From: Amy Brownell
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Subject: RMPs and RTCs
Attachments: RTCs to comments on August 2010 Parcels B and G Risk Mgmt Plans.doc; January 2011 Post RACR RMP.pdf; January 2011 Post RACR RMP clean.doc; January 2011 Post RACR RMP with strikeouts.doc; January 2011 Pre RACR RMP.pdf; January 2011 Pre RACR RMP clean.doc; January 2011 Pre RACR RMP with strikeouts.doc

Attached are seven documents - one RTC to the comments on August 2010 RMPs
and three versions of each pre and post RACR RMP

The three versions of the RMPs are:

WORD strikeout version
WORD clean version
PDF with all figures and checklists

happy reading

thanks,
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(See attached file: RTCs to comments on August 2010 Parcels B and G Risk Mgmt Plans.doc) (See attached file: January 2011 Post RACR RMP.pdf)(See attached file: January 2011 Post RACR RMP clean.doc)(See attached file: January 2011 Post RACR RMP with strikeouts.doc)(See attached file: January 2011 Pre RACR RMP.pdf)(See attached file: January 2011 Pre RACR RMP clean.doc)
(See attached file: January 2011 Pre RACR RMP with strikeouts.doc)

DRAFT Responses to Comments on the August 2010
Parcels B and G Pre-and Post-Remedial Action Completion Report Risk Management Plans

DTSC Pre- and Post-RACR RMP Comments			
No.	**Section(s)**	**DTSC Comment**	**Response**
1	1.2	Section 1.2 – Intended Users of the Pre-RACR RMP. A brief description of how the regulatory agencies will use the document does not appear to be included in Section 1.2 as stated in your response to comment #3(b) provided 6/10/10. You may also add this brief description to the text in another section and reference accordingly	The text was revised as suggested.
2	3.1.3	Section 3.1.3 – Restricted Activities Requiring FFA Signatory Approval. Qualifying language regarding restricted activities requiring FFA signatory approval for activities described in remaining portions of the document should be added in this section. For example, monitoring well abandonment, monitoring well replacement, as well as construction of enclosed structures or reuse of an existing building located in ARICs for volatile chemicals are all activities that will require FFA approval prior to implementation.	The text was revised as suggested.
3	3.1.4	Section 3.1.4 – Areas Requiring Institutional Controls (ARICs) for Volatile Chemicals. Sentence five. Please revise the text to state "The ARIC for volatile chemicals may be modified with approval by the FFA signatories. "	The text was revised as suggested.
4	4.2.3	Section 4.2.3 – Completion Notifications and Reports for Restricted Activities which Required FFA Signatory Approval. Last sentence. Please revise the sentence to state: "Upon concluding that the actions taken are consistent with the Pre-RACR RMP, and if applicable Remedial Action Objectives (RAOs) identified in the ROD are attained, the FFA signatories will issue an approval letter for the completion report."	The text was revised as suggested.
5	4.0	Section 4.0 – Reporting and Notice Protocols. The City of San Francisco (SFRA) will be responsible for ensuring the requirements in this section, and all Pre-RACR Risk Management Plan (RMP) requirements, are followed. The USEPA, DTSC, and other appropriate regulatory agencies will have the ability to oversee the activities to ensure compliance as well, but the whole purpose of the RMP is to limit the need for oversight for certain activities as long as RMP requirements and procedures are followed. The	The SFRA will be responsible for ensuring requirements of the RMPs are met as long as they own the property and for conducting the annual inspections and reporting as described in Section 4.4. Once property has been transferred to other owners SFRA will assume the responsibilities described in Section 4.4. As described, SFRA will assume

DTSC Pre- and Post-RACR RMP Comments			
No.	**Section(s)**	**DTSC Comment**	**Response**
		same comment applies to text presented in sections 4.4 (Annual Reports).	the responsibility for Navy obligations including: annual monitoring of RMP compliance activities, annual inspections and reporting, annual monitoring of long-term maintenance of the remedy, and ensuring annual enforcement of the RMP in the event of non-compliance by owners, lessees, permittees, tenants or any other party with the legal right to perform subsurface work on the property. Other government agencies will be responsible for ensuring compliance with specific elements of the RMPs – some examples are: Construction Worker Health and Safety - Cal-OSHA; Dust Control – SF Health Department; Asbestos Dust Mitigation Plans - Bay Area Air Quality Management District; Storm Water and Groundwater Management – Regional Water Quality Control Board; Groundwater Discharges to Sanitary Sewer – SF Public Utilities Commission (SFPUC). In addition, during development activities the owner or their contractors, or developer or other person developing the site is required by the San Francisco Building, Public Works and Health codes to obtain permits to engage in subsurface work and to satisfy the Department of Public Health (DPH) that the work will be done in accordance with the environmental restrictions placed on the property through the CERCLA process. All permitted activities described above involving

DTSC Pre- and Post-RACR RMP Comments			
No.	**Section(s)**	**DTSC Comment**	**Response**
			the disturbance of soil will be subject to the requirements of Article 31 of the Health Code. The various plans must be submitted to the DPH to ensure subsurface work is conducted in a safe manner. Please also review the City's document entitled "City and County of San Francisco permit processes and property maintenance at Hunters Point Shipyard Parcels B and G", distributed at the November 10, 2010 ETCA/AOC meeting for further information.
6	5.1	Section 5.1 – Construction Worker Health and Safety Recommendations. Paragraph three. Please clarify that it will be the San Francisco Redevelopment Agency's (SFRA) responsibility to ensure contractor compliance with the Risk Management Plans' obligations. See comment to Section 3.1.1.	Please see response to DTSC Comment 5.
7	5.6	Section 5.6 – Groundwater Management Protocols. The text states that the groundwater monitoring data will be evaluated by the Owner or their designee prior to the initiation of construction or maintenance activities. Please be aware that since this activity will be conducted in accordance with the RMP, it will be the SFRA's responsibility to ensure proper evaluation of the monitoring results.	If the SFRA owns the property then they will act as the owner and comply with all requirements in existing laws and the requirements of the RMPs. If the property has been transferred to a new Owner then that owner is responsible for complying with existing environmental laws and regulations. The USEPA, DTSC and RWQCB have oversight over groundwater contamination issues at the Shipyard. If the Owner or their designee discovers groundwater contamination issues during their construction and maintenance activities at the Shipyard, they will consult with these agencies to verify proper handling of the groundwater and develop work plans for Regulatory Agency approval if necessary. If

DTSC Pre- and Post-RACR RMP Comments			
No.	**Section(s)**	**DTSC Comment**	**Response**
			the groundwater in question is to be discharged to the sanitary sewer which is owned by the SFPUC, then the Owner or their designee will comply with existing environmental laws and regulations that include requirements to obtain a sewer discharge permit and report the results of sampling to the SFPUC prior to discharging the groundwater to the sewer. Please also see response to DTSC Comment 5.
8	5.6.1	Section 5.6.1 – Temporary Dewatering Activities. DTSC appreciates that the water removed during dewatering activities will be sampled and disposed in accordance with applicable permits and regulations. Please be aware that since this activity will be conducted in accordance with the RMP, it will be the SFRA's responsibility to ensure proper evaluation of the sampling results.	Please see response to DTSC Comments 5 and 7.
9	Appendices C, E, and F	Appendices C, E, and F – Plan Outlines. The outlines provided do not provide the adequate level of detail that is necessary for pre-approval and should instead be provided as general plans to be reviewed and approved as a component of the final Risk Management Plan(s). The approved plans then serve as the basic framework and minimum requirements for work that will be implemented in the future. For example, the Soil Importation Plan outline lists the analytical testing requirements and testing frequency as a component of the plan, but the specific requirements and frequency is not provided for regulatory approval.	Appendix C – The Environmental Health and Safety Plan (EHSP) outline follows OSHA guidance for EHSP content. Each contractor will be responsible for preparing their own EHSP that is in compliance with OSHA guidance. Appendices E and F will be updated to be general plans, instead of just outlines, in upcoming versions of the RMPs.
10 (a)	Appendix D	(a) Page D-5. No Visible Dust Goal. Please briefly describe the criteria that will be applied to the upwind and downwind particulate monitoring results in order to determine if additional dust control measures will be warranted.	The following text was added to page D-6, "In addition to conducting inspections for visible dust, particulate monitoring for the presence of airborne particulates will also be

DTSC Pre- and Post-RACR RMP Comments			
No.	**Section(s)**	**DTSC Comment**	**Response**
			conducted using real-time particulate dust monitors as detailed on Page D-18. If readings are recorded above the action level(s), site specific actions will be specified based on the type of activity being conducted. Actions could include evaluation of site activities or stopping work until additional controls are implemented to reduce dust generation from the specific work area causing the problems."
10 (b)	Appendix D	(b) Page D-7. General Construction Emissions Control Methods. Last paragraph. Please verify and specify that dust control requirements are also described in Section 5.0 of the Pre-RACR Risk Management Plan.	The text was revised to indicate that general dust control requirements are presented in Section 5.3 or the RMPs.
10 (c)	Appendix D	(c) Page D-10. Site Preparation and Grading. Item 3. Please verify if the requirement for using reclaimed water is necessary or if it should be removed from the text.	The reference to the use of reclaimed water was removed from the text.
10 (d)	Appendix D	(d) Page D-11. Trenching Activities. Second bullet. Please incorporate minimized drop heights for excavated soil dropped into trucks into this bullet's text as well.	The text was revised as suggested.
10 (e)	Appendix D	(e) Page D-12. Screening. Last bullet. ". . . speeds of 25 mpg" should be changed to ". . . speeds of 25 mph".	The text was revised as suggested.
10 (f)	Appendix D	(f) Page D-14. Demolition Activities. Second bullet. Please specify the entity from which approval of dry removal must be obtained in writing (BAAQMD?).	Reference to the BAQQMD was added to the bullet.
10 (g)	Appendix D	(g) Page D-18. Visible Dust Crossing the Property Boundary, item 1; Onsite Visible Dust, item 1; Windblown Visible Dust During Inactive Periods, sentence two. This text contains references to a Section 4.0, but it is unclear to which document the reference refers. Please update the references accordingly.	The reference to Section 4.0 was deleted and the applicable pages of the Dust Control Plan were added.
10 (h)	Appendix D	(h) Page D-18. Dust Monitoring. Please establish real-time particulate action levels in the current document. Otherwise, the document(s) in which action levels will be developed will require	An action level of 0.75 milligrams per cubic meter (mg/m^3) above upwind levels over a ten minute average has been developed and

DTSC Pre- and Post-RACR RMP Comments			
No.	**Section(s)**	**DTSC Comment**	**Response**
		regulatory review and approval inconsistent with general the purpose of the RMP.	is presented in Appendix D.
11		Please address any comments made in the Pre-RACR RMP document presented above that would also apply to the Post-RACR RMP document.	Revisions common to each document were made where applicable.
12	4.0, 4.4, and 5.2	Section 4.0 – Reporting and Notice Protocols. The City of San Francisco (SFRA) will be responsible for ensuring all Post-RACR Risk Management Plan (RMP) requirements are followed. The USEPA, DTSC, and other appropriate regulatory agencies will have the ability to oversee the activities to ensure compliance as well, but the whole purpose of the RMP is to limit the need for oversight for certain activities as long as RMP requirements and procedures are followed. The same comment applies to text presented in sections 4.4 (Annual Reports) and 5.2 (Durable Cover Protocols).	Please see response to DTSC Comment 5.

DTSC Office of Legal Affairs Pre- and Post-RACR RMP Comments			
No.	**Section(s)**	**DTSC Office of Legal Affairs Comment**	**Response**
1	General	NOTE: The Pre and Post documents are very similar and therefore any comments offered here should also be taken into account for changes in the Post RACR where applicable. The documents are so similar other than security requirements prior to development that it might be worth a discussion on why two documents are necessary.	Revisions common to each document were made where applicable. We believe it will be less confusing to future property owners and contractors if there are two RMPs that define their obligations pre- and post-remedy.
2	General	DTSC questions the use of the phrase "the legal right to perform subsurface work" throughout the document for two reasons. First, why is it necessary to state "legal right"? Second, at least initially it would include surface work as well as subsurface work until the cover is installed. The text should be revised more generally to say "any party performing work on the property" where the above phrase is used in the document.	The City feels that the phrase "legal right to perform subsurface work" is a more accurate statement. No revision to the text was made.
3	General	Text regarding cost recovery with respect to any regulatory agency involvement from an approval and/or oversight standpoint should be included. Any regulatory oversight will require an	The RMPs are not the appropriate document to include the suggested regulatory cost recovery language. This concept should be

DTSC Office of Legal Affairs Pre- and Post-RACR RMP Comments			
No.	**Section(s)**	**DTSC Office of Legal Affairs Comment**	**Response**
		entity/party, identified in the Risk Management Plans, to be responsible for costs incurred.	discussed in the ETCA and AOC documents. No revision to the text was made.
4	Page 1-1, Section I, Introduction	The introduction should mention that IR 7 and 18 (and bldg. 140 if necessary) are not encompassed in this document. While it is appreciated that the text has been revised accordingly in Section 1.1, the Section 1 text should, at a minimum, reference Section 1.1 as to the exception where it is first mentioned that the document applies to Parcels B and G.	The text was revised as suggested.
5	Page 1-3, Section 1.1	Pre-RACR RMP Scope, 2nd paragraph, 1st sentence – The scope also covers security requirements that apply after transfer and before any redevelopment activities commence. Therefore, please expand the first sentence to encompass this time frame.	The text was revised as suggested.
6	Page 3-2, Section 3.1.2	Pre-Approved restricted activities – In the first sentence insert "such activities are" following the word "as" and before the word "performed."	The text was revised as suggested.
7	Page 3-2, Section 3.1.2	Pre-Approved restricted activities, last paragraph, 1st sentence – Please delete the word "potentially" before the word "applicable."	The text was revised as suggested.
8	Page 3-3, Section 3.1.3	1st sentence – Please delete the "s" from the word "involves."	The text was revised as suggested.
9	Page 3-3, Section 3.1.3	Sentence following 3rd bullet – Please insert "written" after the word "obtaining."	The text was revised as suggested.
10	Page 3-3, Section 3.1.3	8th bullet – Use of the second "the" in this sentence is unclear and should be clarified. Please consider revising the sentence to state: "Reuse of soil waste generated from one of the active remediation activities described above and in an area that has not yet received closure . . . ."	The typographical error was corrected and the sentence now reads as is suggested.
11	Page 3-5	first full paragraph – Regulatory agencies (at least USEPA after consultation with DTSC and RWQCB) do not "propose" modifications. If regulatory agencies determine that modifications are warranted, they are provided and become required.	The text has been edited to state that "Other government entities may propose modifications of this Pre-RACR RMP, including terminating specific conditions of

DTSC Office of Legal Affairs Pre- and Post-RACR RMP Comments			
No.	**Section(s)**	**DTSC Office of Legal Affairs Comment**	**Response**
			the Pre-RACR RMP, to the FFA signatories."
12	Page 4-1, Section 4.0	3rd bullet – The term "understanding of environmental conditions" must be defined in the document.	The bullet has been stricken from the document.
13	Page 4-1, Section 4.0	4th bullet – delete "of concern" following the word "issues."	The text was revised as suggested.
14	Page 4-1, Section 4.0	last paragraph, 1st sentence – SFRA should be added to the list at least in regards any parcel if it has knowledge.	In this instance the Owner includes the SFRA. No revision to the text was made.
15	Page 4-1, Section 4.1	Is there a submittal date that should be inserted?	The submittal date was added to the text as suggested.
16	Page 4-2, Section 4.2.1	1st sentence – Insert "at least" before "60." Change "prior to conducting" to "prior to any plan to conduct." Finally, delete "the specific."	The text was revised as suggested.
17	Page 4-2, Section 4.2.3	title of section – Shouldn't it just be "Completion Reports for …."?	The text was revised as suggested.
18	Page 4-3	first full paragraph, last sentence – Is 15 days reasonable or even possible under the best circumstances for a decision that would involve coordination between the Navy, USEPA, and DTSC?	The SFRA feels that 15 days is an adequate period of time to grant or deny an extension request. No change to the text was made.
19	Page 4-4, Section 4.3	2nd sentence – "delete with one or more" and indicate all will be notified and they will determine which regulatory agency (ies) need to be involved.	The first sentence of Section 4.3 states that the Owner will notify the FFA signatories in the event of the discovery of unexpected or previously unknown conditions. No change to the text was made.
20	Page 4-4, Section 4.3	3rd sentence – The criteria of "if work can continue safely" seems like an inadequate trigger to exclude regulatory involvement and should be further defined for clarification. This is mentioned in several sections of the document.	As noted above, the FFA signatories will be notified and become involved in the process through the notification. The text has been revised to indicate that the determination of "if work can continue safely" will be made in accordance with the ESHP (Environmental Health and Safety Plan) and the Unknown Condition Response Plan. The EHSP and the Unknown Condition Response Plan will be

DTSC Office of Legal Affairs Pre- and Post-RACR RMP Comments			
No.	**Section(s)**	**DTSC Office of Legal Affairs Comment**	**Response**
			agency approved documents.
21	Page 4-4, Section 4.4	It will be SFRA's obligation under the ETCA and AOC to perform all long-term obligations. The long-term obligations to ensure the integrity of the remedy require more than just compiling reports, but must also ensure compliance with the RMP. The documents must clearly define who (the City of SF or the Navy) will undertake these obligations.	Please see response to DTSC Comment 5. The SFRA will assume the responsibility for Navy obligations including: annual monitoring of RMP compliance activities, annual inspections and reporting, annual monitoring of long-term maintenance of the remedy, and ensuring annual enforcement of the RMP in the event of non-compliance by owners, lessees, permittees, tenants or any other party with the legal right to perform subsurface work on the property by referring non-compliant parties to SFDPH and DTSC.
22	Page 5-1, Section 5.0	title - Wouldn't "Pre-Cover Activities" be more appropriate than "Redevelopment"?	The section title was revised as suggested.
23	Page 5-1, Section 5.0	first paragraph, last line – Delete "construction" and replace it with "pre-cover." It is also unclear how "development and future maintenance within Parcels B and G" fits.	The sentence was edited to read "…soil vapor and/or groundwater encountered during pre-cover activities within Parcels B and G."
24	Page 5-1, Section 5.1	1st sentence – Delete "environmental health and safety plans" and the "()" around EHSPs since the acronym was defined earlier in Section 3.1.2.	The text was revised as suggested.
25	Page 5-1, Section 5.1	second paragraph, 1st sentence – Delete "construction."	The text was revised as suggested.
26	Page 5-1, Section 5.1	second paragraph, 1st sentence – It is DTSC's understanding that there will not be any "landscape areas containing only clean fill" so this phrase needs to be revised to indicate what specific situation the document addresses. Won't there be contaminated soil beneath the clean fill in all of the landscaped areas unless they are raised containers?	The text was revised to state that landscaped areas will contain a minimum of 2 feet of clean soil (soil cover) and that the 2 feet of clean fill will be placed on top of native soil.
27	Page 5-1,	second paragraph, 3rd sentence – Revise to read, "… any person,	The text was revised as suggested.

DTSC Office of Legal Affairs Pre- and Post-RACR RMP Comments			
No.	**Section(s)**	**DTSC Office of Legal Affairs Comment**	**Response**
	Section 5.1	including contractors or employers, of other ….”	
28	Page 5-1, Section 5.1	last paragraph, 2nd sentence – Revise to read, “… contractor or other person preparing an EHSP … of the EHSP ….”	The text was revised as suggested.
29	Page 5.2	first paragraph – The obligation to comply to the RMP(s) is not limited to contractors, but to everyone. Therefore, please add or revise the text to ensure all persons doing work at the property are noticed that they must comply with the RMP(s). For example, the city would not be considered a contractor nor would a property owner or his employees, etc.	The text was revised for clarification.
30	Page 5-2, Section 5.2.1	second paragraph, 1st sentence – Insert, “and any soil moved from Parcel A to Parcels B and G” after “G” and before “must.”	The text was revised as suggested.
31	Page 5-5, Section 5.5	2nd sentence – Was ABM defined earlier in the document?	No, but is now defined in this section.
32	Page 5.6, Section 5.5.1	1st sentence – Please add clarity to why the word “may” is used, i.e., explain when notification would not be required if such evidence of is discovered.	The word “may” was replaced with “would”
33	Page 5.6, Section 5.5.1	bullets – Please add a bullet that says, “Discovery of barrels, drums, or other containers that may contain or may have contained hazardous substances, or . . .”	The reference to the discovery of barrels, drums or other containers was added to Section 5.5.3 Subsurface Structures.
34	Page 5.6, Section 5.5.2	Is there a possibility that ABM from Operation Crossroads could be discovered? If so, why isn’t that detail mentioned as one of the possibilities?	Sand blast material generated during decontamination of Ships associated with Operation Cross Roads was disposed of at sea prior to December 4, 1946. As per the Navy response to EPA comments on the Draft Final Parcel B TMSRA Radiological Addendum, dated September 25, 2007, Parcel B is not suspected to contain ABM because applicable procedures called for controlled disposal of ABM in designated fill areas only. Any sand blast material generated during decontamination of Operation Cross Roads ships between

DTSC Office of Legal Affairs Pre- and Post-RACR RMP Comments			
No.	**Section(s)**	**DTSC Office of Legal Affairs Comment**	**Response**
			December 4, 1946 and 1947 would have been disposed as per these procedures. The portion of Parcel B included in this RMP was a developed industrial area during this time period. In addition, no radiological contamination was found associated with the ABM removed from Parcel G as part of a sandblast removal action. No revision to the text was made.
35	Page 5-7	first paragraph, last sentence – Insert "and any other applicable federal, state, or local laws" following "AOC"	The text was inserted as suggested. Additionally, reference to the AOC was deleted and a reference to the Unknown Contingency Response Plan was added.
36	Page 5-8, Section 5.6	Has the acronym "TMSRA" been defined earlier in the text?	The acronym is defined in Section 2.0.
37	Page 5-8, Section 5.6	first paragraph, last sentence – Please replace the words "to minimize" with "prevent" in regards to movement of groundwater contamination. In addition, please remove "residual" before "groundwater contamination."	The text was revised as suggested.
38	Page 5-9, Section 5.6.2	Please replace the word "Minimization" with "Prevention" in the section title. The same comment applies to Section 5.6.3.	The text was revised as suggested.
39	Page 5-14, Section 5.9	4th bullet – Shouldn't this say, "warning signs" and shouldn't there be a distance stated between signs?	The sentence has been revised to state "Post signs every 200 feet warning that contaminants within the fenced areas may be harmful to health"
40	Page 5-14, Section 5.9	last paragraph – It should be noted that SFRA is also responsible for ensuring compliance and not just monitoring if it is assuming all of the Navy's long term obligations. Also, consideration should be given to remove the last sentence since this document does not become effective unless the transfer takes place.	Please see response to DTSC Comment 5.

CA Regional Water Quality Control Board Pre- and Post-RACR RMP Comments			
No.	**Section(s)**	**CA RWQCB Comment**	**Response**
1 (a)	3.1.2	p. 3-2 – Regarding the demolition of hardscape such as asphaltic concrete, please indicate how this material will be disposed and/or reused at the site. For instance, in Appendix D, page D-6, there is mention of the crushing of concrete for recycling/reuse. Will asphaltic concrete be similarly crushed/milled and reused, and if so, how? Also see comment #1b in my September 3, 2010 letter. (September 3, 2010 RWQCB letter entitled *Comment on the draft Final Remedial Design Package, parcel B (Excluding Installation restoration Site 7 and 18)* dated July 30, 2010).	Recycled asphaltic concrete (AC) will only be used as a fill material placed under new road or building construction.
1 (b)	5.7	(Stormwater management Controls), p. 5-10 – Please note that, for any excavations or soil disturbance areas greater than one acre in size at a construction site that is contaminated, give the proximity to San Francisco Bay and site-specific impacts (by CERCLA and non-CERCLA non-visible chemicals), Region Water Board staff require that a Pollutant Source Assessment (PSA) be developed and included with a Storm Water Pollution Prevention Plan (SWPPP). The PSA should identify and non-visible pollutants that should be additionally monitored under the appropriate risk level. Background information regarding non-visible pollutant monitoring at contaminated sites is provided in the September 2, 2009 *Construction General Permit Fact Sheet*	A Pollutant Source Assessment (PSA) will be included as an element of the Storm Water Pollution Prevention Plan.
2		Please extend my comments on the Pre-RACR RMP to the Post-RACR RMP	Comment noted.

EPA Pre- and Post-RACR RMP Comments			
General Comments			
No.	**Section(s)**	**EPA Comment**	**Response**
1	General	The RMP should contain cross-referencing to ensure that a reader who fails to read the entire document would know if the section they are reading does not contain all the pertinent information. For example, Section 3.1.2 should refer to the section where the document discusses how the designation of "no impacts to areas	The RMPs were reviewed and cross-references were added where appropriate.

EPA Pre- and Post-RACR RMP Comments			
General Comments			
No.	**Section(s)**	**EPA Comment**	**Response**
		of known groundwater contamination" is determined.	
2	General	Some sections of this document may change as the AOC is revised; thus, we did not comment on the substance of these sections. Section 1.3 discusses compliance monitoring. Since the roles are still being defined, we are not going to comment on the text of this section. Likewise, since the annual inspection requirements are still in discussion, we did not review Appendix B.	Comment noted.
3	General	The RMP relies on access to the Information Repositories in order for users to get more information. The Navy and the City should be clear about the long-term responsibilities for maintaining an up to date information repository.	Agreed, the maintenance of the Information Repositories needs to be addressed in the ETCA, AOC or related documents. No revision to the text was made.
4	General	For the Post RACR RMP, Sections 4.1 and 4.2.1 should reference Section 5.2, which discusses the requirement of restoring the disturbed cover to the specifications in the ROD.	A reference to Section 5.2 was added to the sections as requested.
5	General	The term post-RACR is useful for us now, but when the post-RACR RMP actually becomes applicable, the concept of pre- and post-RACR will be irrelevant. Consider changing the title of the post-RACR RMP to Long Term RMP.	At this time we will maintain the title as Post-RACR RMP recognizing that following remedial action completion it may be appropriate to change the title to "Long-Term RMP" or "Certification of Completion RMP" or something similar. It will be up to the oversight agencies in the future to decide whether a name change will be useful. No revision to the text was made.
6	General	The AOC acronym is used for two different meanings, "Administrative Order on Consent" and "Area of Concern." Please spell out the phrase for at least one of these definitions.	Area of Concern was spelled out throughout the document.

EPA Pre- and Post-RACR RMP Comments			
Pre-RACR RMP Comments: Specific Comments are divided based on the RMP referenced in the comments. However, since the two RMPs contain a lot of the same language, both RMPs should be revised based on the comments when applicable.			
No.	**Section(s)**	**EPA Comment**	**Response**
1	2.0	Environmental Conditions: The first paragraph refers to a Parcel	The text was revised as suggested.

EPA Pre- and Post-RACR RMP Comments			
Pre-RACR RMP Comments: Specific Comments are divided based on the RMP referenced in the comments. However, since the two RMPs contain a lot of the same language, both RMPs should be revised based on the comments when applicable.			
No.	**Section(s)**	**EPA Comment**	**Response**
		D report, which can be confusing for those unaware of the parcel history at Hunters Point Shipyard (HPS). Please explain that Parcel G was once part of Parcel D.	
2	2.1	Soil and Sediment Conditions: This section should specify that the Water Board is the lead regulatory agency for petroleum contamination. This section should also specify the lead regulatory agency for the UST program.	The text was revised as suggested.
3	2.1	Soil and Sediment Conditions: In the last sentence, please delete "more than". Also, it would be helpful to point out that air monitoring results will be analyzed to confirm the BMPs are working.	The text was revised as suggested.
4	2.4	Selected Remedies: The third bullet states that the soil with residual ubiquitous metals "could not be excavated or removed." Please remove this phrase since the soil could technically have been excavated or removed, even though it was not practical to do so.	The text was revised as suggested
5	3.1.3	Restricted Activities Requiring FFA Signatory Approval: This section should note that once hot-spot excavation is complete, the areas that required hot-spot excavation should be treated just like any other area with respect to pre-approved activities.	Because the Navy has completed the hot-spot excavations, reference to soil hot spot excavation has been removed from the text.
6	3.3	Modifications to the Pre-RACR RMP: The first sentence of the second paragraph states that the Oversight Agencies may present changes to the RMP to the FFA signatories. In this document, "Oversight Agencies" refers to the FFA signatories plus the SFDPH. This wording is confusing. Please revise the section to state the SFDPH (or the city more broadly), may propose changes to the RMP to the FFA signatories. The next paragraph covers the FFA signatories making changes. In addition, this paragraph should be clearer about which "parties" must agree to the changes. Can the FFA signatories make changes without agreement from SFDPH?	The section was edited to remove reference to "Oversight agencies" and now reads "Other government entities may propose modifications of this Pre-RACR RMP…" The third paragraph was revised to state that changes will be agreed upon between the FFA signatories in consultation the SFDPH. Legally we believe that FFA signatories can make changes without SFDPH buy-in. However, since SFDPH is an oversight

EPA Pre- and Post-RACR RMP Comments			
Pre-RACR RMP Comments: Specific Comments are divided based on the RMP referenced in the comments. However, since the two RMPs contain a lot of the same language, both RMPs should be revised based on the comments when applicable.			
No.	**Section(s)**	**EPA Comment**	**Response**
			agency, especially for the DCP, consultation would be advised.
7	4.0	Reporting and Notice Protocols: The last two bullets in the first list are very similar. Please consolidate them into one or clarify how they are different.	The second to the last bullet has been deleted.
8	4.2.1	Notification Prior to Restricted Activities Which Require FFA Signatory Approvals: During the 30 day comment period, the FFA signatories should also have the opportunity to request an extension in the same manner that the FFA allows for extensions. If a comment letter, an approval or an extension request is not received after 30 days, the party requesting the approval should make at least one more attempt to contact the regulatory agencies before assuming that there are no comments.	The paragraph has been revised to include the extension request language and the acceptance by default language. The Owner will work closely with the FFA signatories and will be in contact with them prior to the comment due date.
9	4.2.3	Completion Notifications and Reports for Restricted Activities which Required FFA Signatory Approval: The second paragraph states that "Extension requests will be granted within 15 calendar days of receipt of the written extension request." Extension requests may also be denied.	The following language was added to the section for clarification: "Extension requests will be granted, <u>or may be denied,</u> within 15 calendar days of receipt of the written extension request."
10	4.2.3	Completion Notifications and Reports for Restricted Activities which Required FFA Signatory Approval: The third paragraph allows 30 calendar days for the FFA signatories to review the completion report and provide comments on deficiencies. The review requirements should allow for extensions and include an acceptance by default clause if the FFA signatories do not comment. Example language: The FFA signatories may extend the thirty-day comment period for an additional thirty days by written notice to the party seeking approval prior to the end of the thirty-day period. The completion notification/report will be considered approved and final unless regulators submit comments or a request for an extension within 30 calendar days from their receipt of the document.	The example language was added to the section.

EPA Pre- and Post-RACR RMP Comments			
Pre-RACR RMP Comments: Specific Comments are divided based on the RMP referenced in the comments. However, since the two RMPs contain a lot of the same language, both RMPs should be revised based on the comments when applicable.			
No.	**Section(s)**	**EPA Comment**	**Response**
11	4.3	Notification Requirements for Changes in Understanding of Environmental Conditions or Discovery of Unknowns: This section must provide for the regulatory agencies to make the determination that work can be safely resumed if unexpected conditions are encountered. Section 5.5 should also include this requirement	In the event that unexpected or previously unknown conditions are encountered the Owner will follow the protocols outlined in an agency approved EHSP and an agency approved Unknown Condition Response Plan.
12	4.4	Annual Reports: Will the annual reports go by calendar year? If so, the reports should be submitted earlier than September.	We suggest that Annual Reports should be written and submitted soon after annual inspections are conducted. We propose that annual inspections be conducted during nice weather to facilitate ease of inspection. We therefore suggest that inspections will be conducted in May and reports will be submitted no later than June 30.
13	5.5	Unexpected Conditions: The first paragraph mentions ABM before it is defined in the document. Please add a reference to the appropriate section. Since ABM is likely to be encountered, a protocol for addressing it should be developed under the AOC and referenced in 5.5.2.	The definition of ABM was added to Section 5.5. Reference to the AOC has been deleted. The sentence has been revised to state that ABM will be handled as per the Unknown Condition Response Plan, will be disposed off-site and will be subject to the requirements of applicable federal, state, and local laws.
14	5.6	Groundwater Management Protocols: This section refers to the "most recent groundwater data," without a clear description of where the data can be found. The document should refer the user to the most recent groundwater monitoring report that has been reviewed and approved by the FFA signatories.	A reference to the most recent groundwater report has been added to the section.

EPA Pre- and Post-RACR RMP Comments
Post-RACR RMP Comments

DRAFT Responses to Comments on the August 2010
Parcels B and G Pre-and Post-Remedial Action Completion Report Risk Management Plans

No.	Section(s)	EPA Comment	Response
1	1.0	Introduction, Page 1-1, First paragraph: Move the third and fourth sentences (These agencies plus the Navy… the remediation of HPS.) to Section 3.1.	The text was revised as suggested.
2	1.0	Introduction, Page 1-1, First paragraph: Delete the last sentence and change the second to last sentence to: "Pre-approved restricted activities and restricted activities that require approval are described later in Section 3."	The text was revised as suggested.
3	1.0	Introduction, Page 1-1, Second paragraph: Move the discussion of deed restrictions after the description of the restricted activities, then shorten the deed restriction discussion. Remove the last two sentences of the current second paragraph. New language: *The following restricted activities are defined in the Parcel B ROD Amendment (ChaduxTt, 2009) and the Parcel G ROD (Navy, 2009).* • *"Land disturbing activity" which …* • *Alteration …*	The text was revised as suggested.
4	1.1	Post-RACR RMP Scope, First Paragraph: Change to: *This Long-Term RMP governs Restricted Activities on land where the remedy implementation phase is complete and the Regulatory Agencies have approved the Remedial Action Completion Report (see Figure 1). This RMP is the only one that should be used once the remedy has been completed and approved.*	The text was revised as suggested, however, the term long-term RMP was not used – see response to EPA General Comment 5.
5	1.1	Post-RACR RMP Scope, Second paragraph: Delete this entire paragraph, as it is redundant with the following paragraph.	The text was revised as suggested.
6	1.1	Post-RACR RMP Scope, Third paragraph: Move the second sentence to the end of the paragraph. It interrupts the logic flow.	The text was revised as suggested.
7	1.1	Post-RACR RMP Scope, Last paragraph: The last sentence of this paragraph needs more commas or other grammatical help.	The text was revised as suggested.
8	1.3	Compliance Monitoring: Move/merge this section into Section 4. This is too much legalese detail for the introduction. Delete all of the "may" and "subject to" and "if the SFRA assumes" language. For example, delete the last sentence because at the time of this RMP becoming effective, we will know who is responsible.	As discussed in the meeting on December 16, Section 1.3 was moved into Section 4.0. The text was edited as suggested.

EPA Pre- and Post-RACR RMP Comments			
Post-RACR RMP Comments			
No.	**Section(s)**	**EPA Comment**	**Response**
9	2.0	Summary of Environmental Conditions: Section 3.1 is the purpose of the document and it will be easier for future users if it comes right away. Please consider moving Section 2 to after Section 4.	It seems equally important that the summary of the environmental conditions and discussion of the selected/implemented remedies be presented early in the report. No change was made to the text.
10	2.0	Summary of Environmental Conditions: Change the beginning of the paragraph to: *Soil and groundwater investigations were conducted by the Navy within Parcels B and G to characterize the environmental conditions. Significant source areas that could impact human health and the environment were remediated by the Navy prior to transfer. Risk evaluations have been performed to confirm …*	The text was edited as suggested.
11	2.1	Soil and Sediment Conditions, Second paragraph: Change "remain" to "remained" in the last sentence. Add the following sentence to the end of the paragraph: "These issues were addressed by the SFRA prior to occupation of the land."	The text was edited as suggested.
12	2.1	Soil and Sediment Conditions, Third paragraph: There is no need to go through the regulatory CERCLA/RCRA/UST discussion in this document. Also, most of this discussion is about conditions pre-RACR. The discussion should focus on what was there before cleanup and what is there after cleanup. Please replace this paragraph with a short description of spill or leak areas with a placeholder for a description of the post-cleanup conditions.	The text discussing the relationship of CERCLA/RCRA/UST programs has been deleted as requested. The remainder of the petroleum hydrocarbon program discussion will be updated upon completion of the ongoing investigation at the Combined Sites Areas of Concern.
13	2.1	Soil and Sediment Conditions, Third paragraph, First sentence: Were radionuclides really identified in Parcel B sediments at the revetment wall?	Reference to the presence of radionuclides in shoreline sediments has been stricken from the RMPs.
14	2.1	Soil and Sediment Conditions, Last paragraph: Delete the second sentence; comparing chrysotile to crocidolite is irrelevant here.	The text was edited as suggested.
15	2.2	Groundwater Conditions, First paragraph: Change the commas around "mainly trichloroethene and its breakdown products" to parentheses.	The text was edited as suggested.

EPA Pre- and Post-RACR RMP Comments			
Post-RACR RMP Comments			
No.	**Section(s)**	**EPA Comment**	**Response**
16	2.2	Groundwater Conditions, First paragraph: Change the risk assessment sentence to: *The results of the Human Health Risk Assessment show that risk from exposure to vapors from the groundwater exceeded the excess lifetime cancer risk threshold in several areas in Parcel B (ChaduxTt, 2009) prior to the completion of the remedy.*	The text was edited as suggested.
17	2.2	Groundwater Conditions, First paragraph: The last sentence describes current conditions, not conditions at the time of implementation of this document. Either update the last sentence or put in a placeholder for update.	A placeholder will be added to include the most recent groundwater sample results when available.
18	3.1	Regulatory Oversight: Switch the order of the second and fourth bullets to correspond to their timing in the process.	The text was edited as suggested.
19	3.1.1	Pre-Approved Restricted Activities: This section is the reason for the entire RMP, so it should be more fully developed. Please separate the numbered activities into a numbered bullet list. Then add descriptions to them. For example, the first pre-approved activity is "excavation of soil". You must describe here what exactly is pre-approved, i.e., excavation that penetrates the cover, so long as the excavated soil is placed back below a cover or disposed off-site and that the cover is re-installed. Several activities need similar language explaining that native soil must be controlled and placed back under the cover and a new cover placed. Some of the examples then also need similar language. Some of the information from Section 5.2 should be moved here.	Additional information/descriptions of the activities were added to this section as requested.
20	3.1.2	Restricted Activities Requiring FFA Signatory Approval: Please remove "soil cap/containment [except as specified below]" from the second bullet. Although this language is in the ROD, it is not applicable here. Firstly, there is no "cap" in the RMP area. Please always use the word "cover". Secondly, as noted in the previous section, the cover can be disturbed as a pre-approved activity. The only cover disturbance specified below is for greater than one-acre, which does not matter in this bullet.	The text was edited as suggested.

EPA Pre- and Post-RACR RMP Comments			
Post-RACR RMP Comments			
No.	**Section(s)**	**EPA Comment**	**Response**
21	3.1.3	Areas Requiring Institutional Controls (ARICs) for Volatile Chemicals: Please remove "in accordance with the CRUPs, deed(s) and LUC RD" from the first sentence. Please change "will" to "may in the second to last sentence. Please change "will" to "shall" in the last sentence.	The text was edited as suggested.
22	3.3	Modifications to the Post-RACR RMP: Change this section to be consistent with Pre RACR Comment 6 above.	The text was edited as suggested. Please see response to Comment 6 above.
23	4.0	Reporting and Notice Protocols: Remove "(i.e., contamination discovered during redevelopment activities)" from the last bullet. This RMP will only apply after development is complete, or nearly so.	The text was edited as suggested.
24	4.0	Reporting and Notice Protocols: The first sentence of the text after the bullets: "Notifications are the responsibility of the Owners, Lessees, permittees, tenants or any other party" does not agree with the first sentence of Section 4.1, which only states "Owners". Perhaps change both to "Owners or their assignees" or other similar language.	Section 4.1 has been revised. "Owner" was replaced with "SFRA" and "SFRA" was replace with "FFA signatories"
25	4.1	Reporting for Pre-Approved Restricted Activities: Please remove "or other entity as provided in Section 1.3)". We will know who the entity is.	The text was edited as suggested.
26	4.1	Reporting for Pre-Approved Restricted Activities: Please change "identifying" to "and will identify" in the second sentence.	The text was edited as suggested.
27	4.4	Annual Reports: Please remove all instances of "as provided in Section 1.3". See Pre RACR comment regarding timing of report.	"as provided in Section 1.3" was stricken from Section 4.4.
28	5	Risk Management Procedures and Protocols During Development: The title and some of the focus of this section should be changed from "During Development" to "During Soil Disturbing Activities".	The text was edited as suggested.
29	5.2	Durable Cover Protocols: Hardscape and Landscaped Areas: Delete the last sentence.	The text was edited as suggested.
30	5.3.1	Movement of Soil: Revise sentence regarding loading of trucks	The sentence has been revised.
31	5.5.2	Abrasive Blast Material (ABM): Procedure for evaluating and	Text was added indicating that ABM, if

EPA Pre- and Post-RACR RMP Comments			
Post-RACR RMP Comments			
No.	**Section(s)**	**EPA Comment**	**Response**
		managing non-rad ABM should be included in SOW and referenced here.	found, will be handled as per the Unknown Condition Response Plan. Language describing handling of ABM may be added to the SOW if appropriate.
32	5.6	Soil Import Criteria: There may be a problem with import soil being able to meet CHHSLs for residential soils. You may want to consider adding "or background levels".	Agreed. "or background levels" was added to the sentence in question.
33	5.7.2	Section 5.7.2, Minimization of the Potential for Creation of Conduits: Add another subsection on conduits for soil vapor.	A subsection on minimization of the creation of conduits for soil vapor was added to Section 5.7.2.
34	5.11	Risk Management Measures to be Implemented During Development Activities in Areas of Special Concern: Change "Development" to "Construction or Excavation".	The text was edited as suggested.
35	5.11.2	Sediments Outside of Post-RACR RMP Area: Should this be part of the RMP? AOC needs to address disturbance of sediments.	This comment was resolved in the RMP RTCs meeting on December 16. No revisions to the text were necessary.

Navy Pre- and Post-RACR RMP Comments			
Pre-RACR RMP Comments			
No.	**Section(s)**	**Navy Comment**	**Response**
1	TOC	1.3 Compliance Monitoring is missing.	The table of contents has been revised to include Section 1.3.
2	1.1	Section 1.1 - Pre-RACR RMP Scope. Throughout the document the terms "Pre-RACR" and "Post-RACR" have been referenced. However, shouldn't the document really refer to the "Certificate of Completion" since the area of concern does not have official regulatory closure until a Certificate of Completion is given vs the RACR.	As discussed in the RMP RTCs meeting on December 16, the current RMP titles will remain with the understanding that the title of the Post-RACR RMP may be changed in the future to "Certificate of Completion Risk Management Plan" or Long-Term Risk Management Plan" or other similar title. It will be up to the oversight agencies in the future to decide whether a name change will

Navy Pre- and Post-RACR RMP Comments			
Pre-RACR RMP Comments			
No.	**Section(s)**	**Navy Comment**	**Response**
			be useful. No revision to the text was made.
3	1.1	Section 1.1 - Second paragraph. The words, "soil hot spot excavation" should be deleted since the Navy has already removed all soil hot spots that are discussed in the ROD.	"Soil hot spot excavation" has been deleted from the sentence.
4	1.1	Section 1.1 - The Pre-RACR RMP should include the descriptions of "cut and fill". The preparation of the site prior to the construction of the parcel-wide cover needs to specify that it is included in the pre-RACR vs. the Post-RACR	The list of Pre-Approved Restricted Activities (Section 3.1.2) includes "grading or other movement of soil" and cites specific examples as "grading for the purpose of raising and/or lowering site grade, creation of building pads, fine grading activities in support of road installation…" these activities would include cutting and filling. No revision to the text was made.
5	1.3	Section 1.3 - Compliance Monitoring: First sentence - Change the "Navy may transfer" to the "Navy intends to transfer".	The text was edited as suggested.
6	2.0	Section 2.0 - summary of environmental conditions - Add the words "and soil vapor" to the first sentence so it reads, "Soil, groundwater and soil vapor investigations were conducted by the Navy within Parcels B and G.	The text was edited as suggested.
7	2.1	Section 2.1 - Soil and Sediment Conditions - Please add that Parcel G does not have any sediment concerns since it is not bordered by any water. - third paragraph - Please replace the TPH sentence of, "The Navy currently is developing a work plan to complete additional investigation at this site during the summer/fall of 2010" with "The Navy has completed all fieldwork and investigations of the Parcel B petroleum combined sites in Fall of 2010."	The text was edited as suggested.
8	2.2	Section 2.2 - Groundwater Conditions - 2nd paragraph. Do you want to add the pickling tank removal report? I suggest you add	The text was revised to indicate that the Pickling and Plating Sump removal will be

Navy Pre- and Post-RACR RMP Comments			
Pre-RACR RMP Comments			
No.	**Section(s)**	**Navy Comment**	**Response**
		the Parcel G RACR instead. The documentation of the tank removal can be included into the final RACR.	documented in the Parcel G RACR.
9	3.1.2	Section 3.1.2 - Pre-approved restricted activities - should add language of the pre-approval of preparation or cut and fill work.	Please see response to Comment 4.
10	3.1.3	Section 3.1.3 Restricted Activities Requiring FFA Signatory Approval - "Land disturbing activities" that causes or facilitates the movement of any known contaminated groundwater. I added in the "any" to this sentence to also make sure that land disturbing activities do not affect the plumes on Parcel B or G and other adjacent parcels.	The text was edited as suggested.
11	3.1.4	Section 3.1.4 - Areas requiring ICs for Volatile Chemicals - Delete the sentence, "The design criteria for vapor mitigation systems in buildings constructed within ARIC's for volatile chemicals are described in the RD and further refined in the RA Work Plan." Design criteria is not included in the RD. The RD states that soil vapor that causes indoor air issues must be low enough to be protective of HH and the environment.	The text was edited as suggested.
12	3.1.6	Section 3.1.6 - Compliance with requirements of public agencies that are not parties to the FFA. - Should CDPH be on this list?	The CDPH was not included because it is anticipated that the agency will have closed out all outstanding radiation programs on Parcels B and G.
13	3.4	Section 3.4 - Public Repository of RMP - Anna E Waden Bayview Library will be closing in December 2010.	Our understanding is that the closure is for renovations. It will be reopened at some point and then we intend to continue using it as a public repository.
14	4.0	Section 4.0 - Reporting and Notice Protocols - 4th bullet. This is getting complicated, is the "cut and fill" operation to prepare the site for the installation of 2' soil cover considered remediation or redevelopment? The insurance states that this practice is remediation since it occurs before a RACR or CC is given. However the permits required for the cut and fill indicate that the activity is re-development. Which one should it be, does it matter	In the context of the RMP cutting and filling are a part of grading which is a Pre-Approved Restricted activity.

Navy Pre- and Post-RACR RMP Comments			
Pre-RACR RMP Comments			
No.	**Section(s)**	**Navy Comment**	**Response**
		what we call it?	
15	4.2.3	Section 4.2.3 - Completion Notifications and reports - 9th bullet - should be a California licensed PE. Section 4.3 - see comment for section 4.0 above.	The text was edited as suggested. In the context of the RMP cutting and filling are a part of grading which is a Pre-Approved Restricted activity.
16	5.0	Section 5.0 - Risk Management Procedures and Protocols during redevelopment. Do we have any redevelopment activities during the pre-RACR time frame. See comment 4.0.	Re-development activities during the pre-RACR may include construction of buildings that might serve as the durable cover.
17	5.2.2	Section 5.2.2 - Soil Stockpile Management Protocols - add BMPs.	The text was edited as suggested.
18	5.5.2	Section 5.5.2 - last paragraph - I don't remember the AOC describing the disposal of ABM.	Reference to the AOC was deleted from this section.

IC Inspection and Reporting Frequency and Responsibility			
No.	**Section(s)**	**Navy Comment**	**Response**
1		The IC Inspections and reporting need to represent the concerns in the RMP, the LUC RD and the OMP. A consolidated format of the reporting should be implemented.	Agreed. Copies of the IC Monitoring Report and the O&M Inspection Record will be included with the Post-RACR RMP as part of the Annual Inspection Report package.
		In order to formalize these comments, we need to address and resolve some overlapping language and documentation in the LUC RD reports, O&M reports, RMPs, and TSRS. The LUC RD should be the definitive document addressing this issue (because it is a CERCLA document) and the other documents should conform to the LUC RD reports. The RMP should merely reflect what is already in the CERCLA documents addressing these issues.	
2		I also note that there are two categories of inspections that are generally required for monitoring compliance with CERCLA remedial action requirements that we need to keep in mind as we address this issue:	*Please see response to Comment 1.*
		i) Inspections and reporting addressing compliance with	

		institutional controls (largely focused on ICs prohibiting or restricting certain conduct (e.g., certain land uses and activities). LUC RD -based inspections and reports address these IC requirements.	
IC Inspection and Reporting Frequency and Responsibility			
No.	**Section(s)**	**Navy Comment**	**Response**
		ii) Inspections and reporting addressing affirmative remedial obligations such as O&M requirements for engineering controls (ECs)). An example of the latter is the requirement to inspect the integrity of cap/covers to ensure that affirmative RCRA O&M ARARs are complied with, e.g., the affirmative legal RCRA "relevant and appropriate" ARAR requirement (identified in the RODs) requiring repair of damage to remedial covers resulting from natural erosion processes. CERCLA O&M reports cover these affirmative O&M requirements for ECs.	
		These two categories of inspections and their related reporting requirements have separate and distinct legal bases. However, in the past, we have allowed and encouraged combined inspections and reports that cover both in order to avoid duplication and gain efficiency. The downside is that these coordination /integration practices appear to have caused some confusion regarding the difference between ICs and O&M ECs.	As stated above, copies of the IC Monitoring Report and the O&M Inspection Record will be included with the Post-RACR RMP as part of the Annual Inspection Report package. The SFRA will assume the responsibility for annual inspections and reporting as described in Section 4.4.
	b. Unexpected Conditions.	Section 5.5 of the RMP defines Unexpected Conditions and how to respond to them. Shouldn't the definition of "Unexpected Conditions" be the same as the definition of "Unknown Conditions" in the ETCA? The Navy is currently taking the position that some of the types of contamination described in this section are reasonably expected and known.	RMP focuses on unexpected conditions from a health and safety perspective (protection of workers), proper characterization and proper disposal. Unexpected conditions are not the same as Unknown Conditions being discussed in the ETCA.
	c. Deed Restrictions	Is it anticipated that there will be a need for legally enforceable deed restrictions? If so, it remains unclear how portions of the RMP (or the TMSRA, Parcel B ROD Amendment, Parcel G ROD and RD/RA, and Remedial Implementation Reports - see Article 2.4) will become coherent, comprehensive and legally enforceable deed restrictions.	Deed restrictions or other legal documents will not be generated as part of the RMP process.

		Article 4.7 states that "The ICs reference the Post-RACR RMP and requires compliance with its provisions" and "The Owners who have executed or become bound by the ICs have also agreed by its terms to provide a copy of the Post-RACR RMP governing the parcel being transferred to applicable lessees and/or transferees." These statements in the context of Article 4.7 (and CCC 1471) suggest that the ICs themselves may be stated in the Post RACR RMP and simply referenced in the deed. There are a couple of potential problems with this approach. First, the specific ICs/covenants to be enforced under the deed should not be separated from the deed. Attaching the covenants to the deed is an option. However, the covenants must be written as legally enforceable deed covenants.	
		Any deed notifications should be expressly identified as well.	No deed notifications or restrictions will be generated by the RMPs. The RMPs are just stating what is documented elsewhere and will be used to guide contractors conducting work on the property.

PARCELS B AND G POST-REMEDIAL ACTION COMPLETION REPORT

RISK MANAGEMENT PLAN

HUNTERS POINT SHIPYARD

SAN FRANCISCO, CALIFORNIA

WORKING DRAFT

January 2011

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ACRONYMS AND ABBREVIATIONS

ABM	Abrasive blast material
ADMP	Asbestos Dust Mitigation Plan
AOC	Administrative Order on Consent
ARIC	Area requiring institutional controls
ATCM	Airborne Toxic Control Measures
BAAQMD	Bay Area Air Quality Management District
BCDC	San Francisco Gay Conservation and Development Commission
BMP	Best Management Practice
CCR	California Code of Regulations
CCSF	City and County of San Francisco
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CHHSLs	California Human Health Screening Levels
CIH	Certified Industrial Hygienist
COCs	Chemical of concern
CRUP	Covenants to Restrict use of Property
DCP	Dust Control Plan
DTSC	California Department of Toxic Substance Control
EHSPs	Environmental Health and Safety Plans
FFA	Federal Facilities Agreement
GMP	Groundwater Management Plan
HPS	Hunters Point Shipyard
ICs	Institutional controls
LUC	Land use control
NOA	Naturally occurring asbestos
NOI	Notice of intent

NPDES	National Pollutant Discharge Elimination System
O&M	Operation and maintenance
OSHA	Occupational Safety and Health Administration
OVA	Organic vapor analyzer
OVM	Organic vapor monitor
PAHs	Polycyclic aromatic hydrocarbons
PCBs	Polychlorinated biphenyls
PPE	Personnel protective equipment
QSD	Qualified SWPPP Developer
RA	Remedial Action
RACR	Remedial Action Completion Report
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
ROD	Record of Decision
RMP	Risk Management Plan
RWQCB	Regional Water Quality Control Board
SFDPH	San Francisco Department of Public Health
SFPUC	San Francisco Public Utilities Commission
SFRA	San Francisco Redevelopment Agency
SIP	Soil Importation Plan
SSHO	Site Safety and Health Officer
SVE	Soil vapor extraction
SVOCs	Semi-volatile organic compounds
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	California State Water Resources Control Board
TCRA	Time-critical removal action
TMSRA	Technical Memorandum in Support of a ROD Amendment

USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USTs	Underground storage tanks
VOCs	Volatile organic compounds
WDRS	Water Discharge Requirements

1.0 INTRODUCTION

In accordance with the final Records of Decision (RODs) for Parcels B and G at the former Hunters Point Shipyard (HPS) in San Francisco, California, environmental cleanup activities were implemented to provide for protection of human health and the environment. The cleanup activities are overseen by the United States Environmental Protection Agency (USEPA), the California Department of Toxic Substances Control (DTSC) and the Regional Water Quality Control Board (RWQCB). This Post-Remedial Action Completion Report Risk Management Plan (hereafter referred to as the Post-RACR RMP) has been prepared for Parcels B (excluding Installation Restoration [IR] Sites 7 and 18; See Section 1.1) and G to provide procedures and protocols that shall be used to conduct "pre-approved restricted activities" and "activities that require approval" on Parcels B and G following transfer of property from the Navy to other landowners where the remedy has been implemented. Pre-approved restricted activities and restricted activities that require approval are described later in Section 3.

The following restricted activities are defined in the Parcel B ROD Amendment (*ChaduxTt, 2009*) and the Parcel G ROD (*Navy, 2009*):

- "Land disturbing activity" which includes, but is not limited to: (1) excavation of soil; (2) construction of roads, utilities, facilities, structures, and appurtenances of any kind; (3) demolition or removal of "hardscape" (for example, concrete roadways, parking lots, foundations, and sidewalks); (4) any activity that involves movement of soil to the surface from below the surface of the land; and (5) any other activity that causes or facilitates the movement of known contaminated groundwater.

- Alteration, disturbance, or removal of any component of a response or cleanup action (including, but not limited to, pump-and-treat facilities, soil vapor barriers, revetment walls and shoreline protection, and soil cap/containment systems); groundwater extraction, injection, and monitoring wells and associated piping and equipment; or associated utilities.

- Extraction of groundwater and installation of new groundwater wells.

- Removal of or damage to security features (for example, locks on monitoring wells, survey monuments, fencing, signs, or monitoring equipment and associated pipelines and appurtenances).

The RODs provide that the activity restrictions will be enforceable through Covenant(s) to Restrict Use of Property (CRUPs) and deed restrictions. Institutional controls (ICs) are enforced in the form of the deed(s) and CRUP(s), which are recorded in the official records of the City and County of San Francisco (CCSF) against all parcels that are subject to this Post-RACR RMP and run with the land under California Civil Code 1471.

Additionally, the RODs specify the following activity restrictions related to the potential exposure to volatile chemicals in the subsurface soil vapor

- Any proposed construction of enclosed structures within the area requiring institutional controls (ARIC) for volatile chemicals must be approved by the FFA signatories in accordance with the CRUPs, Quitclaim deed(s), Land Use Control (LUC) Remedial Design (RD), prior to the conduct of such activity to ensure that the risks of potential exposures to volatile chemicals are reduced to levels that are adequately protective of human health. Initially the ARIC will include portions of Parcels B and G as presented in Figures 2 and 3. No potential source areas were identified and no fill material is present within Redevelopment Block 4, therefore Redevelopment Block 4 was not included within the Parcel B ARIC for volatile chemicals. The reduction in potential risk caused by the presence of volatile chemicals can be achieved through engineering controls or other mitigation measures that meet the specifications set forth in the amended ROD, RD reports, LUC RD report, and the RMPs. The ARIC for volatile chemicals may be modified by the FFA signatories as the soil contamination areas and groundwater contaminant plumes that are producing unacceptable vapor inhalation risks are reduced over time or in response to further soil, vapor, and groundwater sampling and analysis for VOCs, SVOCs including PAHs and pesticides, that establishes that areas now included in the ARIC for volatile chemicals do not pose an unacceptable potential exposure risk to volatile chemicals.

The Post-RACR RMP is organized as follows:

Section 2.0 Summary of Environmental Conditions: Provides a description of soil and groundwater conditions and the selected remedies.

Section 3.0 Site Activities Regulatory Protocols: Describes pre-approved activities, activities requiring notification and approval, description of Areas Requiring Institutional Controls (ARICs) for VOCs and procedures to modify the Post-RACR RMP. Lists public repository.

Section 4.0 Reporting and Notice Protocols: Describes reporting and notification process, including notification entities, activities requiring notification and completion report requirements and approvals and annual reports.

Section 5.0 Risk Management Procedures and Protocols during Development: Presents risk management measures which must be implemented during performance of development and maintenance activities.

Section 6.0 References: Lists references used in the preparation of this Post-RACR RMP.

1.1 Post-RACR RMP Scope

This Post-RACR RMP governs restricted activities on land where the remedy implementation phase is complete and the Regulatory Agencies have approved the Remedial Action Completion Report (Figure 1). This RMP is the only one that should be used once the remedy has been completed and approved.

Over time property will be transferred from the Pre-RACR RMP status to the Post-RACR RMP status until all property has received Regulatory Agency approval of the RACR. Thus, the geographic area for which this Post-RACR RMP applies will be dynamic and the geographic boundaries will change with time as the remedy, including the durable cover, is installed and approved by the FFA signatories. When changes to the RMP applicability are made, copies of Figure 1 in both this Post-RACR RMP and the Pre-RACR RMP will be updated simultaneously and will be made available in the Hunters Point Shipyard information repositories (Section 3.4) and on the San Francisco Department of Public Health (SFDPH) Hunters Point Shipyard Redevelopment website (http://www.sfdph.org/dph/EH/HuntersPoint/default.asp). This Post-RACR RMP will be required as long as a durable cover requirement exists as part of the remedy and constituents of concern remain at the property above levels that pose risks to human health in an unrestricted land use scenario.

This Post-RACR RMP was prepared solely for use within the Post-RACR RMP Area and is not intended to be applied for the management of risks within any area or project not otherwise explicitly identified in the Post-RACR RMP. Although this Post-RACR RMP sets forth the requirements to appropriately manage the potential risks in soil and groundwater following remedy installation, the Post-RACR RMP is not intended to catalog all other legal requirements that may apply to the project or to activities conducted under the Post-RACR RMP such as, but not limited to: worker health and safety as governed by the Occupational Safety and Health Administration (OSHA) and compliance with Article 31 of the San Francisco Health Code. Article 31 contains special permit processing requirements that apply at Hunters Point Shipyard to address potential contamination.

1.2 Intended Users of Post-Development RMP

This Post-RACR RMP is intended for the following users or their designees who may perform or oversee the Restricted Activities described in Section 3.1.1 within Parcels B and G:

- San Francisco Redevelopment Agency (SFRA)
- San Francisco Department of Public Works
- Property developers
- Property Owners (defined as an Owner with a fee interest in the property or an Owner's Representatives, hereinafter referred to as Owners)
- Lessees, permittees, tenants, or any other party with the legal right to perform subsurface work on the property
- Contractors
- Maintenance personnel
- Regulatory agencies (USEPA, DTSC, and RWQCB) and City of San Francisco Department of Public Health (SFDPH)
- Department of the Navy
- Any other person or entity who may perform the Restricted Activities described in Section 3.1.1.

The Post-RACR RMP will be used by the regulatory agencies to ensure that future property owners comply with the ROD required land use restrictions to limit exposure to hazardous substances and ensure that property owners maintain the integrity of the remedy.

1.3 Description of Planned Redevelopment

Parcels B and G will be developed as mixed use sites (Figures 2 and 3). Parcel B will include multi-family housing, public open space, retail, light industrial, and commercial uses. Parcel G could include mixed use (including residential), commercial, educational/cultural, industrial, and open space.

2.0 SUMMARY OF ENVIRONMENTAL CONDITIONS AND DESCRIPTION OF AREAS REQUIRING INSTITUTIONAL CONTROLS (ARICS)

Soil, groundwater and soil vapor investigations were conducted by the Navy within Parcels B and G to characterize the environmental conditions. Significant source areas that could impact human health and the environment were remediated by the Navy prior to transfer. Risk evaluations have been performed to confirm that the site could be developed as planned (based on the 1997 Redevelopment Plan for HPS), in a manner that would be safe for human health and the environment. The Remedial Investigation Reports for Parcel B (*PRC et al, 1996*) and Parcel G (*Tetra Tech, 1997a*), Feasibility Study Reports for Parcel B (*PRC, 1996*) and Parcel G (*Tetra Tech, 1997b*), Revised Feasibility Study for Parcel D (*SulTech, 2007*), 5-Year Review Report (*Jonas, 2008*), Technical Memorandum in Support of a Record of Decision (ROD) Amendment (TMSRA) for Parcel B (*ChaduxTt, 2007*) and its Radiological Addendum (*TtEC, 2008*), and ROD Amendment (*ChaduxTt, 2009*), and the ROD for Parcel G (*Navy, 2009*) are central to understanding environmental conditions at HPS. While this Post-RACR RMP provides a summary of the various environmental findings in the site-specific investigations as of the date this Post-RACR RMP was published, the reader should refer to reports listed in Section 6.0 for more details regarding the specific findings of these investigations and should refer to the Remedial Action Completion reports for updated environmental conditions. A description of the history of Parcel B, including geology, hydrogeology, regional setting and a description of previous investigations, can be found in the Parcel B TMSRA (*ChaduxTt, 2007*) and a description of the use and history of Parcel G can be found in the ROD for Parcel G (*Navy, 2009*). Parcel G is located within the central portion of the former 98-acre Parcel D. To support the early transfer of Parcel G, Parcel D was subdivided into Parcels G , D-1, D-2, and UC-1 (*Navy, 2009*).

2.1 Soil and Sediment Conditions

The primary chemicals of concern (COCs) detected in soil at Parcels B and G include volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and metals. The Navy conducted a series of excavations at Parcel B to reduce the risk to human health and the environment. A group of metals, primarily arsenic and manganese, were identified in soil at concentrations that consistently exceeded cleanup goals at locations across Parcel B. The widespread distribution of this group of metals in soil at Parcel B is related to the occurrence of these metals in the local bedrock that was quarried for fill during the expansion of HPS as well as the importation of other off-site sources of fill used to further expand HPS. Following excavations in 106 locations on Parcel B, the FFA signatories determined that because of the ubiquitous nature of these metals in soil throughout Parcel B, excavation and removal of all soil exceeding risk-based cleanup standards to a depth of 10 feet

was not economically feasible and the site conceptual model needed to be re-examined. As a result, the ROD Amendment selected a remedial alternative to address the ubiquitous presence of metals using containment beneath covers in conjunction with institutional controls.

A large quantity of soil in Parcels B and G that was contaminated with constituents other than arsenic and manganese (lead, mercury, radionuclides, organic compounds or other Navy contaminants above remediation goals) was excavated and disposed off-site by the Navy prior to transfer. However, some soil, soil gas, and groundwater containing constituents of concern remained in place, as described in the Parcel B TMSRA and Parcel G ROD. These issues were addressed by the SFRA prior to occupation of the land.

The Navy implemented investigations and corrective actions for total petroleum hydrocarbons (TPH) on Parcels B and G as part of the Navy's Petroleum Program. The RWQCB is the lead regulatory agency that oversees petroleum contamination and the UST program. For Parcel B, the petroleum corrective action work was conducted pursuant to a petroleum Corrective Action Plan (CAP). For Parcel G, no petroleum corrective actions were necessary, and therefore a CAP was not developed. The Navy is currently in the process of revising the Draft Final Petroleum Hydrocarbon Closeout Reports for Parcels B and G. The Navy anticipates the submission of Final Petroleum Hydrocarbon Site Closeout Reports for Parcels B and G in early 2011. Regional Water Board staff expects that closure will be completed for most if not all sites before the Navy issues a Final Finding of Suitability for Early Transfer (FOSET). The one exception to this schedule is the Parcel B petroleum site called Combined Sites Area Of Concern (CAA-21, CAA-22, Area Of Concern-46-A and Area Of Concern-46-B). The Navy completed all fieldwork and investigations of the Parcel B combined sites in late 2010 (*ITSI, 2011[reference]*). Post-investigation actions such as monitoring likely could be ongoing at the Combined Sites Area Of Concern and therefore closure pending at the time of transfer.

The Navy identified metals, pesticides, PCBs, and polycyclic aromatic hydrocarbons (PAHs) in Parcel B shoreline sediments that may pose a risk to human health or ecological receptors. The selected remedy to prevent exposure to the COCs in the shoreline sediments included the construction of a shoreline revetment wall. Parcel G does not have any sediment concerns because it is not bordered by the bay.

At HPS, naturally occurring asbestos (NOA) is primarily found in the mineral form of chrysotile, which is present in approximately 1/8-inch veinlets scattered throughout the native serpentinite bedrock. The primary route of potential exposure to asbestos is through inhalation of air containing asbestos fibers. The primary release mechanism of asbestos fibers to the air would be through excavating and crushing the

serpentinite bedrock. Best management practices (BMPs) incorporating the use of traditional dust suppression techniques during excavation would be adequate to mitigate potential health concerns related to the inhalation of asbestos fibers. Samples of airborne particulates will be collected using real-time particulate dust monitors to evaluate the adequacy of and allow adjustments to BMPs (Appendix D).

2.2 Groundwater Conditions

COCs in groundwater above remediation goals are limited to the A-aquifer, which exists within unconsolidated artificial fill. The A-aquifer ranges in thickness from about 15 feet in the southwest to as much as 80 feet in the northeast, but averages about 25 feet over most of Parcel B. Groundwater is typically encountered within Parcel B in the A-Aquifer at depths ranging from approximately 5 to 10 feet below ground surface, with up to 3 feet of typical seasonal variation. Groundwater in the A-aquifer at Parcel G is generally encountered 8 to 10 feet below ground surface with fluctuations of over 5 feet observed in the past. COCs for both Parcels B and G in the A-aquifer include VOCs (mainly trichloroethene and its breakdown products), chromium VI, mercury, and nickel. Plume areas identified in the Parcel B Amended ROD include IR Site 10 and IR Site 26 (Figure 2). Plume areas identified in the Parcel G ROD include IR Site 9, IR Site 33 and IR Site 71 (Figure 3). An indoor inhalation risk may exist in areas where volatile chemicals are present in soil or groundwater. Potential risks from groundwater are based on breathing volatile chemicals in soil and groundwater that may have migrated through the subsurface to indoor air (vapor intrusion). The results of the Human Health Risk Assessment show that the risk from exposure to vapors from the groundwater exceeded the excess lifetime cancer risk threshold in several areas in Parcel B (*ChaduxTt, 2009*) prior to the completion of the remedy. The selected remedy for groundwater at Parcel B includes treatment of the groundwater, implementation of institutional controls and long-term groundwater monitoring. A-aquifer groundwater in IR Site 9 and IR Site 71 at Parcel G has undergone treatment which has reportedly reduced VOC concentrations below cleanup levels (*Alliance, 2010*) though groundwater monitoring will continue to verify that the remediation is complete. Due to declining concentrations of COCs and low risk to future receptors, treatment of groundwater at IR Site 33 was not necessary (Alliance, 2010). (Note: *Update with latest groundwater sampling results at time of implementation*).

The risk posed by chromium VI, mercury, and nickel in groundwater is primarily to ecological receptors through potential transport to the bay. The Navy completed a removal action for the mercury source at IR-26 in Parcel B (*Insight, 2009*). Long-term groundwater monitoring will continue at Parcel B until concentrations of both the chromium VI and mercury are below action levels that are protective of ecological receptors in the bay. Chromium VI in Parcel G is associated with the former Pickling and

Plate Yard. The source of the chromium VI, including contaminated equipment and residue from the Pickling and Plating Yard and the pickling and plating sump and surrounding soil, have been removed). Documentation of the plating sump removal will be included in the Parcel G RACR.

2.3 Known Existing or Former Below-Grade Structures

Below grade structures such as underground storage tanks (USTs), oil/water separators, sumps, or other structures were removed or investigated during previous investigations within Parcels B and G. Two known USTs (U439-1 and U439-2) were closed in place in Parcel G (Figure 3). No known USTs were closed in place within Parcel B (*ChaduxTt, 2010b*).

2.4 Implemented Remedies

The CERCLA RODs for Parcels B and G selected remedial actions, which were required to provide adequate protection of human health and the environment and to allow the designated and beneficial reuse of the property as defined in the conveyance agreement executed between the Navy and the SFRA. At the time this post-RACR RMP applies to a piece of property, the remedial actions will have been implemented and approved. The following remedial actions were identified in the ROD to address contamination in soil, sediments, soil vapor, groundwater and structures within Parcels B and G:

- Radiological contamination identified in buildings, former building sites, sewer lines and other areas affected by radiological sources, were removed by the Navy and approved by the FFA signatories prior to transfer of Parcels B and G to the SFRA.

- Removal and offsite disposal of excavated soil in areas where concentrations of organic chemicals and metals (excluding arsenic and manganese) were above remedial goals.

- Installation of durable covers over the entire parcel to prevent contact with residual ubiquitous metals. A durable cover is defined in the RODs or RDs as hardscape (e.g., asphalt, buildings, sidewalks, etc.) or two feet of clean imported fill.

- Installation of a revetment wall along the Parcel B shoreline to cover and prevent access to sediments.

- Operation of a soil vapor extraction (SVE) system (Parcel B only) to remove and treat VOCs in soil.

- Treatment of groundwater to reduce the contaminant concentrations to or near the remediation goals defined in the RODs.

- Implementation of a groundwater monitoring program to verify that remediation efforts continue to meet the remediation goals defined in the Parcel B ROD Amendment and Parcel G ROD.

- Use of engineering controls and institutional controls (ICs) to prevent or minimize exposure to contaminated soil and soil vapor and to prevent or minimize exposure to contaminated groundwater by restricting activities related to groundwater.

Details concerning the selection, performance and implementation of these remedies are presented in the TMSRA, Parcel B ROD Amendment, Parcel D FS, Parcel G ROD and Remedial Design Package, Design Basis Reports for Parcels B and G and referenced in Section 6.0. Implementation of the remedies will be documented in the RACRs.

2.4.1 Operation and Maintenance of the Remedy

The selected remedy includes a durable cover (Parcels B and G) and shoreline revetment (Parcel B only) to provide a physical barrier (engineered control) to remove the exposure pathway of COCs to human and ecological receptors. The requirements for long-term monitoring and operation and maintenance (O&M) for the durable cover and the shoreline revetment are provided in the Parcels B and G RD documents. These long term monitoring and O&M obligations are independent of the Post-RACR RMP however the annual O&M inspections will be conducted and submitted simultaneously with the RMP annual inspections as described in Section 4.0 and Appendix B.

3.0 SITE ACTIVITIES AND REGULATORY PROTOCOLS

This section describes the regulatory oversight protocols, types of activities and associated restrictions that are governed by this Post-RACR RMP and the process for modifying this Post-RACR RMP.

3.1 Regulatory Oversight

The groups of agencies that have oversight and approval roles for various obligations are described in this section. These agencies plus the Navy, as the previous landowner and CERCLA responsible party, are referred to as the Federal Facility Agreement (FFA) signatories. The FFA is an agreement entered into by the agencies to carry out the remediation of HPS. The FFA signatories and the City of San Francisco Department of Public Health (SFDPH) will be referred to as the Oversight Agencies and the DTSC, RWQCB, USEPA, and the SFDPH will be referred to as the Regulatory Agencies for the purposes of this RMP. A contact list is included in Appendix A.

Regulatory oversight regarding implementation of the Post-RACR RMP includes, but is not limited to:

- Review and approval of modifications to the Post-RACR RMP, as described in Section 3.3
- Review and approval of work plans for conducting restricted activities requiring FFA signatory approval that are specified in Section 3.1.2 of this Post-RACR RMP
- Performance of inspections to verify compliance with the Post-RACR RMP procedures and protocols
- Review and approval of completion reports described in Section 4.2.3.

3.1.1 Pre-Approved Restricted Activities

Certain land disturbing activities may be conducted without obtaining FFA signatory approval as long as such activities are performed in accordance with all provisions and protocols specified in the RMP. Such activities are hereafter referred to as “pre-approved activities”. Pre-approved activities include the following, except to the extent that the activities fall within one of the categories requiring FFA signatory approval under Section 3.1.2 below:

(1) Excavation of soil that penetrates the cover remedy. Following completion of excavation activities, the excavated soil must either be hauled offsite or placed back in the excavation and the cover remedy re-

installed. Excavated soil may be used at other sites so long as it is placed beneath an approved cover remedy (e.g., 2 feet of clean fill, asphalt cover, side walk, or street).

(2) Construction of roads, utilities, facilities, structures (other than enclosed structures in ARICs for volatile chemicals), and related appurtenances as necessary to complete the redevelopment. Following the completion of any of these activities that penetrate the cover remedy, all excavated soil must either be hauled offsite or put back in place and an approved cover remedy must be re-installed.

(3) Demolition or removal of "hardscape" (e.g., concrete or asphalt roadways, parking lots, building foundations, and sidewalks). Following completion of hardscape removal, an approved cover remedy must be re-installed.

(4) Any activity that involves movement of soil to the surface from below the surface of the land. Following completion of soil moving activities all soil that has been moved from below the cover remedy must either be hauled offsite or put back in place and must be covered with an approved cover remedy (e.g., 2 feet of clean fill, asphalt cover, side walk, or street); and

(5) Grading or other movement of soil. Following completion of grading activities existing or native soils must be covered with an approved cover remedy (e.g., 2 feet of clean fill, asphalt cover, side walk, or street).

Some specific examples of pre-approved activities include, but are not limited to:

- excavation of trenches, potholes or other movement of soil from the subsurface to the surface in support of the installation of new below grade utilities, foundations, or otherfoundational structures (e.g., sewer lines, water lines, storm water pump station wet wells, pile caps and/or grade beams, etc.). Following completion of these activities, all excavated soil must either be hauled offsite or placed back in the excavation and an approved cover remedy re-installed (e.g., 2 feet of clean fill, asphalt cover, side walk, or street). Excavated soil may be used at other sites so long as it is placed beneath an approved cover remedy. Additional information on the handling and management of soil is provided in Sections 5.2 and 5.3.
- demolition of existing below grade, at grade or above grade structures. Following completion of demolition activities exposed native or existing soil must covered with an approved cover remedy (e.g., 2 feet of clean fill, asphalt cover, side walk, or street);

- grading for the purpose of raising and/or lowering site grade, creation of building pads, fine grading activities in support of road installation, and associated excavating, loading, hauling, stockpiling and/or compacting soil. Following completion of these activities existing or native soils must be covered with an approved cover remedy (e.g., 2 feet of clean fill, asphalt cover, side walk, or street);

- pre-drilling for pile installation including drilling pilot holes through fill material prior to the installation of foundation piles. In addition, in areas where there is no known groundwater contamination and to the extent that such activities will not impact areas of known groundwater contamination; temporary dewatering activities may be conducted including temporary pumping of groundwater to dewater below grade excavations in support of both infrastructure installation and/or foundation installation which may include both pumping of groundwater from an open excavation and/or pumping groundwater via perimeter temporary dewatering wells (typically used for building foundation installation). Additional information on groundwater management is provided in Section 5.6.

