from beach strand
- MM 4-7 and 4-8: Tidal wetland and eel grass avoidance
- MM 4-10 through 4-12: Wetland fill avoidance as feasible
- MM-4-13 and 4-14: Suisun Aster Mitigation Area
- MM 4-15 through 4-17: Special status and bird survey and avoidance measures
- MM 4-20 and 4-21: Bat survey and avoidance requirements
- MM 7-1: Soil Disposal Plan
- MM 7-2: Traffic flow notification for impacts to Western Drive
- MM 7-3: Construction Coordination Planning
- MM 9-4: Construction waste recycling
- MM 11-1: Development of Soil and Groundwater Monitoring Plan

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The following text is taken from the *Final Environmental Impact Report Point Molate Mixed-Use Tribal Destination Resort and Casino* prepared by Analytical Environmental Services in February 2011.

- 1-1 To eliminate potential impacts resulting from excessive erosion and loss of topsoil, the National Pollutant Discharge Elimination System (NPDES) Construction General Permit (General Permit) would be complied with, including implementation of appropriate erosion control measures. Compliance with the General Permit requires developing a site specific Stormwater Pollution Prevention Plan (SWPPP). The SWPPP shall identify the location of temporary erosion control features necessary to direct and filter stormwater runoff during construction activities. Temporary erosion control features used during construction may include, but are not limited to, silt fences, fiber rolls, erosion control blankets, temporary sediment basins, and rock bag dams. The SWPPP shall also include Best Management Practices (BMPs) that would reduce the transportation of pollutants off-site. Compliance with the City's Grading Ordinance, or functional equivalent, would also require a SWPPP. In addition to a SWPPP, the Grading Ordinance requires a grading and drainage study to be developed for each alternative to which an Erosion Control Plan (ECP) would be incorporated. The ECP would have to be approved by the City for construction on fee lands. The ECP would identify permanent erosion control BMPs and permanent project features that would limit erosion and sediment-laden stormwater from leaving the site. The location of permanent erosion control features such as sediment/grease traps, vegetated drainage swales, and riprap shall be identified within the ECP. The ECP would also specify compliance standards, procedural requirements, regulatory compliance requirements, and implementation timeframe requirements. The ECP shall be implemented during the construction.
- 2-1 In compliance with the Clean Water Act (CWA), a SWPPP shall be prepared that addresses water quality impacts associated with construction, remediation and operation of the project. Water quality control measures identified in the SWPPP shall include, but not be limited to, the following list:
- f. A spill prevention and countermeasure plan shall be developed, which identifies proper storage, collection, and disposal measures for potential pollutants (such as fuel, fertilizers, pesticides, etc.) used on-site.
 - u. Topsoil removed during construction shall be carefully stored and treated as an important resource. Berms shall be placed around topsoil stockpiles to prevent runoff during storm events.
 - v. Encountered groundwater shall be removed from trenches and excavations in such a manner as to reduce potential contact with construction materials, construction

personnel, and surface waters and shall be disposed of at an appropriately permitted facility such as a wastewater treatment plant (WWTP) in accordance with the requirements of the NPDES permit.

- 2-2 For project components located on fee lands (as may be the case with the residential component of Alternatives B and B1 and all of Alternative D), the Tribe shall apply for a grading permit from the City for construction activities in compliance with Chapter 12.44 Excavation, Grading and Earthwork Construction of the City of Richmond (City) Municipal Code. Furthermore, the Tribe shall have an Erosion and Sediment Control Plan prepared by a licensed civil engineer for lands that are to remain in fee status.

For trust lands, the Tribe would adopt and implement a Grading Ordinance equivalent to the requirements of the City's grading permit (Chapter 12.44 Excavation, Grading and Earthwork Construction).

Permanent erosion control and stormwater management features shall be consistent with relevant Bay Plan policies including, but not limited to, Policies 1 through 4 detailing design, construction, and long-term maintenance guidance.

- 3-1 Water all active construction and remediation areas at least three times daily during dry weather.
- 3-2 Cover all trucks hauling soil, sand, excavated soil from remedial activities, and other loose materials or require all trucks to maintain at least two feet of freeboard.
- 3-3 Pave or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites.
- 3-4 Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at construction sites.
- 3-5 Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.
- 3-6 Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (previously graded areas inactive for ten days or more).
- 3-7 Enclose, cover, water twice daily or apply (non-toxic) soil binders to exposed stockpiles (dirt, sand, etc.).
- 3-8 Limit traffic speeds on unpaved roads to 15 miles per hour.
- 3-9 Install sandbags or other erosion control measures to prevent silt runoff to public roadways.
- 3-10 Replant vegetation in disturbed areas as quickly as possible.

- 3-11 Install wheel washers for all exiting trucks, or wash off the tires or tracks of all trucks and equipment leaving the site.
- 3-12 Install windbreaks, or plant trees/vegetative windbreaks at windward side(s) of construction areas.
- 3-13 Suspend excavation and grading activity when winds (instantaneous gusts) exceed 25 miles per hour.
- 3-14 Limit the area subject to excavation, grading and other construction activity at any one time.
- 3-15 Heavy, diesel-powered equipment idling shall be limited to two minutes.
- 4-2 The on-site, mixed riparian habitat shall be avoided to the maximum extent feasible. Each alternative shall be amended and reconfigured to the maximum extent feasible such that avoidance of the on-site, mixed riparian habitat is accomplished.
- 4-3 Setbacks at a minimum of 50 feet shall be established (i.e., staked) around all areas of mixed riparian habitat unless the soils, slope, hydrology, vegetation and runoff potential of adjacent construction areas dictate that a greater buffer distance is required. Prior to the onset of development activities, high visibility fencing shall be installed to delineate the riparian setbacks. A qualified biologist shall be present during development activities that ensue within the vicinity of the fenced riparian setbacks. The qualified biologist shall act as a construction monitor to ensure the fencing remains intact and that construction activities do not penetrate these avoidance buffers. Future development shall not occur within the riparian setbacks once established.
- 4-4 The footprints of Alternatives B, D, and B1 include potential impacts to mixed riparian habitat. Alternatives B, D, and B1 shall be reconfigured to avoid and/or reduce this impact. If complete avoidance of mixed riparian habitat is not feasible and/or the project design cannot be reconfigured to avoid the mixed riparian habitat areas on-site, a Lake or Streambed Alteration Agreement (Fish & Game Code Section 1600 et seq.) shall be obtained from the California Department of Fish and Game (CDFG) and habitat replacement ratios defined within the permit conditions shall be implemented for development on fee lands. Typical section 1600-permit mitigation occurs at a 3:1 ratio (acres created versus impacted), though individual permit conditions may vary.
- 4-5 The beach strand habitat on-site shall be completely avoided to the maximum extent feasible. Replacement/restoration is not appropriate for this habitat type due to its inherent intrinsic value, role as habitat for plant and wildlife species (including special-status species), increasing threats by development, and its currently limited distribution within the region. Under the current project description, total avoidance of beach strand habitat is accomplished. To assure avoidance and avoid impacts to the beach strand habitat on-site (and Bay Conservation and Development Commission [BCDC] jurisdictional areas), the existing roadways shall be used to

- the degree feasible. Improvement of the existing roadways may be implemented as necessary, but no new roadways shall be built in the vicinity of the beach strand habitat on-site.
- 4-6 Setbacks shall be established (i.e., staked) around all areas of beach strand habitat within the footprint and vicinity of project development. Setback distances for areas of beach strand habitats shall be approved through consultation with BCDC taking into account the soils, slope, hydrology, vegetative cover and runoff potential of areas adjacent to beach strand habitat where construction will occur. Prior to the onset of development activities, high visibility fencing shall be installed to delineate the beach strand setbacks. A qualified biologist shall be present during any and all development activities that ensue within the vicinity of the fenced beach strand setbacks. A qualified biologist shall act as a construction monitor to ensure the fencing remains intact and that construction activities do not penetrate these setback buffers. If complete avoidance is not feasible, consultation with BCDC would need to be initiated. Any impacts to beach strand habitat would require explicit approval by BCDC and conditions for such impacts would be specified within a permit, if applicable.
- 4-7 The tidal marsh habitat on-site shall be completely avoided. While the final amount of setback will be determined by the jurisdictional agency, a minimum setback of 50 feet is recommended around the tidal marsh habitat on-site as a means of preventing any impacts to it from development. The 50-foot setback buffer shall be approved by the BCDC through consultation taking into account the soils, slope, hydrology, vegetative cover and runoff potential of areas adjacent to beach strand habitat where construction will occur. The exact width of the tidal marsh setback shall likely be a specified condition of the BCDC permit(s). The location of the Bay Trail in each of the alternatives should be amended and reconfigured, if necessary, such that the minimum 50-foot tidal marsh setback is accommodated and maintained. Prior to the onset of development activities, high visibility fencing shall be installed to delineate the tidal marsh setback. A qualified biologist shall be present during any and all development activities that ensue within the vicinity of the fenced tidal marsh setback. The qualified biologist shall act as a construction monitor to ensure the fencing remains intact and that construction activities do not penetrate this setback buffer.
- 4-8 The eelgrass bed habitat on-site shall be completely avoided during construction and operation of the Proposed Project. Specifically, ferries servicing the retrofitted pier shall not come within 1,000 feet of the eel grass bed habitat. Based on the current project description, total avoidance of eelgrass bed habitat is accomplished because only the existing pier shall be utilized and the total surface area of the pier shall not be increased. Improvement of the existing pier may be implemented as necessary, but no new piers and/or structures shall be built in the vicinity of the eelgrass bed habitat on-site. All activities associated with the pier reuse shall be approved by the BCDC through consultation, and specific parameters associated with the pier reuse will likely be specified conditions of the BCDC permit(s). Aggregate materials scheduled for processing on-site would be transferred from designated crushing locations to barges docked at the end of the pier using a conveyor belt system. Sufficient dust control of crushed materials would be achieved

prior to transport along the conveyor system using approved dust control BMPs. To reassure that all material transported along the conveyor has a low risk of being discharged into the Bay by wind erosion or any other causes, complete enclosure of the conveyor belt system will prohibit any loose aggregate, soils or dust from entering the Bay during these transport operations. All ferry and barge routes will be limited to the deepwater shipping channel when not moored at the pier and velocities shall be reduced as ferries approach the pier to reduce waking. Ferry and barge speeds shall be limited to 10 knots or less within 750 feet of the pier. In addition, ferry traffic will not route from the terminal landward towards the shoreline and the mooring of private boats would not be allowed on the pier. Appropriate signage and/or a buoy system will be implemented to properly inform marine traffic of the sensitive eelgrass habitats and to help keep any misguided vessels away from these habitats. To assess the impacts of the ferry service on eelgrass on and directly adjacent to the project area, eelgrass surveys will be conducted for the project site immediately prior to and annually for three years following the implementation of the proposed ferry service, as recommended in a letter by NMFS dated September 15, 2010 and required by the BIA in a letter dated October 4, 2010 (Appendix FF). The surveys shall be done in accordance with a NMFS approved monitoring plan; the monitoring plan (including the location of a control site) shall be submitted to the NMFS prior to construction. Surveys of eelgrass distribution and density in both the project area and at a suitable control site shall be performed during the eelgrass growing season. Results of the pre- and post- ferry service surveys shall be provided to NMFS Santa Rosa office staff within 60 days of completion. If NMFS determines the project actions have adversely impacted eelgrass in or adjacent to the project area based on pre- and post- work distribution and density surveys, the BIA shall provide NMFS with an eelgrass mitigation plan within 60 days of completion of the final post-ferry survey. The mitigation plan shall include success criteria that are approved by the NMFS.

- 4-10 The proposed development shall avoid filling of wetlands and other waters of the U.S. to prevent impacts to these features entirely, if feasible. Each alternative shall be amended and reconfigured, if necessary, such that avoidance of wetlands and/or waters of the U.S. is accomplished to the maximum extent feasible. Setbacks of 50 feet shall be established around each of the wetland features within the vicinity of project development, unless the soils, slope, hydrology, vegetation and runoff potential depict that a greater buffer distance is required. Setbacks would consist of the installation of high visibility fencing prior to the onset of any development activities. A qualified biologist shall be present during any and all construction activities that ensue within the vicinity of the wetland/other waters avoidance buffer zones. The qualified biologist shall act as a construction monitor to make sure the fencing remains intact and that construction activities do not penetrate the wetland avoidance buffer areas.
- 4-11 If complete avoidance of wetlands and other waters of the U.S. is not possible and impacts to these features cannot be avoided, authorization from the U.S. Army Corps of Engineers (USACE) is required. A Section 404 CWA permit shall be obtained from the USACE and wetland/other waters replacement ratios defined within the permit conditions shall be implemented. Typical

- 404-permit mitigation occurs at a ratio of 1:1 acres created versus impacted and 2:1 acres restored versus impacted, though individual permit conditions may vary. A CWA Section 401 water quality certification permit from the U.S. Environmental Protection Agency (USEPA) is also required. In addition, a Lake or Streambed Alteration Agreement (1600-permit) from the CDFG is required for impacts to streams, lakes, and riparian habitats on fee lands. Typical 1600-permit mitigation occurs at a 3:1 ratio of acres created versus impacted, though individual permit conditions may vary.
- 4-12 Wetland mitigation shall be accomplished through the creation of seasonal wetlands within open space preserves, which shall be established on-site at agency-approved locations. Ephemeral drainage mitigation shall be accomplished through the restoration of existing on-site streams, which were previously channeled (i.e., piped) underground as part of prior site developments. A detailed mitigation and monitoring plan shall be designed that includes all the necessary details regarding the location and size of the proposed wetlands/ephemeral drainages and open space preserves, monitoring stipulations, reporting requirements, responsibilities, and performance success criteria. The mitigation and monitoring plan shall meet the stipulated requirements of and be written in accordance with the 401, 404, and 1600 permits, if applicable.
- 4-13 Alternatives B, D, and B1 shall avoid the on-site population of Suisun Marsh aster to prevent impacts to this special-status plant, if feasible. If feasible, these alternatives shall be amended and reconfigured such that avoidance of the Suisun Marsh aster population and its habitat on-site is accomplished. Setbacks of 50 feet shall be established around the total area where the population occurs via high visibility fencing prior to the onset of development activities. A qualified botanist shall be present during any and all construction activities that ensue within the vicinity of the Suisun Marsh aster setback. The qualified botanist shall act as a construction monitor to ensure the fencing remains intact and that construction activities do not penetrate this setback.
- 4-14 If complete avoidance of the Suisun Marsh aster population cannot be reasonably achieved, and impacts to this species are unavoidable, consultation shall be initiated with the CDFG (for Alternatives B, D, and B1). Upon CDFG approval, the impacted individual plants shall be transplanted out of their existing locations and into an equivalent and suitable wetland feature(s) that occurs within an established on-site open space preserve. A qualified botanist shall determine the exact transplanting locations and shall supervise all of the transplanting activities. Transplanting activities shall occur during the fall months, prior to the onset of heavy rains and inundation of seasonal wetland features to minimize transplant stress to the plants and assure transplant success. Transplanting activities shall not occur in the spring, summer, or winter months, unless prior approval from the CDFG is obtained.
- 4-15 Special-status and/or migratory bird and raptor species have potential to nest within the project site. Generally, the nesting season extends from February through September with peak activity taking place from March through June. If any construction activities (e.g., tree and/or vegetation

removal, grading) are scheduled to occur during the nesting season, pre-construction bird surveys shall be conducted. Pre-construction surveys for any nesting bird species shall be conducted by a qualified wildlife biologist throughout all regions of the site and vicinity, which are within 500 feet of any proposed construction activity (including thorough coverage of the pier). The surveys shall occur no more than 14 days prior to the scheduled onset of construction activities. If construction is delayed or halted for more than 14 days, another pre-construction survey for nesting bird species shall be conducted. If no nesting birds are detected during the preconstruction surveys no additional surveys are required.

- 4-16 If special-status nesting bird species are observed within 500 feet of construction areas during the surveys, consultation shall be initiated with the CDFG and/or the USFWS. Through consultation, an appropriate course of action, acceptable setbacks, and a suitable monitoring plan shall be determined. If non-special-status nesting birds are observed during the surveys, an appropriate setback shall be determined based on the species, the location of the nest(s), and other pertinent biological attributes. Avoidance setbacks shall be established around all active nest locations via stakes and high visibility fencing. Typical setbacks are 250 feet for bird species and 500 feet for raptor species. The nesting bird setbacks shall be completely avoided during the duration of construction activities and the fencing must remain intact. The fencing may be removed when a qualified wildlife biologist confirms that the nest(s) is no longer occupied and all fledglings have left.
- 4-17 If impacts (i.e., take) to federal or state threatened or endangered bird species are unavoidable, an incidental take permit from the USFWS/CDFG would be required. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, or collect any threatened or endangered bird species. Harm may also include significant habitat modification.
- 4-20 A qualified wildlife biologist shall conduct pre-construction surveys within all potentially suitable bat habitats (i.e., buildings which would be modified or demolished, the pier, and the eucalyptus woodland) that occur within the site and vicinity of any proposed construction activities. If no bats and/or evidence of bats (i.e., guano) are detected during the pre-construction surveys, no additional surveys are required.
- 4-21 If bats and/or evidence of bats are detected during the pre-construction surveys, a qualified bat biologist (i.e., specialist) shall facilitate bat evacuation and removal. This typically entails the installation of exclusionary (e.g., mist) nets around occupied habitats while the bats are away from their roosts. The netted habitats shall be monitored frequently at appropriate times and intervals to assure that all the bats have left the roosts and that no bats re-enter during the entire duration of all development activities. The qualified bat biologist shall determine the specific logistics and details regarding bat removal within the larger historic buildings on-site, after he or she has fully assessed the site. When construction activities are completed, the exclusionary nets shall be removed.

- 7-1 The Tribe shall provide the City of Richmond (City) and Contra Costa County with a Soil Disposal Plan one month prior the beginning of construction. for Alternatives A, B, C, D and B1. The Soil Disposal Plan shall include, but not be limited to, the following:
- Soil haul truck routes
 - Soil disposal sites
 - Barge route
 - Traffic safety mitigation
 - Road and right-of-way deterioration restoration funding
 - Limits on times haul trucks and barges can operate.
 - A two week notice shall be given to residents of the San Pablo Peninsula regarding any temporary blockage on Western Drive.
 - The Tribe shall determine alternate construction and operational access routes during times of roadway construction in the vicinity of the project site.
- 7-2 The Tribe shall coordinate all construction activities that would affect traffic flow on Western Drive with local emergency service providers at least one month in advance of construction. Emergency service providers shall be notified of the timing, location, and duration of construction activities. All roads shall remain passable to emergency service vehicles at all times. Western Drive shall remain passable to through traffic 24 hours a day, seven days a week to provide access to and from other land uses located on the San Pablo Peninsula. In the event that portions of Western Drive must be closed temporarily, reasonable detours shall be provided such that access to the San Pablo Yacht Harbor and other adjacent land uses is not restricted. This mitigation measure applies to Alternatives A, B, C, D, and B1.
- 7-3 The Tribe shall develop and provide the City and the California Department of Transportation with a Construction Coordination Plan one month prior the beginning of construction. Elements of the plan would include, but would not be limited to: routes, hours of operation, and sequencing. This mitigation measure applies to Alternatives A, B, C, D, and B1.
- 9-4 Construction waste shall be recycled to the fullest extent practicable by diverting green waste and recyclable building materials from the solid waste stream. To the extent feasible, existing asphalt and concrete shall be processed and reused on-site. To the extent practical, environmentally preferable materials shall be used in construction.
- 11-1 To protect construction personnel from potential exposure to undiscovered hazardous materials, a site-specific hazardous materials inadvertent discovery plan (Plan) or an equivalent soil and groundwater management plan (SMP) that addresses inadvertent discovery of hazardous materials, shall be developed for the project prior to any grading or ground disturbing activities. The Plan shall define protocols to be implemented if suspected contamination is found during mass grading and excavation activities associated with site development. These protocols shall include identification of how soils and affected groundwater are to be managed and requiring hourly field measurements within active excavation areas during hillside UST

excavation. Hourly field measurements shall also be required within active soil stockpile areas and confined spaces. The Plan shall be implemented by a professional engineer registered in the State of California and shall include hourly field measurements for undiscovered contaminants using a photo ionization detector (PID) for measuring volatile organic compounds (VOCs), confined space monitor (oxygen, carbon monoxide, hydrogen sulfide, and, lower explosive limit), and any other monitor deemed appropriate by the registered engineer. If deemed necessary by the engineer, soil samples shall be collected and analyzed for petroleum hydrocarbons in areas of suspected contamination. If suspected contamination is found during construction activities, all work shall stop in the immediate area and a safe zone for construction personnel shall be established. The extent of contamination shall be assessed to determine whether there is a significant health risk to construction personnel working on-site. The SMP would also include construction personnel safety protocols according to Occupational Safety and Health Administration (OSHA) guidelines to be implemented as part of the SMP. The Tribe shall ensure through contractual obligations that OSHA guidelines are followed during construction activity and any potential removal of affected soils.

Construction and Remediation

The following mitigation measures should be included as part of a site specific Stormwater Pollution Prevention Plan (SWPPP) to reduce the potential for hazardous materials releases during construction and remediation of Alternatives A, B, C, D, and B1:

- a. Any hazardous materials or fuels that would be stored temporarily for project construction and remediation shall be properly containerized to minimize the potential for release.
- b. The Tribe shall ensure, through the enforcement of contractual obligations, that all contractors prepare hazardous materials business plans and that they transport, store, and handle construction and remediation-related hazardous materials in a manner consistent with applicable regulations and guidelines. Recommendations may include, but are not limited to, transporting and storing materials in appropriate and approved containers, maintaining required clearances, and handling materials in accordance with the applicable federal, state, and/or local regulatory agency protocols.
- c. In compliance with the Clean Water Act (CWA), a SWPPP shall be prepared for that addresses hazardous materials impacts associated with construction, remediation, and operation of the project. Hazardous materials control measures identified in the SWPPP shall include, but not be limited to, the following:
 - A spill prevention and countermeasure plan shall be developed, which identifies proper storage, collection, and disposal measures for potential pollutants (such as fuel, fertilizers, pesticides, etc.) used on-site.
 - Petroleum products shall be stored, handled, used, and disposed of properly in accordance with provisions of the Clean Water Act (33 USC § 1251 to 1387).
 - During the wet season, construction materials, including topsoil and chemicals, and quarried materials transported by barge (regardless of the season) shall be stored,

covered, and isolated to prevent runoff losses and contamination of surface and groundwater.

- Fuel and vehicle maintenance areas shall be established away from all drainage courses and designed to control runoff.
- Sanitary facilities shall be provided for construction workers.
- Disposal facilities shall be provided for soil wastes, including excess asphalt during construction and demolition.
- The Tribe shall require all workers be trained in the proper handling, use, cleanup, and disposal of all chemical materials used during and provide appropriate facilities to store and isolate contaminants.
- Encountered groundwater shall be removed from trenches and excavations in such a manner as to reduce potential contact with construction materials, construction personnel, surface waters, and , to the extent required by regulation or requirements, shall be disposed of at an appropriately permitted facility such as a WWTP in accordance with the requirements of the NPDES permit.

Operation

The following mitigation measures would reduce the potential for hazardous materials releases during operation of Alternatives A, B, C, D, E, and B1:

- a. Landscaping chemicals such as pesticides, herbicides, and fertilizers would consistently be kept at the lowest volumes needed and in the least toxic amounts. Such products shall be applied in a manner that prevents contact with groundwater, streams, domestic water supply, or wetlands. This shall be achieved in conjunction with mitigation providing for the planting of native vegetation that requires less, or no, pesticides or herbicides.

APPENDIX B

CHEMICAL HAZARDS

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REVISED INTERNAL DRAFT
APPENDIX B
CHEMICAL HAZARDS
FORMER NAVAL FUEL DEPOT POINT MOLATE
RICHMOND, CALIFORNIA

On Behalf of

City of Richmond
450 Civic Center Plaza
Richmond, CA 94804

Prepared for

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TABLES

1	Toxicological Properties of Chemical Compounds Found at the Site
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Acronyms and Abbreviations

BTEX	Benzene, ethylbenzene, toluene, and total xylenes
HASP	Health and Safety Plan
LEL	lower explosive limit
NFD	Naval Fuel Depot
PPE	personal protective equipment
PAHs	polycyclic aromatic hydrocarbons
TPH	total petroleum hydrocarbons
VOC	volatile organic compound

1.0 INTRODUCTION

This document, *Chemical Hazards* was prepared by to provide guidelines for the preparation of Health and Safety Plans (HASPs) for future construction/demolition work at the Former Naval Fuel Depot Point Molate (NFD Point Molate, the “Site”) regarding the chemical hazards associated with the expected contamination at the Site. A HASP will be required for activities that may disturb soil or produce groundwater at the Site. Each HASP must address all potential hazards related to the planned activities. The sections below describe a subset of potential work site hazards, specifically related to chemical and environmental hazards at the Site. Additional information will be required for a HASP or HASPs to provide sufficient guidance to ensure worker safety.

2.0 CHEMICAL HAZARDS

Chemical hazards may be encountered during the field activities to be conducted at NFD Point Molate. These hazards may be encountered through inhalation, absorption, or ingestion. The primary contaminants of concern are volatile organic compounds (VOCs) (e.g. benzene, ethyl benzene, toluene, total xylenes [BTEX]), polycyclic aromatic hydrocarbons (PAHs), and total petroleum hydrocarbons (TPH). The toxicological properties of these chemicals are described in Table 1 below. Risk of exposure through absorption and ingestion is minimized by proper personal hygiene and use of personal protective equipment (PPE).

Inhalation of the contaminants of concern is possible when disturbing the subsurface (e.g. soil excavations, trenching and stockpiling). During periods of field activities when the subsurface is disturbed and contaminated soil is encountered, air monitoring of the work environment should be conducted. A photoionization detector (PID) should be used. In the event that the PID has a reading of greater than 10 parts per million (ppm), work will stop, the project manager will be notified, and Level C PPE will be used.

During some field activities (e.g. excavation of soils) a multiple-parameter meter will be used to screen for the presence of flammable vapors, oxygen-deficient or oxygen-enriched atmosphere, and hydrogen sulfide gas. If flammable vapors are at the 10 percent lower explosive limit (LEL) or greater, work will stop and the area will be vented. If the oxygen content is below 20.8 percent or greater than 22 percent, field personnel will immediately vacate the area and the area will be ventilated. If hydrogen sulfide gas is encountered at concentrations greater than 5 ppm, stop work, vent the area, and notify the project manager.

A splash hazard may exist during dewatering activities. If dewatering of contaminated waters is conducted, proper PPE (e.g. Tyvek suits and eye protection) should be utilized in situations that contaminated groundwater can splash or spray on field personnel. During opening of valves, sample ports, and when pressurizing and de-pressurizing pipes and lines, care should be exhibited to prevent water from contacting the face and body. During repairs of pipes, pumps, etc., a Tyvek suit may be worn to prevent skin contact with contaminated groundwater and other fluids (e.g. free-phase fuel products).

Table 1**Toxicological Properties of Chemical Compounds Found at the Site**

Former NFD Point Molate

Richmond, California

Class/Compounds	Principal Routes of Entry	Acute Exposure Effects/Symptoms	Chronic Exposure Effects/Symptoms
Organic Compounds			
Benzene	Inhalation, Ingestion, Skin	Central nervous system (CNS) depression; skin, eyes and upper respiratory tract irritation	Carcinogen, blood change leukemogenic
Ethylbenzene	Inhalation, Ingestion, Skin	Skin, eyes, nose and throat irritation	Skin rash
Toluene	Inhalation, Ingestion, Skin	CNS depression; skin, eyes, and respiratory tract irritation	Dermatitis
Xylene	Inhalation, Ingestion, Skin	Dizziness; nose, throat, skin, and eye irritation; olfactory changes; irritant; poison; distortion; hallucination; CNS effects	Cardiac arrhythmia
Petroleum Distillates			
Gasoline, Diesel, Bunker Fuel	Inhalation, Ingestion, Skin	Anesthesia, dizziness, headache, nausea, vomiting, sleepiness, fatigue, disorientation, depression, unconsciousness, respiratory tract irritation, sore throat, cough	Dermatitis, headache, mood shifts, CNS effects, fatigue
Semi-Volatile Organic Compounds			
Polycyclic Aromatic Hydrocarbons (PAHs)	Inhalation, Ingestion, Skin	Irritant to skin, vomiting, photosensitization, headache	As a class overall, can be considered mutagenic and tumorigenic with several compounds known carcinogens; also causes liver damage

APPENDIX C

CONTRACTOR ACCEPTANCE FORM

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APPENDIX D

SAMPLING AND ANALYSIS PLAN

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REVISED INTERNAL DRAFT
APPENDIX D
SAMPLING AND ANALYSIS PLAN
FORMER NAVAL FUEL DEPOT POINT MOLATE
RICHMOND, CALIFORNIA

On Behalf of

City of Richmond
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Prepared for

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ATTACHMENTS

- 1 Example Chain of Custody Form

Acronyms and Abbreviations

°C	degrees Centigrade
°F	degrees Fahrenheit
ACM	asbestos-containing material
AHERA	Asbestos Hazard Emergency Response Act
AIHA	American Industrial Hygiene Association
BOD	biological oxygen demand
BTEX	benzene, toluene, ethylbenzene, xylenes
CAC	California Certified Asbestos Consultant
CGI	combustible gas indicator
COC	contaminant of concern
COD	chemical oxygen demand
CSST	Certified Site Surveillance Technician
DHS	California Department of Health Services
EPA	U.S. Environmental Protection Agency
eV	electron volts
FAAS	flame atomic absorption spectroscopy
FID	flame ionization detector
HASP	Health and Safety Plan
HEPA	high-efficiency particulate air
LBP	lead-based paint
LEL	lower explosive limit
mL	milliliters
mph	miles per hour
MTBE	methyl-tert-butyl-ether
NESHAP	National Emission Standards for Hazardous Air Pollutants
NFD	Naval Fuel Depot
OSHA	Occupational Safety and Health Administration
PAHs	polynuclear aromatic hydrocarbons
PDR	Personal Data Ram
PID	photo ionization detector
PIP	photo ionization potential
PLM	polarized light microscopy
ppm	parts per million
QC	quality control
RWQCB	San Francisco Regional Water Quality Control Board
SAP	Sampling and Analysis Plan
sf	square feet
SGWMP	Soil and Groundwater Management Plan
STLC	Soluble Threshold Limit Test

TCLP	Toxicity Characteristic Leaching Potential
TDS	total dissolved solids
TOC	total organic carbon
TS	total solids
TSS	total suspended solids
TEM	Transmission Election Microscopy
TPH	Total Petroleum Hydrocarbons
VOC	Volatile Organic Compound
WET	Waste Extraction Test

1.0 INTRODUCTION

1.1 Purpose and Scope

This Sampling and Analysis Plan (SAP) has been prepared to present the sampling and analytical procedures that should be followed for sampling of soils, liquids, and other materials encountered during emergency and non-emergency remediation and development activities at the former Naval Fuel Depot (NFD) Point Molate in Richmond, California (the Site). The procedures in the SAP should be followed to ensure that data collected during remedial and development activities at the Former NFD Point Molate are of the appropriate quality to facilitate the proper selection of material handling and/or disposal methods, and to promote safe site work practices, including the selection of proper personal protection equipment, as necessary. Procedures for sample collection, handling and storage, chain-of-custody, laboratory analyses, and data handling are presented herein. This SAP is intended for use as an appendix to the Soil and Groundwater Management Plan (SGWMP). Further quality control procedures documented in Appendix G (Quality Control Plan) of the SGWMP should be followed in evaluating the data collected from these sampling approaches.

2.0 SAMPLING PROCEDURES

Sampling procedures are presented for the following media and settings which may be required in association with site construction activities:

- Soil: excavation confirmation sampling
- Soil: stockpile sampling for on-site reuse
- Soil: waste characterization for off-site disposal
- Building materials
- Groundwater
- Liquid waste
- Air
- Buried drums and tanks

If additional media and/or settings are encountered, an addendum or addenda to this SAP will need to be prepared and approved by the San Francisco Regional Water Quality Control Board (RWQCB) prior to implementation.

2.1 Equipment Decontamination

Sampling equipment must be decontaminated prior to use. To prevent potential for cross-contamination between samples, all non-disposable sampling equipment that comes into contact with the soil, demolition debris, or groundwater will be decontaminated prior to initiating work at each subsequent sampling location. Non-disposable equipment will be decontaminated using a three-step process: (1) non-phosphate detergent wash, (2) potable water rinse, and (3) distilled water rinse. Disposable equipment will be discarded after each sample location.

2.2 Soil Sampling

2.2.1 Excavation Sampling

Potentially contaminated soil (either unanticipated or in areas of the Site that have received regulatory closure) will require sampling and analysis. The number and location of soil samples to be collected will depend on the conditions encountered in the field. A regular sampling grid should be established for the excavation floor and sidewalls, unless field observations indicate the potential presence of hot spots in an excavation (e.g., areas of staining). One excavation floor confirmation soil sample should be obtained for each 50 by 50 square feet (sf) grid, or part thereof. For the excavation sidewalls, one soil sample should be collected every 50 horizontal feet of sidewall and every 10 feet of vertical excavation, or part thereof. If there is no visual indication of contamination within the sampling grid, a discrete sample should be collected from the approximate center of the grid. If there is visual indication of contamination within the sampling grid, a discrete sample should be biased to the location that indicates the worst potential impact.

Samples will be collected using appropriate equipment (e.g., decontaminated or disposable spoon or trowel, split-spoon sampler or a push tube). Samples for volatile components will be collected using a TerraCore™ sampler or equivalent equipment, as described below. Samples to be analyzed for volatile components will be collected first. If entry into an excavation is considered unsafe, samples may be collected from an excavation bucket. In general, the steps described below summarize the sampling procedures to be followed at each location.

1. Obtain sampling jars. Each sample to be analyzed for volatile components will be collected using one 5-gram TerraCore™ kit. For non-volatile components, samples will be collected in pre-cleaned, 8-ounce, wide-mouthed glass jars.
2. Put on a new, clean, and chemical-resistant pair of disposable gloves.
3. Remove approximately 2-inches of disturbed soil from the surface of the area prior to collecting the sample.
4. Samples to be analyzed for volatile components will be collected first. Using a TerraCore™ sampler, three 5-gram plugs of soil will be collected for each sampling location. The soil plugs will be immediately placed into vials. Two of the vials will contain 5 milliliters (mL) of deionized water and a stir bar, and one vial will contain 5 mL of methanol. The vials will be placed on water ice and cooled to 4 degrees Centigrade (°C). The lab must receive the vials within 48 hours to freeze the water vials, thereby extending the hold time to 14 days.
5. Samples for non-volatile components should be collected using appropriate equipment (e.g., decontaminated or disposable spoon or trowel). The soil should completely fill the pre-cleaned 8-ounce jar. The number of glass jars required at each sample location will depend on the analyses required (see Section 3.0). In general, a minimum of two, laboratory-supplied, 8-ounce glass jars of soil will be collected at each sampling location.
6. Seal or cap the sample containers and affix sample labels to the containers. Sample labels should contain the information described in Section 4.1.
7. Place signed and dated custody seals over the containers and place the containers in resealable bags. Label the resealable bags in the same way as the sample containers. Immediately place the resealable bag containing the sample jars into a cooler filled with ice to maintain a temperature of 4 °C.
8. Record the sample number, date, time, and description of the sample on the chain-of-custody form (described in greater detail in Section 4.2).
9. Arrangements should be made to have the samples picked up by or dropped-off at the analytical testing laboratory or samples should be packaged and shipped in accordance with the procedures described in Section 4.3.

2.2.2 Stockpile Sampling for On-Site Reuse

The procedures described below are to be followed for sampling a stockpile when it is anticipated the soil may be re-used on Site. If it is known that a stockpile will be disposed off-Site, then procedures described in Section 2.2.3 should be followed for waste characterization.

For on-site reuse, one representative soil sample composited from a minimum of four individual samples will be collected per 50 cubic yards of stockpiled soil for volumes of stockpiled soil less than 200 cubic yards. For greater volumes of excavated soil, one representative soil sample will be collected per 200 cubic yards of stockpiled soil or fraction thereof. Soil samples will be analyzed for the contaminants of concern (COCs) identified in the source soil by the procedures described above.

The sampling procedures for collecting discrete soil samples from stockpiles are the same as those described for the confirmation samples (steps 1 through 9 in Section 2.2.1).

2.2.3 Waste Characterization Sampling

Soil that is to be disposed off-Site will be sampled for waste characterization to evaluate waste disposal options. The number of samples to be collected for waste characterization will depend on the volume of soil to be disposed and on the requirements of the waste-receiving facility. In general for non-volatile components, one sample should be collected for every 500 cubic yards of soil to be disposed. For analysis of non-volatile components, the sample may consist of a four-point composite. For volatile components, one sample should be collected for every 125 cubic yards of soil to be disposed. Samples for volatile components should not be composited.

2.2.3.1 Non-volatile Components

One four-point composite sample will be collected for every 500 cubic yards of soil to be disposed. The samples to be analyzed for non-volatile components will be composited as follows:

1. Place the samples in a clean pan or bowl, so that they form four quadrants of a circle.
2. Using an appropriate device, mix each quadrant thoroughly.
3. Mix two quarters to form halves.
4. Mix the two halves to form a homogeneous sample.

The composited sample will be placed in laboratory-supplied, pre-cleaned 8-ounce jars. The soil should completely fill the jars to minimize headspace. The samples should be labeled and transported to the laboratory as described in Section 4.0.

2.2.3.2 Volatile Components

Samples for volatile components should not be composited. In general, one sample for volatile components should be collected for every 125 cubic yards of soil to be disposed off-Site. Sampling for volatile components will be performed using a TerraCore™ sampler to collect three 5-gram plugs of soil. The soil plugs will be immediately placed into vials. Two of the vials will contain 5 mL of deionized water and a stir bar, and one vial will contain 5 mL of methanol. The vials will be placed on water ice and cooled to 4°C. The lab must receive the vials within 48 hours to freeze the water vials, thereby extending the hold time to 14 days.

2.3 Building Materials Sampling

2.3.1 Concrete or Asphalt

Concrete and asphalt suspected of being contaminated will be sampled and the samples will be analyzed for the appropriate COCs prior to disposal. Four representative pieces will be taken for every 500 cubic yards of material to be sampled and placed in a clean plastic bag. Particle size reduction of the samples will be performed in the field as follows:

1. Remove the samples from the bag, including any fines, and place them in a clean stainless-steel pan.
2. Using a clean hammer, carefully crush or grind the material, being careful not to lose any material from the pan.
3. Continue crushing/ grinding the material until the sample size is approximately 0.375-inch in diameter. Try to minimize the creation of fines significantly smaller than 0.375 inches.
4. Pass the material through a clean 0.375-inch sieve into a glass pan.
5. Continue the process until sufficient sample is obtained.
6. Thoroughly mix and composite the material as described above for soil waste samples.
7. Transfer the resulting composite sample into the designated sample containers.

Paint on concrete will be assessed for lead as described in Section 2.3.3.

2.3.2 Asbestos-Containing Material

The number and location of samples of suspected asbestos-containing material (ACM) should be based on the U.S. Environmental Protection Agency (EPA) Asbestos Hazard Emergency Response Act (AHERA) regulations. ACM sampling must be performed by a qualified and licensed California Certified Asbestos Consultant (CAC) or a Certified Site Surveillance Technician (CSST) under the direct supervision of a CAC. If the presence of ACM is confirmed, a full demolition-

level asbestos survey of structures must be performed. A demolition-level survey to comply with National Emission Standards for Hazardous Air Pollutants (NESHAP) requires accessing chases, wall cavities, roofing, and decking.

In general, the following procedures should be followed when sampling suspected ACM.

1. The immediate area shall be secured so that personnel unrelated to the ACM sampling are not present.
2. An appropriate respirator equipped with high-efficiency particulate air (HEPA) filters shall be worn while collecting samples.
3. Suspected ACM should not be sampled dry. Wet the surface of the sample area with a surfactant (typically 50% polyethylene-glycol) or water. For core sampling, a wet sponge can be placed over the sampled area and the core will be run through the sponge into the suspected ACM. Penetrate the suspected material completely with a sharp object such as a coring tool, blade or knife and remove a small section of the suspect material.

Minimum sampling numbers:

- If area of the homogenous suspect ACM is less than 1,000 linear or square feet, three (3) bulk samples shall be collected;
 - If area of homogenous suspect ACM is greater than 1,000 linear or square feet, but less than 5,000 linear or square feet, at least five (5) bulk samples shall be collected;
 - If area of homogenous suspect ACM is greater than 5,000 linear or square feet, seven (7) bulk samples shall be collected from each area.
4. Place the sample in a sealed container.
 5. Patch or repair the material where the sample was removed.
 6. Label the sealed container and record the following information:
 - Date;
 - Location of sample (a graphic depiction of sample location should be included for demolition records);
 - Type of material (e.g., plaster wall, thermal system insulation);
 - Name or initials of individual taking sample;
 - Laboratory that will be analyzing sample and phone number;

- Sample result (to be filled in after analysis);
 - Sample number - unique to the location and/or sample.
7. Submit the sample to a laboratory accredited by the American Industrial Hygiene Association (AIHA) and the California Department of Health Services (DHS).
 8. Depending on the quantifying limit needed, the sample should be analyzed by either of two methods:
 - Polarized Light Microscopy (PLM) for quantifying limits equal to or exceeding 0.1% asbestos by weight.
 - Transmission Electron Microscopy (TEM) if a detection limit below 0.1% asbestos by weight is required.

2.3.3 Lead-Based Paint

Lead characterization activities will be conducted as part of the building survey activities. This will include the collection of:

- representative paint chip samples for lead to help evaluate Occupational Safety and Health Administration (OSHA) work practices during demolition activities; and
- representative composite building samples for waste characterization in accordance with American Society for Testing and Materials Standard E 1908-97.

Lead and Waste Extraction Test (WET) sample analyses will be performed using US Environmental Protection Agency (EPA) Method SW-846/7420 at a laboratory accredited by AIHA and DHS.

Lead-based paint sampling should be performed by a California certified Inspector/Assessor or a California certified sampling technician, under the direction of a California certified Inspector/Assessor.

2.3.3.1 Lead-Based Paint Chip Sampling

In general, the following procedures should be followed to collect a paint chip sample.

1. Write the required information about the test location and sample on a paint chip sample collection form and paint chip sample container. This information should include:
 - Project name

- General sampling site description
 - Name of the person collecting the samples
 - Sample identification
 - Dimensions of the sampled surface
2. Using a ruler, draw an outline of the sample area on the painted surface with a permanent pen. Record the dimensions of the outlined area. Then score the outlined area using a razor knife or other cutting tool. Samples should generally be at least 1 square-inch in size, however, the minimum sample required will vary by laboratory.
 3. Create a paint chip sample collection tray:
 - For horizontal surfaces, use a sheet of letter-size white paper for making a paper funnel for paint chip sample collection. In cases where the sampling location is too small to accommodate a funnel made with a sheet of the letter-size paper, cut the paper to an appropriate smaller size.
 - For vertical surfaces, center a piece of tape along one of the long edges of a clean sheet of white paper. The tape should be slightly shorter than the paper and placed so that sufficient adhesive is available to firmly stick the paper to the pain surface. Stick the paper directly below the location to be sampled with the taped edge closest to the scored location. Pull the two lower corners of the paper together and overlap slightly to form a funnel and secure with a piece of tape. Fold the bottom of the newly formed funnel up and use a piece of tape to close off the funnel bottom. Be sure no sticky tape surfaces are exposed on the inside of the funnel.
 - For overhead horizontal surfaces (painted surfaces facing down), make a closed-bottom funnel in the same manner as described for vertical surfaces above. Affix the funnel to the painted surface in a way so that it is directly under the location to be sampled without impeding access to the surface, or attach the funnel to a ladder beneath the sampling location.
 4. Using a cutting tool (such as a razor knife), begin removing the paint chip sample from the substrate. Peel the paint chip sample from the substrate by sliding the blade along the score and underneath the paint chip sample. If problems are encountered in removing the paint chip sample, use a scraping tool or other equivalent tool to aid in pain chip sample removal.
 5. Remove the paint chip sample collection tray from the sampling location and carefully tap the collected pain chip sample into the sample collection container.

6. The samples should be labeled and transported to the laboratory as described in Section 4.0.

2.3.3.2 Building Drip-Line Sampling

Due to the potential that structure demolition activities may release lead-based paint (LBP) into nearby soils, composite soil sampling will be conducted in the perimeter drip lines of the painted structures to provide a baseline level of lead in soil. In these areas, composite samples will be collected, which will consist of five to eight aliquots from surface (0 to 3 inches) soils surrounding the structures. One composite soil sample will be collected from each of the painted structures. Each composite sample will contain no greater than eight aliquots, and at least one composite sample will be collected from each side of the building where exposed soil is present. Samples will be collected from areas with the highest likelihood of elevated lead in soil (at areas of flaking paint or in drip lines within 2 feet of the building).