Anyone performing the above Pre-Approved Activities will be required to comply with the following applicable soil and groundwater management protocols, a Dust Control Plan (DCP), a Stockpile Management Plan (part of the DCP), a Soil Importation Plan, a Storm Water Pollution Prevention Plan (SWPPP), and a Groundwater Management Plan (GMP). Each of these elements is described in more detail in Section 5.0. In addition, contractors performing Pre-Approved Restricted Activities will be required to comply with their own Environmental Health and Safety Plan (EHSP). Reporting requirements for these Pre-Approved Restricted Activities are further described in Section 4.0.

3.1.2 Restricted Activities Requiring FFA Signatory Approval

Specific restricted activities that affect remediation and may not be commenced without first obtaining written FFA signatory approval include:

- “Land disturbing activity” that causes or facilitates the movement of any known contaminated groundwater.

- Alteration, disturbance, or removal of any component of a response or cleanup action (including, but not limited to, pump-and-treat facilities, and shoreline protection; groundwater extraction, injection, and monitoring wells and associated piping and equipment (including monitoring well abandonment); or associated utilities.

- Alteration, disturbance, or replacement of the durable cover on land that is one acre in size or greater. Construction of new road sections (street, curb, gutter, sidewalk, landscape median) is pre-approved for all areas, including areas one acre in size or greater, as long as the road section construction meets appropriate City building codes and standards.

- Extraction of groundwater and installation of new groundwater wells (including monitoring well replacement).

- Removal of or damage to security features (for example, locks on monitoring wells, survey monuments, fencing, signs, or monitoring equipment and associated pipelines and appurtenances).

- Construction of enclosed enclosed structures or reuse of existing buildings located in ARICs for volatile chemicals.

3.1.3 Areas Requiring Institutional Controls (ARICs) for Volatile Chemicals

The criteria for determining ARICs for volatile chemicals was established by the Navy and presented in the Soil Vapor Intrusion Survey Work Plan (*Sealaska, 2010*). The Soil Vapor Intrusion Survey Work Plan also established criteria for the modification or elimination of ARICs for volatile chemicals. The ARIC for volatile chemicals may be modified with approval by the FFA signatories via additional soil gas sampling and analysis for COCs. If the data show that vapor inhalation risk is within the acceptable range specified in the ROD or ROD Amendment, the ARIC may be reduced accordingly and Figure 2 and 3 will be updated. In areas where the ARIC remains, engineering controls shall be installed in existing or new buildings to address remaining vapor inhalation risk. When construction of enclosed structures or reuse of an existing building is proposed in an area located in ARICs (shown on Figures 2 and 3) for volatile chemicals the design of the vapor mitigation system built into foundations must be approved by the regulatory agencies.

3.1.4 Prohibited Activities

The following activities are prohibited throughout the Post-RACR RMP Area:

- Growing vegetables or fruits in native soil for human consumption.

- Use of groundwater.

Plants for human consumption may be grown in the Post-RACR RMP Area if they are planted in raised beds (above the RACR-approved cover) containing non-native soil. Fruit trees (including nut-bearing trees) may also be planted provided that they are grown in containers with a bottom that prevents the roots from penetrating the native soil.

3.1.5 Compliance with Requirements of Public Agencies That Are Not Parties to the FFA

Compliance with this Post-RACR RMP is required in addition to all federal, state and City of San Francisco permitting and environmental regulations and procedures for any construction or maintenance activity. The following is a list of state and local agencies that may have requirements for certain construction and maintenance activities, in addition to any requirements described in this Post-RACR RMP. This list is an example of potential state and local regulatory agencies and is not intended to be complete.

- Bay Area Air Quality Management District (BAAQMD) – air emissions and/or dust control
- San Francisco Department of Public Health (SFDPH) – monitoring well permitting and SFDPH Article 31 oversight
- San Francisco Public Utilities Commission (SFPUC) - wastewater discharge permitting
- Cal/Occupational Safety and Health Administration (OSHA) – worker health and safety
- San Francisco Redevelopment Agency – redevelopment design review
- San Francisco Department of Building Inspection – building permitting
- San Francisco Department of Public Works – permitting of structures in existing or future public right-of-ways and parks; subdivision approvals
- San Francisco Municipal Transportation Agency – permitting of infrastructure related to transit and traffic management
- San Francisco Fire Marshall – approval of infrastructure related to Fire Department emergency response.
- US Army Corps of Engineers – approval of repairs or modifications to the revetment wall and storm drain outfalls below sea level

- Bay Conservation and Development Commission - approval of repairs or modifications to the revetment wall within 100 feet of sea level.

3.2 Agency Site Access

The agencies responsible for enforcing the Post-RACR RMP procedures and protocols within Parcels B and G (Oversight Agencies) may elect to visit the site, as needed, per the rights of access described in the deed(s) and access requirements in the CRUP(s). The purposes of such visits include, but are not limited to, confirming that the Post-RACR RMP procedures and protocols are being properly implemented.

3.3 Modifications to the Post-RACR RMP

Modifications to the Post-RACR RMP may become necessary to address unanticipated future events, such as newly-identified COCs for which site-specific remediation goals have not been calculated, or in the event of a remedy failure. Additionally, based on the results of remedial activities, modification or termination of specific conditions or controls stated in this Post-RACR RMP may be warranted.

Other government entities may propose modifications of this Post-RACR RMP, including terminating specific conditions of the Post-RACR RMP, to the FFA signatories. Such modifications proposed to the FFA signatories may include modifications proposed by Owners to other government entities that those government entities determine are appropriate. The FFA signatories will review the proposed changes, request any additional background information if needed, and issue a decision regarding the proposal within 45 (calendar) days of receiving the proposal and any additional requested information. Once approved, the modified post-RACR RMP will be filed in the public repository (Section 3.4).

The FFA signatories may also propose modifications to the Post-RACR RMP based on new information that the Post-RACR RMP must address to remain protective of human health and the environment. If the proposed modifications are not agreed upon by the FFA signatories, in consultation with the SFDPH, within 60 days, the Post-RACR RMP shall continue in its original form until the FFA signatories come to a consensus on the appropriate modifications and notify the SFDPH of the modifications.

Changes in notification personnel are not considered a modification to the Post-RACR RMP and do not require FFA signatory approval.

3.4 Public Repository of RMP

A copy of this Post-RACR RMP and any Post-RACR RMP modifications will be available at the Hunters Point Shipyard information repositories indicated below, and on the San Francisco Department of Public

Health (SFDPH) Hunters Point Shipyard Redevelopment website (http://www.sfdph.org/dph/EH/HuntersPoint/default.asp). The Hunters Point Shipyard information repositories also contain the documents discussed in Section 2.0 and elsewhere in this Post-RACR RMP.

San Francisco Main Library
100 Larkin Street
Government Information Center, 5th Floor
San Francisco, California 94102
Phone: 415-557-4500

Anna E. Waden Bayview Library
5075 Third Street
San Francisco, California 94124
Phone: 415-355-5757

Contact information for the FFA signatories is provided in Appendix A. Changes in contact information will be submitted to the SFDPH, which will be responsible for including the updated information on their SFDPH Hunters Point Shipyard Redevelopment website.

4.0 REPORTING AND NOTICE PROTOCOLS

This section describes reporting and notification protocols that shall be followed when the following circumstances arise:

- Annual Reporting of pre-approved restricted activities in accordance with this Post-RACR RMP.
- Upon preparation of a work plan proposing to conduct Restricted Activities Requiring FFA Signatory Approval (Section 3.1.2) and upon receipt of results of performing the work plan.
- Upon discovery of previously-unknown environmental issues.

Notifications are the responsibility of the Owners, Lessees, permittees, tenants or any other party with the legal right to perform subsurface work on the property and with knowledge of circumstances. Under the circumstances described in Section 1.3, the SFRA will monitor compliance with notification requirements, and advise Oversight Agencies of noncompliance. The relevant time periods for notifications and associated responsible entities are described below. Other government entities with RMP oversight responsibilities are presented in Table 1.

4.1 Reporting for Pre-Approved Restricted Activities

Each year by June 30, the SFRA shall prepare and submit to the FFA signatories copies of the annual reports summarizing all of the Pre-Approved Restricted activities that have occurred on Owner's property and will identify any areas in the reports that indicate a non-compliance condition occurred within that year. If unknown areas of contamination or changes in the understanding of environmental conditions are discovered during the course of conducting pre-approved activities, Owner shall notify the FFA signatories via the notification process described in Section 4.3 and will follow the procedures presented in the Unknown Condition Response Plan (Appendix G). Following completion of the pre-approved restricted activities, the disturbed cover will be restored as described in Section 5.2.

4.2 Restricted Activities which require FFA signatory approval

These sections describe notification and reporting requirements for the restricted activities listed in Section 3.1.2.

4.2.1 Notification Prior to Restricted Activities Which Require FFA Signatory Approval

The Owner shall notify the FFA signatories at least 60 calendar days prior to any plan to conduct Restricted Activities Requiring FFA Signatory Approval listed in Section 3.1.2. Notification shall be in the form of a proposed work plan detailing the specific activities to be conducted and the controls to be implemented to protect human health and the environment. The FFA signatories shall review and either approve or provide comments indicating deficiencies in the work plan within 30 calendar days of receipt of the work plan. The FFA signatories may also request an extension of the review period within no less than 10 days prior to the end of the 30 calendar day time period. The Owner and FFA signatories shall work collaboratively to resolve work plan issues. The FFA signatories shall approve work plans prior to commencement of field activities. Documents will be considered to be final if no comments are received within the 30-day comment period. Following completion of the restricted activities, the disturbed cover will be restored as described in Section 5.2.

4.2.2 Information Required for Proposed Activities Requiring FFA Signatory Approval

When the Owner prepares a notification package to request approval to perform restricted activities requiring FFA signatory approval, the following should be included:

- A description of the proposed activity or condition that warranted the notification, together with appropriate exhibits to illustrate the location and/or issue that is the subject of the notification.
- Work plans, including schedules, prepared to perform activities.
- Description of current site conditions.

4.2.3 Completion Reports for Restricted Activities which Required FFA Signatory Approval

Following completion or closure of the activity requiring FFA signatory approval, the Owner shall prepare a completion report for submittal to the FFA signatories. A completion report shall include the following components, as appropriate:

- A description of the activity or condition that warranted the notification, together with appropriate exhibits to illustrate the location and/or issue that is the subject of the notification
- Description of notification protocols followed, including approval from the FFA signatories

- References to work plans prepared to perform activities
- Description of activities performed
- Boring logs/well completion diagrams
- Laboratory analytical reports
- Waste disposal manifests
- Description of final site conditions and/or as-built drawings
- Verification that all activities were conducted in conformance with the requirements of this Post-RACR RMP (signed by a California licensed Professional Engineer)
- A long-term maintenance and monitoring plan for any permanent facilities
- Other appropriate documentation or components as specified as a condition of undertaking the subject activity and/or required by the FFA signatories.

The Owner shall submit completion reports to the FFA signatories within 45 days of completing the restricted activities which required FFA signatory approval. Analytical information will be submitted within 30 days of receiving final analytical reports for samples submitted to the laboratory. The FFA signatories will be informed if the submittal date of an individual report must be extended past this time frame. If the submittal date has a regulatory-mandated time line, then FFA signatory approval for the extension must be requested at least 21 calendar days prior to the due date of the submittal and the extension request will not be considered granted unless formally granted in writing. Extension requests will be granted, or may be denied, within 15 calendar days of receipt of the written extension request.

The FFA signatories will review all completion reports to confirm that the actions taken are consistent with the Post-RACR RMP procedures and protocols and if applicable, the ROD, AOC and Remedial Design. Within 30 calendar days of completing review of the completion report, the FFA signatories will notify the Owners of any discrepancies or deficiencies in the completion report regarding compliance with this Post-RACR RMP, and the authors and regulators will work collaboratively to resolve such issues. Draft documents will be subject to a review period of 45 days. Reviewing parties may request an extension of the review period of for up to an additional 45 days from the party submitting the document. The party submitting the document will have 45 days to revise the document to address the comments received.

Draft final documents will be subject to a review period of 30 days. The FFA signatories may extend the 30 day comment period for an additional 30 days by written notice to the party seeking approval prior to the end of the 30 day period. The party submitting the document will have 45 days to revise the document to address the comments received. The completion notification/report will be considered approved and final unless regulators submit comments or a request for an extension within 30 calendar days from their receipt of the document. Upon request, the Owner shall submit a corrective action work plan to the FFA signatories for review and approval. Upon concluding that the actions taken are consistent with the Post-RACR RMP and if applicable Remedial Action Objectives (RAOs) identified in the ROD are attained, the FFA signatories will issue an approval letter for the completion report.

4.3 Notification Requirements for Changes in Understanding of Environmental Conditions or Discovery of Unknowns

In the event that unexpected or previously unknown conditions are encountered in the field that may require remediation or mitigation, the Owner shall notify the FFA signatories as soon as practicable and in accordance with any legal notification requirements, but no later than three days following the time at which the event became known to the Owner . Additionally, upon discovery of unexpected or previously unknown conditions, the Owner must temporarily halt work and determine: 1) whether the condition constitutes a Navy-Retained condition in accordance with the Early Transfer Cooperative Agreement; and 2)whether an appropriate path forward exists so that work can continue safely and in accordance with applicable regulatory protocol. These determinations will be made in accordance with the EHSP and the Unknown Condition Response Plan (Appendix G) as required under Article 31 of the San Francisco Health Code, and in accordance with any additional characterization deemed warranted. Additional information on the discovery of unknown or unexpected conditions is provided in Section 5.5.

4.4 Annual Inspection Reports

The Navy is ultimately liable for ensuring long-term compliance with the remedy, but upon transfer of property to SFRA, the Navy intends to transfer to SFRA the responsibility to perform certain ongoing compliance obligations. Subject to execution of a cooperative services agreement between the Navy and the SFRA as authorized by Title 10, United States Code, Section 2701(d), and receipt by SFRA of all funds to be paid by the Navy to SFRA in furtherance of the cooperative services agreement, SFRA anticipates that it will assume responsibility for the following Navy obligations: annual monitoring of RMP compliance activities, annual inspection reporting, annual monitoring of long-term maintenance of the remedy and ensuring annual enforcement of the RMP in the event of non-compliance by Owners, Lessees, permittees, tenants or any other party with the legal right to perform subsurface work on the

property. The SFRA will work with the regulatory agencies to confirm compliance with the land use restrictions, RMP protocols and reporting obligations. If the SFRA deems it appropriate, non-compliant Owners, Lessees, permittees, tenants or any other party with the legal right to perform subsurface work on the property will be referred to the SFDPH and the DTSC for additional enforcement activities.

Regardless of other notices, each year by June 30, the Owner will submit an annual inspection report (Appendix B) to the SFRA that will include:

- Documentation (photos, inspection reports, maps, etc), based on a drive-by inspection of driveable areas of site and a walk around inspection, if needed, of parks/open space, of the current state of the property – location of fences, conditions of fences, location of areas with approved cover remedies, etc.

- Descriptions of areas where current and future pre-approved restricted activities and restricted activities requiring FFA signatory approval are planned with projected start and finish dates, if known.

- Descriptions of pre-approved restricted activities and restricted activities requiring FFA signatory approval conducted during the previous year.

- Descriptions of any previously unknown conditions and related response activities.

- Descriptions of any non-compliance conditions that arose during the year and how they were resolved, if known

The SFRA will submit an annual inspection report to the FFA signatories. The submittal will include a brief summary letter documenting the number of property owners and condition of their property, any problems noted in the annual inspection reports, and follow-up action taken on any noted problems. The O&M obligations (Section 2.4.1) and institutional control (IC) implementation actions also include annual inspection and reporting requirements for the remedies in place and for IC objectives and land use restrictions. ICs will be maintained until the concentrations of hazardous substances in soil and groundwater are at such levels to allow for unrestricted used and exposure. An annual inspection report, incorporating a section for the RMP reporting and a section for the O&M and IC annual inspection reporting, is provided in Appendix B.

4.5 Notification of Owners and Lessees

By the terms of restrictions in the recorded deeds and CRUPs and by this RMP, Owners shall provide a copy of the Post-RACR RMP to lessees, permittees, tenants, future transferees or any other party with the legal right to perform subsurface work on the property.

5.0 RISK MANAGEMENT PROCEDURES AND PROTOCOLS DURING SOIL DISTURBING ACTIVITIES

The purpose of this section is to describe Post-RACR risk management measures that will be implemented during soil disturbing activities to ensure the integrity of implemented remedies during and following completion of construction. Activities that are subject to these measures include pre-approved activities, activities requiring FFA signatory approval, and operation, monitoring, and maintenance that are conducted in accordance with the approved O&M Plan. Sections 3.1.1 and 3.1.2 describe the details of Restricted Activities (e.g., pre-approved and requiring FFA signatory approval). This section describes the specific protocol that will be implemented to maintain the integrity of the remedy and to control potential impacts to human health and the environment associated with potential exposure to COCs that might be present in soil, soil vapor and/or groundwater encountered during post-cover soil disturbing activities, including construction associated with development and future maintenance within Parcels B and G.

5.1 Construction Worker Health and Safety

Construction and maintenance contractors, whose workers may contact potentially contaminated soil, soil vapor, or groundwater within the Post-RACR RMP Area, are required to prepare site-specific EHSPs under the direction of a Certified Industrial Hygienist (CIH) and in a manner consistent with applicable occupational health and safety standards, including, but not limited to OSHA 1910.120. The contractor-specific EHSPs will be maintained by the contractor at the site.

An EHSP is required for contractors engaged in any Restricted Activity-related work, including those listed in Section 5.0, that would extend below the ground surface, except for grading in landscape areas that when completed, will contain a minimum of 2 feet of clean fill. Landscaped areas will be comprised of minimum 2 feet of clean fill (soil cover) placed on top of native soil. Nothing in this section is intended to relieve any person, including contractors or employers, of other mandated worker health and safety planning and training requirements under any federal, state or local statute or regulations.

It is the responsibility of the contractor preparing their EHSP to review information available in the Hunters Point Shipyard information repositories (see Section 3.4) regarding site conditions and potential health and safety concerns. It is also the responsibility of the contractor or other person preparing an EHSP to verify that the components of the EHSP are consistent with applicable Cal/OSHA occupational health and safety standards and currently available toxicological information for potential COCs at the work site. Contractor compliance with the Post-RACR RMP obligations will be specified in the contract

documentation for the contractors performing subsurface work. Each contractor must require its employees who may directly contact potentially contaminated site soil or groundwater to perform all activities in accordance with the contractor's EHSP. Each construction contractor will assure that its onsite construction workers will have the appropriate level of health and safety training, site-specific training, and will use the appropriate level of personal protective equipment as determined in the relevant EHSP based upon the evaluated job hazards and monitoring results. An example EHSP outline is included in Appendix C.

5.2 Durable Cover Protocols: Hardscape and Landscaped Areas

Following completion of any maintenance or repair work which included disturbance of any durable cover (hardscape or landscape), the integrity of the previously existing durable cover will be re-established in accordance with the protocols described in the RD and O&M Plan. The O&M Plan describes procedures for the inspection, maintenance and repair of durable and soil covers. A completion report confirming completion of the notifiable activities and re-establishment of the durable cover will be submitted to the entities previously notified in accordance with the protocols described in Section 4.2.3.

On occasion routine maintenance may be necessary in landscaped areas (e.g., irrigation installation or repair) within the uppermost 2 feet of clean imported fill material (soil cover). When digging in landscaped areas, workers will take care to keep any soil cover material removed segregated from native soil. Disturbance of the soil cover must follow the RMP requirements including the DCP and, if applicable, the Soil Importation Plan. When routine maintenance is complete, workers must document that the soil cover was replaced with either the clean segregated soil or with 2 feet of imported clean soil that meets soil importation requirements. Documentation is to include photographs of the work, measured cover thickness and/or elevation survey, and a statement signed by the person(s) performing the maintenance activities that the work was completed as per these instructions. It is the responsibility of each Owner, Lessee, permittee, tenant or any other party with the legal right to perform subsurface work on the property to provide anyone working on the property with a copy of this Post-RACR RMP prior to them performing any subsurface maintenance or repair activities and to ensure compliance with the RMP. Under the circumstances described in Section 4.4, SFRA will verify that these conditions are being met.

5.3 Soil Management Protocols

Native soil within the boundaries of Parcels B and G, may be moved within or between those parcels and soil from Parcel A may be moved from Parcel A onto Parcels B and G without prior FFA signatory approval if and only if such soil will be placed underneath the required durable cover in Parcels B and G.

For activities requiring FFA signatory approval defined in Section 3.1.2, soil reuse must be addressed, as necessary, as part of the submitted work plan. In the event that placement underneath the required durable cover is not accomplished immediately upon removal, such soil is to be stockpiled within Parcels B or G, with adequate protection, as further described in Section 5.3.2.

5.3.1 Movement of Soil

Native soil may be handled and moved from one portion of Parcel B and Parcel G to another location within each and between each Parcel and soil from Parcel A may be moved from Parcel A onto Parcels B and G, managed and reused without need for sampling, provided that reuse is conducted in accordance with the soil management practices described in this Post-RACR RMP and that no unexpected conditions are encountered. Unexpected conditions would include the discovery of any contamination or subsurface object that was not previously identified on the parcel (i.e., current understanding of environmental conditions). Unexpected conditions and the protocols to follow if they are encountered are described in Section 5.5.

Native soil that is excavated and remains within Parcels B and G and any soil moved from Parcel A to Parcels B and G, must ultimately be covered by a durable cover, such as buildings or other hardscape such as streets, sidewalks, parking lots, and roads or by clean fill and landscaping in accordance with the durable cover requirements specified in the Parcel B ROD Amendment, the Parcel G ROD, and the Parcels B and G RDs.

Trucks used to transport solid bulk material that have the potential to cause visible dust emissions will be loaded in a manner to provide at least 1 foot of freeboard. When transported within HPS, the soil will either covered with a tarp, or the materials will be sufficiently wetted. Unpaved haul routes will be wetted and trucks will not exceed speeds of 15 miles per hour. Potential impacts from dust associated with the handling and movement of soil, soil compaction, soil stockpiling, etc., will be addressed through the implementation of the Dust Control Plan, included in Appendix D.

5.3.2 Soil Stockpile Management Protocols

Stockpile management is addressed in the Dust Control Plan; however, several highlights on stockpile management are included here because stockpiles that are not properly maintained have the potential to generate sediment run-off and dust. Stockpiles shall be maintained within the site access controls of the project boundary. If stockpiles must be placed outside of the parcel boundary (assuming permission is first obtained from the Oversight Agencies), then separate fencing and access control for such stockpiles will be required. Stockpiles must be tarped, wetted, sloped, or controlled via appropriate means and

methods as specified in the Dust Control Plan (Appendix D). Best management practices (BMPs) for erosion and sediment control will be implemented, as necessary, during construction activities. BMPs may include diversion of drainage from the stockpiles, installation of silt fencing/straw bale filter barriers on the downgradient toe of the stockpile slope and dust control. Stockpiles will be inspected at least weekly to ensure dust control and runoff control measures are functioning adequately.

5.3.3 Dust Control Plan

A Dust Control Plan (DCP) identifies the measures that will be taken to reduce particulate emissions during demolition of existing structures, grading, soil handling and stockpiling, vehicle loading, utility work, truck traffic and construction of site infrastructure. The DCP has been prepared in accordance with the requirements in Article 31 of the San Francisco Health Code and certain Bay Area Air Quality Management District (BAAQMD) regulations often applicable to redevelopment activities. Exposure of onsite construction workers to dust containing COCs will be minimized, and generation of nuisance dust will also be minimized to comply with Article 22B of the San Francisco Health Code and SFDPH requirements prohibiting visible dust on San Francisco construction sites. The DCP is attached as Appendix D.

General dust control measures that may be used at the site include, but are not limited to, watering unpaved haul routes, restricting vehicle speeds to 15 miles per hour, wetting and/or tarping stockpiles, wetting down excavation areas, reducing the height from which excavated soil is dropped, use of dust palliatives in inactive disturbed areas, implementation of erosion control measures, construction of gravel access pads in the temporary stockpile locations, installation of gravel pads or wheel wash stations at all egress points to prevent tracking of soil onto paved roads, and periodic sweeping of paved roads within the construction site with wet sweepers.

During windy conditions the use of wind breaks may be employed to control fugitive dust emissions. Under periods of sustained strong wind conditions (hourly average wind speeds of 25 miles per hour or greater), all clearing, grading, earthmoving and excavating will be halted.

Naturally occurring asbestos (NOA) has been found in the serpentinite bedrock and soil throughout the Hunters Point area. Large construction projects occurring within these areas are subject to the California Air Resources Board Airborne Toxic Control Measures (ATCM). For projects where surface soil will be disturbed in an area of one acre or larger, an Asbestos Dust Mitigation Plan (ADMP) will be submitted to and approved by the BAAQMD, as required. For projects less than one acre, an evaluation will be

performed to determine whether an ATCM-compliant asbestos dust mitigation plan is required prior to initiation of potential dust generating activities.

5.4 Offsite Disposal of Soil and Wastes

Soil excavations will be required during construction of utility trenches, building foundations and other facilities. It is likely that excavated soil will be reused within the RMP area for grading activities. As a result, offsite soil disposal should be limited. Any offsite soil disposal is subject to all applicable federal and state laws and regulations. All activities associated with waste disposal, such as truck loading, truck traffic and decontamination of trucks leaving the facility, will be performed in accordance with the Dust Control Plan provided in Appendix D (and summarized below) and any other applicable federal or state law or regulation.

As detailed in the DCP, any trucks used to transport solid bulk material that have the potential to cause visible emissions will be provided with a tarp cover, or the materials will be sufficiently wetted and loaded onto the trucks in a manner to provide at least one foot of freeboard. Trucks loaded with loose soil or sand will be covered before they leave HPS.

Vehicles will be checked to ensure that they are tarped and to remove any excess material on the bumpers, fenders or other exterior surfaces of the cargo compartment where soil could collect. All off-site haul trucks will access the sites via paved access roads and established gravel pads. Every off-site haul truck will proceed through the decontamination gravel pad/tire cleaning area prior to departure. Site personnel will be stationed at the access/egress point to monitor inflow/outflow to and from the site. They will be responsible for inspecting all vehicles exiting and performing any necessary cleaning to help prevent track out.

The contractor is responsible for characterization of any waste prior to transportation and offsite disposal. Characterization for disposal shall be in accordance with the requirements of Title 22 of the California Code of Regulations, Division 4.5, Chapter 11 and the requirements of the disposal facility and any other applicable law. Labeling requirements for transportation of waste shall additionally be in accordance with Title 29 of the Code of Federal Regulations, Parts 172 and 173 and any other applicable law. All waste transported for offsite disposal will be subject to the requirements of the Administrative Order on Consent (AOC).

All soil to be disposed will be taken only to a certified and permitted California landfill or an equivalent out-of-state landfill, as appropriate and as determined by the waste profile.

5.5 Unexpected Conditions

The potential exists for encountering unanticipated conditions within Parcels B and G. Unexpected conditions may include unanticipated soil contamination, abrasive blast material (ABM), subsurface structures, buried pipelines, radiological devices or other visual or olfactory evidence of contamination. As part of the site-specific health and safety training that will be required of equipment operators and site workers, instruction will be given on how to identify potential unexpected conditions.

Additionally, upon discovery of unexpected or previously unknown conditions, the Owner must temporarily halt work, notify the FFA signatories and in consultation with them, determine: 1) whether the condition constitutes a Navy-Retained condition in accordance with the Early Transfer Cooperative Agreement;and 2) whether an appropriate path forward so that work can continue safely and in accordance with applicable regulatory protocol. These determinations will be made in accordance with the EHSP and the Unknown Condition Response Plan (Appendix G) as required under Article 31 of the San Francisco Health Code, and in accordance with any additional characterization deemed warranted.

In accordance with the site-specific EHSP, appropriate measures will be undertaken to ensure worker safety in areas where unexpected conditions are encountered. The SSHO will be responsible for evaluating any change in site conditions. The SSHO may stop work to determine if the level of site security and personnel protective equipment is adequate. Additional measures may include conducting contingency monitoring by taking organic vapor readings using an organic vapor monitor (OVM) or an organic vapor analyzer (OVA). If warranted the area in which unexpected conditions were encountered will be secured with barricades or fencing, as appropriate, and signage to prevent unauthorized access to the area.

5.5.1 Olfactory or Visual Evidence of Contamination

Site development activities may result in the identification of previously unidentified areas or types of contamination. Olfactory or visual evidence of contamination which would trigger the use of the Unknown Condition Response Plan as discussed in Section 4.3 include, but are not limited to:

- Oily, shiny or soil saturated soil with free product
- Soil with a significant chemical or hydrocarbon-like odor
- Significantly stained or colored soil that reasonably indicates a contaminant source
- Groundwater odor, sheen or free-phase globules, or

- Any other indication that contamination may exist that would trigger notification protocols.

5.5.2 Abrasive Blast Material (ABM)

ABM is generally a non-cohesive, granular material and typically may have a characteristic green or black color. Granulated ABM made by all manufacturers is chemically inert; therefore it does not have hazardous waste characteristics of flammability, corrosivity, or reactivity. Due to the use of ABM on ships with lead-based paint, elevated levels of lead and other metals may be found in used ABM.

Historically, silica sands were commonly used as ABM, though current practices limit their use due to safety concerns related to silica dust. Other common ABMs used at Naval facilities include Green Diamond®, a ferro-nickel slag produced as a byproduct of nickel production from lateritic ore, and Black Beauty®, a coal slag abrasive. Coal slag sometimes contains low levels of naturally-occurring radionuclides (radium and its daughter products), which may be concentrated during the ABM manufacturing process, resulting in ABM with relatively low, but elevated levels of radioactivity as compared to background. Anecdotal evidence suggests that ABM may have been used at HPS as bedding aggregate or backfill material (e.g., for pipelines, former fill areas, roadways and driveways).

As part of the site-specific health and safety training that will be required of equipment operators and site workers, instruction will be given on how to identify potential ABM. Because storm and sewer drains were removed by the Navy from the Post-RACR RMP area and these drains are the most likely areas in which ABM may have been placed there are no other areas which can be considered more likely than others to contain ABM. As a result, screening for ABM will initially rely on visual identification.

If ABM is found it, will be screened for the presence of radionuclides and metals. If radionuclides above the remedial goals are detected the ABM will be handled appropriately by the Navy, as a Navy-retained condition, otherwise all ABM identified will be dealt with by the Owner. If the ABM contains radionuclides, or metals that are above the remedial goals set forth in the Parcel B ROD Amendment and the Parcel G ROD, the ABM will be handled as per the Unknown Condition Response Plan, will be disposed of off-site and will be subject to the requirements of applicable federal, state, and local laws.

5.5.3 Subsurface Structures

During the course of excavation and construction activities within Parcel B or G, it is possible that USTs, sumps, barrels, drums or other containers or other underground structures that were not discovered during previous site investigations could be discovered. For example, USTs may be identified during grading and site excavation activities by the presence of vent pipes, product distribution piping that leads to the

UST, fill pipes, backfill materials and the UST itself. Other structures might not have any features that extend above the surface and could be unearthed when construction equipment comes into contact with them. If an unexpected subsurface structure is encountered, notification and health and safety procedures will be invoked as discussed in Sections 4.0 and 5.1 and work will proceed in accordance with the Unknown Contaminant Contingency Plan as required under Article 31 of the San Francisco Health Code.

Excavation activities will be visually monitored for the generation of fugitive dust. Controlling dust in excavation areas will include wetting soil prior to and during excavation, adjusting the height from which excavated soil is dropped, wetting and/or tarping backfill material and stockpiles, use of dust palliatives on disturbed areas, and using gravel pads in loading areas to reduce the potential for soil track-out.

5.6 Soil Import Criteria

All soil imported onto Parcels B and G from areas outside HPS, with the exception of soil imported from Parcel A, will be subject to sampling and soil quality controls established in a Soil Importation Plan (SIP). Soil moved from Parcel A onto Parcels B and G must be placed underneath the required durable cover. Soil quality parameters for imported soil are based on the Parcel B and G remediation goals presented in the Amended Parcel B ROD and the Parcel G ROD. Soil import criteria will meet the most recent California Human Health Screening Levels (CHHSLs) for residential soils. A SIP outline is included as Appendix E. Soil that meets CHHSLs or background levels and is approved for import under a SIP will be suitable for use as a durable cover as long as it meets all RD and RAWP requirements.

5.7 Groundwater Management Protocols

As described in Section 2.2, localized areas of groundwater contamination have been identified within the Post-RACR RMP area. At the time of implementation of the Post-RACR RMP, the most recent groundwater monitoring data (CE2-Kleinfelder, 2010) will be evaluated by the Owner or their designee, prior to the initiation of the Restricted Activity in the context of the EHSP to identify areas where groundwater contamination may be present and to determine the appropriate protective measures to address worker safety and prevent the movement of any residual groundwater contamination.

This section describes protocols to follow during performance of the Restricted Activities (pre-approved and those requiring FFA signatory approval) as described in Sections 3.1.1 and Section 3.1.2 in order to minimize worker exposure to contaminated groundwater and to minimize the potential for affecting contaminated groundwater. All activities discussed below will require notification and completion reporting in accordance with the protocols described in Section 4.0.

5.7.1 Temporary Dewatering Activities

Current development plans for Parcels B and G include utility trenches and below grade parking lots to support the residential and commercial development. Due to the depth of these proposed excavations, temporary construction dewatering may be necessary. A plan to manage the groundwater during construction activities (Groundwater Management Plan [GMP]) will be submitted to the Oversight Agencies for review and approval. A Groundwater Management Plan outline is provided in Appendix F.

If it is determined via the procedure outlined in the GMP that construction necessitates the use of temporary dewatering, and the dewatering activities may occur in or around an area of known groundwater contamination, the regulatory agencies will be notified in accordance with Section 3.1.2. With that notification, a work plan discussing the dewatering scope and activities will be submitted for FFA signatory review and approval. As a general guide, the following risk management protocols will be included in the work plan:

- Conduct preliminary estimates of the amount of water that will need to be removed and the duration of pumping for the specific construction activity.
- Review of available groundwater monitoring data to evaluate groundwater quality in the vicinity of the planned dewatering activities.
- Based on the location of the proposed dewatering, a Professional Engineer or Geologist licensed in the State of California will evaluate whether the volume of water that would need to be removed would result in the enlargement of an existing groundwater plume or significant alterations in the groundwater flow patterns in Parcels B and G.
- If the volume estimates, duration estimates and location of the groundwater dewatering suggest that such activities are not likely to result in the enlargement of a groundwater plume or significant alterations in flow patterns, then simple dewatering methods, such as those employed through the use of a sump pump, may be proposed to prevent groundwater from accumulating in an open excavation.
- If, based on the results of analysis, dewatering may result in enlargement of an existing groundwater plume, or result in significant alterations to groundwater flow in the vicinity of a plume, then other engineering techniques will be proposed to minimize the impacts to the known plume configuration. The proposed engineering technique will depend on the construction

specifications and other site-specific factors, and will be determined by the Owner or Lessee's State of California, licensed Professional Engineer or Geologist on a site-by-site basis.

- Water removed during dewatering activities will be sampled and tested for profiling and the water disposed of in accordance with applicable permits and regulations. Disposal options may include pre-treatment and discharge into the City's sanitary sewer system under a San Francisco Public Utilities Commission (SFPUC) batch wastewater discharge permit. Compliance with provisions of any discharge permit is the responsibility of the Owner or Lessee (or other entity designated by the Owner or Lessee).

- The results of the analysis, plans for dewatering and disposition of accumulated groundwater will be contained in the notification to the entities listed in Section 4.0.

5.7.2 Prevention of the Potential for Creation of Conduits

As much as practicable, installation of subsurface utilities in areas of known groundwater contamination will be avoided. Prior to subsurface utility trench installation, existing groundwater monitoring data will be evaluated by a Professional Engineer or Geologist licensed in the State of California to identify areas where contaminant plumes remain at the site. As described in Section 5.7.1 a GMP will be approved prior the start of construction activities. The GMP will be used to mitigate the movement of potentially contaminated groundwater via subsurface utility trenches.

If the trenches extend into the vicinity of known groundwater contaminant plumes, the FFA signatories will be notified as described in Section 4.0. The presence of such trenches may create a horizontal conduit for groundwater and soil vapor flow and migration of COCs. Some of the management measures that may be implemented to minimize the potential for creating horizontal conduits are described below. The appropriate method for managing the groundwater and soil vapor will be determined by a Professional Engineer or Geologist licensed in the State of California and will be approved in advance by the FFA signatories.

Groundwater

Material that is less permeable than the surrounding soil can be placed at 200-foot intervals through a variety of methods. At a minimum, less permeable material can be placed in the utility trench at the edges of the area of known groundwater contamination to disrupt the flow within the trench backfill. One method is backfilling a short section of the utility pipe with a concrete or cement and bentonite mixture. Another method is the installation of a clay plug by compacting the clay around the circumference of the

pipe for a five-foot section of trench. A third method is the installation of barrier collars (cutoff features) around the pipes by forming and pouring concrete in place. Trench plug locations will be selected to mitigate lateral migration of impacted groundwater.

Soil Vapor

To minimize potential migration of soil vapor from utility conduits, currently available engineering controls may be used including sealing the end of utility conduits with inert gas-impermeable material such as closed cell polyurethane foam. The seals will extend into the conduit a minimum of six conduit diameters or six inches, whichever is greater.

5.7.3 Prevention of the Potential for Groundwater Intrusion

For new subsurface utilities placed in the areas of known groundwater contamination described in Section 2.2, or newly discovered areas of groundwater contamination, the pipe joints of non-pressurized utilities (e.g., sanitary sewer, storm drain) will be adequately sealed to prevent COCs in groundwater from entering the buried piping, and all materials will be selected to ensure the integrity of the piping when in contact with known contaminants.

5.8 Stormwater Management Controls

A construction Storm Water Pollution Prevention Plan (SWPPP) will be required prior to the start of construction activities. The SWPPP will provide the framework for contractors performing work at the site. The Construction SWPPP must conform to the requirements of the California State Water Resource Control Board (SWRCB) National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS00002, Water Discharge Requirements (WDRS) for Discharges of Stormwater Runoff Associated with Construction Activity. As required, a Notice of Intent (NOI) shall be filed with SWRCB prior to commencement of regulated construction work. Compliance with the SWPPP will be maintained throughout the duration of the construction work. The SWPPP will be prepared by a Qualified SWPPP Developer (QSD) per Section VII of the 2009-0009-DWQ Permit (http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/stormwater/construction.shtml).

5.9 Groundwater Monitoring Well Protocols

Monitoring wells associated with the groundwater monitoring programs are present within Parcels B and G and additional wells associated with remedial activity monitoring may be installed. Prior to the initiation of any demolition or earth-disturbing activities, the presence of groundwater monitoring wells will be identified. A map showing the locations of monitoring wells within Parcels B and G may be

found in the Hunters Point Shipyard information repositories (Section 3.4) and on the SFDPH Hunters Point Shipyard Redevelopment website. Locations of additional wells to be installed as part of remedial alternatives can be found on the SFDPH Hunters Point Shipyard website within Remedial Design Implementation Reports and the RACR, within the Hunters Point information repositories. Current monitoring wells located in Parcels B and G are presented on Figures 2 and 3.

Any abandonment, unintentional damage to or replacement of groundwater monitoring wells will require adherence to the notification protocols as described in Section 4.0. As discussed in Section 4.2, a work plan must be submitted for FFA signatory review and approval prior to the commencement of a restricted activity. Only the FFA signatories can decide that a well that was installed as a part of the groundwater remedy is no longer needed or can be relocated. Assuming that regulatory approval for the work is obtained, any well that is part of a remedial action that is damaged or abandoned during construction must be replaced within sixty calendar days unless the FFA signatories grant an extension.

As discussed in the AOC the Owner is also responsible for providing access for the FFA signatories to the monitoring wells for the purposes of sampling and maintenance. Thus, regulatory approval must be obtained prior to any action that will bar access to a monitoring well for a period of greater than 7 calendar days.

The following sections describe the protocols to follow to protect existing groundwater monitoring wells, in the event of abandonment or replacement of groundwater monitoring wells.

5.9.1 Abandonment of Existing Monitoring Wells

Prior to the abandonment of groundwater monitoring wells, approval will be obtained as required in Section 3.1.2 and the appropriate entities, as described in Section 4.0, will be notified, and if requested, replacement well locations will be selected in coordination with the FFA signatories. If an existing groundwater monitoring well cannot be preserved, the well will be abandoned in accordance with applicable State and SFDPH regulations. The Owner, Lessee, permittee, tenants or any other party with the legal right to perform subsurface work on the property, is responsible for obtaining all appropriate permits and approvals.

Following abandonment of groundwater monitoring wells, a completion report will be prepared describing the abandonment procedures and submitted to the FFA signatories as described in Section 4.5. The report will include:

- The well location

- Photographic documentation of the abandonment
- A description of the well destruction activities, including rationale for abandonment; and
- All associated permits and waste disposal manifests, if necessary
- Department of Water Resources (DWR) well completion and abandonment reports.

5.9.2 Replacement of Monitoring Wells

Any required replacements of abandoned monitoring wells, which are part of an ongoing groundwater monitoring network, will be re-installed within sixty days of the prior well's abandonment date unless the regulatory agencies grant an extension. Replacement wells will be located as close as possible and constructed in the same manner as the original well, and will monitor, to the extent possible, the same groundwater zone as the original well. The Owner, Lessee, permittee, tenants or any other party with the legal right to perform subsurface work on the property, is responsible for obtaining all appropriate permits and approvals.

Prior to the replacement of an abandoned well, a work plan will be submitted to the FFA signatories as described in Section 4.0 and approval will be obtained as required in Section 3.1.2. The work plan will include soil management protocols, sampling and analysis requirements for waste profiling, monitoring procedures, health and safety requirements, the boring log of the original well (obtained from the Hunters Point Shipyard information repositories), proposed well construction details, and will describe procedures to be followed during installation of the replacement well. The location of the replacement well must be approved by the FFA signatories.

Following installation of the replacement well(s), a monitoring well installation completion report will be submitted to the appropriate entities as described in Section 4.2.3. The report will include, among other things:

- Well location
- Identification of driller and drilling procedures
- DWR Well Completion Report
- Decontamination procedures
- Well installation procedures

- Lithologic log
- Well development procedures
- Horizontal location coordinates and vertical elevation of top of casing
- Well completion details (depth, screen interval, materials used, materials used, surface completion, etc.)
- Initial water level measurement
- Well sampling, if necessary
- Permitting information; and
- Disposition of installation-derived wastes.

The report shall be signed by a Professional Engineer or Geologist licensed in the State of California.

5.9.3 Measures to Protect Monitoring Wells

Existing monitoring wells that are not removed prior to earthwork will be located, marked and protected by the Owner, or other contractors or entities designated by the Owner. All monitoring wells will be addressed in this manner before starting construction within Parcels B and G. Monitoring wells will be marked with brightly colored paint if flush with the ground surface, or painted steel pipes or bollards. The pipes and bollards will extend above ground not less than 4 feet so as to be easily visible. All wells will be kept locked.

5.10 Access Control During Construction and Maintenance Activities

Access to the site during construction and maintenance activities will be limited to authorized personnel in compliance with EHSP requirements (Section 5.1).

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

- Except in streets, security fencing will be placed around any site without a regulatory agency approved durable cover or where the durable cover has been disturbed to prevent pedestrian/vehicular entry except at controlled (gated) points. Gates will be closed and locked

during non-construction hours. Fencing will consist of a 6-foot chain link or equivalent fence unless particular safety considerations warrant the use of a higher fe.nce. Use of fences during small routine maintenance activities will be determined in the EHSP

- In streets, use a combination of K-rails or similar barriers and fences with locked gates.
- Post "No Trespassing" signs every 200 feet.
- Post signs every 200 feet warning that contamination within the fenced areas may be harmful to health.

Implementation of appropriate site-specific measures as outlined above will reduce the potential for trespassers or visitors to gain access to construction areas and to come into direct contact with soil or groundwater. Compliance with the specific access control measures is the responsibility of the Owners, Lessees, permittees, tenants or any other party with the legal right to perform subsurface work on the property. As described in Section 1.3, the SFRA will assume the responsibility for compliance monitoring. If the Navy does not transfer the property to SFRA and enter into a cooperative services agreement with the SFRA as specified, the above obligations will be the responsibility of each future property owner and ultimately the Navy.

5.11 Risk Management Measures to be Implemented During Construction or Excavation Activities in Areas of Special Concern

This section describes risk management measures to be followed in areas of special concern. These areas include shoreline areas and Bay sediments outside the Post-RACR RMP area.

5.11.1 Shoreline Improvements

Construction and maintenance activities at Parcel B may include maintenance or improvements to revetment walls, rip rap, sheet piles, or bulkheads at the bay margin. Work performed in these areas may be required to conform to the durable cover and/or revetment walls designs described in the RD/RA Report depending on how and where the structure is being improved or installed. All appropriate Navy documents must be consulted to determine the applicable requirements.

5.11.2 Sediments Outside of Post-RACR RMP Area

Bay sediments, referred to as Parcel F, are outside the scope of this Post-RACR RMP; however, disturbance of these sediments may occur during such activities as outfall construction and development-

related shoreline improvements. Work that carries over into Parcel F will be subject to the requirements of the AOC. All work performed in these areas must be planned and coordinated with the Navy (prior to transfer of Parcel F), California State Lands Commission, or other appropriate agencies (U.S Army Corps of Engineers [USACE], U.S. Fish and Wildlife Service [USFWS], San Francisco Bay Conservation and Development Commission [BCDC], RWQCB, USEPA and DTSC). In addition to coordinating with the agencies listed above, a work plan must be submitted to the FFA signatories for review and approval sixty calendar days prior to conducting any work on Parcel F.

The FFA signatories must be contacted during the planning phase of work to obtain information concerning the nature of the sediments to be disturbed, potential activities being performed in these areas by others, and requirements for work plans and other specific requirements. Contact information for these entities can be found in Appendix A.

6.0 REFERENCES

CE2-Kleinfelder, 2010. *Semiannual Groundwater Monitoring Report, October 2009 - March 2010, Hunters Point Shipyard, San Francisco, California.* June.

ChaduxTt, 2007. *Final Parcel B Technical Memorandum in Support of a Record of Decision Amendment, Hunters Point Shipyard, San Francisco, California.* December 12.

_____, 2009. *Final Amended Parcel B Record of Decision, Hunters Point Shipyard, San Francisco, California.* January 14.

_____, 2010a. *Draft Final Remedial Design Package Parcel B, Excluding Installation Restoration Sites 7 and 18, Design Basis Report, Remedial Action Monitoring Plan, Land Use Control Remedial Design, Preconstruction Operation and Maintenance Plan, Preconstruction Cost Opinion, Hunters Point Shipyard, San Francisco, California.* July 30.

_____, 2010b. *Draft Finding of Suitability for Early Transfer of Parcels B (Excluding Installation Restoration Sites 7 and 18) and Parcel G, Hunters Point Naval Shipyard, San Francisco, California.* December 16.

Department of the Navy (Navy), 2009. *Final Record of Decision for Parcel G, Hunters Point Shipyard, San Francisco, California.* February 18.

Innovative Technical Solutions, Inc. (ITSI), 2010. *Final Addendum to Project Work Plan, Petroleum Hydrocarbon Corrective Action Implementation Parcel B, Hunters Point Shipyard, San Francisco, California.* October.

Insight EEC, INC. (Insight), 2009. *Final Hunters Point Shipyard Parcel B, IR-26 Time Critical Removal Action, Removal Action Closeout Report, Hunters Point Shipyard, San Francisco, California.* January.

Jonas & Associates, Inc., 2008. *Second Five-Year Review of Remedial Actions, Hunters Point Shipyard, San Francisco, California*. September 8.

PRC, 1996. *Parcel B Feasibility Study, Final Report, Hunters Point Shipyard, San Francisco, California*. November 26.

PRC, Harding Lawson Associates, Levine-Fricke, and Uribe & Associates. 1996. *Parcel B remedial Investigation, Draft Final Report, Hunters Point Shipyard, San Francisco, California*. June 3.

SulTech, A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc., (SulTech), 2007. *Final Revised Feasibility Study for Parcel D, Hunters Point Shipyard, San Francisco, California.* November 30.

Tetra Tech EC, Inc. (TtEC), 1997a. *Final Parcel D RI Report, Hunters Point Shipyard, San Francisco, California*. January 31.

_____, 1997b. *Final Parcel D FS, Hunters Point Shipyard, San Francisco, California*. August 29.

_____, 2001. *Final Remedial Design Amendment, Parcel B, Hunters Point Shipyard, San Francisco, California.* February 20.

_____, 2008. *Final Parcel B Technical Memorandum in Support of a Record of Decision Amendment Radiological Addendum, Hunter Point Shipyard, San Francisco, California.* March 14.

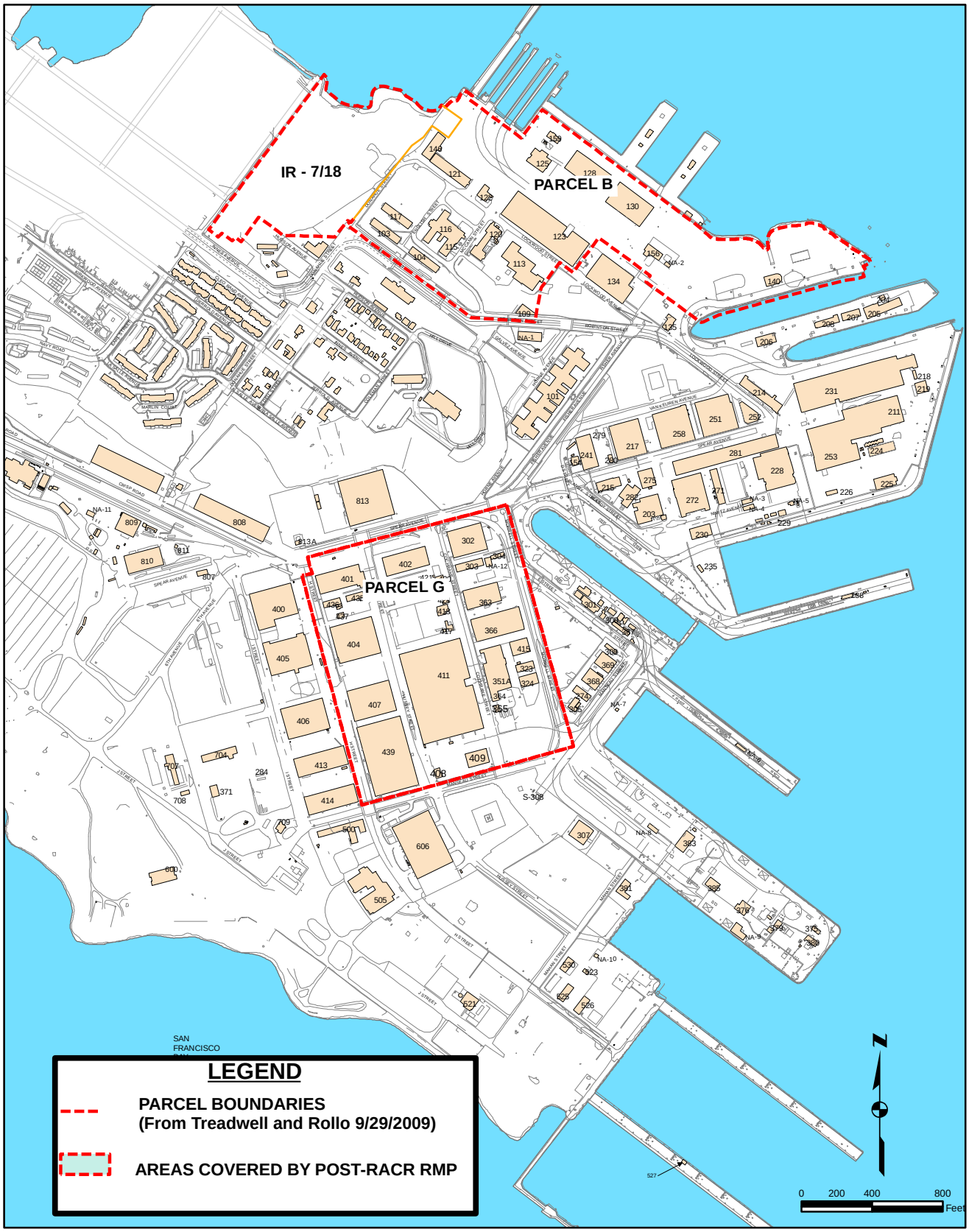
The Alliance Compliance Group Joint Venture (Alliance), 2010. *Draft Final Parcels D-1 and G Groundwater Treatability Study Technical Report, IR-09, IR-33 and IR-71, Hunters Point Shipyard, San Francisco, CA.* January.

TABLES

Table 1. Risk Management Plan Oversight Responsibilities

RMP Element	Responsible Oversight Agency	Additional Comments
Construction Worker Health and Safety	California Occupational Health and Safety Administration (Cal-OSHA)	
Dust Control	San Francisco Department of Public Health (SFDPH)	
Asbestos Dust Mitigation Plans	Bay Area Air Quality Management District	
Storm Water and Groundwater Management	Regional Water Quality Control Board	
Groundwater Discharges to Sanitary Sewer	SF Public Utilities Commission (SFPUC)	
Permits to engage in subsurface work	SFDBI or SFDPW	Subject to the requirements of Article 31 of the Health Code

FIGURES



MACTEC

PARCEL B and G LOCATION MAP
PARCEL B & G POST REMEDIAL ACTION COMPLETION REPORT
RISK MANAGEMENT PLAN
HUNTERS POINT NAVAL SHIPYARD
SAN FRANCISCO, CALIFORNIA

FIGURE 1

DRAWN	JOB NUMBER	CHECKED	CHECKED DATE	APPROVED	APPROVED DATE
RDR	4096097772				

Wednesday, December 16, 2009 11:51:39 AM
P:\4096\097756_HPS-CP\GIS\MXD\Parcel_B_map1.mxd

IR-10 Cr VI PLUME

IR-10 VOC PLUME

IR-25 VOC PLUME

IR 07/18

PARCEL B

IR-26 MERCURY PLUME

NON-NAVY PROPERTY

IR-06 VOC PLUMES

DRAFT

NOTES:

1. PROPOSED DEVELOPMENT LAYOUT FOR PARCEL B WAS DERIVED FROM W&K AND IBI MAPS AND INCLUDES PRIMARILY RESIDENTIAL DEVELOPMENT, PARKS/OPEN SPACE AND A SMALL AMOUNT OF NEIGHBORHOOD RETAIL.
2. ALL GROUNDWATER WELL LOCATIONS ARE APPROXIMATE AND WERE DERIVED FROM FIGURE 1 OF KLEINFELDER'S SEMI-ANNUAL GROUNDWATER MONITORING REPORT (OCTOBER 2007 - MARCH 2008)

LEGEND

IMPACTED GROUNDWATER (DERIVED FROM: FIG. 5-4, ALTERNATIVE GW-3A IN-SITU BIOREMEDIATION, MONITORED NATURAL ATTENUATION, AND INSTITUTIONAL CONTROLS, FEASIBILITY STUDY REPORT FOR PARCEL C, 7-26-08)

APPROXIMATE LOCATION OF VOC PLUMES "Figure 5-1, Final Parcel B ROD (January, 2009)"

APPROXIMATE LOCATION OF METALS PLUMES "Figure 5-1, Final Parcel B ROD (January, 2009)"

IR34MW37A GROUNDWATER MONITORING WELL

PARCEL BOUNDARY

IR 07 and 18 BOUNDARY

REDEVELOPMENT BLOCK 4 (MIXED USE)

NON-NAVY PROPERTY

PARCEL B (MIXED USE)

UTILITY CORRIDOR (UC-2)

PARCEL C

AREA REQUIRING INSTITUTIONAL CONTROL (ARIC) FOR SOIL VAPOR CONTROL *(NAVY FIGURE: Residential Exposure Risk Estimates from Vapor Intrusion of VOCs 12/2/2010)*

N

0 125 250
SCALE IN FEET

NO.	DATE	REVISIONS		
			DRAWN: JHD	PROJECT NO: 4096097772
			ENGINEER:	SCALE: AS SHOWN
			CHECKED:	APPROVED:
			DATE: 01/13/2011	DATE:

MACTEC

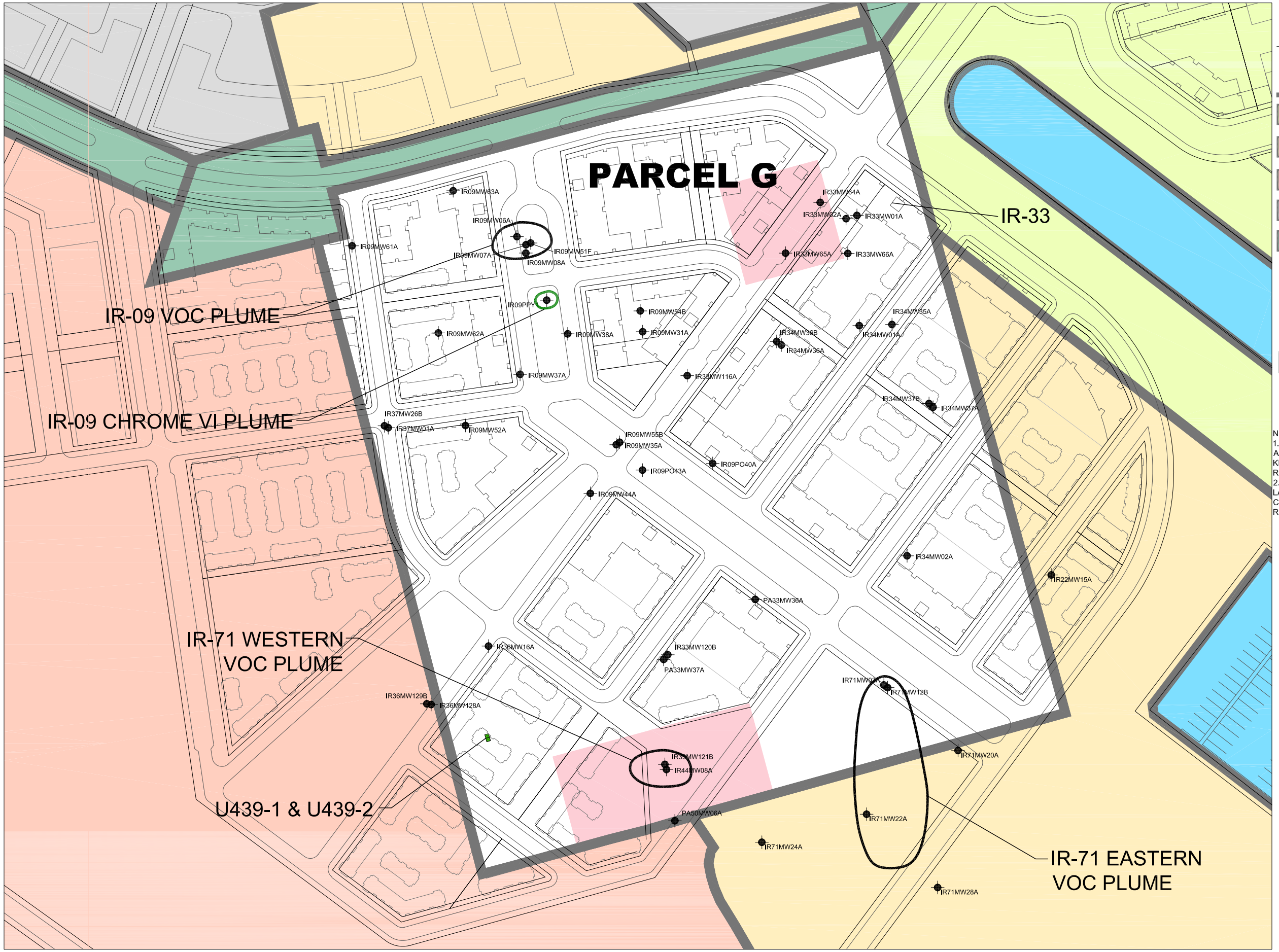
HUNTERS POINT / CANDLESTICK

INTEGRATED PROJECT
HUNTERS POINT NAVAL SHIPYARD
SAN FRANCISCO, CALIFORNIA

ENVIRONMENTAL CONDITIONS AND PROPOSED DEVELOPMENT PLAN
PARCEL B

FIGURE: 2

2011-01-13_RMP-2.DWG 300.0
20110113.0906



LEGEND

- IR34MW37A — GROUNDWATER MONITORING WELL
- CLOSED-IN-PLACE UST (U439-1 & U439-2)
- PARCEL BOUNDARY
- PARCEL C
- PARCEL D
- PARCEL E
- NON-NAVY PROPERTY
- UTILITY CORRIDOR (UC-1, 2, AND 3)
- APPROXIMATE LOCATION OF VOC PLUMES "Figure 7, Final Parcel G ROD (Feb. 2009)"
- APPROXIMATE LOCATION OF METAL PLUME
- PARCEL G
- AREA REQUIRING INSTITUTIONAL CONTROL (ARIC) FOR SOIL VAPOR CONTROL *(NAVY FIGURE: Residential Exposure Risk Estimates from Vapor Intrusion of VOCs 12/2/2010)*

NOTES:

1. ALL GROUNDWATER WELL LOCATIONS ARE APPROXIMATE AND WERE DERIVED FROM FIGURE 1 OF CE2 KLEINFELDER'S SEMI-ANNUAL GROUNDWATER MONITORING REPORT (OCTOBER 2007 - MARCH 2008)
2. THE PROPOSED NON-STADIUM OPTION DEVELOPMENT LAYOUT FOR PARCEL G WAS DERIVED FROM IBI MAPS AND CONSISTS OF RESIDENTIAL, PARKS AND NEIGHBORHOOD RETAIL.

N

0 100 200
SCALE IN FEET

DRAFT

NO.	DATE	REVISIONS

DRAWN: JHD	PROJECT NO: 4096097772
ENGINEER: DR	SCALE: AS SHOWN
CHECKED:	APPROVED:
DATE: 1/14/2011	DATE:

MACTEC

HUNTERS POINT / CANDLESTICK

INTEGRATED PROJECT
HUNTERS POINT NAVAL SHIPYARD
SAN FRANCISCO, CALIFORNIA

ENVIRONMENTAL CONDITIONS
AND PROPOSED DEVELOPMENT PLAN
PARCEL G

FIGURE: 3

2011-01-14_RMP-3.DWG 300.0
20110114.0855

APPENDIX A

CONTACT INFORMATION

APPENDIX A
Contact Information

FAA Signatory Points of Contact

DTSC
Mr. Ryan Miya
Project Manager
Department of Toxic Substances Control
700 Heinz Avenue, Suite 200
Berkeley, CA 94710
Phone: 510-540-3775
Email: RMiya@dtsc.ca.gov

RWQCB
Mr. Ross Steenson
Project Manager
San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612
Phone: 510-622-2445
Email: rsteenson@waterboards.ca.gov

U.S. EPA
Mr. Mark Ripperda
Project Manager
U.S. Environmental Protection Agency, Region 9
75 Hawthorne Street
San Francisco, CA 94105
Phone: 415-972-3028
Email: Ripperda.Mark@epa.gov

U.S. Navy
Mr. Keith Forman
BRAC Environmental Coordinator
BRAC Program Management Office West
1455 Frazee Road, Suite 900
San Diego, CA 92108-4310
Phone: 619-532-0913
Email: keith.s.forman@navy.mil

Other Points of Contact

San Francisco City and County Department of Public Health
Ms. Amy Brownell
Environmental Engineer
1390 Market Street, Suite 210
San Francisco, CA 94102
Phone: 415-252-3800
California State Lands Commission

100 Howe Avenue, Suite 100 South
Sacramento, CA 95825
Phone: 916-574-1900

U.S. Army Corps of Engineers
1455 Market Street
San Francisco, CA 94103
Phone: 415-503-6773

U.S. Fish and Wildlife Service
2800 Cottage Way
Sacramento, CA 95825
Phone: 916-414-6464

San Francisco Bay Conservation and Development Commission
50 California Street, Suite 2600
San Francisco, CA 94111
Phone: 415-352-3600

San Francisco Main Library
100 Larkin Street
Government Information Center, 5th Floor
San Francisco, CA 94102
Phone: 415-557-4500

APPENDIX B

ANNUAL INSPECTION REPORT

POST-RACR RISK MANAGEMENT PLAN (RMP)
REMEDY OPERATION AND MAINTENANCE PLAN (O&M)
ANNUAL REPORT
FOR
PARCELS B and G, HUNTERS POINT SHIPYARD
SAN FRANCISCO, CALIFORNIA

Property Owner:	Owner Contact Information:
Report Preparer Name and Affiliation:	Report Preparer Contact Information:
Property Address:	
Date and Time of Inspection:	Weather and tidal conditions at time of inspection:

INTRODUCTION:

In accordance with the final Records of Decision (RODs) for Parcels B and G at the former Hunters Point Shipyard (HPS) in San Francisco, California, environmental cleanup activities were implemented to provide for protection of human health and the environment. The cleanup activities are overseen by the United States Environmental Protection Agency (USEPA), the California Department of Toxic Substances Control (DTSC) and the Regional Water Quality Control Board (RWQCB). These agencies plus the Navy, as the previous landowner and CERCLA responsible party, are referred to as the Federal Facility Agreement (FFA) signatories. The FFA is an agreement entered into by the agencies to carry out the remediation of HPS. This Post-Remedial Action Completion Report Risk Management Plan (hereafter referred to as the Post-RACR RMP) has been prepared for Parcels B and G to provide procedures and protocols that shall be used to conduct "pre-approved restricted activities" on Parcels B and G following transfer of property from the Navy to other landowners where the remedy has been implemented.

This Annual Report form has been designed such that the annual reporting for Post-RACR RMP compliance and O&M inspection obligations can be comprehensively addressed and documented. The objectives of the Annual Report are to provide the necessary information to verify that field activities and related risk management measures that have been conducted during the reporting period meet the requirements of the Post-RACR RMP and O&M Plans, if applicable. The Annual Report and O&M inspection checklist should include field notes and photographs taken at the time of the inspection to document the condition of the site at the time of the inspection.

As outlined in the RMPs, certain activities are allowed to progress without first gaining approval of the FFA Signatories (defined as the USEPA, DTSC, RWQCB and US Navy). These activities are called ***Pre-Approved Activities*** and are discussed in more detail in Section 3.1.1 of the Post-RACR RMP. Certain other activities are NOT allowed to progress without first gaining the approval of the FFA Signatories. These activities are called ***Restricted Activities Requiring FFA Signatory Approval*** and are discussed in more detail in Section 3.1.2 of the Post-RACR RMP. Notification and Reporting requirements are discussed in Section 4.0 of the Post-RACR RMP.

The requirements for long-term Operation, monitoring, and maintenance (O&M) for the durable cover and the shoreline revetment are provided in the Parcels B and G Remedial Design (RD) documents. These long term O&M obligations are independent of the Post-RACR RMP. The O&M obligations (see Post-RACR RMP Section 2.4) also include annual inspection and reporting requirements for the remedies in place. This Annual Report has been designed to satisfy the reporting obligations under both the Post-RACR RMP and the long term O&M as outlined in the Parcels B and G RD documents.

This Annual Report is organized into four Sections. Section 1 provides documentation for Pre-Approved Activities and Section 2 provides documentation for Restricted Activities Requiring FFA Signatory Approval. If Restricted Activities Requiring FFA Signatory Approval were conducted during the reporting period, the approved Work Plan and corresponding Closure Report must be submitted as attachments to this Annual Report. Section 3 provides an inspection checklist, prepared by the Navy for O&M activities, and Section 4 provides a summary of action items that are planned and must be completed to remain in compliance with the Post-RACR RMP.

SECTION 1: PRE-APPROVED ACTIVITIES

SECTION 1A: ACTIVITY DESCRIPTION

Indicate which pre-approved activities have been completed during the reporting period (See Post-RACR RMP Section 3.1.1):	☐ Soil excavation, grading and movement of soil within Parcels B and G or moving of soil from Parcel A onto Parcel B and/or G. Transporting soil offsite	Description of activity (attach photographs and additional sheets as necessary):
	☐ Construction of roads, utilities, facilities, structures, and appurtenances of any kind	Description of activity (attach photographs and additional sheets as necessary):
	☐ Demolition and/or removal of hardscape (e.g., existing concrete or asphalt roadways, parking lots, existing foundations, and existing sidewalks)	Description of activity (attach photographs and additional sheets as necessary):
	☐ Any activity, not listed above, that moved subsurface soil directly underneath an approved durable cover (e.g., trenching, pothole excavations, scarifying, etc.)	Description of activity (attach photographs and additional sheets as necessary):

	☐ In-kind removal and replacement of an approved durable cover for areas less than one acre	Description of activity (include square footage of area undergoing removal/replacement and attach photographs and additional sheets as necessary):
	☐ Construction of new street sections (street, curb, gutter, sidewalk, landscape median) for all areas, including areas one acre in size or greater, as long as the street section construction meets appropriate City building codes and/or standard specification.	Description of activity (include square footage of area undergoing removal/replacement and attach photographs and additional sheets as necessary):
	☐ Grading or other movement of soil	Description of activity (attach photographs and additional sheets as necessary):
	☐ Temporary dewatering of below grade excavations (e.g., utility trenches, building foundations, etc.) in areas that are greater than 200 feet from an active groundwater remediation area.	Description of activity (attach photographs and additional sheets as necessary):
	☐ Disturbance of existing shoreline protection, sea walls, bulkheads, etc.	Description of activity (attach photographs and additional sheets as necessary):
	☐ Importation of Soil in accordance with approved SIP	Description of activity (attach photographs and additional sheets as necessary):
SECTION 1B: GENERAL SITE MANAGEMENT ACTIVITIES		
Was an environmental health and safety plan prepared for all work indicated in Section 1A, above?	☐ Yes ☐ No	Attach copy of plan(s)
Was a Dust Control Plan prepared for all work indicated in Section 1A,	☐ Yes	Attach copy of plan and monitoring data collected in accordance with the plan for each activity conducted above.

above?	☐ No	
Was an Asbestos Dust Mitigation Plan prepared for all work indicated in Section 1A, above?	☐ Yes ☐ No	Attach copy of plan and monitoring data collected in accordance with the plan for each activity conducted above.
Was a storm water pollution prevention plan prepared for all work indicated in Section 1A, above?	☐ Yes ☐ No	Attach copy of plan and monitoring data collected in accordance with the plan for each activity conducted above.
SECTION 1C: SOIL MANAGEMENT ACTIVITIES		
For all soil management activities indicated in Section 1A, was surplus soil disposed off-site?	☐ Yes ☐ No	If yes, please attach copies of waste profile, waste manifest, name, address and contact of disposal facility:
For all soil management activities indicated in Section 1A, was soil transported and placed in an on-site location other than its place of origin?	☐ Yes ☐ No	If yes, describe the quantity of soil, origin of soil, location of placement:
For any activities indicated in Section 1A, was soil imported to the site for use as fill material?	☐ Yes ☐ No	If yes, describe the quantity, source/origin of soil, location of placement, attach soil chemical profile, provide letter certifying that the imported soil meets the soil import criteria (see RMP, Appendix D):
Indicate any unexpected and/or unknown conditions encountered during soil excavation activities:	☐ Evidence of soil contamination (strong odor, visible oily liquid, discolored or stained soil, etc.)	Describe condition and action taken (attach photographs and additional sheets if necessary):
	☐ Undocumented structures (e.g. underground storage tanks, buried sumps, oil water separators, refractory brick, pipelines, etc.)	Describe condition and action taken(attach photographs and additional sheets if necessary):
	☐ Abrasive blast material	Describe condition and action taken(attach photographs and additional sheets if necessary):

	☐ Radiological devices (e.g. radium dials)	Describe condition and action taken(attach photographs and additional sheets if necessary):
	☐ Free phase liquid floating on the groundwater (e.g. floating oil)	Describe condition and action taken(attach photographs and additional sheets if necessary):
SECTION 1D: GROUNDWATER MANAGEMENT ACTIVITIES		
For all groundwater dewatering activities, was water discharged to the sanitary sewer or storm drain under an NPDES or SFPUC batch wastewater discharge permit?	☐ Yes ☐ No	If yes, attach copy of NPDES permit and compliance documentation. If no, how was water disposed?
For all groundwater not discharged under an NPDES or SFPUC permit, indicate disposal details:	☐ Water recycled and used for dust control ☐ Water contained and allowed to percolate back into groundwater ☐ Water contained and allowed to evaporate ☐ Other (describe):	Provide and attach supporting information including volume of water, chemical test results, approval letters, etc.
SECTION 2: RESTRICTED ACTIVITIES REQUIRING FFA SIGNATORY APPROVAL		
SECTION 2A: ACTIVITY DESCRIPTION		
Indicate if any activities involved the alteration, disturbance or removal of any component of a response or cleanup action in conflict with planned redevelopment activities	☐ Groundwater monitoring well and/or groundwater remediation system, including extraction wells, conveyance piping, and treatment system.	Description of activity (attach photographs and additional sheets as necessary):
	☐ Soil vapor extraction system, including	Description of activity (attach photographs and additional

	extraction wells, monitoring wells, conveyance piping and treatment system.	sheets as necessary):
	☐ Change in durable cover type from hardscape (asphalt, concrete, building foundations, etc.) to soil or landscape (planter areas, grass parkway/lawn areas, vegetated land surfaces, etc.) or from soil/landscape to hardscape.	Description of activity (include square footage of area undergoing change and attach photographs and additional sheets as necessary):
	☐ In-kind removal and replacement of durable cover for areas equal to, or in excess of one acre – except construction of new street sections (street, curb, gutter, sidewalk, landscape median) for all size areas, including areas one acre in size or greater, is pre-approved as long as the street section construction meets appropriate City building codes and/or standard specifications. Road section construction should be noted under appropriate pre-approved activity section.	Description of activity (include square footage of area undergoing removal/replacement and attach photographs and additional sheets as necessary):
	☐ Temporary dewatering of below grade excavations (e.g., utility trenches, building foundations, etc.) in areas that are within 200 feet of an active groundwater remediation area.	Description of activity (attach photographs and additional sheets as necessary):
SECTION 2B: REQUIRED DOCUMENTATION FOR ALL ACTIVITIES REQUIRING FFA APPROVAL		

For all restricted activities requiring a Work Plan/Activity Closeout Report and related FFA signatory approval, indicate which documentation was produced:	☐ Work Plan	Attach copy of Work Plan and FFA Signatory Work Plan approval letter for each activity requiring a Work Plan.
	☐ Monitoring documentation in accordance with Work Plan	Attach all required monitoring records and data. (include photographs and additional sheets as necessary).
	☐ Activity Closeout Report	Attach copy of Activity Closeout Report, including monitoring documentation and FFA signatory approval of Closeout Report for each activity indicated above.

SECTION 3: OPERATION AND MAINTENANCE PLAN CHECKLIST
(Reference: Final Design Basis Report, Operations and Maintenance Plan, Parcels B and G (Navy, DATE) *Owner to follow checklist as applicable to property conditions.*

Insert Final Navy O&M checklist in its entirety in this location

		ACTION COMPLETION DATE

SECTION 4: ACTIONS TO BE COMPLETED

FOLLOW UP ACTION DESCRIPTION	☐ Owner Name: Phone #: ☐ Tenant Name: Phone #: ☐ Contractor Name: Phone #: Developer Name: Phone #:	Target Completion Date:
1.	☐ Owner Name: Phone #: ☐ Tenant	Target Completion Date:

	Name: Phone #: ☐ Contractor Name: Phone #: ☐ Developer Name: Phone #:	
2.	☐	
	☐	
SECTION 5: RESOLUTION OF PREVIOUS REPORT ACTION ITEMS		
1.Previous Action Item	Action Taken:	Date Completed:
2. Previous Action Item	Action Taken:	Date Completed:

Certification Statement:
Under penalty of perjury, I certify that the above information is true and correct and appropriately reflects the activities that have occurred during the inspection period and the condition of the site is as represented at the time of the inspection.
By:_____ Company:_____
Name:_____ Date:_____
Title:_____ Registration number and expiration date:_____

IC Compliance Monitoring Report

Hunters Point Shipyard, San Francisco, California
Parcel B, Excluding Installation Restoration Sites 7 and 18

EPA I.D. CA1170090087

Inspection and Enforcement entity: _____

This evaluation is the final Navy certification just prior to site conveyance (yes or no) _____

If for an annual inspection, this evaluation covers the period from _____ through _____.