2.4 Liquids

2.4.1 Groundwater Samples

When groundwater data is not available and dewatering activities are planned for the area, groundwater samples must be collected to characterize the groundwater in the vicinity. Groundwater samples can be collected as grab samples collected from standing water in an excavated test pit as follows:

- Dedicated disposable tubing will be slowly lowered into the test pit until the tube end is submerged in the groundwater that has accumulated at the bottom of the test pit. A peristaltic pump will be used to pump groundwater sample through the tubing.
- Volatile samples will be collected first and will be unfiltered. Groundwater will be collected in three laboratory-supplied, pre-preserved 40-mL vials (see Section 3.0 for further description). When sampling for volatile analyses, the sample containers will be filled slowly so that the sample is not agitated and the container is not overfilled (which would dilute the preservative contained in the bottles). Vials will be filled so that a dome of water extends above the top of the vial. The vial will then be capped and inverted. If air bubbles are present in the vial, the sample will be discarded and a new sample will be collected.
- Samples to be analyzed for total petroleum hydrocarbons (TPH) will be collected next. Water samples for TPH analysis will be placed in unpreserved, 1-liter amber glass bottles. Amber bottles will be filled to the neck.
- Grab groundwater samples collected for metals and polynuclear aromatic hydrocarbons (PAH) analyses will be field-filtered using a disposal filter.

- Remaining samples will be collected in the appropriate bottles as described in Section 3.0.

2.4.2 Liquids Stored in Drums or Tanks

One sample set from each drum and/or portable tank will be collected. Samples will be collected from the influent and effluent of any on-site water treatment plants from designated sampling ports. If wastes from the same source are stored in multiple drums or tanks, the samples designated for analysis of non-volatile components from these management units will be thoroughly mixed and composited. One of the units will be sampled for analysis of volatile components.

If water samples from multiple sources are being collected, they should be collected in the expected order of degree of contamination (from the cleanest source to the most impacted).

2.5 Air Sampling

Air sampling may take place under the following circumstances:

- On-site visual dust monitoring will be performed during soil disturbing activities, or at any time when visible dust is present due to soil disturbing activities (Section 2.5.1).
- Perimeter air and dust monitoring (“perimeter monitoring”) will be performed during large-scale soil disturbing activities (>1-acre) and in areas with contaminated soil (Section 2.5.2 through 2.5.4).
- Under some circumstances, monitoring of organic vapors in site media to help identify potentially contaminated areas (Section 2.5.3).
- Air monitoring will be performed in the work zone if contaminated soil is identified at the work site (Section 2.5.4). Air monitoring procedures and action levels must be included in the Contractor-prepared Health and Safety Plan (HASP) but at a minimum must include the protocols discussed in Section 2.5.6 and 2.5.7 of the SAP.
- Air sampling and personal exposure monitoring will be performed in the event that asbestos and/or lead-based paint abatement are required at the Site. Air sampling and monitoring procedures related to asbestos and/or lead-based paint abatement must be included in the Asbestos Abatement Work Plan and/or the Lead Based Paint Abatement Work Plan that are required for submittal by the Contractor, and are not discussed in this SAP.

The operation and maintenance of several popular types and models of instruments for measuring volatile organic compounds (VOCs) in air are discussed in Section 2.5.7.

2.5.1 Dust Monitoring

On-site dust monitoring will be performed during soil disturbing activities, or at any time when visible dust is present due to soil disturbing activities. Dust monitoring will be performed on an hourly basis, within 50 feet of the soil disturbing activities, using a Ringelmann No.1 Chart. The Ringelmann chart is used by placing it at eye level, at such a distance from the observer that the lines on the chart merge into shades of gray, and as nearly as possible in line with the source of dust. The observer glances from the dust plume to the chart and notes the number of the chart most nearly corresponding with the shade of the dust being monitored, then records this number with the time of observation. A clear sky is recorded as No. 0 and 100 percent opaque as No. 5.

2.5.2 Perimeter Monitoring - PDR

Perimeter air and dust monitoring (“perimeter monitoring”) will be performed during large-scale soil disturbing activities in areas with potentially contaminated soil. Perimeter monitoring will be performed within 50 feet of the boundary of the large-scale soil disturbing activity to verify that control measures performed at the project site are adequate to prevent dust and volatile contaminants from leaving the Site.

Real-time air monitoring of total dust will be performed using real-time aerosol monitors [Personal Data Rams (PDRs)] with data loggers to provide immediate information for the total dust levels present. PDRs will be placed at a height of approximately five feet.

PDR shall be operated per the manufacturer’s specification and shall be calibrated daily in a zero bag. Calibration data shall be recorded daily and is described in more detail in section 2.5.7 of this SAP.

2.5.3 Perimeter Monitoring - Wind Speed

Wind speed and direction will be continuously monitored using a portable calibrated wind sock. Wind sock should be able to be calibrated to determine wind velocity at 15 mph or 25 miles per hour (mph).

2.5.4 Perimeter Monitoring - VOCs

Perimeter monitoring of airborne VOCs will be monitored using a hand-held photoionization detector (PID). The PID(s) should be operated per manufacturer specifications and shall be calibrated once daily before work commences and checked with the calibration gas at the end of each work shift. The PDR(s) shall be operated per the manufacturer’s specification and shall be calibrated daily in a zero bag.

Concentrations of VOCs will be documented at the perimeter through completion of daily field logs. Calibration data shall be recorded daily and is described in more detail in section 2.5.7 of this SAP.

2.5.5 Monitoring of Site Media for Organic Vapors

Under certain circumstances, monitoring of organic vapors in site media can help identify potentially contaminated areas to assist with site characterization and assist in evaluating work and community exposure. Organic vapor monitoring is typically conducted using a PID or flame ionization detector (FID) for analytical screening of soil by screening soil cores, small test pits, or soil headspace. The PID or FID can also be used to evaluate organic vapors inside monitoring wells and excavations.

For volatile and semi-volatile compounds, knowing the PIP is critical in determining the appropriate instrument to use when organic vapor screening. Consult the manufacturer's manual to determine that the proper instrument has been selected for the contaminant vapors of interest. If an expected compound at a site has a PIP less than 11.7 electron volts (eV), it is possible to use a PID. If the ionization potential is greater than 11.7eV, an FID is required.

Perform operation, maintenance, and calibration according to with the manufacturer's specifications. Document results of instrument calibrations in the Field Notebook.

2.5.5.1 Small Test Pit Soil Screening for Organic Vapors

Surface soil, newly exposed soil, soil stockpiles, and excavation surfaces can be screened for the presence of organic vapors using a PID or FID. Before screening newly exposed soil, soil stockpiles, and excavation surfaces, dig a small sample test pit at least 6 inches deep into the soil using a clean, decontaminated sampling tool such as a stainless-steel spoon and/or shovel. For surface soil or other soil directly exposed to the atmosphere for greater than one hour, dig an at least 18-inch-deep test pit before soil screening. Perform soil screening on freshly exposed soil. When digging, minimize the diameter of the test pit, if possible, to reduce advection of soil vapors out of the test pit. Immediately after digging, insert the sample tip of the PID or FID into the test pit, approximately 1 to 2 inches from the bottom of the test pit, taking care not to foul the sample tip with soil particulates or uptake water droplets. Record the maximum detector reading as the final sample concentration.

2.5.5.2 Soil Headspace Screening for Organic Vapors

Headspace organic vapor monitoring involves the measurement of petroleum vapors emitted from soil samples in a sealed container. The headspace of the container is typically warmed and then tested for volatile organic vapors using PID or FID techniques. The results generated by this method are qualitative to semi-quantitative and are limited to organic compounds that readily volatilize.

Soil can be collected for headspace screening from various sources including lithologic soil cores during drilling, soil stockpiles, or from excavations and test pits. For soil cores, soil headspace should be screened from 1-foot intervals at zones of where contamination is expected.

The following procedures should be followed when conducting soil headspace screening for organic vapors:

- Calibrate the headspace screening instrument(s) according to the manufacture's specifications and requirements. Headspace screening will typically be performed using clean, resealable 1-quart Ziploc™ (or similar) plastic bags.
- To begin collection of headspace screening samples, collect a small amount of soil (about the equivalent of a handful) and immediately place it inside a clean, resealable 1-quart Ziploc™ (or similar) plastic bag until the plastic bag is about one-third to one-half full; then immediately seal the bag completely. Larger plastic bags should not be used to prevent vapor diffusion and stratification effects to significantly affect the sample. Samples from soil cores, excavations, or soil piles must be immediately transferred into the sample bag once the soil core is opened or the soil sample is uncovered and exposed to the atmosphere.
- Shake the bag for 15 seconds and let it rest for at least 10 minutes but no longer than one hour. The temperature of the headspace must be warmed to at least 40 degrees Fahrenheit (°F) (5°C) before testing. If the soil and/or outdoor temperature are low (<40°F) or if the soil is frozen, placing the headspace sample in a warm location at approximately room temperature (that is, indoors) may be necessary to slowly warm the sample to an acceptable temperature.
- Before testing, shake the bag for another 15 seconds to further assist volatilization.
- Insert the sample tip of the PID or FID into the bag at a point approximately one-half the headspace depth, taking care not to foul the sample tip with soil particulates or to aspirate water droplets. The sample bag insertion opening must be minimized to minimize vapors from escaping.
- After probe insertion, record the maximum detector reading as the final sample concentration in the Field Logbook.
- The maximum detector reading normally occurs between 2 and 5 seconds after probe insertion.
- If erratic instrument response occurs at high VOC concentrations or conditions of elevated headspace moisture, record the instrument behavior along with the maximum detected reading(s). Under these conditions, headspace data may be discounted.

2.5.6 Air Monitoring for Potential Contaminant Exposure

Air monitoring for potential exposure to airborne contaminants is typically conducted using a PID, FID, combustible gas indicator (CGI; measuring oxygen level and explosive atmosphere), MultiRAE Plus meter (measuring oxygen level, explosive atmosphere, PID, and hydrogen sulfide), or Thermo Scientific pDR1000AN dust/aerosol meter.

Air monitoring is typically conducted at one or more of the following areas for the reasons given below:

- At the source. Monitoring at this location gives a worst-case assessment of the situation. If concentrations at the source are below the action levels, then a potential exposure problem is unlikely.
- In the employee breathing zone. Monitoring should be conducted in the employees' breathing zones to determine the actual conditions that they may potentially be exposed to. Since employees doing different tasks may have different potential exposures, monitoring should be conducted for the worst case scenario for each task.

2.5.7 Instruments for Measuring Volatile Organic Compounds in Air

Many instruments are available for organic vapor monitoring, as well as monitoring of explosive atmosphere, oxygen levels, toxic gas, and airborne dust. Because it is beyond the scope of this SAP to describe all of these alternatives, this SAP will focus on conducting air monitoring and headspace soil vapor monitoring using the following most commonly used equipment types:

- PID
- FID
- CGI and oxygen level indicator
- Combination Meters and Multi-gas Meters (such as PID, CGI, oxygen, and hydrogen sulfide)
- Passive dust monitor

The organic vapor and air monitoring instruments most commonly expected to be used include the following:

- MiniRae 2000 PID
- Photovac MicroFID
- Thermo Scientific 580B OVM Datalogger PID

- Thermo Scientific TVA 1000A FID/PID
- MultiRae Plus Multi-gas Meter
- RKI Eagle 6 Gas Multi-gas Monitor
- Thermo Scientific pDR1000AN Dust/Aerosol Meter

The MiniRae 2000 PID and Photovac MicroFID are the most commonly used instruments for organic vapor monitoring. A Thermo Scientific 580B OVM Datalogger PID is a common PID that has been historically used before development of the MiniRae 2000 PID. A Thermo Scientific TVA 1000 FID/PID combines the detection capabilities of both a FID and a PID in a single instrument. A MultiRae Plus meter combines a PID, with detection of oxygen levels, combustible vapor, and toxic hydrogen sulfide. Similarly, the RKI Eagle 6 Gas Monitor detects up to six custom gas types simultaneously, including lower explosive limit (LEL), oxygen, carbon dioxide, hydrogen sulfide, methane, and other toxic gases. The Thermo Scientific pDR1000AN is direct-reading, personal, aerosol monitor designed to provide accurate, real-time measurement of airborne dust and particulate concentrations.

2.5.7.1 Equipment Calibration

To ensure that field air monitoring equipment will be properly calibrated and remain operable in the field, calibrate all field air monitoring equipment daily before use and at least once every day during use. Other project-specific requirements may require calibration of air monitoring equipment at a greater frequency. Calibrate all field air monitoring equipment onsite and verify that all calibration standards used meet the minimum requirements for source and purity recommended by the instrument manufacturer. PIDs and FIDs are typically calibrated with 100 parts per million (ppm) isobutylene and 500 ppm methane calibration standards, respectively; however, other project-specific calibration standard concentrations maybe required. Calibrate PIDs and FIDs to detect “total organic vapor” concentrations in ppm benzene equivalent. Both PIDs and FIDs must be capable of ionizing the expected contaminants of concern.

Calibrate all field air monitoring equipment within calibration acceptance criteria, based on contaminants of concern potentially encountered and within the instruments operational limits. If instrument readings appear to be irregular or drifting, attempt to recalibrate instruments before collecting additional data. Flag apparent instrument drift or erratic instrument readings on any field datasheets used to record data and in the Field Notebook. If the instrument cannot be recalibrated, take the instrument out of service and replace it with a different unit that is capable of being calibrated and used with reliability.

Before starting any air monitoring, document the following calibration information in the Field Notebook for routine instrument calibration:

- Calibration Date and Time

- Instrument Type, Name, Serial Number, and Owner
- Lamp Type (PID only)
- Type of regulator
- Type of tubing (such as direct tubing or T-connection)
- Calibration gas type, canister lot number, and expiration date
- Zero gas calibration reading
- Calibration gas (span gas) reading
- Ambient weather condition (for example, temperature and wind direction)
- Operators initials
- Other notes and comments

2.5.7.2 Organic Vapor Monitoring with a Photoionization Detector

The following procedures are specific to the MiniRae 2000 PID instrument; however, they are generally applicable to other manufacturer's instruments, and the precautions to consider are the same. The photo ionization potential (PIP) of the expected site contaminant(s) may determine that an FID is needed instead of a PID. If an FID is required, the procedure for using it is essentially the same as a PID; therefore, this section will not separately address FID procedures. Regardless of the type of instrument used, manufacturer-specific manuals should be consulted before instrument use.

The MiniRAE 2000 PID is a portable, non-specific vapor/gas detector employing the principle of photoionization to detect a wide variety of VOCs. Use a PID during intrusive activities (for example, excavating) where there is potential for the presence of petroleum or VOC contamination.

Calibrate the PID each day, following the calibration specifications of the manufacturer and before the start of field activities. If the PID is in continuous operation, verify daily calibration. Perform instrument calibration using isobutylene calibration gas of known concentration; 100 ppm isobutylene calibration gas is preferred.

The following provide additional details about the PID:

- The MiniRae 2000 PID will typically operate continuously for up to 8 hours before requiring battery recharging.

- Elevated water vapor concentrations experienced in high humidity will foul the PID and may result in a negative or erroneous reading. If high humidity problems persist, use of Rae Systems Humidity Filtering II Tubes may be necessary.
- MiniRAE 2000 PID readings are always relative to the calibration gas. After calibration with 100 ppm isobutylene, the MiniRAE 2000 PID will respond directly in units equivalent to isobutylene.
- Most VOCs will be detected by the Mini RAE 2000 PID. However, it cannot distinguish between isobutylene and other ionizable compounds. A reading of 10 ppm indicates all ionizable compounds that are present have generated an ion current equivalent to 10 ppm of isobutylene. The reading is actually 10 ppm isobutylene-equivalent units.

The lamp window must be periodically cleaned according to the instructions in the manual provided with the instrument to ensure ionization of the volatilized contaminants.

3.0 ANALYTICAL METHODS, SAMPLE CONTAINERS, PRESERVATION AND STORAGE

The following sections present analytical methods, minimum sample size requirements, sample containers, sample preservation methods, and maximum sample holding times.

3.1 Soil, Sludges, Sediments, and Other Solids

Analytical Group	Analytical Testing Method	Minimum Sample Mass (grams)	Container (number, size, and type)	Preservation Requirements (chemical, temperature, light protected)	Maximum Holding Time (preparation/ analysis)
Metals	EPA 6010B/6020	2	4- or 8-ounce glass jar with Teflon-lined lid or stainless steel liner	Cool at 4±2°C	180 days
Mercury	EPA 7471A	2	4- or 8-ounce glass jar with Teflon-lined lid or stainless steel liner	Cool at 4±2°C	28 days
PAHs or SVOCs	EPA 8270C	30	4- or 8-ounce glass jar with Teflon-lined lid or stainless steel liner	Cool at 4±2°C	14 days to extraction 40 days after extraction
PCBs	EPA 8082	30	4- or 8-ounce glass jar with Teflon-lined lid or stainless steel liner	Cool at 4±2°C	14 days to extraction 40 days after extraction
Organochlorine pesticides	EPA 8081A	30	4- or 8-ounce glass jar with Teflon-lined lid or stainless steel liner	Cool at 4±2°C	14 days to extraction 40 days after extraction
Dioxins/Furans	EPA 8290	30	4- or 8-ounce glass jar with Teflon-lined lid or stainless steel liner	Cool at 4 ± 2 °C	30 days to extraction 40 days after extraction
VOCs	EPA 8260B	5	3 TerraCore devices or equivalent	Cool at 4±2°C	48 hours for unpreserved 14 days for preserved
TPH as diesel or bunker oil	EPA 8015B	50	4- or 8-ounce glass jar with Teflon-lined lid or stainless steel liner	Cool at 4±2°C	14 days for extraction 40 days for analysis
TPH as gasoline	EPA 8015B	5	3 TeraCore devices or equivalent	Cool at 4±2°C	7 days
Asbestos	CARB Method 435	2	4- or 8-ounce glass jar with Teflon-lined lid or plastic bag	No preservative required	None
Soluble threshold limit concentration (STLC)	California W.E.T.	50	4- or 8-ounce glass jar with Teflon-lined lid or stainless steel liner	Cool at 4±2°C	Pending total metals results

Analytical Group	Analytical Testing Method	Minimum Sample Mass (grams)	Container (number, size, and type)	Preservation Requirements (chemical, temperature, light protected)	Maximum Holding Time (preparation/ analysis)
Toxicity characteristic leaching potential (TCLP)	EPA 1311	100	4- or 8-ounce glass jar with Teflon-lined lid or stainless steel liner	Cool at 4±2°C	Pending total metals results
Corrosivity	SW-846 9045B	100	4- or 8-ounce glass jar with Teflon-lined lid or stainless steel liner	Cool at 4±2°C	7 days
Ignitability	SW846 1010A	100	4- or 8-ounce glass jar with Teflon-lined lid or stainless steel liner	Cool at 4±2°C	7 days
Toxicity	96-hour Static Acute Fish Bioassay	25	4- or 8-ounce glass jar with Teflon-lined lid or stainless steel liner	Cool at 4±2°C	36 hours

3.2 Water/Aqueous Samples

Analytical Group	Analytical Testing Method	Minimum Sample Volume (mL)	Container (number, size, and type)	Preservation Requirements (chemical, temperature, light protected)	Maximum Holding Time (preparation/ analysis)
Biochemical Oxygen Demand (BOD)	EPA 405.1/SM 5210B	300	500 ml HDPE	Cool at 4±2°C	48 hours
Chemical Oxygen Demand (COD)	EPA 410.4/SM 5220D	50	250 ml glass	Cool at 4±2°C	28 days
Chromium VI (Hexavalent Chromium)	EPA 7196A	200	250 ml HDPE	Cool at 4±2°C	24 hours
pH	EPA 150.1	50	125 ml HDPE	Cool at 4±2°C	ASAP (24 hours)
Solids, Total Dissolved (TDS)	EPA 160.1	200	500ml HDPE	Cool at 4±2°C	7 days
Solids, Total Suspended (TSS)	EPA 160.2	200	500ml HDPE	Cool at 4±2°C	7 days
Solids, Total (TS)	EPA 160.3	200	500 ml HDPE	Cool at 4±2°C	7 days
Total Organic Carbon (TOC)	EPA 415.1	150	250 ml glass	H ₂ SO ₄ , Cool at 4±2°C	28 days
Turbidity	EPA 180.1	100	125 ml HDPE	Cool at 4±2°C	48 hours
Mercury	EPA 7470A	100	250 ml HDPE	HNO ₃ , Cool at 4±2°C	28 days
Metals	EPA 6010B/200.7	100	250 ml HDPE	HNO ₃ , Cool at 4±2°C	180 days
PAHs	EPA 8270C	1000	1 L amber glass	Cool at 4±2°C	7 days for extraction, 40 days after extraction
VOCs	EPA	40	3-40 ml VOA	HCl, Cool at	14 days

Analytical Group	Analytical Testing Method	Minimum Sample Volume (mL)	Container (number, size, and type)	Preservation Requirements (chemical, temperature, light protected)	Maximum Holding Time (preparation/analysis)
	8260B/624		vials	4±2°C	
TPH-diesel	EPA 8015Modified	1000	1000 ml amber glass	Cool at 4±2°C	14 days
TPH – gasoline/benzene, toluene, ethylbenzene, xylenes (BTEX), Methyl-tert-butyl-ether (MTBE)	EPA 8015M/8021B	40	2-40 ml VOA vials	Cool at 4±2°C	14 days
TPH - gasoline	EPA 8015Modified	5	2-40 ml VOA vials	Cool at 4±2°C	14 days
TPH	EPA 418.1	1000	1000 ml amber glass	Cool at 4±2°C	28 days

3.3 Lead-Based Paint Sampling

Analytical Group	Analytical Testing Method	Minimum Sample Volume or Mass	Container (number, size, and type)	Preservation Requirements (chemical, temperature, light protected)	Maximum Holding Time (preparation/analysis)
Lead	Flame atomic absorption spectroscopy (FAAS) by SW-846/7420	2 grams	4- or 8-ounce glass jar with Teflon-lined lid	No preservative required	None

3.4 Suspect ACM

Analytical Group	Analytical Testing Method	Minimum Sample Volume or Mass	Container (number, size, and type)	Preservation Requirements (chemical, temperature, light protected)	Maximum Holding Time (preparation/analysis)
Asbestos	PLM	1 cubic centimeter	4- or 8-ounce glass jar with Teflon-lined lid or plastic bag	No preservative required	None
Asbestos	TEM	1 cubic centimeter	4- or 8-ounce glass jar with Teflon-lined lid or plastic bag	No preservative required	None

4.0 SAMPLE DOCUMENTATION AND SHIPMENT

Sampling information will be recorded on a chain-of-custody form and in a field logbook. All entries will be legible and recorded in indelible ink.