Certification Checklist

		In Compliance	Non-Compliance	See Comment
1)	No use of areas at Parcel B designated for open space, educational/cultural, and industrial land use for a residence, including any mobile home or factory-built housing, constructed or installed for use as residential human habitation, a hospital for humans, a school for persons under 21 years of age, or a day care facility for children.[a]	☐	☐	☐
2)	No growing of vegetables, fruits, or any edible items in native soil for human consumption.	☐	☐	☐
3)	No groundwater use for any purpose (No evidence of tampering with existing wells or evidence of new wells)	☐	☐	☐
4)	No land-disturbing activity[a] (excavation; construction of roads, utilities, or structures; demolition of hardscape; movement of soil from below ground surface to the surface; or activity that facilitates movement of known contaminated groundwater)	☐	☐	☐
5)	No installation of new groundwater wells of any type[a].	☐	☐	☐

		In Compliance	Non-Compliance	See Comment
6)	No altering, disturbing, or removing components of the remedy including revetment, soil cover/cap, or groundwater monitoring wells and associated equipment[a].	☐	☐	☐
7)	No construction of enclosed structures in areas outside of Redevelopment Block 4[a].	☐	☐	☐
8)	No removal or damage to security features (such as locks on monitoring wells, site fencing, or signs) or to survey monuments, monitoring equipment, piping or other appurtenances.	☐	☐	☐
9)	Notification provided for any unauthorized change in land use.	☐	☐	☐
10)	Any violations of these LUCs were reported within 10 business days of discovery and an explanation provided of those actions taken or to be taken was provided within 10 days of notification of discovery.	☐	☐	☐

I, the undersigned, hereby certify that the above-described land use restrictions have been complied with for the period noted. Alternately, any known deficiencies and completed or planned actions to address such deficiencies are described in the attached explanation of deficiencies.

_____ _____

Signature Date

Notes and Comments:

a These prohibited or restricted activities may be conducted provided that the requirements in the LUC RD are followed. If the inspector finds that a prohibited or restricted activity has occurred, the inspector shall check whether the activity was conducted in accordance with approved plans for that activity. Activities that are conducted in accordance with the approved plans will be considered "in compliance." Comments should be attached to the compliance checklist to describe how the requirements in the plans were adhered to. Activities that are not conducted in accordance with the approved plans would be considered "non-compliance."

Photographs, in addition to other notes and forms, to document the conditions certified in this checklist should be provided.

Send the completed form and all accompanying information by certified mail, return receipt requested, to the Navy, EPA, DTSC, and Regional Water Board each calendar year.

ANNUAL IC COMPLIANCE CERTIFICATE

Parcel B
Excluding Installation Restoration Sites 7 and 18
Hunters Point Shipyard, San Francisco, California

EPA I.D. CA1170090087

I _____ hereby certify that the attached Parcel B Institutional Control Compliance Monitoring Report is complete and accurate. The requirements of LUC RD report Section 4.0 have been met. I further certify that a copy of this compliance certificate and the attached Parcel B Institutional Control Compliance Monitoring Report have been sent to the following addressees:

_____
(Name and title)

INSPECTION RECORD (PRELIMINARY) – PARCEL B EXCLUDING IR-07/18, HUNTERS POINT SHIPYARD, SAN FRANCISCO, CA

Date and time of inspection:	**Inspector name and organization:**
Weather and tidal conditions – include details of most recent rain event:	
Reason for inspection (circle one): **Scheduled** **Emergency response**	**If inspection is initiated by an emergency response, explain condition:**

GENERAL SITE CONDITION (APPLIES TO ALL AREAS OF SITE)

ITEM	INSPECTION FREQUENCY	ACTION/ INSPECTION ITEM	COMMENTS — INCLUDING EXPLANATION IF NOT COMPLETED. INCLUDE ANY PHOTO DESCRIPTIONS
Overall condition of site	Every inspection (at least annual)	Note general conditions. Trash and debris accumulation, unauthorized access, etc.	
Land use	Every inspection (at least annual)	Digging or unauthorized land use per LUC RD	

INSPECTION RECORD (PRELIMINARY) – PARCEL B EXCLUDING IR-07/18, HUNTERS POINT SHIPYARD, SAN FRANCISCO, CA (CONTINUED)

SITE SECURITY			
ITEM	**INSPECTION FREQUENCY**	**ACTION/ INSPECTION ITEM**	**COMMENTS — INCLUDING EXPLANATION IF NOT COMPLETED. INCLUDE ANY PHOTO DESCRIPTIONS**
Security of area	Every inspection (at least annual)	Assess condition of fence, including holes, corrosion, digging, and concrete condition – repair as necessary	
		Condition of locks, fencing, and gates – repair and replace as necessary	
		Note signs of vandalism	
		Assess condition of access roads and gates	
		Note evidence of unauthorized access	
Site signage	Every inspection (at least annual)	All signs in place and secure – repair and replace as necessary	
		Wording legible – replace and repair as necessary or document degradation	
		Note signs of vandalism	
GROUNDWATER MONITORING WELLS			
Groundwater monitoring wells	During all sampling events and every inspection (at least annually)	Security (locks intact) – repair and replace as necessary	
		Vandalism/signs of unauthorized access	
		Well box is free of obstructions	
		Well casing is free of obstruction	
		Seals not damaged	

INSPECTION RECORD (PRELIMINARY) – PARCEL B EXCLUDING IR-07/18, HUNTERS POINT SHIPYARD, SAN FRANCISCO, CA (CONTINUED)

ASPHALT PAVEMENT COVER			
ITEM	**INSPECTION FREQUENCY**	**ACTION/ INSPECTION ITEM**	**COMMENTS — INCLUDING EXPLANATION IF NOT COMPLETED. INCLUDE ANY PHOTO DESCRIPTIONS**
Surface Inspection	Every inspection (at least annual)	Assess cracking in asphaltic concrete layer	
		Assess cracking in foundations	
		Assess the crawl space access to maintain the prevention of access	
		Inspect transitions between cover and utility features	
		Evidence of settlement and subsidence	
		Note evidence of burrowing pests	
		Assess condition of survey benchmarks	
		Assess accumulation of soils over cover	
		Inspect areas of previous repair	
		Remove any vegetative species and repair asphalt	
		Note signs of excessive traffic	
		Note signs of unauthorized access to the site or the buildings	

INSPECTION RECORD (PRELIMINARY) – PARCEL B EXCLUDING IR-07/18, HUNTERS POINT SHIPYARD, SAN FRANCISCO, CA (CONTINUED)

ASPHALT PAVEMENT COVER (Continued)			
ITEM	**INSPECTION FREQUENCY**	**ACTION/ INSPECTION ITEM**	**COMMENTS — INCLUDING EXPLANATION IF NOT COMPLETED. INCLUDE ANY PHOTO DESCRIPTIONS**
Stormwater drainage	Every inspection (at least annual)	Observe areas of accumulated water for cracking and settlement	
		Remove trash and debris from catch basins	
		Note integrity and function of outfalls	
		Monitor areas of accumulation in the vicinity of site buildings	
		Note evidence of overflow in drainage channels	
		Remove trash or debris from drainage channel	
		Note any change in condition of drainage contributing areas	
SOIL COVER			
Vegetation	Every inspection (at least annual)	Assessment of unhealthy/bare areas (not to exceed 2% of total area or >30% of any 100 ft^2 area.	
		Note evidence of burrowing pests	
		Assess adequacy of mowing and watering	
		Remove or kill weed species	
		Note signs of excessive traffic	
		Note signs of unauthorized access	

INSPECTION RECORD (PRELIMINARY) – PARCEL B EXCLUDING IR-07/18, HUNTERS POINT SHIPYARD, SAN FRANCISCO, CA (CONTINUED)

SOIL COVER (Continued)			
ITEM	**INSPECTION FREQUENCY**	**ACTION/ INSPECTION ITEM**	**COMMENTS — INCLUDING EXPLANATION IF NOT COMPLETED. INCLUDE ANY PHOTO DESCRIPTIONS**
Soil cover	Every inspection (at least annual)	Note evidence of cover settlement	
		Evidence of slope failure along boundaries and slope transition areas	
		Evidence of cracking or soil movement	
REVETMENT			
Crest inspection	Every inspection (at least annual)	Note evidence of settlement or movement	
		Note evidence of wave overtopping	
		Inspect transition from cover to revetment	
		Assess any areas of erosion	
		Inspect for proper placement of filter fabric	

INSPECTION RECORD (PRELIMINARY) – PARCEL B EXCLUDING IR-07/18, HUNTERS POINT SHIPYARD, SAN FRANCISCO, CA (CONTINUED)

REVETMENT (Continued)			
ITEM	**INSPECTION FREQUENCY**	**ACTION/ INSPECTION ITEM**	**COMMENTS — INCLUDING EXPLANATION IF NOT COMPLETED. INCLUDE ANY PHOTO DESCRIPTIONS**
Armoring inspection	Every inspection (at least annual)	Note evidence of settlement or movement	
		Note placement and stability of rip rap	
		Inspect for proper placement of filter fabric and filter layer	
Toe and flank inspection	Every inspection (at least annual)	Note areas of scour and erosion	
		Inspect for proper placement of filter fabric and filter layer	
		Note changes in the bay slope	
SVE SYSTEM			
System shutdown	Each SVE site visit	Document any system shut down	
System configuration	Each SVE site visit	Record extraction wells in use	
		Record duration of extraction at each well or optimization	
Extraction wells	Each SVE site visit	Monitor vacuum pressure at each well	
		Check for leaks	
		Monitor VOCs at each well	

INSPECTION RECORD (PRELIMINARY) – PARCEL B EXCLUDING IR-07/18, HUNTERS POINT SHIPYARD, SAN FRANCISCO, CA (CONTINUED)

SVE SYSTEM (Continued)			
ITEM	**INSPECTION FREQUENCY**	**ACTION/INSPECTION ITEM**	**COMMENTS — INCLUDING EXPLANATION IF NOT COMPLETED. INCLUDE ANY PHOTO DESCRIPTIONS**
Soil gas monitoring wells	Each SVE site visit	Monitor vacuum pressures	
Extracted water	Each SVE site visit	Check amount of water extracted	
		Dispose of extracted water as necessary	
GAC units	Each SVE site visit	Check influent concentration with FID	
		Check effluent concentration with FID	
		Laboratory analysis as necessary	
Knock out drum	Each SVE site visit	Check for accumulated sediments	
System components	Each SVE site visit	Maintain according to manufacturer	
General operational	Each SVE site visit	Record operating hours	
		Record vapor flow rate at treatment system influent	
		Assessment of configuration – optimization	

INSPECTION RECORD (PRELIMINARY) – PARCEL B EXCLUDING IR-07/18, HUNTERS POINT SHIPYARD, SAN FRANCISCO, CA (CONTINUED)

OTHER OBSERVATIONS:

FOLLOW-UP ACTIONS (Include area requiring further action):

Signature _____ Date _____

Notes: Inspections should be completed on at least an annual basis for all components of the remedy other than the SVE system. Every inspection, as used in the inspection frequency, includes both scheduled annual inspections and inspections triggered by emergency responses. All items on the checklist should be included in all inspections triggered by emergency responses in addition to the scheduled annual inspections.

Use professional judgment and site experience to identify whether inspections are necessary following significant earthquakes, regardless of location and magnitude. Inspections after hurricane-level storm events should be conducted and adjust the storm response trigger over time based on site experience.

The O&M contractor may determine the appropriate trigger for inspection and emergency response from the following information resources:

- Emergency Response Plan - Earthquake Annex (San Francisco 2008).
- City and County of San Francisco Outdoor Warning System.
- Emergency Alert System (EAS). The primary local EAS broadcast station for the Bay Area is KCBS (740 AM). EAS messages may be sent via the Internet-based HazCollect system (maintained by the National Oceanic and Atmospheric Administration).

- Public service announcements through radio and television, including radio broadcasts using the San Francisco Unified School District radio station, KALW.
- On-scene loudspeaker announcements.
- The AlertSF system. Operational from the city's Emergency Operations Center and will provide the ability to send broadcast digital messaging to any number of groups, such as vulnerable populations, large business owners, and community-based organizations.
- The National Earthquake Information Center (NEIC) and the USGS Earthquake Notification Service (ENS). These provide notifications of earthquakes free to interested parties. Users of the service can specify the regions of interest, establish notification thresholds of earthquake magnitude, designate whether they wish to receive notification of aftershocks, and even set different magnitude thresholds for daytime or nighttime to trigger a notification. (Congressional Research Service 2010)
- ShakeMap. A product of USGS Earthquake Hazards Program in conjunction with regional seismic network operators and provides MM intensities (listed as "instrumental intensity" on the ShakeMap). ShakeMaps are now triggered automatically and made available within minutes of the event via the Internet including Parcel B (USGS 2010).

The threshold level for inspection and emergency response in the event of seismic activity is recommended to be MM intensity VII reported at Parcel B or within the South San Francisco area.

INSPECTION AND REPAIR PROCEDURES

The site will be visited and the cover and revetment inspected quarterly for the first year and annually thereafter – or as necessary based on the results of the inspections. The SVE system will require more regular inspection, weekly, during the operation of the system. At a minimum, the following materials should be brought to the site for each site visit and this list should be adapted over time based on previous inspections conducted by the contractor:

- Camera
- O&M plan
- LUC RD report
- Appropriate documentation materials including any inspection checklists
- Copies of appropriate maps and figures
- O&M logbook
- Telephone and contact list
- Common items requiring replacement (locks, well caps, well seals, and similar equipment)
- Previous inspection reports and photos of concern – as necessary
- Appropriate personal protective equipment for inspection and minor repairs
- Flame ionization detector (FID) during SVE system inspections

Inspection reports summarizing the findings of the inspections should be filed promptly with the property owner following the inspection and in cases where significant damage has been observed the property owner should be notified as soon as possible. The format of reporting documents, scheduling, and timing of this communication will be determined when an O&M contractor is identified.

Significant issues of vandalism and theft, especially when recurring, should be reported to police and may result in increased inspection frequency.

Basic repairs can be conducted on site at the time of inspections. These kinds of repairs may include but are not limited to: replacement of signage, replacement of monitoring well locks and protective caps, replacement of piping and fittings of the SVE system, filling in of small gullies caused by water erosion, removing and prevention of accumulated soils, and patching or sealing of cracks in the asphaltic concrete and building foundations.

Significant repairs may include but are not limited to: adding cover material, replacement of key SVE system components, filling of areas over the cover, and cover repairs associated with the exposure of the underlying material. This level of repair will require specialized equipment and materials and should be conducted by an appropriate contractor in accordance with the design- and construction-related documents including the record drawings and the construction specifications. Repairs such as these will have a potential impact to the protectiveness of the

remedy and should be conducted under the supervision of a California-licensed professional engineer and in accordance with a work plan approved by the federal facility agreement (FFA) signatories.

The following is a general list of procedures to be used during the site inspection process and should be adapted based on site conditions as they evolve over time. The list is based on the above Inspection Summary and Inspection Frequency table.

General Site Conditions

- The perimeter of the site should be inspected for signs of breaching and degradation. Issues should be documented in inspection summary reports and photographs should be taken of any areas of concern and the exact location documented.
- The revetment portion of the site should be inspected during low tide so the full extent of the structure can be viewed.
- Trash, debris, or other materials should be removed from the site and disposed of properly. This also includes debris that may wash up onto the revetment and vegetation along the revetment.
- Any issues of concern should be reported to the property owners as necessary. Repairs to the fence should be scheduled with an appropriate contractor.
- Any unauthorized digging or land use inconsistent with restrictions specified in the LUC RD on the site should be recorded and the property owner notified. FFA signatories will be advised of unauthorized property use through submittal and review of annual inspection reports.

Site Security

- Signs should be inspected for integrity and vandalism. Structural issues should be dealt with appropriately during the inspection when possible or scheduled with an appropriate contractor.
- If the signs begin to visually degrade, photographs should be taken to document and monitor degradation and signs should be replaced promptly when necessary.
- Any stolen signs or signs damaged beyond repair should be replaced promptly.
- Fence materials should be replaced as necessary using like materials when corrosion, cuts, or other damage compromise the material.
- Gates should be inspected to ensure proper operation and locks replaced as needed.
- The condition of any designated access points to the site should be inspected for damage.

Groundwater Monitoring Wells

- Protective features such as casing, pads, and lids should be inspected for integrity. Damages should be documented through photographs. Slight damages can be monitored over time but damages that may jeopardize the functionality of the well or probe should be reported and repaired promptly.
- Vandalism and theft of any materials related to the wells or probes should be remedied promptly. Repair may include replacing locks, caps, and other items or covering vandalized items with paint.
- Access to wells should be inspected to insure that they are accessible and free of obstructions. This is especially important in situations where locks or well caps are missing or when there are other signs that the well has been breached. Appropriate probes can be used to check that obstructions do not exist within the well itself.
- Any issues should be recorded through photographs and written descriptions, and the well locations recorded.
- Any repair needing immediate attention should be promptly reported to the property owner for scheduling with appropriate contractors.

Asphalt Pavement Cover and Building Foundations

- The cover should be inspected systematically over the extent of the cover. Particular attention should be given to areas that abut buildings, drainage areas, areas of accumulated water, and the portion where the cover meets the off-site grade.
- Areas where the asphaltic concrete or a building foundation has been damaged by cracking should be documented, photographed, and monitored.
- Access to crawl spaces beneath building foundations must remain inaccessible. Repair as needed to maintain the condition.
- Surveyed benchmarks should be inspected. If damages are observed, the benchmarks should be replaced and resurveyed by a licensed surveying contractor.
- Areas of settlement should be recorded. Minor settlement is not an immediate concern but should be monitored over time. Major settlement could require specialized labor and personnel for repair or replacement of the cover materials.
- Areas of water accumulation should be monitored and may require filling if cracking becomes a recurring or constant issue. Use of appropriate contractors and equipment may be necessary.
- Inspect the drainage channels and record overall conditions, remove obstructions, and note evidence of channel flow and flow depths.

- Observe changes at adjoining parcels that would affect storm water flow at the site.
- Repairs to the asphalt pavement cover should follow the procedures outlined in the design and construction reports and the included repair specifications, and should be based on the record drawings.
- Maintain buildings in a locked and inaccessible condition. If unauthorized access to the buildings is noted, repair entry points as needed to prevent further access. Use new locks or other physical controls as needed.
- The cover must be repaired in accordance with Section 3.2 of the design basis report and the repair specifications included as Attachment 3 to this O&M plan.

Soil Cover

- The cover should be inspected systematically over the extent of the cover. Particular attention should be given to the side slopes and drainage areas.
- Areas where vegetation has been damaged should be documented, photographed, and monitored. The vegetative cover should naturally regenerate without additional seeding. If the damaged areas do not regenerate or are extensive, the seeding mix provided in this O&M plan should be consulted when replanting.
- The record drawings should serve as the basis of comparison to document changes in the cover.
- Areas of settlement should be recorded. Minor settlement is not an immediate concern but should be monitored over time. Major settlement could require specialized labor and personnel for repair.
- Areas of erosion or soil displacement by slumping should be recorded and repaired promptly. These repairs, when minor, could be completed during the inspection. Use of appropriate contractors and equipment may be necessary.
- Evidence of burrowing pests should be noted and monitored over time. Pest control measures may be necessary if damage to the cover occurs.
- Repairs to the soil cover should follow the procedures outlined in the design and construction reports and the included repair specifications, and should be based on the record drawings.
- Mowing should be conducted when grasses are greater than 2 feet in height. Do not remove more than 1/3 total height within a 1-week period. Maintain a minimum grass height of 6 inches.

Revetment

- The limits of the revetment should be inspected for vandalism or theft of materials and documented or replaced accordingly. The revetment should be compared to the record drawings.
- Any shifting of materials or settlement should be recorded. This should be done through comparison to previous inspections. Shifting and settling is anticipated to occur and does not impact the integrity of the structure, but should be monitored.
- The toe portion of the revetment should be inspected during low tide so that the structure can be properly observed. Photos of the revetment should be taken as necessary.
- Trash or debris that may have accumulated on the revetment should be removed and disposed of properly. Excessive nuisance vegetation should be removed from the structure.
- The toe portion and the flanks of the revetment should be inspected for signs of settlement, changes in slope, and undercutting and erosion. The toe portion should be fully covered by sediment and any exposure of rocks should be recorded. Exposure of the armoring material does not jeopardize the integrity of the structure but should be monitored over time.
- Exposure of the filter fabric indicates that the revetment armoring has been displaced. This exposure should be recorded and repairs made through the addition of material. Inspect integrity and consistency of subgrade.
- Areas where additional revetment armoring rock may be necessary should be replaced promptly. Procedures summarized in the design and construction documents should be followed, and repair should be made based on the record construction drawings and the repair specifications provided.
- The crest of the revetment should be inspected for degradation and the movement of rock.
- Any signs of wave overtopping of the revetment should be documented and monitored over time.

SVE System

- Maintain equipment in accordance with the manufacturers' specifications.
- Record vacuum pressures at the extraction wells and the monitoring points. Repair if significant increases or decreases are observed from the previous inspection.

- Record flame ionization detector (FID) reading at each monitoring point and extraction well. Extraction wells with low readings should be taken off line as necessary to allow for rebound to occur prior to bringing the extraction well back on line.
- Assess influent and effluent concentrations to the GAC units in the field and collect laboratory samples on the first and last day of the first week and at least once every 90 calendar days thereafter. Exchange GAC as necessary.
- Record vapor flow rates entering the treatment system. Investigate and document issues related to low rates.
- Measure and record ambient temperature, weekly precipitation, groundwater levels, and SVE system temperatures.
- Inspect all piping and fittings and replace as necessary if leaks are observed. Significant leaks that cannot be repaired will result in taking extraction points off line or shutting down the system until repairs can be made.
- Monitor liquid levels in the knockout drum and the water in the accumulation tank. Dispose as necessary.
- Remove accumulated sediment from the knock out drum as necessary.

Attachment B

IC Compliance Monitoring Report
Parcel G, Hunters Point Shipyard, San Francisco, California

EPA I.D. CA1170090087

Inspection and Enforcement entity: _____

This evaluation is the final Navy certification just prior to site conveyance (yes or no)

_____

If for an annual inspection, this evaluation covers the period from_____

through _____.

Certification Checklist

		In Compliance	Non-Compliance	See Comment
1)	No use of areas at Parcel G designated for open space, educational/cultural, and industrial land uses for a residence, including any mobile home or factory-built housing, constructed or installed for use as residential human habitation, a hospital for humans, a school for persons under 21 years of age, or a day care facility for children.[a]	☐	☐	☐
2)	No growing of vegetables, fruits, or any edible items in native soil for human consumption.	☐	☐	☐
3)	No groundwater use for any purpose (No evidence of tampering with existing wells or evidence of new wells)	☐	☐	☐
4)	No land-disturbing activity[a] (excavation; construction of roads, utilities, or structures; demolition of hardscape; movement of soil from below ground surface to the surface; or activity that facilitates movement of known contaminated groundwater)	☐	☐	☐
5)	No installation of new groundwater wells of any type[a].	☐	☐	☐
6)	No altering, disturbing, or removing components of the remedy including soil cover/cap, or groundwater monitoring wells and associated equipment[a].	☐	☐	☐
7)	No construction of enclosed structures[a].	☐	☐	☐

		In Compliance	Non-Compliance	See Comment
8)	No removal or damage to security features (such as locks on monitoring wells, site fencing, or signs) or to survey monuments, monitoring equipment, piping or other appurtenances.	☐	☐	☐
9)	Notification provided for any unauthorized change in land use.	☐	☐	☐
10)	Any violations of these LUCs were reported within 10 business days of discovery and an explanation provided of those actions taken or to be taken was provided within 10 days of notification of discovery.	☐	☐	☐

I, the undersigned, hereby certify that the above-described land use restrictions have been complied with for the period noted. Alternately, any known deficiencies and completed or planned actions to address such deficiencies are described in the attached explanation of deficiencies.

_____ _____

Signature Date

Notes and Comments:

a These prohibited or restricted activities may be conducted provided that the requirements in the LUC RD are followed. If the inspector finds that a prohibited or restricted activity has occurred, the inspector shall check whether the activity was conducted in accordance with approved plans for that activity. Activities that are conducted in accordance with the approved plans will be considered "in compliance." Comments should be attached to the compliance checklist to describe how the requirements in the plans were adhered to. Activities that are not conducted in accordance with the approved plans would be considered "non-compliance."

Photographs, in addition to other notes and forms, to document the conditions certified in this checklist should be provided.

Send the completed form and all accompanying information by certified mail, return receipt requested, to the Navy, EPA, DTSC, and Regional Water Board each calendar year.

ANNUAL IC COMPLIANCE CERTIFICATE

Parcel G
Hunters Point Shipyard, San Francisco, California
EPA I.D. CA1170090087

I _____ hereby certify that the attached Parcel G Institutional Control Compliance Monitoring Report is complete and accurate. The requirements of LUC RD report Section 4.0 have been met. I further certify that a copy of this compliance certificate and the attached Parcel G Institutional Control Compliance Monitoring Report have been sent to the following addressees:

_____
(Name and title)

INSPECTION RECORD (PRELIMINARY) –PARCEL G, HUNTERS POINT SHIPYARD, SAN FRANCISCO, CALIFORNIA

Date and time of inspection:	**Inspector name and organization:**
Weather and tidal conditions – include details of most recent rain event:	
Reason for inspection (circle one): **Scheduled** **Emergency response**	**If inspection is initiated by an emergency response, explain condition:**

GENERAL SITE CONDITIONS			
ITEM	**INSPECTION FREQUENCY**	**ACTION/ INSPECTION ITEM**	**COMMENTS — INCLUDING EXPLANATION IF NOT COMPLETED. INCLUDE ANY PHOTO DESCRIPTIONS**
Overall condition of site	Every inspection (at least annual)	Note general conditions. Trash and debris accumulation, unauthorized access, etc.	
Land use	Every inspection (at least annual)	Digging or unauthorized land use per LUC RD	
SITE SECURITY			
Security of area	Every inspection (at least annual)	Assess condition of fence – repair as necessary	
		Condition of locks and gates – repair and replace as necessary	
		Note signs of vandalism	
		Assess condition of access roads and gates	
		Note evidence of unauthorized access to site and building interiors	
Site signage	Every inspection (at least annual)	All signs in place repair and replace as necessary	
		Wording legible	
		Note signs of vandalism	

INSPECTION RECORD (PRELIMINARY) –PARCEL G, HUNTERS POINT SHIPYARD, SAN FRANCISCO, CA (Continued)

DURABLE COVER			
ITEM	**INSPECTION FREQUENCY**	**ACTION/ INSPECTION ITEM**	**COMMENTS — INCLUDING EXPLANATION IF NOT COMPLETED. INCLUDE ANY PHOTO DESCRIPTIONS**
Surface Inspection	Every inspection (at least annual)	Assessment of cracking in asphaltic concrete layer	
		Assessment of cracking in foundations	
		Assess the crawl space access to maintain the prevention of access (Buildings 420 and 424)	
		Evidence of settlement and subsidence	
		Assess accumulation of soils over cover	
		Inspect areas of previous repair	
		Assess condition of benchmarks	
		Remove vegetative species as needed	
		Note signs of excessive traffic	
		Note signs of unauthorized access to the site or the buildings	

INSPECTION RECORD (PRELIMINARY) –PARCEL G, HUNTERS POINT SHIPYARD, SAN FRANCISCO, CA (Continued)

ITEM	INSPECTION FREQUENCY	ACTION/ INSPECTION ITEM	COMMENTS — INCLUDING EXPLANATION IF NOT COMPLETED. INCLUDE ANY PHOTO DESCRIPTIONS
Storm water drainage	Every inspection (at least annual)	Observe areas of accumulated water and note condition	
		Note integrity and function of outfalls off site but connected to site	
		Monitor areas of sediment accumulation	
		Note evidence of overflow in drainage channels	
		Remove trash or debris from drainage channels and catch basins	
		Note any change in drainage contributing areas	
GROUNDWATER MONITORING WELLS			
Groundwater monitoring wells	During all sampling events and every inspection (at least annually)	Security (locks intact) – Repair and replace as necessary	
		Vandalism/signs of unauthorized access	
		Well box is free of obstructions	
		Well casing is free of obstruction	
		Seals not damaged	

OTHER OBSERVATIONS:

FOLLOW-UP ACTIONS (Include area requiring further action):

Signature and Date _____

Note: Use professional judgment and site experience to identify whether inspections are necessary following significant earthquakes, regardless of location and magnitude. Inspections following hurricane-level storm events should be conducted and adjust the storm response trigger over time based on site experience.

INSPECTION AND REPAIR PROCEDURES

The site will be visited quarterly for the first year and annually thereafter – or as necessary based on the results of the inspections. At a minimum, the following materials should be brought to the site for each site visit and this list should be adapted over time based on previous inspections conducted by the contractor:

- Camera
- O&M plan
- LUC RD report
- Appropriate documentation materials including any inspection checklists
- Copies of appropriate maps and figures
- O&M logbook
- Phone and contact list
- Common items requiring replacement (locks, well caps, well seals, and similar equipment)
- Previous inspection reports and photos of concern – as necessary
- Appropriate personal protective equipment for inspection and minor repairs

Inspection reports summarizing the findings of the inspections should be filed promptly with the property owner after the inspection and in cases where significant damage has been observed the property owner should be notified as soon as possible. The format of reporting documents, scheduling, and timing of this communication will be determined when an O&M contractor is identified.

Significant issues of vandalism and theft, especially when recurring, should be reported to police and may result in increased inspection frequency.

Basic repairs can be conducted on site at the time of inspections. These kinds of repairs may include, but are not limited to, replacing signage, replacing monitoring well locks and protective caps, and removing and preventing accumulated soils and debris.

Significant repairs may include, but are not limited to, adding cover material, filling areas over the cover, and cover repairs associated with exposure of the underlying material. This level of repair will require specialized equipment and materials and should be conducted by an appropriate contractor in accordance with the design- and construction-related documents, including the record drawings and the repair specifications. Repairs such as these will have a potential impact on the protectiveness of the remedy and should be conducted under the supervision of a California-licensed professional engineer and in accordance with a work plan approved by the federal facility agreement (FFA) signatories.

The following is a general list of procedures to be used during the site inspection process and should be adapted based on site conditions as they evolve over time. The list is based on the above Inspection Summary and Inspection Frequency table.

GENERAL SITE CONDITIONS

- The perimeter of the site should be inspected for signs of breaching and degradation. Issues should be documented in inspection summary reports and photographs should be taken of any areas of concern and the exact location documented.
- Trash, debris, or other materials should be removed from the site and disposed of properly.
- Any issues of concern should be reported to the property owners as necessary. Repairs to the fence should be scheduled with an appropriate contractor.
- Any unauthorized digging or land use inconsistent with the land use controls remedial design on the site should be recorded and the property owner notified. FFA signatories will be advised of unauthorized property use through the submittal and review of annual inspection reports.

SITE SECURITY

- Signs should be inspected for integrity and vandalism. Structural issues should be dealt with appropriately during the inspection when possible or scheduled with an appropriate contractor.
- If the signs begin to visually degrade, photographs should be taken to document and monitor degradation and signs should be replaced promptly when necessary.
- Signs that are not legible from a distance of 5 feet should be repaired or replaced.
- Any stolen signs or signs damaged beyond repair should be replaced promptly.
- Fence materials should be replaced as necessary using like materials when corrosion cuts or other damage compromised the material.
- Gates should be inspected to insure proper operation and locks replaced as needed.
- The condition of any designated access points to the site should be inspected for damage.

DURABLE COVER

- The cover should be inspected systematically over the extent of the cover. Particular attention should be given to areas that abut buildings, drainage areas, and areas of accumulated water.

- The exterior of the building foundations should be inspected for cracking and signs of stress. The interior of a building should be inspected when exterior cracking is observed or when unauthorized access to the building is evident (missing locks, broken entries, etc).
- Areas where the asphaltic concrete or building foundation has been damaged by cracking should be documented, photographed, and monitored.
- Repairs to the asphalt pavement or building foundations may become necessary when expansion of cracks is observed over time or when underlying soil is exposed or accessible.
- Access to crawl spaces must remain inaccessible. Repair as needed to maintain the condition.
- Surveyed benchmarks should be inspected. If damages are observed, the benchmarks should be replaced and resurveyed by a licensed surveying contractor.
- Areas of settlement should be recorded. Minor settlement is not an immediate concern but should be monitored over time and repaired if cracking is imminent. Major settlement could require specialized labor and personnel for repair or replacement of the cover materials.
- Areas of water accumulation should be monitored and may require filling or regrading if cracking becomes a reoccurring or constant issue. Use of appropriate contractors and equipment may be necessary.
- Inspect the drainage channels and catch basins and record overall conditions, remove obstructions, and note evidence of channel flow and flow depths.
- Repairs to the durable cover should follow the procedures outlined in the design and construction reports and the included repair specifications, and should be based on the record drawings.
- Maintain buildings in a locked and inaccessible condition. If unauthorized access to the buildings is noted, repair entry points as needed to prevent further access. Use new locks or other physical controls as needed.
- The cover must be repaired in accordance with the repair specifications included as Attachment 3 to this O&M plan.
- Observe changes at adjoining parcels that would affect storm water flow at the site.

GROUNDWATER MONITORING WELLS

- Protective features such as casing, pads, and lids should be inspected for integrity. Damages should be documented through photographs. Slight damages can be monitored over time, but damages that may jeopardize the functionality of the well or probe should be reported and repaired promptly.

- Vandalism and theft of any materials related to the wells or probes should be remedied promptly. Repair may include replacing locks, caps, and other items or covering vandalized items with paint.
- Access to wells should be inspected to ensure that they are free of obstructions. This procedure is especially important in situations where locks or well caps are missing or when there are other signs that the well has been breached. Appropriate probes can be used to check that obstructions do not exist within the well itself.
- Any issues should be recorded through photographs and written descriptions, and the well locations recorded.

Any repair needing immediate attention should be promptly reported to the property owner for scheduling with appropriate contractors.

APPENDIX C

ENVIRONMENTAL HEALTH AND SAFETY PLAN OUTLINE

APPENDIX C
Environmental Health and Safety Plan Outline

All EHSPs will include a description of specific tasks to be performed, key personnel, health and safety responsibilities, site background, job hazard analysis and mitigation, air monitoring procedures, PPE, work zones and site security measures, decontamination measures, general safe work practices, contingency plans and emergency information, medical surveillance and specific training requirements.

SITE EMERGENCY INFORMATION

1.0 INTRODUCTION

- 1.1 Purpose of the Site Health and Safety Plan
- 1.2 Implementation and Modification of the Site Safety Plan
- 1.3 Project-Related Documents

2.0 BACKGROUND AND DESCRIPTION OF WORK

- 2.1 Site Description and Background
- 2.2 Scope of Work

3.0 KEY PERSONNEL ROLES AND RESPONSIBILITIES

- 3.1 Project and Task Managers
- 3.2 Field Supervisor
- 3.3 Site Health and Safety Officer
- 3.4 Competent Person
- 3.5 Subcontractors, Visitors and Other Onsite Personnel

4.0 JOB HAZARD ANALYSIS

5.0 GENERAL SITE SAFE WORK PRACTICES

- 5.1 Biological Hazards
- 5.2 Radiological Hazards
- 5.3 Dust Control
- 5.4 Electrical
- 5.5 Excavation/Trenching
- 5.6 Fire/Explosion Control
- 5.7 Hand and Power Tools
- 5.8 Heat Stress
- 5.9 Heavy Equipment
- 5.10 Lifting
- 5.11 Material Handling
- 5.12 Noise
- 5.13 Overhead / Falling Debris
- 5.14 Slips/Trips/Falls
- 5.15 Utilities: Underground and Overhead
- 5.16 Vehicle Traffic

6.0 CHEMICAL HAZARDS

6.1 Chemicals of Concern
6.2 Action Levels

7.0 PERSONAL PROTECTIVE EQUIPMENT

8.0 AIR MONITORING PROCEDURES

8.1 Ambient Air Monitoring
8.2 Worker Exposure Monitoring

9.0 TRAINING AND MEDICAL MONITORING

10.0 CONTINGENCY AND EMERGENCY EVACUATION PLANS

11.0 SANITATION, HYGIENE AND DECONTAMINATION

11.1 Sanitation and Personal Hygiene
11.2 Drinking Water
11.3 Personnel Decontamination
11.4 Equipment Decontamination

12.0 SITE AND TRAFFIC CONTROL PLAN AND SITE SECURITY

12.1 Site Control
12.1.1 Support Zone
12.1.2 Contamination Reduction Zone
12.1.3 Regulated Area/Exclusion Zone
12.2 Traffic Control

13.0 REFERENCES

APPENDIX D

DUST CONTROL PLAN

Draft

Post-RACR RMP Dust Control Plan
Parcels B and G

Hunters Point Shipyard

January 2011

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FIGURES

1 Parcels B And G Location Map

2 Sensitive Receptors

ACRONYMS AND ABBREVIATIONS

APCO	Air Pollution Control Officer
ATCM	Asbestos Airborne Toxic Control Measure
BAAQMD	Bay Area Air Quality Management District
BMP	best management practice
CCR	California Code of Regulations
CP/HPS	Candlestick Point/Hunters Point Shipyard
DTSC	Department of Toxic Substance Control
EIR	Final Environmental Impact Report
HEPA	high-efficiency particulate air
HPS	Hunters Point Shipyard
mph	mile per hour
RACM	regulated asbestos-containing material
ROD	Record of Decision
RWQCB	Regional Water Quality Control Board
SWPPP	Storm Water Pollution Prevention Plan
USEPA	United States Environmental Protection Agency

Introduction

Document Objective

This Post-RACR RMP dust control plan is submitted by Lennar/Bayview Hunters Point and MACTEC in preparation preparation for future development activities that will occur at the Hunters Point Shipyard (HPS) Parcels B and G (the site) in San Francisco, California (Figure 1).

This Post-RACR RMP Dust Control Plan has been prepared by MACTEC in accordance with the requirements of the permit process established in Article 31 and compliance with Article 22B of the City and County of San Francisco Health Code and certain Bay Area Air Quality Management District (BAAQMD) regulations often applicable to redevelopment activities, as further described herein. This plan addresses dust control measures that will be implemented during deconstruction and development of horizontal infrastructure at the site.

This plan applies to demolition of existing structures, and dust control associated with soil disturbance or excavation on Parcels B and G. In accordance with the requirements of Article 31, this plan was prepared under the supervision of a professional engineer registered in the State of California.

Regulatory Basis

The Final Environmental Impact Report (EIR) 2010 for the Candlestick Point/Hunters Point Shipyard project includes mitigation measures requiring actions that will reduce or eliminate adverse environmental impacts during development of Parcel B and G. These mitigation measures were adopted in a Mitigation Monitoring and Reporting Program. The Disposition and Development Agreement incorporates Final EIR mitigation measures that are relevant for Phase II development on Parcels B and G and includes the commitments for implementing mitigation measures set forth in Section 18 of the Disposition and Development Agreement and in the EIR.

Dust control is one of the specific mitigation measures applicable to Phase II development in Parcels B and G, and this plan specifically identifies the steps that will be taken to reduce air emissions during demolition of existing structures, grading, utility work, and construction of site infrastructure. This plan also includes the necessary monitoring and reporting requirements.

This Dust Control Plan incorporates requirements of the following applicable regulations:

- California Code of Regulations (CCR) Title 17, Section 93105, the Asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations
- Bay Area Air Quality Management District (BAAQMD) Regulation 2, Permits (also addressed in project specifications)
- BAAQMD Regulation 6, Particulate Matter and Visible Emissions
- BAAQMD Regulation 11, Rule 2, Asbestos Demolition
- BAAQMD Regulation 11, Rule 14, Asbestos Containing Serpentine
- City and County of San Francisco Article 22B, Construction Dust Control Requirements
- CP/HPS EIR, Mitigation Measure HZ-15: Asbestos Dust Mitigation Plans and Dust Control Plans

Article 22B specifies a goal of minimizing visible dust emissions from the site and Article 22B and Section 106A.3.2.6 of the San Francisco Building Code outline housekeeping measures required to meet this goal. Mitigation Measure HZ-15 similarly defines best management practices (BMPs) including wetting and seeding unpaved, inactive areas, minimizing activity during periods of high wind, sweeping paved areas, covering trucks, etc. Additionally, BAAQMD Regulation 6, which generally prohibits emission of visible dust beyond the property boundary, is also applicable.

Because the site is in an area with serpentine rock, CCR Title 17, Section 93105 (ATCM) applies. ATCM includes, among other things, the requirement for submission of an Asbestos Dust Mitigation Plan for BAAQMD approval prior to grading activities. The ATCM also includes very specific practices to be implemented during construction. Mitigation Measure HZ-15 also provides BMPs for handling serpentine material, and BAAQMD Regulation 11, Rule 14 prohibits the use or sale of asbestos-containing serpentine materials for road surfacing.

In addition to emission controls for dust generated by general construction activities, specific requirements apply to asbestos-related dust generated by demolition activities. A qualified subcontractor licensed and experienced to manage asbestos- and lead-contaminated building materials will perform demolition of existing structures. The subcontractor will demonstrate compliance with the requirements of BAAQMD 11- 2, which states that demolition activities will not be allowed to cause any visible plumes from any operation involving the demolition, removal, manufacture or fabrication of any product containing asbestos.

Contractors selected to perform demolition and grading will be responsible for obtaining applicable permits as described in the project specifications.

BACKGROUND

Site Description

Parcel B includes 54 acres on the northern side of HPS, which is bounded by former Parcel A and Parcel C, private property, and the San Francisco Bay. The area of Parcel B covered by the DCP lies outside of IR Sites 7 and 18 and includes about 40 acres in the central and eastern portions of Parcel B (Figure 1). The portion of Parcel B addressed by this DCP includes a shoreline of approximately 1,500 feet along San Francisco Bay. Parcel G is located within the central portion of the former Parcel D, covers approximately 40 acres, and is surrounded by land with no associated shoreline.

Parcels B and G consist of flat lowlands that were constructed by placing borrowed fill material from various sources, including crushed serpentinite bedrock from the adjacent highland and dredged sediments. The serpentinite bedrock and serpentinite bedrock-derived fill material consist of minerals that naturally contain asbestos and relatively high concentrations of arsenic, manganese, nickel, and other metals. Nearly all of Parcels B & G are covered with buildings or degraded pavement or soil. A series of storm drains and sanitary sewer lines beneath the parcel have been recently removed.

Site History

The history of Parcels B and G is described in the many documents referenced in the Post-RACR RMP. This DCP is Appendix D of the Post-RACR RMP.

Phase II Scope of Work

The construction work subject to the Post-RACR RMP will be mostly construction of new buildings and parks with all associated utilities, landscaping and enhancements around the building.

No Visible Dust Goal

The dust control measures set forth in this plan are intended to achieve a goal of no visible dust emissions associated with soil disturbance or excavation, to the extent required by Mitigation Measure HZ-15, BAAQMD Regulation 6, and the provisions of Articles 22B (areas over one-half acre) and 31 of the San Francisco Health Code. As required by Article 22B and Mitigation Measure HZ-15, Figure 2 shows the sensitive receptors (residence, school, childcare center, hospital or other health-care facility or group living quarters) located within 1,000 feet of Parcels B and G.

The DCP requires compliance with the following specific mitigation measures to the extent deemed necessary by the SFDPH to achieve no visible dust at the property boundary:

- Keep all graded and excavated areas, areas around soil improvement operations, visibly dry unpaved roads, parking and staging areas wetted at least three times per shift daily with reclaimed water during construction to prevent visible dust emissions from crossing the property line. Increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour
- Analysis of wind direction and placement of upwind and downwind particulate dust monitors.
- Record keeping for particulate monitoring results.
- Requirements for shutdown conditions based on wind, dust migration, or if dust is contained within the property boundary but not controlled after a specified number of minutes.
- Establishing a hotline for surrounding community members who may be potentially affected by Project-related dust. Contact person shall respond and take corrective action within 48 hours. Post publicly visible signs around the site with the hotline number as well as the phone number of the BAAQMD and make sure the numbers are given to adjacent residents, schools, and businesses.
- Limiting the area subject to construction activities at any one time.
- Installing dust curtains and windbreaks on windward and downwind sides of the property lines, as necessary. Windbreaks on windward side should have no more than 50% air porosity.
- Limiting the amount of soil in trucks hauling soil around the job site to the size of the truck bed and securing with a tarpaulin or ensuring the soil contains adequate moisture to minimize or prevent dust generation during transportation.
- Enforcing a 15 mph speed limit for vehicles entering and exiting construction areas.
- Sweeping affected streets with water sweepers at the end of the day.
- Hiring an independent third party to conduct inspections for visible dust and keeping records of those inspections.
- Minimizing the amount of excavated material or waste materials stored at the site.
- Prevent visible track out from the property onto adjacent paved roads. Sweep with reclaimed water at the end of each day if visible soil material is carried out from property.

In addition to conducting inspections for visible dust, particulate monitoring for the presence of airborne particulates will also be conducted using real-time particulate dust monitors as detailed

on Page D-18. If readings are recorded above the action level(s), site specific actions will be specified based on the type of activity being conducted. Actions could include evaluation of site activities or stopping work until additional controls are implemented to reduce dust generation from the specific work area causing the problems.

POTENTIAL SOURCES OF EMISSIONS

Planned site activities have the potential to generate emissions in the form of fugitive dust and vehicle emissions. Possible sources of emissions include:

- Demolition Activities – Wrecking, intentional burning, moving or dismantling of any load-supporting structural member, or portion of a building. Any related cutting, disjointing, stripping or removal of structural elements. Crushing of concrete for recycling/reuse.
- Construction Traffic – Movement of construction equipment around the construction area is capable of creating construction emissions in excavated or cleared areas. There is also the potential for vehicular traffic on paved or unpaved roads and parking lots to produce construction emissions.
- Site Preparation and Foundation Work – Grading, excavation of footings and foundations, and backfilling operations can produce both fugitive dust and vehicle emissions.
- Trenching Activities – Excavation of trenches for the installation of underground utilities can cause construction emissions.
- Material Stockpiles – Stockpiles of excavated soil from trenching activities may contribute to windborne dust emissions.
- Soil Transport - Loading of soil into transport vehicles for disposal may contribute to windborne dust emissions.
- Cleanup and Grading – Backfilling, grading and re-vegetating of the excavated areas may produce both fugitive dust and vehicle emissions.

The California Code of Regulations (CCR) Title 17, Section 93105, the Asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations, prescribes specific dust mitigation measures.

Dust mitigation methods to be implemented at the Site, are described in detail below.

GENERAL CONSTRUCTION EMISSIONS CONTROL METHODS

This section details dust control methods for fugitive dust and vehicle emissions generated from the following construction activities:

- Dust entrained during on-site travel on paved and unpaved surfaces.
- Dust entrained during site grading, excavation, crushing and back-filling at the construction site.
- Dust entrained during aggregate and soil stockpiling, loading, and unloading operations.
- Wind erosion of areas disturbed during construction activities.
- Vehicle emissions associated with construction equipment.

Additional requirements for dust control during demolition and deconstruction activities are described below. General dust control measures are also described in Section 5.3 of the Post-RACR RMP.

Construction Traffic

Onsite Traffic Control

Fugitive dust emissions from construction traffic traveling on unpaved surfaces will be controlled with the following mitigation measures:

1. Visible speed limit signs will be posted at the construction site entrances. No vehicle will exceed 15 miles per hour (mph) within the construction site.
2. Implementation of erosion control measures identified in the Construction SWPPP, to be provided separately, will control fugitive dust emissions from pubic roadways and parking areas.
3. Gravel access pads will be constructed in the temporary stockpile locations. Four to six inches of appropriate gravel will be spread evenly to construct the pads. Additional gravel will be added periodically to maintain effectiveness.
4. One or more of the following:
    - All unpaved roads in the project construction site will be watered every two hours or frequently enough to maintain adequate wetness. The frequency of watering can be reduced or eliminated during periods of precipitation. (Article 21, Section 100 et seq. of the San Francisco Public Works Code requires that non-potable reclaimed water be used for this purpose.) Watering frequency may be increased during above average ambient air temperatures or wind speeds.
    - Chemical dust suppressants can also be applied consistent with manufacturer's directions.
    - Maintaining a gravel cover with a silt content that is less than five (5) percent and asbestos content that is less than 0.25 percent, as determined using an approved asbestos bulk test method, to a depth of three (3) inches on the surface being used for travel; or

- Any other measure as effective as the measures listed above.

Trackout Prevention

Track-out of loose materials will be controlled using gravel pads along with a tire washing/cleaning station installed at the access point from the project site to the paved road to prevent tracking of mud on to public roadways. The stabilized construction entrance (gravel pads) will be installed according to the specifications provided in the Erosion and Sediment Control Plan of the Storm Water Pollution Prevention Plan (SWPPP) for the site. All vehicle tires will also be inspected and washed as necessary to prevent trackout prior to entering the paved roadways. Any visible track-out on a paved public road at any location where vehicles exit the work site MUST be removed. Removal MUST be done using wet sweeping or a high-efficiency particulate air (HEPA) filter-equipped vacuum device at the end of the work day or at least one time per day.

The following mitigation measures will be followed for fugitive dust emissions from construction traffic traveling on paved surfaces:

1. The main access and egress routes to and from the Parcel B and G main construction site for construction employees and delivery trucks will be paved prior to the initiation of construction.
2. No construction vehicles will be allowed to exit the construction site except through the treated entrance roadways. Gravel pads will be installed at all egree points to prevent tracking of mud on to public roadways.
3. Construction areas adjacent to and above grade from any paved roadway will be treated with BMPs, as specified in the Construction SWPPP.
4. All paved roads within the construction site will be swept twice daily with a wet sweeper.
5. At least the first 500 feet of any public roadway exiting from the construction site will be swept twice daily. (The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.)

If any of the above mitigation measures fail to properly control fugitive dust emissions, one or more of the following reasonably available control measures, will be applied:

1. Unpaved active portions of the construction site will be watered or treated with dust control solutions to minimize windblown dust and dust generated by vehicle traffic.
2. Paved portions of the construction site will be swept more frequently as necessary to control windblown dust and dust generated by vehicle traffic. Streets adjacent to the construction site will be swept as necessary to remove accumulated dust and soil. Water may also be applied to the paved roads if necessary.
3. Physical or chemical stabilization will be applied to control dust on unpaved roads if necessary.

4. Gravel, re-crushed/recycled asphalt or other material of low silt content (<5 percent) will be applied to a depth of 3 or more inches, if necessary. Serpentine-containing material will not be used for this purpose.
5. Vehicle trips will be reduced if necessary.

Construction employees will park in the paved or graveled areas to reduce fugitive dust emissions.

Off-site Transport

No trucks will be allowed to transport excavated material offsite unless:

1. Trucks are maintained such that no spillage can occur from holes or other openings in cargo compartments; and
2. Loads are adequately wetted and either:
   - Covered with tarps; or
   - Loaded such that the material does not touch the front, back, or sides of the cargo compartment at any point less than six inches from the top and that no point of the load extends above the top of the cargo compartment.
3. Visible track-out on the paved public road must be cleaned using wet sweeping or a HEPA filter equipped vacuum device within twenty-four (24) hours.

Vehicles will be checked to ensure that they are tarped and to remove any excess material on the shelf or exterior surfaces of the cargo compartment. All off-site haul trucks will access the site via paved access roads and established gravel pads. Every off-site haul truck will proceed through the decontamination gravel pad/tire cleaning area prior to departure from the site. Site personnel will be stationed at the access point to monitor inflow/outflow to and from the site and will be responsible for inspecting all vehicles exiting and performing the cleaning of the tires.

Site Preparation and Grading

Prior to any ground disturbance, sufficient water must be applied to the area to be disturbed to prevent visible emissions from crossing the property line.

Fugitive dust emissions from site preparation and foundation work will be controlled using the following methods:

1. During clearing and grubbing, surface soils will be pre-wet to the depth of anticipated cut where equipment will be operated. Soil moisture content will be sufficiently maintained to minimize fugitive dust creation. For construction fill areas which have an optimum moisture content for compaction, completion of the compaction process will be performed as expeditiously as possible to minimize fugitive dust.
2. If compaction will not take place immediately following clearing and grubbing, the surface soil will be stabilized with dust palliative and water to form a crust on the soil surface.
3. Keep all graded and excavated areas, visibly dry unpaved roads, parking and staging areas wetted at least three times per shift daily during construction to prevent visible dust emissions from crossing the property line. Increased watering frequency may be needed whenever wind speeds exceed 15 miles per hour.
4. Use dust enclosures, curtains, and dust collectors as necessary to control dust in the excavation area.
5. Graded areas will be stabilized with chemical stabilizers within 5 working days of grading completion. Seed and water all unpaved, inactive portions of the lot or lots under construction to maintain a grass cover if they are to remain inactive for long periods during building construction.
6. Halt all clearing, grading, earthmoving, and excavating activities when wind speeds are high enough to results in dust emissions crossing the property line, despite the application of dust mitigation measures.
7. Limit the area subject to excavation, grading or other construction activity at any one time.
8. Storage piles must be kept adequately wetted, treated with a chemical dust suppressant or covered with tarp(s) when material is not being added or removed from the pile.

Crushing

It is anticipated that concrete crushers will be mobilized to the site to crush and recycle concrete debris resulting from building and roadway demolition. Crushing operations will be visually monitored for the appearance of fugitive dust. If dust is being generated, water will be applied to control the dust.

The crusher may also be used to crush well-cemented concretions of other minerals within the serpentinite of the Franciscan formation that cannot be broken into manageable sizes using the standard construction equipment mobilized to the site for mass grading (bulldozers, excavators, scrapers, etc.). Serpentinite boulders will not be processed by the crusher.

Trenching Activities

Excavation activities will be visually monitored daily for the generation of fugitive dust. If dust is being generated, water will be applied to the point of excavation or drilling to control dust.

- Soil will be pre-wet prior to excavation to reduce dust migration. Additional water will be added during active excavation, material handling, and loading. Active excavation areas will be wet a minimum of twice daily during dry weather and more frequently as needed.

- The height from which excavated soil is dropped into trucks and onto either stockpiles or dewatering pads will be minimized.
- Dust suppressants will be applied in sufficient quantities to inactive disturbed areas so as to form a crust and create a stabilized surface.
- Backfill material will be covered or enclosed when not actively handled.
- Four to six inches of appropriate gravel will be spread evenly at key onsite loading areas, the temporary soil staging, and off-site transport loading area in order to reduce the potential for soil track-out beyond the site.

Screening

- Fugitive dust emissions from loading the screening pads, either by excavator, or by conveyor will be controlled by ensuring that all excavated material is adequately wetted prior to loading.
- Loader buckets will be emptied slowly and drop height from loader bucket minimized.
- Halt all loading activities during periods of sustained strong winds, hourly average wind speeds of 25 mph (40 km/h or greater).

Material Stockpiles

During excavation, backfilling and grading, soils may be stockpiled in areas adjacent to the activity. BMPs may include diversion of drainage from the stockpiles, installation of silt fencing/straw bale filter barriers on the downgradient toe of the stockpile slope, track-walking the slopes, and dust control. Stockpiles must be kept adequately wetted, treated with a chemical dust suppressant or covered with tarp(s) when material is not being added or removed from the pile.

Foundation Work

1. Sprinklers, wobblers, water trucks, or water pulls will be used to pre-water during cut and fill activities to allow time for penetration.
2. Building pads will be laid as soon as possible after grading to minimize fugitive dust emissions, unless seeding or soil binders are used in the interim.
3. Wind erosion control techniques, such as wind breaks, water/chemical dust suppressants, and vegetation, will be used on all construction areas that may be disturbed. Any windbreaks used will remain in place until the soil is stabilized or permanently covered with vegetation.
4. For back-filling during earthmoving operations, backfill material will be watered as needed to maintain moisture. If required, backfill soil will be mixed with water prior to moving. Loader buckets will be emptied slowly and drop height from loader bucket minimized. Once backfill material is in place, water will be applied immediately to form a crust, if necessary. A water truck or large hose will be dedicated to back-filling equipment and operations.
5. Use of high-pressure air to blow soil and debris from the form will be avoided; instead, water spray, sweeping, and/or an industrial shop vacuum will be used to clear the form.

Post-Construction Stabilization of Disturbed Areas

Unpaved areas disturbed during excavation, grading, and/or construction activities will be covered with one of the following to reduce dust generation on the site:

- An approved vegetative cover
- Coverage with a minimum of 3 inches of non-asbestos-containing material
- Building and related hardscape surface paving approved in the building permit.

Additional Requirements for Serpentine Material

Excavated materials, which will be transported off site, will be analyzed for asbestos content. Excavated materials being transported off-site with greater than 1 percent by-weight asbestos will be handled and disposed of off site in accordance with all requirements for proper disposal of asbestos.

BAAQMD Regulation 11, Rule 14 also defines procedures and notifications required if serpentine material is sold for use as a surfacing agent. No serpentine will be used for surfacing material or sold from the site.

The following waste management methods will be used when handling serpentine waste designated as hazardous:

- Keep asbestos-containing waste material adequately wetted at all times during handling and loading.
- Adhere to requirements of Section 11-2-608 for marking of vehicles used to transport asbestos-containing waste.
- Maintain waste shipment records as specified in Section 11-2-502.
- Provide a copy of the waste shipment record to the disposal site owner or operator upon delivery.
- Contact transporter and/or owner of the disposal site if the waste shipment has not arrived within 35 days of initial acceptance by the transporter as hazardous waste.
- Provide a written report to the Air Pollution Control Officer (APCO) if the waste shipment is not received within 45 days of initial acceptance by the transporter.

DEMOLITION EMISSIONS CONTROL METHODS

In addition to emission controls for dust generated by general construction activities described in the previous section, specific requirements apply to asbestos-related dust due to demolition activities. A qualified subcontractor, licensed and experienced to manage asbestos- and lead-contaminated building materials, will perform demolition of existing structures. The subcontractor will demonstrate compliance with the requirements of BAAQMD 11- 2, which states that demolition activities will not be allowed to cause any visible dust plumes from any operation involving the demolition, removal, manufacture or fabrication of any product containing asbestos. The subcontractor will implement the additional control methods summarized below.

Demolition Activities

Fugitive dust emissions from demolition activities will be controlled in accordance with the requirements of BAAQMD Section 11-2-303, as summarized below:

- All exposed regulated asbestos-containing material (RACM) will be adequately wetted and kept wet during cutting, stripping, demolition, renovation, removal and handling operations both inside and outside of a building.
- In lieu of wetting, a local HEPA filter exhaust, ventilation, and collection system designed and operated to capture the emissions from RACM and prevent any visible emissions to the outside air may be used under certain circumstances and subject to BAAQMD approval; requests for approval of dry removal must be in writing.
- RACM shall be removed prior to demolition, or other operations that would either break up, or preclude access to the RACM for subsequent removal.
- Elements that have RACM may be removed at any time in units or sections so long as the exposed RACM during cutting or disjointing is adequately wetted or encapsulated to prevent emissions of particulate asbestos material.
- All RACM not removed in units or sections shall be adequately wetted and kept wet, and transported to the ground in leak-tight chutes or containers, using negative air and HEPA equipment.
- Any building, structure, room, facility or installation from which RACM is being stripped or removed shall be isolated by physical barriers from the outside air to the extent feasible. Such barriers shall include transparent viewing ports which allow observation of all stripping and removal of RACM from outside the barrier. The negative air pressure inside the isolated work area shall be maintained at a pressure differential relative to adjacent, nonisolated areas, and negative air pressure ventilation equipment shall be operated continuously from the establishment of isolation barriers through final cleanup of the work area following stripping or removal of RACM. Any such local exhaust ventilation system shall filter the air from the isolated area with a HEPA filter (or equivalent) prior to exhausting.

- All friable asbestos-containing waste material related to a specific demolition, renovation or removal, including pre-existing debris, shall be handled in accordance with the provisions of BAAQMD Sections 11-2-303 and 11-2-304.
- Except for ordered demolitions, prior to commencement of any demolition or renovation, the owner or operator shall thoroughly survey the affected structure or portion thereof for the presence of asbestos-containing material, including Category I and Category II nonfriable asbestos-containing material. The survey shall be performed by a person who is certified by the Division of Occupational Safety and Health, who has taken and passed a USEPA-approved Building Inspector course, and who conforms to the procedures outlined in the course. The survey shall include sampling and the results of laboratory analysis of the asbestos content of all suspected asbestos-containing materials. This survey shall be made available to the Air Pollution Control Officer (APCO) prior to the commencement of any RACM removal or any demolition.
- When a structure, or portion thereof, is demolished under an ordered demolition, the survey must be done prior to, during, or after the demolition but prior to loading or removal of any demolition debris. If the debris contains regulated asbestos-containing material, all of the debris shall be treated as asbestos-containing waste material pursuant to BAAQMD Section 11-2-304. *A survey of asbestos-containing material has been completed for all structures to be demolished on Parcels B and G ’.*
- No RACM shall be stripped or removed unless at least one on-site representative, such as a foreman or management-level person or other authorized representative, certifies that he or she is familiar with the provisions of this rule as it pertains to demolition and renovation and the means of compliance therewith, and is present during all stripping and removing of RACM.
- If RACM is not discovered until after demolition begins and, as a result of the demolition, cannot be safely removed, the asbestos-contaminated debris shall be treated as asbestos-containing waste material and kept adequately wet at all times until disposed of according to the provisions of BAAQMD Section 11-2-304.
- The owner or operator of any building or other stationary structure to be demolished pursuant to an order of an authorized representative of a state or local governmental agency, issued because that building is structurally unsound and in danger of imminent collapse or has been declared a public nuisance, shall comply with the survey, wetting and disposal requirements of BAAQMD.
- If demolition is accomplished by intentional burning, all RACM, including Category I and Category II nonfriable asbestos-containing material, shall be removed before burning.

RACM Waste Disposal

To prevent emissions from asbestos-containing material, the waste generated during the demolition process will be handled in accordance with BAAQMD 11-2-304, including the following:

- Treat asbestos-containing waste by thoroughly mixing with water and store in leak-proof containers before removing from containment area.
- Process asbestos-containing waste into non-friable form before disposal.
- Convert RACM and asbestos-containing waste material into asbestos-free material.
- Keep asbestos-containing waste material adequately wetted at all times after demolition and during handling and loading.

- Adhere to requirements of Section 11-2-608 for marking of vehicles used to transport asbestos-containing waste.
- Maintain waste shipment records as specified in Section 11-2-502.
- Provide a copy of the waste shipment record to the disposal site owner or operator upon delivery.
- Contact transporter and/or owner of the disposal site if the waste shipment has not arrived within 35 days of initial acceptance by the transporter.

Provide a written report to the APCO if the waste shipment is not received within 45 days of initial acceptance by the transporter.

MONITORING AND RECORDS

General

A hotline must be established and posted prior to starting construction and maintained during construction in a publicly visible sign with the telephone number for surrounding community members to call and report visible dust problems. The contractor will respond promptly and take corrective action within 48 hours. The number must be given to adjacent residents, schools, and businesses.

Monitoring to ensure compliance with the provisions of this plan will be performed by an independent third party observer. Control of visible dust will be the primary responsibility of the contractor working at the site. The Owner will provide quality assurance monitoring and will have the authority to direct the contractor to implement the measures outlined below if visible dust is observed.

Visible Dust During Site Activities

The goal of this plan is no visible dust. While all parties understand that soil disturbance and excavation activities, by their nature, will produce dust, site controls will be used to mitigate visible dust as it is generated in an effort to achieve the no visible dust goal. This section establishes the steps that must be taken toward achieving the goal of no visible dust from soil disturbance or excavation in terms of the amount of time permitted to address visible dust plumes. The criteria in this section apply to an active work site when equipment and personnel are driving on the site an performing work activities. The "initial observation" starts the clock for the required response measures described below. The "initial observation" is the time any of the following personnel observe visible dust: (a) workers who are disturbing soils or excavating for the permitted activity or (b) Owner, supervisor, contractor, subcontractor or consultant with responsibility for monitoring the permitted activity.

Visible Dust Crossing the Property Boundary

In the event visual dust from soil disturbance or excavation is observed crossing the property boundary, the following procedures will be followed to ensure adequate mitigation measures are in place to address the dust:

1. The specific source of the emissions will be immediately shut down and a more aggressive application of the existing mitigation measures as described on pages D-7 through D-9 (No Visible Dust Goal) will be directed.
2. Once the mitigation measures have been applied , the source of emissions will resume and observations will be conducted to verify that the mitigations measures were successful.

Onsite Visible Dust

In the event visual dust from soil disturbance or excavation is observed onsite, but does not cross the property boundary, the following procedures will be followed to ensure adequate mitigation measures are in place to address the dust:

1. A more aggressive application of the existing mitigation measures as described on pages D-7 through D-9 (No Visible Dust Goal) or additional measures of dust suppression will be directed to the specific source of emissions within 60 minutes the initial observation.
2. If despite these more aggressive and/or additional methods the visible dust emissions continue for 90 minutes from the time of the initial observation, the specific source of the emissions will be temporarily shut down until the implemented dust control mitigations is effective or, due to changed conditions, no longer necessary.

Windblown Visible Dust During Inactive Periods

The standards in this section apply on weekends and holidays or any other times when no equipment and personnel are performing work activities on site. In the event of observations on windblown visible dust plumes from soils originating on the project site, mitigation measures as described on pages D-7 through D-9 (No Visible Dust Goal) will be directed within less than 4 hours of making the observation. Mitigation measures will be applied until the visible dust plumes originating from the project site are minimized or eliminated. Any observations of visible dust originating from the project site during inactive periods should be reported to the Community Hotline.

Dust Monitoring

Real-time particulate dust monitors (Miniram PDR-1000 or equivalent) will be placed at adequate locations to measure particulates in the upwind and downwind locations of the Site. Prevailing wind on the site is from the west or southwest towards the east or northeast. Monitoring locations will initially be established based on these prevailing winds but will be checked daily and adjusted if necessary to maintain the upwind and downwind locations. An action level of 0.75 milligrams per cubic meter (mg/m^3) above upwind levels, over a ten minute average has been developed for the site operations. At a minimum the data will be reviewed daily. It is anticipated that data review will be more frequent at project startup to validate BMPs. If dust is generated from on-site soil disturbance or excavation activities and dust levels from these activities are recorded above this action level, site specific actions will be specified based on the type of activity being conducted. Actions could include evaluation of site activities or stopping work until additional controls are implemented to reduce dust generation from the specific work area causing the problems. During periods of extended rain, realtime particulate monitoring will cease to prevent damage to the instruments.

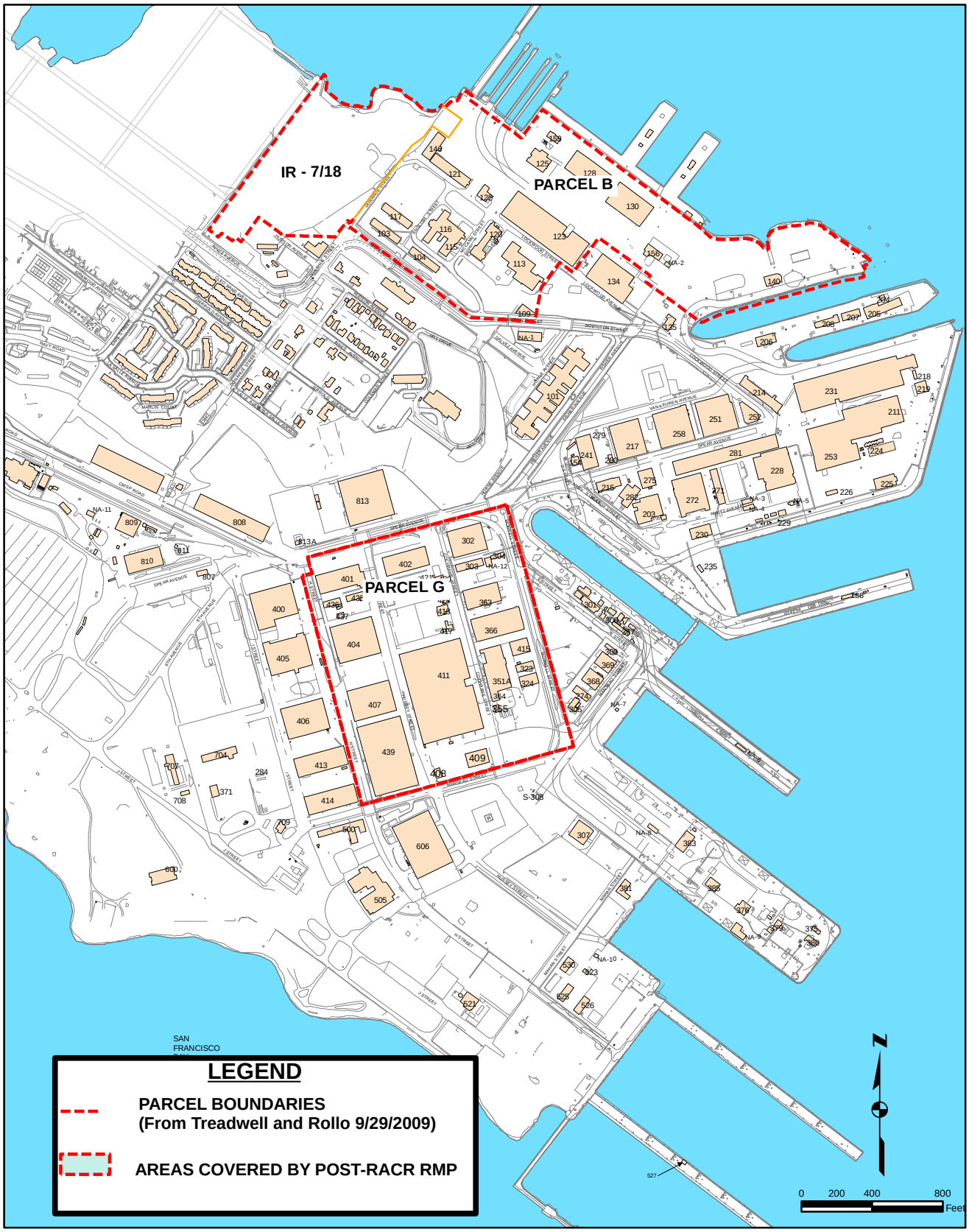
Recordkeeping and Reporting

Dust monitors will be equipped with data loggers. Dust monitoring data will be included with daily construction reports.

BAAQMD 11-2, Section 11-2-502 describes reporting and recordkeeping requirements for RACM demolition activities.

ATCM requires that results of air monitoring and any testing of serpentine materials be reported to the APCO and that records be retained for at least 7 years following the completion of the project.

FIGURES



MACTEC

PARCEL B and G LOCATION MAP
PARCEL B & G POST REMEDIAL ACTION COMPLETION REPORT
DUST CONTROL PLAN
HUNTERS POINT NAVAL SHIPYARD
SAN FRANCISCO, CALIFORNIA

FIGURE 1

DRAWN	JOB NUMBER	CHECKED	CHECKED DATE	APPROVED	APPROVED DATE
RDR	4096097772				

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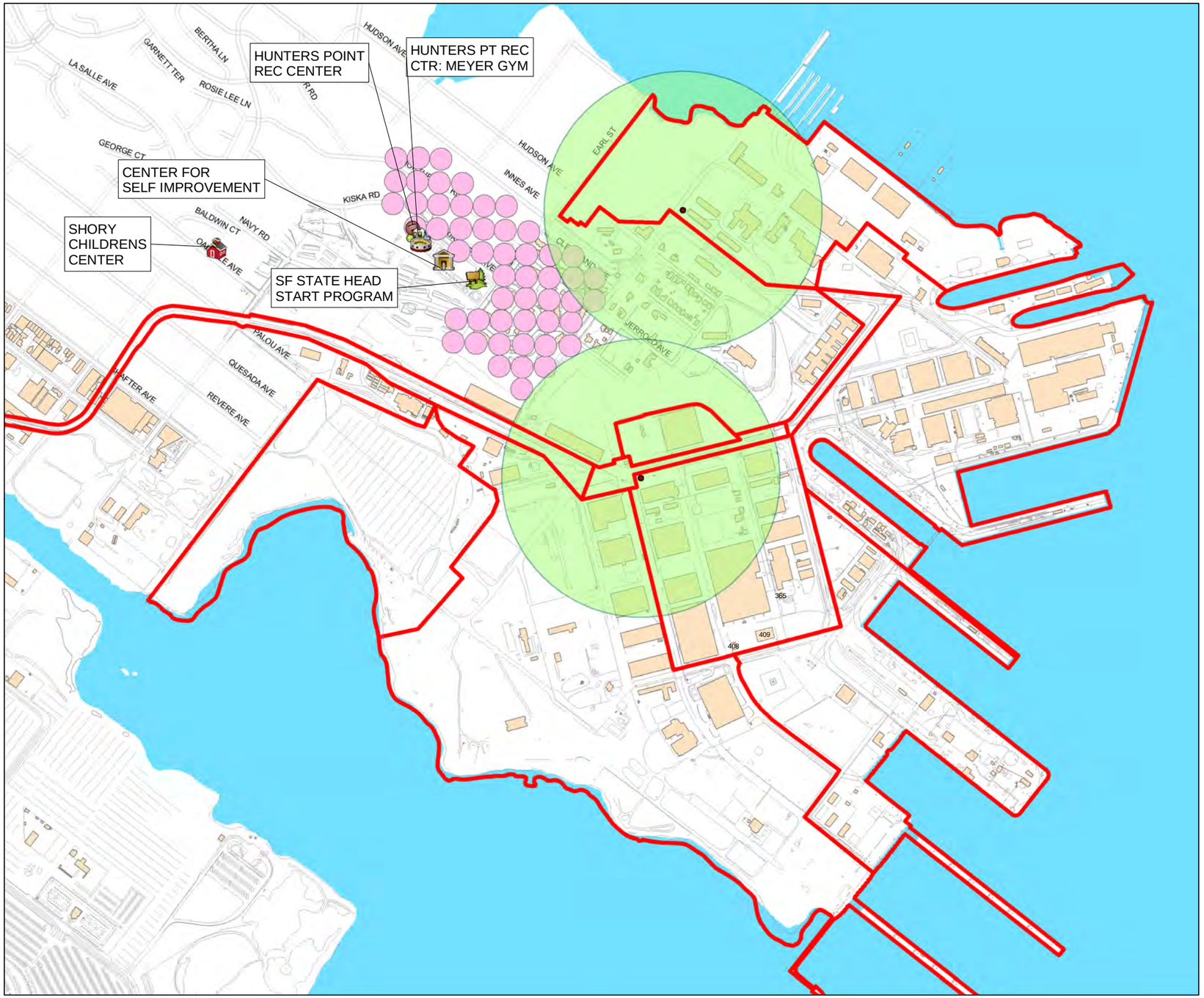
P:\4096\097756_HPS-CP\GIS\MXD\Parcel_B_map1.mxd



LEGEND

- CP-HP EXISTING CONDITIONS
- NAVY PARCEL BOUNDARIES
- CP-HP EXISTING BUILDINGS
- SENSITIVE RECEPTORS WITHIN 1000 FEET
- RESIDENTS
- HUNTERS POINT REC CENTER
- HUNTERS PT REC CTR: MEYER GYM
- CENTER FOR SELF IMPROVEMENT
- SHORY CHILDRENS CENTER
- SF STATE HEAD START PROGRAM

N

0 205 410 820
Feet

Wednesday, June 9, 2010 4:25:23 PM
P:\4096\097756_HPS-CP\GIS\Data\MXD\Receptor\20100903_CPHP_Receptors_Buffer_Areas_Post_Remidial.mxd

NO.	DATE	REVISIONS		
			DRAWN: JHD	PROJECT NO: 4096097772
			ENGINEER: DR	SCALE: AS SHOWN
			CHECKED:	APPROVED:
			DATE: 09-02-10	DATE: 09-02-10

MACTEC

HUNTERS POINT / CANDLESTICK POINT

INTEGRATED PROJECT
HUNTERS POINT NAVAL SHIPYARD
SAN FRANCISCO, CALIFORNIA

HUNTERS POINT COMMUNITY
POTENTIAL SENSITIVE RECEPTORS
PARCELS B AND G
POST REMEDIAL ACTION COMPLETION REPORT
DUST CONTROL PLAN

FIGURE: 2

APPENDIX E

SOIL IMPORTATION PLAN OUTLINE

APPENDIX E
Soil Importation Plan Outline

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GROUNDWATER MANAGEMENT PLAN OUTLINE

Appendix F
Groundwater Management Plan Outline

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This Section should provide a description of the site where work is proposed, summarize the groundwater conditions in the area of proposed work, describe the work to be conducted including estimated volume of groundwater to be extracted, estimated duration of extraction and estimated area of groundwater that may be influenced by the extraction.

2.0 Groundwater management Plan

This Section should provide a description of the means and methods that will be used to extract (dewater) groundwater, temporary storage of extracted groundwater, and ultimate disposition of the extracted groundwater. Emphasis should be placed on using best management practices to minimize the area to be impacted by dewatering, protecting the public from exposure to contaminated groundwater, and disposal methods that are compliant with all applicable environmental regulations. If the work involves the installation of underground utility lines, best management practices should be implemented to mitigate the potential for the utility backfill to create a conduit for migration of contaminated groundwater from one area to another.

This Section should include a contingency plan for unexpected conditions, if they are encountered. Unexpected conditions could include the presence of free phase hydrocarbons floating on the groundwater surface, encountering odiferous and obviously discolored soil, extraction of a significantly larger volume of groundwater than anticipated, and other similar conditions.

3.0 Permitting and Reporting Requirements

This Section should include a discussion of the permit requirements that must be met to accomplish the dewatering project. At a minimum, consideration should be given to the City and County of San Francisco Department of Public Works, City of San Francisco Department of Public Health, San Francisco Public Utilities Commission, California Regional Water Quality Control Board and California Department of Toxic Substances Control. The discussion of permit requirements should also include a discussion of reporting and recordkeeping requirements.

4.0 Health and Safety

This Section should present a health and safety plan to protect construction workers conducting the dewatering and construction project and to protect the general public from direct and indirect exposure to hazardous substances,

5.0 References

This Section should present a list of references used to prepare this plan.

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APPENDICIES?

PARCELS B AND G POST-REMEDIAL ACTION COMPLETION REPORT

RISK MANAGEMENT PLAN

HUNTERS POINT SHIPYARD

SAN FRANCISCO, CALIFORNIA

WORKING DRAFT

January 2011

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ACRONYMS AND ABBREVIATIONS

ABM	Abrasive blast material
ADMP	Asbestos Dust Mitigation Plan
AOC	Administrative Order on Consent
ARIC	Area requiring institutional controls
ATCM	Airborne Toxic Control Measures
BAAQMD	Bay Area Air Quality Management District
BCDC	San Francisco Gay Conservation and Development Commission
BMP	Best Management Practice
CCR	California Code of Regulations
CCSF	City and County of San Francisco
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CHHSLs	California Human Health Screening Levels
CIH	Certified Industrial Hygienist
COCs	Chemical of concern
CRUP	Covenants to Restrict use of Property
DCP	Dust Control Plan
DTSC	California Department of Toxic Substance Control
EHSPs	Environmental Health and Safety Plans
FFA	Federal Facilities Agreement
GMP	Groundwater Management Plan
HPS	Hunters Point Shipyard
ICs	Institutional controls
LUC	Land use control
NOA	Naturally occurring asbestos
NOI	Notice of intent

NPDES	National Pollutant Discharge Elimination System
O&M	Operation and maintenance
OSHA	Occupational Safety and Health Administration
OVA	Organic vapor analyzer
OVM	Organic vapor monitor
PAHs	Polycyclic aromatic hydrocarbons
PCBs	Polychlorinated biphenyls
PPE	Personnel protective equipment
QSD	Qualified SWPPP Developer
RA	Remedial Action
RACR	Remedial Action Completion Report
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
ROD	Record of Decision
RMP	Risk Management Plan
RWQCB	Regional Water Quality Control Board
SFDPH	San Francisco Department of Public Health
SFPUC	San Francisco Public Utilities Commission
SFRA	San Francisco Redevelopment Agency
SIP	Soil Importation Plan
SSHO	Site Safety and Health Officer
SVE	Soil vapor extraction
SVOCs	Semi-volatile organic compounds
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	California State Water Resources Control Board
TCRA	Time-critical removal action
TMSRA	Technical Memorandum in Support of a ROD Amendment

USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USTs	Underground storage tanks
VOCs	Volatile organic compounds
WDRS	Water Discharge Requirements

1.0 INTRODUCTION

In accordance with the final Records of Decision (RODs) for Parcels B and G at the former Hunters Point Shipyard (HPS) in San Francisco, California, environmental cleanup activities were implemented to provide for protection of human health and the environment. The cleanup activities are overseen by the United States Environmental Protection Agency (USEPA), the California Department of Toxic Substances Control (DTSC) and the Regional Water Quality Control Board (RWQCB). This Post-Remedial Action Completion Report Risk Management Plan (hereafter referred to as the Post-RACR RMP) has been prepared for Parcels B (excluding Installation Restoration [IR] Sites 7 and 18; See Section 1.1) and G to provide procedures and protocols that shall be used to conduct "pre-approved restricted activities" and "activities that require approval" on Parcels B and G following transfer of property from the Navy to other landowners where the remedy has been implemented. Pre-approved restricted activities and restricted activities that require approval are described later in Section 3.

The following restricted activities are defined in the Parcel B ROD Amendment (*ChaduxTt, 2009*) and the Parcel G ROD (*Navy, 2009*):

- "Land disturbing activity" which includes, but is not limited to: (1) excavation of soil; (2) construction of roads, utilities, facilities, structures, and appurtenances of any kind; (3) demolition or removal of "hardscape" (for example, concrete roadways, parking lots, foundations, and sidewalks); (4) any activity that involves movement of soil to the surface from below the surface of the land; and (5) any other activity that causes or facilitates the movement of known contaminated groundwater.

- Alteration, disturbance, or removal of any component of a response or cleanup action (including, but not limited to, pump-and-treat facilities, soil vapor barriers, revetment walls and shoreline protection, and soil cap/containment systems); groundwater extraction, injection, and monitoring wells and associated piping and equipment; or associated utilities.

- Extraction of groundwater and installation of new groundwater wells.

- Removal of or damage to security features (for example, locks on monitoring wells, survey monuments, fencing, signs, or monitoring equipment and associated pipelines and appurtenances).

The RODs provide that the activity restrictions will be enforceable through Covenant(s) to Restrict Use of Property (CRUPs) and deed restrictions. Institutional controls (ICs) are enforced in the form of the deed(s) and CRUP(s), which are recorded in the official records of the City and County of San Francisco (CCSF) against all parcels that are subject to this Post-RACR RMP and run with the land under California Civil Code 1471.

Additionally, the RODs specify the following activity restrictions related to the potential exposure to volatile chemicals in the subsurface soil vapor

- Any proposed construction of enclosed structures within the area requiring institutional controls (ARIC) for volatile chemicals must be approved by the FFA signatories in accordance with the CRUPs, Quitclaim deed(s), Land Use Control (LUC) Remedial Design (RD), prior to the conduct of such activity to ensure that the risks of potential exposures to volatile chemicals are reduced to levels that are adequately protective of human health. Initially the ARIC will include portions of Parcels B and G as presented in Figures 2 and 3. No potential source areas were identified and no fill material is present within Redevelopment Block 4, therefore Redevelopment Block 4 was not included within the Parcel B ARIC for volatile chemicals. The reduction in potential risk caused by the presence of volatile chemicals can be achieved through engineering controls or other mitigation measures that meet the specifications set forth in the amended ROD, RD reports, LUC RD report, and the RMPs. The ARIC for volatile chemicals may be modified by the FFA signatories as the soil contamination areas and groundwater contaminant plumes that are producing unacceptable vapor inhalation risks are reduced over time or in response to further soil, vapor, and groundwater sampling and analysis for VOCs, SVOCs including PAHs and pesticides, that establishes that areas now included in the ARIC for volatile chemicals do not pose an unacceptable potential exposure risk to volatile chemicals.

The Post-RACR RMP is organized as follows:

Section 2.0 Summary of Environmental Conditions: Provides a description of soil and groundwater conditions and the selected remedies.

Section 3.0 Site Activities Regulatory Protocols: Describes pre-approved activities, activities requiring notification and approval, description of Areas Requiring Institutional Controls (ARICs) for VOCs and procedures to modify the Post-RACR RMP. Lists public repository.

Section 4.0 Reporting and Notice Protocols: Describes reporting and notification process, including notification entities, activities requiring notification and completion report requirements and approvals and annual reports.

Section 5.0 Risk Management Procedures and Protocols during Development: Presents risk management measures which must be implemented during performance of development and maintenance activities.

Section 6.0 References: Lists references used in the preparation of this Post-RACR RMP.

1.1 Post-RACR RMP Scope

This Post-RACR RMP governs restricted activities on land where the remedy implementation phase is complete and the Regulatory Agencies have approved the Remedial Action Completion Report (Figure 1). This RMP is the only one that should be used once the remedy has been completed and approved.

Over time property will be transferred from the Pre-RACR RMP status to the Post-RACR RMP status until all property has received Regulatory Agency approval of the RACR. Thus, the geographic area for which this Post-RACR RMP applies will be dynamic and the geographic boundaries will change with time as the remedy, including the durable cover, is installed and approved by the FFA signatories. When changes to the RMP applicability are made, copies of Figure 1 in both this Post-RACR RMP and the Pre-RACR RMP will be updated simultaneously and will be made available in the Hunters Point Shipyard information repositories (Section 3.4) and on the San Francisco Department of Public Health (SFDPH) Hunters Point Shipyard Redevelopment website (http://www.sfdph.org/dph/EH/HuntersPoint/default.asp). This Post-RACR RMP will be required as long as a durable cover requirement exists as part of the remedy and constituents of concern remain at the property above levels that pose risks to human health in an unrestricted land use scenario.

This Post-RACR RMP was prepared solely for use within the Post-RACR RMP Area and is not intended to be applied for the management of risks within any area or project not otherwise explicitly identified in the Post-RACR RMP. Although this Post-RACR RMP sets forth the requirements to appropriately manage the potential risks in soil and groundwater following remedy installation, the Post-RACR RMP is not intended to catalog all other legal requirements that may apply to the project or to activities conducted under the Post-RACR RMP such as, but not limited to: worker health and safety as governed by the Occupational Safety and Health Administration (OSHA) and compliance with Article 31 of the San Francisco Health Code. Article 31 contains special permit processing requirements that apply at Hunters Point Shipyard to address potential contamination.

1.2 Intended Users of Post-Development RMP

This Post-RACR RMP is intended for the following users or their designees who may perform or oversee the Restricted Activities described in Section 3.1.1 within Parcels B and G:

- San Francisco Redevelopment Agency (SFRA)
- San Francisco Department of Public Works
- Property developers
- Property Owners (defined as an Owner with a fee interest in the property or an Owner's Representatives, hereinafter referred to as Owners)
- Lessees, permittees, tenants, or any other party with the legal right to perform subsurface work on the property
- Contractors
- Maintenance personnel
- Regulatory agencies (USEPA, DTSC, and RWQCB) and City of San Francisco Department of Public Health (SFDPH)
- Department of the Navy
- Any other person or entity who may perform the Restricted Activities described in Section 3.1.1.

The Post-RACR RMP will be used by the regulatory agencies to ensure that future property owners comply with the ROD required land use restrictions to limit exposure to hazardous substances and ensure that property owners maintain the integrity of the remedy.

1.3 Description of Planned Redevelopment

Parcels B and G will be developed as mixed use sites (Figures 2 and 3). Parcel B will include multi-family housing, public open space, retail, light industrial, and commercial uses. Parcel G could include mixed use (including residential), commercial, educational/cultural, industrial, and open space.

2.0 SUMMARY OF ENVIRONMENTAL CONDITIONS AND DESCRIPTION OF AREAS REQUIRING INSTITUTIONAL CONTROLS (ARICS)

Soil, groundwater and soil vapor investigations were conducted by the Navy within Parcels B and G to characterize the environmental conditions. Significant source areas that could impact human health and the environment were remediated by the Navy prior to transfer. Risk evaluations have been performed to confirm that the site could be developed as planned (based on the 1997 Redevelopment Plan for HPS), in a manner that would be safe for human health and the environment. The Remedial Investigation Reports for Parcel B (*PRC et al, 1996*) and Parcel G (*Tetra Tech, 1997a*), Feasibility Study Reports for Parcel B (*PRC, 1996*) and Parcel G (*Tetra Tech, 1997b*), Revised Feasibility Study for Parcel D (*SulTech, 2007*), 5-Year Review Report (*Jonas, 2008*), Technical Memorandum in Support of a Record of Decision (ROD) Amendment (TMSRA) for Parcel B (*ChaduxTt, 2007*) and its Radiological Addendum (*TtEC, 2008*), and ROD Amendment (*ChaduxTt, 2009*), and the ROD for Parcel G (*Navy, 2009*) are central to understanding environmental conditions at HPS. While this Post-RACR RMP provides a summary of the various environmental findings in the site-specific investigations as of the date this Post-RACR RMP was published, the reader should refer to reports listed in Section 6.0 for more details regarding the specific findings of these investigations and should refer to the Remedial Action Completion reports for updated environmental conditions. A description of the history of Parcel B, including geology, hydrogeology, regional setting and a description of previous investigations, can be found in the Parcel B TMSRA (*ChaduxTt, 2007*) and a description of the use and history of Parcel G can be found in the ROD for Parcel G (*Navy, 2009*). Parcel G is located within the central portion of the former 98-acre Parcel D. To support the early transfer of Parcel G, Parcel D was subdivided into Parcels G , D-1, D-2, and UC-1 (*Navy, 2009*).

2.1 Soil and Sediment Conditions

The primary chemicals of concern (COCs) detected in soil at Parcels B and G include volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and metals. The Navy conducted a series of excavations at Parcel B to reduce the risk to human health and the environment. A group of metals, primarily arsenic and manganese, were identified in soil at concentrations that consistently exceeded cleanup goals at locations across Parcel B. The widespread distribution of this group of metals in soil at Parcel B is related to the occurrence of these metals in the local bedrock that was quarried for fill during the expansion of HPS as well as the importation of other off-site sources of fill used to further expand HPS. Following excavations in 106 locations on Parcel B, the FFA signatories determined that because of the ubiquitous nature of these metals in soil throughout Parcel B, excavation and removal of all soil exceeding risk-based cleanup standards to a depth of 10 feet

was not economically feasible and the site conceptual model needed to be re-examined. As a result, the ROD Amendment selected a remedial alternative to address the ubiquitous presence of metals using containment beneath covers in conjunction with institutional controls.

A large quantity of soil in Parcels B and G that was contaminated with constituents other than arsenic and manganese (lead, mercury, radionuclides, organic compounds or other Navy contaminants above remediation goals) was excavated and disposed off-site by the Navy prior to transfer. However, some soil, soil gas, and groundwater containing constituents of concern remained in place, as described in the Parcel B TMSRA and Parcel G ROD. These issues were addressed by the SFRA prior to occupation of the land.

The Navy implemented investigations and corrective actions for total petroleum hydrocarbons (TPH) on Parcels B and G as part of the Navy's Petroleum Program. The RWQCB is the lead regulatory agency that oversees petroleum contamination and the UST program. For Parcel B, the petroleum corrective action work was conducted pursuant to a petroleum Corrective Action Plan (CAP). For Parcel G, no petroleum corrective actions were necessary, and therefore a CAP was not developed. The Navy is currently in the process of revising the Draft Final Petroleum Hydrocarbon Closeout Reports for Parcels B and G. The Navy anticipates the submission of Final Petroleum Hydrocarbon Site Closeout Reports for Parcels B and G in early 2011. Regional Water Board staff expects that closure will be completed for most if not all sites before the Navy issues a Final Finding of Suitability for Early Transfer (FOSET). The one exception to this schedule is the Parcel B petroleum site called Combined Sites Area Of Concern (CAA-21, CAA-22, Area Of Concern-46-A and Area Of Concern-46-B). The Navy completed all fieldwork and investigations of the Parcel B combined sites in late 2010 (*ITSI, 2011[reference]*). Post-investigation actions such as monitoring likely could be ongoing at the Combined Sites Area Of Concern and therefore closure pending at the time of transfer.

The Navy identified metals, pesticides, PCBs, and polycyclic aromatic hydrocarbons (PAHs) in Parcel B shoreline sediments that may pose a risk to human health or ecological receptors. The selected remedy to prevent exposure to the COCs in the shoreline sediments included the construction of a shoreline revetment wall. Parcel G does not have any sediment concerns because it is not bordered by the bay.

At HPS, naturally occurring asbestos (NOA) is primarily found in the mineral form of chrysotile, which is present in approximately 1/8-inch veinlets scattered throughout the native serpentinite bedrock. The primary route of potential exposure to asbestos is through inhalation of air containing asbestos fibers. The primary release mechanism of asbestos fibers to the air would be through excavating and crushing the

serpentinite bedrock. Best management practices (BMPs) incorporating the use of traditional dust suppression techniques during excavation would be adequate to mitigate potential health concerns related to the inhalation of asbestos fibers. Samples of airborne particulates will be collected using real-time particulate dust monitors to evaluate the adequacy of and allow adjustments to BMPs (Appendix D).

2.2 Groundwater Conditions

COCs in groundwater above remediation goals are limited to the A-aquifer, which exists within unconsolidated artificial fill. The A-aquifer ranges in thickness from about 15 feet in the southwest to as much as 80 feet in the northeast, but averages about 25 feet over most of Parcel B. Groundwater is typically encountered within Parcel B in the A-Aquifer at depths ranging from approximately 5 to 10 feet below ground surface, with up to 3 feet of typical seasonal variation. Groundwater in the A-aquifer at Parcel G is generally encountered 8 to 10 feet below ground surface with fluctuations of over 5 feet observed in the past. COCs for both Parcels B and G in the A-aquifer include VOCs (mainly trichloroethene and its breakdown products), chromium VI, mercury, and nickel. Plume areas identified in the Parcel B Amended ROD include IR Site 10 and IR Site 26 (Figure 2). Plume areas identified in the Parcel G ROD include IR Site 9, IR Site 33 and IR Site 71 (Figure 3). An indoor inhalation risk may exist in areas where volatile chemicals are present in soil or groundwater. Potential risks from groundwater are based on breathing volatile chemicals in soil and groundwater that may have migrated through the subsurface to indoor air (vapor intrusion). The results of the Human Health Risk Assessment show that the risk from exposure to vapors from the groundwater exceeded the excess lifetime cancer risk threshold in several areas in Parcel B (*ChaduxTt, 2009*) prior to the completion of the remedy. The selected remedy for groundwater at Parcel B includes treatment of the groundwater, implementation of institutional controls and long-term groundwater monitoring. A-aquifer groundwater in IR Site 9 and IR Site 71 at Parcel G has undergone treatment which has reportedly reduced VOC concentrations below cleanup levels (*Alliance, 2010*) though groundwater monitoring will continue to verify that the remediation is complete. Due to declining concentrations of COCs and low risk to future receptors, treatment of groundwater at IR Site 33 was not necessary (Alliance, 2010). (Note: *Update with latest groundwater sampling results at time of implementation*).

The risk posed by chromium VI, mercury, and nickel in groundwater is primarily to ecological receptors through potential transport to the bay. The Navy completed a removal action for the mercury source at IR-26 in Parcel B (*Insight, 2009*). Long-term groundwater monitoring will continue at Parcel B until concentrations of both the chromium VI and mercury are below action levels that are protective of ecological receptors in the bay. Chromium VI in Parcel G is associated with the former Pickling and

Plate Yard. The source of the chromium VI, including contaminated equipment and residue from the Pickling and Plating Yard and the pickling and plating sump and surrounding soil, have been removed). Documentation of the plating sump removal will be included in the Parcel G RACR.

2.3 Known Existing or Former Below-Grade Structures

Below grade structures such as underground storage tanks (USTs), oil/water separators, sumps, or other structures were removed or investigated during previous investigations within Parcels B and G. Two known USTs (U439-1 and U439-2) were closed in place in Parcel G (Figure 3). No known USTs were closed in place within Parcel B (*ChaduxTt, 2010b*).

2.4 Implemented Remedies

The CERCLA RODs for Parcels B and G selected remedial actions, which were required to provide adequate protection of human health and the environment and to allow the designated and beneficial reuse of the property as defined in the conveyance agreement executed between the Navy and the SFRA. At the time this post-RACR RMP applies to a piece of property, the remedial actions will have been implemented and approved. The following remedial actions were identified in the ROD to address contamination in soil, sediments, soil vapor, groundwater and structures within Parcels B and G:

- Radiological contamination identified in buildings, former building sites, sewer lines and other areas affected by radiological sources, were removed by the Navy and approved by the FFA signatories prior to transfer of Parcels B and G to the SFRA.

- Removal and offsite disposal of excavated soil in areas where concentrations of organic chemicals and metals (excluding arsenic and manganese) were above remedial goals.

- Installation of durable covers over the entire parcel to prevent contact with residual ubiquitous metals. A durable cover is defined in the RODs or RDs as hardscape (e.g., asphalt, buildings, sidewalks, etc.) or two feet of clean imported fill.

- Installation of a revetment wall along the Parcel B shoreline to cover and prevent access to sediments.

- Operation of a soil vapor extraction (SVE) system (Parcel B only) to remove and treat VOCs in soil.

- Treatment of groundwater to reduce the contaminant concentrations to or near the remediation goals defined in the RODs.

- Implementation of a groundwater monitoring program to verify that remediation efforts continue to meet the remediation goals defined in the Parcel B ROD Amendment and Parcel G ROD.

- Use of engineering controls and institutional controls (ICs) to prevent or minimize exposure to contaminated soil and soil vapor and to prevent or minimize exposure to contaminated groundwater by restricting activities related to groundwater.

Details concerning the selection, performance and implementation of these remedies are presented in the TMSRA, Parcel B ROD Amendment, Parcel D FS, Parcel G ROD and Remedial Design Package, Design Basis Reports for Parcels B and G and referenced in Section 6.0. Implementation of the remedies will be documented in the RACRs.

2.4.1 Operation and Maintenance of the Remedy

The selected remedy includes a durable cover (Parcels B and G) and shoreline revetment (Parcel B only) to provide a physical barrier (engineered control) to remove the exposure pathway of COCs to human and ecological receptors. The requirements for long-term monitoring and operation and maintenance (O&M) for the durable cover and the shoreline revetment are provided in the Parcels B and G RD documents. These long term monitoring and O&M obligations are independent of the Post-RACR RMP however the annual O&M inspections will be conducted and submitted simultaneously with the RMP annual inspections as described in Section 4.0 and Appendix B.

3.0 SITE ACTIVITIES AND REGULATORY PROTOCOLS

This section describes the regulatory oversight protocols, types of activities and associated restrictions that are governed by this Post-RACR RMP and the process for modifying this Post-RACR RMP.

3.1 Regulatory Oversight

The groups of agencies that have oversight and approval roles for various obligations are described in this section. These agencies plus the Navy, as the previous landowner and CERCLA responsible party, are referred to as the Federal Facility Agreement (FFA) signatories. The FFA is an agreement entered into by the agencies to carry out the remediation of HPS. The FFA signatories and the City of San Francisco Department of Public Health (SFDPH) will be referred to as the Oversight Agencies and the DTSC, RWQCB, USEPA, and the SFDPH will be referred to as the Regulatory Agencies for the purposes of this RMP. A contact list is included in Appendix A.

Regulatory oversight regarding implementation of the Post-RACR RMP includes, but is not limited to:

- Review and approval of modifications to the Post-RACR RMP, as described in Section 3.3
- Review and approval of work plans for conducting restricted activities requiring FFA signatory approval that are specified in Section 3.1.2 of this Post-RACR RMP
- Performance of inspections to verify compliance with the Post-RACR RMP procedures and protocols
- Review and approval of completion reports described in Section 4.2.3.

3.1.1 Pre-Approved Restricted Activities

Certain land disturbing activities may be conducted without obtaining FFA signatory approval as long as such activities are performed in accordance with all provisions and protocols specified in the RMP. Such activities are hereafter referred to as “pre-approved activities”. Pre-approved activities include the following, except to the extent that the activities fall within one of the categories requiring FFA signatory approval under Section 3.1.2 below:

(1) Excavation of soil that penetrates the cover remedy. Following completion of excavation activities, the excavated soil must either be hauled offsite or placed back in the excavation and the cover remedy re-

installed. Excavated soil may be used at other sites so long as it is placed beneath an approved cover remedy (e.g., 2 feet of clean fill, asphalt cover, side walk, or street).

(2) Construction of roads, utilities, facilities, structures (other than enclosed structures in ARICs for volatile chemicals), and related appurtenances as necessary to complete the redevelopment. Following the completion of any of these activities that penetrate the cover remedy, all excavated soil must either be hauled offsite or put back in place and an approved cover remedy must be re-installed.

(3) Demolition or removal of "hardscape" (e.g., concrete or asphalt roadways, parking lots, building foundations, and sidewalks). Following completion of hardscape removal, an approved cover remedy must be re-installed.

(4) Any activity that involves movement of soil to the surface from below the surface of the land. Following completion of soil moving activities all soil that has been moved from below the cover remedy must either be hauled offsite or put back in place and must be covered with an approved cover remedy (e.g., 2 feet of clean fill, asphalt cover, side walk, or street); and

(5) Grading or other movement of soil. Following completion of grading activities existing or native soils must be covered with an approved cover remedy (e.g., 2 feet of clean fill, asphalt cover, side walk, or street).

Some specific examples of pre-approved activities include, but are not limited to:

- excavation of trenches, potholes or other movement of soil from the subsurface to the surface in support of the installation of new below grade utilities, foundations, or otherfoundational structures (e.g., sewer lines, water lines, storm water pump station wet wells, pile caps and/or grade beams, etc.). Following completion of these activities, all excavated soil must either be hauled offsite or placed back in the excavation and an approved cover remedy re-installed (e.g., 2 feet of clean fill, asphalt cover, side walk, or street). Excavated soil may be used at other sites so long as it is placed beneath an approved cover remedy. Additional information on the handling and management of soil is provided in Sections 5.2 and 5.3.
- demolition of existing below grade, at grade or above grade structures. Following completion of demolition activities exposed native or existing soil must covered with an approved cover remedy (e.g., 2 feet of clean fill, asphalt cover, side walk, or street);

- grading for the purpose of raising and/or lowering site grade, creation of building pads, fine grading activities in support of road installation, and associated excavating, loading, hauling, stockpiling and/or compacting soil. Following completion of these activities existing or native soils must be covered with an approved cover remedy (e.g., 2 feet of clean fill, asphalt cover, side walk, or street);

- pre-drilling for pile installation including drilling pilot holes through fill material prior to the installation of foundation piles. In addition, in areas where there is no known groundwater contamination and to the extent that such activities will not impact areas of known groundwater contamination; temporary dewatering activities may be conducted including temporary pumping of groundwater to dewater below grade excavations in support of both infrastructure installation and/or foundation installation which may include both pumping of groundwater from an open excavation and/or pumping groundwater via perimeter temporary dewatering wells (typically used for building foundation installation). Additional information on groundwater management is provided in Section 5.6.

Anyone performing the above Pre-Approved Activities will be required to comply with the following applicable soil and groundwater management protocols, a Dust Control Plan (DCP), a Stockpile Management Plan (part of the DCP), a Soil Importation Plan, a Storm Water Pollution Prevention Plan (SWPPP), and a Groundwater Management Plan (GMP). Each of these elements is described in more detail in Section 5.0. In addition, contractors performing Pre-Approved Restricted Activities will be required to comply with their own Environmental Health and Safety Plan (EHSP). Reporting requirements for these Pre-Approved Restricted Activities are further described in Section 4.0.

3.1.2 Restricted Activities Requiring FFA Signatory Approval

Specific restricted activities that affect remediation and may not be commenced without first obtaining written FFA signatory approval include:

- "Land disturbing activity" that causes or facilitates the movement of any known contaminated groundwater.

- Alteration, disturbance, or removal of any component of a response or cleanup action (including, but not limited to, pump-and-treat facilities, and shoreline protection; groundwater extraction, injection, and monitoring wells and associated piping and equipment (including monitoring well abandonment); or associated utilities.

- Alteration, disturbance, or replacement of the durable cover on land that is one acre in size or greater. Construction of new road sections (street, curb, gutter, sidewalk, landscape median) is pre-approved for all areas, including areas one acre in size or greater, as long as the road section construction meets appropriate City building codes and standards.

- Extraction of groundwater and installation of new groundwater wells (including monitoring well replacement).

- Removal of or damage to security features (for example, locks on monitoring wells, survey monuments, fencing, signs, or monitoring equipment and associated pipelines and appurtenances).

- Construction of enclosed enclosed structures or reuse of existing buildings located in ARICs for volatile chemicals.

3.1.3 Areas Requiring Institutional Controls (ARICs) for Volatile Chemicals

The criteria for determining ARICs for volatile chemicals was established by the Navy and presented in the Soil Vapor Intrusion Survey Work Plan (*Sealaska, 2010*). The Soil Vapor Intrusion Survey Work Plan also established criteria for the modification or elimination of ARICs for volatile chemicals. The ARIC for volatile chemicals may be modified with approval by the FFA signatories via additional soil gas sampling and analysis for COCs. If the data show that vapor inhalation risk is within the acceptable range specified in the ROD or ROD Amendment, the ARIC may be reduced accordingly and Figure 2 and 3 will be updated. In areas where the ARIC remains, engineering controls shall be installed in existing or new buildings to address remaining vapor inhalation risk. When construction of enclosed structures or reuse of an existing building is proposed in an area located in ARICs (shown on Figures 2 and 3) for volatile chemicals the design of the vapor mitigation system built into foundations must be approved by the regulatory agencies.

3.1.4 Prohibited Activities

The following activities are prohibited throughout the Post-RACR RMP Area:

- Growing vegetables or fruits in native soil for human consumption.

- Use of groundwater.

Plants for human consumption may be grown in the Post-RACR RMP Area if they are planted in raised beds (above the RACR-approved cover) containing non-native soil. Fruit trees (including nut-bearing trees) may also be planted provided that they are grown in containers with a bottom that prevents the roots from penetrating the native soil.

3.1.5 Compliance with Requirements of Public Agencies That Are Not Parties to the FFA

Compliance with this Post-RACR RMP is required in addition to all federal, state and City of San Francisco permitting and environmental regulations and procedures for any construction or maintenance activity. The following is a list of state and local agencies that may have requirements for certain construction and maintenance activities, in addition to any requirements described in this Post-RACR RMP. This list is an example of potential state and local regulatory agencies and is not intended to be complete.

- Bay Area Air Quality Management District (BAAQMD) – air emissions and/or dust control
- San Francisco Department of Public Health (SFDPH) – monitoring well permitting and SFDPH Article 31 oversight
- San Francisco Public Utilities Commission (SFPUC) - wastewater discharge permitting
- Cal/Occupational Safety and Health Administration (OSHA) – worker health and safety
- San Francisco Redevelopment Agency – redevelopment design review
- San Francisco Department of Building Inspection – building permitting
- San Francisco Department of Public Works – permitting of structures in existing or future public right-of-ways and parks; subdivision approvals
- San Francisco Municipal Transportation Agency – permitting of infrastructure related to transit and traffic management
- San Francisco Fire Marshall – approval of infrastructure related to Fire Department emergency response.
- US Army Corps of Engineers – approval of repairs or modifications to the revetment wall and storm drain outfalls below sea level

- Bay Conservation and Development Commission - approval of repairs or modifications to the revetment wall within 100 feet of sea level.

3.2 Agency Site Access

The agencies responsible for enforcing the Post-RACR RMP procedures and protocols within Parcels B and G (Oversight Agencies) may elect to visit the site, as needed, per the rights of access described in the deed(s) and access requirements in the CRUP(s). The purposes of such visits include, but are not limited to, confirming that the Post-RACR RMP procedures and protocols are being properly implemented.

3.3 Modifications to the Post-RACR RMP

Modifications to the Post-RACR RMP may become necessary to address unanticipated future events, such as newly-identified COCs for which site-specific remediation goals have not been calculated, or in the event of a remedy failure. Additionally, based on the results of remedial activities, modification or termination of specific conditions or controls stated in this Post-RACR RMP may be warranted.

Other government entities may propose modifications of this Post-RACR RMP, including terminating specific conditions of the Post-RACR RMP, to the FFA signatories. Such modifications proposed to the FFA signatories may include modifications proposed by Owners to other government entities that those government entities determine are appropriate. The FFA signatories will review the proposed changes, request any additional background information if needed, and issue a decision regarding the proposal within 45 (calendar) days of receiving the proposal and any additional requested information. Once approved, the modified post-RACR RMP will be filed in the public repository (Section 3.4).

The FFA signatories may also propose modifications to the Post-RACR RMP based on new information that the Post-RACR RMP must address to remain protective of human health and the environment. If the proposed modifications are not agreed upon by the FFA signatories, in consultation with the SFDPH, within 60 days, the Post-RACR RMP shall continue in its original form until the FFA signatories come to a consensus on the appropriate modifications and notify the SFDPH of the modifications.

Changes in notification personnel are not considered a modification to the Post-RACR RMP and do not require FFA signatory approval.

3.4 Public Repository of RMP

A copy of this Post-RACR RMP and any Post-RACR RMP modifications will be available at the Hunters Point Shipyard information repositories indicated below, and on the San Francisco Department of Public

Health (SFDPH) Hunters Point Shipyard Redevelopment website (http://www.sfdph.org/dph/EH/HuntersPoint/default.asp). The Hunters Point Shipyard information repositories also contain the documents discussed in Section 2.0 and elsewhere in this Post-RACR RMP.

San Francisco Main Library
100 Larkin Street
Government Information Center, 5th Floor
San Francisco, California 94102
Phone: 415-557-4500

Anna E. Waden Bayview Library
5075 Third Street
San Francisco, California 94124
Phone: 415-355-5757

Contact information for the FFA signatories is provided in Appendix A. Changes in contact information will be submitted to the SFDPH, which will be responsible for including the updated information on their SFDPH Hunters Point Shipyard Redevelopment website.

4.0 REPORTING AND NOTICE PROTOCOLS

This section describes reporting and notification protocols that shall be followed when the following circumstances arise:

- Annual Reporting of pre-approved restricted activities in accordance with this Post-RACR RMP.
- Upon preparation of a work plan proposing to conduct Restricted Activities Requiring FFA Signatory Approval (Section 3.1.2) and upon receipt of results of performing the work plan.
- Upon discovery of previously-unknown environmental issues.

Notifications are the responsibility of the Owners, Lessees, permittees, tenants or any other party with the legal right to perform subsurface work on the property and with knowledge of circumstances. Under the circumstances described in Section 1.3, the SFRA will monitor compliance with notification requirements, and advise Oversight Agencies of noncompliance. The relevant time periods for notifications and associated responsible entities are described below. Other government entities with RMP oversight responsibilities are presented in Table 1.

4.1 Reporting for Pre-Approved Restricted Activities

Each year by June 30, the SFRA shall prepare and submit to the FFA signatories copies of the annual reports summarizing all of the Pre-Approved Restricted activities that have occurred on Owner's property and will identify any areas in the reports that indicate a non-compliance condition occurred within that year. If unknown areas of contamination or changes in the understanding of environmental conditions are discovered during the course of conducting pre-approved activities, Owner shall notify the FFA signatories via the notification process described in Section 4.3 and will follow the procedures presented in the Unknown Condition Response Plan (Appendix G). Following completion of the pre-approved restricted activities, the disturbed cover will be restored as described in Section 5.2.

4.2 Restricted Activities which require FFA signatory approval

These sections describe notification and reporting requirements for the restricted activities listed in Section 3.1.2.

4.2.1 Notification Prior to Restricted Activities Which Require FFA Signatory Approval

The Owner shall notify the FFA signatories at least 60 calendar days prior to any plan to conduct Restricted Activities Requiring FFA Signatory Approval listed in Section 3.1.2. Notification shall be in the form of a proposed work plan detailing the specific activities to be conducted and the controls to be implemented to protect human health and the environment. The FFA signatories shall review and either approve or provide comments indicating deficiencies in the work plan within 30 calendar days of receipt of the work plan. The FFA signatories may also request an extension of the review period within no less than 10 days prior to the end of the 30 calendar day time period. The Owner and FFA signatories shall work collaboratively to resolve work plan issues. The FFA signatories shall approve work plans prior to commencement of field activities. Documents will be considered to be final if no comments are received within the 30-day comment period. Following completion of the restricted activities, the disturbed cover will be restored as described in Section 5.2.

4.2.2 Information Required for Proposed Activities Requiring FFA Signatory Approval

When the Owner prepares a notification package to request approval to perform restricted activities requiring FFA signatory approval, the following should be included:

- A description of the proposed activity or condition that warranted the notification, together with appropriate exhibits to illustrate the location and/or issue that is the subject of the notification.
- Work plans, including schedules, prepared to perform activities.
- Description of current site conditions.

4.2.3 Completion Reports for Restricted Activities which Required FFA Signatory Approval

Following completion or closure of the activity requiring FFA signatory approval, the Owner shall prepare a completion report for submittal to the FFA signatories. A completion report shall include the following components, as appropriate:

- A description of the activity or condition that warranted the notification, together with appropriate exhibits to illustrate the location and/or issue that is the subject of the notification
- Description of notification protocols followed, including approval from the FFA signatories

- References to work plans prepared to perform activities
- Description of activities performed
- Boring logs/well completion diagrams
- Laboratory analytical reports
- Waste disposal manifests
- Description of final site conditions and/or as-built drawings
- Verification that all activities were conducted in conformance with the requirements of this Post-RACR RMP (signed by a California licensed Professional Engineer)
- A long-term maintenance and monitoring plan for any permanent facilities
- Other appropriate documentation or components as specified as a condition of undertaking the subject activity and/or required by the FFA signatories.

The Owner shall submit completion reports to the FFA signatories within 45 days of completing the restricted activities which required FFA signatory approval. Analytical information will be submitted within 30 days of receiving final analytical reports for samples submitted to the laboratory. The FFA signatories will be informed if the submittal date of an individual report must be extended past this time frame. If the submittal date has a regulatory-mandated time line, then FFA signatory approval for the extension must be requested at least 21 calendar days prior to the due date of the submittal and the extension request will not be considered granted unless formally granted in writing. Extension requests will be granted, or may be denied, within 15 calendar days of receipt of the written extension request.

The FFA signatories will review all completion reports to confirm that the actions taken are consistent with the Post-RACR RMP procedures and protocols and if applicable, the ROD, AOC and Remedial Design. Within 30 calendar days of completing review of the completion report, the FFA signatories will notify the Owners of any discrepancies or deficiencies in the completion report regarding compliance with this Post-RACR RMP, and the authors and regulators will work collaboratively to resolve such issues. Draft documents will be subject to a review period of 45 days. Reviewing parties may request an extension of the review period of for up to an additional 45 days from the party submitting the document. The party submitting the document will have 45 days to revise the document to address the comments received.

Draft final documents will be subject to a review period of 30 days. The FFA signatories may extend the 30 day comment period for an additional 30 days by written notice to the party seeking approval prior to the end of the 30 day period. The party submitting the document will have 45 days to revise the document to address the comments received. The completion notification/report will be considered approved and final unless regulators submit comments or a request for an extension within 30 calendar days from their receipt of the document. Upon request, the Owner shall submit a corrective action work plan to the FFA signatories for review and approval. Upon concluding that the actions taken are consistent with the Post-RACR RMP and if applicable Remedial Action Objectives (RAOs) identified in the ROD are attained, the FFA signatories will issue an approval letter for the completion report.

4.3 Notification Requirements for Changes in Understanding of Environmental Conditions or Discovery of Unknowns

In the event that unexpected or previously unknown conditions are encountered in the field that may require remediation or mitigation, the Owner shall notify the FFA signatories as soon as practicable and in accordance with any legal notification requirements, but no later than three days following the time at which the event became known to the Owner . Additionally, upon discovery of unexpected or previously unknown conditions, the Owner must temporarily halt work and determine: 1) whether the condition constitutes a Navy-Retained condition in accordance with the Early Transfer Cooperative Agreement; and 2)whether an appropriate path forward exists so that work can continue safely and in accordance with applicable regulatory protocol. These determinations will be made in accordance with the EHSP and the Unknown Condition Response Plan (Appendix G) as required under Article 31 of the San Francisco Health Code, and in accordance with any additional characterization deemed warranted. Additional information on the discovery of unknown or unexpected conditions is provided in Section 5.5.

4.4 Annual Inspection Reports

The Navy is ultimately liable for ensuring long-term compliance with the remedy, but upon transfer of property to SFRA, the Navy intends to transfer to SFRA the responsibility to perform certain ongoing compliance obligations. Subject to execution of a cooperative services agreement between the Navy and the SFRA as authorized by Title 10, United States Code, Section 2701(d), and receipt by SFRA of all funds to be paid by the Navy to SFRA in furtherance of the cooperative services agreement, SFRA anticipates that it will assume responsibility for the following Navy obligations: annual monitoring of RMP compliance activities, annual inspection reporting, annual monitoring of long-term maintenance of the remedy and ensuring annual enforcement of the RMP in the event of non-compliance by Owners, Lessees, permittees, tenants or any other party with the legal right to perform subsurface work on the

property. The SFRA will work with the regulatory agencies to confirm compliance with the land use restrictions, RMP protocols and reporting obligations. If the SFRA deems it appropriate, non-compliant Owners, Lessees, permittees, tenants or any other party with the legal right to perform subsurface work on the property will be referred to the SFDPH and the DTSC for additional enforcement activities.

Regardless of other notices, each year by June 30, the Owner will submit an annual inspection report (Appendix B) to the SFRA that will include:

- Documentation (photos, inspection reports, maps, etc), based on a drive-by inspection of driveable areas of site and a walk around inspection, if needed, of parks/open space, of the current state of the property – location of fences, conditions of fences, location of areas with approved cover remedies, etc.
- Descriptions of areas where current and future pre-approved restricted activities and restricted activities requiring FFA signatory approval are planned with projected start and finish dates, if known.
- Descriptions of pre-approved restricted activities and restricted activities requiring FFA signatory approval conducted during the previous year.
- Descriptions of any previously unknown conditions and related response activities.
- Descriptions of any non-compliance conditions that arose during the year and how they were resolved, if known

The SFRA will submit an annual inspection report to the FFA signatories. The submittal will include a brief summary letter documenting the number of property owners and condition of their property, any problems noted in the annual inspection reports, and follow-up action taken on any noted problems. The O&M obligations (Section 2.4.1) and institutional control (IC) implementation actions also include annual inspection and reporting requirements for the remedies in place and for IC objectives and land use restrictions. ICs will be maintained until the concentrations of hazardous substances in soil and groundwater are at such levels to allow for unrestricted used and exposure. An annual inspection report, incorporating a section for the RMP reporting and a section for the O&M and IC annual inspection reporting, is provided in Appendix B.

4.5 Notification of Owners and Lessees

By the terms of restrictions in the recorded deeds and CRUPs and by this RMP, Owners shall provide a copy of the Post-RACR RMP to lessees, permittees, tenants, future transferees or any other party with the legal right to perform subsurface work on the property.

5.0 RISK MANAGEMENT PROCEDURES AND PROTOCOLS DURING SOIL DISTURBING ACTIVITIES

The purpose of this section is to describe Post-RACR risk management measures that will be implemented during soil disturbing activities to ensure the integrity of implemented remedies during and following completion of construction. Activities that are subject to these measures include pre-approved activities, activities requiring FFA signatory approval, and operation, monitoring, and maintenance that are conducted in accordance with the approved O&M Plan. Sections 3.1.1 and 3.1.2 describe the details of Restricted Activities (e.g., pre-approved and requiring FFA signatory approval). This section describes the specific protocol that will be implemented to maintain the integrity of the remedy and to control potential impacts to human health and the environment associated with potential exposure to COCs that might be present in soil, soil vapor and/or groundwater encountered during post-cover soil disturbing activities, including construction associated with development and future maintenance within Parcels B and G.

5.1 Construction Worker Health and Safety

Construction and maintenance contractors, whose workers may contact potentially contaminated soil, soil vapor, or groundwater within the Post-RACR RMP Area, are required to prepare site-specific EHSPs under the direction of a Certified Industrial Hygienist (CIH) and in a manner consistent with applicable occupational health and safety standards, including, but not limited to OSHA 1910.120. The contractor-specific EHSPs will be maintained by the contractor at the site.

An EHSP is required for contractors engaged in any Restricted Activity-related work, including those listed in Section 5.0, that would extend below the ground surface, except for grading in landscape areas that when completed, will contain a minimum of 2 feet of clean fill. Landscaped areas will be comprised of minimum 2 feet of clean fill (soil cover) placed on top of native soil. Nothing in this section is intended to relieve any person, including contractors or employers, of other mandated worker health and safety planning and training requirements under any federal, state or local statute or regulations.

It is the responsibility of the contractor preparing their EHSP to review information available in the Hunters Point Shipyard information repositories (see Section 3.4) regarding site conditions and potential health and safety concerns. It is also the responsibility of the contractor or other person preparing an EHSP to verify that the components of the EHSP are consistent with applicable Cal/OSHA occupational health and safety standards and currently available toxicological information for potential COCs at the work site. Contractor compliance with the Post-RACR RMP obligations will be specified in the contract

documentation for the contractors performing subsurface work. Each contractor must require its employees who may directly contact potentially contaminated site soil or groundwater to perform all activities in accordance with the contractor's EHSP. Each construction contractor will assure that its onsite construction workers will have the appropriate level of health and safety training, site-specific training, and will use the appropriate level of personal protective equipment as determined in the relevant EHSP based upon the evaluated job hazards and monitoring results. An example EHSP outline is included in Appendix C.

5.2 Durable Cover Protocols: Hardscape and Landscaped Areas

Following completion of any maintenance or repair work which included disturbance of any durable cover (hardscape or landscape), the integrity of the previously existing durable cover will be re-established in accordance with the protocols described in the RD and O&M Plan. The O&M Plan describes procedures for the inspection, maintenance and repair of durable and soil covers. A completion report confirming completion of the notifiable activities and re-establishment of the durable cover will be submitted to the entities previously notified in accordance with the protocols described in Section 4.2.3.

On occasion routine maintenance may be necessary in landscaped areas (e.g., irrigation installation or repair) within the uppermost 2 feet of clean imported fill material (soil cover). When digging in landscaped areas, workers will take care to keep any soil cover material removed segregated from native soil. Disturbance of the soil cover must follow the RMP requirements including the DCP and, if applicable, the Soil Importation Plan. When routine maintenance is complete, workers must document that the soil cover was replaced with either the clean segregated soil or with 2 feet of imported clean soil that meets soil importation requirements. Documentation is to include photographs of the work, measured cover thickness and/or elevation survey, and a statement signed by the person(s) performing the maintenance activities that the work was completed as per these instructions. It is the responsibility of each Owner, Lessee, permittee, tenant or any other party with the legal right to perform subsurface work on the property to provide anyone working on the property with a copy of this Post-RACR RMP prior to them performing any subsurface maintenance or repair activities and to ensure compliance with the RMP. Under the circumstances described in Section 4.4, SFRA will verify that these conditions are being met.

5.3 Soil Management Protocols

Native soil within the boundaries of Parcels B and G, may be moved within or between those parcels and soil from Parcel A may be moved from Parcel A onto Parcels B and G without prior FFA signatory approval if and only if such soil will be placed underneath the required durable cover in Parcels B and G.

For activities requiring FFA signatory approval defined in Section 3.1.2, soil reuse must be addressed, as necessary, as part of the submitted work plan. In the event that placement underneath the required durable cover is not accomplished immediately upon removal, such soil is to be stockpiled within Parcels B or G, with adequate protection, as further described in Section 5.3.2.

5.3.1 Movement of Soil

Native soil may be handled and moved from one portion of Parcel B and Parcel G to another location within each and between each Parcel and soil from Parcel A may be moved from Parcel A onto Parcels B and G, managed and reused without need for sampling, provided that reuse is conducted in accordance with the soil management practices described in this Post-RACR RMP and that no unexpected conditions are encountered. Unexpected conditions would include the discovery of any contamination or subsurface object that was not previously identified on the parcel (i.e., current understanding of environmental conditions). Unexpected conditions and the protocols to follow if they are encountered are described in Section 5.5.

Native soil that is excavated and remains within Parcels B and G and any soil moved from Parcel A to Parcels B and G, must ultimately be covered by a durable cover, such as buildings or other hardscape such as streets, sidewalks, parking lots, and roads or by clean fill and landscaping in accordance with the durable cover requirements specified in the Parcel B ROD Amendment, the Parcel G ROD, and the Parcels B and G RDs.

Trucks used to transport solid bulk material that have the potential to cause visible dust emissions will be loaded in a manner to provide at least 1 foot of freeboard. When transported within HPS, the soil will either covered with a tarp, or the materials will be sufficiently wetted. Unpaved haul routes will be wetted and trucks will not exceed speeds of 15 miles per hour. Potential impacts from dust associated with the handling and movement of soil, soil compaction, soil stockpiling, etc., will be addressed through the implementation of the Dust Control Plan, included in Appendix D.

5.3.2 Soil Stockpile Management Protocols

Stockpile management is addressed in the Dust Control Plan; however, several highlights on stockpile management are included here because stockpiles that are not properly maintained have the potential to generate sediment run-off and dust. Stockpiles shall be maintained within the site access controls of the project boundary. If stockpiles must be placed outside of the parcel boundary (assuming permission is first obtained from the Oversight Agencies), then separate fencing and access control for such stockpiles will be required. Stockpiles must be tarped, wetted, sloped, or controlled via appropriate means and

methods as specified in the Dust Control Plan (Appendix D). Best management practices (BMPs) for erosion and sediment control will be implemented, as necessary, during construction activities. BMPs may include diversion of drainage from the stockpiles, installation of silt fencing/straw bale filter barriers on the downgradient toe of the stockpile slope and dust control. Stockpiles will be inspected at least weekly to ensure dust control and runoff control measures are functioning adequately.

5.3.3 Dust Control Plan

A Dust Control Plan (DCP) identifies the measures that will be taken to reduce particulate emissions during demolition of existing structures, grading, soil handling and stockpiling, vehicle loading, utility work, truck traffic and construction of site infrastructure. The DCP has been prepared in accordance with the requirements in Article 31 of the San Francisco Health Code and certain Bay Area Air Quality Management District (BAAQMD) regulations often applicable to redevelopment activities. Exposure of onsite construction workers to dust containing COCs will be minimized, and generation of nuisance dust will also be minimized to comply with Article 22B of the San Francisco Health Code and SFDPH requirements prohibiting visible dust on San Francisco construction sites. The DCP is attached as Appendix D.

General dust control measures that may be used at the site include, but are not limited to, watering unpaved haul routes, restricting vehicle speeds to 15 miles per hour, wetting and/or tarping stockpiles, wetting down excavation areas, reducing the height from which excavated soil is dropped, use of dust palliatives in inactive disturbed areas, implementation of erosion control measures, construction of gravel access pads in the temporary stockpile locations, installation of gravel pads or wheel wash stations at all egress points to prevent tracking of soil onto paved roads, and periodic sweeping of paved roads within the construction site with wet sweepers.

During windy conditions the use of wind breaks may be employed to control fugitive dust emissions. Under periods of sustained strong wind conditions (hourly average wind speeds of 25 miles per hour or greater), all clearing, grading, earthmoving and excavating will be halted.

Naturally occurring asbestos (NOA) has been found in the serpentinite bedrock and soil throughout the Hunters Point area. Large construction projects occurring within these areas are subject to the California Air Resources Board Airborne Toxic Control Measures (ATCM). For projects where surface soil will be disturbed in an area of one acre or larger, an Asbestos Dust Mitigation Plan (ADMP) will be submitted to and approved by the BAAQMD, as required. For projects less than one acre, an evaluation will be

performed to determine whether an ATCM-compliant asbestos dust mitigation plan is required prior to initiation of potential dust generating activities.

5.4 Offsite Disposal of Soil and Wastes

Soil excavations will be required during construction of utility trenches, building foundations and other facilities. It is likely that excavated soil will be reused within the RMP area for grading activities. As a result, offsite soil disposal should be limited. Any offsite soil disposal is subject to all applicable federal and state laws and regulations. All activities associated with waste disposal, such as truck loading, truck traffic and decontamination of trucks leaving the facility, will be performed in accordance with the Dust Control Plan provided in Appendix D (and summarized below) and any other applicable federal or state law or regulation.

As detailed in the DCP, any trucks used to transport solid bulk material that have the potential to cause visible emissions will be provided with a tarp cover, or the materials will be sufficiently wetted and loaded onto the trucks in a manner to provide at least one foot of freeboard. Trucks loaded with loose soil or sand will be covered before they leave HPS.

Vehicles will be checked to ensure that they are tarped and to remove any excess material on the bumpers, fenders or other exterior surfaces of the cargo compartment where soil could collect. All off-site haul trucks will access the sites via paved access roads and established gravel pads. Every off-site haul truck will proceed through the decontamination gravel pad/tire cleaning area prior to departure. Site personnel will be stationed at the access/egress point to monitor inflow/outflow to and from the site. They will be responsible for inspecting all vehicles exiting and performing any necessary cleaning to help prevent track out.

The contractor is responsible for characterization of any waste prior to transportation and offsite disposal. Characterization for disposal shall be in accordance with the requirements of Title 22 of the California Code of Regulations, Division 4.5, Chapter 11 and the requirements of the disposal facility and any other applicable law. Labeling requirements for transportation of waste shall additionally be in accordance with Title 29 of the Code of Federal Regulations, Parts 172 and 173 and any other applicable law. All waste transported for offsite disposal will be subject to the requirements of the Administrative Order on Consent (AOC).

All soil to be disposed will be taken only to a certified and permitted California landfill or an equivalent out-of-state landfill, as appropriate and as determined by the waste profile.

5.5 Unexpected Conditions

The potential exists for encountering unanticipated conditions within Parcels B and G. Unexpected conditions may include unanticipated soil contamination, abrasive blast material (ABM), subsurface structures, buried pipelines, radiological devices or other visual or olfactory evidence of contamination. As part of the site-specific health and safety training that will be required of equipment operators and site workers, instruction will be given on how to identify potential unexpected conditions.

Additionally, upon discovery of unexpected or previously unknown conditions, the Owner must temporarily halt work, notify the FFA signatories and in consultation with them, determine: 1) whether the condition constitutes a Navy-Retained condition in accordance with the Early Transfer Cooperative Agreement;and 2) whether an appropriate path forward so that work can continue safely and in accordance with applicable regulatory protocol. These determinations will be made in accordance with the EHSP and the Unknown Condition Response Plan (Appendix G) as required under Article 31 of the San Francisco Health Code, and in accordance with any additional characterization deemed warranted.

In accordance with the site-specific EHSP, appropriate measures will be undertaken to ensure worker safety in areas where unexpected conditions are encountered. The SSHO will be responsible for evaluating any change in site conditions. The SSHO may stop work to determine if the level of site security and personnel protective equipment is adequate. Additional measures may include conducting contingency monitoring by taking organic vapor readings using an organic vapor monitor (OVM) or an organic vapor analyzer (OVA). If warranted the area in which unexpected conditions were encountered will be secured with barricades or fencing, as appropriate, and signage to prevent unauthorized access to the area.

5.5.1 Olfactory or Visual Evidence of Contamination

Site development activities may result in the identification of previously unidentified areas or types of contamination. Olfactory or visual evidence of contamination which would trigger the use of the Unknown Condition Response Plan as discussed in Section 4.3 include, but are not limited to:

- Oily, shiny or soil saturated soil with free product
- Soil with a significant chemical or hydrocarbon-like odor
- Significantly stained or colored soil that reasonably indicates a contaminant source
- Groundwater odor, sheen or free-phase globules, or

- Any other indication that contamination may exist that would trigger notification protocols.

5.5.2 Abrasive Blast Material (ABM)

ABM is generally a non-cohesive, granular material and typically may have a characteristic green or black color. Granulated ABM made by all manufacturers is chemically inert; therefore it does not have hazardous waste characteristics of flammability, corrosivity, or reactivity. Due to the use of ABM on ships with lead-based paint, elevated levels of lead and other metals may be found in used ABM.

Historically, silica sands were commonly used as ABM, though current practices limit their use due to safety concerns related to silica dust. Other common ABMs used at Naval facilities include Green Diamond®, a ferro-nickel slag produced as a byproduct of nickel production from lateritic ore, and Black Beauty®, a coal slag abrasive. Coal slag sometimes contains low levels of naturally-occurring radionuclides (radium and its daughter products), which may be concentrated during the ABM manufacturing process, resulting in ABM with relatively low, but elevated levels of radioactivity as compared to background. Anecdotal evidence suggests that ABM may have been used at HPS as bedding aggregate or backfill material (e.g., for pipelines, former fill areas, roadways and driveways).

As part of the site-specific health and safety training that will be required of equipment operators and site workers, instruction will be given on how to identify potential ABM. Because storm and sewer drains were removed by the Navy from the Post-RACR RMP area and these drains are the most likely areas in which ABM may have been placed there are no other areas which can be considered more likely than others to contain ABM. As a result, screening for ABM will initially rely on visual identification.

If ABM is found it, will be screened for the presence of radionuclides and metals. If radionuclides above the remedial goals are detected the ABM will be handled appropriately by the Navy, as a Navy-retained condition, otherwise all ABM identified will be dealt with by the Owner. If the ABM contains radionuclides, or metals that are above the remedial goals set forth in the Parcel B ROD Amendment and the Parcel G ROD, the ABM will be handled as per the Unknown Condition Response Plan, will be disposed of off-site and will be subject to the requirements of applicable federal, state, and local laws.

5.5.3 Subsurface Structures

During the course of excavation and construction activities within Parcel B or G, it is possible that USTs, sumps, barrels, drums or other containers or other underground structures that were not discovered during previous site investigations could be discovered. For example, USTs may be identified during grading and site excavation activities by the presence of vent pipes, product distribution piping that leads to the

UST, fill pipes, backfill materials and the UST itself. Other structures might not have any features that extend above the surface and could be unearthed when construction equipment comes into contact with them. If an unexpected subsurface structure is encountered, notification and health and safety procedures will be invoked as discussed in Sections 4.0 and 5.1 and work will proceed in accordance with the Unknown Contaminant Contingency Plan as required under Article 31 of the San Francisco Health Code.

Excavation activities will be visually monitored for the generation of fugitive dust. Controlling dust in excavation areas will include wetting soil prior to and during excavation, adjusting the height from which excavated soil is dropped, wetting and/or tarping backfill material and stockpiles, use of dust palliatives on disturbed areas, and using gravel pads in loading areas to reduce the potential for soil track-out.

5.6 Soil Import Criteria

All soil imported onto Parcels B and G from areas outside HPS, with the exception of soil imported from Parcel A, will be subject to sampling and soil quality controls established in a Soil Importation Plan (SIP). Soil moved from Parcel A onto Parcels B and G must be placed underneath the required durable cover. Soil quality parameters for imported soil are based on the Parcel B and G remediation goals presented in the Amended Parcel B ROD and the Parcel G ROD. Soil import criteria will meet the most recent California Human Health Screening Levels (CHHSLs) for residential soils. A SIP outline is included as Appendix E. Soil that meets CHHSLs or background levels and is approved for import under a SIP will be suitable for use as a durable cover as long as it meets all RD and RAWP requirements.

5.7 Groundwater Management Protocols

As described in Section 2.2, localized areas of groundwater contamination have been identified within the Post-RACR RMP area. At the time of implementation of the Post-RACR RMP, the most recent groundwater monitoring data (CE2-Kleinfelder, 2010) will be evaluated by the Owner or their designee, prior to the initiation of the Restricted Activity in the context of the EHSP to identify areas where groundwater contamination may be present and to determine the appropriate protective measures to address worker safety and prevent the movement of any residual groundwater contamination.

This section describes protocols to follow during performance of the Restricted Activities (pre-approved and those requiring FFA signatory approval) as described in Sections 3.1.1 and Section 3.1.2 in order to minimize worker exposure to contaminated groundwater and to minimize the potential for affecting contaminated groundwater. All activities discussed below will require notification and completion reporting in accordance with the protocols described in Section 4.0.

5.7.1 Temporary Dewatering Activities

Current development plans for Parcels B and G include utility trenches and below grade parking lots to support the residential and commercial development. Due to the depth of these proposed excavations, temporary construction dewatering may be necessary. A plan to manage the groundwater during construction activities (Groundwater Management Plan [GMP]) will be submitted to the Oversight Agencies for review and approval. A Groundwater Management Plan outline is provided in Appendix F.

If it is determined via the procedure outlined in the GMP that construction necessitates the use of temporary dewatering, and the dewatering activities may occur in or around an area of known groundwater contamination, the regulatory agencies will be notified in accordance with Section 3.1.2. With that notification, a work plan discussing the dewatering scope and activities will be submitted for FFA signatory review and approval. As a general guide, the following risk management protocols will be included in the work plan:

- Conduct preliminary estimates of the amount of water that will need to be removed and the duration of pumping for the specific construction activity.
- Review of available groundwater monitoring data to evaluate groundwater quality in the vicinity of the planned dewatering activities.
- Based on the location of the proposed dewatering, a Professional Engineer or Geologist licensed in the State of California will evaluate whether the volume of water that would need to be removed would result in the enlargement of an existing groundwater plume or significant alterations in the groundwater flow patterns in Parcels B and G.
- If the volume estimates, duration estimates and location of the groundwater dewatering suggest that such activities are not likely to result in the enlargement of a groundwater plume or significant alterations in flow patterns, then simple dewatering methods, such as those employed through the use of a sump pump, may be proposed to prevent groundwater from accumulating in an open excavation.
- If, based on the results of analysis, dewatering may result in enlargement of an existing groundwater plume, or result in significant alterations to groundwater flow in the vicinity of a plume, then other engineering techniques will be proposed to minimize the impacts to the known plume configuration. The proposed engineering technique will depend on the construction

specifications and other site-specific factors, and will be determined by the Owner or Lessee's State of California, licensed Professional Engineer or Geologist on a site-by-site basis.

- Water removed during dewatering activities will be sampled and tested for profiling and the water disposed of in accordance with applicable permits and regulations. Disposal options may include pre-treatment and discharge into the City's sanitary sewer system under a San Francisco Public Utilities Commission (SFPUC) batch wastewater discharge permit. Compliance with provisions of any discharge permit is the responsibility of the Owner or Lessee (or other entity designated by the Owner or Lessee).

- The results of the analysis, plans for dewatering and disposition of accumulated groundwater will be contained in the notification to the entities listed in Section 4.0.

5.7.2 Prevention of the Potential for Creation of Conduits

As much as practicable, installation of subsurface utilities in areas of known groundwater contamination will be avoided. Prior to subsurface utility trench installation, existing groundwater monitoring data will be evaluated by a Professional Engineer or Geologist licensed in the State of California to identify areas where contaminant plumes remain at the site. As described in Section 5.7.1 a GMP will be approved prior the start of construction activities. The GMP will be used to mitigate the movement of potentially contaminated groundwater via subsurface utility trenches.

If the trenches extend into the vicinity of known groundwater contaminant plumes, the FFA signatories will be notified as described in Section 4.0. The presence of such trenches may create a horizontal conduit for groundwater and soil vapor flow and migration of COCs. Some of the management measures that may be implemented to minimize the potential for creating horizontal conduits are described below. The appropriate method for managing the groundwater and soil vapor will be determined by a Professional Engineer or Geologist licensed in the State of California and will be approved in advance by the FFA signatories.

Groundwater

Material that is less permeable than the surrounding soil can be placed at 200-foot intervals through a variety of methods. At a minimum, less permeable material can be placed in the utility trench at the edges of the area of known groundwater contamination to disrupt the flow within the trench backfill. One method is backfilling a short section of the utility pipe with a concrete or cement and bentonite mixture. Another method is the installation of a clay plug by compacting the clay around the circumference of the

pipe for a five-foot section of trench. A third method is the installation of barrier collars (cutoff features) around the pipes by forming and pouring concrete in place. Trench plug locations will be selected to mitigate lateral migration of impacted groundwater.

Soil Vapor

To minimize potential migration of soil vapor from utility conduits, currently available engineering controls may be used including sealing the end of utility conduits with inert gas-impermeable material such as closed cell polyurethane foam. The seals will extend into the conduit a minimum of six conduit diameters or six inches, whichever is greater.

5.7.3 Prevention of the Potential for Groundwater Intrusion

For new subsurface utilities placed in the areas of known groundwater contamination described in Section 2.2, or newly discovered areas of groundwater contamination, the pipe joints of non-pressurized utilities (e.g., sanitary sewer, storm drain) will be adequately sealed to prevent COCs in groundwater from entering the buried piping, and all materials will be selected to ensure the integrity of the piping when in contact with known contaminants.

5.8 Stormwater Management Controls

A construction Storm Water Pollution Prevention Plan (SWPPP) will be required prior to the start of construction activities. The SWPPP will provide the framework for contractors performing work at the site. The Construction SWPPP must conform to the requirements of the California State Water Resource Control Board (SWRCB) National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS00002, Water Discharge Requirements (WDRS) for Discharges of Stormwater Runoff Associated with Construction Activity. As required, a Notice of Intent (NOI) shall be filed with SWRCB prior to commencement of regulated construction work. Compliance with the SWPPP will be maintained throughout the duration of the construction work. The SWPPP will be prepared by a Qualified SWPPP Developer (QSD) per Section VII of the 2009-0009-DWQ Permit (http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/stormwater/construction.shtml).

5.9 Groundwater Monitoring Well Protocols

Monitoring wells associated with the groundwater monitoring programs are present within Parcels B and G and additional wells associated with remedial activity monitoring may be installed. Prior to the initiation of any demolition or earth-disturbing activities, the presence of groundwater monitoring wells will be identified. A map showing the locations of monitoring wells within Parcels B and G may be

found in the Hunters Point Shipyard information repositories (Section 3.4) and on the SFDPH Hunters Point Shipyard Redevelopment website. Locations of additional wells to be installed as part of remedial alternatives can be found on the SFDPH Hunters Point Shipyard website within Remedial Design Implementation Reports and the RACR, within the Hunters Point information repositories. Current monitoring wells located in Parcels B and G are presented on Figures 2 and 3.

Any abandonment, unintentional damage to or replacement of groundwater monitoring wells will require adherence to the notification protocols as described in Section 4.0. As discussed in Section 4.2, a work plan must be submitted for FFA signatory review and approval prior to the commencement of a restricted activity. Only the FFA signatories can decide that a well that was installed as a part of the groundwater remedy is no longer needed or can be relocated. Assuming that regulatory approval for the work is obtained, any well that is part of a remedial action that is damaged or abandoned during construction must be replaced within sixty calendar days unless the FFA signatories grant an extension.

As discussed in the AOC the Owner is also responsible for providing access for the FFA signatories to the monitoring wells for the purposes of sampling and maintenance. Thus, regulatory approval must be obtained prior to any action that will bar access to a monitoring well for a period of greater than 7 calendar days.

The following sections describe the protocols to follow to protect existing groundwater monitoring wells, in the event of abandonment or replacement of groundwater monitoring wells.

5.9.1 Abandonment of Existing Monitoring Wells

Prior to the abandonment of groundwater monitoring wells, approval will be obtained as required in Section 3.1.2 and the appropriate entities, as described in Section 4.0, will be notified, and if requested, replacement well locations will be selected in coordination with the FFA signatories. If an existing groundwater monitoring well cannot be preserved, the well will be abandoned in accordance with applicable State and SFDPH regulations. The Owner, Lessee, permittee, tenants or any other party with the legal right to perform subsurface work on the property, is responsible for obtaining all appropriate permits and approvals.

Following abandonment of groundwater monitoring wells, a completion report will be prepared describing the abandonment procedures and submitted to the FFA signatories as described in Section 4.5. The report will include:

- The well location

- Photographic documentation of the abandonment
- A description of the well destruction activities, including rationale for abandonment; and
- All associated permits and waste disposal manifests, if necessary
- Department of Water Resources (DWR) well completion and abandonment reports.

5.9.2 Replacement of Monitoring Wells

Any required replacements of abandoned monitoring wells, which are part of an ongoing groundwater monitoring network, will be re-installed within sixty days of the prior well's abandonment date unless the regulatory agencies grant an extension. Replacement wells will be located as close as possible and constructed in the same manner as the original well, and will monitor, to the extent possible, the same groundwater zone as the original well. The Owner, Lessee, permittee, tenants or any other party with the legal right to perform subsurface work on the property, is responsible for obtaining all appropriate permits and approvals.

Prior to the replacement of an abandoned well, a work plan will be submitted to the FFA signatories as described in Section 4.0 and approval will be obtained as required in Section 3.1.2. The work plan will include soil management protocols, sampling and analysis requirements for waste profiling, monitoring procedures, health and safety requirements, the boring log of the original well (obtained from the Hunters Point Shipyard information repositories), proposed well construction details, and will describe procedures to be followed during installation of the replacement well. The location of the replacement well must be approved by the FFA signatories.

Following installation of the replacement well(s), a monitoring well installation completion report will be submitted to the appropriate entities as described in Section 4.2.3. The report will include, among other things:

- Well location
- Identification of driller and drilling procedures
- DWR Well Completion Report
- Decontamination procedures
- Well installation procedures

- Lithologic log
- Well development procedures
- Horizontal location coordinates and vertical elevation of top of casing
- Well completion details (depth, screen interval, materials used, materials used, surface completion, etc.)
- Initial water level measurement
- Well sampling, if necessary
- Permitting information; and
- Disposition of installation-derived wastes.

The report shall be signed by a Professional Engineer or Geologist licensed in the State of California.

5.9.3 Measures to Protect Monitoring Wells

Existing monitoring wells that are not removed prior to earthwork will be located, marked and protected by the Owner, or other contractors or entities designated by the Owner. All monitoring wells will be addressed in this manner before starting construction within Parcels B and G. Monitoring wells will be marked with brightly colored paint if flush with the ground surface, or painted steel pipes or bollards. The pipes and bollards will extend above ground not less than 4 feet so as to be easily visible. All wells will be kept locked.

5.10 Access Control During Construction and Maintenance Activities

Access to the site during construction and maintenance activities will be limited to authorized personnel in compliance with EHSP requirements (Section 5.1).

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

- Except in streets, security fencing will be placed around any site without a regulatory agency approved durable cover or where the durable cover has been disturbed to prevent pedestrian/vehicular entry except at controlled (gated) points. Gates will be closed and locked

during non-construction hours. Fencing will consist of a 6-foot chain link or equivalent fence unless particular safety considerations warrant the use of a higher fe.nce. Use of fences during small routine maintenance activities will be determined in the EHSP

- In streets, use a combination of K-rails or similar barriers and fences with locked gates.
- Post "No Trespassing" signs every 200 feet.
- Post signs every 200 feet warning that contamination within the fenced areas may be harmful to health.

Implementation of appropriate site-specific measures as outlined above will reduce the potential for trespassers or visitors to gain access to construction areas and to come into direct contact with soil or groundwater. Compliance with the specific access control measures is the responsibility of the Owners, Lessees, permittees, tenants or any other party with the legal right to perform subsurface work on the property. As described in Section 1.3, the SFRA will assume the responsibility for compliance monitoring. If the Navy does not transfer the property to SFRA and enter into a cooperative services agreement with the SFRA as specified, the above obligations will be the responsibility of each future property owner and ultimately the Navy.

5.11 Risk Management Measures to be Implemented During Construction or Excavation Activities in Areas of Special Concern

This section describes risk management measures to be followed in areas of special concern. These areas include shoreline areas and Bay sediments outside the Post-RACR RMP area.

5.11.1 Shoreline Improvements

Construction and maintenance activities at Parcel B may include maintenance or improvements to revetment walls, rip rap, sheet piles, or bulkheads at the bay margin. Work performed in these areas may be required to conform to the durable cover and/or revetment walls designs described in the RD/RA Report depending on how and where the structure is being improved or installed. All appropriate Navy documents must be consulted to determine the applicable requirements.

5.11.2 Sediments Outside of Post-RACR RMP Area

Bay sediments, referred to as Parcel F, are outside the scope of this Post-RACR RMP; however, disturbance of these sediments may occur during such activities as outfall construction and development-

related shoreline improvements. Work that carries over into Parcel F will be subject to the requirements of the AOC. All work performed in these areas must be planned and coordinated with the Navy (prior to transfer of Parcel F), California State Lands Commission, or other appropriate agencies (U.S Army Corps of Engineers [USACE], U.S. Fish and Wildlife Service [USFWS], San Francisco Bay Conservation and Development Commission [BCDC], RWQCB, USEPA and DTSC). In addition to coordinating with the agencies listed above, a work plan must be submitted to the FFA signatories for review and approval sixty calendar days prior to conducting any work on Parcel F.

The FFA signatories must be contacted during the planning phase of work to obtain information concerning the nature of the sediments to be disturbed, potential activities being performed in these areas by others, and requirements for work plans and other specific requirements. Contact information for these entities can be found in Appendix A.

6.0 REFERENCES

CE2-Kleinfelder, 2010. *Semiannual Groundwater Monitoring Report, October 2009 - March 2010, Hunters Point Shipyard, San Francisco, California*. June.

ChaduxTt, 2007. *Final Parcel B Technical Memorandum in Support of a Record of Decision Amendment, Hunters Point Shipyard, San Francisco, California*. December 12.

_____, 2009. *Final Amended Parcel B Record of Decision, Hunters Point Shipyard, San Francisco, California*. January 14.

_____, 2010a. *Draft Final Remedial Design Package Parcel B, Excluding Installation Restoration Sites 7 and 18, Design Basis Report, Remedial Action Monitoring Plan, Land Use Control Remedial Design, Preconstruction Operation and Maintenance Plan, Preconstruction Cost Opinion, Hunters Point Shipyard, San Francisco, California*. July 30.

_____, 2010b. *Draft Finding of Suitability for Early Transfer of Parcels B (Excluding Installation Restoration Sites 7 and 18) and Parcel G, Hunters Point Naval Shipyard, San Francisco, California*. December 16.

Department of the Navy (Navy), 2009. *Final Record of Decision for Parcel G, Hunters Point Shipyard, San Francisco, California*. February 18.

Innovative Technical Solutions, Inc. (ITSI), 2010. *Final Addendum to Project Work Plan, Petroleum Hydrocarbon Corrective Action Implementation Parcel B, Hunters Point Shipyard, San Francisco, California*. October.

Insight EEC, INC. (Insight), 2009. *Final Hunters Point Shipyard Parcel B, IR-26 Time Critical Removal Action, Removal Action Closeout Report, Hunters Point Shipyard, San Francisco, California*. January.

Jonas & Associates, Inc., 2008. *Second Five-Year Review of Remedial Actions, Hunters Point Shipyard, San Francisco, California*. September 8.

PRC, 1996. *Parcel B Feasibility Study, Final Report, Hunters Point Shipyard, San Francisco, California*. November 26.

PRC, Harding Lawson Associates, Levine-Fricke, and Uribe & Associates. 1996. *Parcel B remedial Investigation, Draft Final Report, Hunters Point Shipyard, San Francisco, California*. June 3.

SulTech, A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc., (SulTech), 2007. *Final Revised Feasibility Study for Parcel D, Hunters Point Shipyard, San Francisco, California.* November 30.

Tetra Tech EC, Inc. (TtEC), 1997a. *Final Parcel D RI Report, Hunters Point Shipyard, San Francisco, California*. January 31.

_____, 1997b. *Final Parcel D FS, Hunters Point Shipyard, San Francisco, California*. August 29.

_____, 2001. *Final Remedial Design Amendment, Parcel B, Hunters Point Shipyard, San Francisco, California*. February 20.

_____, 2008. *Final Parcel B Technical Memorandum in Support of a Record of Decision Amendment Radiological Addendum, Hunter Point Shipyard, San Francisco, California*. March 14.

The Alliance Compliance Group Joint Venture (Alliance), 2010. *Draft Final Parcels D-1 and G Groundwater Treatability Study Technical Report, IR-09, IR-33 and IR-71, Hunters Point Shipyard, San Francisco, CA*. January.