4.1 Labeling

Sample labels will be filled out with indelible ink and affixed to each sample container. Non-waterproof sample labels will be covered with clear tape. Sample containers will be placed in resealable plastic bags to protect the sample from moisture during transportation to the laboratory. Each sample container will be labeled with the following, at a minimum:

- Sample identification number
- Sample collection date (month/day/year)
- Time of collection (24-hour clock)
- Project number
- Sampler's initials
- Analyses to be performed
- Preservation (if any)
- Location (i.e., site name)

4.2 Chain-of-Custody Forms and Custody Seals

An example chain-of-custody form is shown on Figure 1. Chain-of-custody forms are used to document sample collection and shipment to laboratories for analysis, as well as serving as a formal request for sample analyses. The chain-of-custody form will be completed, signed, and distributed as follows:

- One copy retained by the sampler for their project files
- Original sent to the analytical laboratory with the sample shipment

The chain-of-custody form will identify the contents of each shipment and maintain the custodial integrity of the samples. Generally, a sample is considered to be in someone's custody if it is either in someone's physical possession, in someone's view, locked up, or kept in a secured area that is restricted to authorized personnel. Until the samples are shipped or delivered to a California-certified Laboratory, the custody of the samples will be the responsibility of the person who collected the samples.

The sampler or designee will sign the chain-of-custody form in the “relinquished by” box and note date, time, and air bill number. The sample numbers for all samples, reference samples, laboratory QC samples, and duplicates will be documented on the chain-of-custody form. The original form is left with the laboratory analyzing the samples.

The shipping containers in which the samples are stored (usually an ice chest), will be sealed with self-adhesive custody seals any time the samples are not in someone’s possession or view before shipping. All custody seals will be signed and dated.

4.3 Packaging

After sample collection, sample labels will be affixed to each sample container. Each sample will be placed in a resealable plastic bag to keep the sample container and the label dry. All glass sample containers will be protected with bubble wrap (or other cushioning material) to prevent breakage. A temperature blank will be placed in every cooler with samples.

Samples to be shipped by commercial carrier will be packed in a sample cooler lined with a plastic bag. Ice, double-bagged in resealable bags, will be added to the cooler in sufficient quantity to keep the samples cooled to 4°C, plus or minus 2°C, for the duration of the shipment to the laboratory. Sample cooler drain spouts will be taped from the inside and outside of the cooler to prevent any leakage. Saturday deliveries will be coordinated with the laboratory.

If samples are picked up by a laboratory courier service, the chain-of-custody form will be completed and signed by the laboratory courier. The cooler will then be released to the courier for transportation to the laboratory.

If a commercial carrier is used, the chain-of-custody form will include the airbill number in the “Transfers Accepted By” column, and will be sealed in a resealable bag. The chain-of-custody form will then be taped to the inside of the sample cooler lid. The cooler will be taped shut with strapping tape, and two custody seals will be taped across the cooler lid. Clear tape will be applied to the custody seals to prevent accidental breakage during shipping. The samples will then be shipped to the analytical laboratory. A copy of the courier airbill will be retained for documentation.

The shipping of samples to the analytical laboratory by land delivery services will be performed according to the U.S. Department of Transportation regulations. The International Air Transportation Association regulations will be adhered to when shipping samples by air courier services. Transportation methods will be selected to ensure that the samples arrive at the laboratory in time to permit testing according to established holding times and project schedules. No samples will be accepted by the receiving laboratory without a properly prepared chain-of-custody record and properly labeled and sealed shipping container(s).

4.4 Field Logbooks

A permanently bound field logbook with consecutively numbered pages will be assigned to this project. All entries will be recorded in indelible ink. Corrections will be made following the procedure described in Section 4.5. At the end of each workday, the responsible sampler will sign the logbook pages, and any unused portions of a logbook page will be crossed out, signed, and dated.

At a minimum, the logbook will contain the following information:

- Project name and location (on the front page of the log book)
- Date and time of collection for each sample (in the upper right corner of each page)
- Sample number
- Sample location (i.e., soil boring or sampling point)
- Sample type (i.e., soil and water)
- Composite or grab
- Composite type (the number of grab samples)
- Depth of sample
- Weather information (e.g., rain, sunny, approximate temperature, etc.)
- Containers used and requested analyses

The logbook should also contain the following information:

- A map with sample locations (drawn or pasted copy). Each sample location must be clearly identified on the map. Several sample locations may be presented on one map; however, the page with the map must be referred on each of the individual sample pages.
- Field analyses performed, including results, instrument checks, problems, and calibration records for field instruments.
- Descriptions of deviations from this SAP.
- Problems encountered and corrective action taken.
- Identification of field quality control (QC) samples.
- List of QC activities.

The sampler will cross out the unused portion and sign each page.

4.5 Document Corrections

Changes or corrections on any project documentation will be made by crossing out the item with a single line, initialing by the person performing the correction, and dating the correction. The original item, although erroneous, will remain legible beneath the cross out. The new information will be written above the crossed-out item. Corrections will be written clearly and legibly with indelible ink.

ATTACHMENT 1

EXAMPLE CHAIN OF CUSTODY FORM

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APPENDIX E

TRANSPORTATION AND DISPOSAL FORMS

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APPENDIX F

TRANSPORTATION ROUTES

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REVISED INTERNAL DRAFT
APPENDIX F
TRANSPORTATION ROUTES
FORMER POINT MOLATE NAVAL FUEL DEPOT
RICHMOND, CALIFORNIA

On Behalf of

City of Richmond
450 Civic Center Plaza
Richmond, CA 94804

Prepared for

Mr. James Levine
Upstream Point Molate
2000 Powell Street, Suite 920
Emeryville, CA 94608

Prepared by

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June 12, 2012

Project Number 0001.001.007



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1.0 INTRODUCTION

The Transportation Routes included in this appendix have been prepared to present the acceptable trucking routes that should be followed to the identified disposal facilities during activities related to remediation and development activities at the Former Naval Fuel Depot (NFD) Point Molate in Richmond, California (the Site; Figure 1). The Waste Transportation Routes are intended for use as an appendix to the Soil and Groundwater management Plan (SGWMP) prepared for the Site. The SGWMP specifies the procedures and protocols to be followed to properly characterize and dispose of waste materials that may be generated at the Site.

2.0 TRANSPORTATION ROUTES

Transportation of materials will take place on arterial streets and/or freeways, approved for truck traffic, to reduce potential impact on the local neighborhood. Trucks approaching the NFD Point Molate from Interstate 580 (I-580) will use the exit labeled Western Drive, Point Molate. Designated loading areas must be established as part of the planning process for work that will be conducted within the NFD Point Molate and will vary depending on location, scope and phase of work. The Site Features are shown on Figure 2. In general, the transport trucks will exit the Site on Western Drive towards I-580.

The following sections describe general routes to the various waste disposal facilities from NFD Point Molate.

2.1 Driving Directions to Kettleman Hills Facility

The route from the Site to the Kettleman Hills Facility in Kettleman City, California is shown on Figure 3. The driving directions are presented below.

Distance (one way): 215 miles

Approximate driving time (one way): 3 hours and 39 minutes

	Point Molate Fuel Depot Richmond, CA 94801	
	1. Head south on Western Dr	0.6 mi
	2. Take the ramp onto I-580 E	6.7 mi
	3. Merge onto I-80 W	3.8 mi
	4. Continue onto I-580 E/I-880 S (signs for Downtown/Oakland/Hayward/Stockton/Alameda/San Jose)	0.3 mi
	5. Slight right onto I-880 S (signs for W Grand Ave/San Jose/Alameda)	14.1 mi
	6. Take exit 31 for I-238 toward I-580/Stockton/Fresno	0.4 mi
	7. Follow signs for I-238/I-880/Castro Valley/Stockton Fresno and merge onto I-238 S	2.7 mi
	8. Merge onto I-580 E	46.3 mi
	9. Merge onto I-5 S	137 mi
	10. Take exit 309 for CA-41 toward Kettleman City/Paso Robles	0.3 mi
	11. Turn right onto CA-41 S	2.6 mi
	12. Turn right onto Old State Hwy	0.7 mi
	13. Continue onto Skyline Rd	0.2 mi
	35251 Old Skyline Blvd Kettleman City, CA	

2.2 Driving Directions to Buttonwillow Facility

The route from the Site to the Buttonwillow Facility in Buttonwillow, California is shown on Figure 4. The driving directions are presented below.

Distance (one way): 266 miles

Approximate driving time (one way): 4 hours and 31 minutes

	Point Molate Fuel Depot Richmond, CA 94801	
	1. Head south on Western Dr	0.6 mi
	2. Take the ramp onto I-580 E	6.7 mi
	3. Merge onto I-80 W	3.8 mi
	4. Continue onto I-580 E/I-880 S (signs for Downtown/Oakland/Hayward/Stockton/Alameda/San Jose)	0.3 mi
	5. Slight right onto I-880 S (signs for W Grand Ave/San Jose/Alameda)	14.1 mi
	6. Take exit 31 for I-238 toward I-580/Stockton/Fresno	0.4 mi
	7. Follow signs for I-238/I-880/Castro Valley/Stockton Fresno and merge onto I-238 S	2.7 mi
	8. Merge onto I-580 E	46.3 mi
	9. Merge onto I-5 S	182 mi
	10. Take exit 263 toward Buttonwillow/McKittrick	0.3 mi
	11. Merge onto Buttonwillow Dr	3.7 mi
	12. Turn right onto CA-58 W/Blue Star Memorial Hwy/McKittrick Hwy	3.5 mi
	13. Turn right onto Lokern Rd	0.7 mi
	Lokern Rd Buttonwillow, CA 93206	

2.3 Driving Directions to US Ecology Facility

The route from the Site to the US Ecology Facility in Beatty, Nevada is shown on Figure 5. The driving directions are presented below.

Distance (one way): 529 miles

Approximate driving time (one way): 9 hours and 36 minutes

	Point Molate Fuel Depot Richmond, CA 94801	
	1. Head south on Western Dr	0.6 mi
	2. Take the ramp onto I-580 E	6.7 mi
	3. Merge onto I-80 W	3.8 mi
	4. Continue onto I-580 E/I-880 S (signs for Downtown/Oakland/Hayward/Stockton/Alameda/San Jose)	0.3 mi
	5. Slight right onto I-880 S (signs for W Grand Ave/San Jose/Alameda)	14.1 mi
	6. Take exit 31 for I-238 toward I-580/Stockton/Fresno	0.4 mi
	7. Follow signs for I-238/I-880/Castro Valley/Stockton Fresno and merge onto I-238 S	2.7 mi
	8. Merge onto I-580 E	46.3 mi
	9. Merge onto I-5 S	188 mi
	10. Take exit 257 for CA-58 toward Bakersfield	0.3 mi
	11. Turn left onto CA-58 E/Blue Star Memorial Hwy/Rosedale Hwy	8.4 mi
	12. Turn right onto CA-43/CA-58/Enos Ln	1.0 mi
	13. Turn left onto California State Route 58/Rosedale Hwy Continue to follow Rosedale Hwy	12.1 mi
	14. Continue onto 24th St	0.6 mi
	15. Continue onto CA-178 E/23rd St Continue to follow CA-178 E	85.4 mi
	16. Turn left onto CA-14 N/CA-178 E/Aerospace Hwy/Midland Trail Continue to follow CA-14 N/Aerospace Hwy	7.2 mi
	17. Merge onto US-395 N	41.5 mi
	18. Turn right onto CA-190 E	14.6 mi
	19. Turn right to stay on CA-190 E	68.4 mi
	20. Turn left onto Scottys Castle Rd	0.6 mi
	21. Take the 1st right onto Daylight Pass Rd Entering Nevada	14.2 mi
	22. Continue onto NV-374 N	11.8 mi
	23. Continue onto Main St	0.3 mi
	24. Continue onto US-95 N/Veterans Memorial Hwy Destination will be on the left	413 ft

	US Ecology Nevada Inc Highway 95 S Beatty, NV 89003
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2.4 Driving directions to Keller Canyon Landfill Co

The route from the Site to the Keller Canyon facility in Bay Point, California is shown on Figure 6. The driving directions are presented below.

Distance (one way): 34.6 miles

Approximate driving time (one way): 46 minutes

	Point Molate Fuel Depot Richmond, CA 94801	
	1. Head south on Western Dr	0.6 mi
	2. Take the ramp onto I-580 E	3.8 mi
	3. Take exit 10B for Regatta Blvd	0.3 mi
	4. Turn left onto Regatta Blvd	0.1 mi
	5. Continue onto Juliga Woods St	0.4 mi
	6. Turn right onto S 31st St	259 ft
	7. Take the 1st right onto Cutting Blvd	1.0 mi
	8. Slight right to merge onto I-80 E	7.9 mi
	9. Take exit 23 to merge onto CA-4 E toward Stockton	19.4 mi
	10. Take exit 20A for Bailey Rd S	0.4 mi
	11. Turn right onto Bailey Rd Destination will be on the left	0.4 mi
	901 Bailey Rd Pittsburg, CA 94565	

2.5 Driving directions to Altamont Landfill

The route from the Site to the Altamont Landfill in Livermore, California is shown on Figure 7. The driving directions are presented below.

Distance (one way): 55 miles

Approximate driving time (one way): 1 hour 6 minutes

	Point Molate Fuel Depot Richmond, CA 94801	
	1. Head south on Western Dr	0.6 mi
	2. Take the ramp onto I-580 E	6.7 mi
	3. Merge onto I-80 W	3.8 mi
	4. Continue onto I-580 E/I-880 S (signs for Downtown/Oakland/Hayward/Stockton/Alameda/San Jose)	0.3 mi
	5. Slight right onto I-880 S (signs for W Grand Ave/San Jose/Alameda)	14.1 mi
	6. Take exit 31 for I-238 toward I-580/Stockton/Fresno	0.4 mi
	7. Follow signs for I-238/I-880/Castro Valley/Stockton Fresno and merge onto I-238 S	2.7 mi
	8. Merge onto I-580 E	20.3 mi
	9. Take exit 55 for Vasco Rd toward Brentwood	0.2 mi
	10. Keep left at the fork, follow signs for Vasco Road N and merge onto N Vasco Rd	0.5 mi
	11. Turn right onto Northfront Rd	0.8 mi
	12. Continue onto Altamont Pass Rd Destination will be on the right	4.4 mi
	10840 Altamont Pass Rd Livermore, CA 95391	

2.6 Driving directions to Hay Road Landfill

The route from the Site to the Hay Road Landfill in Vacaville, California is shown on Figure 8. The driving directions are presented below.

Distance (one way): 63 miles

Approximate driving time (one way): 1 hour 15 minutes

	Point Molate Fuel Depot Richmond, CA 94801	
	1. Head south on Western Dr	0.6 mi
	2. Take the ramp onto I-580 E	3.8 mi
	3. Take exit 10B for Regatta Blvd	0.3 mi

	4. Turn left onto Regatta Blvd	0.1 mi
	5. Continue onto Juliga Woods St	0.4 mi
	6. Turn right onto S 31st St	259 ft
	7. Take the 1st right onto Cutting Blvd	1.0 mi
	8. Slight right to merge onto I-80 E Partial toll road	27.8 mi
	9. Take exit 43 to merge onto CA-12 Etoward Rio Vista/Suisun City	17.6 mi
	10. Turn left onto CA-113 N	7.0 mi
	11. Turn left onto CA-113 N/Rio Dixon Rd	1.0 mi
	12. Turn right to stay on CA-113 N/Rio Dixon Rd	2.0 mi
	13. Turn left onto Hay Rd Destination will be on the left	0.8 mi
	6426 Hay Rd Vacaville, CA 95620	

2.7 Driving directions to Ostrom Road Landfill

The route from the Site to the Ostrom Road Landfill in Wheatland, California is shown on Figure 9. The driving directions are presented below.

Distance (one way): 119 miles

Approximate driving time (one way): 2 hours 16 minutes

	Point Molate Fuel Depot Richmond, CA 94801	
	1. Head south on Western Dr	0.6 mi
	2. Take the ramp onto I-580 E	3.8 mi
	3. Take exit 10B for Regatta Blvd	0.3 mi
	4. Turn left onto Regatta Blvd	0.1 mi
	5. Continue onto Juliga Woods St	0.4 mi
	6. Turn right onto S 31st St	259 ft

	7. Take the 1st right onto Cutting Blvd	1.0 mi
	8. Slight right to merge onto I-80 E Partial toll road	70.7 mi
	9. Take exit 86 for I-5 N toward CA-99/Redding	0.7 mi
	10. Follow signs for I-5 N and merge onto CA-99 N/I-5 N	2.9 mi
	11. Slight right onto CA-99 (signs for Yuba City/Marysville)	12.5 mi
	12. Slight right onto CA-70 N (signs for California 70/Marysville/Oroville)	15.9 mi
	13. Take exit 16 for McGowan Pkwy	0.3 mi
	14. Turn right onto McGowan Pkwy	0.6 mi
	15. Turn right to merge onto CA-65 S	4.1 mi
	16. Turn left onto S Beale Rd	2.9 mi
	17. Turn right onto Ostrom Rd Destination will be on the right	2.2 mi
	5900 Ostrom Rd Wheatland, CA 95692	

2.8 Driving directions to Forward and Austin Road Landfills

The route from the Site to the Forward and Austin Road Landfills in Manteca, California is shown on Figure 10. The driving directions are presented below.

Distance (one way): 87 miles

Approximate driving time (one way): 1 hour 48 minutes

	Point Molate Fuel Depot Richmond, CA 94801	
	1. Head south on Western Dr	0.6 mi
	2. Take the ramp onto I-580 E	6.7 mi
	3. Merge onto I-80 W	3.8 mi
	4. Continue onto I-580 E/I-880 S (signs for Downtown/Oakland/Hayward/Stockton/Alameda/San Jose)	0.3 mi
	5. Slight right onto I-880 S (signs for W Grand Ave/San Jose/Alameda)	14.1 mi

	6. Take exit 31 for I-238 toward I-580/Stockton/Fresno	0.4 mi
	7. Follow signs for I-238/I-880/Castro Valley/Stockton Fresno and merge onto I-238 S	2.7 mi
	8. Merge onto I-580 E	29.3 mi
	9. Continue straight onto I-205 E	14.6 mi
	10. Merge onto I-5 N	3.6 mi
	11. Take exit 463 for Lathrop Rd	0.4 mi
	12. Turn right onto Lathrop Rd	5.6 mi
	13. Turn left onto Austin Rd	3.7 mi
	14. Turn left Restricted usage road	1.3 mi
	9999 S Austin Rd Manteca, CA 95336	

2.9 Driving directions to Guadalupe Landfill

The route from the Site to the Guadalupe Landfill in San Jose, California is shown on Figure 11. The driving directions are presented below.

Distance (one way): 68 miles

Approximate driving time (one way): 1 hour 23 minutes

	Point Molate Fuel Depot Richmond, CA 94801	
	1. Head south on Western Dr	0.6 mi
	2. Take the ramp onto I-580 E	6.7 mi
	3. Merge onto I-80 W	3.8 mi
	4. Continue onto I-580 E/I-880 S (signs for Downtown/Oakland/Hayward/Stockton/Alameda/San Jose)	0.3 mi
	5. Slight right onto I-880 S (signs for W Grand Ave/San Jose/Alameda)	45.6 mi
	6. Continue onto CA-17 S	4.0 mi
	7. Take exit 22 to merge onto CA-85 S toward Gilroy	3.0 mi

	8. Take exit 8 for Camden Ave	0.3 mi
	9. Turn left onto Camden Ave	1.7 mi
	10. Turn right onto Guadalupe Mines Rd Destination will be on the right	2.1 mi
	15999 Guadalupe Mines Rd San Jose, CA 95120	

2.10 Driving directions to Vasco Road Landfill

The route from the Site to the Vasco Road Landfill in Livermore, California is shown on Figure 12. The driving directions are presented below.

Distance (one way): 51 miles

Approximate driving time (one way): 57 minutes

	Point Molate Fuel Depot Richmond, CA 94801	
	1. Head south on Western Dr	0.6 mi
	2. Take the ramp onto I-580 E	6.7 mi
	3. Merge onto I-80 W	3.8 mi
	4. Continue onto I-580 E/I-880 S (signs for Downtown/Oakland/Hayward/Stockton/Alameda/San Jose)	0.3 mi
	5. Slight right onto I-880 S (signs for W Grand Ave/San Jose/Alameda)	14.1 mi
	6. Take exit 31 for I-238 toward I-580/Stockton/Fresno	0.4 mi
	7. Follow signs for I-238/I-880/Castro Valley/Stockton Fresno and merge onto I-238 S	2.7 mi
	8. Merge onto I-580 E	20.3 mi
	9. Take exit 55 for Vasco Rd toward Brentwood	0.2 mi
	10. Keep left at the fork, follow signs for Vasco Road N and merge onto N Vasco Rd Destination will be on the right	2.9 mi
	4001 N Vasco Rd Livermore, CA 94551	

2.11 Driving directions to Kirby Canyon Landfill

The route from the Site to the Kirby Canyon Landfill in Morgan Hill, California is shown on Figure 13. The driving directions are presented below.

Distance (one way): 72 miles
 Approximate driving time (one way): 1 hour 23 minutes

	Point Molate Fuel Depot Richmond, CA 94801	
	1. Head south on Western Dr	0.6 mi
	2. Take the ramp onto I-580 E	6.7 mi
	3. Merge onto I-80 W	3.8 mi
	4. Continue onto I-580 E/I-880 S (signs for Downtown/Oakland/Hayward/Stockton/Alameda/San Jose)	0.3 mi
	5. Slight right onto I-880 S (signs for W Grand Ave/San Jose/Alameda)	41.5 mi
	6. Take exit 4B to merge onto US-101 S toward Los Angeles	17.3 mi
	7. Take exit 371 for Coyote Creek Golf Dr	0.3 mi
	8. Turn left onto Coyote Creek Golf Dr Destination will be on the right	1.3 mi
	910 Coyote Creek Golf Dr Morgan Hill, CA 95037	

2.12 Driving directions to Newby Island Landfill

The route from the Site to the Newby Island Landfill in Milpitas, California is shown on Figure 14. The driving directions are presented below.