TABLES

Table 1. Risk Management Plan Oversight Responsibilities

RMP Element	Responsible Oversight Agency	Additional Comments
Construction Worker Health and Safety	California Occupational Health and Safety Administration (Cal-OSHA)	
Dust Control	San Francisco Department of Public Health (SFDPH)	
Asbestos Dust Mitigation Plans	Bay Area Air Quality Management District	
Storm Water and Groundwater Management	Regional Water Quality Control Board	
Groundwater Discharges to Sanitary Sewer	SF Public Utilities Commission (SFPUC)	
Permits to engage in subsurface work	SFDBI or SFDPW	Subject to the requirements of Article 31 of the Health Code

FIGURES

APPENDIX A

CONTACT INFORMATION

APPENDIX A
Contact Information

FAA Signatory Points of Contact

DTSC
Mr. Ryan Miya
Project Manager
Department of Toxic Substances Control
700 Heinz Avenue, Suite 200
Berkeley, CA 94710
Phone: 510-540-3775
Email: RMiya@dtsc.ca.gov

RWQCB
Mr. Ross Steenson
Project Manager
San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612
Phone: 510-622-2445
Email: rsteenson@waterboards.ca.gov

U.S. EPA
Mr. Mark Ripperda
Project Manager
U.S. Environmental Protection Agency, Region 9
75 Hawthorne Street
San Francisco, CA 94105
Phone: 415-972-3028
Email: Ripperda.Mark@epa.gov

U.S. Navy
Mr. Keith Forman
BRAC Environmental Coordinator
BRAC Program Management Office West
1455 Frazee Road, Suite 900
San Diego, CA 92108-4310
Phone: 619-532-0913
Email: keith.s.forman@navy.mil

Other Points of Contact

San Francisco City and County Department of Public Health
Ms. Amy Brownell
Environmental Engineer
1390 Market Street, Suite 210
San Francisco, CA 94102
Phone: 415-252-3800
California State Lands Commission

100 Howe Avenue, Suite 100 South
Sacramento, CA 95825
Phone: 916-574-1900

U.S. Army Corps of Engineers
1455 Market Street
San Francisco, CA 94103
Phone: 415-503-6773

U.S. Fish and Wildlife Service
2800 Cottage Way
Sacramento, CA 95825
Phone: 916-414-6464

San Francisco Bay Conservation and Development Commission
50 California Street, Suite 2600
San Francisco, CA 94111
Phone: 415-352-3600

San Francisco Main Library
100 Larkin Street
Government Information Center, 5th Floor
San Francisco, CA 94102
Phone: 415-557-4500

APPENDIX B

ANNUAL INSPECTION REPORT

POST-RACR RISK MANAGEMENT PLAN (RMP)
REMEDY OPERATION AND MAINTENANCE PLAN (O&M)
ANNUAL REPORT
FOR
PARCELS B and G, HUNTERS POINT SHIPYARD
SAN FRANCISCO, CALIFORNIA

Property Owner:	Owner Contact Information:
Report Preparer Name and Affiliation:	Report Preparer Contact Information:
Property Address:	
Date and Time of Inspection:	Weather and tidal conditions at time of inspection:

INTRODUCTION:

In accordance with the final Records of Decision (RODs) for Parcels B and G at the former Hunters Point Shipyard (HPS) in San Francisco, California, environmental cleanup activities were implemented to provide for protection of human health and the environment. The cleanup activities are overseen by the United States Environmental Protection Agency (USEPA), the California Department of Toxic Substances Control (DTSC) and the Regional Water Quality Control Board (RWQCB). These agencies plus the Navy, as the previous landowner and CERCLA responsible party, are referred to as the Federal Facility Agreement (FFA) signatories. The FFA is an agreement entered into by the agencies to carry out the remediation of HPS. This Post-Remedial Action Completion Report Risk Management Plan (hereafter referred to as the Post-RACR RMP) has been prepared for Parcels B and G to provide procedures and protocols that shall be used to conduct "pre-approved restricted activities" on Parcels B and G following transfer of property from the Navy to other landowners where the remedy has been implemented.

This Annual Report form has been designed such that the annual reporting for Post-RACR RMP compliance and O&M inspection obligations can be comprehensively addressed and documented. The objectives of the Annual Report are to provide the necessary information to verify that field activities and related risk management measures that have been conducted during the reporting period meet the requirements of the Post-RACR RMP and O&M Plans, if applicable. The Annual Report and O&M inspection checklist should include field notes and photographs taken at the time of the inspection to document the condition of the site at the time of the inspection.

As outlined in the RMPs, certain activities are allowed to progress without first gaining approval of the FFA Signatories (defined as the USEPA, DTSC, RWQCB and US Navy). These activities are called ***Pre-Approved Activities*** and are discussed in more detail in Section 3.1.1 of the Post-RACR RMP. Certain other activities are NOT allowed to progress without first gaining the approval of the FFA Signatories. These activities are called ***Restricted Activities Requiring FFA Signatory Approval*** and are discussed in more detail in Section 3.1.2 of the Post-RACR RMP. Notification and Reporting requirements are discussed in Section 4.0 of the Post-RACR RMP.

The requirements for long-term Operation, monitoring, and maintenance (O&M) for the durable cover and the shoreline revetment are provided in the Parcels B and G Remedial Design (RD) documents. These long term O&M obligations are independent of the Post-RACR RMP. The O&M obligations (see Post-RACR RMP Section 2.4) also include annual inspection and reporting requirements for the remedies in place. This Annual Report has been designed to satisfy the reporting obligations under both the Post-RACR RMP and the long term O&M as outlined in the Parcels B and G RD documents.

This Annual Report is organized into four Sections. Section 1 provides documentation for Pre-Approved Activities and Section 2 provides documentation for Restricted Activities Requiring FFA Signatory Approval. If Restricted Activities Requiring FFA Signatory Approval were conducted during the reporting period, the approved Work Plan and corresponding Closure Report must be submitted as attachments to this Annual Report. Section 3 provides an inspection checklist, prepared by the Navy for O&M activities, and Section 4 provides a summary of action items that are planned and must be completed to remain in compliance with the Post-RACR RMP.

SECTION 1: PRE-APPROVED ACTIVITIES

SECTION 1A: ACTIVITY DESCRIPTION

Indicate which pre-approved activities have been completed during the reporting period (See Post-RACR RMP Section 3.1.1):	☐ Soil excavation, grading and movement of soil within Parcels B and G or moving of soil from Parcel A onto Parcel B and/or G. Transporting soil offsite	Description of activity (attach photographs and additional sheets as necessary):
	☐ Construction of roads, utilities, facilities, structures, and appurtenances of any kind	Description of activity (attach photographs and additional sheets as necessary):
	☐ Demolition and/or removal of hardscape (e.g., existing concrete or asphalt roadways, parking lots, existing foundations, and existing sidewalks)	Description of activity (attach photographs and additional sheets as necessary):
	☐ Any activity, not listed above, that moved subsurface soil directly underneath an approved durable cover (e.g., trenching, pothole excavations, scarifying, etc.)	Description of activity (attach photographs and additional sheets as necessary):

	☐ In-kind removal and replacement of an approved durable cover for areas less than one acre	Description of activity (include square footage of area undergoing removal/replacement and attach photographs and additional sheets as necessary):
	☐ Construction of new street sections (street, curb, gutter, sidewalk, landscape median) for all areas, including areas one acre in size or greater, as long as the street section construction meets appropriate City building codes and/or standard specification.	Description of activity (include square footage of area undergoing removal/replacement and attach photographs and additional sheets as necessary):
	☐ Grading or other movement of soil	Description of activity (attach photographs and additional sheets as necessary):
	☐ Temporary dewatering of below grade excavations (e.g., utility trenches, building foundations, etc.) in areas that are greater than 200 feet from an active groundwater remediation area.	Description of activity (attach photographs and additional sheets as necessary):
	☐ Disturbance of existing shoreline protection, sea walls, bulkheads, etc.	Description of activity (attach photographs and additional sheets as necessary):
	☐ Importation of Soil in accordance with approved SIP	Description of activity (attach photographs and additional sheets as necessary):
SECTION 1B: GENERAL SITE MANAGEMENT ACTIVITIES		
Was an environmental health and safety plan prepared for all work indicated in Section 1A, above?	☐ Yes ☐ No	Attach copy of plan(s)
Was a Dust Control Plan prepared for all work indicated in Section 1A,	☐ Yes	Attach copy of plan and monitoring data collected in accordance with the plan for each activity conducted above.

above?	☐ No	
Was an Asbestos Dust Mitigation Plan prepared for all work indicated in Section 1A, above?	☐ Yes ☐ No	Attach copy of plan and monitoring data collected in accordance with the plan for each activity conducted above.
Was a storm water pollution prevention plan prepared for all work indicated in Section 1A, above?	☐ Yes ☐ No	Attach copy of plan and monitoring data collected in accordance with the plan for each activity conducted above.
SECTION 1C: SOIL MANAGEMENT ACTIVITIES		
For all soil management activities indicated in Section 1A, was surplus soil disposed off-site?	☐ Yes ☐ No	If yes, please attach copies of waste profile, waste manifest, name, address and contact of disposal facility:
For all soil management activities indicated in Section 1A, was soil transported and placed in an on-site location other than its place of origin?	☐ Yes ☐ No	If yes, describe the quantity of soil, origin of soil, location of placement:
For any activities indicated in Section 1A, was soil imported to the site for use as fill material?	☐ Yes ☐ No	If yes, describe the quantity, source/origin of soil, location of placement, attach soil chemical profile, provide letter certifying that the imported soil meets the soil import criteria (see RMP, Appendix D):
Indicate any unexpected and/or unknown conditions encountered during soil excavation activities:	☐ Evidence of soil contamination (strong odor, visible oily liquid, discolored or stained soil, etc.)	Describe condition and action taken (attach photographs and additional sheets if necessary):
	☐ Undocumented structures (e.g. underground storage tanks, buried sumps, oil water separators, refractory brick, pipelines, etc.)	Describe condition and action taken(attach photographs and additional sheets if necessary):
	☐ Abrasive blast material	Describe condition and action taken(attach photographs and additional sheets if necessary):

	☐ Radiological devices (e.g. radium dials)	Describe condition and action taken(attach photographs and additional sheets if necessary):
	☐ Free phase liquid floating on the groundwater (e.g. floating oil)	Describe condition and action taken(attach photographs and additional sheets if necessary):
SECTION 1D: GROUNDWATER MANAGEMENT ACTIVITIES		
For all groundwater dewatering activities, was water discharged to the sanitary sewer or storm drain under an NPDES or SFPUC batch wastewater discharge permit?	☐ Yes ☐ No	If yes, attach copy of NPDES permit and compliance documentation. If no, how was water disposed?
For all groundwater not discharged under an NPDES or SFPUC permit, indicate disposal details:	☐ Water recycled and used for dust control ☐ Water contained and allowed to percolate back into groundwater ☐ Water contained and allowed to evaporate ☐ Other (describe):	Provide and attach supporting information including volume of water, chemical test results, approval letters, etc.
SECTION 2: RESTRICTED ACTIVITIES REQUIRING FFA SIGNATORY APPROVAL		
SECTION 2A: ACTIVITY DESCRIPTION		
Indicate if any activities involved the alteration, disturbance or removal of any component of a response or cleanup action in conflict with planned redevelopment activities	☐ Groundwater monitoring well and/or groundwater remediation system, including extraction wells, conveyance piping, and treatment system.	Description of activity (attach photographs and additional sheets as necessary):
	☐ Soil vapor extraction system, including	Description of activity (attach photographs and additional

	extraction wells, monitoring wells, conveyance piping and treatment system.	sheets as necessary):
	☐ Change in durable cover type from hardscape (asphalt, concrete, building foundations, etc.) to soil or landscape (planter areas, grass parkway/lawn areas, vegetated land surfaces, etc.) or from soil/landscape to hardscape.	Description of activity (include square footage of area undergoing change and attach photographs and additional sheets as necessary):
	☐ In-kind removal and replacement of durable cover for areas equal to, or in excess of one acre – except construction of new street sections (street, curb, gutter, sidewalk, landscape median) for all size areas, including areas one acre in size or greater, is pre-approved as long as the street section construction meets appropriate City building codes and/or standard specifications. Road section construction should be noted under appropriate pre-approved activity section.	Description of activity (include square footage of area undergoing removal/replacement and attach photographs and additional sheets as necessary):
	☐ Temporary dewatering of below grade excavations (e.g., utility trenches, building foundations, etc.) in areas that are within 200 feet of an active groundwater remediation area.	Description of activity (attach photographs and additional sheets as necessary):
SECTION 2B: REQUIRED DOCUMENTATION FOR ALL ACTIVITIES REQUIRING FFA APPROVAL		

For all restricted activities requiring a Work Plan/Activity Closeout Report and related FFA signatory approval, indicate which documentation was produced:	☐ Work Plan	Attach copy of Work Plan and FFA Signatory Work Plan approval letter for each activity requiring a Work Plan.
	☐ Monitoring documentation in accordance with Work Plan	Attach all required monitoring records and data. (include photographs and additional sheets as necessary).
	☐ Activity Closeout Report	Attach copy of Activity Closeout Report, including monitoring documentation and FFA signatory approval of Closeout Report for each activity indicated above.
SECTION 3: OPERATION AND MAINTENANCE PLAN CHECKLIST (Reference: Final Design Basis Report, Operations and Maintenance Plan, Parcels B and G (Navy, DATE) *Owner to follow checklist as applicable to property conditions.*		
Insert Final Navy O&M checklist in its entirety in this location		
		ACTION COMPLETION DATE
SECTION 4: ACTIONS TO BE COMPLETED		
FOLLOW UP ACTION DESCRIPTION	☐ Owner Name: Phone #: ☐ Tenant Name: Phone #: ☐ Contractor Name: Phone #: Developer Name: Phone #:	Target Completion Date:
1.	☐ Owner Name: Phone #: ☐ Tenant	Target Completion Date:

	Name: Phone #: ☐ Contractor Name: Phone #: ☐ Developer Name: Phone #:	
2.	☐	
	☐	
SECTION 5: RESOLUTION OF PREVIOUS REPORT ACTION ITEMS		
1.Previous Action Item	Action Taken:	Date Completed:
2. Previous Action Item	Action Taken:	Date Completed:

Certification Statement:
Under penalty of perjury, I certify that the above information is true and correct and appropriately reflects the activities that have occurred during the inspection period and the condition of the site is as represented at the time of the inspection.
By:_____ Company:_____
Name:_____ Date:_____
Title:_____ Registration number and expiration date:_____

APPENDIX C

ENVIRONMENTAL HEALTH AND SAFETY PLAN OUTLINE

APPENDIX C
Environmental Health and Safety Plan Outline

All EHSPs will include a description of specific tasks to be performed, key personnel, health and safety responsibilities, site background, job hazard analysis and mitigation, air monitoring procedures, PPE, work zones and site security measures, decontamination measures, general safe work practices, contingency plans and emergency information, medical surveillance and specific training requirements.

SITE EMERGENCY INFORMATION

1.0 INTRODUCTION

- 1.1 Purpose of the Site Health and Safety Plan
- 1.2 Implementation and Modification of the Site Safety Plan
- 1.3 Project-Related Documents

2.0 BACKGROUND AND DESCRIPTION OF WORK

- 2.1 Site Description and Background
- 2.2 Scope of Work

3.0 KEY PERSONNEL ROLES AND RESPONSIBILITIES

- 3.1 Project and Task Managers
- 3.2 Field Supervisor
- 3.3 Site Health and Safety Officer
- 3.4 Competent Person
- 3.5 Subcontractors, Visitors and Other Onsite Personnel

4.0 JOB HAZARD ANALYSIS

5.0 GENERAL SITE SAFE WORK PRACTICES

- 5.1 Biological Hazards
- 5.2 Radiological Hazards
- 5.3 Dust Control
- 5.4 Electrical
- 5.5 Excavation/Trenching
- 5.6 Fire/Explosion Control
- 5.7 Hand and Power Tools
- 5.8 Heat Stress
- 5.9 Heavy Equipment
- 5.10 Lifting
- 5.11 Material Handling
- 5.12 Noise
- 5.13 Overhead / Falling Debris
- 5.14 Slips/Trips/Falls
- 5.15 Utilities: Underground and Overhead
- 5.16 Vehicle Traffic

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6.2 Action Levels

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8.0 AIR MONITORING PROCEDURES

8.1 Ambient Air Monitoring
8.2 Worker Exposure Monitoring

9.0 TRAINING AND MEDICAL MONITORING

10.0 CONTINGENCY AND EMERGENCY EVACUATION PLANS

11.0 SANITATION, HYGIENE AND DECONTAMINATION

11.1 Sanitation and Personal Hygiene
11.2 Drinking Water
11.3 Personnel Decontamination
11.4 Equipment Decontamination

12.0 SITE AND TRAFFIC CONTROL PLAN AND SITE SECURITY

12.1 Site Control
12.1.1 Support Zone
12.1.2 Contamination Reduction Zone
12.1.3 Regulated Area/Exclusion Zone
12.2 Traffic Control

13.0 REFERENCES

APPENDIX D

DUST CONTROL PLAN

Draft

Post-RACR RMP Dust Control Plan
Parcels B and G

Hunters Point Shipyard

January 2011

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FIGURES

1 Parcels B And G Location Map

2 Sensitive Receptors

ACRONYMS AND ABBREVIATIONS

APCO	Air Pollution Control Officer
ATCM	Asbestos Airborne Toxic Control Measure
BAAQMD	Bay Area Air Quality Management District
BMP	best management practice
CCR	California Code of Regulations
CP/HPS	Candlestick Point/Hunters Point Shipyard
DTSC	Department of Toxic Substance Control
EIR	Final Environmental Impact Report
HEPA	high-efficiency particulate air
HPS	Hunters Point Shipyard
mph	mile per hour
RACM	regulated asbestos-containing material
ROD	Record of Decision
RWQCB	Regional Water Quality Control Board
SWPPP	Storm Water Pollution Prevention Plan
USEPA	United States Environmental Protection Agency

Introduction

Document Objective

This Post-RACR RMP dust control plan is submitted by Lennar/Bayview Hunters Point and MACTEC in preparation preparation for future development activities that will occur at the Hunters Point Shipyard (HPS) Parcels B and G (the site) in San Francisco, California (Figure 1).

This Post-RACR RMP Dust Control Plan has been prepared by MACTEC in accordance with the requirements of the permit process established in Article 31 and compliance with Article 22B of the City and County of San Francisco Health Code and certain Bay Area Air Quality Management District (BAAQMD) regulations often applicable to redevelopment activities, as further described herein. This plan addresses dust control measures that will be implemented during deconstruction and development of horizontal infrastructure at the site.

This plan applies to demolition of existing structures, and dust control associated with soil disturbance or excavation on Parcels B and G. In accordance with the requirements of Article 31, this plan was prepared under the supervision of a professional engineer registered in the State of California.

Regulatory Basis

The Final Environmental Impact Report (EIR) 2010 for the Candlestick Point/Hunters Point Shipyard project includes mitigation measures requiring actions that will reduce or eliminate adverse environmental impacts during development of Parcel B and G. These mitigation measures were adopted in a Mitigation Monitoring and Reporting Program. The Disposition and Development Agreement incorporates Final EIR mitigation measures that are relevant for Phase II development on Parcels B and G and includes the commitments for implementing mitigation measures set forth in Section 18 of the Disposition and Development Agreement and in the EIR.

Dust control is one of the specific mitigation measures applicable to Phase II development in Parcels B and G, and this plan specifically identifies the steps that will be taken to reduce air emissions during demolition of existing structures, grading, utility work, and construction of site infrastructure. This plan also includes the necessary monitoring and reporting requirements.

This Dust Control Plan incorporates requirements of the following applicable regulations:

- California Code of Regulations (CCR) Title 17, Section 93105, the Asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations
- Bay Area Air Quality Management District (BAAQMD) Regulation 2, Permits (also addressed in project specifications)
- BAAQMD Regulation 6, Particulate Matter and Visible Emissions
- BAAQMD Regulation 11, Rule 2, Asbestos Demolition
- BAAQMD Regulation 11, Rule 14, Asbestos Containing Serpentine
- City and County of San Francisco Article 22B, Construction Dust Control Requirements
- CP/HPS EIR, Mitigation Measure HZ-15: Asbestos Dust Mitigation Plans and Dust Control Plans

Article 22B specifies a goal of minimizing visible dust emissions from the site and Article 22B and Section 106A.3.2.6 of the San Francisco Building Code outline housekeeping measures required to meet this goal. Mitigation Measure HZ-15 similarly defines best management practices (BMPs) including wetting and seeding unpaved, inactive areas, minimizing activity during periods of high wind, sweeping paved areas, covering trucks, etc. Additionally, BAAQMD Regulation 6, which generally prohibits emission of visible dust beyond the property boundary, is also applicable.

Because the site is in an area with serpentine rock, CCR Title 17, Section 93105 (ATCM) applies. ATCM includes, among other things, the requirement for submission of an Asbestos Dust Mitigation Plan for BAAQMD approval prior to grading activities. The ATCM also includes very specific practices to be implemented during construction. Mitigation Measure HZ-15 also provides BMPs for handling serpentine material, and BAAQMD Regulation 11, Rule 14 prohibits the use or sale of asbestos-containing serpentine materials for road surfacing.

In addition to emission controls for dust generated by general construction activities, specific requirements apply to asbestos-related dust generated by demolition activities. A qualified subcontractor licensed and experienced to manage asbestos- and lead-contaminated building materials will perform demolition of existing structures. The subcontractor will demonstrate compliance with the requirements of BAAQMD 11- 2, which states that demolition activities will not be allowed to cause any visible plumes from any operation involving the demolition, removal, manufacture or fabrication of any product containing asbestos.

Contractors selected to perform demolition and grading will be responsible for obtaining applicable permits as described in the project specifications.

BACKGROUND

Site Description

Parcel B includes 54 acres on the northern side of HPS, which is bounded by former Parcel A and Parcel C, private property, and the San Francisco Bay. The area of Parcel B covered by the DCP lies outside of IR Sites 7 and 18 and includes about 40 acres in the central and eastern portions of Parcel B (Figure 1). The portion of Parcel B addressed by this DCP includes a shoreline of approximately 1,500 feet along San Francisco Bay. Parcel G is located within the central portion of the former Parcel D, covers approximately 40 acres, and is surrounded by land with no associated shoreline.

Parcels B and G consist of flat lowlands that were constructed by placing borrowed fill material from various sources, including crushed serpentinite bedrock from the adjacent highland and dredged sediments. The serpentinite bedrock and serpentinite bedrock-derived fill material consist of minerals that naturally contain asbestos and relatively high concentrations of arsenic, manganese, nickel, and other metals. Nearly all of Parcels B & G are covered with buildings or degraded pavement or soil. A series of storm drains and sanitary sewer lines beneath the parcel have been recently removed.

Site History

The history of Parcels B and G is described in the many documents referenced in the Post-RACR RMP. This DCP is Appendix D of the Post-RACR RMP.

Phase II Scope of Work

The construction work subject to the Post-RACR RMP will be mostly construction of new buildings and parks with all associated utilities, landscaping and enhancements around the building.

No Visible Dust Goal

The dust control measures set forth in this plan are intended to achieve a goal of no visible dust emissions associated with soil disturbance or excavation, to the extent required by Mitigation Measure HZ-15, BAAQMD Regulation 6, and the provisions of Articles 22B (areas over one-half acre) and 31 of the San Francisco Health Code. As required by Article 22B and Mitigation Measure HZ-15, Figure 2 shows the sensitive receptors (residence, school, childcare center, hospital or other health-care facility or group living quarters) located within 1,000 feet of Parcels B and G.

The DCP requires compliance with the following specific mitigation measures to the extent deemed necessary by the SFDPH to achieve no visible dust at the property boundary:

- Keep all graded and excavated areas, areas around soil improvement operations, visibly dry unpaved roads, parking and staging areas wetted at least three times per shift daily with reclaimed water during construction to prevent visible dust emissions from crossing the property line. Increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour
- Analysis of wind direction and placement of upwind and downwind particulate dust monitors.
- Record keeping for particulate monitoring results.
- Requirements for shutdown conditions based on wind, dust migration, or if dust is contained within the property boundary but not controlled after a specified number of minutes.
- Establishing a hotline for surrounding community members who may be potentially affected by Project-related dust. Contact person shall respond and take corrective action within 48 hours. Post publicly visible signs around the site with the hotline number as well as the phone number of the BAAQMD and make sure the numbers are given to adjacent residents, schools, and businesses.
- Limiting the area subject to construction activities at any one time.
- Installing dust curtains and windbreaks on windward and downwind sides of the property lines, as necessary. Windbreaks on windward side should have no more than 50% air porosity.
- Limiting the amount of soil in trucks hauling soil around the job site to the size of the truck bed and securing with a tarpaulin or ensuring the soil contains adequate moisture to minimize or prevent dust generation during transportation.
- Enforcing a 15 mph speed limit for vehicles entering and exiting construction areas.
- Sweeping affected streets with water sweepers at the end of the day.
- Hiring an independent third party to conduct inspections for visible dust and keeping records of those inspections.
- Minimizing the amount of excavated material or waste materials stored at the site.
- Prevent visible track out from the property onto adjacent paved roads. Sweep with reclaimed water at the end of each day if visible soil material is carried out from property.

In addition to conducting inspections for visible dust, particulate monitoring for the presence of airborne particulates will also be conducted using real-time particulate dust monitors as detailed

on Page D-18. If readings are recorded above the action level(s), site specific actions will be specified based on the type of activity being conducted. Actions could include evaluation of site activities or stopping work until additional controls are implemented to reduce dust generation from the specific work area causing the problems.

POTENTIAL SOURCES OF EMISSIONS

Planned site activities have the potential to generate emissions in the form of fugitive dust and vehicle emissions. Possible sources of emissions include:

- Demolition Activities – Wrecking, intentional burning, moving or dismantling of any load-supporting structural member, or portion of a building. Any related cutting, disjointing, stripping or removal of structural elements. Crushing of concrete for recycling/reuse.
- Construction Traffic – Movement of construction equipment around the construction area is capable of creating construction emissions in excavated or cleared areas. There is also the potential for vehicular traffic on paved or unpaved roads and parking lots to produce construction emissions.
- Site Preparation and Foundation Work – Grading, excavation of footings and foundations, and backfilling operations can produce both fugitive dust and vehicle emissions.
- Trenching Activities – Excavation of trenches for the installation of underground utilities can cause construction emissions.
- Material Stockpiles – Stockpiles of excavated soil from trenching activities may contribute to windborne dust emissions.
- Soil Transport - Loading of soil into transport vehicles for disposal may contribute to windborne dust emissions.
- Cleanup and Grading – Backfilling, grading and re-vegetating of the excavated areas may produce both fugitive dust and vehicle emissions.

The California Code of Regulations (CCR) Title 17, Section 93105, the Asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations, prescribes specific dust mitigation measures.

Dust mitigation methods to be implemented at the Site, are described in detail below.

GENERAL CONSTRUCTION EMISSIONS CONTROL METHODS

This section details dust control methods for fugitive dust and vehicle emissions generated from the following construction activities:

- Dust entrained during on-site travel on paved and unpaved surfaces.
- Dust entrained during site grading, excavation, crushing and back-filling at the construction site.
- Dust entrained during aggregate and soil stockpiling, loading, and unloading operations.
- Wind erosion of areas disturbed during construction activities.
- Vehicle emissions associated with construction equipment.

Additional requirements for dust control during demolition and deconstruction activities are described below. General dust control measures are also described in Section 5.3 of the Post-RACR RMP.

Construction Traffic

Onsite Traffic Control

Fugitive dust emissions from construction traffic traveling on unpaved surfaces will be controlled with the following mitigation measures:

1. Visible speed limit signs will be posted at the construction site entrances. No vehicle will exceed 15 miles per hour (mph) within the construction site.
2. Implementation of erosion control measures identified in the Construction SWPPP, to be provided separately, will control fugitive dust emissions from pubic roadways and parking areas.
3. Gravel access pads will be constructed in the temporary stockpile locations. Four to six inches of appropriate gravel will be spread evenly to construct the pads. Additional gravel will be added periodically to maintain effectiveness.
4. One or more of the following:
    - All unpaved roads in the project construction site will be watered every two hours or frequently enough to maintain adequate wetness. The frequency of watering can be reduced or eliminated during periods of precipitation. (Article 21, Section 100 et seq. of the San Francisco Public Works Code requires that non-potable reclaimed water be used for this purpose.) Watering frequency may be increased during above average ambient air temperatures or wind speeds.
    - Chemical dust suppressants can also be applied consistent with manufacturer's directions.
    - Maintaining a gravel cover with a silt content that is less than five (5) percent and asbestos content that is less than 0.25 percent, as determined using an approved asbestos bulk test method, to a depth of three (3) inches on the surface being used for travel; or

- Any other measure as effective as the measures listed above.

Trackout Prevention

Track-out of loose materials will be controlled using gravel pads along with a tire washing/cleaning station installed at the access point from the project site to the paved road to prevent tracking of mud on to public roadways. The stabilized construction entrance (gravel pads) will be installed according to the specifications provided in the Erosion and Sediment Control Plan of the Storm Water Pollution Prevention Plan (SWPPP) for the site. All vehicle tires will also be inspected and washed as necessary to prevent trackout prior to entering the paved roadways. Any visible track-out on a paved public road at any location where vehicles exit the work site MUST be removed. Removal MUST be done using wet sweeping or a high-efficiency particulate air (HEPA) filter-equipped vacuum device at the end of the work day or at least one time per day.

The following mitigation measures will be followed for fugitive dust emissions from construction traffic traveling on paved surfaces:

1. The main access and egress routes to and from the Parcel B and G main construction site for construction employees and delivery trucks will be paved prior to the initiation of construction.
2. No construction vehicles will be allowed to exit the construction site except through the treated entrance roadways. Gravel pads will be installed at all egree points to prevent tracking of mud on to public roadways.
3. Construction areas adjacent to and above grade from any paved roadway will be treated with BMPs, as specified in the Construction SWPPP.
4. All paved roads within the construction site will be swept twice daily with a wet sweeper.
5. At least the first 500 feet of any public roadway exiting from the construction site will be swept twice daily. (The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.)

If any of the above mitigation measures fail to properly control fugitive dust emissions, one or more of the following reasonably available control measures, will be applied:

1. Unpaved active portions of the construction site will be watered or treated with dust control solutions to minimize windblown dust and dust generated by vehicle traffic.
2. Paved portions of the construction site will be swept more frequently as necessary to control windblown dust and dust generated by vehicle traffic. Streets adjacent to the construction site will be swept as necessary to remove accumulated dust and soil. Water may also be applied to the paved roads if necessary.
3. Physical or chemical stabilization will be applied to control dust on unpaved roads if necessary.

4. Gravel, re-crushed/recycled asphalt or other material of low silt content (<5 percent) will be applied to a depth of 3 or more inches, if necessary. Serpentine-containing material will not be used for this purpose.
5. Vehicle trips will be reduced if necessary.

Construction employees will park in the paved or graveled areas to reduce fugitive dust emissions.

Off-site Transport

No trucks will be allowed to transport excavated material offsite unless:

1. Trucks are maintained such that no spillage can occur from holes or other openings in cargo compartments; and
2. Loads are adequately wetted and either:
   - Covered with tarps; or
   - Loaded such that the material does not touch the front, back, or sides of the cargo compartment at any point less than six inches from the top and that no point of the load extends above the top of the cargo compartment.
3. Visible track-out on the paved public road must be cleaned using wet sweeping or a HEPA filter equipped vacuum device within twenty-four (24) hours.

Vehicles will be checked to ensure that they are tarped and to remove any excess material on the shelf or exterior surfaces of the cargo compartment. All off-site haul trucks will access the site via paved access roads and established gravel pads. Every off-site haul truck will proceed through the decontamination gravel pad/tire cleaning area prior to departure from the site. Site personnel will be stationed at the access point to monitor inflow/outflow to and from the site and will be responsible for inspecting all vehicles exiting and performing the cleaning of the tires.

Site Preparation and Grading

Prior to any ground disturbance, sufficient water must be applied to the area to be disturbed to prevent visible emissions from crossing the property line.

Fugitive dust emissions from site preparation and foundation work will be controlled using the following methods:

1. During clearing and grubbing, surface soils will be pre-wet to the depth of anticipated cut where equipment will be operated. Soil moisture content will be sufficiently maintained to minimize fugitive dust creation. For construction fill areas which have an optimum moisture content for compaction, completion of the compaction process will be performed as expeditiously as possible to minimize fugitive dust.
2. If compaction will not take place immediately following clearing and grubbing, the surface soil will be stabilized with dust palliative and water to form a crust on the soil surface.
3. Keep all graded and excavated areas, visibly dry unpaved roads, parking and staging areas wetted at least three times per shift daily during construction to prevent visible dust emissions from crossing the property line. Increased watering frequency may be needed whenever wind speeds exceed 15 miles per hour.
4. Use dust enclosures, curtains, and dust collectors as necessary to control dust in the excavation area.
5. Graded areas will be stabilized with chemical stabilizers within 5 working days of grading completion. Seed and water all unpaved, inactive portions of the lot or lots under construction to maintain a grass cover if they are to remain inactive for long periods during building construction.
6. Halt all clearing, grading, earthmoving, and excavating activities when wind speeds are high enough to results in dust emissions crossing the property line, despite the application of dust mitigation measures.
7. Limit the area subject to excavation, grading or other construction activity at any one time.
8. Storage piles must be kept adequately wetted, treated with a chemical dust suppressant or covered with tarp(s) when material is not being added or removed from the pile.

Crushing

It is anticipated that concrete crushers will be mobilized to the site to crush and recycle concrete debris resulting from building and roadway demolition. Crushing operations will be visually monitored for the appearance of fugitive dust. If dust is being generated, water will be applied to control the dust.

The crusher may also be used to crush well-cemented concretions of other minerals within the serpentinite of the Franciscan formation that cannot be broken into manageable sizes using the standard construction equipment mobilized to the site for mass grading (bulldozers, excavators, scrapers, etc.). Serpentinite boulders will not be processed by the crusher.

Trenching Activities

Excavation activities will be visually monitored daily for the generation of fugitive dust. If dust is being generated, water will be applied to the point of excavation or drilling to control dust.

- Soil will be pre-wet prior to excavation to reduce dust migration. Additional water will be added during active excavation, material handling, and loading. Active excavation areas will be wet a minimum of twice daily during dry weather and more frequently as needed.

- The height from which excavated soil is dropped into trucks and onto either stockpiles or dewatering pads will be minimized.
- Dust suppressants will be applied in sufficient quantities to inactive disturbed areas so as to form a crust and create a stabilized surface.
- Backfill material will be covered or enclosed when not actively handled.
- Four to six inches of appropriate gravel will be spread evenly at key onsite loading areas, the temporary soil staging, and off-site transport loading area in order to reduce the potential for soil track-out beyond the site.

Screening

- Fugitive dust emissions from loading the screening pads, either by excavator, or by conveyor will be controlled by ensuring that all excavated material is adequately wetted prior to loading.
- Loader buckets will be emptied slowly and drop height from loader bucket minimized.
- Halt all loading activities during periods of sustained strong winds, hourly average wind speeds of 25 mph (40 km/h or greater).

Material Stockpiles

During excavation, backfilling and grading, soils may be stockpiled in areas adjacent to the activity. BMPs may include diversion of drainage from the stockpiles, installation of silt fencing/straw bale filter barriers on the downgradient toe of the stockpile slope, track-walking the slopes, and dust control. Stockpiles must be kept adequately wetted, treated with a chemical dust suppressant or covered with tarp(s) when material is not being added or removed from the pile.

Foundation Work

1. Sprinklers, wobblers, water trucks, or water pulls will be used to pre-water during cut and fill activities to allow time for penetration.
2. Building pads will be laid as soon as possible after grading to minimize fugitive dust emissions, unless seeding or soil binders are used in the interim.
3. Wind erosion control techniques, such as wind breaks, water/chemical dust suppressants, and vegetation, will be used on all construction areas that may be disturbed. Any windbreaks used will remain in place until the soil is stabilized or permanently covered with vegetation.
4. For back-filling during earthmoving operations, backfill material will be watered as needed to maintain moisture. If required, backfill soil will be mixed with water prior to moving. Loader buckets will be emptied slowly and drop height from loader bucket minimized. Once backfill material is in place, water will be applied immediately to form a crust, if necessary. A water truck or large hose will be dedicated to back-filling equipment and operations.
5. Use of high-pressure air to blow soil and debris from the form will be avoided; instead, water spray, sweeping, and/or an industrial shop vacuum will be used to clear the form.

Post-Construction Stabilization of Disturbed Areas

Unpaved areas disturbed during excavation, grading, and/or construction activities will be covered with one of the following to reduce dust generation on the site:

- An approved vegetative cover
- Coverage with a minimum of 3 inches of non-asbestos-containing material
- Building and related hardscape surface paving approved in the building permit.

Additional Requirements for Serpentine Material

Excavated materials, which will be transported off site, will be analyzed for asbestos content. Excavated materials being transported off-site with greater than 1 percent by-weight asbestos will be handled and disposed of off site in accordance with all requirements for proper disposal of asbestos.

BAAQMD Regulation 11, Rule 14 also defines procedures and notifications required if serpentine material is sold for use as a surfacing agent. No serpentine will be used for surfacing material or sold from the site.

The following waste management methods will be used when handling serpentine waste designated as hazardous:

- Keep asbestos-containing waste material adequately wetted at all times during handling and loading.
- Adhere to requirements of Section 11-2-608 for marking of vehicles used to transport asbestos-containing waste.
- Maintain waste shipment records as specified in Section 11-2-502.
- Provide a copy of the waste shipment record to the disposal site owner or operator upon delivery.
- Contact transporter and/or owner of the disposal site if the waste shipment has not arrived within 35 days of initial acceptance by the transporter as hazardous waste.
- Provide a written report to the Air Pollution Control Officer (APCO) if the waste shipment is not received within 45 days of initial acceptance by the transporter.

DEMOLITION EMISSIONS CONTROL METHODS

In addition to emission controls for dust generated by general construction activities described in the previous section, specific requirements apply to asbestos-related dust due to demolition activities. A qualified subcontractor, licensed and experienced to manage asbestos- and lead-contaminated building materials, will perform demolition of existing structures. The subcontractor will demonstrate compliance with the requirements of BAAQMD 11- 2, which states that demolition activities will not be allowed to cause any visible dust plumes from any operation involving the demolition, removal, manufacture or fabrication of any product containing asbestos. The subcontractor will implement the additional control methods summarized below.

Demolition Activities

Fugitive dust emissions from demolition activities will be controlled in accordance with the requirements of BAAQMD Section 11-2-303, as summarized below:

- All exposed regulated asbestos-containing material (RACM) will be adequately wetted and kept wet during cutting, stripping, demolition, renovation, removal and handling operations both inside and outside of a building.
- In lieu of wetting, a local HEPA filter exhaust, ventilation, and collection system designed and operated to capture the emissions from RACM and prevent any visible emissions to the outside air may be used under certain circumstances and subject to BAAQMD approval; requests for approval of dry removal must be in writing.
- RACM shall be removed prior to demolition, or other operations that would either break up, or preclude access to the RACM for subsequent removal.
- Elements that have RACM may be removed at any time in units or sections so long as the exposed RACM during cutting or disjointing is adequately wetted or encapsulated to prevent emissions of particulate asbestos material.
- All RACM not removed in units or sections shall be adequately wetted and kept wet, and transported to the ground in leak-tight chutes or containers, using negative air and HEPA equipment.
- Any building, structure, room, facility or installation from which RACM is being stripped or removed shall be isolated by physical barriers from the outside air to the extent feasible. Such barriers shall include transparent viewing ports which allow observation of all stripping and removal of RACM from outside the barrier. The negative air pressure inside the isolated work area shall be maintained at a pressure differential relative to adjacent, nonisolated areas, and negative air pressure ventilation equipment shall be operated continuously from the establishment of isolation barriers through final cleanup of the work area following stripping or removal of RACM. Any such local exhaust ventilation system shall filter the air from the isolated area with a HEPA filter (or equivalent) prior to exhausting.

- All friable asbestos-containing waste material related to a specific demolition, renovation or removal, including pre-existing debris, shall be handled in accordance with the provisions of BAAQMD Sections 11-2-303 and 11-2-304.
- Except for ordered demolitions, prior to commencement of any demolition or renovation, the owner or operator shall thoroughly survey the affected structure or portion thereof for the presence of asbestos-containing material, including Category I and Category II nonfriable asbestos-containing material. The survey shall be performed by a person who is certified by the Division of Occupational Safety and Health, who has taken and passed a USEPA-approved Building Inspector course, and who conforms to the procedures outlined in the course. The survey shall include sampling and the results of laboratory analysis of the asbestos content of all suspected asbestos-containing materials. This survey shall be made available to the Air Pollution Control Officer (APCO) prior to the commencement of any RACM removal or any demolition.
- When a structure, or portion thereof, is demolished under an ordered demolition, the survey must be done prior to, during, or after the demolition but prior to loading or removal of any demolition debris. If the debris contains regulated asbestos-containing material, all of the debris shall be treated as asbestos-containing waste material pursuant to BAAQMD Section 11-2-304. *A survey of asbestos-containing material has been completed for all structures to be demolished on Parcels B and G ’.*
- No RACM shall be stripped or removed unless at least one on-site representative, such as a foreman or management-level person or other authorized representative, certifies that he or she is familiar with the provisions of this rule as it pertains to demolition and renovation and the means of compliance therewith, and is present during all stripping and removing of RACM.
- If RACM is not discovered until after demolition begins and, as a result of the demolition, cannot be safely removed, the asbestos-contaminated debris shall be treated as asbestos-containing waste material and kept adequately wet at all times until disposed of according to the provisions of BAAQMD Section 11-2-304.
- The owner or operator of any building or other stationary structure to be demolished pursuant to an order of an authorized representative of a state or local governmental agency, issued because that building is structurally unsound and in danger of imminent collapse or has been declared a public nuisance, shall comply with the survey, wetting and disposal requirements of BAAQMD.
- If demolition is accomplished by intentional burning, all RACM, including Category I and Category II nonfriable asbestos-containing material, shall be removed before burning.

RACM Waste Disposal

To prevent emissions from asbestos-containing material, the waste generated during the demolition process will be handled in accordance with BAAQMD 11-2-304, including the following:

- Treat asbestos-containing waste by thoroughly mixing with water and store in leak-proof containers before removing from containment area.
- Process asbestos-containing waste into non-friable form before disposal.
- Convert RACM and asbestos-containing waste material into asbestos-free material.
- Keep asbestos-containing waste material adequately wetted at all times after demolition and during handling and loading.

- Adhere to requirements of Section 11-2-608 for marking of vehicles used to transport asbestos-containing waste.
- Maintain waste shipment records as specified in Section 11-2-502.
- Provide a copy of the waste shipment record to the disposal site owner or operator upon delivery.
- Contact transporter and/or owner of the disposal site if the waste shipment has not arrived within 35 days of initial acceptance by the transporter.

Provide a written report to the APCO if the waste shipment is not received within 45 days of initial acceptance by the transporter.

MONITORING AND RECORDS

General

A hotline must be established and posted prior to starting construction and maintained during construction in a publicly visible sign with the telephone number for surrounding community members to call and report visible dust problems. The contractor will respond promptly and take corrective action within 48 hours. The number must be given to adjacent residents, schools, and businesses.

Monitoring to ensure compliance with the provisions of this plan will be performed by an independent third party observer. Control of visible dust will be the primary responsibility of the contractor working at the site. The Owner will provide quality assurance monitoring and will have the authority to direct the contractor to implement the measures outlined below if visible dust is observed.

Visible Dust During Site Activities

The goal of this plan is no visible dust. While all parties understand that soil disturbance and excavation activities, by their nature, will produce dust, site controls will be used to mitigate visible dust as it is generated in an effort to achieve the no visible dust goal. This section establishes the steps that must be taken toward achieving the goal of no visible dust from soil disturbance or excavation in terms of the amount of time permitted to address visible dust plumes. The criteria in this section apply to an active work site when equipment and personnel are driving on the site an performing work activities. The "initial observation" starts the clock for the required response measures described below. The "initial observation" is the time any of the following personnel observe visible dust: (a) workers who are disturbing soils or excavating for the permitted activity or (b) Owner, supervisor, contractor, subcontractor or consultant with responsibility for monitoring the permitted activity.

Visible Dust Crossing the Property Boundary

In the event visual dust from soil disturbance or excavation is observed crossing the property boundary, the following procedures will be followed to ensure adequate mitigation measures are in place to address the dust:

1. The specific source of the emissions will be immediately shut down and a more aggressive application of the existing mitigation measures as described on pages D-7 through D-9 (No Visible Dust Goal) will be directed.
2. Once the mitigation measures have been applied , the source of emissions will resume and observations will be conducted to verify that the mitigations measures were successful.

Onsite Visible Dust

In the event visual dust from soil disturbance or excavation is observed onsite, but does not cross the property boundary, the following procedures will be followed to ensure adequate mitigation measures are in place to address the dust:

1. A more aggressive application of the existing mitigation measures as described on pages D-7 through D-9 (No Visible Dust Goal) or additional measures of dust suppression will be directed to the specific source of emissions within 60 minutes the initial observation.
2. If despite these more aggressive and/or additional methods the visible dust emissions continue for 90 minutes from the time of the initial observation, the specific source of the emissions will be temporarily shut down until the implemented dust control mitigations is effective or, due to changed conditions, no longer necessary.

Windblown Visible Dust During Inactive Periods

The standards in this section apply on weekends and holidays or any other times when no equipment and personnel are performing work activities on site. In the event of observations on windblown visible dust plumes from soils originating on the project site, mitigation measures as described on pages D-7 through D-9 (No Visible Dust Goal) will be directed within less than 4 hours of making the observation. Mitigation measures will be applied until the visible dust plumes originating from the project site are minimized or eliminated. Any observations of visible dust originating from the project site during inactive periods should be reported to the Community Hotline.

Dust Monitoring

Real-time particulate dust monitors (Miniram PDR-1000 or equivalent) will be placed at adequate locations to measure particulates in the upwind and downwind locations of the Site. Prevailing wind on the site is from the west or southwest towards the east or northeast. Monitoring locations will initially be established based on these prevailing winds but will be checked daily and adjusted if necessary to maintain the upwind and downwind locations. An action level of 0.75 milligrams per cubic meter (mg/m^3) above upwind levels, over a ten minute average has been developed for the site operations. At a minimum the data will be reviewed daily. It is anticipated that data review will be more frequent at project startup to validate BMPs. If dust is generated from on-site soil disturbance or excavation activities and dust levels from these activities are recorded above this action level, site specific actions will be specified based on the type of activity being conducted. Actions could include evaluation of site activities or stopping work until additional controls are implemented to reduce dust generation from the specific work area causing the problems. During periods of extended rain, realtime particulate monitoring will cease to prevent damage to the instruments.

Recordkeeping and Reporting

Dust monitors will be equipped with data loggers. Dust monitoring data will be included with daily construction reports.

BAAQMD 11-2, Section 11-2-502 describes reporting and recordkeeping requirements for RACM demolition activities.

ATCM requires that results of air monitoring and any testing of serpentine materials be reported to the APCO and that records be retained for at least 7 years following the completion of the project.

APPENDIX E

SOIL IMPORTATION PLAN OUTLINE

APPENDIX E
Soil Importation Plan Outline

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Appendix F
Groundwater Management Plan Outline

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2.0 Groundwater management Plan

This Section should provide a description of the means and methods that will be used to extract (dewater) groundwater, temporary storage of extracted groundwater, and ultimate disposition of the extracted groundwater. Emphasis should be placed on using best management practices to minimize the area to be impacted by dewatering, protecting the public from exposure to contaminated groundwater, and disposal methods that are compliant with all applicable environmental regulations. If the work involves the installation of underground utility lines, best management practices should be implemented to mitigate the potential for the utility backfill to create a conduit for migration of contaminated groundwater from one area to another.

This Section should include a contingency plan for unexpected conditions, if they are encountered. Unexpected conditions could include the presence of free phase hydrocarbons floating on the groundwater surface, encountering odiferous and obviously discolored soil, extraction of a significantly larger volume of groundwater than anticipated, and other similar conditions.

3.0 Permitting and Reporting Requirements

This Section should include a discussion of the permit requirements that must be met to accomplish the dewatering project. At a minimum, consideration should be given to the City and County of San Francisco Department of Public Works, City of San Francisco Department of Public Health, San Francisco Public Utilities Commission, California Regional Water Quality Control Board and California Department of Toxic Substances Control. The discussion of permit requirements should also include a discussion of reporting and recordkeeping requirements.

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RISK MANAGEMENT PLAN

HUNTERS POINT SHIPYARD

SAN FRANCISCO, CALIFORNIA

WORKING DRAFT

January 2011

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ACRONYMS AND ABBREVIATIONS

ABM	Abrasive blast material
ADMP	Asbestos Dust Mitigation Plan
AOC	Administrative Order on Consent
ARIC	Area requiring institutional controls
ATCM	Airborne Toxic Control Measures
BAAQMD	Bay Area Air Quality Management District
BCDC	San Francisco Gay Conservation and Development Commission
BMP	Best Management Practice
CCR	California Code of Regulations
CCSF	City and County of San Francisco
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CHHSLs	California Human Health Screening Levels
CIH	Certified Industrial Hygienist
COCs	Chemical of concern
CRUP	Covenants to Restrict use of Property
DCP	Dust Control Plan
DTSC	California Department of Toxic Substance Control
EHSPs	Environmental Health and Safety Plans
FFA	Federal Facilities Agreement
GMP	Groundwater Management Plan
HPS	Hunters Point Shipyard
ICs	Institutional controls
LUC	Land use control
NOA	Naturally occurring asbestos
NOI	Notice of intent

NPDES	National Pollutant Discharge Elimination System
O&M	Operation and maintenance
OSHA	Occupational Safety and Health Administration
OVA	Organic vapor analyzer
OVM	Organic vapor monitor
PAHs	Polycyclic aromatic hydrocarbons
PCBs	Polychlorinated biphenyls
PPE	Personnel protective equipment
QSD	Qualified SWPPP Developer
RA	Remedial Action
RACR	Remedial Action Completion Report
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
ROD	Record of Decision
RMP	Risk Management Plan
RWQCB	Regional Water Quality Control Board
SFDPH	San Francisco Department of Public Health
SFPUC	San Francisco Public Utilities Commission
SFRA	San Francisco Redevelopment Agency
SIP	Soil Importation Plan
SSHO	Site Safety and Health Officer
SVE	Soil vapor extraction
SVOCs	Semi-volatile organic compounds
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	California State Water Resources Control Board
TCRA	Time-critical removal action
TMSRA	Technical Memorandum in Support of a ROD Amendment

USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USTs	Underground storage tanks
VOCs	Volatile organic compounds
WDRS	Water Discharge Requirements

1.0 INTRODUCTION

In accordance with the final Records of Decision (RODs) for Parcels B and G at the former Hunters Point Shipyard (HPS) in San Francisco, California, environmental cleanup activities were implemented to provide for protection of human health and the environment. The cleanup activities are overseen by the United States Environmental Protection Agency (USEPA), the California Department of Toxic Substances Control (DTSC) and the Regional Water Quality Control Board (RWQCB). This Post-Remedial Action Completion Report Risk Management Plan (hereafter referred to as the Post-RACR RMP) has been prepared for Parcels B (excluding Installation Restoration [IR] Sites 7 and 18; See Section 1.1) and G to provide procedures and protocols that shall be used to conduct "pre-approved restricted activities" and "activities that require approval" on Parcels B and G following transfer of property from the Navy to other landowners where the remedy has been implemented. Pre-approved restricted activities and restricted activities that require approval are described later in Section 3.

The following restricted activities are defined in the Parcel B ROD Amendment (*ChaduxTt, 2009*) and the Parcel G ROD (*Navy, 2009*):

- "Land disturbing activity" which includes, but is not limited to: (1) excavation of soil; (2) construction of roads, utilities, facilities, structures, and appurtenances of any kind; (3) demolition or removal of "hardscape" (for example, concrete roadways, parking lots, foundations, and sidewalks); (4) any activity that involves movement of soil to the surface from below the surface of the land; and (5) any other activity that causes or facilitates the movement of known contaminated groundwater.

- Alteration, disturbance, or removal of any component of a response or cleanup action (including, but not limited to, pump-and-treat facilities, soil vapor barriers, revetment walls and shoreline protection, and soil cap/containment systems); groundwater extraction, injection, and monitoring wells and associated piping and equipment; or associated utilities.

- Extraction of groundwater and installation of new groundwater wells.

- Removal of or damage to security features (for example, locks on monitoring wells, survey monuments, fencing, signs, or monitoring equipment and associated pipelines and appurtenances).

The RODs provide that the activity restrictions will be enforceable through Covenant(s) to Restrict Use of Property (CRUPs) and deed restrictions. Institutional controls (ICs) are enforced in the form of the deed(s) and CRUP(s), which are recorded in the official records of the City and County of San Francisco (CCSF) against all parcels that are subject to this Post-RACR RMP and run with the land under California Civil Code 1471.

Additionally, the RODs specify the following activity restrictions related to the potential exposure to volatile chemicals in the subsurface soil vapor

- Any proposed construction of enclosed structures within the area requiring institutional controls (ARIC) for volatile chemicals must be approved by the FFA signatories in accordance with the CRUPs, Quitclaim deed(s), Land Use Control (LUC) Remedial Design (RD), prior to the conduct of such activity to ensure that the risks of potential exposures to volatile chemicals are reduced to levels that are adequately protective of human health. Initially the ARIC will include portions of Parcels B and G as presented in Figures 2 and 3. No potential source areas were identified and no fill material is present within Redevelopment Block 4, therefore Redevelopment Block 4 was not included within the Parcel B ARIC for volatile chemicals. The reduction in potential risk caused by the presence of volatile chemicals can be achieved through engineering controls or other mitigation measures that meet the specifications set forth in the amended ROD, RD reports, LUC RD report, and the RMPs. The ARIC for volatile chemicals may be modified by the FFA signatories as the soil contamination areas and groundwater contaminant plumes that are producing unacceptable vapor inhalation risks are reduced over time or in response to further soil, vapor, and groundwater sampling and analysis for VOCs, SVOCs including PAHs and pesticides, that establishes that areas now included in the ARIC for volatile chemicals do not pose an unacceptable potential exposure risk to volatile chemicals.

The Post-RACR RMP is organized as follows:

Section 2.0 Summary of Environmental Conditions: Provides a description of soil and groundwater conditions and the selected remedies.

Section 3.0 Site Activities Regulatory Protocols: Describes pre-approved activities, activities requiring notification and approval, description of Areas Requiring Institutional Controls (ARICs) for VOCs and procedures to modify the Post-RACR RMP. Lists public repository.

Section 4.0 Reporting and Notice Protocols: Describes reporting and notification process, including notification entities, activities requiring notification and completion report requirements and approvals and annual reports.

Section 5.0 Risk Management Procedures and Protocols during Development: Presents risk management measures which must be implemented during performance of development and maintenance activities.

Section 6.0 References: Lists references used in the preparation of this Post-RACR RMP.

1.1 Post-RACR RMP Scope

This Post-RACR RMP governs restricted activities on land where the remedy implementation phase is complete and the Regulatory Agencies have approved the Remedial Action Completion Report (Figure 1). This RMP is the only one that should be used once the remedy has been completed and approved.

Over time property will be transferred from the Pre-RACR RMP status to the Post-RACR RMP status until all property has received Regulatory Agency approval of the RACR. Thus, the geographic area for which this Post-RACR RMP applies will be dynamic and the geographic boundaries will change with time as the remedy, including the durable cover, is installed and approved by the FFA signatories. When changes to the RMP applicability are made, copies of Figure 1 in both this Post-RACR RMP and the Pre-RACR RMP will be updated simultaneously and will be made available in the Hunters Point Shipyard information repositories (Section 3.4) and on the San Francisco Department of Public Health (SFDPH) Hunters Point Shipyard Redevelopment website (http://www.sfdph.org/dph/EH/HuntersPoint/default.asp). This Post-RACR RMP will be required as long as a durable cover requirement exists as part of the remedy and constituents of concern remain at the property above levels that pose risks to human health in an unrestricted land use scenario.

This Post-RACR RMP was prepared solely for use within the Post-RACR RMP Area and is not intended to be applied for the management of risks within any area or project not otherwise explicitly identified in the Post-RACR RMP. Although this Post-RACR RMP sets forth the requirements to appropriately manage the potential risks in soil and groundwater following remedy installation, the Post-RACR RMP is not intended to catalog all other legal requirements that may apply to the project or to activities conducted under the Post-RACR RMP such as, but not limited to: worker health and safety as governed by the Occupational Safety and Health Administration (OSHA) and compliance with Article 31 of the San Francisco Health Code. Article 31 contains special permit processing requirements that apply at Hunters Point Shipyard to address potential contamination.

1.2 Intended Users of Post-Development RMP

This Post-RACR RMP is intended for the following users or their designees who may perform or oversee the Restricted Activities described in Section 3.1.1 within Parcels B and G:

- San Francisco Redevelopment Agency (SFRA)
- San Francisco Department of Public Works
- Property developers
- Property Owners (defined as an Owner with a fee interest in the property or an Owner's Representatives, hereinafter referred to as Owners)
- Lessees, permittees, tenants, or any other party with the legal right to perform subsurface work on the property
- Contractors
- Maintenance personnel
- Regulatory agencies (USEPA, DTSC, and RWQCB) and City of San Francisco Department of Public Health (SFDPH)
- Department of the Navy
- Any other person or entity who may perform the Restricted Activities described in Section 3.1.1.

The Post-RACR RMP will be used by the regulatory agencies to ensure that future property owners comply with the ROD required land use restrictions to limit exposure to hazardous substances and ensure that property owners maintain the integrity of the remedy.

1.3 Description of Planned Redevelopment

Parcels B and G will be developed as mixed use sites (Figures 2 and 3). Parcel B will include multi-family housing, public open space, retail, light industrial, and commercial uses. Parcel G could include mixed use (including residential), commercial, educational/cultural, industrial, and open space.

2.0 SUMMARY OF ENVIRONMENTAL CONDITIONS AND DESCRIPTION OF AREAS REQUIRING INSTITUTIONAL CONTROLS (ARICS)

Soil, groundwater and soil vapor investigations were conducted by the Navy within Parcels B and G to characterize the environmental conditions. Significant source areas that could impact human health and the environment were remediated by the Navy prior to transfer. Risk evaluations have been performed to confirm that the site could be developed as planned (based on the 1997 Redevelopment Plan for HPS), in a manner that would be safe for human health and the environment. The Remedial Investigation Reports for Parcel B (*PRC et al, 1996*) and Parcel G (*Tetra Tech, 1997a*), Feasibility Study Reports for Parcel B (*PRC, 1996*) and Parcel G (*Tetra Tech, 1997b*), Revised Feasibility Study for Parcel D (*SulTech, 2007*), 5-Year Review Report (*Jonas, 2008*), Technical Memorandum in Support of a Record of Decision (ROD) Amendment (TMSRA) for Parcel B (*ChaduxTt, 2007*) and its Radiological Addendum (*TtEC, 2008*), and ROD Amendment (*ChaduxTt, 2009*), and the ROD for Parcel G (*Navy, 2009*) are central to understanding environmental conditions at HPS. While this Post-RACR RMP provides a summary of the various environmental findings in the site-specific investigations as of the date this Post-RACR RMP was published, the reader should refer to reports listed in Section 6.0 for more details regarding the specific findings of these investigations and should refer to the Remedial Action Completion reports for updated environmental conditions. A description of the history of Parcel B, including geology, hydrogeology, regional setting and a description of previous investigations, can be found in the Parcel B TMSRA (*ChaduxTt, 2007*) and a description of the use and history of Parcel G can be found in the ROD for Parcel G (*Navy, 2009*). Parcel G is located within the central portion of the former 98-acre Parcel D. To support the early transfer of Parcel G, Parcel D was subdivided into Parcels G , D-1, D-2, and UC-1 (*Navy, 2009*).

2.1 Soil and Sediment Conditions

The primary chemicals of concern (COCs) detected in soil at Parcels B and G include volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and metals. The Navy conducted a series of excavations at Parcel B to reduce the risk to human health and the environment. A group of metals, primarily arsenic and manganese, were identified in soil at concentrations that consistently exceeded cleanup goals at locations across Parcel B. The widespread distribution of this group of metals in soil at Parcel B is related to the occurrence of these metals in the local bedrock that was quarried for fill during the expansion of HPS as well as the importation of other off-site sources of fill used to further expand HPS. Following excavations in 106 locations on Parcel B, the FFA signatories determined that because of the ubiquitous nature of these metals in soil throughout Parcel B, excavation and removal of all soil exceeding risk-based cleanup standards to a depth of 10 feet

was not economically feasible and the site conceptual model needed to be re-examined. As a result, the ROD Amendment selected a remedial alternative to address the ubiquitous presence of metals using containment beneath covers in conjunction with institutional controls.

A large quantity of soil in Parcels B and G that was contaminated with constituents other than arsenic and manganese (lead, mercury, radionuclides, organic compounds or other Navy contaminants above remediation goals) was excavated and disposed off-site by the Navy prior to transfer. However, some soil, soil gas, and groundwater containing constituents of concern remained in place, as described in the Parcel B TMSRA and Parcel G ROD. These issues were addressed by the SFRA prior to occupation of the land.

The Navy implemented investigations and corrective actions for total petroleum hydrocarbons (TPH) on Parcels B and G as part of the Navy's Petroleum Program. The RWQCB is the lead regulatory agency that oversees petroleum contamination and the UST program. For Parcel B, the petroleum corrective action work was conducted pursuant to a petroleum Corrective Action Plan (CAP). For Parcel G, no petroleum corrective actions were necessary, and therefore a CAP was not developed. The Navy is currently in the process of revising the Draft Final Petroleum Hydrocarbon Closeout Reports for Parcels B and G. The Navy anticipates the submission of Final Petroleum Hydrocarbon Site Closeout Reports for Parcels B and G in early 2011. Regional Water Board staff expects that closure will be completed for most if not all sites before the Navy issues a Final Finding of Suitability for Early Transfer (FOSET). The one exception to this schedule is the Parcel B petroleum site called Combined Sites Area Of Concern (CAA-21, CAA-22, Area Of Concern-46-A and Area Of Concern-46-B). The Navy completed all fieldwork and investigations of the Parcel B combined sites in late 2010 (*ITSI, 2011[reference]*). Post-investigation actions such as monitoring likely could be ongoing at the Combined Sites Area Of Concern and therefore closure pending at the time of transfer.

The Navy identified metals, pesticides, PCBs, and polycyclic aromatic hydrocarbons (PAHs) in Parcel B shoreline sediments that may pose a risk to human health or ecological receptors. The selected remedy to prevent exposure to the COCs in the shoreline sediments included the construction of a shoreline revetment wall. Parcel G does not have any sediment concerns because it is not bordered by the bay.

At HPS, naturally occurring asbestos (NOA) is primarily found in the mineral form of chrysotile, which is present in approximately 1/8-inch veinlets scattered throughout the native serpentinite bedrock. The primary route of potential exposure to asbestos is through inhalation of air containing asbestos fibers. The primary release mechanism of asbestos fibers to the air would be through excavating and crushing the

serpentinite bedrock. Best management practices (BMPs) incorporating the use of traditional dust suppression techniques during excavation would be adequate to mitigate potential health concerns related to the inhalation of asbestos fibers. Samples of airborne particulates will be collected using real-time particulate dust monitors to evaluate the adequacy of and allow adjustments to BMPs (Appendix D).

2.2 Groundwater Conditions

COCs in groundwater above remediation goals are limited to the A-aquifer, which exists within unconsolidated artificial fill. The A-aquifer ranges in thickness from about 15 feet in the southwest to as much as 80 feet in the northeast, but averages about 25 feet over most of Parcel B. Groundwater is typically encountered within Parcel B in the A-Aquifer at depths ranging from approximately 5 to 10 feet below ground surface, with up to 3 feet of typical seasonal variation. Groundwater in the A-aquifer at Parcel G is generally encountered 8 to 10 feet below ground surface with fluctuations of over 5 feet observed in the past. COCs for both Parcels B and G in the A-aquifer include VOCs (mainly trichloroethene and its breakdown products), chromium VI, mercury, and nickel. Plume areas identified in the Parcel B Amended ROD include IR Site 10 and IR Site 26 (Figure 2). Plume areas identified in the Parcel G ROD include IR Site 9, IR Site 33 and IR Site 71 (Figure 3). An indoor inhalation risk may exist in areas where volatile chemicals are present in soil or groundwater. Potential risks from groundwater are based on breathing volatile chemicals in soil and groundwater that may have migrated through the subsurface to indoor air (vapor intrusion). The results of the Human Health Risk Assessment show that the risk from exposure to vapors from the groundwater exceeded the excess lifetime cancer risk threshold in several areas in Parcel B (*ChaduxTt, 2009*) prior to the completion of the remedy. The selected remedy for groundwater at Parcel B includes treatment of the groundwater, implementation of institutional controls and long-term groundwater monitoring. A-aquifer groundwater in IR Site 9 and IR Site 71 at Parcel G has undergone treatment which has reportedly reduced VOC concentrations below cleanup levels (*Alliance, 2010*) though groundwater monitoring will continue to verify that the remediation is complete. Due to declining concentrations of COCs and low risk to future receptors, treatment of groundwater at IR Site 33 was not necessary (Alliance, 2010). (Note: *Update with latest groundwater sampling results at time of implementation*).

The risk posed by chromium VI, mercury, and nickel in groundwater is primarily to ecological receptors through potential transport to the bay. The Navy completed a removal action for the mercury source at IR-26 in Parcel B (*Insight, 2009*). Long-term groundwater monitoring will continue at Parcel B until concentrations of both the chromium VI and mercury are below action levels that are protective of ecological receptors in the bay. Chromium VI in Parcel G is associated with the former Pickling and

Plate Yard. The source of the chromium VI, including contaminated equipment and residue from the Pickling and Plating Yard and the pickling and plating sump and surrounding soil, have been removed). Documentation of the plating sump removal will be included in the Parcel G RACR.

2.3 Known Existing or Former Below-Grade Structures

Below grade structures such as underground storage tanks (USTs), oil/water separators, sumps, or other structures were removed or investigated during previous investigations within Parcels B and G. Two known USTs (U439-1 and U439-2) were closed in place in Parcel G (Figure 3). No known USTs were closed in place within Parcel B (*ChaduxTt, 2010b*).

2.4 Implemented Remedies

The CERCLA RODs for Parcels B and G selected remedial actions, which were required to provide adequate protection of human health and the environment and to allow the designated and beneficial reuse of the property as defined in the conveyance agreement executed between the Navy and the SFRA. At the time this post-RACR RMP applies to a piece of property, the remedial actions will have been implemented and approved. The following remedial actions were identified in the ROD to address contamination in soil, sediments, soil vapor, groundwater and structures within Parcels B and G:

- Radiological contamination identified in buildings, former building sites, sewer lines and other areas affected by radiological sources, were removed by the Navy and approved by the FFA signatories prior to transfer of Parcels B and G to the SFRA.

- Removal and offsite disposal of excavated soil in areas where concentrations of organic chemicals and metals (excluding arsenic and manganese) were above remedial goals.

- Installation of durable covers over the entire parcel to prevent contact with residual ubiquitous metals. A durable cover is defined in the RODs or RDs as hardscape (e.g., asphalt, buildings, sidewalks, etc.) or two feet of clean imported fill.

- Installation of a revetment wall along the Parcel B shoreline to cover and prevent access to sediments.

- Operation of a soil vapor extraction (SVE) system (Parcel B only) to remove and treat VOCs in soil.

- Treatment of groundwater to reduce the contaminant concentrations to or near the remediation goals defined in the RODs.

- Implementation of a groundwater monitoring program to verify that remediation efforts continue to meet the remediation goals defined in the Parcel B ROD Amendment and Parcel G ROD.

- Use of engineering controls and institutional controls (ICs) to prevent or minimize exposure to contaminated soil and soil vapor and to prevent or minimize exposure to contaminated groundwater by restricting activities related to groundwater.

Details concerning the selection, performance and implementation of these remedies are presented in the TMSRA, Parcel B ROD Amendment, Parcel D FS, Parcel G ROD and Remedial Design Package, Design Basis Reports for Parcels B and G and referenced in Section 6.0. Implementation of the remedies will be documented in the RACRs.

2.4.1 Operation and Maintenance of the Remedy

The selected remedy includes a durable cover (Parcels B and G) and shoreline revetment (Parcel B only) to provide a physical barrier (engineered control) to remove the exposure pathway of COCs to human and ecological receptors. The requirements for long-term monitoring and operation and maintenance (O&M) for the durable cover and the shoreline revetment are provided in the Parcels B and G RD documents. These long term monitoring and O&M obligations are independent of the Post-RACR RMP however the annual O&M inspections will be conducted and submitted simultaneously with the RMP annual inspections as described in Section 4.0 and Appendix B.

3.0 SITE ACTIVITIES AND REGULATORY PROTOCOLS

This section describes the regulatory oversight protocols, types of activities and associated restrictions that are governed by this Post-RACR RMP and the process for modifying this Post-RACR RMP.

3.1 Regulatory Oversight

The groups of agencies that have oversight and approval roles for various obligations are described in this section. These agencies plus the Navy, as the previous landowner and CERCLA responsible party, are referred to as the Federal Facility Agreement (FFA) signatories. The FFA is an agreement entered into by the agencies to carry out the remediation of HPS. The FFA signatories and the City of San Francisco Department of Public Health (SFDPH) will be referred to as the Oversight Agencies and the DTSC, RWQCB, USEPA, and the SFDPH will be referred to as the Regulatory Agencies for the purposes of this RMP. A contact list is included in Appendix A.

Regulatory oversight regarding implementation of the Post-RACR RMP includes, but is not limited to:

- Review and approval of modifications to the Post-RACR RMP, as described in Section 3.3
- Review and approval of work plans for conducting restricted activities requiring FFA signatory approval that are specified in Section 3.1.2 of this Post-RACR RMP
- Performance of inspections to verify compliance with the Post-RACR RMP procedures and protocols
- Review and approval of completion reports described in Section 4.2.3.

3.1.1 Pre-Approved Restricted Activities

Certain land disturbing activities may be conducted without obtaining FFA signatory approval as long as such activities are performed in accordance with all provisions and protocols specified in the RMP. Such activities are hereafter referred to as “pre-approved activities”. Pre-approved activities include the following, except to the extent that the activities fall within one of the categories requiring FFA signatory approval under Section 3.1.2 below:

(1) Excavation of soil that penetrates the cover remedy. Following completion of excavation activities, the excavated soil must either be hauled offsite or placed back in the excavation and the cover remedy re-

installed. Excavated soil may be used at other sites so long as it is placed beneath an approved cover remedy (e.g., 2 feet of clean fill, asphalt cover, side walk, or street).

(2) Construction of roads, utilities, facilities, structures (other than enclosed structures in ARICs for volatile chemicals), and related appurtenances as necessary to complete the redevelopment. Following the completion of any of these activities that penetrate the cover remedy, all excavated soil must either be hauled offsite or put back in place and an approved cover remedy must be re-installed.

(3) Demolition or removal of "hardscape" (e.g., concrete or asphalt roadways, parking lots, building foundations, and sidewalks). Following completion of hardscape removal, an approved cover remedy must be re-installed.

(4) Any activity that involves movement of soil to the surface from below the surface of the land. Following completion of soil moving activities all soil that has been moved from below the cover remedy must either be hauled offsite or put back in place and must be covered with an approved cover remedy (e.g., 2 feet of clean fill, asphalt cover, side walk, or street); and

(5) Grading or other movement of soil. Following completion of grading activities existing or native soils must be covered with an approved cover remedy (e.g., 2 feet of clean fill, asphalt cover, side walk, or street).

Some specific examples of pre-approved activities include, but are not limited to:

- excavation of trenches, potholes or other movement of soil from the subsurface to the surface in support of the installation of new below grade utilities, foundations, or otherfoundational structures (e.g., sewer lines, water lines, storm water pump station wet wells, pile caps and/or grade beams, etc.). Following completion of these activities, all excavated soil must either be hauled offsite or placed back in the excavation and an approved cover remedy re-installed (e.g., 2 feet of clean fill, asphalt cover, side walk, or street). Excavated soil may be used at other sites so long as it is placed beneath an approved cover remedy. Additional information on the handling and management of soil is provided in Sections 5.2 and 5.3.
- demolition of existing below grade, at grade or above grade structures. Following completion of demolition activities exposed native or existing soil must covered with an approved cover remedy (e.g., 2 feet of clean fill, asphalt cover, side walk, or street);

- grading for the purpose of raising and/or lowering site grade, creation of building pads, fine grading activities in support of road installation, and associated excavating, loading, hauling, stockpiling and/or compacting soil. Following completion of these activities existing or native soils must be covered with an approved cover remedy (e.g., 2 feet of clean fill, asphalt cover, side walk, or street);

- pre-drilling for pile installation including drilling pilot holes through fill material prior to the installation of foundation piles. In addition, in areas where there is no known groundwater contamination and to the extent that such activities will not impact areas of known groundwater contamination; temporary dewatering activities may be conducted including temporary pumping of groundwater to dewater below grade excavations in support of both infrastructure installation and/or foundation installation which may include both pumping of groundwater from an open excavation and/or pumping groundwater via perimeter temporary dewatering wells (typically used for building foundation installation). Additional information on groundwater management is provided in Section 5.6.

Anyone performing the above Pre-Approved Activities will be required to comply with the following applicable soil and groundwater management protocols, a Dust Control Plan (DCP), a Stockpile Management Plan (part of the DCP), a Soil Importation Plan, a Storm Water Pollution Prevention Plan (SWPPP), and a Groundwater Management Plan (GMP). Each of these elements is described in more detail in Section 5.0. In addition, contractors performing Pre-Approved Restricted Activities will be required to comply with their own Environmental Health and Safety Plan (EHSP). Reporting requirements for these Pre-Approved Restricted Activities are further described in Section 4.0.

3.1.2 Restricted Activities Requiring FFA Signatory Approval

Specific restricted activities that affect remediation and may not be commenced without first obtaining written FFA signatory approval include:

- "Land disturbing activity" that causes or facilitates the movement of any known contaminated groundwater.

- Alteration, disturbance, or removal of any component of a response or cleanup action (including, but not limited to, pump-and-treat facilities, and shoreline protection; groundwater extraction, injection, and monitoring wells and associated piping and equipment (including monitoring well abandonment); or associated utilities.

- Alteration, disturbance, or replacement of the durable cover on land that is one acre in size or greater. Construction of new road sections (street, curb, gutter, sidewalk, landscape median) is pre-approved for all areas, including areas one acre in size or greater, as long as the road section construction meets appropriate City building codes and standards.

- Extraction of groundwater and installation of new groundwater wells (including monitoring well replacement).

- Removal of or damage to security features (for example, locks on monitoring wells, survey monuments, fencing, signs, or monitoring equipment and associated pipelines and appurtenances).

- Construction of enclosed enclosed structures or reuse of existing buildings located in ARICs for volatile chemicals.

3.1.3 Areas Requiring Institutional Controls (ARICs) for Volatile Chemicals

The criteria for determining ARICs for volatile chemicals was established by the Navy and presented in the Soil Vapor Intrusion Survey Work Plan (*Sealaska, 2010*). The Soil Vapor Intrusion Survey Work Plan also established criteria for the modification or elimination of ARICs for volatile chemicals. The ARIC for volatile chemicals may be modified with approval by the FFA signatories via additional soil gas sampling and analysis for COCs. If the data show that vapor inhalation risk is within the acceptable range specified in the ROD or ROD Amendment, the ARIC may be reduced accordingly and Figure 2 and 3 will be updated. In areas where the ARIC remains, engineering controls shall be installed in existing or new buildings to address remaining vapor inhalation risk. When construction of enclosed structures or reuse of an existing building is proposed in an area located in ARICs (shown on Figures 2 and 3) for volatile chemicals the design of the vapor mitigation system built into foundations must be approved by the regulatory agencies.

3.1.4 Prohibited Activities

The following activities are prohibited throughout the Post-RACR RMP Area:

- Growing vegetables or fruits in native soil for human consumption.

- Use of groundwater.

Plants for human consumption may be grown in the Post-RACR RMP Area if they are planted in raised beds (above the RACR-approved cover) containing non-native soil. Fruit trees (including nut-bearing trees) may also be planted provided that they are grown in containers with a bottom that prevents the roots from penetrating the native soil.

3.1.5 Compliance with Requirements of Public Agencies That Are Not Parties to the FFA

Compliance with this Post-RACR RMP is required in addition to all federal, state and City of San Francisco permitting and environmental regulations and procedures for any construction or maintenance activity. The following is a list of state and local agencies that may have requirements for certain construction and maintenance activities, in addition to any requirements described in this Post-RACR RMP. This list is an example of potential state and local regulatory agencies and is not intended to be complete.

- Bay Area Air Quality Management District (BAAQMD) – air emissions and/or dust control
- San Francisco Department of Public Health (SFDPH) – monitoring well permitting and SFDPH Article 31 oversight
- San Francisco Public Utilities Commission (SFPUC) - wastewater discharge permitting
- Cal/Occupational Safety and Health Administration (OSHA) – worker health and safety
- San Francisco Redevelopment Agency – redevelopment design review
- San Francisco Department of Building Inspection – building permitting
- San Francisco Department of Public Works – permitting of structures in existing or future public right-of-ways and parks; subdivision approvals
- San Francisco Municipal Transportation Agency – permitting of infrastructure related to transit and traffic management
- San Francisco Fire Marshall – approval of infrastructure related to Fire Department emergency response.
- US Army Corps of Engineers – approval of repairs or modifications to the revetment wall and storm drain outfalls below sea level

- Bay Conservation and Development Commission - approval of repairs or modifications to the revetment wall within 100 feet of sea level.

3.2 Agency Site Access

The agencies responsible for enforcing the Post-RACR RMP procedures and protocols within Parcels B and G (Oversight Agencies) may elect to visit the site, as needed, per the rights of access described in the deed(s) and access requirements in the CRUP(s). The purposes of such visits include, but are not limited to, confirming that the Post-RACR RMP procedures and protocols are being properly implemented.

3.3 Modifications to the Post-RACR RMP

Modifications to the Post-RACR RMP may become necessary to address unanticipated future events, such as newly-identified COCs for which site-specific remediation goals have not been calculated, or in the event of a remedy failure. Additionally, based on the results of remedial activities, modification or termination of specific conditions or controls stated in this Post-RACR RMP may be warranted.