Distance (one way): 58 miles
 Approximate driving time (one way): 1 hour 4 minutes

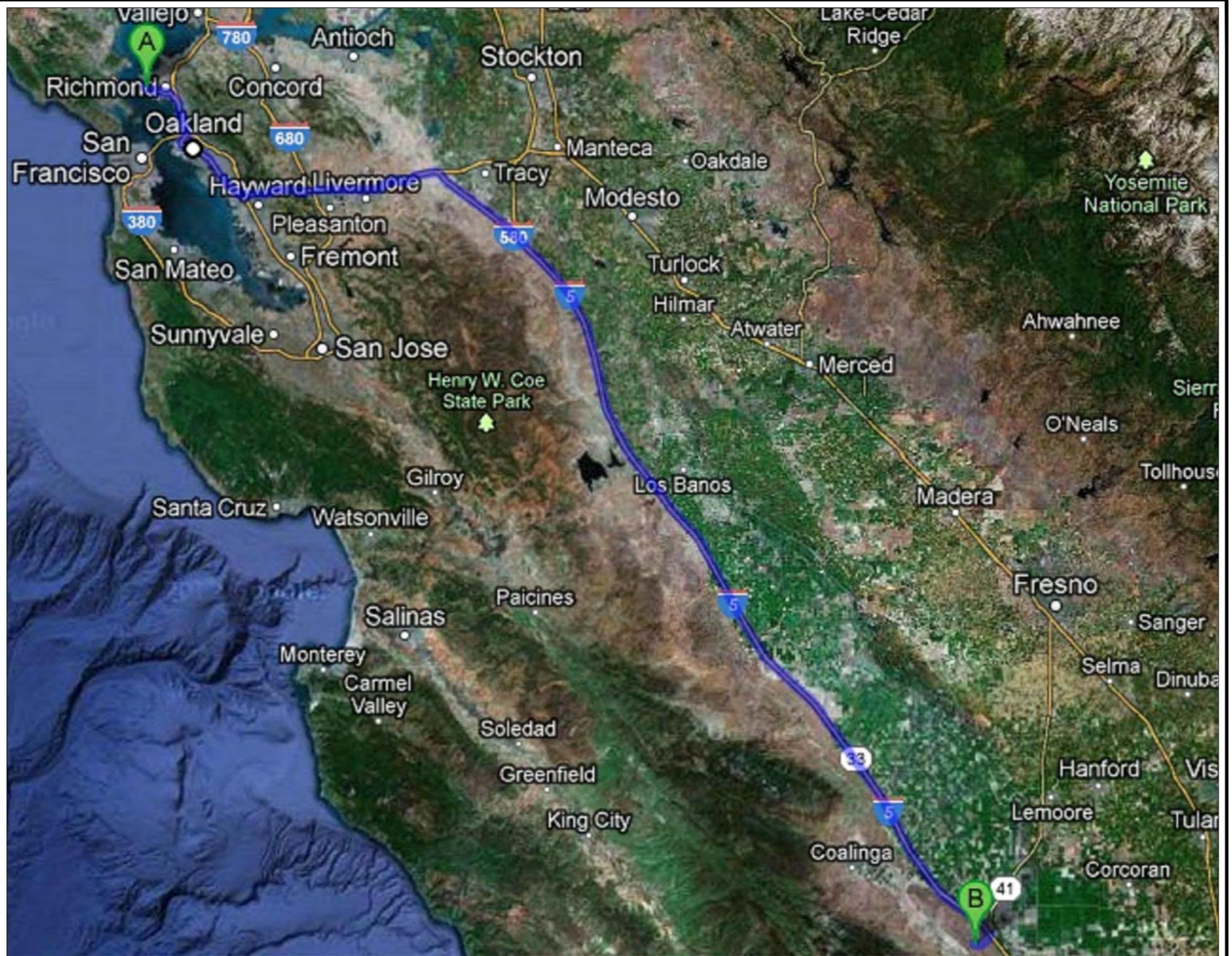
	Point Molate Fuel Depot Richmond, CA 94801	
	1. Head south on Western Dr	0.6 mi
	2. Take the ramp onto I-580 E	6.7 mi
	3. Merge onto I-80 W	3.8 mi

	4. Continue onto I-580 E/I-880 S (signs for Downtown/Oakland/Hayward/Stockton/Alameda/San Jose)	0.3 mi
	5. Slight right onto I-880 S (signs for W Grand Ave/San Jose/Alameda)	34.8 mi
	6. Take exit 10 for Dixon Landing Rd	0.3 mi
	7. Turn right onto Dixon Landing Rd Partial restricted usage road Destination will be on the left	0.3 mi
	1601 Dixon Landing Rd Milpitas, CA 95134	

J:\CADD FILES\0001 Point Molate\Soil and GW\Transportation Plan\fig-soilgw-trans_plan-0001.001.007.dwg. Drawn by: KW.; Checked by: WB

LEGEND

TRUCK ROUTE

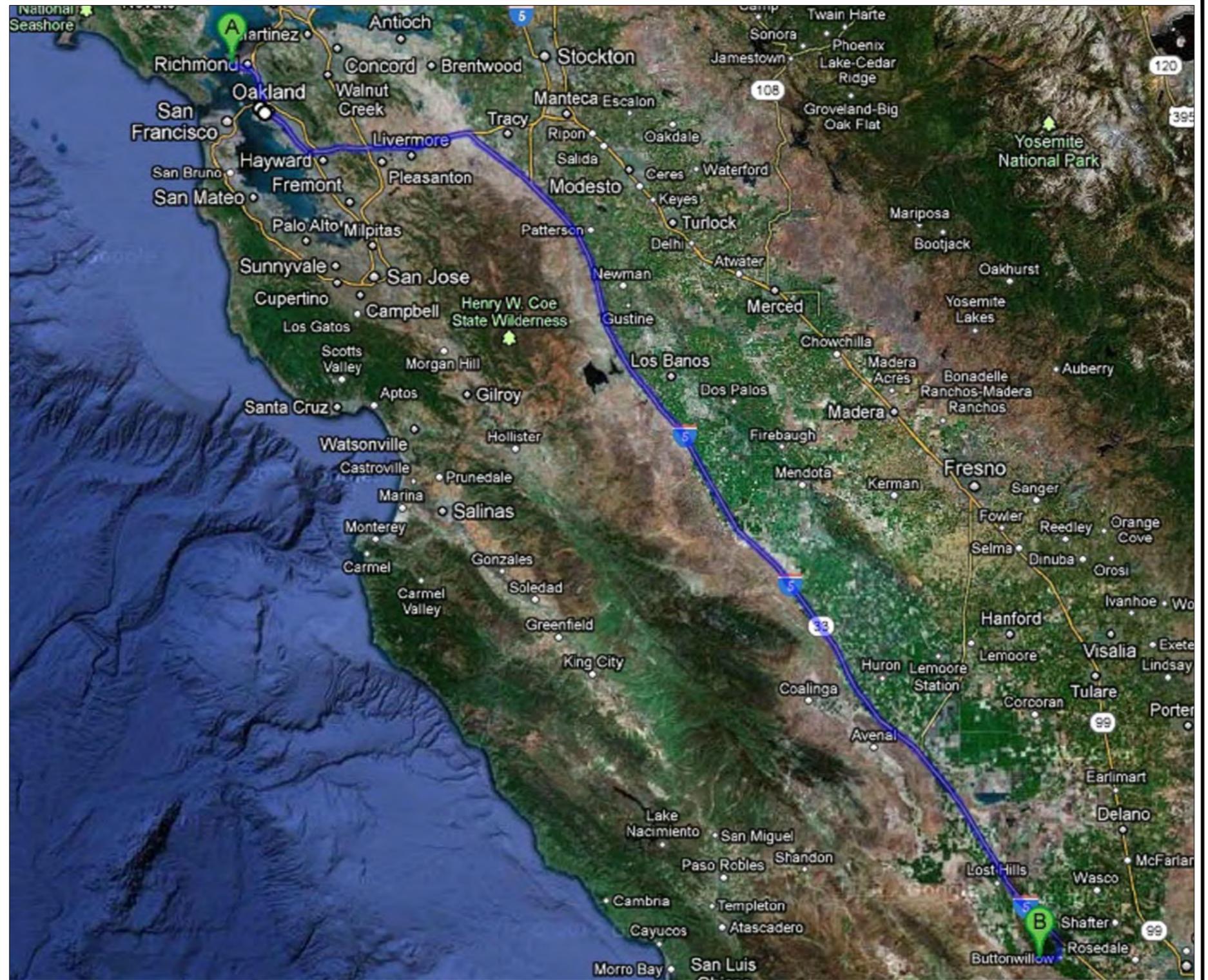


	CLIENT:	UPSTREAM POINT MOLATE, LLC	ROUTE MAP: FROM THE SITE TO KETTLEMAN HILLS FACILITY
	PROJECT:	POINT MOLATE RICHMOND, CALIFORNIA	
PROJECT NUMBER:	0001.001.007	FIGURE 3	

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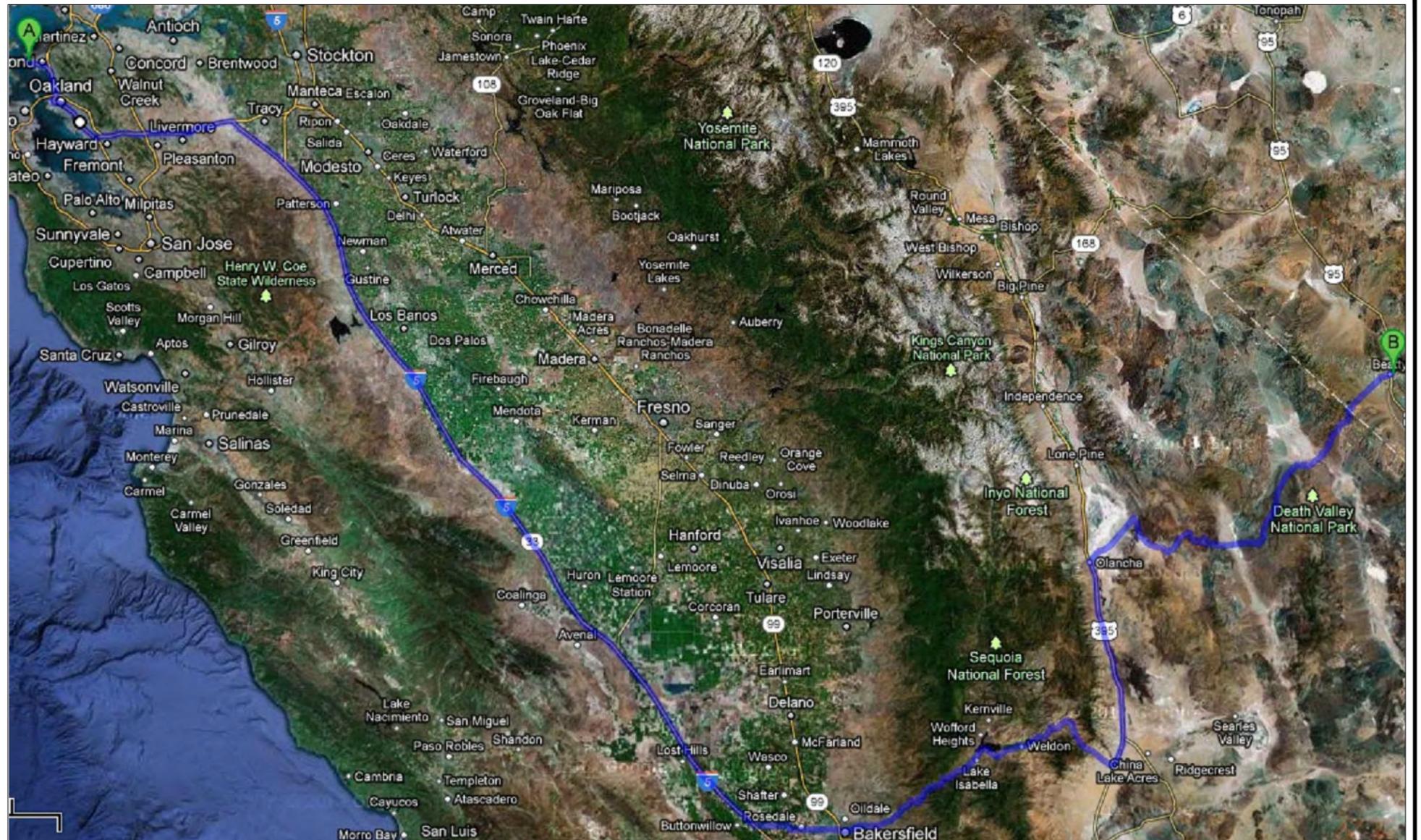


 	CLIENT:	UPSTREAM POINT MOLATE, LLC	ROUTE MAP: FROM THE SITE TO BUTTONWILLOW FACILITY FIGURE 4
	PROJECT:	POINT MOLATE RICHMOND, CALIFORNIA	
PROJECT NUMBER:	0001.001.007		

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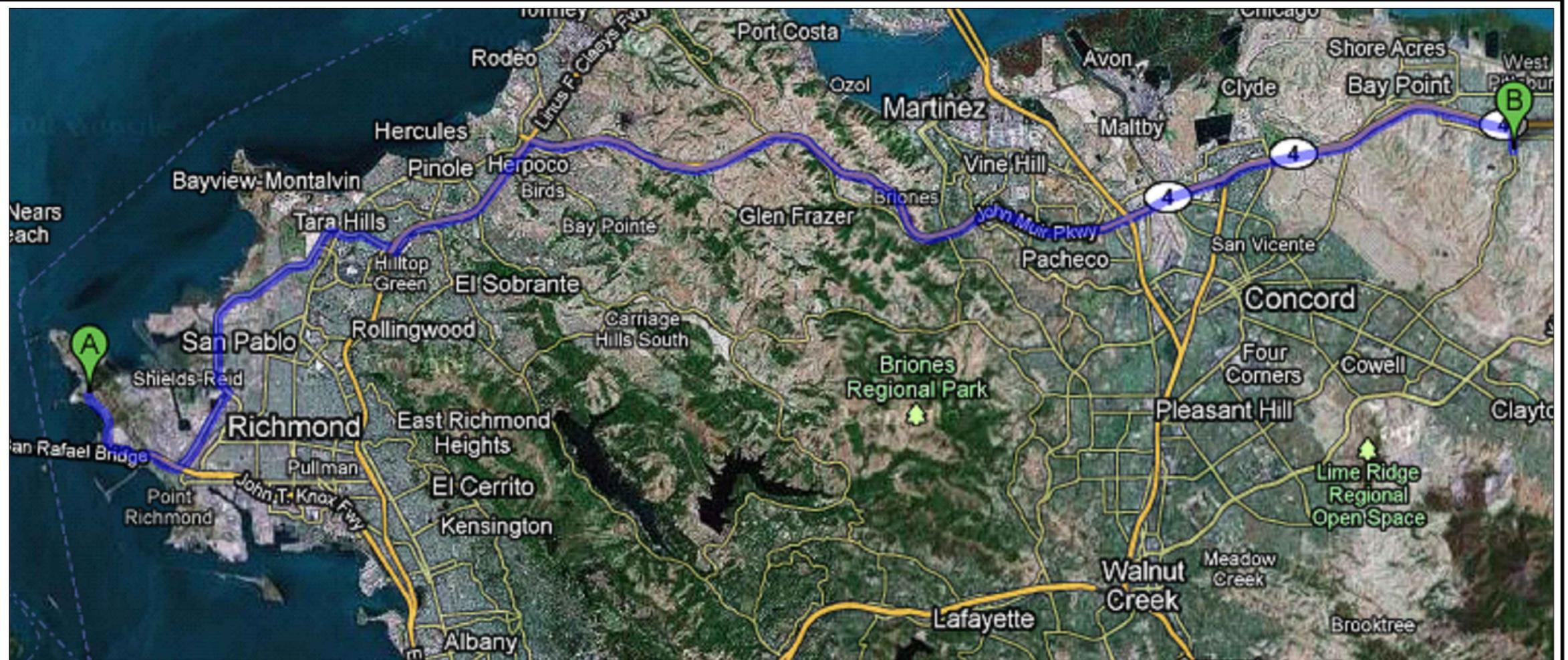


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	PROJECT: POINT MOLATE RICHMOND, CALIFORNIA	
	PROJECT NUMBER: 0001.001.007	FIGURE 5

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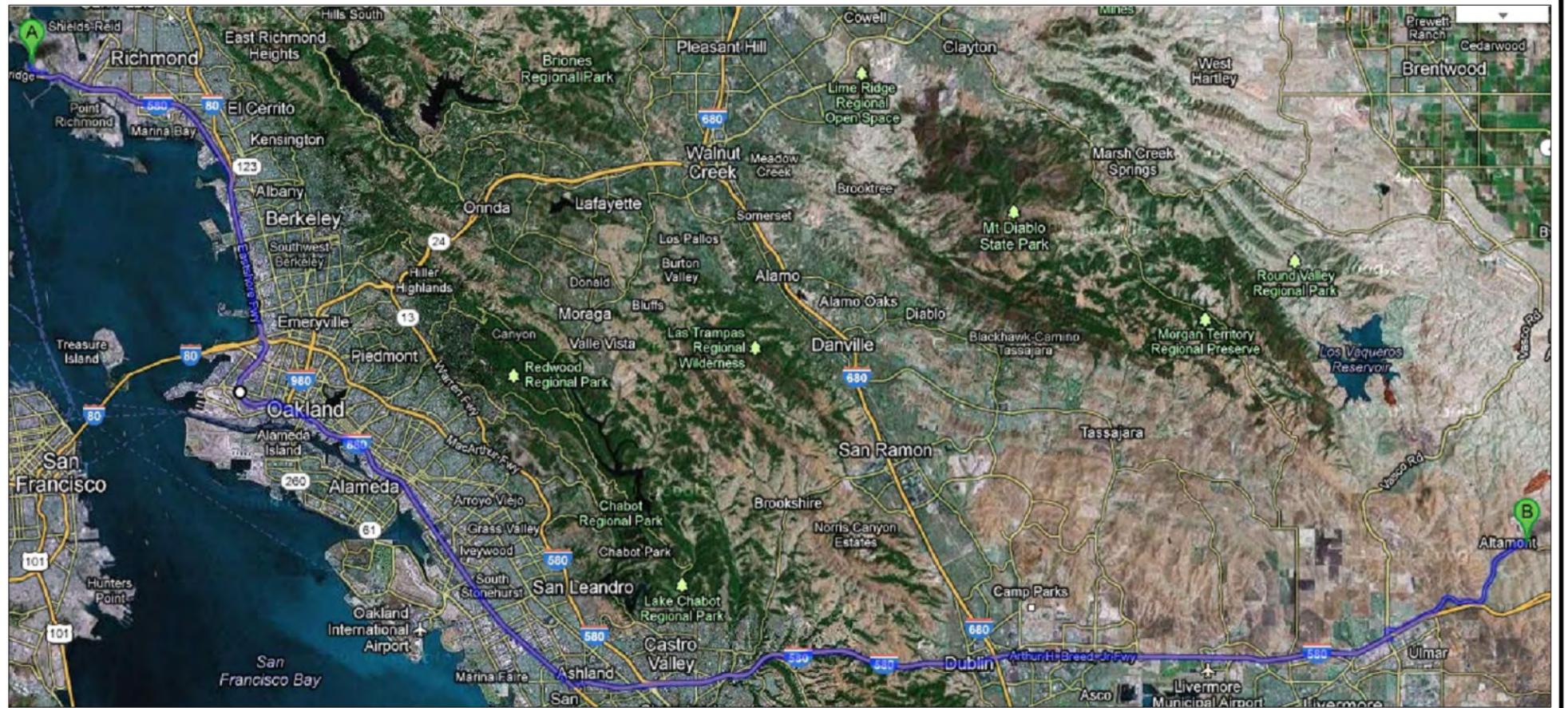


	CLIENT:	UPSTREAM POINT MOLATE, LLC	ROUTE MAP: FROM THE SITE TO KELLER CANYON LANDFILL COMPANY
	PROJECT:	POINT MOLATE RICHMOND, CALIFORNIA	
	PROJECT NUMBER:	0001.001.007	FIGURE 6

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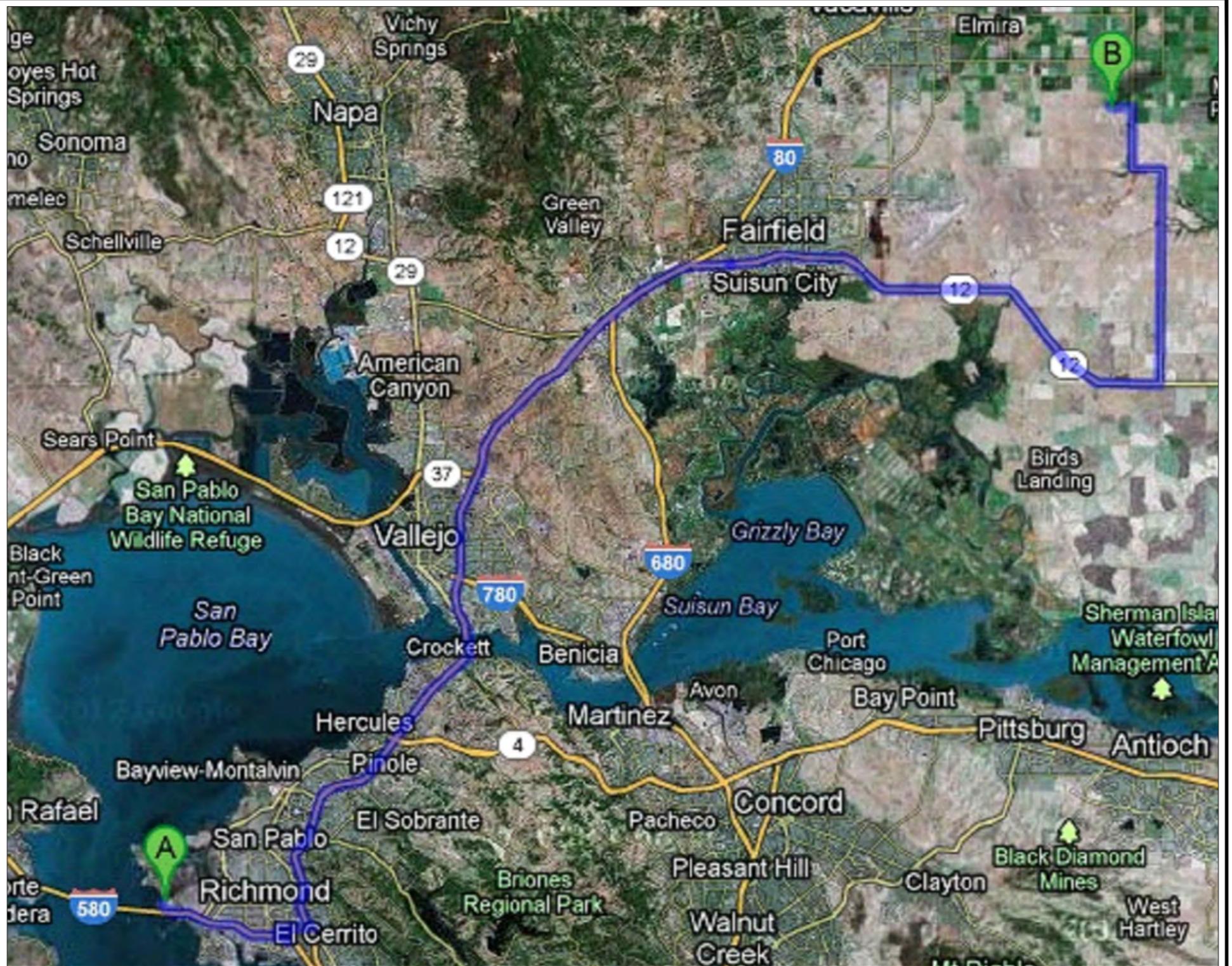