Other government entities may propose modifications of this Post-RACR RMP, including terminating specific conditions of the Post-RACR RMP, to the FFA signatories. Such modifications proposed to the FFA signatories may include modifications proposed by Owners to other government entities that those government entities determine are appropriate. The FFA signatories will review the proposed changes, request any additional background information if needed, and issue a decision regarding the proposal within 45 (calendar) days of receiving the proposal and any additional requested information. Once approved, the modified post-RACR RMP will be filed in the public repository (Section 3.4).

The FFA signatories may also propose modifications to the Post-RACR RMP based on new information that the Post-RACR RMP must address to remain protective of human health and the environment. If the proposed modifications are not agreed upon by the FFA signatories, in consultation with the SFDPH, within 60 days, the Post-RACR RMP shall continue in its original form until the FFA signatories come to a consensus on the appropriate modifications and notify the SFDPH of the modifications.

Changes in notification personnel are not considered a modification to the Post-RACR RMP and do not require FFA signatory approval.

3.4 Public Repository of RMP

A copy of this Post-RACR RMP and any Post-RACR RMP modifications will be available at the Hunters Point Shipyard information repositories indicated below, and on the San Francisco Department of Public

Health (SFDPH) Hunters Point Shipyard Redevelopment website (http://www.sfdph.org/dph/EH/HuntersPoint/default.asp). The Hunters Point Shipyard information repositories also contain the documents discussed in Section 2.0 and elsewhere in this Post-RACR RMP.

San Francisco Main Library
100 Larkin Street
Government Information Center, 5th Floor
San Francisco, California 94102
Phone: 415-557-4500

Anna E. Waden Bayview Library
5075 Third Street
San Francisco, California 94124
Phone: 415-355-5757

Contact information for the FFA signatories is provided in Appendix A. Changes in contact information will be submitted to the SFDPH, which will be responsible for including the updated information on their SFDPH Hunters Point Shipyard Redevelopment website.

4.0 REPORTING AND NOTICE PROTOCOLS

This section describes reporting and notification protocols that shall be followed when the following circumstances arise:

- Annual Reporting of pre-approved restricted activities in accordance with this Post-RACR RMP.
- Upon preparation of a work plan proposing to conduct Restricted Activities Requiring FFA Signatory Approval (Section 3.1.2) and upon receipt of results of performing the work plan.
- Upon discovery of previously-unknown environmental issues.

Notifications are the responsibility of the Owners, Lessees, permittees, tenants or any other party with the legal right to perform subsurface work on the property and with knowledge of circumstances. Under the circumstances described in Section 1.3, the SFRA will monitor compliance with notification requirements, and advise Oversight Agencies of noncompliance. The relevant time periods for notifications and associated responsible entities are described below. Other government entities with RMP oversight responsibilities are presented in Table 1.

4.1 Reporting for Pre-Approved Restricted Activities

Each year by June 30, the SFRA shall prepare and submit to the FFA signatories copies of the annual reports summarizing all of the Pre-Approved Restricted activities that have occurred on Owner's property and will identify any areas in the reports that indicate a non-compliance condition occurred within that year. If unknown areas of contamination or changes in the understanding of environmental conditions are discovered during the course of conducting pre-approved activities, Owner shall notify the FFA signatories via the notification process described in Section 4.3 and will follow the procedures presented in the Unknown Condition Response Plan (Appendix G). Following completion of the pre-approved restricted activities, the disturbed cover will be restored as described in Section 5.2.

4.2 Restricted Activities which require FFA signatory approval

These sections describe notification and reporting requirements for the restricted activities listed in Section 3.1.2.

4.2.1 Notification Prior to Restricted Activities Which Require FFA Signatory Approval

The Owner shall notify the FFA signatories at least 60 calendar days prior to any plan to conduct Restricted Activities Requiring FFA Signatory Approval listed in Section 3.1.2. Notification shall be in the form of a proposed work plan detailing the specific activities to be conducted and the controls to be implemented to protect human health and the environment. The FFA signatories shall review and either approve or provide comments indicating deficiencies in the work plan within 30 calendar days of receipt of the work plan. The FFA signatories may also request an extension of the review period within no less than 10 days prior to the end of the 30 calendar day time period. The Owner and FFA signatories shall work collaboratively to resolve work plan issues. The FFA signatories shall approve work plans prior to commencement of field activities. Documents will be considered to be final if no comments are received within the 30-day comment period. Following completion of the restricted activities, the disturbed cover will be restored as described in Section 5.2.

4.2.2 Information Required for Proposed Activities Requiring FFA Signatory Approval

When the Owner prepares a notification package to request approval to perform restricted activities requiring FFA signatory approval, the following should be included:

- A description of the proposed activity or condition that warranted the notification, together with appropriate exhibits to illustrate the location and/or issue that is the subject of the notification.
- Work plans, including schedules, prepared to perform activities.
- Description of current site conditions.

4.2.3 Completion Reports for Restricted Activities which Required FFA Signatory Approval

Following completion or closure of the activity requiring FFA signatory approval, the Owner shall prepare a completion report for submittal to the FFA signatories. A completion report shall include the following components, as appropriate:

- A description of the activity or condition that warranted the notification, together with appropriate exhibits to illustrate the location and/or issue that is the subject of the notification
- Description of notification protocols followed, including approval from the FFA signatories

- References to work plans prepared to perform activities
- Description of activities performed
- Boring logs/well completion diagrams
- Laboratory analytical reports
- Waste disposal manifests
- Description of final site conditions and/or as-built drawings
- Verification that all activities were conducted in conformance with the requirements of this Post-RACR RMP (signed by a California licensed Professional Engineer)
- A long-term maintenance and monitoring plan for any permanent facilities
- Other appropriate documentation or components as specified as a condition of undertaking the subject activity and/or required by the FFA signatories.

The Owner shall submit completion reports to the FFA signatories within 45 days of completing the restricted activities which required FFA signatory approval. Analytical information will be submitted within 30 days of receiving final analytical reports for samples submitted to the laboratory. The FFA signatories will be informed if the submittal date of an individual report must be extended past this time frame. If the submittal date has a regulatory-mandated time line, then FFA signatory approval for the extension must be requested at least 21 calendar days prior to the due date of the submittal and the extension request will not be considered granted unless formally granted in writing. Extension requests will be granted, or may be denied, within 15 calendar days of receipt of the written extension request.

The FFA signatories will review all completion reports to confirm that the actions taken are consistent with the Post-RACR RMP procedures and protocols and if applicable, the ROD, AOC and Remedial Design. Within 30 calendar days of completing review of the completion report, the FFA signatories will notify the Owners of any discrepancies or deficiencies in the completion report regarding compliance with this Post-RACR RMP, and the authors and regulators will work collaboratively to resolve such issues. Draft documents will be subject to a review period of 45 days. Reviewing parties may request an extension of the review period of for up to an additional 45 days from the party submitting the document. The party submitting the document will have 45 days to revise the document to address the comments received.

Draft final documents will be subject to a review period of 30 days. The FFA signatories may extend the 30 day comment period for an additional 30 days by written notice to the party seeking approval prior to the end of the 30 day period. The party submitting the document will have 45 days to revise the document to address the comments received. The completion notification/report will be considered approved and final unless regulators submit comments or a request for an extension within 30 calendar days from their receipt of the document. Upon request, the Owner shall submit a corrective action work plan to the FFA signatories for review and approval. Upon concluding that the actions taken are consistent with the Post-RACR RMP and if applicable Remedial Action Objectives (RAOs) identified in the ROD are attained, the FFA signatories will issue an approval letter for the completion report.

4.3 Notification Requirements for Changes in Understanding of Environmental Conditions or Discovery of Unknowns

In the event that unexpected or previously unknown conditions are encountered in the field that may require remediation or mitigation, the Owner shall notify the FFA signatories as soon as practicable and in accordance with any legal notification requirements, but no later than three days following the time at which the event became known to the Owner . Additionally, upon discovery of unexpected or previously unknown conditions, the Owner must temporarily halt work and determine: 1) whether the condition constitutes a Navy-Retained condition in accordance with the Early Transfer Cooperative Agreement; and 2)whether an appropriate path forward exists so that work can continue safely and in accordance with applicable regulatory protocol. These determinations will be made in accordance with the EHSP and the Unknown Condition Response Plan (Appendix G) as required under Article 31 of the San Francisco Health Code, and in accordance with any additional characterization deemed warranted. Additional information on the discovery of unknown or unexpected conditions is provided in Section 5.5.

4.4 Annual Inspection Reports

The Navy is ultimately liable for ensuring long-term compliance with the remedy, but upon transfer of property to SFRA, the Navy intends to transfer to SFRA the responsibility to perform certain ongoing compliance obligations. Subject to execution of a cooperative services agreement between the Navy and the SFRA as authorized by Title 10, United States Code, Section 2701(d), and receipt by SFRA of all funds to be paid by the Navy to SFRA in furtherance of the cooperative services agreement, SFRA anticipates that it will assume responsibility for the following Navy obligations: annual monitoring of RMP compliance activities, annual inspection reporting, annual monitoring of long-term maintenance of the remedy and ensuring annual enforcement of the RMP in the event of non-compliance by Owners, Lessees, permittees, tenants or any other party with the legal right to perform subsurface work on the

property. The SFRA will work with the regulatory agencies to confirm compliance with the land use restrictions, RMP protocols and reporting obligations. If the SFRA deems it appropriate, non-compliant Owners, Lessees, permittees, tenants or any other party with the legal right to perform subsurface work on the property will be referred to the SFDPH and the DTSC for additional enforcement activities.

Regardless of other notices, each year by June 30, the Owner will submit an annual inspection report (Appendix B) to the SFRA that will include:

- Documentation (photos, inspection reports, maps, etc), based on a drive-by inspection of driveable areas of site and a walk around inspection, if needed, of parks/open space, of the current state of the property – location of fences, conditions of fences, location of areas with approved cover remedies, etc.

- Descriptions of areas where current and future pre-approved restricted activities and restricted activities requiring FFA signatory approval are planned with projected start and finish dates, if known.

- Descriptions of pre-approved restricted activities and restricted activities requiring FFA signatory approval conducted during the previous year.

- Descriptions of any previously unknown conditions and related response activities.

- Descriptions of any non-compliance conditions that arose during the year and how they were resolved, if known

The SFRA will submit an annual inspection report to the FFA signatories. The submittal will include a brief summary letter documenting the number of property owners and condition of their property, any problems noted in the annual inspection reports, and follow-up action taken on any noted problems. The O&M obligations (Section 2.4.1) and institutional control (IC) implementation actions also include annual inspection and reporting requirements for the remedies in place and for IC objectives and land use restrictions. ICs will be maintained until the concentrations of hazardous substances in soil and groundwater are at such levels to allow for unrestricted used and exposure. An annual inspection report, incorporating a section for the RMP reporting and a section for the O&M and IC annual inspection reporting, is provided in Appendix B.

4.5 Notification of Owners and Lessees

By the terms of restrictions in the recorded deeds and CRUPs and by this RMP, Owners shall provide a copy of the Post-RACR RMP to lessees, permittees, tenants, future transferees or any other party with the legal right to perform subsurface work on the property.

5.0 RISK MANAGEMENT PROCEDURES AND PROTOCOLS DURING SOIL DISTURBING ACTIVITIES

The purpose of this section is to describe Post-RACR risk management measures that will be implemented during soil disturbing activities to ensure the integrity of implemented remedies during and following completion of construction. Activities that are subject to these measures include pre-approved activities, activities requiring FFA signatory approval, and operation, monitoring, and maintenance that are conducted in accordance with the approved O&M Plan. Sections 3.1.1 and 3.1.2 describe the details of Restricted Activities (e.g., pre-approved and requiring FFA signatory approval). This section describes the specific protocol that will be implemented to maintain the integrity of the remedy and to control potential impacts to human health and the environment associated with potential exposure to COCs that might be present in soil, soil vapor and/or groundwater encountered during post-cover soil disturbing activities, including construction associated with development and future maintenance within Parcels B and G.

5.1 Construction Worker Health and Safety

Construction and maintenance contractors, whose workers may contact potentially contaminated soil, soil vapor, or groundwater within the Post-RACR RMP Area, are required to prepare site-specific EHSPs under the direction of a Certified Industrial Hygienist (CIH) and in a manner consistent with applicable occupational health and safety standards, including, but not limited to OSHA 1910.120. The contractor-specific EHSPs will be maintained by the contractor at the site.

An EHSP is required for contractors engaged in any Restricted Activity-related work, including those listed in Section 5.0, that would extend below the ground surface, except for grading in landscape areas that when completed, will contain a minimum of 2 feet of clean fill. Landscaped areas will be comprised of minimum 2 feet of clean fill (soil cover) placed on top of native soil. Nothing in this section is intended to relieve any person, including contractors or employers, of other mandated worker health and safety planning and training requirements under any federal, state or local statute or regulations.

It is the responsibility of the contractor preparing their EHSP to review information available in the Hunters Point Shipyard information repositories (see Section 3.4) regarding site conditions and potential health and safety concerns. It is also the responsibility of the contractor or other person preparing an EHSP to verify that the components of the EHSP are consistent with applicable Cal/OSHA occupational health and safety standards and currently available toxicological information for potential COCs at the work site. Contractor compliance with the Post-RACR RMP obligations will be specified in the contract

documentation for the contractors performing subsurface work. Each contractor must require its employees who may directly contact potentially contaminated site soil or groundwater to perform all activities in accordance with the contractor's EHSP. Each construction contractor will assure that its onsite construction workers will have the appropriate level of health and safety training, site-specific training, and will use the appropriate level of personal protective equipment as determined in the relevant EHSP based upon the evaluated job hazards and monitoring results. An example EHSP outline is included in Appendix C.

5.2 Durable Cover Protocols: Hardscape and Landscaped Areas

Following completion of any maintenance or repair work which included disturbance of any durable cover (hardscape or landscape), the integrity of the previously existing durable cover will be re-established in accordance with the protocols described in the RD and O&M Plan. The O&M Plan describes procedures for the inspection, maintenance and repair of durable and soil covers. A completion report confirming completion of the notifiable activities and re-establishment of the durable cover will be submitted to the entities previously notified in accordance with the protocols described in Section 4.2.3.

On occasion routine maintenance may be necessary in landscaped areas (e.g., irrigation installation or repair) within the uppermost 2 feet of clean imported fill material (soil cover). When digging in landscaped areas, workers will take care to keep any soil cover material removed segregated from native soil. Disturbance of the soil cover must follow the RMP requirements including the DCP and, if applicable, the Soil Importation Plan. When routine maintenance is complete, workers must document that the soil cover was replaced with either the clean segregated soil or with 2 feet of imported clean soil that meets soil importation requirements. Documentation is to include photographs of the work, measured cover thickness and/or elevation survey, and a statement signed by the person(s) performing the maintenance activities that the work was completed as per these instructions. It is the responsibility of each Owner, Lessee, permittee, tenant or any other party with the legal right to perform subsurface work on the property to provide anyone working on the property with a copy of this Post-RACR RMP prior to them performing any subsurface maintenance or repair activities and to ensure compliance with the RMP. Under the circumstances described in Section 4.4, SFRA will verify that these conditions are being met.

5.3 Soil Management Protocols

Native soil within the boundaries of Parcels B and G, may be moved within or between those parcels and soil from Parcel A may be moved from Parcel A onto Parcels B and G without prior FFA signatory approval if and only if such soil will be placed underneath the required durable cover in Parcels B and G.

For activities requiring FFA signatory approval defined in Section 3.1.2, soil reuse must be addressed, as necessary, as part of the submitted work plan. In the event that placement underneath the required durable cover is not accomplished immediately upon removal, such soil is to be stockpiled within Parcels B or G, with adequate protection, as further described in Section 5.3.2.

5.3.1 Movement of Soil

Native soil may be handled and moved from one portion of Parcel B and Parcel G to another location within each and between each Parcel and soil from Parcel A may be moved from Parcel A onto Parcels B and G, managed and reused without need for sampling, provided that reuse is conducted in accordance with the soil management practices described in this Post-RACR RMP and that no unexpected conditions are encountered. Unexpected conditions would include the discovery of any contamination or subsurface object that was not previously identified on the parcel (i.e., current understanding of environmental conditions). Unexpected conditions and the protocols to follow if they are encountered are described in Section 5.5.

Native soil that is excavated and remains within Parcels B and G and any soil moved from Parcel A to Parcels B and G, must ultimately be covered by a durable cover, such as buildings or other hardscape such as streets, sidewalks, parking lots, and roads or by clean fill and landscaping in accordance with the durable cover requirements specified in the Parcel B ROD Amendment, the Parcel G ROD, and the Parcels B and G RDs.

Trucks used to transport solid bulk material that have the potential to cause visible dust emissions will be loaded in a manner to provide at least 1 foot of freeboard. When transported within HPS, the soil will either covered with a tarp, or the materials will be sufficiently wetted. Unpaved haul routes will be wetted and trucks will not exceed speeds of 15 miles per hour. Potential impacts from dust associated with the handling and movement of soil, soil compaction, soil stockpiling, etc., will be addressed through the implementation of the Dust Control Plan, included in Appendix D.

5.3.2 Soil Stockpile Management Protocols

Stockpile management is addressed in the Dust Control Plan; however, several highlights on stockpile management are included here because stockpiles that are not properly maintained have the potential to generate sediment run-off and dust. Stockpiles shall be maintained within the site access controls of the project boundary. If stockpiles must be placed outside of the parcel boundary (assuming permission is first obtained from the Oversight Agencies), then separate fencing and access control for such stockpiles will be required. Stockpiles must be tarped, wetted, sloped, or controlled via appropriate means and

methods as specified in the Dust Control Plan (Appendix D). Best management practices (BMPs) for erosion and sediment control will be implemented, as necessary, during construction activities. BMPs may include diversion of drainage from the stockpiles, installation of silt fencing/straw bale filter barriers on the downgradient toe of the stockpile slope and dust control. Stockpiles will be inspected at least weekly to ensure dust control and runoff control measures are functioning adequately.

5.3.3 Dust Control Plan

A Dust Control Plan (DCP) identifies the measures that will be taken to reduce particulate emissions during demolition of existing structures, grading, soil handling and stockpiling, vehicle loading, utility work, truck traffic and construction of site infrastructure. The DCP has been prepared in accordance with the requirements in Article 31 of the San Francisco Health Code and certain Bay Area Air Quality Management District (BAAQMD) regulations often applicable to redevelopment activities. Exposure of onsite construction workers to dust containing COCs will be minimized, and generation of nuisance dust will also be minimized to comply with Article 22B of the San Francisco Health Code and SFDPH requirements prohibiting visible dust on San Francisco construction sites. The DCP is attached as Appendix D.

General dust control measures that may be used at the site include, but are not limited to, watering unpaved haul routes, restricting vehicle speeds to 15 miles per hour, wetting and/or tarping stockpiles, wetting down excavation areas, reducing the height from which excavated soil is dropped, use of dust palliatives in inactive disturbed areas, implementation of erosion control measures, construction of gravel access pads in the temporary stockpile locations, installation of gravel pads or wheel wash stations at all egress points to prevent tracking of soil onto paved roads, and periodic sweeping of paved roads within the construction site with wet sweepers.

During windy conditions the use of wind breaks may be employed to control fugitive dust emissions. Under periods of sustained strong wind conditions (hourly average wind speeds of 25 miles per hour or greater), all clearing, grading, earthmoving and excavating will be halted.

Naturally occurring asbestos (NOA) has been found in the serpentinite bedrock and soil throughout the Hunters Point area. Large construction projects occurring within these areas are subject to the California Air Resources Board Airborne Toxic Control Measures (ATCM). For projects where surface soil will be disturbed in an area of one acre or larger, an Asbestos Dust Mitigation Plan (ADMP) will be submitted to and approved by the BAAQMD, as required. For projects less than one acre, an evaluation will be

performed to determine whether an ATCM-compliant asbestos dust mitigation plan is required prior to initiation of potential dust generating activities.

5.4 Offsite Disposal of Soil and Wastes

Soil excavations will be required during construction of utility trenches, building foundations and other facilities. It is likely that excavated soil will be reused within the RMP area for grading activities. As a result, offsite soil disposal should be limited. Any offsite soil disposal is subject to all applicable federal and state laws and regulations. All activities associated with waste disposal, such as truck loading, truck traffic and decontamination of trucks leaving the facility, will be performed in accordance with the Dust Control Plan provided in Appendix D (and summarized below) and any other applicable federal or state law or regulation.

As detailed in the DCP, any trucks used to transport solid bulk material that have the potential to cause visible emissions will be provided with a tarp cover, or the materials will be sufficiently wetted and loaded onto the trucks in a manner to provide at least one foot of freeboard. Trucks loaded with loose soil or sand will be covered before they leave HPS.

Vehicles will be checked to ensure that they are tarped and to remove any excess material on the bumpers, fenders or other exterior surfaces of the cargo compartment where soil could collect. All off-site haul trucks will access the sites via paved access roads and established gravel pads. Every off-site haul truck will proceed through the decontamination gravel pad/tire cleaning area prior to departure. Site personnel will be stationed at the access/egress point to monitor inflow/outflow to and from the site. They will be responsible for inspecting all vehicles exiting and performing any necessary cleaning to help prevent track out.

The contractor is responsible for characterization of any waste prior to transportation and offsite disposal. Characterization for disposal shall be in accordance with the requirements of Title 22 of the California Code of Regulations, Division 4.5, Chapter 11 and the requirements of the disposal facility and any other applicable law. Labeling requirements for transportation of waste shall additionally be in accordance with Title 29 of the Code of Federal Regulations, Parts 172 and 173 and any other applicable law. All waste transported for offsite disposal will be subject to the requirements of the Administrative Order on Consent (AOC).

All soil to be disposed will be taken only to a certified and permitted California landfill or an equivalent out-of-state landfill, as appropriate and as determined by the waste profile.

5.5 Unexpected Conditions

The potential exists for encountering unanticipated conditions within Parcels B and G. Unexpected conditions may include unanticipated soil contamination, abrasive blast material (ABM), subsurface structures, buried pipelines, radiological devices or other visual or olfactory evidence of contamination. As part of the site-specific health and safety training that will be required of equipment operators and site workers, instruction will be given on how to identify potential unexpected conditions.

Additionally, upon discovery of unexpected or previously unknown conditions, the Owner must temporarily halt work, notify the FFA signatories and in consultation with them, determine: 1) whether the condition constitutes a Navy-Retained condition in accordance with the Early Transfer Cooperative Agreement;and 2) whether an appropriate path forward so that work can continue safely and in accordance with applicable regulatory protocol. These determinations will be made in accordance with the EHSP and the Unknown Condition Response Plan (Appendix G) as required under Article 31 of the San Francisco Health Code, and in accordance with any additional characterization deemed warranted.

In accordance with the site-specific EHSP, appropriate measures will be undertaken to ensure worker safety in areas where unexpected conditions are encountered. The SSHO will be responsible for evaluating any change in site conditions. The SSHO may stop work to determine if the level of site security and personnel protective equipment is adequate. Additional measures may include conducting contingency monitoring by taking organic vapor readings using an organic vapor monitor (OVM) or an organic vapor analyzer (OVA). If warranted the area in which unexpected conditions were encountered will be secured with barricades or fencing, as appropriate, and signage to prevent unauthorized access to the area.

5.5.1 Olfactory or Visual Evidence of Contamination

Site development activities may result in the identification of previously unidentified areas or types of contamination. Olfactory or visual evidence of contamination which would trigger the use of the Unknown Condition Response Plan as discussed in Section 4.3 include, but are not limited to:

- Oily, shiny or soil saturated soil with free product
- Soil with a significant chemical or hydrocarbon-like odor
- Significantly stained or colored soil that reasonably indicates a contaminant source
- Groundwater odor, sheen or free-phase globules, or

- Any other indication that contamination may exist that would trigger notification protocols.

5.5.2 Abrasive Blast Material (ABM)

ABM is generally a non-cohesive, granular material and typically may have a characteristic green or black color. Granulated ABM made by all manufacturers is chemically inert; therefore it does not have hazardous waste characteristics of flammability, corrosivity, or reactivity. Due to the use of ABM on ships with lead-based paint, elevated levels of lead and other metals may be found in used ABM.

Historically, silica sands were commonly used as ABM, though current practices limit their use due to safety concerns related to silica dust. Other common ABMs used at Naval facilities include Green Diamond®, a ferro-nickel slag produced as a byproduct of nickel production from lateritic ore, and Black Beauty®, a coal slag abrasive. Coal slag sometimes contains low levels of naturally-occurring radionuclides (radium and its daughter products), which may be concentrated during the ABM manufacturing process, resulting in ABM with relatively low, but elevated levels of radioactivity as compared to background. Anecdotal evidence suggests that ABM may have been used at HPS as bedding aggregate or backfill material (e.g., for pipelines, former fill areas, roadways and driveways).

As part of the site-specific health and safety training that will be required of equipment operators and site workers, instruction will be given on how to identify potential ABM. Because storm and sewer drains were removed by the Navy from the Post-RACR RMP area and these drains are the most likely areas in which ABM may have been placed there are no other areas which can be considered more likely than others to contain ABM. As a result, screening for ABM will initially rely on visual identification.

If ABM is found it, will be screened for the presence of radionuclides and metals. If radionuclides above the remedial goals are detected the ABM will be handled appropriately by the Navy, as a Navy-retained condition, otherwise all ABM identified will be dealt with by the Owner. If the ABM contains radionuclides, or metals that are above the remedial goals set forth in the Parcel B ROD Amendment and the Parcel G ROD, the ABM will be handled as per the Unknown Condition Response Plan, will be disposed of off-site and will be subject to the requirements of applicable federal, state, and local laws.

5.5.3 Subsurface Structures

During the course of excavation and construction activities within Parcel B or G, it is possible that USTs, sumps, barrels, drums or other containers or other underground structures that were not discovered during previous site investigations could be discovered. For example, USTs may be identified during grading and site excavation activities by the presence of vent pipes, product distribution piping that leads to the

UST, fill pipes, backfill materials and the UST itself. Other structures might not have any features that extend above the surface and could be unearthed when construction equipment comes into contact with them. If an unexpected subsurface structure is encountered, notification and health and safety procedures will be invoked as discussed in Sections 4.0 and 5.1 and work will proceed in accordance with the Unknown Contaminant Contingency Plan as required under Article 31 of the San Francisco Health Code.

Excavation activities will be visually monitored for the generation of fugitive dust. Controlling dust in excavation areas will include wetting soil prior to and during excavation, adjusting the height from which excavated soil is dropped, wetting and/or tarping backfill material and stockpiles, use of dust palliatives on disturbed areas, and using gravel pads in loading areas to reduce the potential for soil track-out.

5.6 Soil Import Criteria

All soil imported onto Parcels B and G from areas outside HPS, with the exception of soil imported from Parcel A, will be subject to sampling and soil quality controls established in a Soil Importation Plan (SIP). Soil moved from Parcel A onto Parcels B and G must be placed underneath the required durable cover. Soil quality parameters for imported soil are based on the Parcel B and G remediation goals presented in the Amended Parcel B ROD and the Parcel G ROD. Soil import criteria will meet the most recent California Human Health Screening Levels (CHHSLs) for residential soils. A SIP outline is included as Appendix E. Soil that meets CHHSLs or background levels and is approved for import under a SIP will be suitable for use as a durable cover as long as it meets all RD and RAWP requirements.

5.7 Groundwater Management Protocols

As described in Section 2.2, localized areas of groundwater contamination have been identified within the Post-RACR RMP area. At the time of implementation of the Post-RACR RMP, the most recent groundwater monitoring data (CE2-Kleinfelder, 2010) will be evaluated by the Owner or their designee, prior to the initiation of the Restricted Activity in the context of the EHSP to identify areas where groundwater contamination may be present and to determine the appropriate protective measures to address worker safety and prevent the movement of any residual groundwater contamination.

This section describes protocols to follow during performance of the Restricted Activities (pre-approved and those requiring FFA signatory approval) as described in Sections 3.1.1 and Section 3.1.2 in order to minimize worker exposure to contaminated groundwater and to minimize the potential for affecting contaminated groundwater. All activities discussed below will require notification and completion reporting in accordance with the protocols described in Section 4.0.

5.7.1 Temporary Dewatering Activities

Current development plans for Parcels B and G include utility trenches and below grade parking lots to support the residential and commercial development. Due to the depth of these proposed excavations, temporary construction dewatering may be necessary. A plan to manage the groundwater during construction activities (Groundwater Management Plan [GMP]) will be submitted to the Oversight Agencies for review and approval. A Groundwater Management Plan outline is provided in Appendix F.

If it is determined via the procedure outlined in the GMP that construction necessitates the use of temporary dewatering, and the dewatering activities may occur in or around an area of known groundwater contamination, the regulatory agencies will be notified in accordance with Section 3.1.2. With that notification, a work plan discussing the dewatering scope and activities will be submitted for FFA signatory review and approval. As a general guide, the following risk management protocols will be included in the work plan:

- Conduct preliminary estimates of the amount of water that will need to be removed and the duration of pumping for the specific construction activity.
- Review of available groundwater monitoring data to evaluate groundwater quality in the vicinity of the planned dewatering activities.
- Based on the location of the proposed dewatering, a Professional Engineer or Geologist licensed in the State of California will evaluate whether the volume of water that would need to be removed would result in the enlargement of an existing groundwater plume or significant alterations in the groundwater flow patterns in Parcels B and G.
- If the volume estimates, duration estimates and location of the groundwater dewatering suggest that such activities are not likely to result in the enlargement of a groundwater plume or significant alterations in flow patterns, then simple dewatering methods, such as those employed through the use of a sump pump, may be proposed to prevent groundwater from accumulating in an open excavation.
- If, based on the results of analysis, dewatering may result in enlargement of an existing groundwater plume, or result in significant alterations to groundwater flow in the vicinity of a plume, then other engineering techniques will be proposed to minimize the impacts to the known plume configuration. The proposed engineering technique will depend on the construction

specifications and other site-specific factors, and will be determined by the Owner or Lessee's State of California, licensed Professional Engineer or Geologist on a site-by-site basis.

- Water removed during dewatering activities will be sampled and tested for profiling and the water disposed of in accordance with applicable permits and regulations. Disposal options may include pre-treatment and discharge into the City's sanitary sewer system under a San Francisco Public Utilities Commission (SFPUC) batch wastewater discharge permit. Compliance with provisions of any discharge permit is the responsibility of the Owner or Lessee (or other entity designated by the Owner or Lessee).

- The results of the analysis, plans for dewatering and disposition of accumulated groundwater will be contained in the notification to the entities listed in Section 4.0.

5.7.2 Prevention of the Potential for Creation of Conduits

As much as practicable, installation of subsurface utilities in areas of known groundwater contamination will be avoided. Prior to subsurface utility trench installation, existing groundwater monitoring data will be evaluated by a Professional Engineer or Geologist licensed in the State of California to identify areas where contaminant plumes remain at the site. As described in Section 5.7.1 a GMP will be approved prior the start of construction activities. The GMP will be used to mitigate the movement of potentially contaminated groundwater via subsurface utility trenches.

If the trenches extend into the vicinity of known groundwater contaminant plumes, the FFA signatories will be notified as described in Section 4.0. The presence of such trenches may create a horizontal conduit for groundwater and soil vapor flow and migration of COCs. Some of the management measures that may be implemented to minimize the potential for creating horizontal conduits are described below. The appropriate method for managing the groundwater and soil vapor will be determined by a Professional Engineer or Geologist licensed in the State of California and will be approved in advance by the FFA signatories.

Groundwater

Material that is less permeable than the surrounding soil can be placed at 200-foot intervals through a variety of methods. At a minimum, less permeable material can be placed in the utility trench at the edges of the area of known groundwater contamination to disrupt the flow within the trench backfill. One method is backfilling a short section of the utility pipe with a concrete or cement and bentonite mixture. Another method is the installation of a clay plug by compacting the clay around the circumference of the

pipe for a five-foot section of trench. A third method is the installation of barrier collars (cutoff features) around the pipes by forming and pouring concrete in place. Trench plug locations will be selected to mitigate lateral migration of impacted groundwater.

Soil Vapor

To minimize potential migration of soil vapor from utility conduits, currently available engineering controls may be used including sealing the end of utility conduits with inert gas-impermeable material such as closed cell polyurethane foam. The seals will extend into the conduit a minimum of six conduit diameters or six inches, whichever is greater.

5.7.3 Prevention of the Potential for Groundwater Intrusion

For new subsurface utilities placed in the areas of known groundwater contamination described in Section 2.2, or newly discovered areas of groundwater contamination, the pipe joints of non-pressurized utilities (e.g., sanitary sewer, storm drain) will be adequately sealed to prevent COCs in groundwater from entering the buried piping, and all materials will be selected to ensure the integrity of the piping when in contact with known contaminants.

5.8 Stormwater Management Controls

A construction Storm Water Pollution Prevention Plan (SWPPP) will be required prior to the start of construction activities. The SWPPP will provide the framework for contractors performing work at the site. The Construction SWPPP must conform to the requirements of the California State Water Resource Control Board (SWRCB) National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS00002, Water Discharge Requirements (WDRS) for Discharges of Stormwater Runoff Associated with Construction Activity. As required, a Notice of Intent (NOI) shall be filed with SWRCB prior to commencement of regulated construction work. Compliance with the SWPPP will be maintained throughout the duration of the construction work. The SWPPP will be prepared by a Qualified SWPPP Developer (QSD) per Section VII of the 2009-0009-DWQ Permit (http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/stormwater/construction.shtml).

5.9 Groundwater Monitoring Well Protocols

Monitoring wells associated with the groundwater monitoring programs are present within Parcels B and G and additional wells associated with remedial activity monitoring may be installed. Prior to the initiation of any demolition or earth-disturbing activities, the presence of groundwater monitoring wells will be identified. A map showing the locations of monitoring wells within Parcels B and G may be

found in the Hunters Point Shipyard information repositories (Section 3.4) and on the SFDPH Hunters Point Shipyard Redevelopment website. Locations of additional wells to be installed as part of remedial alternatives can be found on the SFDPH Hunters Point Shipyard website within Remedial Design Implementation Reports and the RACR, within the Hunters Point information repositories. Current monitoring wells located in Parcels B and G are presented on Figures 2 and 3.

Any abandonment, unintentional damage to or replacement of groundwater monitoring wells will require adherence to the notification protocols as described in Section 4.0. As discussed in Section 4.2, a work plan must be submitted for FFA signatory review and approval prior to the commencement of a restricted activity. Only the FFA signatories can decide that a well that was installed as a part of the groundwater remedy is no longer needed or can be relocated. Assuming that regulatory approval for the work is obtained, any well that is part of a remedial action that is damaged or abandoned during construction must be replaced within sixty calendar days unless the FFA signatories grant an extension.

As discussed in the AOC the Owner is also responsible for providing access for the FFA signatories to the monitoring wells for the purposes of sampling and maintenance. Thus, regulatory approval must be obtained prior to any action that will bar access to a monitoring well for a period of greater than 7 calendar days.

The following sections describe the protocols to follow to protect existing groundwater monitoring wells, in the event of abandonment or replacement of groundwater monitoring wells.

5.9.1 Abandonment of Existing Monitoring Wells

Prior to the abandonment of groundwater monitoring wells, approval will be obtained as required in Section 3.1.2 and the appropriate entities, as described in Section 4.0, will be notified, and if requested, replacement well locations will be selected in coordination with the FFA signatories. If an existing groundwater monitoring well cannot be preserved, the well will be abandoned in accordance with applicable State and SFDPH regulations. The Owner, Lessee, permittee, tenants or any other party with the legal right to perform subsurface work on the property, is responsible for obtaining all appropriate permits and approvals.

Following abandonment of groundwater monitoring wells, a completion report will be prepared describing the abandonment procedures and submitted to the FFA signatories as described in Section 4.5. The report will include:

- The well location

- Photographic documentation of the abandonment
- A description of the well destruction activities, including rationale for abandonment; and
- All associated permits and waste disposal manifests, if necessary
- Department of Water Resources (DWR) well completion and abandonment reports.

5.9.2 Replacement of Monitoring Wells

Any required replacements of abandoned monitoring wells, which are part of an ongoing groundwater monitoring network, will be re-installed within sixty days of the prior well's abandonment date unless the regulatory agencies grant an extension. Replacement wells will be located as close as possible and constructed in the same manner as the original well, and will monitor, to the extent possible, the same groundwater zone as the original well. The Owner, Lessee, permittee, tenants or any other party with the legal right to perform subsurface work on the property, is responsible for obtaining all appropriate permits and approvals.

Prior to the replacement of an abandoned well, a work plan will be submitted to the FFA signatories as described in Section 4.0 and approval will be obtained as required in Section 3.1.2. The work plan will include soil management protocols, sampling and analysis requirements for waste profiling, monitoring procedures, health and safety requirements, the boring log of the original well (obtained from the Hunters Point Shipyard information repositories), proposed well construction details, and will describe procedures to be followed during installation of the replacement well. The location of the replacement well must be approved by the FFA signatories.

Following installation of the replacement well(s), a monitoring well installation completion report will be submitted to the appropriate entities as described in Section 4.2.3. The report will include, among other things:

- Well location
- Identification of driller and drilling procedures
- DWR Well Completion Report
- Decontamination procedures
- Well installation procedures

- Lithologic log
- Well development procedures
- Horizontal location coordinates and vertical elevation of top of casing
- Well completion details (depth, screen interval, materials used, materials used, surface completion, etc.)
- Initial water level measurement
- Well sampling, if necessary
- Permitting information; and
- Disposition of installation-derived wastes.

The report shall be signed by a Professional Engineer or Geologist licensed in the State of California.

5.9.3 Measures to Protect Monitoring Wells

Existing monitoring wells that are not removed prior to earthwork will be located, marked and protected by the Owner, or other contractors or entities designated by the Owner. All monitoring wells will be addressed in this manner before starting construction within Parcels B and G. Monitoring wells will be marked with brightly colored paint if flush with the ground surface, or painted steel pipes or bollards. The pipes and bollards will extend above ground not less than 4 feet so as to be easily visible. All wells will be kept locked.

5.10 Access Control During Construction and Maintenance Activities

Access to the site during construction and maintenance activities will be limited to authorized personnel in compliance with EHSP requirements (Section 5.1).

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

- Except in streets, security fencing will be placed around any site without a regulatory agency approved durable cover or where the durable cover has been disturbed to prevent pedestrian/vehicular entry except at controlled (gated) points. Gates will be closed and locked

during non-construction hours. Fencing will consist of a 6-foot chain link or equivalent fence unless particular safety considerations warrant the use of a higher fe.nce. Use of fences during small routine maintenance activities will be determined in the EHSP

- In streets, use a combination of K-rails or similar barriers and fences with locked gates.
- Post "No Trespassing" signs every 200 feet.
- Post signs every 200 feet warning that contamination within the fenced areas may be harmful to health.

Implementation of appropriate site-specific measures as outlined above will reduce the potential for trespassers or visitors to gain access to construction areas and to come into direct contact with soil or groundwater. Compliance with the specific access control measures is the responsibility of the Owners, Lessees, permittees, tenants or any other party with the legal right to perform subsurface work on the property. As described in Section 1.3, the SFRA will assume the responsibility for compliance monitoring. If the Navy does not transfer the property to SFRA and enter into a cooperative services agreement with the SFRA as specified, the above obligations will be the responsibility of each future property owner and ultimately the Navy.

5.11 Risk Management Measures to be Implemented During Construction or Excavation Activities in Areas of Special Concern

This section describes risk management measures to be followed in areas of special concern. These areas include shoreline areas and Bay sediments outside the Post-RACR RMP area.

5.11.1 Shoreline Improvements

Construction and maintenance activities at Parcel B may include maintenance or improvements to revetment walls, rip rap, sheet piles, or bulkheads at the bay margin. Work performed in these areas may be required to conform to the durable cover and/or revetment walls designs described in the RD/RA Report depending on how and where the structure is being improved or installed. All appropriate Navy documents must be consulted to determine the applicable requirements.

5.11.2 Sediments Outside of Post-RACR RMP Area

Bay sediments, referred to as Parcel F, are outside the scope of this Post-RACR RMP; however, disturbance of these sediments may occur during such activities as outfall construction and development-

related shoreline improvements. Work that carries over into Parcel F will be subject to the requirements of the AOC. All work performed in these areas must be planned and coordinated with the Navy (prior to transfer of Parcel F), California State Lands Commission, or other appropriate agencies (U.S Army Corps of Engineers [USACE], U.S. Fish and Wildlife Service [USFWS], San Francisco Bay Conservation and Development Commission [BCDC], RWQCB, USEPA and DTSC). In addition to coordinating with the agencies listed above, a work plan must be submitted to the FFA signatories for review and approval sixty calendar days prior to conducting any work on Parcel F.

The FFA signatories must be contacted during the planning phase of work to obtain information concerning the nature of the sediments to be disturbed, potential activities being performed in these areas by others, and requirements for work plans and other specific requirements. Contact information for these entities can be found in Appendix A.

6.0 REFERENCES

CE2-Kleinfelder, 2010. *Semiannual Groundwater Monitoring Report, October 2009 - March 2010, Hunters Point Shipyard, San Francisco, California*. June.

ChaduxTt, 2007. *Final Parcel B Technical Memorandum in Support of a Record of Decision Amendment, Hunters Point Shipyard, San Francisco, California*. December 12.

_____, 2009. *Final Amended Parcel B Record of Decision, Hunters Point Shipyard, San Francisco, California*. January 14.

_____, 2010a. *Draft Final Remedial Design Package Parcel B, Excluding Installation Restoration Sites 7 and 18, Design Basis Report, Remedial Action Monitoring Plan, Land Use Control Remedial Design, Preconstruction Operation and Maintenance Plan, Preconstruction Cost Opinion, Hunters Point Shipyard, San Francisco, California*. July 30.

_____, 2010b. *Draft Finding of Suitability for Early Transfer of Parcels B (Excluding Installation Restoration Sites 7 and 18) and Parcel G, Hunters Point Naval Shipyard, San Francisco, California*. December 16.

Department of the Navy (Navy), 2009. *Final Record of Decision for Parcel G, Hunters Point Shipyard, San Francisco, California*. February 18.

Innovative Technical Solutions, Inc. (ITSI), 2010. *Final Addendum to Project Work Plan, Petroleum Hydrocarbon Corrective Action Implementation Parcel B, Hunters Point Shipyard, San Francisco, California*. October.

Insight EEC, INC. (Insight), 2009. *Final Hunters Point Shipyard Parcel B, IR-26 Time Critical Removal Action, Removal Action Closeout Report, Hunters Point Shipyard, San Francisco, California*. January.

Jonas & Associates, Inc., 2008. *Second Five-Year Review of Remedial Actions, Hunters Point Shipyard, San Francisco, California*. September 8.

PRC, 1996. *Parcel B Feasibility Study, Final Report, Hunters Point Shipyard, San Francisco, California*. November 26.

PRC, Harding Lawson Associates, Levine-Fricke, and Uribe & Associates. 1996. *Parcel B remedial Investigation, Draft Final Report, Hunters Point Shipyard, San Francisco, California*. June 3.

SulTech, A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc., (SulTech), 2007. *Final Revised Feasibility Study for Parcel D, Hunters Point Shipyard, San Francisco, California.* November 30.

Tetra Tech EC, Inc. (TtEC), 1997a. *Final Parcel D RI Report, Hunters Point Shipyard, San Francisco, California*. January 31.

_____, 1997b. *Final Parcel D FS, Hunters Point Shipyard, San Francisco, California*. August 29.

_____, 2001. *Final Remedial Design Amendment, Parcel B, Hunters Point Shipyard, San Francisco, California.* February 20.

_____, 2008. *Final Parcel B Technical Memorandum in Support of a Record of Decision Amendment Radiological Addendum, Hunter Point Shipyard, San Francisco, California*. March 14.

The Alliance Compliance Group Joint Venture (Alliance), 2010. *Draft Final Parcels D-1 and G Groundwater Treatability Study Technical Report, IR-09, IR-33 and IR-71, Hunters Point Shipyard, San Francisco, CA*. January.

TABLES

Table 1. Risk Management Plan Oversight Responsibilities

RMP Element	Responsible Oversight Agency	Additional Comments
Construction Worker Health and Safety	California Occupational Health and Safety Administration (Cal-OSHA)	
Dust Control	San Francisco Department of Public Health (SFDPH)	
Asbestos Dust Mitigation Plans	Bay Area Air Quality Management District	
Storm Water and Groundwater Management	Regional Water Quality Control Board	
Groundwater Discharges to Sanitary Sewer	SF Public Utilities Commission (SFPUC)	
Permits to engage in subsurface work	SFDBI or SFDPW	Subject to the requirements of Article 31 of the Health Code

FIGURES

APPENDIX A

CONTACT INFORMATION

APPENDIX A
Contact Information

FAA Signatory Points of Contact

DTSC
Mr. Ryan Miya
Project Manager
Department of Toxic Substances Control
700 Heinz Avenue, Suite 200
Berkeley, CA 94710
Phone: 510-540-3775
Email: RMiya@dtsc.ca.gov

RWQCB
Mr. Ross Steenson
Project Manager
San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612
Phone: 510-622-2445
Email: rsteenson@waterboards.ca.gov

U.S. EPA
Mr. Mark Ripperda
Project Manager
U.S. Environmental Protection Agency, Region 9
75 Hawthorne Street
San Francisco, CA 94105
Phone: 415-972-3028
Email: Ripperda.Mark@epa.gov

U.S. Navy
Mr. Keith Forman
BRAC Environmental Coordinator
BRAC Program Management Office West
1455 Frazee Road, Suite 900
San Diego, CA 92108-4310
Phone: 619-532-0913
Email: keith.s.forman@navy.mil

Other Points of Contact

San Francisco City and County Department of Public Health
Ms. Amy Brownell
Environmental Engineer
1390 Market Street, Suite 210
San Francisco, CA 94102
Phone: 415-252-3800
California State Lands Commission

100 Howe Avenue, Suite 100 South
Sacramento, CA 95825
Phone: 916-574-1900

U.S. Army Corps of Engineers
1455 Market Street
San Francisco, CA 94103
Phone: 415-503-6773

U.S. Fish and Wildlife Service
2800 Cottage Way
Sacramento, CA 95825
Phone: 916-414-6464

San Francisco Bay Conservation and Development Commission
50 California Street, Suite 2600
San Francisco, CA 94111
Phone: 415-352-3600

San Francisco Main Library
100 Larkin Street
Government Information Center, 5th Floor
San Francisco, CA 94102
Phone: 415-557-4500

APPENDIX B

ANNUAL INSPECTION REPORT

POST-RACR RISK MANAGEMENT PLAN (RMP)
REMEDY OPERATION AND MAINTENANCE PLAN (O&M)
ANNUAL REPORT
FOR
PARCELS B and G, HUNTERS POINT SHIPYARD
SAN FRANCISCO, CALIFORNIA

Property Owner:	Owner Contact Information:
Report Preparer Name and Affiliation:	Report Preparer Contact Information:
Property Address:	
Date and Time of Inspection:	Weather and tidal conditions at time of inspection:

INTRODUCTION:

In accordance with the final Records of Decision (RODs) for Parcels B and G at the former Hunters Point Shipyard (HPS) in San Francisco, California, environmental cleanup activities were implemented to provide for protection of human health and the environment. The cleanup activities are overseen by the United States Environmental Protection Agency (USEPA), the California Department of Toxic Substances Control (DTSC) and the Regional Water Quality Control Board (RWQCB). These agencies plus the Navy, as the previous landowner and CERCLA responsible party, are referred to as the Federal Facility Agreement (FFA) signatories. The FFA is an agreement entered into by the agencies to carry out the remediation of HPS. This Post-Remedial Action Completion Report Risk Management Plan (hereafter referred to as the Post-RACR RMP) has been prepared for Parcels B and G to provide procedures and protocols that shall be used to conduct "pre-approved restricted activities" on Parcels B and G following transfer of property from the Navy to other landowners where the remedy has been implemented.

This Annual Report form has been designed such that the annual reporting for Post-RACR RMP compliance and O&M inspection obligations can be comprehensively addressed and documented. The objectives of the Annual Report are to provide the necessary information to verify that field activities and related risk management measures that have been conducted during the reporting period meet the requirements of the Post-RACR RMP and O&M Plans, if applicable. The Annual Report and O&M inspection checklist should include field notes and photographs taken at the time of the inspection to document the condition of the site at the time of the inspection.

As outlined in the RMPs, certain activities are allowed to progress without first gaining approval of the FFA Signatories (defined as the USEPA, DTSC, RWQCB and US Navy). These activities are called ***Pre-Approved Activities*** and are discussed in more detail in Section 3.1.1 of the Post-RACR RMP. Certain other activities are NOT allowed to progress without first gaining the approval of the FFA Signatories. These activities are called ***Restricted Activities Requiring FFA Signatory Approval*** and are discussed in more detail in Section 3.1.2 of the Post-RACR RMP. Notification and Reporting requirements are discussed in Section 4.0 of the Post-RACR RMP.

The requirements for long-term Operation, monitoring, and maintenance (O&M) for the durable cover and the shoreline revetment are provided in the Parcels B and G Remedial Design (RD) documents. These long term O&M obligations are independent of the Post-RACR RMP. The O&M obligations (see Post-RACR RMP Section 2.4) also include annual inspection and reporting requirements for the remedies in place. This Annual Report has been designed to satisfy the reporting obligations under both the Post-RACR RMP and the long term O&M as outlined in the Parcels B and G RD documents.

This Annual Report is organized into four Sections. Section 1 provides documentation for Pre-Approved Activities and Section 2 provides documentation for Restricted Activities Requiring FFA Signatory Approval. If Restricted Activities Requiring FFA Signatory Approval were conducted during the reporting period, the approved Work Plan and corresponding Closure Report must be submitted as attachments to this Annual Report. Section 3 provides an inspection checklist, prepared by the Navy for O&M activities, and Section 4 provides a summary of action items that are planned and must be completed to remain in compliance with the Post-RACR RMP.

SECTION 1: PRE-APPROVED ACTIVITIES

SECTION 1A: ACTIVITY DESCRIPTION

Indicate which pre-approved activities have been completed during the reporting period (See Post-RACR RMP Section 3.1.1):	☐ Soil excavation, grading and movement of soil within Parcels B and G or moving of soil from Parcel A onto Parcel B and/or G. Transporting soil offsite	Description of activity (attach photographs and additional sheets as necessary):
	☐ Construction of roads, utilities, facilities, structures, and appurtenances of any kind	Description of activity (attach photographs and additional sheets as necessary):
	☐ Demolition and/or removal of hardscape (e.g., existing concrete or asphalt roadways, parking lots, existing foundations, and existing sidewalks)	Description of activity (attach photographs and additional sheets as necessary):
	☐ Any activity, not listed above, that moved subsurface soil directly underneath an approved durable cover (e.g., trenching, pothole excavations, scarifying, etc.)	Description of activity (attach photographs and additional sheets as necessary):

	☐ In-kind removal and replacement of an approved durable cover for areas less than one acre	Description of activity (include square footage of area undergoing removal/replacement and attach photographs and additional sheets as necessary):
	☐ Construction of new street sections (street, curb, gutter, sidewalk, landscape median) for all areas, including areas one acre in size or greater, as long as the street section construction meets appropriate City building codes and/or standard specification.	Description of activity (include square footage of area undergoing removal/replacement and attach photographs and additional sheets as necessary):
	☐ Grading or other movement of soil	Description of activity (attach photographs and additional sheets as necessary):
	☐ Temporary dewatering of below grade excavations (e.g., utility trenches, building foundations, etc.) in areas that are greater than 200 feet from an active groundwater remediation area.	Description of activity (attach photographs and additional sheets as necessary):
	☐ Disturbance of existing shoreline protection, sea walls, bulkheads, etc.	Description of activity (attach photographs and additional sheets as necessary):
	☐ Importation of Soil in accordance with approved SIP	Description of activity (attach photographs and additional sheets as necessary):
SECTION 1B: GENERAL SITE MANAGEMENT ACTIVITIES		
Was an environmental health and safety plan prepared for all work indicated in Section 1A, above?	☐ Yes ☐ No	Attach copy of plan(s)
Was a Dust Control Plan prepared for all work indicated in Section 1A,	☐ Yes	Attach copy of plan and monitoring data collected in accordance with the plan for each activity conducted above.

above?	☐ No	
Was an Asbestos Dust Mitigation Plan prepared for all work indicated in Section 1A, above?	☐ Yes ☐ No	Attach copy of plan and monitoring data collected in accordance with the plan for each activity conducted above.
Was a storm water pollution prevention plan prepared for all work indicated in Section 1A, above?	☐ Yes ☐ No	Attach copy of plan and monitoring data collected in accordance with the plan for each activity conducted above.
SECTION 1C: SOIL MANAGEMENT ACTIVITIES		
For all soil management activities indicated in Section 1A, was surplus soil disposed off-site?	☐ Yes ☐ No	If yes, please attach copies of waste profile, waste manifest, name, address and contact of disposal facility:
For all soil management activities indicated in Section 1A, was soil transported and placed in an on-site location other than its place of origin?	☐ Yes ☐ No	If yes, describe the quantity of soil, origin of soil, location of placement:
For any activities indicated in Section 1A, was soil imported to the site for use as fill material?	☐ Yes ☐ No	If yes, describe the quantity, source/origin of soil, location of placement, attach soil chemical profile, provide letter certifying that the imported soil meets the soil import criteria (see RMP, Appendix D):
Indicate any unexpected and/or unknown conditions encountered during soil excavation activities:	☐ Evidence of soil contamination (strong odor, visible oily liquid, discolored or stained soil, etc.)	Describe condition and action taken (attach photographs and additional sheets if necessary):
	☐ Undocumented structures (e.g. underground storage tanks, buried sumps, oil water separators, refractory brick, pipelines, etc.)	Describe condition and action taken(attach photographs and additional sheets if necessary):
	☐ Abrasive blast material	Describe condition and action taken(attach photographs and additional sheets if necessary):

	☐ Radiological devices (e.g. radium dials)	Describe condition and action taken(attach photographs and additional sheets if necessary):
	☐ Free phase liquid floating on the groundwater (e.g. floating oil)	Describe condition and action taken(attach photographs and additional sheets if necessary):
SECTION 1D: GROUNDWATER MANAGEMENT ACTIVITIES		
For all groundwater dewatering activities, was water discharged to the sanitary sewer or storm drain under an NPDES or SFPUC batch wastewater discharge permit?	☐ Yes ☐ No	If yes, attach copy of NPDES permit and compliance documentation. If no, how was water disposed?
For all groundwater not discharged under an NPDES or SFPUC permit, indicate disposal details:	☐ Water recycled and used for dust control ☐ Water contained and allowed to percolate back into groundwater ☐ Water contained and allowed to evaporate ☐ Other (describe):	Provide and attach supporting information including volume of water, chemical test results, approval letters, etc.
SECTION 2: RESTRICTED ACTIVITIES REQUIRING FFA SIGNATORY APPROVAL		
SECTION 2A: ACTIVITY DESCRIPTION		
Indicate if any activities involved the alteration, disturbance or removal of any component of a response or cleanup action in conflict with planned redevelopment activities	☐ Groundwater monitoring well and/or groundwater remediation system, including extraction wells, conveyance piping, and treatment system.	Description of activity (attach photographs and additional sheets as necessary):
	☐ Soil vapor extraction system, including	Description of activity (attach photographs and additional

	extraction wells, monitoring wells, conveyance piping and treatment system.	sheets as necessary):
	☐ Change in durable cover type from hardscape (asphalt, concrete, building foundations, etc.) to soil or landscape (planter areas, grass parkway/lawn areas, vegetated land surfaces, etc.) or from soil/landscape to hardscape.	Description of activity (include square footage of area undergoing change and attach photographs and additional sheets as necessary):
	☐ In-kind removal and replacement of durable cover for areas equal to, or in excess of one acre – except construction of new street sections (street, curb, gutter, sidewalk, landscape median) for all size areas, including areas one acre in size or greater, is pre-approved as long as the street section construction meets appropriate City building codes and/or standard specifications. Road section construction should be noted under appropriate pre-approved activity section.	Description of activity (include square footage of area undergoing removal/replacement and attach photographs and additional sheets as necessary):
	☐ Temporary dewatering of below grade excavations (e.g., utility trenches, building foundations, etc.) in areas that are within 200 feet of an active groundwater remediation area.	Description of activity (attach photographs and additional sheets as necessary):
SECTION 2B: REQUIRED DOCUMENTATION FOR ALL ACTIVITIES REQUIRING FFA APPROVAL		

For all restricted activities requiring a Work Plan/Activity Closeout Report and related FFA signatory approval, indicate which documentation was produced:	☐ Work Plan	Attach copy of Work Plan and FFA Signatory Work Plan approval letter for each activity requiring a Work Plan.
	☐ Monitoring documentation in accordance with Work Plan	Attach all required monitoring records and data. (include photographs and additional sheets as necessary).
	☐ Activity Closeout Report	Attach copy of Activity Closeout Report, including monitoring documentation and FFA signatory approval of Closeout Report for each activity indicated above.
SECTION 3: OPERATION AND MAINTENANCE PLAN CHECKLIST (Reference: Final Design Basis Report, Operations and Maintenance Plan, Parcels B and G (Navy, DATE) *Owner to follow checklist as applicable to property conditions.*		
Insert Final Navy O&M checklist in its entirety in this location		
		ACTION COMPLETION DATE
SECTION 4: ACTIONS TO BE COMPLETED		

FOLLOW UP ACTION DESCRIPTION	☐ Owner Name: Phone #: ☐ Tenant Name: Phone #: ☐ Contractor Name: Phone #: Developer Name: Phone #:	Target Completion Date:
1.	☐ Owner Name: Phone #: ☐ Tenant	Target Completion Date:

	Name: Phone #: ☐ Contractor Name: Phone #: ☐ Developer Name: Phone #:	
2.	☐	
	☐	
SECTION 5: RESOLUTION OF PREVIOUS REPORT ACTION ITEMS		
1.Previous Action Item	Action Taken:	Date Completed:
2. Previous Action Item	Action Taken:	Date Completed:

Certification Statement:
Under penalty of perjury, I certify that the above information is true and correct and appropriately reflects the activities that have occurred during the inspection period and the condition of the site is as represented at the time of the inspection.
By:_____ Company:_____
Name:_____ Date:_____
Title:_____ Registration number and expiration date:_____

APPENDIX C

ENVIRONMENTAL HEALTH AND SAFETY PLAN OUTLINE

APPENDIX C
Environmental Health and Safety Plan Outline

All EHSPs will include a description of specific tasks to be performed, key personnel, health and safety responsibilities, site background, job hazard analysis and mitigation, air monitoring procedures, PPE, work zones and site security measures, decontamination measures, general safe work practices, contingency plans and emergency information, medical surveillance and specific training requirements.

SITE EMERGENCY INFORMATION

1.0 INTRODUCTION

- 1.1 Purpose of the Site Health and Safety Plan
- 1.2 Implementation and Modification of the Site Safety Plan
- 1.3 Project-Related Documents

2.0 BACKGROUND AND DESCRIPTION OF WORK

- 2.1 Site Description and Background
- 2.2 Scope of Work

3.0 KEY PERSONNEL ROLES AND RESPONSIBILITIES

- 3.1 Project and Task Managers
- 3.2 Field Supervisor
- 3.3 Site Health and Safety Officer
- 3.4 Competent Person
- 3.5 Subcontractors, Visitors and Other Onsite Personnel

4.0 JOB HAZARD ANALYSIS

5.0 GENERAL SITE SAFE WORK PRACTICES

- 5.1 Biological Hazards
- 5.2 Radiological Hazards
- 5.3 Dust Control
- 5.4 Electrical
- 5.5 Excavation/Trenching
- 5.6 Fire/Explosion Control
- 5.7 Hand and Power Tools
- 5.8 Heat Stress
- 5.9 Heavy Equipment
- 5.10 Lifting
- 5.11 Material Handling
- 5.12 Noise
- 5.13 Overhead / Falling Debris
- 5.14 Slips/Trips/Falls
- 5.15 Utilities: Underground and Overhead
- 5.16 Vehicle Traffic

6.0 CHEMICAL HAZARDS

6.1 Chemicals of Concern
6.2 Action Levels

7.0 PERSONAL PROTECTIVE EQUIPMENT

8.0 AIR MONITORING PROCEDURES

8.1 Ambient Air Monitoring
8.2 Worker Exposure Monitoring

9.0 TRAINING AND MEDICAL MONITORING

10.0 CONTINGENCY AND EMERGENCY EVACUATION PLANS

11.0 SANITATION, HYGIENE AND DECONTAMINATION

11.1 Sanitation and Personal Hygiene
11.2 Drinking Water
11.3 Personnel Decontamination
11.4 Equipment Decontamination

12.0 SITE AND TRAFFIC CONTROL PLAN AND SITE SECURITY

12.1 Site Control
12.1.1 Support Zone
12.1.2 Contamination Reduction Zone
12.1.3 Regulated Area/Exclusion Zone
12.2 Traffic Control

13.0 REFERENCES

APPENDIX D

DUST CONTROL PLAN

Draft

Post-RACR RMP Dust Control Plan
Parcels B and G

Hunters Point Shipyard

January 2011

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FIGURES

1 Parcels B And G Location Map

2 Sensitive Receptors

ACRONYMS AND ABBREVIATIONS

APCO	Air Pollution Control Officer
ATCM	Asbestos Airborne Toxic Control Measure
BAAQMD	Bay Area Air Quality Management District
BMP	best management practice
CCR	California Code of Regulations
CP/HPS	Candlestick Point/Hunters Point Shipyard
DTSC	Department of Toxic Substance Control
EIR	Final Environmental Impact Report
HEPA	high-efficiency particulate air
HPS	Hunters Point Shipyard
mph	mile per hour
RACM	regulated asbestos-containing material
ROD	Record of Decision
RWQCB	Regional Water Quality Control Board
SWPPP	Storm Water Pollution Prevention Plan
USEPA	United States Environmental Protection Agency

Introduction

Document Objective

This Post-RACR RMP dust control plan is submitted by Lennar/Bayview Hunters Point and MACTEC in preparation preparation for future development activities that will occur at the Hunters Point Shipyard (HPS) Parcels B and G (the site) in San Francisco, California (Figure 1).

This Post-RACR RMP Dust Control Plan has been prepared by MACTEC in accordance with the requirements of the permit process established in Article 31 and compliance with Article 22B of the City and County of San Francisco Health Code and certain Bay Area Air Quality Management District (BAAQMD) regulations often applicable to redevelopment activities, as further described herein. This plan addresses dust control measures that will be implemented during deconstruction and development of horizontal infrastructure at the site.

This plan applies to demolition of existing structures, and dust control associated with soil disturbance or excavation on Parcels B and G. In accordance with the requirements of Article 31, this plan was prepared under the supervision of a professional engineer registered in the State of California.

Regulatory Basis

The Final Environmental Impact Report (EIR) 2010 for the Candlestick Point/Hunters Point Shipyard project includes mitigation measures requiring actions that will reduce or eliminate adverse environmental impacts during development of Parcel B and G. These mitigation measures were adopted in a Mitigation Monitoring and Reporting Program. The Disposition and Development Agreement incorporates Final EIR mitigation measures that are relevant for Phase II development on Parcels B and G and includes the commitments for implementing mitigation measures set forth in Section 18 of the Disposition and Development Agreement and in the EIR.

Dust control is one of the specific mitigation measures applicable to Phase II development in Parcels B and G, and this plan specifically identifies the steps that will be taken to reduce air emissions during demolition of existing structures, grading, utility work, and construction of site infrastructure. This plan also includes the necessary monitoring and reporting requirements.

This Dust Control Plan incorporates requirements of the following applicable regulations:

- California Code of Regulations (CCR) Title 17, Section 93105, the Asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations
- Bay Area Air Quality Management District (BAAQMD) Regulation 2, Permits (also addressed in project specifications)
- BAAQMD Regulation 6, Particulate Matter and Visible Emissions
- BAAQMD Regulation 11, Rule 2, Asbestos Demolition
- BAAQMD Regulation 11, Rule 14, Asbestos Containing Serpentine
- City and County of San Francisco Article 22B, Construction Dust Control Requirements
- CP/HPS EIR, Mitigation Measure HZ-15: Asbestos Dust Mitigation Plans and Dust Control Plans

Article 22B specifies a goal of minimizing visible dust emissions from the site and Article 22B and Section 106A.3.2.6 of the San Francisco Building Code outline housekeeping measures required to meet this goal. Mitigation Measure HZ-15 similarly defines best management practices (BMPs) including wetting and seeding unpaved, inactive areas, minimizing activity during periods of high wind, sweeping paved areas, covering trucks, etc. Additionally, BAAQMD Regulation 6, which generally prohibits emission of visible dust beyond the property boundary, is also applicable.

Because the site is in an area with serpentine rock, CCR Title 17, Section 93105 (ATCM) applies. ATCM includes, among other things, the requirement for submission of an Asbestos Dust Mitigation Plan for BAAQMD approval prior to grading activities. The ATCM also includes very specific practices to be implemented during construction. Mitigation Measure HZ-15 also provides BMPs for handling serpentine material, and BAAQMD Regulation 11, Rule 14 prohibits the use or sale of asbestos-containing serpentine materials for road surfacing.

In addition to emission controls for dust generated by general construction activities, specific requirements apply to asbestos-related dust generated by demolition activities. A qualified subcontractor licensed and experienced to manage asbestos- and lead-contaminated building materials will perform demolition of existing structures. The subcontractor will demonstrate compliance with the requirements of BAAQMD 11- 2, which states that demolition activities will not be allowed to cause any visible plumes from any operation involving the demolition, removal, manufacture or fabrication of any product containing asbestos.

Contractors selected to perform demolition and grading will be responsible for obtaining applicable permits as described in the project specifications.

BACKGROUND

Site Description

Parcel B includes 54 acres on the northern side of HPS, which is bounded by former Parcel A and Parcel C, private property, and the San Francisco Bay. The area of Parcel B covered by the DCP lies outside of IR Sites 7 and 18 and includes about 40 acres in the central and eastern portions of Parcel B (Figure 1). The portion of Parcel B addressed by this DCP includes a shoreline of approximately 1,500 feet along San Francisco Bay. Parcel G is located within the central portion of the former Parcel D, covers approximately 40 acres, and is surrounded by land with no associated shoreline.

Parcels B and G consist of flat lowlands that were constructed by placing borrowed fill material from various sources, including crushed serpentinite bedrock from the adjacent highland and dredged sediments. The serpentinite bedrock and serpentinite bedrock-derived fill material consist of minerals that naturally contain asbestos and relatively high concentrations of arsenic, manganese, nickel, and other metals. Nearly all of Parcels B & G are covered with buildings or degraded pavement or soil. A series of storm drains and sanitary sewer lines beneath the parcel have been recently removed.

Site History

The history of Parcels B and G is described in the many documents referenced in the Post-RACR RMP. This DCP is Appendix D of the Post-RACR RMP.

Phase II Scope of Work

The construction work subject to the Post-RACR RMP will be mostly construction of new buildings and parks with all associated utilities, landscaping and enhancements around the building.

No Visible Dust Goal

The dust control measures set forth in this plan are intended to achieve a goal of no visible dust emissions associated with soil disturbance or excavation, to the extent required by Mitigation Measure HZ-15, BAAQMD Regulation 6, and the provisions of Articles 22B (areas over one-half acre) and 31 of the San Francisco Health Code. As required by Article 22B and Mitigation Measure HZ-15, Figure 2 shows the sensitive receptors (residence, school, childcare center, hospital or other health-care facility or group living quarters) located within 1,000 feet of Parcels B and G.

The DCP requires compliance with the following specific mitigation measures to the extent deemed necessary by the SFDPH to achieve no visible dust at the property boundary:

- Keep all graded and excavated areas, areas around soil improvement operations, visibly dry unpaved roads, parking and staging areas wetted at least three times per shift daily with reclaimed water during construction to prevent visible dust emissions from crossing the property line. Increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour
- Analysis of wind direction and placement of upwind and downwind particulate dust monitors.
- Record keeping for particulate monitoring results.
- Requirements for shutdown conditions based on wind, dust migration, or if dust is contained within the property boundary but not controlled after a specified number of minutes.
- Establishing a hotline for surrounding community members who may be potentially affected by Project-related dust. Contact person shall respond and take corrective action within 48 hours. Post publicly visible signs around the site with the hotline number as well as the phone number of the BAAQMD and make sure the numbers are given to adjacent residents, schools, and businesses.
- Limiting the area subject to construction activities at any one time.
- Installing dust curtains and windbreaks on windward and downwind sides of the property lines, as necessary. Windbreaks on windward side should have no more than 50% air porosity.
- Limiting the amount of soil in trucks hauling soil around the job site to the size of the truck bed and securing with a tarpaulin or ensuring the soil contains adequate moisture to minimize or prevent dust generation during transportation.
- Enforcing a 15 mph speed limit for vehicles entering and exiting construction areas.
- Sweeping affected streets with water sweepers at the end of the day.
- Hiring an independent third party to conduct inspections for visible dust and keeping records of those inspections.
- Minimizing the amount of excavated material or waste materials stored at the site.
- Prevent visible track out from the property onto adjacent paved roads. Sweep with reclaimed water at the end of each day if visible soil material is carried out from property.

In addition to conducting inspections for visible dust, particulate monitoring for the presence of airborne particulates will also be conducted using real-time particulate dust monitors as detailed

on Page D-18. If readings are recorded above the action level(s), site specific actions will be specified based on the type of activity being conducted. Actions could include evaluation of site activities or stopping work until additional controls are implemented to reduce dust generation from the specific work area causing the problems.

POTENTIAL SOURCES OF EMISSIONS

Planned site activities have the potential to generate emissions in the form of fugitive dust and vehicle emissions. Possible sources of emissions include:

- Demolition Activities – Wrecking, intentional burning, moving or dismantling of any load-supporting structural member, or portion of a building. Any related cutting, disjointing, stripping or removal of structural elements. Crushing of concrete for recycling/reuse.
- Construction Traffic – Movement of construction equipment around the construction area is capable of creating construction emissions in excavated or cleared areas. There is also the potential for vehicular traffic on paved or unpaved roads and parking lots to produce construction emissions.
- Site Preparation and Foundation Work – Grading, excavation of footings and foundations, and backfilling operations can produce both fugitive dust and vehicle emissions.
- Trenching Activities – Excavation of trenches for the installation of underground utilities can cause construction emissions.
- Material Stockpiles – Stockpiles of excavated soil from trenching activities may contribute to windborne dust emissions.
- Soil Transport - Loading of soil into transport vehicles for disposal may contribute to windborne dust emissions.
- Cleanup and Grading – Backfilling, grading and re-vegetating of the excavated areas may produce both fugitive dust and vehicle emissions.

The California Code of Regulations (CCR) Title 17, Section 93105, the Asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations, prescribes specific dust mitigation measures.

Dust mitigation methods to be implemented at the Site, are described in detail below.

GENERAL CONSTRUCTION EMISSIONS CONTROL METHODS

This section details dust control methods for fugitive dust and vehicle emissions generated from the following construction activities:

- Dust entrained during on-site travel on paved and unpaved surfaces.
- Dust entrained during site grading, excavation, crushing and back-filling at the construction site.
- Dust entrained during aggregate and soil stockpiling, loading, and unloading operations.
- Wind erosion of areas disturbed during construction activities.
- Vehicle emissions associated with construction equipment.

Additional requirements for dust control during demolition and deconstruction activities are described below. General dust control measures are also described in Section 5.3 of the Post-RACR RMP.

Construction Traffic

Onsite Traffic Control

Fugitive dust emissions from construction traffic traveling on unpaved surfaces will be controlled with the following mitigation measures:

1. Visible speed limit signs will be posted at the construction site entrances. No vehicle will exceed 15 miles per hour (mph) within the construction site.
2. Implementation of erosion control measures identified in the Construction SWPPP, to be provided separately, will control fugitive dust emissions from pubic roadways and parking areas.
3. Gravel access pads will be constructed in the temporary stockpile locations. Four to six inches of appropriate gravel will be spread evenly to construct the pads. Additional gravel will be added periodically to maintain effectiveness.
4. One or more of the following:
    - All unpaved roads in the project construction site will be watered every two hours or frequently enough to maintain adequate wetness. The frequency of watering can be reduced or eliminated during periods of precipitation. (Article 21, Section 100 et seq. of the San Francisco Public Works Code requires that non-potable reclaimed water be used for this purpose.) Watering frequency may be increased during above average ambient air temperatures or wind speeds.
    - Chemical dust suppressants can also be applied consistent with manufacturer's directions.
    - Maintaining a gravel cover with a silt content that is less than five (5) percent and asbestos content that is less than 0.25 percent, as determined using an approved asbestos bulk test method, to a depth of three (3) inches on the surface being used for travel; or

- Any other measure as effective as the measures listed above.

Trackout Prevention

Track-out of loose materials will be controlled using gravel pads along with a tire washing/cleaning station installed at the access point from the project site to the paved road to prevent tracking of mud on to public roadways. The stabilized construction entrance (gravel pads) will be installed according to the specifications provided in the Erosion and Sediment Control Plan of the Storm Water Pollution Prevention Plan (SWPPP) for the site. All vehicle tires will also be inspected and washed as necessary to prevent trackout prior to entering the paved roadways. Any visible track-out on a paved public road at any location where vehicles exit the work site MUST be removed. Removal MUST be done using wet sweeping or a high-efficiency particulate air (HEPA) filter-equipped vacuum device at the end of the work day or at least one time per day.

The following mitigation measures will be followed for fugitive dust emissions from construction traffic traveling on paved surfaces:

1. The main access and egress routes to and from the Parcel B and G main construction site for construction employees and delivery trucks will be paved prior to the initiation of construction.
2. No construction vehicles will be allowed to exit the construction site except through the treated entrance roadways. Gravel pads will be installed at all egree points to prevent tracking of mud on to public roadways.
3. Construction areas adjacent to and above grade from any paved roadway will be treated with BMPs, as specified in the Construction SWPPP.
4. All paved roads within the construction site will be swept twice daily with a wet sweeper.
5. At least the first 500 feet of any public roadway exiting from the construction site will be swept twice daily. (The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.)

If any of the above mitigation measures fail to properly control fugitive dust emissions, one or more of the following reasonably available control measures, will be applied:

1. Unpaved active portions of the construction site will be watered or treated with dust control solutions to minimize windblown dust and dust generated by vehicle traffic.
2. Paved portions of the construction site will be swept more frequently as necessary to control windblown dust and dust generated by vehicle traffic. Streets adjacent to the construction site will be swept as necessary to remove accumulated dust and soil. Water may also be applied to the paved roads if necessary.
3. Physical or chemical stabilization will be applied to control dust on unpaved roads if necessary.

4. Gravel, re-crushed/recycled asphalt or other material of low silt content (<5 percent) will be applied to a depth of 3 or more inches, if necessary. Serpentine-containing material will not be used for this purpose.
5. Vehicle trips will be reduced if necessary.

Construction employees will park in the paved or graveled areas to reduce fugitive dust emissions.

Off-site Transport

No trucks will be allowed to transport excavated material offsite unless:

1. Trucks are maintained such that no spillage can occur from holes or other openings in cargo compartments; and
2. Loads are adequately wetted and either:
   - Covered with tarps; or
   - Loaded such that the material does not touch the front, back, or sides of the cargo compartment at any point less than six inches from the top and that no point of the load extends above the top of the cargo compartment.
3. Visible track-out on the paved public road must be cleaned using wet sweeping or a HEPA filter equipped vacuum device within twenty-four (24) hours.

Vehicles will be checked to ensure that they are tarped and to remove any excess material on the shelf or exterior surfaces of the cargo compartment. All off-site haul trucks will access the site via paved access roads and established gravel pads. Every off-site haul truck will proceed through the decontamination gravel pad/tire cleaning area prior to departure from the site. Site personnel will be stationed at the access point to monitor inflow/outflow to and from the site and will be responsible for inspecting all vehicles exiting and performing the cleaning of the tires.

Site Preparation and Grading

Prior to any ground disturbance, sufficient water must be applied to the area to be disturbed to prevent visible emissions from crossing the property line.

Fugitive dust emissions from site preparation and foundation work will be controlled using the following methods:

1. During clearing and grubbing, surface soils will be pre-wet to the depth of anticipated cut where equipment will be operated. Soil moisture content will be sufficiently maintained to minimize fugitive dust creation. For construction fill areas which have an optimum moisture content for compaction, completion of the compaction process will be performed as expeditiously as possible to minimize fugitive dust.
2. If compaction will not take place immediately following clearing and grubbing, the surface soil will be stabilized with dust palliative and water to form a crust on the soil surface.
3. Keep all graded and excavated areas, visibly dry unpaved roads, parking and staging areas wetted at least three times per shift daily during construction to prevent visible dust emissions from crossing the property line. Increased watering frequency may be needed whenever wind speeds exceed 15 miles per hour.
4. Use dust enclosures, curtains, and dust collectors as necessary to control dust in the excavation area.
5. Graded areas will be stabilized with chemical stabilizers within 5 working days of grading completion. Seed and water all unpaved, inactive portions of the lot or lots under construction to maintain a grass cover if they are to remain inactive for long periods during building construction.
6. Halt all clearing, grading, earthmoving, and excavating activities when wind speeds are high enough to results in dust emissions crossing the property line, despite the application of dust mitigation measures.
7. Limit the area subject to excavation, grading or other construction activity at any one time.
8. Storage piles must be kept adequately wetted, treated with a chemical dust suppressant or covered with tarp(s) when material is not being added or removed from the pile.