	CLIENT:	ROUTE MAP: FROM THE SITE TO ALTAMONT LANDFILL
	UPSTREAM POINT MOLATE, LLC	
	PROJECT:	FIGURE 7
	POINT MOLATE RICHMOND, CALIFORNIA	
	PROJECT NUMBER:	
	0001.001.007	

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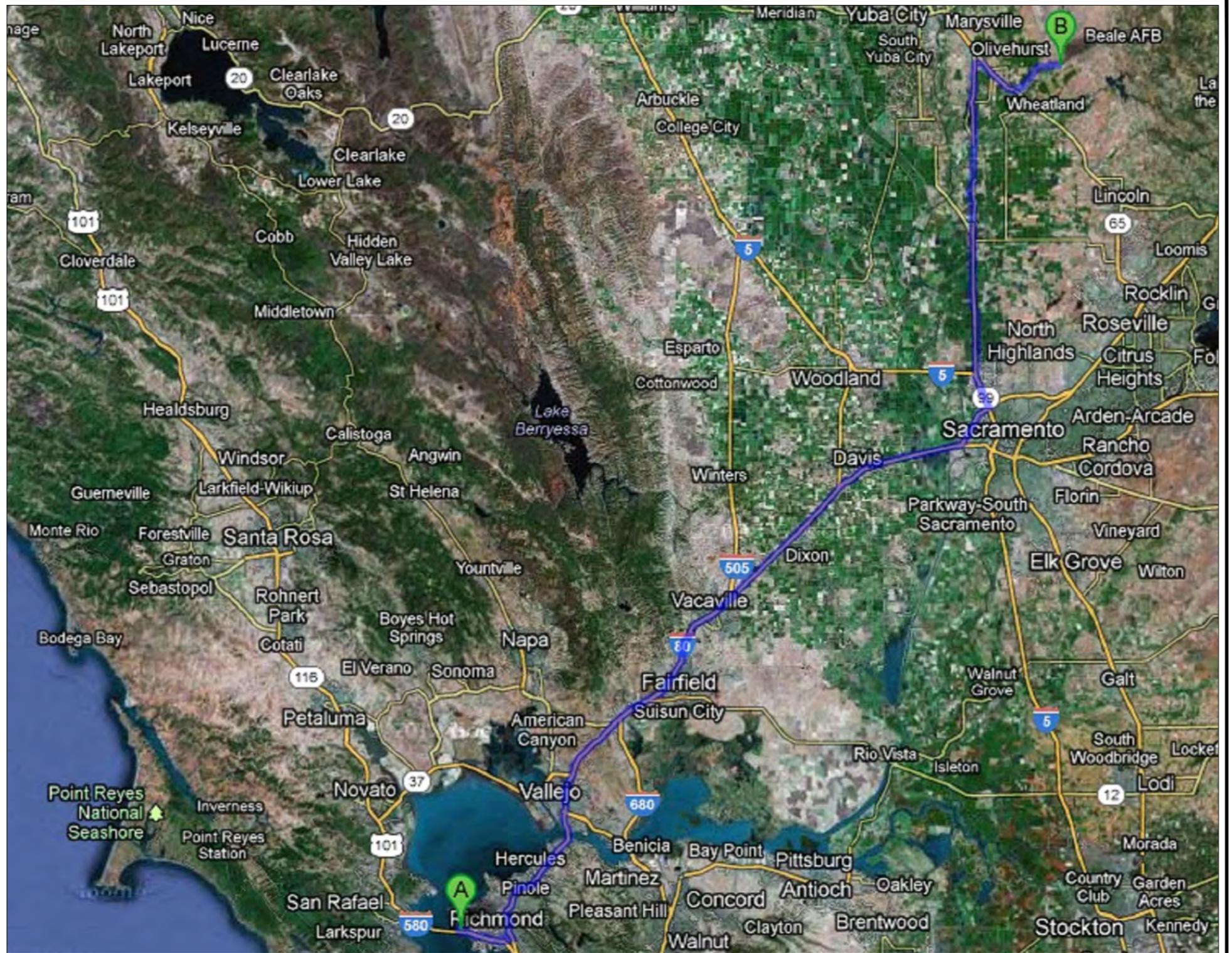


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	UPSTREAM POINT MOLATE, LLC	
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	POINT MOLATE RICHMOND, CALIFORNIA	
PROJECT NUMBER:		
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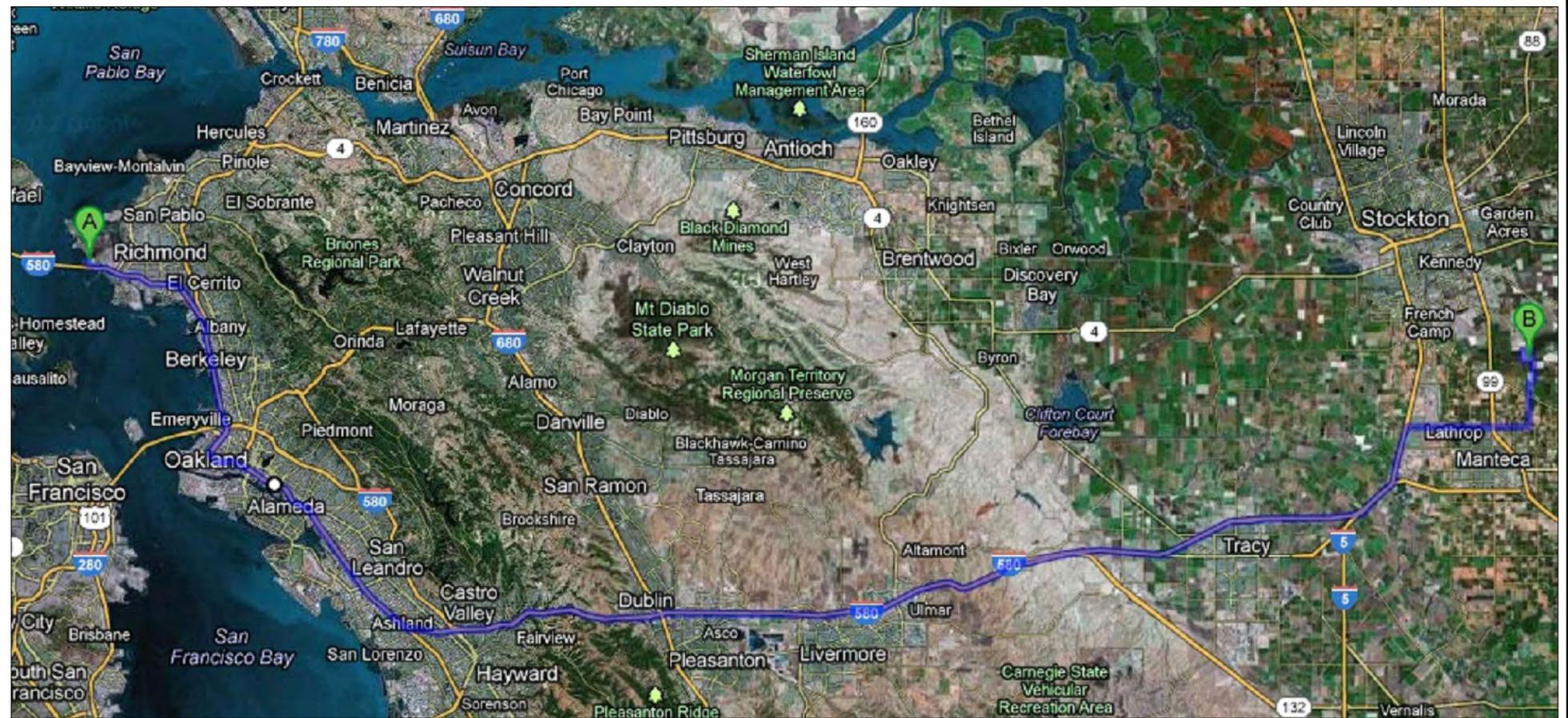


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	PROJECT:	POINT MOLATE RICHMOND, CALIFORNIA	
PROJECT NUMBER:	0001.001.007	FIGURE 9	

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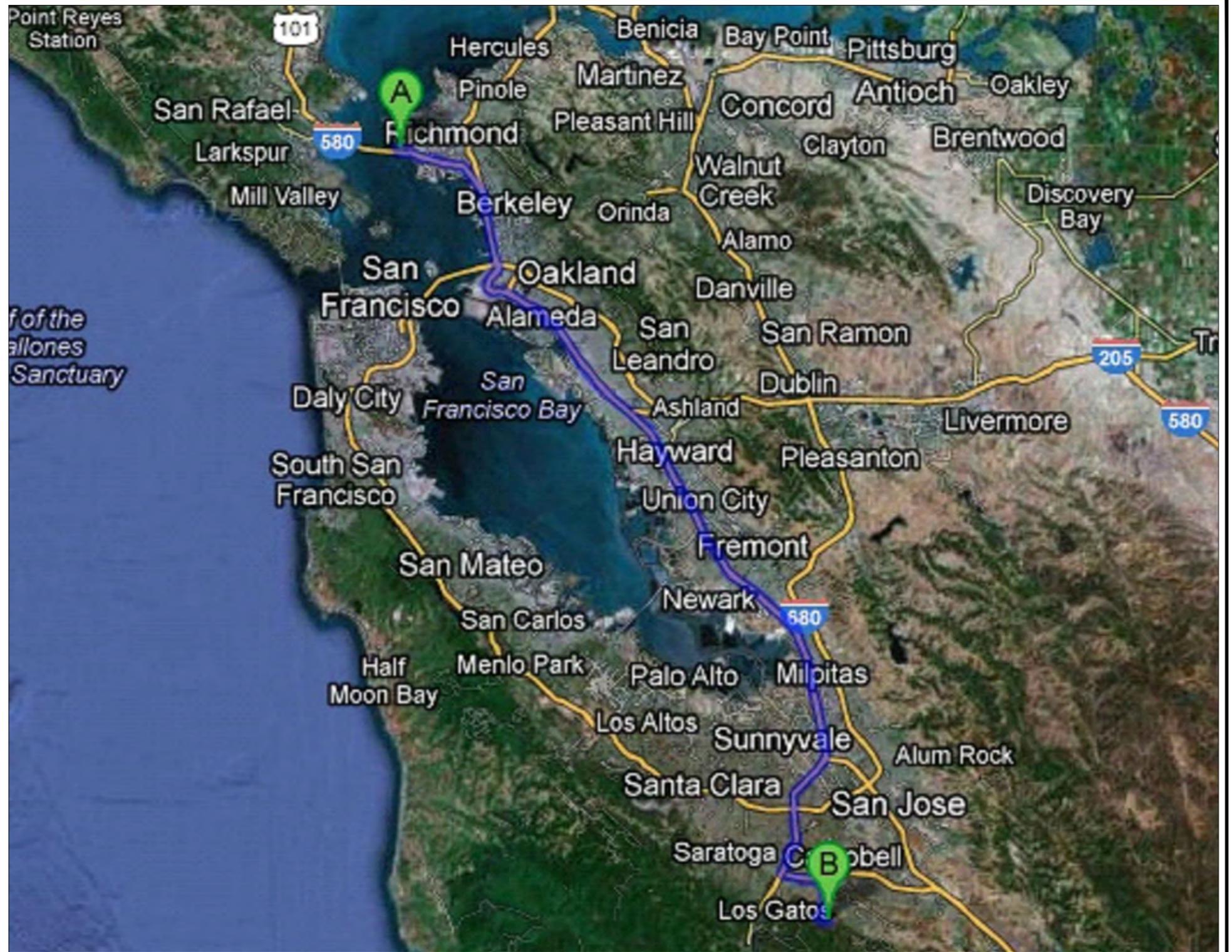


	CLIENT:	UPSTREAM POINT MOLATE, LLC	ROUTE MAP: FROM THE SITE TO FORWARD AND AUSTIN ROAD LANDFILLS
	PROJECT:	POINT MOLATE RICHMOND, CALIFORNIA	
	PROJECT NUMBER:	0001.001.007	FIGURE 10

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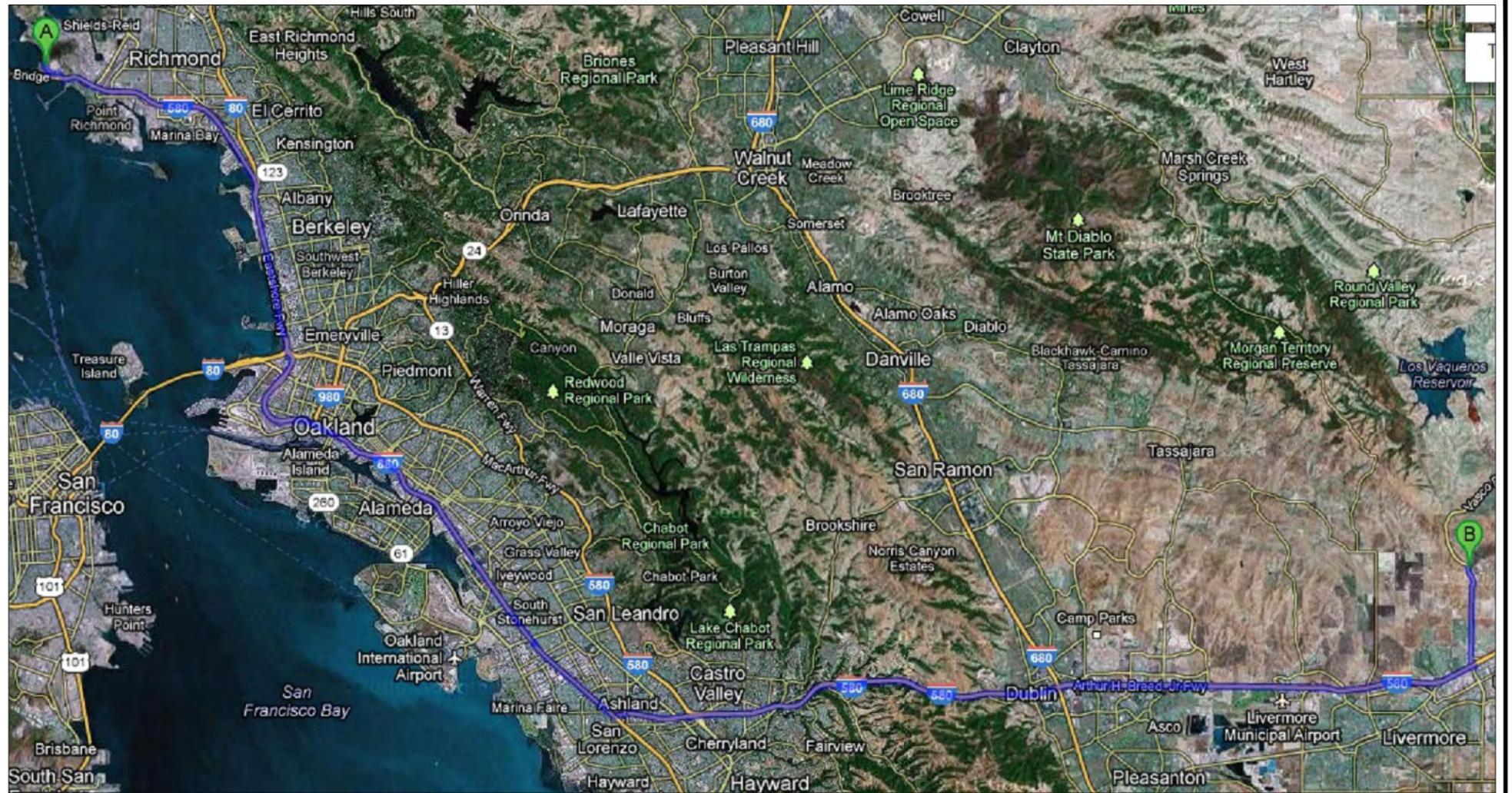
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	PROJECT:	POINT MOLATE RICHMOND, CALIFORNIA	
	PROJECT NUMBER:	0001.001.007	

FIGURE 11

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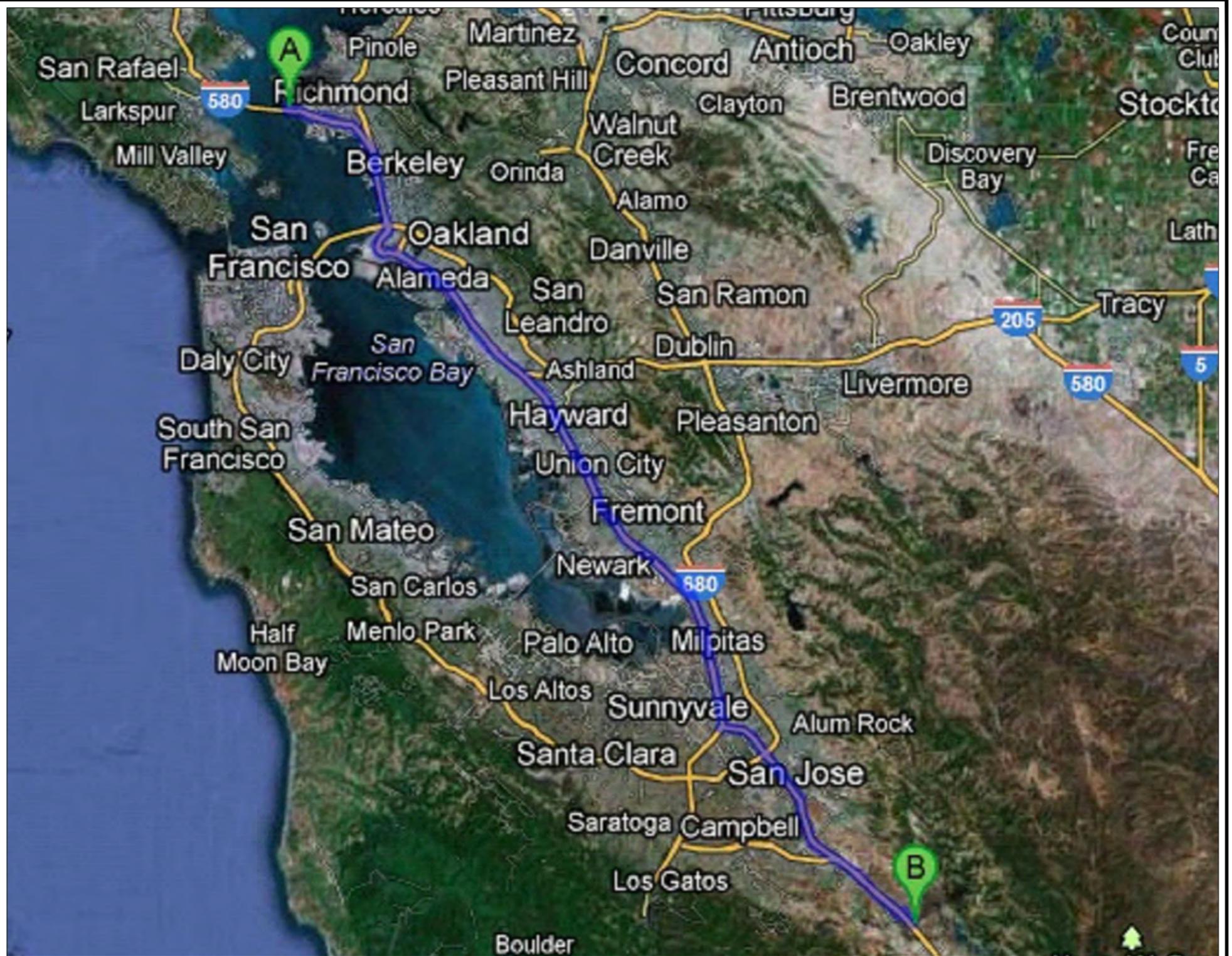


	CLIENT:	ROUTE MAP: FROM THE SITE TO VASCO ROAD LANDFILL
	UPSTREAM POINT MOLATE, LLC	
	PROJECT:	FIGURE 12
	POINT MOLATE RICHMOND, CALIFORNIA	
	PROJECT NUMBER:	
		0001.001.007

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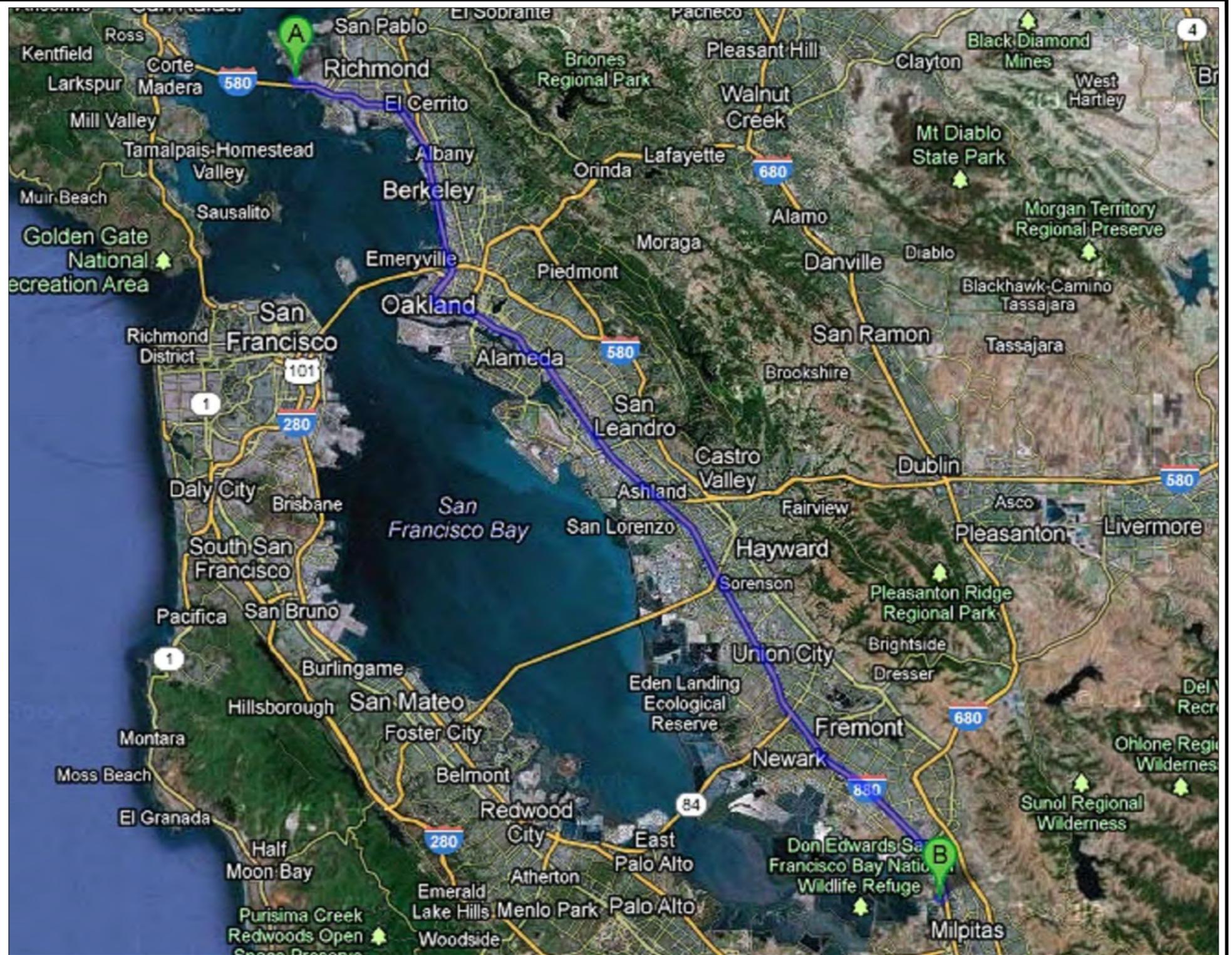


	CLIENT:	UPSTREAM POINT MOLATE, LLC	ROUTE MAP: FROM THE SITE TO KIRBY CANYON LANDFILL
	PROJECT:	POINT MOLATE RICHMOND, CALIFORNIA	
	PROJECT NUMBER:	0001.001.007	

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	CLIENT:	UPSTREAM POINT MOLATE, LLC	ROUTE MAP: FROM THE SITE TO NEWBY ISLAND LANDFILL
	PROJECT:	POINT MOLATE RICHMOND, CALIFORNIA	
PROJECT NUMBER:	0001.001.007	FIGURE 14	

APPENDIX G

QUALITY CONTROL PLAN

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REVISED INTERNAL DRAFT
APPENDIX G
QUALITY CONTROL PLAN
FORMER NAVAL FUEL DEPOT POINT MOLATE
RICHMOND, CALIFORNIA

On Behalf of

City of Richmond
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Prepared for

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June 12, 2012

Project Number 0001.001.007



File Ref: AppG-NFDPM Quality Control Plan-0001.001.007

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TABLES

1	Flagging Conventions for Organic Methods
2	Flagging Conventions for Inorganic Methods
3	Data Qualifier Flag Definitions

Acronyms and Abbreviations

EPA	US Environmental Protection Agency
GPC	gel permeation chromatography
ICS	interference check samples
LCS	laboratory control sample
LCS/LCSD	laboratory control sample/ laboratory control sample duplicate
MS/MSD	matrix spike/matrix spike duplicate
NFD	Naval Fuel Depot
QC	quality control
QCP	Quality Control Plan
SAP	Sampling and Analysis Plan
SGWMP	Soil and Groundwater Management Plan

1.0 INTRODUCTION

This Quality Control Plan (QCP) has been prepared to present the quality control (QC) requirements for the sampling and analysis of contaminated (or potentially contaminated) soils, liquids, and other materials that will be conducted during emergency and non-emergency remediation and development activities at the Former Naval Fuel Depot (NFD) Point Molate in Richmond, California (the Site). The QCP is intended for use as an appendix to the Soil and Groundwater Management Plan (SGWMP) prepared for the Site. The SGWMP specifies the procedures and protocols to be followed for the management of soil, water and other waste materials that may be generated at the Site.

Characterization of materials is a key task of the SGWMP. All materials generated during remediation and development activities at the Former NFD Point Molate containing suspected contamination must be properly characterized to determine the appropriate management and disposal option for the material. The elements described in this plan include activities conducted in the field as well as procedures to be conducted by the laboratory to ensure proper QC of the analytical results.

2.0 FIELD QUALITY CONTROL

Field QC samples should be collected and analyzed to assess the consistency and performance of the sampling.

The following types of QC samples may be required during sampling:

- Field duplicates;
- Equipment rinsate blanks;
- Trip blanks; and,
- Source blanks.

2.1 QC Sample Frequency

Equipment rinsate blanks and source blanks will be required at the frequency specified if sampling equipment requires decontamination between sampling locations. The laboratory will analyze all QC samples in accordance with the analytical method at the method-required frequency. All QC samples will be analyzed for the same parameters as the primary samples except trip blanks which will only be analyzed for volatile organic compounds (VOCs). The frequency of QC samples to be collected is provided below:

Type of Quality Control	Sample Frequency
Field Duplicates	1 per 10 primary samples
Equipment Rinsate Blanks	1 per day per sampling event
Trip Blanks	1 per cooler containing samples to be analyzed for VOCs
Source blanks	1 sample of water used as the final rinse in the decontamination process per sampling event
Temperature Blanks	1 per cooler

2.2 Field Duplicates

Filed duplicates consist of two samples (an original and a duplicate) of the same matrix, which are collected, to the extent possible, at the same time and location, using the same sampling techniques (as described in the Sampling Analysis Plan [SAP]). The purpose of the field duplicate sample is to evaluate the precision of the overall sample collection and analysis process. Field duplicates should be collected at a frequency of one per 20 samples (of the same matrix) and should be analyzed for the same analyses as the original sample. Field duplicate samples are not required for waste characterization samples.

2.3 Equipment Rinsate Blanks

When non-dedicated sampling equipment is used, the effectiveness of cleaning and decontamination procedures should be verified by collecting and analyzing equipment blanks.

After cleaning, equipment blanks are prepared by filling the sampling device with deionized or distilled water and then emptying this water into sample containers. Equipment blanks should be handled and analyzed in the same manner as other samples being collected (refer to the SAP for proper sample handling and analysis). An equipment rinsate blank will be prepared and submitted for analysis at a minimum frequency of one per sampling technique per sampling event and additionally whenever there are changes in the sample collection procedures, sampling decontamination procedures, or sampling equipment. If all equipment used at a sampling location is disposable then an equipment rinsate blank will not be required.

2.4 Trip Blanks

A trip blank consists of target analyte-free water provided by the laboratory. The trip blank is a sealed container that accompanies the samples from collection through shipment. This QC sample serves as a check for cross-contamination of VOCs. Trip blanks will be submitted to the laboratory at a frequency of one per cooler (for VOC analysis only) for those coolers containing aqueous samples to be analyzed for VOCs.

2.5 Source Blank

A source blank consists of target analyte-free water provided by the laboratory or deionized water used by sampling personnel for equipment decontamination. The analyte-free water is placed into an appropriately preserved sampling container, and analyzed for the same parameters as the water samples. This QC sample serves as a check on reagents (preservatives) and the cleanliness of the water used for decontamination. One source blank will be prepared and submitted for each lot number of deionized (or ASTM Type II) water used during Site-wide monitoring. If all equipment used at a sampling location is disposable then a source blank will not be required.

2.6 Temperature Blanks

A temperature blank consists of a sealed volatile organic analysis vial filled with water that accompanies the samples during shipment. This QC sample serves as a check of adequate cooling of the samples to be analyzed. Temperature blanks will be submitted to the laboratory at a frequency of one per cooler, if requested by the laboratory.

3.0 LABORATORY QUALITY CONTROL

Laboratory QC checks are used to provide indications of the state of control that prevailed at the time of sample analysis. QC checks that involve field samples, such as matrix and surrogate spikes and field duplicates, also provide an indication of the presence of matrix effects. Field-originated blanks provide a way to monitor for potential contamination to which field samples are subjected.

QC samples include laboratory duplicates, laboratory blanks, matrix spike/matrix spike duplicates (MS/MSDs), and laboratory control sample/laboratory control sample duplicates (LCS/LCSDs), as applicable, and other method-required QC samples. Each type of laboratory-based QC sample will be analyzed at a rate of 5% or one per batch (a batch is a group of up to 20 samples analyzed together) whichever is more frequent. Each preparation or analytical batch should be identified in such a way as to be able to associate environmental samples with the appropriate laboratory QC samples. Results will be included in the QC package.

3.1 Method Blank

Method blanks are used to monitor each preparation or analytical batch for interference and/ or contamination from glassware, reagents, and other potential contaminant sources within the laboratory. A method blank is analyte-free matrix (laboratory reagent water for aqueous samples or Ottawa sand for soil samples) to which all reagents are added in the same amount or proportions as are added to samples. It is processed through the entire sample preparation and analytical procedures along with the samples in the batch. There should be at least one method blank per preparation or analytical batch. If a target analyte is found at a concentration that exceeds the reporting limit, corrective action must be performed to identify and eliminate the contamination source. All associated samples must be re-prepared and/ or reanalyzed after the contamination source has been eliminated. No analytical data may be corrected for the concentration found in the blank.

3.2 Laboratory Control Sample

The laboratory control sample (LCS) will consist of analyte-free matrix (laboratory reagent water for aqueous samples or Ottawa sand for soil samples) spiked with known amounts of analytes that come from a source different than that used for calibration standards. Target analytes will be spiked into the LCS. The spike levels should be less than or equal to the mid- point of the calibration range. If LCS results are outside the specified control limits, corrective action must be taken, including sample re-preparation and/ or reanalysis, if appropriate. If more than one LCS is analyzed in a preparation or analytical batch, the results of all the LCSs must be reported.

3.3 Surrogates

Surrogates are organic analytes that behave similarly as the analytes of interest, but are not expected to occur naturally in the samples. They are spiked into the standards, and into the

samples and QC samples prior to sample preparation. Recoveries of surrogates are used as an indicator of accuracy, method performance, and extraction efficiency. If surrogate recoveries are outside the specified control limits, corrective action must be taken, including sample re-preparation and/ or reanalysis, if appropriate.

3.4 Matrix Spike and Matrix Spike Duplicate Samples

A MS/MSD consist of duplicate field sample aliquots spiked by the laboratory with analytes of concern to evaluate the effects of the matrix on the recoveries of these analytes. For every 20 field samples of each matrix collected from each site, additional duplicate aliquots of one of the samples should be collected for each analysis and designated on the chain of custody for use as MS/MSD by the laboratory. The duplicate aliquots for MS/MSD analyses should be collected simultaneously or in immediate succession with the parent sample.

3.5 Internal Standards

Some methods require the use of internal standards to compensate for losses during injection or purging or losses due to viscosity effects. Internal standards are compounds that have similar properties as the analytes of interest, but are not expected to occur naturally in the samples. A measured amount of the internal standard is added to the standards, and to the samples and QC samples following preparation. When the internal standard results are outside the control limits, corrective action must be taken, including sample reanalysis, if appropriate.

3.6 Interference Check Samples

The interference check samples (ICS) are used in inductively-coupled plasma analyses to verify background and inter-element correction factors. They consist of two solutions, A and AB. Solution A contains the interfering analytes, and Solution AB contains both the analytes of interest and the interfering analytes. Both solutions are analyzed at the beginning and at the end of each analytical sequence. When the ICS results are outside the control limits, corrective action must be taken, including sample reanalysis, if appropriate.

3.7 Retention Time Windows

Retention time windows for gas and liquid chromatographic analyses must be established by replicate injections of the calibration standard over multiple days, as described in the appropriate laboratory standard operating procedure. The absolute retention time of the calibration verification standard at the start of each analytical sequence will be used as the centerline of the window. In order for an analyte to be reported as positive, its retention time must be within the window.

3.8 Holding Time

The holding time requirements specified in the SAP must be met. For methods requiring both sample preparation and analysis, the preparation holding time will be calculated from the time of sampling to the completion of preparation. The analysis holding time will be calculated from the time of completion of preparation to the time of completion of the analysis, including any required dilutions, confirmation analysis, and reanalysis. For methods requiring analysis only, the holding time is calculated from the time of sampling to completion of the analysis, including any required dilutions, confirmation analysis, and reanalysis.

3.9 Confirmation

Confirmation analysis must be carried out as specified for specific methods when the result is above the reporting limit. The result designated as the primary result will be reported. All calibration and QC requirements must be met when confirmation analysis is performed.

3.10 Cleanup Procedures to Minimize Matrix Effects

In order to maintain the lowest possible reporting limits, appropriate cleanup procedures should be employed when necessary. Methods for sample cleanup include, but are not limited to, gel permeation chromatography (GPC), silica gel, alumina, florisil, mercury (sulfur removal), sulfuric acid and acid/base partitioning. Method blanks, MS/MSDs, and laboratory control samples must be subjected to the same cleanup procedures performed on the samples to monitor the efficiencies of these procedures.

3.11 Sample Dilution

Dilution of a sample results in elevated reporting limits and ultimately affects the usability of the data related to potential actions at the sampling site. It is important to minimize dilutions and maintain the lowest possible reporting limits. When dilutions are necessary due to high concentrations of target analytes, lesser dilutions should also be reported in order to fully characterize the sample for each analyte. The level of the lesser dilution should be such that it will provide the lowest possible reporting limits without having a lasting deleterious effect on the analytical instrumentation.

4.0 DATA MANAGEMENT

4.1 Laboratory Data Management

Data reduction will be performed manually or using appropriate application software. Quantitation procedures specified for each method must be followed. If data reduction is performed manually, the documentation must include the formulas used. Any application software used for data reduction must have been previously checked for accuracy. Documentation on the software must be maintained on file in the laboratory. All documentation of data reduction must allow re-creation of the calculations.

All data will undergo two levels of review at the laboratory prior to release. The analyst performing the tests shall initially review 100 percent of the data. After the analyst's review has been completed, 100 percent of the data shall be reviewed independently by a senior analyst or by the section supervisor for accuracy, compliance with calibration and QC requirements, holding time compliance, and for completeness. Analyte identification and quantitation must be verified. Calibration and QC results will be compared with the applicable control limits. Reporting limits should be reviewed to make sure they meet the project objective. Results of multiple dilutions should be reviewed for consistency. Any discrepancies must be resolved and corrected. Laboratory qualifiers will be applied when there are non-conformances that could potentially affect data usability. These qualifiers must be properly defined as part of the deliverables. All issues that are relevant to the quality of the data must be addressed in a case narrative. A final data review will be conducted by the laboratory manager or client services representative to ensure that all required analyses were performed on all samples and that all documentation is complete.

The hard copy and electronic laboratory reports for all samples and analyses will contain the information necessary to perform data evaluation.

Hardcopy deliverables in US Environmental Protection Agency (EPA) Contract Laboratory Program type summary format will be required. The following information (when applicable) will be included for each analytical batch as a minimum:

- Field identification number
- Date received
- Date prepared
- Date analyzed
- Method
- Result for each analyte (wet weight basis for soils)

- Sample-specific reporting limit
- Units
- Laboratory qualifier flags and definitions
- Confirmation results
- Narrative
- Surrogate percent recoveries
- MS/MSD and laboratory control sample spike concentrations, native sample results, spiked sample results, percent recoveries, and relative percent differences between the MS and MSD results
- Method results
- Calibration blank results for inorganic analyses (required in hardcopy format only)
- ICS true and measured concentrations and percent recoveries (required in hardcopy format only)
- Method of standard addition results (if applicable; required in hardcopy format only)
- Post-digestion spike recoveries (if applicable; required in hardcopy format only)
- Any other method-specific QC sample results
- Initial calibration summary, including standard concentrations, response factors, average response factors, and relative standard deviations, or correlation coefficients, if applicable (required in hardcopy format only)
- Continuing calibration verification summary, including expected and recovered concentrations, and percent differences (required in hardcopy format only)
- Analytical batch reference number

Within 21 calendar days of sample receipt, the laboratory shall deliver three hardcopy sets of documentation as specified in this document. In addition the laboratory shall deliver one electronic copy of the data via email in ASCII format.

All electronic data files shall match the final hardcopy results.

All raw data will be maintained on file in the laboratory and will be available upon request by the project management. Complete documentation of sample preparation and analysis and associated QC information will be maintained in a manner that allows easy retrieval in the event

that additional validation or information is required. All documentation must be retained for a minimum of 10 years after data acquisition.

The primary responsibility for the implementation of these procedures within the laboratory will reside with the laboratory manager or equivalent. The laboratory manager will approve laboratory reports before transferring the information to the client.

4.2 Data Validation

The analytical results should be validated. A project chemist should be identified who will have responsibility for oversight of the data validation effort. Data validation will be carried out when the data packages are received from the laboratory. It will be performed on an analytical batch basis using the summary results of calibration and laboratory QC, as well as those of the associated field samples. Data validation procedures will include:

- Review of the data package for completeness.
- Review of chain of custody records for discrepancies that might impact data quality.
- Review for compliance with holding time and QC frequency requirements.
- Qualification of the data using appropriate qualifier flags, as necessary, to reflect data usability limitations.
- Initiation of corrective actions, as necessary, based on the data review findings.

Qualifier flags, if required, will be applied to the electronic sample results. The flagging criteria in Tables 1 and 2 will be used. The qualifier flags are defined in Table 3. If multiple flags are required for a result, the most severe flag will be applied to the electronic result. The hierarchy of flags from the most severe to the least severe will be as follows: R, UJ, U, J. A validation report will be generated for each method and sample delivery group. A copy of the validation report will be submitted to the project management, and a copy will be retained with the data package in the project file. Any significant data quality problems will be brought to the attention of the project chemist.

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TABLE 1
Flagging Conventions for Organic Methods
Former NFD Point Molate
Richmond, California

Quality Control Check	Evaluation	Flag	Samples Affected
Holding Time	Holding time exceeded for extraction or analysis	J positive results; UJ non-detects	Sample
	Holding time exceeded by a factor of two	J positive results; R non-detects	Sample
Sample Preservation SW8260B	Sample not preserved	J positive results; UJ non-detects	Sample
Sample Integrity SW8260B	Bubbles in VOA vial used for analysis	J positive hits ; UJ non-detects	Sample
Temperature	> 6°C	J positive results ; UJ non-detects	All samples in same cooler
Initial Calibration	RRF <0.050 (SW8260B and SW8270C)	J positive results, R non-detects	All associated samples in analysis batch
	%RSD >30.0% (SW8260B and SW8270C), or >20% (SW8015B, SW8081A, and SW8082 AND calibration curve not used; OR calibration curve used, but with coefficient of correlation or determination < 0.99	J positive results, UJ non-detects	All associated samples in analysis batch
Calibration Verification (Second-source and CCV)	RRF < 0.050 (SW8260B and SW8270C)	J positive results, R non-detects	All associated samples in analysis batch
	%Drift > 25.0% (SW8260B and SW8270C) or > 15% (SW8015B,	J positive results, UJ non-detects	All associated samples in analysis batch

TABLE 1
Flagging Conventions for Organic Methods
Former NFD Point Molate
Richmond, California

Quality Control Check	Evaluation	Flag	Samples Affected
	SW8081A and SW8082)		
LCS	%R>UT	J positive results	All samples in preparation batch
	%R<LT	J positive results, UJ non-detects	All samples in preparation batch
Calibration Blank Method Blank	Convert blank concentration to soil units, if applicable; multiply the highest blank concentration by 5 (by 10 for common lab contaminants, acetone, methylene chloride, MIBK, phthalates)	U positive sample results < 5x (10x for common lab contaminants) highest blank concentration	All samples in preparation batch or analytical batch, whichever one applies, associated with method blank or calibration blank.
Equipment Blank			All samples, same site, matrix and date (water) or all samples, same site, matrix (soil) associated with equipment blank.
Trip Blank			All samples shipped in the same cooler as the trip blank.
Matrix Spikes % Recoveries	%R>UT %R<LT	J positive results J positive results, UJ non-detects	Matrix spike analytes in parent sample and field duplicate, if any.

TABLE 1
Flagging Conventions for Organic Methods
Former NFD Point Molate
Richmond, California

Quality Control Check	Evaluation	Flag	Samples Affected
RPDs	RPD > UT	J positive results	Matrix spike analytes in parent sample and field duplicate, if any.
Surrogates SW8260B	%R>UT %R < LT and none < 10% %R < 10%	J positive results J positive results; UJ non-detects J positive results; R non-detects	All analytes in samples
SW8270C	2 or more surrogates in same fraction with %R > UT 2 or more surrogates in same fraction with %R < LT but not <10% 2 or more surrogates in same fraction with %R < LT and <10%	J positive results J positive results; UJ non-detects J positive results; R non-detects	All analytes in same fraction in sample
SW8015B; SW8081A; SW8082	More than 1 surrogate with %R > UT More than 1 surrogate with %R < LT but not <10% More than 1 surrogate with %R < LT and <10%	J positive results J positive results; UJ non-detects J positive results; R non-detects	All analytes in sample
Internal Standards	Area >UT Area <LT but not <10% Area <10%	J positive results J positive results; UJ non-detects J positive results; R non-detects	Associated analytes in sample
Confirmation (SWB081A)	RPD between primary and confirmation results >25%	J positive results	Sample

TABLE 1

Flagging Conventions for Organic Methods

Former NFD Point Molate

Richmond, California

Notes:

Organic Methods include: SW8081A, SWB082, SW8260B, and SW8270C.