Crushing

It is anticipated that concrete crushers will be mobilized to the site to crush and recycle concrete debris resulting from building and roadway demolition. Crushing operations will be visually monitored for the appearance of fugitive dust. If dust is being generated, water will be applied to control the dust.

The crusher may also be used to crush well-cemented concretions of other minerals within the serpentinite of the Franciscan formation that cannot be broken into manageable sizes using the standard construction equipment mobilized to the site for mass grading (bulldozers, excavators, scrapers, etc.). Serpentinite boulders will not be processed by the crusher.

Trenching Activities

Excavation activities will be visually monitored daily for the generation of fugitive dust. If dust is being generated, water will be applied to the point of excavation or drilling to control dust.

- Soil will be pre-wet prior to excavation to reduce dust migration. Additional water will be added during active excavation, material handling, and loading. Active excavation areas will be wet a minimum of twice daily during dry weather and more frequently as needed.

- The height from which excavated soil is dropped into trucks and onto either stockpiles or dewatering pads will be minimized.
- Dust suppressants will be applied in sufficient quantities to inactive disturbed areas so as to form a crust and create a stabilized surface.
- Backfill material will be covered or enclosed when not actively handled.
- Four to six inches of appropriate gravel will be spread evenly at key onsite loading areas, the temporary soil staging, and off-site transport loading area in order to reduce the potential for soil track-out beyond the site.

Screening

- Fugitive dust emissions from loading the screening pads, either by excavator, or by conveyor will be controlled by ensuring that all excavated material is adequately wetted prior to loading.
- Loader buckets will be emptied slowly and drop height from loader bucket minimized.
- Halt all loading activities during periods of sustained strong winds, hourly average wind speeds of 25 mph (40 km/h or greater).

Material Stockpiles

During excavation, backfilling and grading, soils may be stockpiled in areas adjacent to the activity. BMPs may include diversion of drainage from the stockpiles, installation of silt fencing/straw bale filter barriers on the downgradient toe of the stockpile slope, track-walking the slopes, and dust control. Stockpiles must be kept adequately wetted, treated with a chemical dust suppressant or covered with tarp(s) when material is not being added or removed from the pile.

Foundation Work

1. Sprinklers, wobblers, water trucks, or water pulls will be used to pre-water during cut and fill activities to allow time for penetration.
2. Building pads will be laid as soon as possible after grading to minimize fugitive dust emissions, unless seeding or soil binders are used in the interim.
3. Wind erosion control techniques, such as wind breaks, water/chemical dust suppressants, and vegetation, will be used on all construction areas that may be disturbed. Any windbreaks used will remain in place until the soil is stabilized or permanently covered with vegetation.
4. For back-filling during earthmoving operations, backfill material will be watered as needed to maintain moisture. If required, backfill soil will be mixed with water prior to moving. Loader buckets will be emptied slowly and drop height from loader bucket minimized. Once backfill material is in place, water will be applied immediately to form a crust, if necessary. A water truck or large hose will be dedicated to back-filling equipment and operations.
5. Use of high-pressure air to blow soil and debris from the form will be avoided; instead, water spray, sweeping, and/or an industrial shop vacuum will be used to clear the form.

Post-Construction Stabilization of Disturbed Areas

Unpaved areas disturbed during excavation, grading, and/or construction activities will be covered with one of the following to reduce dust generation on the site:

- An approved vegetative cover
- Coverage with a minimum of 3 inches of non-asbestos-containing material
- Building and related hardscape surface paving approved in the building permit.

Additional Requirements for Serpentine Material

Excavated materials, which will be transported off site, will be analyzed for asbestos content. Excavated materials being transported off-site with greater than 1 percent by-weight asbestos will be handled and disposed of off site in accordance with all requirements for proper disposal of asbestos.

BAAQMD Regulation 11, Rule 14 also defines procedures and notifications required if serpentine material is sold for use as a surfacing agent. No serpentine will be used for surfacing material or sold from the site.

The following waste management methods will be used when handling serpentine waste designated as hazardous:

- Keep asbestos-containing waste material adequately wetted at all times during handling and loading.
- Adhere to requirements of Section 11-2-608 for marking of vehicles used to transport asbestos-containing waste.
- Maintain waste shipment records as specified in Section 11-2-502.
- Provide a copy of the waste shipment record to the disposal site owner or operator upon delivery.
- Contact transporter and/or owner of the disposal site if the waste shipment has not arrived within 35 days of initial acceptance by the transporter as hazardous waste.
- Provide a written report to the Air Pollution Control Officer (APCO) if the waste shipment is not received within 45 days of initial acceptance by the transporter.

DEMOLITION EMISSIONS CONTROL METHODS

In addition to emission controls for dust generated by general construction activities described in the previous section, specific requirements apply to asbestos-related dust due to demolition activities. A qualified subcontractor, licensed and experienced to manage asbestos- and lead-contaminated building materials, will perform demolition of existing structures. The subcontractor will demonstrate compliance with the requirements of BAAQMD 11- 2, which states that demolition activities will not be allowed to cause any visible dust plumes from any operation involving the demolition, removal, manufacture or fabrication of any product containing asbestos. The subcontractor will implement the additional control methods summarized below.

Demolition Activities

Fugitive dust emissions from demolition activities will be controlled in accordance with the requirements of BAAQMD Section 11-2-303, as summarized below:

- All exposed regulated asbestos-containing material (RACM) will be adequately wetted and kept wet during cutting, stripping, demolition, renovation, removal and handling operations both inside and outside of a building.
- In lieu of wetting, a local HEPA filter exhaust, ventilation, and collection system designed and operated to capture the emissions from RACM and prevent any visible emissions to the outside air may be used under certain circumstances and subject to BAAQMD approval; requests for approval of dry removal must be in writing.
- RACM shall be removed prior to demolition, or other operations that would either break up, or preclude access to the RACM for subsequent removal.
- Elements that have RACM may be removed at any time in units or sections so long as the exposed RACM during cutting or disjointing is adequately wetted or encapsulated to prevent emissions of particulate asbestos material.
- All RACM not removed in units or sections shall be adequately wetted and kept wet, and transported to the ground in leak-tight chutes or containers, using negative air and HEPA equipment.
- Any building, structure, room, facility or installation from which RACM is being stripped or removed shall be isolated by physical barriers from the outside air to the extent feasible. Such barriers shall include transparent viewing ports which allow observation of all stripping and removal of RACM from outside the barrier. The negative air pressure inside the isolated work area shall be maintained at a pressure differential relative to adjacent, nonisolated areas, and negative air pressure ventilation equipment shall be operated continuously from the establishment of isolation barriers through final cleanup of the work area following stripping or removal of RACM. Any such local exhaust ventilation system shall filter the air from the isolated area with a HEPA filter (or equivalent) prior to exhausting.

- All friable asbestos-containing waste material related to a specific demolition, renovation or removal, including pre-existing debris, shall be handled in accordance with the provisions of BAAQMD Sections 11-2-303 and 11-2-304.
- Except for ordered demolitions, prior to commencement of any demolition or renovation, the owner or operator shall thoroughly survey the affected structure or portion thereof for the presence of asbestos-containing material, including Category I and Category II nonfriable asbestos-containing material. The survey shall be performed by a person who is certified by the Division of Occupational Safety and Health, who has taken and passed a USEPA-approved Building Inspector course, and who conforms to the procedures outlined in the course. The survey shall include sampling and the results of laboratory analysis of the asbestos content of all suspected asbestos-containing materials. This survey shall be made available to the Air Pollution Control Officer (APCO) prior to the commencement of any RACM removal or any demolition.
- When a structure, or portion thereof, is demolished under an ordered demolition, the survey must be done prior to, during, or after the demolition but prior to loading or removal of any demolition debris. If the debris contains regulated asbestos-containing material, all of the debris shall be treated as asbestos-containing waste material pursuant to BAAQMD Section 11-2-304. *A survey of asbestos-containing material has been completed for all structures to be demolished on Parcels B and G ".*
- No RACM shall be stripped or removed unless at least one on-site representative, such as a foreman or management-level person or other authorized representative, certifies that he or she is familiar with the provisions of this rule as it pertains to demolition and renovation and the means of compliance therewith, and is present during all stripping and removing of RACM.
- If RACM is not discovered until after demolition begins and, as a result of the demolition, cannot be safely removed, the asbestos-contaminated debris shall be treated as asbestos-containing waste material and kept adequately wet at all times until disposed of according to the provisions of BAAQMD Section 11-2-304.
- The owner or operator of any building or other stationary structure to be demolished pursuant to an order of an authorized representative of a state or local governmental agency, issued because that building is structurally unsound and in danger of imminent collapse or has been declared a public nuisance, shall comply with the survey, wetting and disposal requirements of BAAQMD.
- If demolition is accomplished by intentional burning, all RACM, including Category I and Category II nonfriable asbestos-containing material, shall be removed before burning.

RACM Waste Disposal

To prevent emissions from asbestos-containing material, the waste generated during the demolition process will be handled in accordance with BAAQMD 11-2-304, including the following:

- Treat asbestos-containing waste by thoroughly mixing with water and store in leak-proof containers before removing from containment area.
- Process asbestos-containing waste into non-friable form before disposal.
- Convert RACM and asbestos-containing waste material into asbestos-free material.
- Keep asbestos-containing waste material adequately wetted at all times after demolition and during handling and loading.

- Adhere to requirements of Section 11-2-608 for marking of vehicles used to transport asbestos-containing waste.
- Maintain waste shipment records as specified in Section 11-2-502.
- Provide a copy of the waste shipment record to the disposal site owner or operator upon delivery.
- Contact transporter and/or owner of the disposal site if the waste shipment has not arrived within 35 days of initial acceptance by the transporter.

Provide a written report to the APCO if the waste shipment is not received within 45 days of initial acceptance by the transporter.

MONITORING AND RECORDS

General

A hotline must be established and posted prior to starting construction and maintained during construction in a publicly visible sign with the telephone number for surrounding community members to call and report visible dust problems. The contractor will respond promptly and take corrective action within 48 hours. The number must be given to adjacent residents, schools, and businesses.

Monitoring to ensure compliance with the provisions of this plan will be performed by an independent third party observer. Control of visible dust will be the primary responsibility of the contractor working at the site. The Owner will provide quality assurance monitoring and will have the authority to direct the contractor to implement the measures outlined below if visible dust is observed.

Visible Dust During Site Activities

The goal of this plan is no visible dust. While all parties understand that soil disturbance and excavation activities, by their nature, will produce dust, site controls will be used to mitigate visible dust as it is generated in an effort to achieve the no visible dust goal. This section establishes the steps that must be taken toward achieving the goal of no visible dust from soil disturbance or excavation in terms of the amount of time permitted to address visible dust plumes. The criteria in this section apply to an active work site when equipment and personnel are driving on the site an performing work activities. The "initial observation" starts the clock for the required response measures described below. The "initial observation" is the time any of the following personnel observe visible dust: (a) workers who are disturbing soils or excavating for the permitted activity or (b) Owner, supervisor, contractor, subcontractor or consultant with responsibility for monitoring the permitted activity.

Visible Dust Crossing the Property Boundary

In the event visual dust from soil disturbance or excavation is observed crossing the property boundary, the following procedures will be followed to ensure adequate mitigation measures are in place to address the dust:

1. The specific source of the emissions will be immediately shut down and a more aggressive application of the existing mitigation measures as described on pages D-7 through D-9 (No Visible Dust Goal) will be directed.
2. Once the mitigation measures have been applied , the source of emissions will resume and observations will be conducted to verify that the mitigations measures were successful.

Onsite Visible Dust

In the event visual dust from soil disturbance or excavation is observed onsite, but does not cross the property boundary, the following procedures will be followed to ensure adequate mitigation measures are in place to address the dust:

1. A more aggressive application of the existing mitigation measures as described on pages D-7 through D-9 (No Visible Dust Goal) or additional measures of dust suppression will be directed to the specific source of emissions within 60 minutes the initial observation.
2. If despite these more aggressive and/or additional methods the visible dust emissions continue for 90 minutes from the time of the initial observation, the specific source of the emissions will be temporarily shut down until the implemented dust control mitigations is effective or, due to changed conditions, no longer necessary.

Windblown Visible Dust During Inactive Periods

The standards in this section apply on weekends and holidays or any other times when no equipment and personnel are performing work activities on site. In the event of observations on windblown visible dust plumes from soils originating on the project site, mitigation measures as described on pages D-7 through D-9 (No Visible Dust Goal) will be directed within less than 4 hours of making the observation. Mitigation measures will be applied until the visible dust plumes originating from the project site are minimized or eliminated. Any observations of visible dust originating from the project site during inactive periods should be reported to the Community Hotline.

Dust Monitoring

Real-time particulate dust monitors (Miniram PDR-1000 or equivalent) will be placed at adequate locations to measure particulates in the upwind and downwind locations of the Site. Prevailing wind on the site is from the west or southwest towards the east or northeast. Monitoring locations will initially be established based on these prevailing winds but will be checked daily and adjusted if necessary to maintain the upwind and downwind locations. An action level of 0.75 milligrams per cubic meter (mg/m^3) above upwind levels, over a ten minute average has been developed for the site operations. At a minimum the data will be reviewed daily. It is anticipated that data review will be more frequent at project startup to validate BMPs. If dust is generated from on-site soil disturbance or excavation activities and dust levels from these activities are recorded above this action level, site specific actions will be specified based on the type of activity being conducted. Actions could include evaluation of site activities or stopping work until additional controls are implemented to reduce dust generation from the specific work area causing the problems. During periods of extended rain, realtime particulate monitoring will cease to prevent damage to the instruments.

Recordkeeping and Reporting

Dust monitors will be equipped with data loggers. Dust monitoring data will be included with daily construction reports.

BAAQMD 11-2, Section 11-2-502 describes reporting and recordkeeping requirements for RACM demolition activities.

ATCM requires that results of air monitoring and any testing of serpentine materials be reported to the APCO and that records be retained for at least 7 years following the completion of the project.

APPENDIX E

SOIL IMPORTATION PLAN OUTLINE

APPENDIX E
Soil Importation Plan Outline

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GROUNDWATER MANAGEMENT PLAN OUTLINE

Appendix F
Groundwater Management Plan Outline

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This Section should provide a description of the site where work is proposed, summarize the groundwater conditions in the area of proposed work, describe the work to be conducted including estimated volume of groundwater to be extracted, estimated duration of extraction and estimated area of groundwater that may be influenced by the extraction.

2.0 Groundwater management Plan

This Section should provide a description of the means and methods that will be used to extract (dewater) groundwater, temporary storage of extracted groundwater, and ultimate disposition of the extracted groundwater. Emphasis should be placed on using best management practices to minimize the area to be impacted by dewatering, protecting the public from exposure to contaminated groundwater, and disposal methods that are compliant with all applicable environmental regulations. If the work involves the installation of underground utility lines, best management practices should be implemented to mitigate the potential for the utility backfill to create a conduit for migration of contaminated groundwater from one area to another.

This Section should include a contingency plan for unexpected conditions, if they are encountered. Unexpected conditions could include the presence of free phase hydrocarbons floating on the groundwater surface, encountering odiferous and obviously discolored soil, extraction of a significantly larger volume of groundwater than anticipated, and other similar conditions.

3.0 Permitting and Reporting Requirements

This Section should include a discussion of the permit requirements that must be met to accomplish the dewatering project. At a minimum, consideration should be given to the City and County of San Francisco Department of Public Works, City of San Francisco Department of Public Health, San Francisco Public Utilities Commission, California Regional Water Quality Control Board and California Department of Toxic Substances Control. The discussion of permit requirements should also include a discussion of reporting and recordkeeping requirements.

4.0 Health and Safety

This Section should present a health and safety plan to protect construction workers conducting the dewatering and construction project and to protect the general public from direct and indirect exposure to hazardous substances,

5.0 References

This Section should present a list of references used to prepare this plan.

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PARCELS B AND G PRE-REMEDIAL ACTION COMPLETION REPORT

RISK MANAGEMENT PLAN

HUNTERS POINT SHIPYARD

SAN FRANCISCO, CALIFORNIA

WORKING DRAFT

January 2011

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Acronyms and Abbreviations

ABM	Abrasive blast material
ADMP	Asbestos Dust Mitigation Plan
AOC	Administrative Order on Consent
ARIC	Area requiring institutional controls
ATCM	Airborne Toxic Control Measures
BAAQMD	Bay Area Air Quality Management District
BCDC	San Francisco Bay Conservation and Development Commission
BMP	Best Management Practice
CCR	California Code of Regulations
CCSF	City and County of San Francisco
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CHHSLs	California Human Health Screening Levels
CIH	Certified Industrial Hygienist
COCs	Chemical of concern
CRUP	Covenants to Restrict use of Property
DCP	Dust Control Plan
DTSC	California Department of Toxic Substance Control
EHSPs	Environmental Health and Safety Plans
EIR	Environmental Impact Report
FFA	Federal Facilities Agreement
GMP	Groundwater Management Plan
HPS	Hunters Point Shipyard
ICs	Institutional controls
LUC	Land use control
NOA	Naturally occurring asbestos

NOI	Notice of intent
NPDES	National Pollutant Discharge Elimination System
O&M	Operation and maintenance
OSHA	Occupational Safety and Health Administration
OVA	Organic vapor analyzer
OVM	Organic vapor monitor
PAHs	Polycyclic aromatic hydrocarbons
PCBs	Polychlorinated biphenyls
PPE	Personnel protective equipment
QSD	Qualified SWPPP Developer
RA	Remedial Action
RACR	Remedial Action Completion Report
RCRA	Resource Conservation and Recovery Act
RAWP	Remedial Action Work Plan
RD	Remedial Design
ROD	Record of Decision
RMP	Risk Management Plan
RWQCB	Regional Water Quality Control Board
SFDPH	San Francisco Department of Public Health
SFPUC	San Francisco Public Utilities Commission
SFRA	San Francisco Redevelopment Agency
SIP	Soil Importation Plan
SSHO	Site Safety and Health Officer
SVE	Soil vapor extraction
SVOCs	Semi-volatile organic compounds
SWPPP	Storm Water Pollution Prevention Plan
TCRA	Time-critical removal action

TMSRA	Technical Memorandum in Support of a ROD Amendment
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USTs	Underground storage tanks
VOCs	Volatile organic compounds
WDRS	Water Discharge Requirements

1.0 INTRODUCTION

In accordance with the final Records of Decision (RODs) for Parcels B and G at the former Hunters Point Shipyard (HPS) in San Francisco, California, environmental cleanup activities are being implemented to provide for protection of human health and the environment. The cleanup activities are overseen by the United States Environmental Protection Agency (USEPA), the California Department of Toxic Substances Control (DTSC) and the Regional Water Quality Control Board (RWQCB). This Pre-Remedial Action Completion Report Risk Management Plan (hereafter referred to as the Pre-RACR RMP) has been prepared for Parcels B (excluding Installation Restoration [IR] Sites 7 and 18; See Section 1.1) and G to provide procedures and protocols that shall be used to conduct "pre-approved restricted activities" and "activities that require approval" on Parcels B and G during the period between the transfer of property from the Navy to other landowners and the time the FFA signatories approve the RACR demonstrating that the remedial activities called for in the ROD have been completed. Pre-approved restricted activities and activities that require approval are described later in Section 3. A separate document, the post-RACR RMP governs activities conducted in an area where the FFA signatories have approved a RACR demonstrating that the remedial activities called for in the ROD have been completed.

The following restricted activities are defined in the Parcel B ROD Amendment (*ChaduxTt, 2009*) and the Parcel G ROD (*Navy, 2009*):

- "Land disturbing activity" which includes, but is not limited to: (1) excavation of soil; (2) construction of roads, utilities, facilities, structures, and appurtenances of any kind; (3) demolition or removal of "hardscape" (for example, concrete roadways, parking lots, foundations, and sidewalks); (4) any activity that involves movement of soil to the surface from below the surface of the land; and (5) any other activity that causes or facilitates the movement of known contaminated groundwater.

- Alteration, disturbance, or removal of any component of a response or cleanup action (including, but not limited to, pump-and-treat facilities, soil vapor barriers, revetment walls and shoreline protection, and soil cover/containment systems); groundwater extraction, injection, and monitoring wells and associated piping and equipment; or associated utilities.

- Extraction of groundwater and installation of new groundwater wells.

- Removal of or damage to security features (for example, locks on monitoring wells, survey monuments, fencing, signs, or monitoring equipment and associated pipelines and appurtenances).

The RODs provide that the activity restrictions will be enforceable through Covenant(s) to Restrict Use of Property (CRUPs) and deed restrictions. Institutional controls (ICs) are enforced in the form of the deed(s) and CRUP(s), which are recorded in the official records of the City and County of San Francisco (CCSF) against all parcels that are subject to this Pre-RACR RMP and run with the land under California Civil Code 1471.

Additionally the RODs specify the following activity restrictions related to the potential exposure to volatile chemicals in the subsurface soil vapor:

- Any proposed construction of enclosed structures within the area requiring institutional controls (ARIC) for volatile chemicals must be approved by the FFA signatories in accordance with the CRUPs, Quitclaim deed(s), Land Use Control (LUC) Remedial Design (RD), prior to the conduct of such activity to ensure that the risks of potential exposures to volatile chemicals are reduced to levels that are adequately protective of human health. Initially the ARIC will include portions of Parcels B and G as presented in Figures 2 and 3. The reduction in potential risk caused by the presence of volatile chemicals can be achieved through engineering controls or other mitigation measures that meet the specifications set forth in the amended ROD, RD reports, LUC RD report, and the RMPs. The ARIC for volatile chemicals may be modified by the FFA signatories as the soil contamination areas and groundwater contaminant plumes that are producing unacceptable vapor inhalation risks are reduced over time or in response to further soil, vapor, and groundwater sampling and analysis for VOCs, SVOCs including PAHs and pesticides, that establishes that areas now included in the ARIC for volatile chemicals do not pose an unacceptable potential exposure risk to volatile chemicals.

This Pre-RACR RMP is organized as follows:

Section 2.0 Summary of Environmental Conditions: Provides a description of soil and groundwater conditions and the selected remedies.

Section 3.0 Site Activities and Regulatory Protocols: Describes pre-approved activities; activities requiring regulatory notification and approval, and procedures to modify the Pre-RACR RMP and Description of Areas Requiring Institutional Controls (ARICs)

Section 4.0 Reporting and Notice Protocols: Describes reporting and notification process, including notification entities, activities requiring notification and completion report requirements and approvals and annual reports.

Section 5.0 Risk Management Procedures and Protocols During Redevelopment: Presents risk management measures which must be implemented during performance of development and maintenance activities.

Section 6.0 References: Lists references used in the preparation of this Pre-RACR RMP.

1.1 Pre-RACR RMP Scope

The Pre-RACR RMP will cover Parcels B and G (Figure 1), excluding IR Sites 7 and 18, portions of which are subject to radiological restrictions (ARIC for Radionuclides). IR Sites 7 and 18 will be addressed in a separate RMP or operations and maintenance plan (*ChaduxTt, 2010*). Once the FFA signatories have approved the installation of the durable cover remedy as well as other remedial actions and the RACR report for an area has been accepted by the FFA signatories, this Pre-RACR RMP will no longer apply and the Post-RACR RMP will apply with respect to the area for which the RACR has been approved. Thus, the geographic area for which this Pre-RACR RMP applies will be dynamic and the geographic boundaries will decrease with time as the remedy, including the durable cover, is installed and approved by the FFA signatories. When a RACR is approved, copies of Figure 1 in both this Pre-RACR RMP and the Post-RACR RMP will be updated simultaneously and will be made available in the Hunters Point Shipyard information repositories (Section 3.4) and on the San Francisco Department of Public Health (SFDPH) Hunters Point Shipyard Redevelopment website (http://www.sfdph.org/dph/EH/HuntersPoint/default.asp).

The scope of this Pre-RACR RMP is limited to procedures and protocols used to manage risk following transfer and prior to development, during redevelopment activities, and prior to regulatory approval of the remedy. It is not intended to describe design details or procedures for implementation of remedial actions. All required remediation including, but not limited to soil vapor surveys, durable cover installation, installation of vapor mitigation systems, and groundwater remediation, and monitoring will

be conducted pursuant to the ROD and other documents that apply to the remedial work, including the Remedial Design documents (RDs), Remedial Action Work Plans (RAWPs), Administrative Order on Consent (AOC) and Remedial Design/Remedial Action (RD/RA) documents. Hence, any and all remediation including design requirements for installation of the durable cover fall outside the scope of the Pre-RACR RMP. In the event that any procedures or protocols in this document appear to conflict with the ROD or AOC, the ROD/AOC procedures govern the work. The Pre-RACR RMP also does not address post remediation actions such as actions required under an Operations and Maintenance Plan or activities that disturb an approved durable cover. The Pre-RACR RMP is the only RMP that should be used before the remedy has been installed and approved. It also does not address the management of restricted activities after the remedy is complete. Those procedures and protocols are set forth in the Post-RACR RMP.

Although this Pre-RACR RMP sets forth the requirements to appropriately manage the potential risks in soil, soil vapor and groundwater, prior to remedy installation, the Pre-RACR RMP is not intended to catalog all other legal requirements that may apply to the project or to activities conducted under the Pre-RACR RMP such as, but not limited to: worker health and safety governed by the Occupational Safety and Health Administration (OSHA) and compliance with Article 31 of the San Francisco Health Code. Article 31 contains special permit processing requirements that apply at Hunters Point Shipyard to address potential contamination.

1.2 Intended Users of The Pre-RACR RMP

This Pre-RACR RMP is intended for the following users or their designees who may perform or oversee the Restricted Activities described in Section 3.1.2 within Parcels B and G:

- San Francisco Redevelopment Agency (SFRA)
- San Francisco Department of Public Works
- Property developers
- Property Owners (defined as an Owner with a fee interest in the property or an Owner's Representative, hereinafter referred to as Owners)
- Lessees, permittees, tenants, or any other party with the legal right to perform subsurface work on the property

- Contractors
- Maintenance personnel
- Regulatory agencies (USEPA, DTSC, and RWQCB) and City of San Francisco Department of Public Health (SFDPH)
- The Department of Navy
- Any other person or entity who may perform the Restricted Activities described in Section 3.1.2.

The Pre-RACR RMP will be used by the regulatory agencies to ensure that future property owners comply with the ROD required land use restrictions to limit exposure to hazardous substances and that ensure that property owners maintain the integrity of the remedy.

1.3 Description of Planned Redevelopment

Parcels B and G will be developed as mixed use sites (Figures 2 and 3). Parcel B will include multi-family housing, public open space, retail, light industrial, and commercial uses. Parcel G could include mixed use (including residential), commercial, educational/cultural, industrial, and open space.

2.0 SUMMARY OF ENVIRONMENTAL CONDITIONS

Soil, groundwater and soil vapor investigations were conducted by the Navy within Parcels B and G to characterize the environmental conditions. Significant source areas that could impact human health and the environment were remediated by the Navy prior to transfer. Risk evaluations have been performed to confirm that the parcels could be developed as planned (based on the 1997 Redevelopment Plan for HPS), in a manner that would be safe for human health and the environment. The Remedial Investigation Reports for Parcel B (*PRC et al, 1996*) and Parcel G (*Tetra Tech, 1997a*), Feasibility Study Reports for Parcel B (PRC, 1996) and Parcel G (*Tetra Tech, 1997b*), Revised Feasibility Study for Parcel D (*SulTech, 2007*), 5-Year Review Report for Parcel B (Jonas, 2008), Technical Memorandum in Support of a Record of Decision (ROD) Amendment (TMSRA) for Parcel B (*ChaduxTt, 2007*) and its Radiological Addendum (*TtEC, 2008*), and ROD Amendment (*ChaduxTt, 2009*), and the ROD for Parcel G (*Navy, 2009*) are central to understanding environmental conditions at HPS. While this Pre-RACR RMP provides a summary of the various environmental findings in the site-specific investigations, the reader should refer to reports listed in Section 6.0 for more details regarding the specific findings of these investigations. A description of the history of Parcel B including geology, hydrogeology, regional setting and a description of previous investigations, can be found in the Parcel B TMSRA (*ChaduxTt, 2007*), and a description of the use and history of Parcel G can be found in the ROD for Parcel G (*Navy, 2009*). Parcel G is located within the central portion of the former 98-acre Parcel D. To support the early transfer of Parcel G, Parcel D was subdivided into Parcels G, D-1, D-2, and UC-1 (*Navy, 2009*).

2.1 Soil and Sediment Conditions

The primary chemicals of concern (COCs) detected in soil at Parcels B and G include volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and metals. The Navy conducted a series of excavations at Parcel B to reduce the risk to human health and the environment. A group of metals, primarily arsenic and manganese, were identified in soil at concentrations that consistently exceeded cleanup goals at locations across Parcel B. The widespread distribution of this group of metals in soil at Parcel B is related to the occurrence of these metals in the local bedrock that was quarried for fill during the expansion of HPS as well as the importation of other off site sources of fill used to further expand HPS. Following excavations in 106 locations on Parcel B, the FFA signatories determined that because of the ubiquitous nature of these metals in soil throughout Parcel B, excavation and removal of all soil exceeding risk-based cleanup standards to a depth of 10 feet was not economically feasible and the site conceptual model needed to be re-examined. As a result, the ROD

Amendment selected a remedial alternative to address the ubiquitous presence of metals using containment beneath covers in conjunction with institutional controls.

A large quantity of soil in Parcels B and G that was contaminated with constituents other than arsenic and manganese (lead, mercury, radionuclides, organic compounds or other Navy contaminants above remediation goals) was excavated and disposed off-site by the Navy prior to transfer. However, some soil, soil gas, and groundwater containing constituents of concern remain in place, as described in the Parcel B TMSRA and Parcel G ROD.

The Navy implemented investigations and corrective actions for total petroleum hydrocarbons (TPH) on Parcels B and G as part of the Navy's Petroleum Program. The RWQCB is the lead regulatory agency that oversees petroleum contamination and the underground storage tank (UST) program. For Parcel B, the petroleum corrective action work was conducted pursuant to a petroleum Corrective Action Plan (CAP). For Parcel G, no petroleum corrective actions were necessary, and therefore a CAP was not developed. The Navy is currently in the process of revising the Draft Final Petroleum Hydrocarbon Closeout Reports for Parcels B and G. The Navy anticipates the submission of Final Petroleum Hydrocarbon Site Closeout Reports for Parcels B and G in early 2011. Regional Water Board staff expects that closure will be completed for most if not all sites before the Navy issues a Final Finding of Suitability for Early Transfer (FOSET). The one exception to this schedule is the Parcel B petroleum site called Combined Sites Area Of Concern (CAA-21, CAA-22, Area Of Concern-46-A and Area Of Concern-46-B). The Navy completed all fieldwork and investigations of the Parcel B combined sites in late 2010 (*ITSI, 2011[need reference]*). Post-investigation actions such as monitoring likely could be ongoing at the Combined Sites Area Of Concern and therefore closure pending at the time of transfer.

The Navy identified metals, pesticides, PCBs, and polycyclic aromatic hydrocarbons (PAHs) in Parcel B shoreline sediments that may pose a risk to human health or ecological receptors. The selected remedy to prevent exposure to the COCs in the shoreline sediments included the construction of a shoreline revetment wall. Parcel G does not have any sediment concerns because it is not bordered by the bay.

At HPS, naturally occurring asbestos (NOA) is primarily found in the mineral form of chrysotile, which is present in approximately 1/8-inch veinlets scattered throughout the native serpentinite bedrock. The primary route of potential exposure to asbestos is through inhalation of air containing asbestos fibers. The primary release mechanism for asbestos fibers to the air would be through excavating and crushing the serpentinite bedrock. Best Management Practices (BMPs) incorporating the use of traditional dust suppression techniques during excavation would be adequate to mitigate potential health concerns related

to the inhalation of asbestos fibers. Samples of airborne particulates will be collected using real-time particulate dust monitors to evaluate the adequacy of and allow adjustments to BMPs (Appendix D).

2.2 Groundwater Conditions

COCs in groundwater above remediation goals are limited to the A-aquifer, which exists within unconsolidated artificial fill. The A-aquifer ranges in thickness from about 15 feet in the southwest to as much as 80 feet in the northeast, but averages about 25 feet over most of Parcel B. Groundwater is typically encountered within Parcel B in the A-aquifer at depths ranging from approximately 5 to 10 feet below ground surface, with up to 3 feet of typical seasonal variation. Groundwater in the A-aquifer at Parcel G is generally encountered 8 to 10 feet below ground surface with fluctuations of over 5 feet observed in the past. COCs for both Parcels B and G in the A-aquifer include volatile organic compounds (VOCs) (mainly trichloroethene and its breakdown products), in addition to metals such as chromium VI, mercury, and nickel. Plume areas identified in the Parcel B Amended ROD include IR Site 10 and IR Site 26 (Figure 2). Plume areas identified in the Parcel G ROD include IR Site 9, IR Site 33 and IR Site 71 (Figure 3). An indoor inhalation risk may exist in areas where volatile chemicals are present in soil or groundwater off-gas. Potential risks from groundwater are based on breathing volatile chemicals in soil and groundwater that may have migrated through the subsurface to indoor air (vapor intrusion). The results of the Human Health Risk Assessment show that the risk from exposure to vapors from the groundwater exceeded the excess lifetime cancer risk threshold in several areas in Parcel B (*ChaduxTt, 2009*) prior to the completion of the remedy. The selected remedy for groundwater at Parcel B includes treatment of the groundwater, implementation of institutional controls and long-term groundwater monitoring. A-aquifer groundwater in IR Site 9 and IR Site 71 at Parcel G has undergone treatment which has reportedly reduced VOC concentrations below cleanup levels (*Alliance, 2010*), though groundwater monitoring will continue to verify that the remediation is complete. Due to declining concentrations of COCs and low risk to future receptors, treatment of groundwater at IR 33 was not necessary (Alliance, 2010). (Note: *Update with latest groundwater sampling results at time of implementation*).

The risk posed by chromium VI, mercury, and nickel in groundwater is primarily to ecological receptors through potential transport to the bay. The Navy completed a removal action for the mercury source at IR-26 in Parcel B (*Insight, 2009*). Long-term groundwater monitoring will continue at Parcel B until concentrations of both the chromium VI and mercury are below action levels that are protective of ecological receptors in the bay. Chromium VI in Parcel G was associated with the former Pickling and Plate Yard (IR-09). The source of the chromium VI, including contaminated equipment and residue from

the Pickling and Plating Yard and the pickling and plating sump and surrounding soil, have been removed). Documentation of the plating sump removal will be included in the Parcel G RACR.

2.3 Known Existing or Former Below-Grade Structures

Below grade structures such as underground storage tanks (USTs), oil/water separators, sumps, or other structures were removed or investigated during previous investigations within Parcel B and G. Two known USTs (U439-1 and U439-2) were closed in place in Parcel G (Figure 3). No known USTs were closed in place within Parcel B (*ChaduxTt, 2010b*).

2.4 Selected Remedies

The CERCLA RODs for Parcels B and G selected remedial actions, which are required to provide adequate protection of human health and the environment and to allow the designated and beneficial reuse of the property as defined in the conveyance agreement executed between the Navy and the SFRA. The remedial actions will be implemented over time between approval of RD and RAWPs and ultimate reuse of the site. The following remedial actions were identified in the RODs to address contamination in soil, sediments, soil vapor, groundwater and structures within Parcels B and G:

- Radiological contamination indentified in buildings, former building sites, sewer lines and other areas affected by radiological sources was removed by the Navy and approved by the FFA signatories prior to transfer of Parcels B and G to the SFRA
- Removal and offsite disposal of excavated soil in areas where concentrations of organic chemicals and metals (excluding arsenic and manganese) were above remedial goals
- Installation of durable covers over the entire parcel to prevent contact with residual ubiquitous metals. A durable cover is defined in the RODs or RDs as hardscape (e.g., asphalt, buildings, sidewalks, etc.) or two feet of clean imported fill.
- Installation of a revetment wall along the Parcel B shoreline to cover and prevent access to sediments
- Operation of a soil vapor extraction (SVE) system (Parcel B only) to remove and treat VOCs in soil
- Treatment of groundwater to reduce the contaminant concentrations to or near the remediation goals defined in the RODs

- Implementation of a groundwater monitoring program to verify that remediation efforts continue to meet the remediation goals defined in the Parcel B ROD Amendment and Parcel G ROD
- Use of engineering controls and institutional controls (ICs) to prevent or minimize exposure to contaminated soil and soil vapor and to prevent or minimize exposure to contaminated groundwater by restricting activities related to groundwater.

Details concerning the selection, and performance and implementation of these remedies are presented in the TMSRA, Parcel B ROD Amendment, Parcel D FS, Parcel G ROD and Remedial Design Package, Design Basis Reports for Parcels B and G and referenced in Section 6. Implementation of the remedies will be documented in the RACRs.

3.0 SITE ACTIVITIES AND REGULATORY PROTOCOLS

This section describes the regulatory oversight protocols, types of activities and associated restrictions that are governed by this Pre-RACR RMP and the process for modifying this Pre-RACR RMP.

3.1 Regulatory Oversight

The groups of agencies that have oversight and approval roles for various obligations are described in this section. These agencies plus the Navy, as the previous landowner and CERCLA responsible party, are referred to as the Federal Facility Agreement (FFA) signatories. The FFA is an agreement entered into by the agencies to carry out the remediation of HPS. The FFA signatories and the City of San Francisco Department of Public Health (SFDPH) will be referred to as the Oversight Agencies and the DTSC, RWQCB, USEPA, and the SFDPH will be referred to as the Regulatory Agencies for the purposes of this RMP. A contact list is included in Appendix A.

Regulatory oversight regarding implementation of the Pre-RACR RMP includes, but is not limited to:

- Review and approval of modifications to the Pre-RACR RMP, as described in Section 3.3
- Review and approval of work plans for conducting Restricted Activities requiring FFA signatory approval that are specified in Section 3.1.3 of this Pre-RACR RMP
- Performance of inspections to verify compliance with the Pre-RACR RMP procedures and protocols
- Review and approval of completion reports described in Section 4.2.3.

3.1.1 Site Access Restrictions and Inspection

For areas where a durable cover has not yet been approved and signed off by the FFA signatories, the Owner shall ensure that the general public is restricted from site access. A gate shall control access to the parcels via any roads. At a minimum, a locked, 6-foot chain link fence surrounding the perimeter of the uncovered area is required. The fence must contain no trespassing signs posted every 200 feet and warning signs posted every 200 feet and at each gate stating that contamination may be present at levels that are harmful to human health. The Owner is responsible for ensuring that the integrity of the fence and other security controls are maintained. The integrity of the site access controls must be inspected at

least every seven calendar days. Repairs must be made within five calendar days of the discovery of deficiencies unless the regulators approve an extension due to extenuating circumstances. Additional site security information is provided in Section 5.9.

3.1.2 Pre-Approved Restricted Activities

Certain land disturbing activities may be conducted without obtaining FFA signatory approval as long as such activities are performed in accordance with all provisions and protocols specified in the RMP. Such activities are hereafter referred to as "pre-approved activities". Pre-approved activities include the following, except to the extent that the activities fall within one of the categories requiring FFA signatory approval under Section 3.1.3 below:

(1) Excavation of soil. Following completion of excavation activities, the excavated soil must either be hauled offsite or placed back in the excavation and the cover remedy re-installed. Excavated soil may be used at other sites so long as it is placed beneath an approved cover remedy (e.g., 2 feet of clean fill, asphalt cover, side walk, or street).

(2) Construction of roads, utilities, facilities, structures (other than enclosed structures in ARICs for volatile chemicals), and related appurtenances as necessary to complete the redevelopment. Following the completion of any of these activities, all excavated soil must either be hauled offsite or put back in place and an approved cover remedy must be installed.

(3) Demolition or removal of "hardscape" (e.g., concrete or asphalt roadways, parking lots, building foundations, and sidewalks).

(4) Any activity that involves movement of soil to the surface from below the surface of the land. Following completion of soil moving activities all soil that has been moved must either be hauled offsite or put back in place and must be covered with an approved cover remedy (e.g., 2 feet of clean fill, asphalt cover, side walk, or street); and

(5) Grading or other movement of soil. Following completion of grading activities existing or native soils must be covered with an approved cover remedy (e.g., 2 feet of clean fill, asphalt cover, side walk, or street).

Some specific examples of pre-approved activities include, but are not limited to:

- excavation of trenches, potholes or other movement of soil from the subsurface to the surface in support of the installation of new below grade utilities, foundations, or other subsurface foundational structures (e.g., sewer lines, water lines, storm water pump station wet wells, pile caps and/or grade beams, etc.). Following completion of these activities, all excavated soil must either be hauled offsite or placed back in the excavation and an approved cover remedy installed (e.g., 2 feet of clean fill, asphalt cover, side walk, or street). Excavated soil may be used at other sites so long as it is placed beneath an approved cover remedy. Additional information on the handling and management of soil is provided in Sections 5.2 and 5.3.
- demolition of existing below grade, at grade or above grade structures. Following completion of demolition activities exposed native or existing soil must be covered with an approved cover remedy (e.g., 2 feet of clean fill, asphalt cover, side walk, or street);
- grading for the purpose of raising and/or lowering site grade, creation of building pads, fine grading activities in support of road installation, and associated excavating, loading, hauling, stockpiling and/or compacting soil. Following completion of these activities existing or native soils must be covered with an approved cover remedy (e.g., 2 feet of clean fill, asphalt cover, side walk, or street);
- pre-drilling for pile installation including drilling pilot holes through fill material prior to the installation of foundation piles. In addition, in areas where there is no known groundwater contamination and to the extent that such activities will not impact areas of known groundwater contamination; temporary dewatering activities may be conducted including temporary pumping of groundwater to dewater below grade excavations in support of both infrastructure installation and/or foundation installation which may include both pumping of groundwater from an open excavation and/or pumping groundwater via perimeter temporary dewatering wells (typically used for building foundation installation). Additional information on groundwater management is provided in Section 5.6.

Anyone performing the above Pre-Approved Activities will be required to comply with the following applicable soil and groundwater management protocols, a Dust Control Plan (DCP), a Stockpile Management Plan (part of the DCP), a Soil Importation Plan, a Storm Water Pollution Prevention Plan (SWPPP), and a Groundwater Management Plan (GMP). Each of these elements is described in more detail in Section 5.0. In addition, contractors performing Pre-Approved Restricted Activities will be required to comply with their own Environmental Health and Safety Plan (EHSP). Reporting requirements for these Pre-Approved Restricted Activities are further described in Section 4.0.

Once a Remedial Action Completion Report has been submitted and approved by the FFA signatories, the activities described here will still be allowed to proceed, but within the framework of the Post-RACR RMP.

3.1.3 Restricted Activities Requiring FFA Signatory Approval

FFA signatory approval will be required for work in areas of Parcels B and G that involve the following types of active remediation:

- Soil vapor extraction
- Groundwater treatment

Specific restricted activities that affect remediation and may not be commenced without first obtaining written FFA signatory approval include:

- "Land disturbing activity" that causes or facilitates the movement of any known contaminated groundwater.
- Alteration, disturbance, or removal of any component of a response or cleanup action (including, but not limited to, pump-and-treat facilities, shoreline protection, and soil cover/containment systems); groundwater extraction, injection, and monitoring wells and associated piping and equipment (including monitoring well abandonment); or associated utilities.
- Extraction of groundwater and installation of new groundwater wells (including monitoring well replacement).
- Removal of or damage to security features (for example, locks on monitoring wells, survey monuments, fencing, signs, or monitoring equipment and associated pipelines and appurtenances).
- Reuse of soil waste generated from one of the active remediation activities described above and in an area that has not yet received closure, unless reuse is fully addressed in future modifications to this Pre-RACR RMP.
- Construction of enclosed structures or reuse of existing buildings located in ARICs for volatile chemicals.

3.1.4 Areas Requiring Institutional Controls (ARICs) for Volatile Chemicals

The criteria for determining ARICs for volatile chemicals was established by the Navy and presented in the Soil Vapor Intrusion Survey Work Plan (*Sealaska, 2010*). The Soil Vapor Intrusion Survey Work Plan also established criteria for the modification or elimination of ARICs for volatile chemicals. The ARIC for volatile chemicals may be modified with approval by the FFA signatories via additional soil gas sampling and analysis for COCs. If the data show that vapor inhalation risk is within the acceptable range specified in the ROD or ROD Amendment, the ARIC may be reduced accordingly and Figures 2 and 3 will be updated. In areas where the ARIC remains, engineering controls shall be installed in existing or new buildings to address remaining vapor inhalation risk. When construction of enclosed structures or reuse of an existing building is proposed in an area located in ARICs (shown on Figures 2 and 3) for volatile chemicals the design of the vapor mitigation system built into foundations must be approved by the regulatory agencies.

3.1.5 Prohibited Activities

The following activities are prohibited throughout the Pre-RACR RMP Area:

- Growing vegetables or fruits in native soil for human consumption
- Use of groundwater.

3.1.6 Compliance with Requirements of Public Agencies That Are Not Parties to the FFA

Compliance with this Pre-RACR RMP is required in addition to all federal, state and City of San Francisco permitting and environmental regulations and procedures for any construction or maintenance activity. The following is a list of state and local agencies that may have requirements for certain construction and maintenance activities, in addition to any requirements described in this Pre-RACR RMP. This list is an example of potential state and local regulatory agencies and is not intended to be complete.

- Bay Area Air Quality Management District (BAAQMD) – air emissions and/or dust control
- San Francisco Department of Public Health (SFDPH) – monitoring well permitting and SFDPH Article 31 oversight

- San Francisco Public Utilities Commission (SFPUC) - wastewater discharge permitting
- Cal/Occupational Safety and Health Administration (OSHA) – worker health and safety
- San Francisco Redevelopment Agency – redevelopment design review
- San Francisco Department of Building Inspection – building permitting
- San Francisco Department of Public Works – permitting of structures in existing or future public right-of-ways and parks; subdivision approvals
- San Francisco Municipal Transportation Agency – permitting of infrastructure related to transit and traffic management
- San Francisco Fire Marshall – approval of infrastructure related to Fire Department emergency response
- US Army Corps of Engineers – approval of repairs or modifications to the revetment wall and storm drain outfalls below sea level
- Bay Conservation and Development Commission - approval of repairs or modifications to the revetment wall within 100 feet of sea level.

3.2 Agency Site Access

The agencies responsible for enforcing the Pre-RACR RMP procedures and protocols within Parcels B and G (Oversight Agencies) may elect to visit the site, as needed, per the rights of access described in the deed(s) and access requirements in the CRUP(s). The purpose of such visits may include, but is not limited to confirming that the Pre-RACR RMP procedures and protocols are being properly implemented.

3.3 Modifications to the Pre-RACR RMP

Modifications to the Pre-RACR RMP may become necessary to address unanticipated future events, such as newly-identified COCs for which site-specific remediation goals have not been calculated, or in the event of a remedy failure. Additionally, based on the results of remedial activities, modification or termination of specific conditions or controls stated in this Pre-RACR RMP may be warranted.

Other government entities may propose modifications of this Pre-RACR RMP, including terminating specific conditions of the Pre-RACR RMP, to the FFA signatories. Such modifications proposed to the

FFA signatories may include modifications proposed by Owners to other government entities that those government entities determine are appropriate. The FFA signatories will review the proposed changes, request any additional background information if needed, and issue a decision regarding the proposal within 45 (calendar) days of receiving the proposal and any additional requested information. Once approved, the modified Pre-RACR RMP will be filed in the public repository (Section 3.4).

The FFA signatories may also propose modifications to the Pre-RACR RMP based on new information that the Pre-RACR RMP must address to remain protective of human health and the environment. If the proposed modifications are not agreed upon between the FFA signatories, in consultation with the SFDPH, within 60 days, the Pre-RACR RMP shall continue in its original form until the FFA signatories come to a consensus on the appropriate modifications and notify the SFDPH of the modifications.

Changes in notification personnel are not considered a modification to the Pre-RACR RMP and do not require FFA signatory approval.

3.4 Public Repository of RMP

A copy of this Pre-RACR RMP and any Pre-RACR RMP modifications will be available at the Hunters Point Shipyard information repositories indicated below, and on the SFDPH Hunters Point Shipyard Redevelopment website (http://www.sfdph.org/dph/EH/HuntersPoint/default.asp). The Hunters Point Shipyard information repositories also contain the documents discussed in Section 2.0 and elsewhere in this Pre-RACR RMP.

San Francisco Main Library
100 Larkin Street
Government Information Center, 5th Floor
San Francisco, California 94102
Phone: 415-557-4500

Anna E. Waden Bayview Library
5075 Third Street
San Francisco, California 94124
Phone: 415-355-5757

Contact information for the FFA signatories is provided in Appendix A. Changes in contact information will be submitted to the SFDPH, which will be responsible for including the updated information on their SFDPH Hunters Point Shipyard Redevelopment website.

4.0 REPORTING AND NOTICE PROTOCOLS

This section describes reporting and notification protocols that shall be followed when the following circumstances arise:

- Annual Reporting of pre-approved restricted activities in accordance with this Pre-RACR RMP
- Upon preparation of a work plan proposing to conduct Restricted Activities Requiring FFA Signatory Approval (Section 3.1.3) and upon receipt of results of performing the work plan
- Upon discovery of previously-unknown environmental issues.

Notifications are the responsibility of the Owner, Lessee, permittee, tenants or any other party with the legal right to perform subsurface work on the property and with knowledge of circumstances. Under the circumstances described in Section 4.4, the SFRA will monitor compliance with notification requirements, and advise Oversight Agencies of noncompliance. The relevant time periods for notifications and associated responsible entities are described below. Other government entities with RMP oversight responsibilities are presented in Table 1.

4.1 Reporting for Pre-Approved Restricted Activities

Each year by June 30, the SFRA shall prepare and submit to the FFA signatories copies of the annual reports summarizing all of the Pre-Approved Restricted activities that have occurred on Owner's property and will identify any areas in the reports that indicate a non-compliance condition occurred within that year. If unknown areas of contamination or changes in the understanding of environmental conditions are discovered during the course of conducting pre-approved activities, Owner shall notify the FFA signatories via the notification process described in Section 4.3 and will follow the procedures presented in the Unknown Condition Response Plan (Appendix G).

4.2 Restricted Activities which require FFA signatory approval

These sections describe notification and reporting requirements for the restricted activities listed in Section 3.1.3.

4.2.1 Notification Prior to Restricted Activities Which Require FFA Signatory Approvals

The Owner shall notify the FFA signatories at least 60 calendar days prior to any plan to conduct Restricted Activities Requiring FFA Signatory Approval listed in Section 3.1.3. Notification shall be in the form of a proposed work plan detailing the specific activities to be conducted and the controls to be implemented to protect human health and the environment. The FFA signatories shall review and either approve or provide comments indicating deficiencies in the work plan within 30 calendar days of receipt of the work plan. The FFA signatories may also request an extension of the review period within no less than 10 days prior to the end of the 30 calendar day time period. The Owner and FFA signatories shall work collaboratively to resolve work plan issues. The FFA signatories shall approve work plans prior to commencement of field activities. Documents will be considered to be final if no comments are received within the 30-day comment period.

4.2.2 Information Required for Proposed Activities Requiring FFA Signatory Approval

When the Owner prepares a notification package to request approval to perform restricted activities requiring FFA signatory approval, the following information should be included:

- A description of the proposed activity or condition that warranted the notification, together with appropriate exhibits to illustrate the location and/or issue that is the subject of the notification
- Work plans, including schedules, prepared to perform activities
- Description of current site conditions.

4.2.3 Completion Reports for Restricted Activities which Required FFA Signatory Approval

Following completion or closure of the activity requiring FFA signatory approval, the Owner shall prepare a completion report for submittal to the FFA signatories. A completion report shall include the following components, as appropriate:

- A description of the activity or condition that warranted the notification, together with appropriate exhibits to illustrate the location and/or issue that is the subject of the notification
- Description of notification protocols followed, including approval from the FFA signatories

- References to work plans prepared to perform activities
- Description of activities performed
- Boring logs/well completion diagrams
- Laboratory analytical reports
- Waste disposal manifests
- Description of final site conditions and/or as-built drawings
- Verification that all activities were conducted in conformance with the requirements of this Pre-RACR RMP (signed by a California licensed Professional Engineer)
- A long-term maintenance and monitoring plan for any permanent facilities
- Other appropriate documentation or components as specified as a condition of undertaking the subject activity and/or required by the FFA signatories.

The Owner shall submit completion reports to the FFA signatories within 45 days of completing the restricted activities requiring FFA signatory approval. Analytical information will be submitted within 30 days of receiving final analytical reports for samples submitted to the laboratory. The FFA signatories will be informed if the submittal date of an individual report must be extended past this time frame. If the submittal date has a regulatory-mandated time line, then FFA signatory approval for the extension must be requested at least 21 calendar days prior to the due date of the submittal and the extension request will not be considered granted unless formally granted in writing. Extension requests will be granted, or may be denied, within 15 calendar days of receipt of the written extension request.

The FFA signatories will review all completion reports to confirm that the actions taken are consistent with the submitted work plan and Pre-RACR RMP procedures and protocols and if applicable, the ROD, AOC and Remedial Design. Within 30 calendar days of completing review of the completion report, the FFA signatories will notify the Owners of any discrepancies or deficiencies in the completion report regarding compliance with this Pre-RACR RMP, and the authors and regulators will work collaboratively to resolve such issues. Draft documents will be subject to a review period of 45 days. Reviewing parties may request an extension of the review period of for up to an additional 45 days from the party submitting

the document. The party submitting the document will have 45 days to revise the document to address the comments received.

Draft final documents will be subject to a review period of 30 days. The FFA signatories may extend the 30 day comment period for an additional 30 days by written notice to the party seeking approval prior to the end of the 30 day period. The party submitting the document will have 45 days to revise the document to address the comments received. The completion notification/report will be considered approved and final unless regulators submit comments or a request for an extension within 30 calendar days from their receipt of the document. Upon request, the Owner shall submit a corrective action work plan to the FFA signatories for review and approval. Upon concluding that the actions taken are consistent with the Pre-RACR RMP, and if applicable Remedial Action Objectives (RAOs) identified in the ROD are attained, the FFA signatories will issue an approval letter for the completion report.

4.3 Notification Requirements for Changes in Understanding of Environmental Conditions or Discovery of Unknowns

In the event that unexpected or previously unknown conditions are encountered in the field that may require remediation or mitigation, the Owner shall notify the FFA signatories as soon as practicable and in accordance with any other legal notification requirements, but no later than three days following the time at which the event became known to the Owner. Additionally, upon discovery of unexpected or previously unknown conditions, the Owner must temporarily halt work and determine: 1) whether the condition constitutes a Navy-Retained condition in accordance with the Early Transfer Cooperative Agreement; and 2)whether an appropriate path forward exists so that work can continue safely and in accordance with applicable regulatory protocol. These determinations will be made in accordance with the EHSP and the Unknown Condition Response Plan (Appendix G) as required under Article 31 of the San Francisco Health Code, and in accordance with any additional characterization deemed warranted. Additional information on the discovery of unknown or unexpected conditions is provided in Section 5.5.

4.4 Annual Inspection Reports

The Navy is ultimately liable for ensuring long-term compliance with the remedy, but upon transfer of property to SFRA, the Navy intends to transfer to SFRA the responsibility to perform certain ongoing compliance obligations. Subject to execution of a cooperative services agreement between the Navy and the SFRA as authorized by Title 10, United States Code, Section 2701(d), and receipt by SFRA of all funds to be paid by the Navy to SFRA in furtherance of the cooperative services agreement, SFRA anticipates that it will assume responsibility for the following Navy obligations: annual monitoring of

RMP compliance activities, annual inspection reporting, annual monitoring of long-term maintenance of the remedy and ensuring annual enforcement of the RMP in the event of non-compliance by Owners, Lessees, permittees, tenants or any other party with the legal right to perform subsurface work on the property. The SFRA will work with the regulatory agencies to confirm compliance with the land use restrictions, RMP protocols and reporting obligations. If the SFRA deems it appropriate, non-compliant Owners, Lessees, permittees, tenants or any other party with the legal right to perform subsurface work on the property will be referred to the SFDPH and the DTSC for additional enforcement activities.

Regardless of other notices, each year by June 30, the SFRA will submit an annual inspection report (Appendix B) that will include:

- Documentation (photos, inspection reports, maps, etc), based on a drive-by inspection of driveable areas of site and a walk around inspection, if needed, of parks/open space, of the current state of the property – location of fences, conditions of fences, location of areas with approved cover remedies, etc.

- Descriptions of areas where current and future pre-approved restricted activities, and restricted activities requiring FFA signatory approval, are planned with projected start and finish dates, if known

- Descriptions of pre-approved restricted activities and restricted activities requiring FFA signatory approval conducted during the previous year

- Descriptions of any previously unknown conditions and related response activities

- Description of any non-compliance conditions that arose during the year and how they were resolved, if known

The SFRA will submit an annual inspection report to the FFA signatories. The submittal will include a brief summary letter documenting the number of property owners and condition of their property, any problems noted in the annual inspection reports, and follow-up action taken on any noted problems. An annual inspection report is provided in Appendix B.

4.5 Notification of Owners and Lessees

By the terms of restrictions in the recorded deeds and CRUPs and by this RMP, Owners shall provide a copy of the Pre-RACR RMP to lessees, permittees, tenants, future transferees or any other party with the legal right to perform subsurface work on the property.

5.0 RISK MANAGEMENT PROCEDURES AND PROTOCOLS DURING PRE-COVER ACTIVITIES

This section describes risk management measures that will be implemented during redevelopment where performance of one or more of the Restricted Activities described in Section 1.0 subject to Sections 3.1.2 and 3.1.3 are conducted. The purpose of this section is to describe the appropriate risk management measures that will be implemented to control potential impacts to human health and the environment associated with potential exposure to COCs that might be present in soil, soil vapor and/or groundwater encountered during pre-cover activities, within Parcels B and G.

Development activities in Parcels B and G are likely to include various site preparation activities, including, but not limited to, demolition, excavation, stockpiling, trenching, grading, backfilling and temporary construction dewatering that have the potential to disturb soil and groundwater within the parcels.

5.1 Construction Worker Health and Safety

Construction and maintenance contractors, whose workers may contact potentially contaminated soil, soil vapor, or groundwater within the Pre-RACR RMP Area, are required to prepare site-specific EHSPs under the direction of a Certified Industrial Hygienist (CIH) and in a manner consistent with applicable occupational health and safety standards, including, but not limited to OSHA 1910.120. The contractor-specific EHSPs will be maintained by the contractor at the site.

An EHSP is required for contractors engaged in any Restricted Activity-related work, including those listed in Section 5.0, that would extend below the ground surface, except for grading in landscape areas that when completed, will contain a minimum of 2 feet of clean fill. Landscaped areas will be comprised of a minimum of 2 feet of clean fill (soil cover) on top of native soil. Nothing in this section is intended to relieve any person, including contractors or employers, of other mandated worker health and safety planning and training requirements under any federal, state or local statute or regulations.

It is the responsibility of the contractor preparing their EHSP to review information available in the Hunters Point Shipyard information repositories (see Section 3.4) regarding site conditions and potential health and safety concerns. It is also the responsibility of the contractor or other person preparing an EHSP to verify that the components of the EHSP are consistent with applicable Cal/OSHA occupational health and safety standards and currently available toxicological information for potential COCs at the work site. Contractor compliance with the Pre-RACR RMP obligations will be specified in the contract

documentation for the contractors who will be doing subsurface work. Each contractor must require its employees who may directly contact potentially contaminated site soil or groundwater to perform all activities in accordance with the contractor's EHSP. Each construction contractor will assure that its onsite construction workers will have the appropriate level of health and safety training, site-specific training, and will use the appropriate level of personal protective equipment as determined in the relevant EHSP based upon the evaluated job hazards and monitoring results. An example copy of the EHSP outline is included in Appendix C.

5.2 Soil Management Protocols

Native soil within the boundaries of Parcels B and G, but outside the areas defined in Section 3.1.3 may be moved within or between those parcels and soil from Parcel A may be moved from Parcel A onto Parcels B and G, without prior FFA signatory approval if and only if such soil will be placed underneath the required durable cover in Parcels B and G. For activities requiring FFA signatory approval defined in Section 3.1.3, soil reuse must be addressed, as necessary, as part of the submitted work plan. In the event that placement underneath the required durable cover is not accomplished immediately upon removal, such soil is to be stockpiled within Parcels B or G, with adequate protection, as further described in Section 5.3. Soil re-use criteria are discussed in greater detail in Section 5.2.1.

5.2.1 Movement of Soil

Native soil may be handled and moved from one portion of Parcel B and Parcel G to another location within each and between each Parcel and soil from Parcel A may be moved from Parcel A onto Parcels B and G, managed and reused without need for sampling, provided that reuse is conducted in accordance with the soil management practices described in this Pre-RACR RMP and that no unexpected conditions are encountered. Unexpected conditions would include the discovery of any contamination or subsurface object that was not previously identified on the parcel (i.e., current understanding of environmental conditions). Unexpected conditions and the protocols to follow if they are encountered are described in Section 5.5.

Native soil that is excavated and remains within Parcels B and G and any soil moved from Parcel A to Parcels B and G, must ultimately be covered by a durable cover, such as buildings or other hardscape such as streets, sidewalks, parking lots, and roads or by clean fill and landscaping in accordance with the durable cover requirements specified in the Parcel B ROD Amendment and the Parcel G ROD.

Trucks used to transport solid bulk material that have the potential to cause visible dust emissions will be loaded in a manner to provide at least 1 foot of freeboard. When transported within HPS, the soil will be either covered with a tarp or the materials will be sufficiently wetted. Unpaved haul routes will be wetted and trucks will not exceed speeds of 15 miles per hour. Potential impacts from dust associated with the handling and movement of soil, soil compaction, soil stockpiling, etc., will be addressed through the implementation of the Dust Control Plan, included in Appendix D.

5.2.2 Soil Stockpile Management Protocols

Stockpile management is addressed in the Dust Control Plan; however, several highlights on stockpile management are included here because stockpiles that are not properly maintained have the potential to generate sediment run-off and dust. Stockpiles shall be maintained within the site access controls of the project boundary. If stockpiles must be placed outside of the parcel boundary (assuming permission is first obtained from the Oversight Agencies), then separate fencing and access control for such stockpiles will be required. Stockpiles must be tarped, wetted, sloped, or controlled via appropriate means and methods as specified in the Dust Control Plan (Appendix D). Best management practices (BMPs) for erosion and sediment control will be implemented, as necessary, during construction activities. BMPs may include diversion of drainage from the stockpiles, installation of silt fencing/straw bale filter barriers on the downgradient toe of the stockpile slope and dust control. Stockpiles will be inspected at least weekly to ensure dust control and runoff control measures are functioning adequately.

5.3 Dust Control Plan

A Dust Control Plan (DCP) identifies the measures that will be taken to reduce particulate emissions during demolition of existing structures, grading, soil handling and stockpiling, vehicle loading, utility work, truck traffic and construction of site infrastructure. The DCP has been prepared in accordance with the requirements in Article 31 of the San Francisco Health Code and certain Bay Area Air Quality Management District (BAAQMD) regulations often applicable to redevelopment activities. Exposure of onsite construction workers to dust containing COCs will be minimized, and generation of nuisance dust will also be minimized to comply with Article 22B of the San Francisco Health Code and SFDPH requirements prohibiting visible dust on San Francisco construction sites. The DCP is attached as Appendix D.

General dust control measures that may be used at the site include, but are not limited to, watering unpaved haul routes, restricting vehicle speeds to 15 miles per hour, wetting and/or tarping stockpiles, wetting down excavation areas, reducing the height from which excavated soil is dropped, use of dust

palliatives in inactive disturbed areas, implementation of erosion control measures, construction of gravel access pads in the temporary stockpile locations, installation of gravel pads or wheel wash stations at all egress points to prevent tracking of soil onto paved roads, and periodic sweeping of paved roads within the construction site with wet sweepers.

During windy conditions the use of wind breaks may be employed to control fugitive dust emissions. Under periods of sustained strong wind conditions (hourly average wind speeds of 25 miles per hour or greater), all clearing, grading, earthmoving and excavating will be halted.

Naturally occurring asbestos (NOA) has been found in the serpentine bedrock and soil throughout the Hunters Point area. Large construction projects occurring within these areas are subject to the California Air Resources Board Airborne Toxic Control Measures (ATCM). For projects where surface soil will be disturbed in an area of one acre or larger, an Asbestos Dust Mitigation Plan (ADMP) will be submitted to and approved by the BAAQMD, as required. For projects less than one acre, an evaluation will be performed to determine whether an ATCM-compliant asbestos dust mitigation plan is required prior to initiation of potential dust generating activities.

5.4 Offsite Disposal of Soil and Wastes

Soil excavations will be required during construction of utility trenches, building foundations and other facilities. It is likely that excavated soil will be reused within the RMP area for grading activities. As a result, offsite soil disposal should be limited. Any offsite soil disposal is subject to all applicable federal and state laws and regulations. All activities associated with waste disposal, such as truck loading, truck traffic and decontamination of trucks leaving the facility will be performed in accordance with the DCP provided in Appendix D (and summarized below) and any other applicable federal or state law or regulation.

As detailed in the DCP, any trucks used to transport solid bulk material that have the potential to cause visible emissions will be provided with a tarp cover, or the materials will be sufficiently wetted and loaded onto the trucks in a manner to provide at least 1 foot of freeboard. Trucks loaded with loose soil or sand will be covered before they leave HPS.

Vehicles will be inspected to ensure that they are tarped and to remove any excess material on the bumpers, fenders or other exterior surfaces of the cargo compartment where soil could collect. All off-site haul trucks will access the sites via paved access roads. Every off-site haul truck will proceed through the decontamination gravel pad/tire cleaning area prior to departure. Site personnel will be

stationed at the access/egress point to monitor inflow/outflow to and from the site. They will be responsible for inspecting all vehicles exiting and performing any necessary cleaning to help prevent track out.

The contractor is responsible for characterization of any waste prior to transportation and offsite disposal. Characterization for disposal shall be in accordance with the requirements of Title 22 of the California Code of Regulations, Division 4.5, Chapter 11 and the requirements of the disposal facility and any other applicable law. Labeling requirements for transportation of waste shall additionally be in accordance with Title 29 of the Code of Federal Regulations, Parts 172 and 173 and any other applicable law. All waste transported for offsite disposal will be subject to the requirements of the AOC.

All soil to be disposed will be taken only to a certified and permitted California landfill or an equivalent out-of-state landfill, as appropriate and as determined by the waste profile.

5.5 Unexpected Conditions

The potential exists for encountering unexpected conditions within Parcels B and G. Unexpected conditions may include unanticipated soil contamination, abrasive blast material (ABM), subsurface structures, buried pipelines, radiological devices or other visual or olfactory evidence of contamination. As part of the site-specific health and safety training that will be required of equipment operators and site workers, instruction will be given on how to identify potential unexpected conditions.

Additionally, upon discovery of unexpected or previously unknown conditions, the Owner must temporarily halt work and determine: 1) whether the condition constitutes a Navy-Retained condition in accordance with the Early Transfer Cooperative Agreement; and 2) whether an appropriate path forward exists so that work can continue safely and in accordance with applicable regulatory protocol. These determinations will be made in accordance with the EHSP and the Unknown Condition Response Plan (Appendix G) as required under Article 31 of the San Francisco Health Code, unless additional characterization is deemed warranted.

In accordance with the site-specific EHSP, appropriate measures will be undertaken to ensure worker safety in areas where unexpected conditions are encountered. The SSHO will be responsible for evaluating any change in site conditions. The SSHO may stop work to determine if the level of site security and personnel protective equipment is adequate. Additional measures may include conducting contingency monitoring by taking organic vapor readings using an organic vapor monitor (OVM) or an organic vapor analyzer (OVA). If warranted the area in which unexpected conditions were encountered

will be secured with barricades or fencing, as appropriate, and signage to prevent unauthorized access to the area.

5.5.1 Olfactory or Visual Evidence of Contamination

Site development activities may result in the identification of previously unidentified areas or types of contamination. Olfactory or visual evidence of contamination which would trigger the use of the Unknown Condition Response Plan as discussed in Section 4.3 include, but are not limited to:

- Oily, shiny or soil saturated with free product
- Soil with a significant chemical or hydrocarbon-like odor
- Significantly stained or colored soil that reasonably indicates a contaminant source
- Groundwater odor, sheen or free-phase globules, or
- Any other indication that contamination may exist that would trigger notification protocols.

5.5.2 Abrasive Blast Material (ABM)

ABM is generally a non-cohesive, granular material and typically may have a characteristic green or black color. Granulated ABM made by all manufacturers is chemically inert; therefore it does not have hazardous waste characteristics of flammability, corrosivity, or reactivity. Due to the use of ABM on ships with lead-based paint, elevated levels of lead and other metals may be found in used ABM.

Historically, silica sands were commonly used as ABM, though current practices limit their use due to safety concerns related to silica dust. Other common ABMs used at Naval facilities include Green Diamond®, a ferro-nickel slag produced as a byproduct of nickel production from lateritic ore, and Black Beauty®, a coal slag abrasive. Coal slag sometimes contains low levels of naturally-occurring radionuclides (radium and its daughter products), which may be concentrated during the ABM manufacturing process, resulting in ABM with low, levels of radioactivity as compared to background. Anecdotal evidence suggests that ABM may have been used at HPS as bedding aggregate or backfill material (e.g., for pipelines, former fill areas, roadways and driveways).

As part of the site-specific health and safety training that will be required of equipment operators and site workers, instruction will be given on how to identify potential ABM. Because storm and sewer drains were removed by the Navy from the RMP Area and these drains are the most likely areas in which ABM

may have been placed there are no other areas which can be considered more likely than others to contain ABM. As a result, screening for ABM will initially rely on visual identification.

If ABM is found, it will be screened for the presence of radionuclides and metals. If radionuclides above the remedial goals are detected the ABM will be handled appropriately by the Navy, as a Navy-retained condition, otherwise all ABM identified will be dealt with by the Owner. If the ABM contains levels of radionuclides or metals that are above the remedial goals set forth in the Parcel B ROD amendment and the Parcel G ROD, the ABM will be handled as per the Unknown Condition Response Plan, will be disposed off site and will be subject to the requirements of applicable federal, state, and local laws.

5.5.3 Subsurface Structures

During the course of excavation and construction activities within Parcel B or G, it is possible that USTs, sumps, barrels, drums or other containers or other underground structures that were not discovered during previous site investigations could be discovered. For example, USTs may be identified during grading and site excavation activities by the presence of vent pipes, product distribution piping that leads to the UST, fill pipes, backfill materials and the UST itself. Other structures might not have any features that extend above the surface and could be unearthed when construction equipment comes into contact with them. If an unexpected subsurface structure is encountered, notification and health and safety procedures will be invoked as discussed in Sections 4.0 and 5.5 and work will proceed in accordance with the Unknown Contaminant Contingency Plan as required under Article 31 of the San Francisco Health Code.

Excavation activities will be visually monitored for the generation of fugitive dust. Controlling dust in excavation areas will include wetting soil prior to and during excavation, adjusting the height from which excavated soil is dropped, wetting and/or tarping backfill material and stockpiles, use of dust palliatives on disturbed areas, and using gravel pads in loading areas to reduce the potential for soil track-out.

5.5.4 Soil Import Criteria

All soil imported onto Parcels B and G from areas outside HPS, with the exception of soil imported from Parcel A, will be subject to sampling and soil quality controls established in a Soil Importation Plan (SIP). Soil moved from Parcel A onto Parcels B and G must be placed underneath the required durable cover. Soil quality parameters for imported soil are based on the Parcel B and G remediation goals presented in the Amended Parcel B ROD and the Parcel G ROD. Soil import criteria will meet the most recent California Human Health Screening Levels (CHHSLs) for residential soils. The SIP outline is included

as Appendix E. Soil that meets CHHSLs or background levels and is approved for import under a SIP will be suitable for use as a durable cover as long as it meets all RD and RAWP requirements.

5.6 Groundwater Management Protocols

As described in Section 2.2, localized areas of groundwater contamination have been identified within the Pre-RACR RMP area. Potential risks to construction workers associated with the contaminants in groundwater were evaluated in the TMSRA, but were based on data generated prior to the implementation of groundwater remedies presented in the Parcel B Amended ROD and the Parcel G ROD. The most recent groundwater monitoring data (*CE2-Kleinfelder, 2010*) will be evaluated by the Owner or their designee, prior to the initiation of construction or maintenance activities in the context of the EHSP to identify areas where groundwater contamination may be present and to determine the appropriate protective measures to address worker safety and prevent the movement of any residual groundwater contamination.

This section describes protocols to follow during performance of the Restricted Activities (pre-approved and those requiring FFA signatory approval) as described in Sections 3.1.2 and 3.1.3 in order to minimize worker exposure to contaminated groundwater and to minimize the potential for affecting contaminated groundwater. All activities discussed below will require notification and completion reporting in accordance with the protocols described in Section 4.0.

5.6.1 Temporary Dewatering Activities

Current development plans for Parcel B and G include utility trenches and below grade parking lots to support the residential and commercial development. Due to the depth of these proposed excavations, temporary construction dewatering may be necessary. A plan to manage the groundwater during construction activities (Groundwater Management Plan [GMP]) will be submitted to the Oversight Agencies for review and approval. A Groundwater Management Plan (GMP) outline is provided in Appendix F.

If it is determined via the procedure outlined in the GMP that construction necessitates the use of temporary dewatering, and the dewatering activities may occur in or around an area of known groundwater contamination, the regulatory agencies will be notified in accordance with Section 3.1.3. With that notification, a work plan discussing the dewatering scope and activities will be submitted for Oversight Agency review and approval. As a general guide, the following risk management protocols will be included in the work plan:

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

- Review of available groundwater monitoring data to evaluate groundwater quality in the vicinity of the planned dewatering activities.

- Based on the location of the proposed dewatering, a Professional Engineer or Geologist licensed in the State of California will evaluate whether the volume of water that would need to be removed would result in the enlargement of an existing groundwater plume or significant alterations in the groundwater flow patterns.

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

- If, based on the results of analysis, dewatering may result in enlargement of an existing groundwater plume, or result in significant alterations to groundwater flow in the vicinity of a plume, other engineering techniques will be proposed to minimize the impacts to the known plume configuration. The proposed engineering technique(s) will depend on the construction specifications and other site-specific factors, and will be determined by the Owner or Lessee's State of California, licensed Professional Engineer or Geologist on a site-by-site basis.

- Water removed during dewatering activities will be sampled and tested for profiling and the water disposed of in accordance with applicable permits and regulations. Disposal options may include pre-treatment and discharge into the City's sewer system under a San Francisco Public Utilities Commission (SFPUC) batch wastewater discharge permit. Compliance with provisions of any discharge permit is the responsibility of the Owner or Lessee (or other entity designated by the Owner or Lessee). The results of the analysis, plans for dewatering and disposition of accumulated groundwater will be contained in the notification to the entities listed in Section 4.0.

5.6.2 Prevention of the Potential for Creation of ConduitsAs much as practicable, installation of subsurface utilities in areas of known groundwater contamination will be avoided. Prior to subsurface utility trench installation, existing groundwater monitoring data will be evaluated by a Professional Engineer or Geologist licensed in the State of California to identify areas where contaminant plumes

remain at the site. As described in Section 5.6.1 a GMP will be approved prior the start of construction activities. The GMP will be used to mitigate the movement of potentially contaminated groundwater via subsurface utility trenches.

If the trenches extend into the vicinity of known groundwater contaminant plumes, the FFA signatories will be notified as described in Section 4.0. The presence of such trenches may create a horizontal conduit for groundwater and soil vapor flow and migration of COCs. Some of the management measures that may be implemented to minimize the potential for creating horizontal conduits are described below. The appropriate method for managing the groundwater and soil vapor will be determined by a Professional Engineer or Geologist licensed in the State of California and will be approved in advance by the FFA signatories.

Groundwater

Material that is less permeable than the surrounding soil can be placed at 200-foot intervals through a variety of methods. At a minimum, less permeable material can be placed in the utility trench at the edges of the area of known groundwater contamination to disrupt the flow within the trench backfill. One method during initial trench backfilling is the construction of a short section backfilled with a concrete or cement and bentonite mixture. Another method is the installation of a clay plug by compacting the clay around the circumference of the pipe for a five-foot section of trench. A third method is the installation of barrier collars (cutoff features) around the pipes by forming and pouring concrete in place. Trench plug locations will be selected to mitigate lateral migration of impacted groundwater.