Spike recovery limits do not apply when sample concentration exceeds the spike concentration by a factor of 4 or more.

For methods requiring confirmation, the qualification s applies to primary analysis results (either of the two columns/detectors may be designated as the primary column/detector).

Where one MS recovery meets acceptance criteria and the other MS of the pair does not, professional judgment may be used to determine if the parent sample should be qualified for matrix effects by comparing the matrix spike recoveries to other quality control results within the batch or sample site.

Qualifier may not apply in cases where a surrogate coelutes with a non-target analyte.

For SW8081A and SW8082 it is assumed that two surrogates are used. If only one is used, that surrogate must pass the acceptance criteria, otherwise flags will be applied.

Qualifier may not apply in cases where low surrogate recoveries are due to sample dilution.

LT = Lower tolerance.

MB = Method blank.

UT = Upper tolerance.

%R =Percent recovery.

RRF = Relative response factor.

RSD = Relative response factor.

RPD = Relative percent difference.

TABLE 2
Flagging Conventions for Inorganic Methods
Former NFD Point Molate
Richmond, California

Quality Control Check	Evaluation	Flag	Samples Affected
Holding Time	Holding time exceeded for extraction, digestion, or analysis	J positive results; UJ non-detects	Sample
	Holding time for digestion or analysis exceeded by a factor of two	J positive results; R non-detects	Sample
Sample Preservation	Sample preservation requirements not met (if sample preservation was not done in the field, but was performed at the laboratory upon sample receipt, no flagging is required)	J positive results; R non-detects	Sample
Temperature	> 6°C	J positive results ; UJ non-detects	All samples in same cooler
Initial Calibration (multi-point only)	Correlation coefficient ≤ 0.995	J positive results, UJ non-detects	All associated samples in analysis batch
Calibration verification (ICV, CCV)	%R>UT	J positive results	All associated samples in analysis batch
	%R<LT	J positive results, UJ non-detects	All associated samples in analysis batch
Interference check sample (SW6010B only)	%R>UT	J positive results	All associated samples in analysis batch
	%R<LT	J positive results, UJ non-detects	All associated samples in analysis batch
LCS	%R>UT	J positive results	All samples in preparation

TABLE 2
Flagging Conventions for Inorganic Methods
Former NFD Point Molate
Richmond, California

Quality Control Check	Evaluation	Flag	Samples Affected
			batch
	%R<LT	J positive results, UJ non-detects	All samples in preparation batch
Calibration Blank (ICB, CCB) Method Blank	Convert blank concentration to soil units, if applicable; multiply the highest blank concentration by 5	U positive sample results < 5x highest blank concentration	All samples in preparation batch or analytical batch, whichever one applies, associated with method blank or calibration blank.
Equipment Blank			All samples, same site, matrix and date (water) or all samples, same site, matrix (soil) associated with equipment blank.
Trip Blank			All samples shipped in the same cooler as the trip blank.
Matrix Spikes % Recoveries	%R>UT %R<LT	J positive results J positive results, UJ non-detects	Matrix spike analytes in parent sample and field duplicate, if any.
RPDs	RPD > UT	J positive results	Matrix spike analytes in parent sample and field duplicate, if any.

TABLE 2
Flagging Conventions for Inorganic Methods
Former NFD Point Molate
Richmond, California

Quality Control Check	Evaluation	Flag	Samples Affected
Dilution Test	If concentration is >25 times RL and % difference > UT	J positive results; UJ non-detects	All samples from same site as parent sample if analytical spike not performed
Post-digestion Spikes/Recovery Test	Spike results indicate performance of MSA required, but MSA not done. %R > UT %R < LT	J positive results J positive results; UJ non-detects	All samples in digestion batch if MSA not performed
MSA (GFAA only) for samples where post-digestion spike (performed as a result of unacceptable serial dilution) fails	r < 0.995	J positive results	Sample

Notes:

Spike recovery limits do not apply when sample concentration exceeds the spike concentration by a factor of 4 or more.

CCB = Continuing calibration blank
ICB = Initial calibration blank
LT = Lower tolerance
MB = Method blank
UT = Upper tolerance
RL = Reporting limit

CCV = Continuing calibration verification
ICV = Initial calibration verification
MSA = Method of standard addition
RPD = Relative percent difference
%R = Percent recovery
MDL = method detection limit

TABLE 3
DATA QUALIFIER FLAG DEFINITIONS
 NFD Point Molate
 Richmond, California

Data Qualifier Flag	Definition
J	Analyte was present, but reported value may not be accurate or precise
R	This result has been rejected
U	This analyte was analyzed for but not detected at the specified detection limit
UJ	The analyte was not detected above the detection limit objective. However, the reported detection limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

Craig Murray

From: LaShonda White
Sent: Friday, June 08, 2012 6:43 AM
To: Craig Murray
Subject: State Water Board Invoice to PMCAC
Attachments: SWB.pdf

Hi Craig,

Here is the State Water Board invoice that the PMCAC wanted.

Thank you,

LaShonda Wilson
Management Analyst
City Manager's Office
City of Richmond

(510) 620-6828 phone
(510) 620-6542 fax
Lashonda_wilson@ci.richmond.ca.us

BAI

STATE WATER RESOURCES CONTROL BOARD

SITE CLEANUP PROGRAM

**INVOICE FOR OVERSIGHT COSTS
FOR THE PERIOD ENDING: 12/31/11**

RECEIVED
CITY MANAGER'S OFFICE
CITY OF RICHMOND

12 FEB 14 AM 10:58

Date: 02/10/2012

Account Number: 2020337

Regional Board: San Francisco Bay Region

Invoice Number: 74820

Responsible Party #: 160

CITY OF RICHMOND
ATTEN: Janet Schneider
PO BOX 4046
RICHMOND CA 94804

Site Location:

Point Molate Naval Fuel Depot
Point Molate Naval Fuel Depot
Richmond CA

Payment(s) received as of 02/10/12:

\$86,856.63

Balance Forward:

\$0.00

**** New Charges - Billing Period 10/01/11-12/31/11:**

\$48,269.05

TOTAL AMOUNT DUE:

\$48,269.05

** See itemized list of new charges on reverse or subsequent page (s)

The Porter-Cologne Water Quality Control Act (Section 13365) allows the Regional Water Quality Control Board to recover reasonable expenses from the responsible party for overseeing cleanup of illegal discharges, contaminated properties, and other unregulated releases adversely affecting the State's waters. When your site was put in the cost recovery program, you received a letter explaining that the State Water Resources Control Board would bill you for the Regional Board's costs of cleanup oversight.

If you desire a more detailed explanation for labor hours expended by any Regional Board staff member, you should contact Nancy Katyl (510) 622-2408. If there are disputed charges for activities which you cannot resolve with the program manager, you should discuss them with the Executive Officer of the Regional Board.

For information regarding payments call: Ursula Sanchez at (916) 319-9124 or usanchez@waterboards.ca.gov

PAYMENT IS DUE IN 30 DAYS

PLEASE RETURN CHECK IN ENVELOPE PROVIDED

TO ENSURE PROPER CREDITING OF YOUR ACCOUNT: INCLUDE YOUR RESPONSIBLE PARTY NUMBER, ACCOUNT NUMBER AND INVOICE NUMBER ON YOUR CHECK. IF PAYING MULTIPLE INVOICES, ALL ACCOUNT NUMBERS MUST BE LISTED ON YOUR CHECK. MAKE CHECKS PAYABLE TO: SWRCB

RP #: 160

Account Number: 2020337

Invoice Number: 74820

Amount Due: \$48,269.05

**SEND PAYMENTS TO: State Water Resources Control Board
SCP Program
P.O. Box 944212
Sacramento, CA 94244-2120**

BAZ

REGIONAL BOARD NUMBER: 2

PROGRAM COST ACCOUNT: 2020337

INVOICE NUMBER: 74820

DATE	NAME	CLASS	ACT	HOURS
10/03/11	Leyva, George	EG	EO	8
10/04/11	Leyva, George	EG	EO	8
10/05/11	Wolfe, Bruce	SUWRCE	EO	1
10/05/11	Naugle, Alec	SEG	EO	2
10/05/11	Leyva, George	EG	EO	8
10/06/11	Naugle, Alec	SEG	EO	2
10/06/11	Leyva, George	EG	EO	8
10/06/11	Wolfe, Bruce	SUWRCE	EO	2
10/07/11	Leyva, George	EG	EO	7
10/10/11	Wolfe, Bruce	SUWRCE	EO	1
10/10/11	Leyva, George	EG	ADM	8
10/10/11	Naugle, Alec	SEG	EO	2
10/11/11	Leyva, George	EG	ADM	6
10/11/11	Wolfe, Bruce	SUWRCE	EO	1
10/12/11	Leyva, George	EG	EO	8
10/12/11	Naugle, Alec	SEG	EO	2
10/13/11	Leyva, George	EG	WC	5
10/14/11	Elias, David	SEG	IC	1
10/17/11	Naugle, Alec	SEG	EO	2
10/17/11	Elias, David	SEG	IC	2
10/17/11	Elias, David	SEG	IC	1
10/19/11	Leyva, George	EG	WC	8
10/19/11	Wolfe, Bruce	SUWRCE	EO	1
10/20/11	Leyva, George	EG	WC	6
10/24/11	Leyva, George	EG	WC	4
10/25/11	Leyva, George	EG	WC	1
10/26/11	Leyva, George	EG	WC	4
10/27/11	Leyva, George	EG	WC	3
10/31/11	Leyva, George	EG	RR	8
11/01/11	Seward, Terry	WRCE	TC	4
11/01/11	Leyva, George	EG	TC	6
11/01/11	Elias, David	SEG	IC	5.5
11/02/11	Leyva, George	EG	TC	4
11/02/11	Elias, David	SEG	IC	3
11/04/11	Elias, David	SEG	IC	2
11/07/11	Leyva, George	EG	TC	3
11/07/11	Elias, David	SEG	IC	4
11/07/11	Leyva, George	EG	WC	4
11/08/11	Leyva, George	EG	TC	4
11/09/11	Leyva, George	EG	TC	8
11/09/11	Elias, David	SEG	IC	1
11/09/11	Wolfe, Bruce	SUWRCE	EO	1
11/10/11	Elias, David	SEG	IC	1
11/10/11	Leyva, George	EG	TC	5
11/14/11	Seward, Terry	WRCE	TC	3
11/14/11	Leyva, George	EG	TC	8
11/14/11	Elias, David	SEG	IC	1
11/15/11	Wolfe, Bruce	SUWRCE	IC	1
11/15/11	Elias, David	SEG	IC	1
11/15/11	Seward, Terry	WRCE	TC	5

8A3

REGIONAL BOARD NUMBER: 2

PROGRAM COST ACCOUNT: 2020337

INVOICE NUMBER: 74820

11/15/11	Leyva, George	EG	TC	8
11/16/11	Elias, David	SEG	RR	3
11/16/11	Leyva, George	EG	RR	8
11/17/11	Leyva, George	EG	RR	8
11/17/11	Elias, David	SEG	RR	2
11/28/11	Leyva, George	EG	TC	8
11/28/11	Elias, David	SEG	IC	2
11/29/11	Leyva, George	EG	TC	8
11/29/11	Wolfe, Bruce	SUWRCE	EO	1
12/01/11	Leyva, George	EG	TC	3
12/01/11	Wolfe, Bruce	SUWRCE	EO	1
12/01/11	Elias, David	SEG	EO	0.5
12/02/11	Leyva, George	EG	TC	8
12/02/11	Wolfe, Bruce	SUWRCE	EO	1
12/02/11	Elias, David	SEG	EO	3
12/05/11	Elias, David	SEG	EO	2
12/05/11	Leyva, George	EG	TC	8
12/06/11	Elias, David	SEG	EO	1.5
12/06/11	Leyva, George	EG	TC	1
12/07/11	Elias, David	SEG	EO	2
12/08/11	Elias, David	SEG	IC	2
12/09/11	Elias, David	SEG	IC	1
12/12/11	Elias, David	SEG	IC	1
12/12/11	Leyva, George	EG	TC	7
12/12/11	Seward, Terry	WRCE	EO	4
12/13/11	Seward, Terry	WRCE	EO	2
12/13/11	Elias, David	SEG	EO	1.5
12/14/11	Seward, Terry	WRCE	EO	3
12/14/11	Elias, David	SEG	EO	4
12/14/11	Wolfe, Bruce	SUWRCE	EO	1
12/16/11	Elias, David	SEG	IC	2
12/19/11	Friedman, Alan	SEA	WC	8
12/19/11	Elias, David	SEG	WC	2

TOTAL HOURS: 312

8A4

REGIONAL BOARD NUMBER 2

PROGRAM COST ACCOUNT: 2020337

INVOICE NUMBER: 74820

TOTAL LABOR CHARGES	\$20,854.02
TRAVEL EXPENSES:	\$0.00
EQUIPMENT:	\$0.00
CONTRACT CHARGES:	\$0.00
OVERHEAD:	\$18,508.98
STATE BOARD PROGRAM ADMIN CHARGE:	\$1,779.27
REGIONAL BOARD PROGRAM ADMIN CHARGE:	\$7,126.78

TOTAL NEW CHARGES:	\$48,269.05
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Please be advised that the billing period for this invoice may not reflect all hourly charges due to time con

ACTIVITY CODES AND DESCRIPTIONS (ACT)

RR - Report review (e.g., Work plan, site assessment, remediation and monitoring reports)
SI - Site inspections
TC - Technical consultation (e.g., meetings/telephone conversations with RP or representative)
EO - Preparation of enforcement order
WC - Written correspondence to the RP or representative
IC - Internal RB communication regarding specific sites, memos, meetings, phone calls, etc.
ADM - Administrative billing inquiries/disputes
EST - Preparation of estimation letter
ADJ - Adjustment to previous invoices
CP - Contract Payment
SC - Staff Counsel - Legal consultation

BAS

City of Richmond – POINT MOLATE COMMUNITY ADVISORY COMMITTEE

Multi-Purpose Room
440 CIVIC CENTER PLAZA

PROPOSED MINUTES MONDAY, MAY 21, 2012, 6:30 PM

1. CALL TO ORDER

Chair Garrett called the meeting to order at 6:39 p.m.

2. ROLL CALL

Present: Committee Members Beyaert, Christian, Garrett, Gilbert (6:42), Hanna (6:50), Hite, Kortz (6:58), Martinez, Rosing, Satre, Smith, C., Smith, N., Stello (6:58), Sundance and Whitty.

Absent: Committee Members Clark, Puleo.

Staff Present: Gayle McLaughlin, Mayor; Craig K. Murray, Staff Liaison; Hector Rojas, Planning Department; LaShonda White, City Manager Department.

3. WELCOME AND MEETING PROCEDURES

Garrett welcomed audience, explained meeting procedures, and discussed the Speaker Card process.

4. AGENDA REVIEW AND ADOPTION

Garrett reviewed Agenda items and briefed PMCAC on the Agenda order. Beyaert then motioned to approve the Agenda, Rosing seconded. Passed unanimously.

5. ANNOUNCEMENTS THROUGH THE CHAIR

Garrett announced that the City Council at its May 22 meeting will conduct a Point Molate Visioning review with a presentation as already presented to PMCAC by KLMR. General discussion of the Lucas Films search for a facility and advertisement by Marina Bay Master Developer Richard Poe. Garrett mentioned that the City is not in a position to negotiate alternative proposals at this time for Pt Molate.

6. OPEN FORUM

No speakers for Open Forum.

7. PRESENTATIONS, DISCUSSION & ACTION ITEMS

A. Presentation of Richmond Greenway Grant application best practices.

Will Osuna of Richmond Groundworks Trust provided a Powerpoint presentation of the development and current activities at the Richmond Central Greenway. Osuna reviewed various grant funds and mentioned that Proposition 84 funds are up to 90% exhausted. Garrett introduced Pam Stello as the point of contact on PMCAC to work on grant resources for Pt Molate. Osuna indicated that City provides certain resources such as access to ECivis and Osuna offered assistance to PMCAC.

B. Presentation of City Council Change Area 13, San Pablo Peninsula General Plan referral and discussion.

Hector Rojas of the Richmond Planning Department presented information on Change Area 13. Mayor McLaughlin discussed item related to clean up and usage of Pt Molate. Garrett discussed use restrictions on the site based on the deed conveyance. Garrett offered to form a task force to point out all the restrictions of Pt Molate to help Planning Staff.

C. Nomination and annual election of PMCAC Chair and Vice Chair

By consensus of the PMCAC, Chair Joan Garrett and Vice Chair Bruce Beyaert were elected to another one year team.

8. STAFF REPORTS

A. Review of Financial Reports as provided by LaShonda White

LaShonda White of the City Manager office provided Committee Members with an updated Pt Molate Remediation Budget Report as of January 25, 2012 as originally provided in the Agenda Packet. Individual line items were discussed and Committee members questions were answered. White reviewed regular billings and process that staff uses to process payment requests. White responded to Beyaert's comment about usefulness of the overall summary of charges by payee by stating that she will provide a copy of it to PMCAC.

B. Committee Log for PMCAC inquiries to staff, contractors

Garrett stated that Chair and Vice Chair met with City Manager, City Attorney, Terraphase and staff on open items and provided a brief summary. Garrett indicated that some items are partially closed such as item 7.

9. CONSENT CALENDAR

Sundance motioned to approve the Consent Calendar and May 21, 2012 minutes, Whitty seconded. Passed unanimously.

10. FUTURE AGENDA ITEMS

Garrett called for future agenda items. Items discussed included Proposals via Parks & Recreation on Cosco Busan funds; Production by Chairs of an Annual Report of approximately 4-5 pages summarizing prior year accomplishments; Coordinate with City Attorney an appropriate date that City Attorney can attend and participate; Call for elections of the Legal Subcommittee; Invite Michael Bolland to speak to the Committee; and Consider inviting DTSC to review RWQCB work.

11. CITY COUNCIL LIAISON REPORTS

Mayor discussed that Council will conduct a Pt Molate study session the following evening. Mayor stated that there is still litigation and Upstream prevailed in State Court on Declaratory Relief but City is filing counter claim in Federal court. PMCAC appointment status was moved to a following meeting.

12. CHAIR AND SUB-COMMITTEE REPORTS

- a. Clean Up and Restoration: Satre indicated that he looked at a few reports and offered to review DTSC status. Bill Carson of Terraphase indicated that all items are petroleum related and indicated specialty areas between these two State of California-EPA agencies. Carson reviewed site components the landfill and IR Sites and concern of looking for source of TCE and intrusion to Ground Water. Garrett inquired about work schedule and affect on Cal Trans Schofield Deck Replacement project. Garrett inquired about emergency electrical work and status of current Pt Molate electrical infrastructure.
- b. Community Outreach: Sundance reported and provided handouts. Rosing discussed Cinco de Mayo attendance and need for a budget to provide additional outreach documents and effort. Stello inquired about PMCAC should be rotated to different community centers and locations. Gilbert offered to distribute Outreach documents and speak at Neighborhood Council meetings. Rosing indicated that he would like to nominate Sundance as Committee Chair.

- c. PMCAC Chair: Garrett reported on Coastal Clean Up and looking at insurance endorsements. On question to hold a June meeting, N. Smith moved, with modification by Garrett to hold an informal meeting, that a June PMCAC meeting is held, Sundance seconded. Passed unanimously.

13. ADJOURNMENT

Rosing moved to adjourn the meeting at 7:50 pm, seconded by Hite. Passed unanimously.

14. SCHEDULED MEETINGS

Committee Meeting – .

Monday, June 18, 2012, 6:30 p.m., Multi-Purpose Room, 440 Civic Center Plaza

Minutes respectfully submitted by:

Craig K. Murray, PMCAC Staff Liaison

Point Molate Community Advisory Committee

Pt. Molate Community Advisory Committee
c/o The Mayor's Office
City of Richmond
450 Civic Center Plaza
Richmond, CA. 94804

BE PART OF THE FUTURE OF POINT MOLATE

Pt. Molate's past is colorful and rich. Home at one time to a Chinese Shrimp Camp, the last remaining whaling station in the U.S., and Winehaven - the largest winery in the country during the early 1900's, Pt. Molate became the fueling depot for the Pacific Fleet during WWII.

The Base Closure Realignment Act saw the former Navy fuel depot turned over to the City of Richmond in 2003 - 2007, and efforts are underway to re-purpose the former Navy base.

You can be a part of determining the future of Pt. Molate. Share your ideas, hopes and aspirations with us!



POINT MOLATE COMMUNITY ADVISORY COMMITTEE

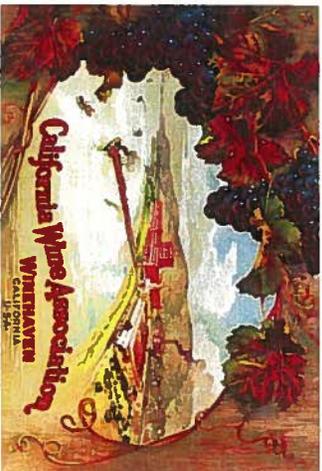
Specific powers and duties –

- ❖ Serve as the primary conduit for residents to provide input on clean-up, restoration and sustainable development of Pt. Molate.
- ❖ Work with City Council, staff and other citizen advisory boards, to provide advice and input on all Pt. Molate matters.
- ❖ Review proposed Pt. Molate development budgets with City staff and make Pt. Molate expenditure recommendations along with City staff to the City Council.
- ❖ Organize processes where residents have input into clean-up, restoration, and sustainable development and use of Pt. Molate.

PMCAC Agendas and Minutes can be found on the City Clerk's web location:
<http://ca7richmond.ca.wikipia.com/index.aspx?NID=2442>



POINT MOLATE PENINSULA
POINT COMMITTEE OF LARK COUNTY



A poster of the original Winehaven District



Touring Point Molate

Your Opportunity for Input –

- ❖ The Pt. Molate Community Advisory Committee meets monthly on the third Monday of the month at 440 Civic Center Plaza at 6:30PM.
- ❖ Agendas are located on the City's Web site and at the Main Library. Agendas are posted on the Friday prior to each meeting and can also be found on the notice boards at City Hall.
- ❖ Membership consists of 19 Richmond residents appointed by the Mayor, and the Committee is chaired by Joan Garrett, and Vice-Chaired by Bruce Beyaert.
- ❖ You are invited to attend Committee meetings and offer your input and vision for Pt. Molate.

If your group of 10 or more would like a tour of Pt. Molate, please call Jim Hite at 510-232-0457