Soil Vapor

To minimize potential migration of soil vapor from utility conduits, currently available engineering controls may be used including sealing the end of utility conduits with inert gas-impermeable material such as closed cell polyurethane foam. The seals will extend into the conduit a minimum of six conduit diameters or six inches, whichever is greater.

5.6.3 Prevention of the Potential for Groundwater Intrusion

For new subsurface utilities placed in the areas of known groundwater contamination described in Section 2.2, or newly discovered areas of groundwater contamination, the pipe joints of non-pressurized

utilities (e.g., sanitary sewer, storm drain) will be adequately sealed to prevent COCs in groundwater from entering the buried piping, and all materials will be selected to ensure the integrity of the piping when in contact with known contaminants.

5.7 Stormwater Management Controls

A construction Storm Water Pollution Prevention Plan (SWPPP) will be required prior to the start of construction activities. The SWPPP will provide the framework for contractors performing work at the site. The Construction SWPPP must conform to the requirements of the California State Water Resources Control Board (SWRCB) National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS00002, Water Discharge Requirements (WDRS) for Discharges of Stormwater Runoff Associated with Construction Activity. As required, a Notice of Intent (NOI) shall be filed with SWRCB prior to commencement of regulated construction work. Compliance with the SWPPP will be maintained throughout the duration of the construction work. The SWPPP will be prepared by a Qualified SWPPP Developer (QSD) per Section VII of the 2009-0009-DWQ Permit (http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/stormwater/construction.shtml).

5.8 Groundwater Monitoring Well Protocols

Monitoring wells associated with the groundwater monitoring programs are present within Parcels B and G and additional wells associated with remedial activity monitoring may be installed. Prior to the initiation of any demolition or earth-disturbing activities, the presence of groundwater monitoring wells will be identified. A map showing the locations of monitoring wells within Parcels B and G may be found in the Hunters Point Shipyard information repositories (Section 3.4) and on the SFDPH Hunters Point Shipyard Redevelopment website. Locations of additional wells to be installed as part of remedial alternatives can be found on the SFDPH Hunters Point Shipyard Redevelopment website within Remedial Design Implementation Reports within the Hunters Point information repositories. Current monitoring wells located in Parcels B and G are presented on Figures 2 and 3.

Any abandonment, unintentional damage to or replacement of groundwater monitoring wells will require adherence to the notification protocols as described in Section 4.0. As discussed in Section 4.2.1, a work plan must be submitted for FFA signatory review and approval. Only the FFA signatories can decide that a well that was installed as a part of the groundwater remedy is no longer needed or can be relocated. Assuming that regulatory approval for the work is obtained, any well that is part of a remedial action that is damaged or abandoned during construction must be replaced within sixty calendar days unless the FFA signatories grant an extension.

As discussed in the AOC, the Owner is also responsible for providing access for the FFA signatories to the monitoring wells for the purposes of sampling and maintenance. Thus, regulatory approval must be obtained prior to any action that will bar access to a monitoring well for a period greater than seven calendar days.

The following sections describe the protocols to follow to protect existing groundwater monitoring wells, in the event of abandonment or replacement of groundwater monitoring wells.

5.8.1 Abandonment of Existing Monitoring Wells

Prior to the abandonment of groundwater monitoring wells, approval will be obtained as required in Section 3.1.3 and the appropriate entities, as described in Section 4.0, will be notified, and if requested, replacement well locations will be selected in coordination with the FFA signatories. If an existing groundwater monitoring well cannot be preserved, the well will be abandoned in accordance with applicable State and SFDPH regulations. The Owner, Lessee, permittee, tenants or any other party with the legal right to perform subsurface work on the property is responsible for obtaining all appropriate permits and approvals.

Following abandonment of groundwater monitoring wells, a completion report will be prepared describing the abandonment procedures and submitted to the FFA signatories as described in Section 4.5. The report will include:

- The well location
- Photographic documentation of the abandonment
- A description of the well destruction activities, including rationale for abandonment; and
- All associated permits and waste disposal manifests, if necessary
- Department of Water Resources (DWR) well completion and abandonment reports.

5.8.2 Replacement of Monitoring Wells

Any required replacements of abandoned monitoring wells, which are part of an ongoing groundwater monitoring network, will be re-installed within sixty days of the prior well's abandonment date unless the regulatory agencies grant an extension. Replacement wells will be located as close as possible and constructed in the same manner as the original well, and will monitor, to the extent possible, the same

groundwater zone as the original well. The Owner, Lessee, permittee, tenants or any other party with the legal right to perform subsurface work on the property, is responsible for obtaining all appropriate permits and approvals.

Prior to the replacement of an abandoned well, a work plan will be submitted to the FFA signatories as described in Section 4.0 and approval will be obtained as required in Section 3.1.3. The work plan will include soil management protocols, sampling and analysis requirements for waste profiling, monitoring procedures, health and safety requirements, the boring log of the original well (obtained from the Hunters Point Shipyard information repositories), proposed well construction details, and will describe procedures to be followed during installation of the replacement well. The location of the replacement well must be approved by the FFA signatories.

Following installation of the replacement well(s), a monitoring well installation completion report will be submitted to the appropriate entities. The report will include, among other things:

- Well location
- Identification of driller and drilling procedures
- DWR Well Completion Report
- Decontamination procedures
- Well installation procedures
- Lithologic log
- Well development procedures
- Horizontal location coordinates and vertical elevation of top of well casing
- Well completion details (depth, screen interval, materials used, surface completion, etc.)
- Initial water level measurement
- Well sampling, if necessary
- Permitting information; and

- Disposition of installation-derived wastes.

The report shall be signed by a Professional Engineer or Geologist licensed in the State of California.

5.8.3 Measures to Protect Monitoring Wells

Existing monitoring wells that are not removed prior to earthwork will be located, marked and protected by the Owner, or other contractors or entities designated by the Owner. All monitoring wells will be addressed in this manner before starting construction within Parcels B and G. Monitoring wells will be marked with brightly colored painted steel pipes or bollards. The markers will extend above ground not less than 4 feet so as to be easily visible. All wells will be kept locked.

5.9 Access Control During Redevelopment Activities

Access to the site during construction activities will be limited to authorized personnel in compliance with EHSP requirements (Section 5.1).

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

- Except in streets, security fencing will be placed around any site without a regulatory agency approved durable cover to prevent pedestrian/vehicular entry except at controlled (gated) points. Gates will be closed and locked during non-construction hours. Fencing will consist of a 6-foot chain link or equivalent fence unless particular safety considerations warrant the use of a higher fence.

- In streets, use a combination of K-rails or similar barriers and fences with locked gates

- Post “No Trespassing” signs every 200 feet

- Post signs every 200 feet warning that contamination within the fenced areas may be harmful to health.

Implementation of appropriate site-specific measures as outlined above will reduce the potential for trespassers or visitors to gain access to construction areas and to come into direct contact with soil or groundwater. Compliance with the specific access control measures is the responsibility of the Owners, Lessees, permittees, tenants or any other party with the legal right to perform subsurface work on the

property. As described in Section 1.3, the SFRA will assume the responsibility for compliance monitoring. If the Navy does not transfer the property to SFRA and enter into a cooperative services agreement with the SFRA as specified, the above obligations will be the responsibility of each future property owner and ultimately the Navy.

5.10 Risk Management Measures to be Implemented During Construction or Excavation Activities in Areas of Special Concern

This section describes risk management measures to be followed in areas of special concern. These areas include shoreline areas and Bay sediments outside the Pre-RACR RMP area.

5.10.1 Shoreline Improvements

Development activities at Parcel B may include installation or improvements to revetment walls, rip rap, sheet piles, or bulkheads at the bay margin. Work performed in these areas may be required to conform to the durable cover and/or revetment wall designs described in the RD/RA Report depending on how and where the structure is being improved or installed. All appropriate Navy documents must be consulted to determine the applicable requirements.

5.10.2 Sediments Outside of Pre-RACR RMP Area

Bay sediments, referred to as Parcel F, are outside the scope of this Pre-RACR RMP; however, disturbance of these sediments may occur during such activities as outfall construction and shoreline improvements. Work that carries over into Parcel F will be subject to the requirements of the AOC. All work performed in these areas must be planned and coordinated with the Navy (prior to transfer of Parcel F), California State Lands Commission, or other appropriate agencies (U.S Army Corps of Engineers [USACE], U.S. Fish and Wildlife Service [USFWS], San Francisco Bay Conservation and Development Commission [BCDC], RWQCB, DTSC and USEPA). In addition to coordinating with the agencies listed above, a work plan must be submitted to the FFA signatories for review and approval sixty calendar days prior to conducting any work on Parcel F.

The FFA signatories must be contacted during the planning phase of work to obtain information concerning the nature of the sediments to be disturbed, potential activities being performed in these areas by others, and requirements for work plans and other specific requirements. Contact information for these entities can be found in Appendix A.

6.0 REFERENCES

CE2-Kleinfelder, 2010. *Semiannual Groundwater Monitoring Report, October 2009 – March 2010, Hunters Point Shipyard, San Francisco, California.* June.

ChaduxTt, A Joint Venture of St. George Chadux Corp. and Tetra Tech EM Inc., (ChaduxTt), 2007. *Final Parcel B Technical Memorandum in Support of a Record of Decision Amendment, Hunters Point Shipyard, San Francisco, California.* December 12.

_____, 2009. *Final Amended Parcel B Record of Decision, Hunters Point Shipyard, San Francisco, California.* January 14.

_____, 2010a. *Final Remedial Design Package, Installation Restoration Sites 7 and 18, Parcel B, Design Basis Report, Remedial Action Monitoring Plan, Land Use Control Remedial Design, Preconstruction Operation and Maintenance Plan, Preconstruction Cost Opinion, Hunters Point Shipyard, San Francisco, California.* January 8.Department of the Navy (Navy), 2009. *Final Record of Decision for Parcel G, Hunters Point Shipyard, San Francisco, California.* February 18.

_____, 2010b. *Draft Finding of Suitability for Early Transfer of Parcels B (Excluding Installation Restorartion Sites 7 and 18) and Parcel G, Hunters Point Naval Shipyard, San Francisco, California.* December 10.

Innovative Technical Solutions, Inc. (ITSI), 2010. *Final Addendum to Project Work Plan, Petroleum Hydrocarbon Corrective Action Implementation Parcel B, Hunters Point Shipyard, San Francisco, California.* October.

Insight EEC, INC. (Insight), 2009. *Final Hunters Point Shipyard Parcel B, IR-26 Time Critical Removal Action, Removal Action Closeout Report, Hunters Point Shipyard, San Francisco, California.* January.

Jonas & Associates, Inc., 2008 (Jonas). *Second Five-Year Review of Remedial Actions, Hunters Point Shipyard, San Francisco, California*. September 8.

PRC, 1996. *Parcel B Feasibility Study, Final Report, Hunters Point Shipyard, San Francisco, California*. November 26.

PRC, Harding Lawson Associates, Levine-Fricke, and Uribe & Associates (PRC et al). 1996. *Parcel B remedial Investigation, Draft Final Report, Hunters Point Shipyard, San Francisco, California*. June 3.

Sealaska Environmental Services, LLC (Sealaska), 2010. Draft Work Plan For Soil Vapor Intrusion Survey, Parcels B, D-1, G and UC-2, *Hunters Point Shipyard, San Francisco, California*. July.

SulTech, A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc., (SulTech), 2007. *Final Revised Feasibility Study for Parcel D, Hunters Point Shipyard, San Francisco, California.* November 30.

Tetra Tech, 1997a. *Final Parcel D RI Report, Hunters Point Shipyard, San Francisco, California*. January 31.

_____, 1997b. *Final Parcel D FS, Hunters Point Shipyard, San Francisco, California*. August 29.

_____, 2001. *Final Remedial Design Amendment, Parcel B, Hunters Point Shipyard, San Francisco, California.* February 20.

Tetra Tech EC, Inc (TtEC), 2008. *Final Parcel B Technical Memorandum in Support of a Record of Decision Amendment Radiological Addendum, Hunter Point Shipyard, San Francisco, California.* Marcy 14.

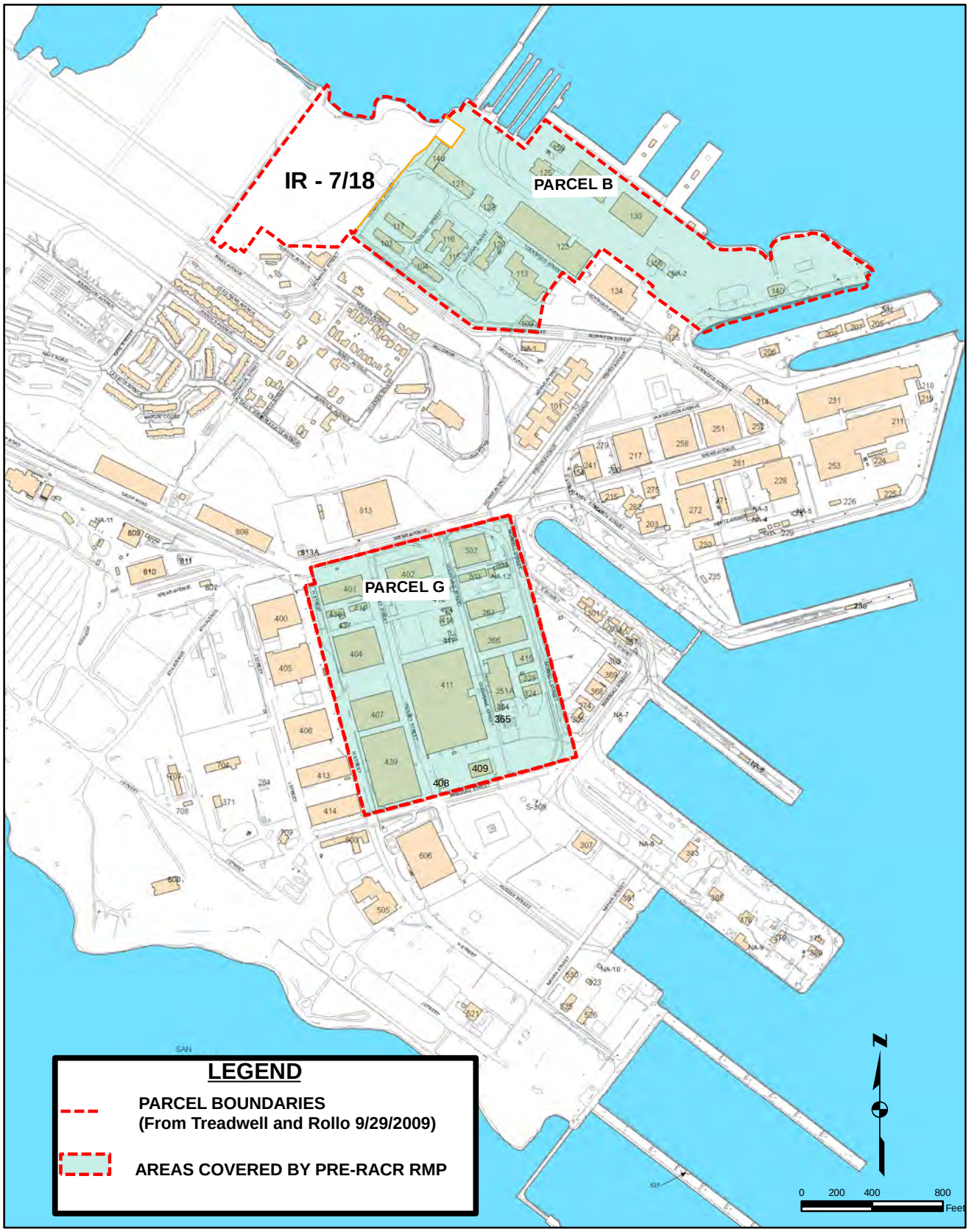
The Alliance Compliance Group Joint Venture (Alliance), 2010. *Draft Final Parcels D-1 and G Groundwater Treatability Study Technical Report, IR-09, IR-33 and IR-71, Hunters Point Shipyard, San Francisco, CA.* January.

TABLES

Table 1. Risk Management Plan Oversight Responsibilities

RMP Element	Responsible Oversight Agency	Additional Comments
Construction Worker Health and Safety	California Occupational Health and Safety Administration (Cal-OSHA)	
Dust Control	San Francisco Department of Public Health (SFDPH)	
Asbestos Dust Mitigation Plans	Bay Area Air Quality Management District	
Storm Water and Groundwater Management	Regional Water Quality Control Board	
Groundwater Discharges to Sanitary Sewer	SF Public Utilities Commission (SFPUC)	
Permits to engage in subsurface work	SFDBI or SFDPW	Subject to the requirements of Article 31 of the Health Code

FIGURES



MACTEC

PARCEL B and G LOCATION MAP
PARCEL B & G PRE REMEDIAL ACTION COMPLETION REPORT
RISK MANAGEMENT PLAN
HUNTERS POINT NAVAL SHIPYARD
SAN FRANCISCO, CALIFORNIA

FIGURE 1

DRAWN	JOB NUMBER	CHECKED	CHECKED DATE	APPROVED	APPROVED DATE
RDR	4096097772				

Wednesday, December 16, 2009 11:51:39 AM
P:\4096\097756_HPS-CP\GIS\MXD\Parcel_B_map1.mxd

IR-10 Cr VI PLUME

IR-10 VOC PLUME

IR-25 VOC PLUME

IR 07/18

PARCEL B

IR-26 MERCURY PLUME

NON-NAVY PROPERTY

IR-06 VOC PLUMES

DRAFT

NOTES:

1. PROPOSED DEVELOPMENT LAYOUT FOR PARCEL B WAS DERIVED FROM W&K AND IBI MAPS AND INCLUDES PRIMARILY RESIDENTIAL DEVELOPMENT, PARKS/OPEN SPACE AND A SMALL AMOUNT OF NEIGHBORHOOD RETAIL.
2. ALL GROUNDWATER WELL LOCATIONS ARE APPROXIMATE AND WERE DERIVED FROM FIGURE 1 OF KLEINFELDER'S SEMI-ANNUAL GROUNDWATER MONITORING REPORT (OCTOBER 2007 - MARCH 2008)

LEGEND

IMPACTED GROUNDWATER (DERIVED FROM: FIG. 5-4, ALTERNATIVE GW-3A IN-SITU BIOREMEDIATION, MONITORED NATURAL ATTENUATION, AND INSTITUTIONAL CONTROLS, FEASIBILITY STUDY REPORT FOR PARCEL C, 7-26-08)

APPROXIMATE LOCATION OF VOC PLUMES "Figure 5-1, Final Parcel B ROD (January, 2009)"

APPROXIMATE LOCATION OF METALS PLUMES "Figure 5-1, Final Parcel B ROD (January, 2009)"

IR34MW37A GROUNDWATER MONITORING WELL

PARCEL BOUNDARY

IR 07 and 18 BOUNDARY

REDEVELOPMENT BLOCK 4 (MIXED USE)

NON-NAVY PROPERTY

PARCEL B (MIXED USE)

UTILITY CORRIDOR (UC-2)

PARCEL C

AREA REQUIRING INSTITUTIONAL CONTROL (ARIC) FOR SOIL VAPOR CONTROL *(NAVY FIGURE: Residential Exposure Risk Estimates from Vapor Intrusion of VOCs 12/2/2010)*

N

0 125 250
SCALE IN FEET

NO.	DATE	REVISIONS		
			DRAWN: JHD	PROJECT NO: 4096097772
			ENGINEER:	SCALE: AS SHOWN
			CHECKED:	APPROVED:
			DATE: 01/13/2011	DATE:

MACTEC

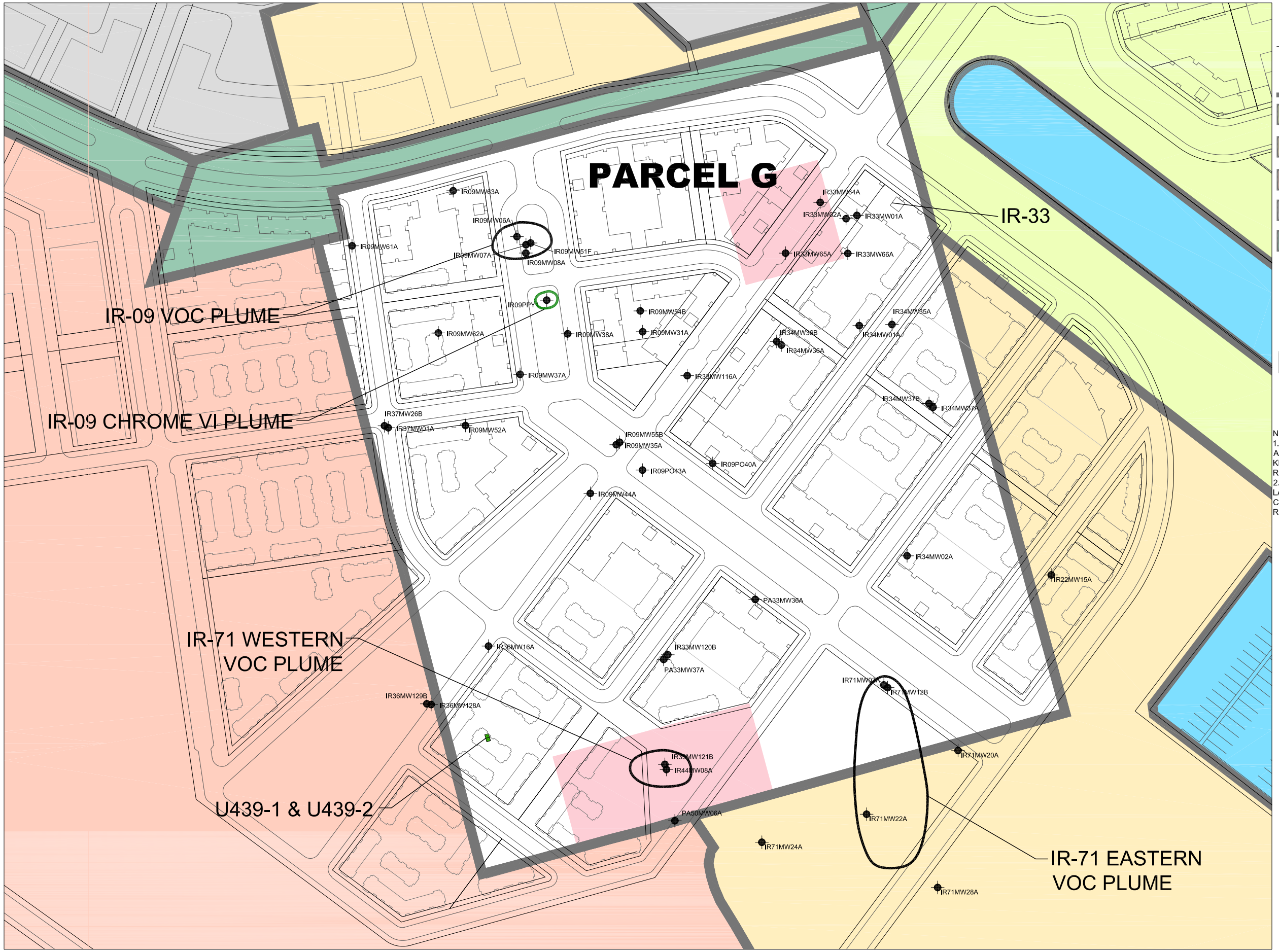
HUNTERS POINT / CANDLESTICK

INTEGRATED PROJECT
HUNTERS POINT NAVAL SHIPYARD
SAN FRANCISCO, CALIFORNIA

ENVIRONMENTAL CONDITIONS AND PROPOSED DEVELOPMENT PLAN
PARCEL B

FIGURE: 2

2011-01-13_RMP-2.DWG 300.0
20110113.0906



LEGEND

- IR34MW37A — GROUNDWATER MONITORING WELL
- CLOSED-IN-PLACE UST (U439-1 & U439-2)
- PARCEL BOUNDARY
- PARCEL C
- PARCEL D
- PARCEL E
- NON-NAVY PROPERTY
- UTILITY CORRIDOR (UC-1, 2, AND 3)
- APPROXIMATE LOCATION OF VOC PLUMES "Figure 7, Final Parcel G ROD (Feb. 2009)"
- APPROXIMATE LOCATION OF METAL PLUME
- PARCEL G
- AREA REQUIRING INSTITUTIONAL CONTROL (ARIC) FOR SOIL VAPOR CONTROL *(NAVY FIGURE: Residential Exposure Risk Estimates from Vapor Intrusion of VOCs 12/2/2010)*

NOTES:

1. ALL GROUNDWATER WELL LOCATIONS ARE APPROXIMATE AND WERE DERIVED FROM FIGURE 1 OF CE2 KLEINFELDER'S SEMI-ANNUAL GROUNDWATER MONITORING REPORT (OCTOBER 2007 - MARCH 2008)
2. THE PROPOSED NON-STADIUM OPTION DEVELOPMENT LAYOUT FOR PARCEL G WAS DERIVED FROM IBI MAPS AND CONSISTS OF RESIDENTIAL, PARKS AND NEIGHBORHOOD RETAIL.

N

0 100 200
SCALE IN FEET

DRAFT

NO.	DATE	REVISIONS

DRAWN: JHD	PROJECT NO: 4096097772
ENGINEER: DR	SCALE: AS SHOWN
CHECKED:	APPROVED:
DATE: 1/14/2011	DATE:

MACTEC

HUNTERS POINT / CANDLESTICK

INTEGRATED PROJECT
HUNTERS POINT NAVAL SHIPYARD
SAN FRANCISCO, CALIFORNIA

ENVIRONMENTAL CONDITIONS
AND PROPOSED DEVELOPMENT PLAN
PARCEL G

FIGURE: 3

2011-01-14_RMP-3.DWG 300.0
20110114.0855

APPENDIX A

CONTACT INFORMATION

APPENDIX A
Contact Information

FAA Signatory Points of Contact

DTSC
Mr. Ryan Miya
Project Manager
Department of Toxic Substances Control
700 Heinz Avenue, Suite 200
Berkeley, CA 94710
Phone: 510-540-3775
Email: RMiya@dtsc.ca.gov

RWQCB
Mr. Ross Steenson
Project Manager
San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612
Phone: 510-622-2445
Email: rsteenson@waterboards.ca.gov

U.S. EPA
Mr. Mark Ripperda
Project Manager
U.S. Environmental Protection Agency, Region 9
75 Hawthorne Street
San Francisco, CA 94105
Phone: 415-972-3028
Email: Ripperda.Mark@epa.gov

U.S. Navy
Mr. Keith Forman
BRAC Environmental Coordinator
BRAC Program Management Office West
1455 Frazee Road, Suite 900
San Diego, CA 92108-4310
Phone: 619-532-0913
Email: keith.s.forman@navy.mil

Other Points of Contact

San Francisco City and County Department of Public Health
Ms. Amy Brownell
Environmental Engineer
1390 Market Street, Suite 210
San Francisco, CA 94102
Phone: 415-252-3800

California State Lands Commission
100 Howe Avenue, Suite 100 South
Sacramento, CA 95825
Phone: 916-574-1900

U.S. Army Corps of Engineers
1455 Market Street
San Francisco, CA 94103
Phone: 415-503-6773

U.S. Fish and Wildlife Service
2800 Cottage Way
Sacramento, CA 95825
Phone: 916-414-6464

San Francisco Bay Conservation and Development Commission
50 California Street, Suite 2600
San Francisco, CA 94111
Phone: 415-352-3600

San Francisco Main Library
100 Larkin Street
Government Information Center, 5th Floor
San Francisco, CA 94102
Phone: 415-557-4500

APPENDIX B

ANNUAL INSPECTION REPORT

PRE-RACR RISK MANAGEMENT PLAN (RMP)
ANNUAL REPORT
FOR
PARCELS B and G, HUNTERS POINT SHIPYARD
SAN FRANCISCO, CALIFORNIA

Property Owner:	Owner Contact Information:
Annual Report Preparer and Affiliation:	Preparer Contact Information:
Property Address:	
Date and Time of Inspection:	Weather and tidal conditions at time of inspection:

INTRODUCTION:

In accordance with the final Records of Decision (RODs) for Parcels B and G at the former Hunters Point Shipyard (HPS) in San Francisco, California, environmental cleanup activities are being implemented to provide for protection of human health and the environment. The cleanup activities are overseen by the United States Environmental Protection Agency (USEPA), the California Department of Toxic Substances Control (DTSC) and the Regional Water Quality Control Board (RWQCB). These agencies plus the Navy, as the previous landowner and CERCLA responsible party, are referred to as the Federal Facility Agreement (FFA) signatories. The FFA is an agreement entered into by the agencies to carry out the remediation of HPS. This Pre-Remedial Action Completion Report Risk Management Plan (hereafter referred to as the Pre-RACR RMP) has been prepared for Parcels B and G to provide procedures and protocols that shall be used to conduct "pre-approved restricted activities" on Parcels B and G during the period between the transfer of property from the Navy to other landowners and the time the FFA signatories approve the RACR demonstrating that the remedial activities called for in the ROD have been completed.

This Annual Report form has been designed such that the annual reporting obligations of the Pre-RACR RMP can be comprehensively addressed and property conditions documented. The objectives of the annual report are to provide the necessary information to verify that field activities and related risk management measures that have been conducted during the reporting period meet the requirements of the Pre-RACR RMP. The Annual Report should include field notes and photographs taken at the time of the inspection to document the condition of the site at the time of the inspection.

As outlined in the RMPs, certain activities are allowed to progress without first gaining approval of the FFA Signatories (defined as the USEPA, DTSC, RWQCB and US Navy). These activities are called ***Pre-Approved Activities*** and are discussed in more detail in Section 3.1.2 of the Pre-RACR RMP. Certain other activities are NOT allowed to progress without first gaining the approval of the FFA Signatories. These activities are called ***Restricted Activities Requiring FFA Signatory Approval*** and are discussed in more detail in Section 3.1.3 of the Pre-RACR RMP. Notification and Reporting requirements are discussed in Section 4.0 of the Pre-RACR RMP.

This Annual Report is organized into three Sections. Section 1 provides documentation for Pre-Approved Activities and Section 2 provides documentation results for Restricted Activities Requiring FFA Signatory Approval. If Restricted Activities Requiring FFA Signatory Approval were

conducted during the reporting period, the approved Work Plan and corresponding Closure Report must be submitted as attachments to the Annual Report. Section 3 provides a summary of action items that are planned and must be completed to remain in compliance with the Pre-RACR RMP.

SECTION 1: PRE-APPROVED ACTIVITIES

SECTION 1A: ACTIVITY DESCRIPTION

Indicate which pre-approved activities have been completed during the reporting period (See Pre-RACR RMP Section 3.1.2):	☐ Soil excavation, grading and movement of soil within Parcels B and G or moving soil from Parcel A onto Parcels B and G. Transportation offsite	Description of activity (attach photographs and additional sheets as necessary):
	☐ Construction of roads, utilities, facilities, structures, and appurtenances of any kind	Description of activity (attach photographs and additional sheets as necessary):
	☐ Demolition and/or removal of hardscape (e.g., existing concrete or asphalt roadways, parking lots, existing foundations, and existing sidewalks)	Description of activity (attach photographs and additional sheets as necessary):
	☐ Any activity, not listed above, that moved subsurface soil to the ground surface (e.g., trenching, pothole excavations, scarifying, etc.)	Description of activity (attach photographs and additional sheets as necessary):
	☐ Importation of soil in accordance with approved SIP.	Description of activity (attach photographs and additional sheets as necessary):
	☐ Temporary dewatering of below grade excavations (e.g., utility trenches, building foundations, etc.)	Description of activity (attach photographs and additional sheets as necessary):

	in areas that are greater than 200 feet from an active groundwater remediation area.	
	☐ Disturbance of existing shoreline protection, sea walls, bulkheads, etc.	Description of activity (attach photographs and additional sheets as necessary):
SECTION 1B: GENERAL SITE MANAGEMENT ACTIVITIES		
Was an environmental health and safety plan prepared for work indicated in Section 1A?	☐ Yes ☐ No	Attach copy of plan(s)
Was a Dust Control Plan prepared for work indicated in Section 1A?	☐ Yes ☐ No	Attach copy of plan and monitoring data collected in accordance with the plan for each activity conducted above.
Was an Asbestos Dust Mitigation Plan prepared for work indicated in Section 1A?	☐ Yes ☐ No	Attach copy of plan and monitoring data collected in accordance with the plan for each activity conducted above.
Was a storm water pollution prevention plan prepared for work indicated in Section 1A?	☐ Yes ☐ No	Attach copy of plan and monitoring data collected in accordance with the plan for each activity conducted above.
Are perimeter security fences in place and in operable condition?	☐ Yes ☐ No	If no, describe repairs and/or modifications that are required to restore integrity:
Is signage in place and in good condition?	☐ Yes ☐ No	If no, describe repairs and/or modifications that are required to restore integrity:

SECTION 1C: SOIL MANAGEMENT ACTIVITIES		
For all soil management activities indicated in Section 1A, was surplus soil disposed off-site?	☐ Yes ☐ No	If yes, please attach copies of waste profile, waste manifest, name, address and contact of disposal facility:
For all soil management activities indicated in Section 1A, was soil transported and placed in an on-site location other than its place of origin?	☐ Yes ☐ No	If yes, describe the quantity of soil, origin of soil, location of placement:
For all soil management activities indicated in Section 1A, was soil imported to the site for use as fill material?	☐ Yes ☐ No	If yes, describe the quantity, source/origin of soil, location of placement, attach soil chemical profile, provide letter certifying that the imported soil meets the soil import criteria (see RMP, Appendix D):
Indicate any unexpected and/or unknown conditions encountered during soil excavation activities:	☐ Evidence of soil contamination (strong odor, visible oily liquid, discolored or stained soil, etc.)	Describe condition and action taken (attach photographs and additional sheets if necessary):
	☐ Undocumented structures (e.g. underground storage tanks, buried sumps, oil water separators, refractory brick, pipelines, etc.)	Describe condition and action taken (attach photographs and additional sheets if necessary):
	☐ Abrasive blast material	Describe condition and action taken (attach photographs and additional sheets if necessary):
	☐ Radiological devices (e.g. radium dials)	Describe condition and action taken (attach photographs and additional sheets if necessary):
	☐ Free phase liquid floating on the groundwater (e.g. floating oil)	Describe condition and action taken (attach photographs and additional sheets if necessary):
SECTION 1D: GROUNDWATER MANAGEMENT ACTIVITIES		

For all groundwater dewatering activities, was water discharged to the sanitary sewer or storm drain under an NPDES permit or SFPUC batch wastewater discharge permit?	☐ Yes ☐ No	If yes, attach copy of NPDES permit and compliance documentation. If no, how was water disposed?
For all groundwater not discharged under an NPDES or SFPUC permit, indicate disposal details:	☐ Water used for dust control ☐ Water contained and allowed to percolate back into groundwater ☐ Water contained and allowed to evaporate ☐ Other (describe):	Provide and attach supporting information including volume of water, chemical test results, regulatory agency approval letters, etc.
SECTION 2: RESTRICTED ACTIVITIES REQUIRING FFA SIGNATORY APPROVAL		
SECTION 2A: ACTIVITY DESCRIPTION		
Indicate which land disturbing activities were conducted within areas undergoing active remediation within the reporting period (See Pre-RACR RMP Section 3.1.3). Indicate if any activities involved the alteration, disturbance or removal of any component of a ROD response action or cleanup action that was in conflict with planned redevelopment activities:	☐ Excavation of soil,	Description of activity (attach photographs and additional sheets as necessary):
	☐ Construction of roads, utilities, facilities, structures, and appurtenances of any kind	Description of activity (attach photographs and additional sheets as necessary):
	☐ Demolition or removal of hardscape	Description of activity (attach photographs and additional sheets as necessary):
	☐ Any activity that moves subsurface	Description of activity (attach photographs and additional sheets as necessary):

	soil to the Site surface	
	☐ Any other activity that causes or facilitates the movement of known contaminated groundwater	Description of activity (attach photographs and additional sheets as necessary):
Indicate if any activities involved the alteration, disturbance or removal of any component of a ROD response action or cleanup action that was in conflict with planned redevelopment activities	☐ Groundwater monitoring well and/or groundwater remediation system, including extraction wells, conveyance piping, and treatment system.	Description of activity (attach photographs and additional sheets as necessary):
	☐ Soil vapor extraction system, including extraction wells, monitoring wells, conveyance piping and treatment system.	Description of activity (attach photographs and additional sheets as necessary):
	☐ Revetment Walls (not a likely occurrence in a Pre-RACR state):	Description of activity (attach photographs and additional sheets as necessary):
	☐ Temporary dewatering of below grade excavations (e.g., utility trenches, building foundations, etc.) in areas that are within 200 feet of an active groundwater remediation area.	Description of activity (attach photographs and additional sheets as necessary):
	☐ Placement of utility line vapor or groundwater trench plugs	Description of activity (attach photographs and additional sheets as necessary):
	☐ Construction of building in an Area	Description of activity (attach photographs and additional

	Requiring Institutional Controls (ARIC) for Volatile Organic Compounds (VOCs) requiring soil vapor mitigation	sheets as necessary):
SECTION 2B: ACTIVITY DOCUMENTATION		
For all restricted activities requiring FFA signatory approval, indicate which documentation was produced:	☐ Work Plan	Attach copy of plan and FFA signatory approval letter for each activity indicated in Section 2A.
	☐ Activity Closeout Report	Attach copy of Activity Closeout Report, including monitoring documentation and FFA signatory approval of Closeout Report for each activity indicated in Section 2A.

SECTION 3: ACTIONS TO BE COMPLETED

FOLLOW UP ACTION If applicable, provide a summary of additional action items that are planned to be completed to remain in compliance with the pre-RACR RMP (such as soil waste off-haul, completion of elevation survey, water discharge to sewer, etc.).	**RESPONSIBLE PARTY**	**TARGET COMPLETION DATE**
1.	☐ Owner Name: Phone #: ☐ Tenant Name: Phone #: ☐ Contractor Name: Phone #: ☐ Developer Name: Phone #:	

2.	☐ Owner Name: Phone #: ☐ Tenant Name: Phone #: ☐ Contractor Name: Phone #: ☐ Developer Name: Phone #:	
3.	☐ Owner Name: Phone #: ☐ Tenant Name: Phone #: ☐ Contractor Name: Phone #: ☐ Developer Name:	

	Phone #:	
SECTION 4: RESOLUTION OF PREVIOUS REPORT ACTION ITEMS		
1.Previous Action Item	Action Taken:	Date Completed:
2. Previous Action Item	Action Taken:	Date Completed:
3. Previous Action Item:	Action Taken:	Date Completed:

Certification Statement:
Under penalty of perjury, I certify that the above information is true and correct and appropriately reflects the activities that have occurred during the inspection period and the condition of the site is as represented at the time of the inspection.
By:_____ Company:_____
Name:_____ Date:_____
Title:_____ Registration number and expiration date:_____

IC Compliance Monitoring Report

Hunters Point Shipyard, San Francisco, California
Parcel B, Excluding Installation Restoration Sites 7 and 18

EPA I.D. CA1170090087

Inspection and Enforcement entity: _____

This evaluation is the final Navy certification just prior to site conveyance (yes or no) _____

If for an annual inspection, this evaluation covers the period from _____ through _____.

Certification Checklist

		In Compliance	Non-Compliance	See Comment
1)	No use of areas at Parcel B designated for open space, educational/cultural, and industrial land use for a residence, including any mobile home or factory-built housing, constructed or installed for use as residential human habitation, a hospital for humans, a school for persons under 21 years of age, or a day care facility for children.[a]	☐	☐	☐
2)	No growing of vegetables, fruits, or any edible items in native soil for human consumption.	☐	☐	☐
3)	No groundwater use for any purpose (No evidence of tampering with existing wells or evidence of new wells)	☐	☐	☐
4)	No land-disturbing activity[a] (excavation; construction of roads, utilities, or structures; demolition of hardscape; movement of soil from below ground surface to the surface; or activity that facilitates movement of known contaminated groundwater)	☐	☐	☐
5)	No installation of new groundwater wells of any type[a].	☐	☐	☐

		In Compliance	Non-Compliance	See Comment
6)	No altering, disturbing, or removing components of the remedy including revetment, soil cover/cap, or groundwater monitoring wells and associated equipment[a].	☐	☐	☐
7)	No construction of enclosed structures in areas outside of Redevelopment Block 4[a].	☐	☐	☐
8)	No removal or damage to security features (such as locks on monitoring wells, site fencing, or signs) or to survey monuments, monitoring equipment, piping or other appurtenances.	☐	☐	☐
9)	Notification provided for any unauthorized change in land use.	☐	☐	☐
10)	Any violations of these LUCs were reported within 10 business days of discovery and an explanation provided of those actions taken or to be taken was provided within 10 days of notification of discovery.	☐	☐	☐

I, the undersigned, hereby certify that the above-described land use restrictions have been complied with for the period noted. Alternately, any known deficiencies and completed or planned actions to address such deficiencies are described in the attached explanation of deficiencies.

_____ _____

Signature Date

Notes and Comments:

a These prohibited or restricted activities may be conducted provided that the requirements in the LUC RD are followed. If the inspector finds that a prohibited or restricted activity has occurred, the inspector shall check whether the activity was conducted in accordance with approved plans for that activity. Activities that are conducted in accordance with the approved plans will be considered "in compliance." Comments should be attached to the compliance checklist to describe how the requirements in the plans were adhered to. Activities that are not conducted in accordance with the approved plans would be considered "non-compliance."

Photographs, in addition to other notes and forms, to document the conditions certified in this checklist should be provided.

Send the completed form and all accompanying information by certified mail, return receipt requested, to the Navy, EPA, DTSC, and Regional Water Board each calendar year.

ANNUAL IC COMPLIANCE CERTIFICATE

Parcel B
Excluding Installation Restoration Sites 7 and 18
Hunters Point Shipyard, San Francisco, California

EPA I.D. CA1170090087

I _____ hereby certify that the attached Parcel B Institutional Control Compliance Monitoring Report is complete and accurate. The requirements of LUC RD report Section 4.0 have been met. I further certify that a copy of this compliance certificate and the attached Parcel B Institutional Control Compliance Monitoring Report have been sent to the following addressees:

_____
(Name and title)

INSPECTION RECORD (PRELIMINARY) – PARCEL B EXCLUDING IR-07/18, HUNTERS POINT SHIPYARD, SAN FRANCISCO, CA

Date and time of inspection:	**Inspector name and organization:**
Weather and tidal conditions – include details of most recent rain event:	
Reason for inspection (circle one): **Scheduled** **Emergency response**	**If inspection is initiated by an emergency response, explain condition:**

GENERAL SITE CONDITION (APPLIES TO ALL AREAS OF SITE)

ITEM	INSPECTION FREQUENCY	ACTION/ INSPECTION ITEM	COMMENTS — INCLUDING EXPLANATION IF NOT COMPLETED. INCLUDE ANY PHOTO DESCRIPTIONS
Overall condition of site	Every inspection (at least annual)	Note general conditions. Trash and debris accumulation, unauthorized access, etc.	
Land use	Every inspection (at least annual)	Digging or unauthorized land use per LUC RD	

INSPECTION RECORD (PRELIMINARY) – PARCEL B EXCLUDING IR-07/18, HUNTERS POINT SHIPYARD, SAN FRANCISCO, CA (CONTINUED)

SITE SECURITY			
ITEM	**INSPECTION FREQUENCY**	**ACTION/ INSPECTION ITEM**	**COMMENTS — INCLUDING EXPLANATION IF NOT COMPLETED. INCLUDE ANY PHOTO DESCRIPTIONS**
Security of area	Every inspection (at least annual)	Assess condition of fence, including holes, corrosion, digging, and concrete condition – repair as necessary	
		Condition of locks, fencing, and gates – repair and replace as necessary	
		Note signs of vandalism	
		Assess condition of access roads and gates	
		Note evidence of unauthorized access	
Site signage	Every inspection (at least annual)	All signs in place and secure – repair and replace as necessary	
		Wording legible – replace and repair as necessary or document degradation	
		Note signs of vandalism	
GROUNDWATER MONITORING WELLS			
Groundwater monitoring wells	During all sampling events and every inspection (at least annually)	Security (locks intact) – repair and replace as necessary	
		Vandalism/signs of unauthorized access	
		Well box is free of obstructions	
		Well casing is free of obstruction	
		Seals not damaged	

INSPECTION RECORD (PRELIMINARY) – PARCEL B EXCLUDING IR-07/18, HUNTERS POINT SHIPYARD, SAN FRANCISCO, CA (CONTINUED)

ASPHALT PAVEMENT COVER			
ITEM	**INSPECTION FREQUENCY**	**ACTION/ INSPECTION ITEM**	**COMMENTS — INCLUDING EXPLANATION IF NOT COMPLETED. INCLUDE ANY PHOTO DESCRIPTIONS**
Surface Inspection	Every inspection (at least annual)	Assess cracking in asphaltic concrete layer	
		Assess cracking in foundations	
		Assess the crawl space access to maintain the prevention of access	
		Inspect transitions between cover and utility features	
		Evidence of settlement and subsidence	
		Note evidence of burrowing pests	
		Assess condition of survey benchmarks	
		Assess accumulation of soils over cover	
		Inspect areas of previous repair	
		Remove any vegetative species and repair asphalt	
		Note signs of excessive traffic	
		Note signs of unauthorized access to the site or the buildings	

INSPECTION RECORD (PRELIMINARY) – PARCEL B EXCLUDING IR-07/18, HUNTERS POINT SHIPYARD, SAN FRANCISCO, CA (CONTINUED)

ASPHALT PAVEMENT COVER (Continued)			
ITEM	**INSPECTION FREQUENCY**	**ACTION/ INSPECTION ITEM**	**COMMENTS — INCLUDING EXPLANATION IF NOT COMPLETED. INCLUDE ANY PHOTO DESCRIPTIONS**
Stormwater drainage	Every inspection (at least annual)	Observe areas of accumulated water for cracking and settlement	
		Remove trash and debris from catch basins	
		Note integrity and function of outfalls	
		Monitor areas of accumulation in the vicinity of site buildings	
		Note evidence of overflow in drainage channels	
		Remove trash or debris from drainage channel	
		Note any change in condition of drainage contributing areas	
SOIL COVER			
Vegetation	Every inspection (at least annual)	Assessment of unhealthy/bare areas (not to exceed 2% of total area or >30% of any 100 ft^2 area.	
		Note evidence of burrowing pests	
		Assess adequacy of mowing and watering	
		Remove or kill weed species	
		Note signs of excessive traffic	
		Note signs of unauthorized access	

INSPECTION RECORD (PRELIMINARY) – PARCEL B EXCLUDING IR-07/18, HUNTERS POINT SHIPYARD, SAN FRANCISCO, CA (CONTINUED)

SOIL COVER (Continued)			
ITEM	**INSPECTION FREQUENCY**	**ACTION/ INSPECTION ITEM**	**COMMENTS — INCLUDING EXPLANATION IF NOT COMPLETED. INCLUDE ANY PHOTO DESCRIPTIONS**
Soil cover	Every inspection (at least annual)	Note evidence of cover settlement	
		Evidence of slope failure along boundaries and slope transition areas	
		Evidence of cracking or soil movement	
REVETMENT			
Crest inspection	Every inspection (at least annual)	Note evidence of settlement or movement	
		Note evidence of wave overtopping	
		Inspect transition from cover to revetment	
		Assess any areas of erosion	
		Inspect for proper placement of filter fabric	

INSPECTION RECORD (PRELIMINARY) – PARCEL B EXCLUDING IR-07/18, HUNTERS POINT SHIPYARD, SAN FRANCISCO, CA (CONTINUED)

REVETMENT (Continued)			
ITEM	**INSPECTION FREQUENCY**	**ACTION/ INSPECTION ITEM**	**COMMENTS — INCLUDING EXPLANATION IF NOT COMPLETED. INCLUDE ANY PHOTO DESCRIPTIONS**
Armoring inspection	Every inspection (at least annual)	Note evidence of settlement or movement	
		Note placement and stability of rip rap	
		Inspect for proper placement of filter fabric and filter layer	
Toe and flank inspection	Every inspection (at least annual)	Note areas of scour and erosion	
		Inspect for proper placement of filter fabric and filter layer	
		Note changes in the bay slope	
SVE SYSTEM			
System shutdown	Each SVE site visit	Document any system shut down	
System configuration	Each SVE site visit	Record extraction wells in use	
		Record duration of extraction at each well or optimization	
Extraction wells	Each SVE site visit	Monitor vacuum pressure at each well	
		Check for leaks	
		Monitor VOCs at each well	

INSPECTION RECORD (PRELIMINARY) – PARCEL B EXCLUDING IR-07/18, HUNTERS POINT SHIPYARD, SAN FRANCISCO, CA (CONTINUED)

SVE SYSTEM (Continued)			
ITEM	**INSPECTION FREQUENCY**	**ACTION/INSPECTION ITEM**	**COMMENTS — INCLUDING EXPLANATION IF NOT COMPLETED. INCLUDE ANY PHOTO DESCRIPTIONS**
Soil gas monitoring wells	Each SVE site visit	Monitor vacuum pressures	
Extracted water	Each SVE site visit	Check amount of water extracted	
		Dispose of extracted water as necessary	
GAC units	Each SVE site visit	Check influent concentration with FID	
		Check effluent concentration with FID	
		Laboratory analysis as necessary	
Knock out drum	Each SVE site visit	Check for accumulated sediments	
System components	Each SVE site visit	Maintain according to manufacturer	
General operational	Each SVE site visit	Record operating hours	
		Record vapor flow rate at treatment system influent	
		Assessment of configuration – optimization	

INSPECTION RECORD (PRELIMINARY) – PARCEL B EXCLUDING IR-07/18, HUNTERS POINT SHIPYARD, SAN FRANCISCO, CA (CONTINUED)

OTHER OBSERVATIONS:

FOLLOW-UP ACTIONS (Include area requiring further action):

Signature _____ Date _____

Notes: Inspections should be completed on at least an annual basis for all components of the remedy other than the SVE system. Every inspection, as used in the inspection frequency, includes both scheduled annual inspections and inspections triggered by emergency responses. All items on the checklist should be included in all inspections triggered by emergency responses in addition to the scheduled annual inspections.

Use professional judgment and site experience to identify whether inspections are necessary following significant earthquakes, regardless of location and magnitude. Inspections after hurricane-level storm events should be conducted and adjust the storm response trigger over time based on site experience.

The O&M contractor may determine the appropriate trigger for inspection and emergency response from the following information resources:

- Emergency Response Plan - Earthquake Annex (San Francisco 2008).
- City and County of San Francisco Outdoor Warning System.
- Emergency Alert System (EAS). The primary local EAS broadcast station for the Bay Area is KCBS (740 AM). EAS messages may be sent via the Internet-based HazCollect system (maintained by the National Oceanic and Atmospheric Administration).

- Public service announcements through radio and television, including radio broadcasts using the San Francisco Unified School District radio station, KALW.
- On-scene loudspeaker announcements.
- The AlertSF system. Operational from the city's Emergency Operations Center and will provide the ability to send broadcast digital messaging to any number of groups, such as vulnerable populations, large business owners, and community-based organizations.
- The National Earthquake Information Center (NEIC) and the USGS Earthquake Notification Service (ENS). These provide notifications of earthquakes free to interested parties. Users of the service can specify the regions of interest, establish notification thresholds of earthquake magnitude, designate whether they wish to receive notification of aftershocks, and even set different magnitude thresholds for daytime or nighttime to trigger a notification. (Congressional Research Service 2010)
- ShakeMap. A product of USGS Earthquake Hazards Program in conjunction with regional seismic network operators and provides MM intensities (listed as "instrumental intensity" on the ShakeMap). ShakeMaps are now triggered automatically and made available within minutes of the event via the Internet including Parcel B (USGS 2010).

The threshold level for inspection and emergency response in the event of seismic activity is recommended to be MM intensity VII reported at Parcel B or within the South San Francisco area.

INSPECTION AND REPAIR PROCEDURES

The site will be visited and the cover and revetment inspected quarterly for the first year and annually thereafter – or as necessary based on the results of the inspections. The SVE system will require more regular inspection, weekly, during the operation of the system. At a minimum, the following materials should be brought to the site for each site visit and this list should be adapted over time based on previous inspections conducted by the contractor:

- Camera
- O&M plan
- LUC RD report
- Appropriate documentation materials including any inspection checklists
- Copies of appropriate maps and figures
- O&M logbook
- Telephone and contact list
- Common items requiring replacement (locks, well caps, well seals, and similar equipment)
- Previous inspection reports and photos of concern – as necessary
- Appropriate personal protective equipment for inspection and minor repairs
- Flame ionization detector (FID) during SVE system inspections

Inspection reports summarizing the findings of the inspections should be filed promptly with the property owner following the inspection and in cases where significant damage has been observed the property owner should be notified as soon as possible. The format of reporting documents, scheduling, and timing of this communication will be determined when an O&M contractor is identified.

Significant issues of vandalism and theft, especially when recurring, should be reported to police and may result in increased inspection frequency.

Basic repairs can be conducted on site at the time of inspections. These kinds of repairs may include but are not limited to: replacement of signage, replacement of monitoring well locks and protective caps, replacement of piping and fittings of the SVE system, filling in of small gullies caused by water erosion, removing and prevention of accumulated soils, and patching or sealing of cracks in the asphaltic concrete and building foundations.

Significant repairs may include but are not limited to: adding cover material, replacement of key SVE system components, filling of areas over the cover, and cover repairs associated with the exposure of the underlying material. This level of repair will require specialized equipment and materials and should be conducted by an appropriate contractor in accordance with the design- and construction-related documents including the record drawings and the construction specifications. Repairs such as these will have a potential impact to the protectiveness of the

remedy and should be conducted under the supervision of a California-licensed professional engineer and in accordance with a work plan approved by the federal facility agreement (FFA) signatories.

The following is a general list of procedures to be used during the site inspection process and should be adapted based on site conditions as they evolve over time. The list is based on the above Inspection Summary and Inspection Frequency table.

General Site Conditions

- The perimeter of the site should be inspected for signs of breaching and degradation. Issues should be documented in inspection summary reports and photographs should be taken of any areas of concern and the exact location documented.
- The revetment portion of the site should be inspected during low tide so the full extent of the structure can be viewed.
- Trash, debris, or other materials should be removed from the site and disposed of properly. This also includes debris that may wash up onto the revetment and vegetation along the revetment.
- Any issues of concern should be reported to the property owners as necessary. Repairs to the fence should be scheduled with an appropriate contractor.
- Any unauthorized digging or land use inconsistent with restrictions specified in the LUC RD on the site should be recorded and the property owner notified. FFA signatories will be advised of unauthorized property use through submittal and review of annual inspection reports.

Site Security

- Signs should be inspected for integrity and vandalism. Structural issues should be dealt with appropriately during the inspection when possible or scheduled with an appropriate contractor.
- If the signs begin to visually degrade, photographs should be taken to document and monitor degradation and signs should be replaced promptly when necessary.
- Any stolen signs or signs damaged beyond repair should be replaced promptly.
- Fence materials should be replaced as necessary using like materials when corrosion, cuts, or other damage compromise the material.
- Gates should be inspected to ensure proper operation and locks replaced as needed.
- The condition of any designated access points to the site should be inspected for damage.

Groundwater Monitoring Wells

- Protective features such as casing, pads, and lids should be inspected for integrity. Damages should be documented through photographs. Slight damages can be monitored over time but damages that may jeopardize the functionality of the well or probe should be reported and repaired promptly.
- Vandalism and theft of any materials related to the wells or probes should be remedied promptly. Repair may include replacing locks, caps, and other items or covering vandalized items with paint.
- Access to wells should be inspected to insure that they are accessible and free of obstructions. This is especially important in situations where locks or well caps are missing or when there are other signs that the well has been breached. Appropriate probes can be used to check that obstructions do not exist within the well itself.
- Any issues should be recorded through photographs and written descriptions, and the well locations recorded.
- Any repair needing immediate attention should be promptly reported to the property owner for scheduling with appropriate contractors.

Asphalt Pavement Cover and Building Foundations

- The cover should be inspected systematically over the extent of the cover. Particular attention should be given to areas that abut buildings, drainage areas, areas of accumulated water, and the portion where the cover meets the off-site grade.
- Areas where the asphaltic concrete or a building foundation has been damaged by cracking should be documented, photographed, and monitored.
- Access to crawl spaces beneath building foundations must remain inaccessible. Repair as needed to maintain the condition.
- Surveyed benchmarks should be inspected. If damages are observed, the benchmarks should be replaced and resurveyed by a licensed surveying contractor.
- Areas of settlement should be recorded. Minor settlement is not an immediate concern but should be monitored over time. Major settlement could require specialized labor and personnel for repair or replacement of the cover materials.
- Areas of water accumulation should be monitored and may require filling if cracking becomes a recurring or constant issue. Use of appropriate contractors and equipment may be necessary.
- Inspect the drainage channels and record overall conditions, remove obstructions, and note evidence of channel flow and flow depths.

- Observe changes at adjoining parcels that would affect storm water flow at the site.
- Repairs to the asphalt pavement cover should follow the procedures outlined in the design and construction reports and the included repair specifications, and should be based on the record drawings.
- Maintain buildings in a locked and inaccessible condition. If unauthorized access to the buildings is noted, repair entry points as needed to prevent further access. Use new locks or other physical controls as needed.
- The cover must be repaired in accordance with Section 3.2 of the design basis report and the repair specifications included as Attachment 3 to this O&M plan.

Soil Cover

- The cover should be inspected systematically over the extent of the cover. Particular attention should be given to the side slopes and drainage areas.
- Areas where vegetation has been damaged should be documented, photographed, and monitored. The vegetative cover should naturally regenerate without additional seeding. If the damaged areas do not regenerate or are extensive, the seeding mix provided in this O&M plan should be consulted when replanting.
- The record drawings should serve as the basis of comparison to document changes in the cover.
- Areas of settlement should be recorded. Minor settlement is not an immediate concern but should be monitored over time. Major settlement could require specialized labor and personnel for repair.
- Areas of erosion or soil displacement by slumping should be recorded and repaired promptly. These repairs, when minor, could be completed during the inspection. Use of appropriate contractors and equipment may be necessary.
- Evidence of burrowing pests should be noted and monitored over time. Pest control measures may be necessary if damage to the cover occurs.
- Repairs to the soil cover should follow the procedures outlined in the design and construction reports and the included repair specifications, and should be based on the record drawings.
- Mowing should be conducted when grasses are greater than 2 feet in height. Do not remove more than 1/3 total height within a 1-week period. Maintain a minimum grass height of 6 inches.

Revetment

- The limits of the revetment should be inspected for vandalism or theft of materials and documented or replaced accordingly. The revetment should be compared to the record drawings.
- Any shifting of materials or settlement should be recorded. This should be done through comparison to previous inspections. Shifting and settling is anticipated to occur and does not impact the integrity of the structure, but should be monitored.
- The toe portion of the revetment should be inspected during low tide so that the structure can be properly observed. Photos of the revetment should be taken as necessary.
- Trash or debris that may have accumulated on the revetment should be removed and disposed of properly. Excessive nuisance vegetation should be removed from the structure.
- The toe portion and the flanks of the revetment should be inspected for signs of settlement, changes in slope, and undercutting and erosion. The toe portion should be fully covered by sediment and any exposure of rocks should be recorded. Exposure of the armoring material does not jeopardize the integrity of the structure but should be monitored over time.
- Exposure of the filter fabric indicates that the revetment armoring has been displaced. This exposure should be recorded and repairs made through the addition of material. Inspect integrity and consistency of subgrade.
- Areas where additional revetment armoring rock may be necessary should be replaced promptly. Procedures summarized in the design and construction documents should be followed, and repair should be made based on the record construction drawings and the repair specifications provided.
- The crest of the revetment should be inspected for degradation and the movement of rock.
- Any signs of wave overtopping of the revetment should be documented and monitored over time.

SVE System

- Maintain equipment in accordance with the manufacturers' specifications.
- Record vacuum pressures at the extraction wells and the monitoring points. Repair if significant increases or decreases are observed from the previous inspection.

- Record flame ionization detector (FID) reading at each monitoring point and extraction well. Extraction wells with low readings should be taken off line as necessary to allow for rebound to occur prior to bringing the extraction well back on line.
- Assess influent and effluent concentrations to the GAC units in the field and collect laboratory samples on the first and last day of the first week and at least once every 90 calendar days thereafter. Exchange GAC as necessary.
- Record vapor flow rates entering the treatment system. Investigate and document issues related to low rates.
- Measure and record ambient temperature, weekly precipitation, groundwater levels, and SVE system temperatures.
- Inspect all piping and fittings and replace as necessary if leaks are observed. Significant leaks that cannot be repaired will result in taking extraction points off line or shutting down the system until repairs can be made.
- Monitor liquid levels in the knockout drum and the water in the accumulation tank. Dispose as necessary.
- Remove accumulated sediment from the knock out drum as necessary.

Attachment B

IC Compliance Monitoring Report
Parcel G, Hunters Point Shipyard, San Francisco, California

EPA I.D. CA1170090087

Inspection and Enforcement entity: _____

This evaluation is the final Navy certification just prior to site conveyance (yes or no)

_____

If for an annual inspection, this evaluation covers the period from_____

through _____.

Certification Checklist

		In Compliance	Non-Compliance	See Comment
1)	No use of areas at Parcel G designated for open space, educational/cultural, and industrial land uses for a residence, including any mobile home or factory-built housing, constructed or installed for use as residential human habitation, a hospital for humans, a school for persons under 21 years of age, or a day care facility for children.[a]	☐	☐	☐
2)	No growing of vegetables, fruits, or any edible items in native soil for human consumption.	☐	☐	☐
3)	No groundwater use for any purpose (No evidence of tampering with existing wells or evidence of new wells)	☐	☐	☐
4)	No land-disturbing activity[a] (excavation; construction of roads, utilities, or structures; demolition of hardscape; movement of soil from below ground surface to the surface; or activity that facilitates movement of known contaminated groundwater)	☐	☐	☐
5)	No installation of new groundwater wells of any type[a].	☐	☐	☐
6)	No altering, disturbing, or removing components of the remedy including soil cover/cap, or groundwater monitoring wells and associated equipment[a].	☐	☐	☐
7)	No construction of enclosed structures[a].	☐	☐	☐

		In Compliance	Non-Compliance	See Comment
8)	No removal or damage to security features (such as locks on monitoring wells, site fencing, or signs) or to survey monuments, monitoring equipment, piping or other appurtenances.	☐	☐	☐
9)	Notification provided for any unauthorized change in land use.	☐	☐	☐
10)	Any violations of these LUCs were reported within 10 business days of discovery and an explanation provided of those actions taken or to be taken was provided within 10 days of notification of discovery.	☐	☐	☐

I, the undersigned, hereby certify that the above-described land use restrictions have been complied with for the period noted. Alternately, any known deficiencies and completed or planned actions to address such deficiencies are described in the attached explanation of deficiencies.

_____ _____

Signature Date

Notes and Comments:

a These prohibited or restricted activities may be conducted provided that the requirements in the LUC RD are followed. If the inspector finds that a prohibited or restricted activity has occurred, the inspector shall check whether the activity was conducted in accordance with approved plans for that activity. Activities that are conducted in accordance with the approved plans will be considered "in compliance." Comments should be attached to the compliance checklist to describe how the requirements in the plans were adhered to. Activities that are not conducted in accordance with the approved plans would be considered "non-compliance."

Photographs, in addition to other notes and forms, to document the conditions certified in this checklist should be provided.

Send the completed form and all accompanying information by certified mail, return receipt requested, to the Navy, EPA, DTSC, and Regional Water Board each calendar year.

ANNUAL IC COMPLIANCE CERTIFICATE

Parcel G
Hunters Point Shipyard, San Francisco, California
EPA I.D. CA1170090087

I _____ hereby certify that the attached Parcel G Institutional Control Compliance Monitoring Report is complete and accurate. The requirements of LUC RD report Section 4.0 have been met. I further certify that a copy of this compliance certificate and the attached Parcel G Institutional Control Compliance Monitoring Report have been sent to the following addressees:

_____
(Name and title)

INSPECTION RECORD (PRELIMINARY) –PARCEL G, HUNTERS POINT SHIPYARD, SAN FRANCISCO, CALIFORNIA

Date and time of inspection:	**Inspector name and organization:**
Weather and tidal conditions – include details of most recent rain event:	
Reason for inspection (circle one): **Scheduled** **Emergency response**	**If inspection is initiated by an emergency response, explain condition:**

GENERAL SITE CONDITIONS			
ITEM	**INSPECTION FREQUENCY**	**ACTION/ INSPECTION ITEM**	**COMMENTS — INCLUDING EXPLANATION IF NOT COMPLETED. INCLUDE ANY PHOTO DESCRIPTIONS**
Overall condition of site	Every inspection (at least annual)	Note general conditions. Trash and debris accumulation, unauthorized access, etc.	
Land use	Every inspection (at least annual)	Digging or unauthorized land use per LUC RD	
SITE SECURITY			
Security of area	Every inspection (at least annual)	Assess condition of fence – repair as necessary	
		Condition of locks and gates – repair and replace as necessary	
		Note signs of vandalism	
		Assess condition of access roads and gates	
		Note evidence of unauthorized access to site and building interiors	
Site signage	Every inspection (at least annual)	All signs in place repair and replace as necessary	
		Wording legible	
		Note signs of vandalism	

INSPECTION RECORD (PRELIMINARY) –PARCEL G, HUNTERS POINT SHIPYARD, SAN FRANCISCO, CA (Continued)

DURABLE COVER			
ITEM	**INSPECTION FREQUENCY**	**ACTION/ INSPECTION ITEM**	**COMMENTS — INCLUDING EXPLANATION IF NOT COMPLETED. INCLUDE ANY PHOTO DESCRIPTIONS**
Surface Inspection	Every inspection (at least annual)	Assessment of cracking in asphaltic concrete layer	
		Assessment of cracking in foundations	
		Assess the crawl space access to maintain the prevention of access (Buildings 420 and 424)	
		Evidence of settlement and subsidence	
		Assess accumulation of soils over cover	
		Inspect areas of previous repair	
		Assess condition of benchmarks	
		Remove vegetative species as needed	
		Note signs of excessive traffic	
		Note signs of unauthorized access to the site or the buildings	

INSPECTION RECORD (PRELIMINARY) –PARCEL G, HUNTERS POINT SHIPYARD, SAN FRANCISCO, CA (Continued)

ITEM	INSPECTION FREQUENCY	ACTION/ INSPECTION ITEM	COMMENTS — INCLUDING EXPLANATION IF NOT COMPLETED. INCLUDE ANY PHOTO DESCRIPTIONS
Storm water drainage	Every inspection (at least annual)	Observe areas of accumulated water and note condition	
		Note integrity and function of outfalls off site but connected to site	
		Monitor areas of sediment accumulation	
		Note evidence of overflow in drainage channels	
		Remove trash or debris from drainage channels and catch basins	
		Note any change in drainage contributing areas	
GROUNDWATER MONITORING WELLS			
Groundwater monitoring wells	During all sampling events and every inspection (at least annually)	Security (locks intact) – Repair and replace as necessary	
		Vandalism/signs of unauthorized access	
		Well box is free of obstructions	
		Well casing is free of obstruction	
		Seals not damaged	

OTHER OBSERVATIONS:

FOLLOW-UP ACTIONS (Include area requiring further action):

Signature and Date _____

Note: Use professional judgment and site experience to identify whether inspections are necessary following significant earthquakes, regardless of location and magnitude. Inspections following hurricane-level storm events should be conducted and adjust the storm response trigger over time based on site experience.

INSPECTION AND REPAIR PROCEDURES

The site will be visited quarterly for the first year and annually thereafter – or as necessary based on the results of the inspections. At a minimum, the following materials should be brought to the site for each site visit and this list should be adapted over time based on previous inspections conducted by the contractor:

- Camera
- O&M plan
- LUC RD report
- Appropriate documentation materials including any inspection checklists
- Copies of appropriate maps and figures
- O&M logbook
- Phone and contact list
- Common items requiring replacement (locks, well caps, well seals, and similar equipment)
- Previous inspection reports and photos of concern – as necessary
- Appropriate personal protective equipment for inspection and minor repairs

Inspection reports summarizing the findings of the inspections should be filed promptly with the property owner after the inspection and in cases where significant damage has been observed the property owner should be notified as soon as possible. The format of reporting documents, scheduling, and timing of this communication will be determined when an O&M contractor is identified.

Significant issues of vandalism and theft, especially when recurring, should be reported to police and may result in increased inspection frequency.

Basic repairs can be conducted on site at the time of inspections. These kinds of repairs may include, but are not limited to, replacing signage, replacing monitoring well locks and protective caps, and removing and preventing accumulated soils and debris.

Significant repairs may include, but are not limited to, adding cover material, filling areas over the cover, and cover repairs associated with exposure of the underlying material. This level of repair will require specialized equipment and materials and should be conducted by an appropriate contractor in accordance with the design- and construction-related documents, including the record drawings and the repair specifications. Repairs such as these will have a potential impact on the protectiveness of the remedy and should be conducted under the supervision of a California-licensed professional engineer and in accordance with a work plan approved by the federal facility agreement (FFA) signatories.

The following is a general list of procedures to be used during the site inspection process and should be adapted based on site conditions as they evolve over time. The list is based on the above Inspection Summary and Inspection Frequency table.

GENERAL SITE CONDITIONS

- The perimeter of the site should be inspected for signs of breaching and degradation. Issues should be documented in inspection summary reports and photographs should be taken of any areas of concern and the exact location documented.
- Trash, debris, or other materials should be removed from the site and disposed of properly.
- Any issues of concern should be reported to the property owners as necessary. Repairs to the fence should be scheduled with an appropriate contractor.
- Any unauthorized digging or land use inconsistent with the land use controls remedial design on the site should be recorded and the property owner notified. FFA signatories will be advised of unauthorized property use through the submittal and review of annual inspection reports.

SITE SECURITY

- Signs should be inspected for integrity and vandalism. Structural issues should be dealt with appropriately during the inspection when possible or scheduled with an appropriate contractor.
- If the signs begin to visually degrade, photographs should be taken to document and monitor degradation and signs should be replaced promptly when necessary.
- Signs that are not legible from a distance of 5 feet should be repaired or replaced.
- Any stolen signs or signs damaged beyond repair should be replaced promptly.
- Fence materials should be replaced as necessary using like materials when corrosion cuts or other damage compromised the material.
- Gates should be inspected to insure proper operation and locks replaced as needed.
- The condition of any designated access points to the site should be inspected for damage.

DURABLE COVER

- The cover should be inspected systematically over the extent of the cover. Particular attention should be given to areas that abut buildings, drainage areas, and areas of accumulated water.

- The exterior of the building foundations should be inspected for cracking and signs of stress. The interior of a building should be inspected when exterior cracking is observed or when unauthorized access to the building is evident (missing locks, broken entries, etc).
- Areas where the asphaltic concrete or building foundation has been damaged by cracking should be documented, photographed, and monitored.
- Repairs to the asphalt pavement or building foundations may become necessary when expansion of cracks is observed over time or when underlying soil is exposed or accessible.
- Access to crawl spaces must remain inaccessible. Repair as needed to maintain the condition.
- Surveyed benchmarks should be inspected. If damages are observed, the benchmarks should be replaced and resurveyed by a licensed surveying contractor.
- Areas of settlement should be recorded. Minor settlement is not an immediate concern but should be monitored over time and repaired if cracking is imminent. Major settlement could require specialized labor and personnel for repair or replacement of the cover materials.
- Areas of water accumulation should be monitored and may require filling or regrading if cracking becomes a reoccurring or constant issue. Use of appropriate contractors and equipment may be necessary.
- Inspect the drainage channels and catch basins and record overall conditions, remove obstructions, and note evidence of channel flow and flow depths.
- Repairs to the durable cover should follow the procedures outlined in the design and construction reports and the included repair specifications, and should be based on the record drawings.
- Maintain buildings in a locked and inaccessible condition. If unauthorized access to the buildings is noted, repair entry points as needed to prevent further access. Use new locks or other physical controls as needed.
- The cover must be repaired in accordance with the repair specifications included as Attachment 3 to this O&M plan.
- Observe changes at adjoining parcels that would affect storm water flow at the site.

GROUNDWATER MONITORING WELLS

- Protective features such as casing, pads, and lids should be inspected for integrity. Damages should be documented through photographs. Slight damages can be monitored over time, but damages that may jeopardize the functionality of the well or probe should be reported and repaired promptly.

- Vandalism and theft of any materials related to the wells or probes should be remedied promptly. Repair may include replacing locks, caps, and other items or covering vandalized items with paint.
- Access to wells should be inspected to ensure that they are free of obstructions. This procedure is especially important in situations where locks or well caps are missing or when there are other signs that the well has been breached. Appropriate probes can be used to check that obstructions do not exist within the well itself.
- Any issues should be recorded through photographs and written descriptions, and the well locations recorded.

Any repair needing immediate attention should be promptly reported to the property owner for scheduling with appropriate contractors.

APPENDIX C

ENVIRONMENTAL HEALTH AND SAFETY PLAN OUTLINE

APPENDIX C
Environmental Health and Safety Plan Outline

All EHSPs will include a description of specific tasks to be performed, key personnel, health and safety responsibilities, site background, job hazard analysis and mitigation, air monitoring procedures, PPE, work zones and site security measures, decontamination measures, general safe work practices, contingency plans and emergency information, medical surveillance and specific training requirements.

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- 1.1 Purpose of the Site Health and Safety Plan
- 1.2 Implementation and Modification of the Site Safety Plan
- 1.3 Project-Related Documents

2.0 BACKGROUND AND DESCRIPTION OF WORK

- 2.1 Site Description and Background
- 2.2 Scope of Work

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- 3.2 Field Supervisor
- 3.3 Site Health and Safety Officer
- 3.4 Competent Person
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5.0 GENERAL SITE SAFE WORK PRACTICES

- 5.1 Biological Hazards
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9.0 TRAINING AND MEDICAL MONITORING

10.0 CONTINGENCY AND EMERGENCY EVACUATION PLANS

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APPENDIX D

DUST CONTROL PLAN

Draft

Pre-RACR RMP Dust Control Plan
Parcels B and G
Hunters Point Shipyard

January 2011

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1 Parcels B And G Location Map

2 Sensitive Receptors

Acronyms and Abbreviations

APCO	Air Pollution Control Officer
ATCM	Asbestos Airborne Toxic Control Measure
BAAQMD	Bay Area Air Quality Management District
BMP	best management practice
CCR	California Code of Regulations
CP/HPS	Candlestick Point/Hunters Point Shipyard
DTSC	Department of Toxic Substance Control
EIR	Final Environmental Impact Report
HEPA	high-efficiency particulate air
HPS	Hunters Point Shipyard
mph	mile per hour
RACM	regulated asbestos-containing material
ROD	Record of Decision
RWQCB	Regional Water Quality Control Board
SWPPP	Storm Water Pollution Prevention Plan
USEPA	United States Environmental Protection Agency

Introduction

Document Objective

This pre-RACR RMP dust control plan is submitted by Lennar/Bayview Hunters Point and MACTEC in preparation process for upcoming demolition, deconstruction, mass grading activities, and development of horizontal infrastructure at the Hunters Point Shipyard (HPS) Parcels B and G (the site) in San Francisco, California (Figure 1).

This pre-RACR RMP Dust Control Plan has been prepared by MACTEC in accordance with the requirements of the permit process established in Article 31 and compliance with Article 22B of the City and County of San Francisco Health Code and certain Bay Area Air Quality Management District (BAAQMD) regulations often applicable to redevelopment activities, as further described herein. This plan addresses dust control measures that will be implemented during deconstruction and development of horizontal infrastructure at the site.

This plan applies to demolition of existing structures, and dust control associated with soil disturbance or excavation on Parcels B and G. In accordance with the requirements of Article 31, this plan was prepared under the supervision of a professional engineer registered in the State of California.

Regulatory Basis

The Final Environmental Impact Report (EIR) 2010 for the Candlestick Point/Hunters Point Shipyard (CP/HPS) project includes mitigation measures requiring actions that will reduce or eliminate adverse environmental impacts during development of Parcel B and G. These mitigation measures were adopted in a Mitigation Monitoring and Reporting Program. The Disposition and Development Agreement incorporates Final EIR mitigation measures that are relevant for Phase II development on Parcels B and G and includes the commitments for implementing mitigation measures set forth in Section 18 of the Disposition and Development Agreement and in the EIR.

Dust control is one of the specific mitigation measures applicable to Phase II development in Parcels B and G, and this plan specifically identifies the steps that will be taken to reduce air emissions during demolition of existing structures, grading, utility work, and construction of site infrastructure. This plan also includes the necessary monitoring and reporting requirements.

This Dust Control Plan incorporates requirements of the following applicable regulations:

- California Code of Regulations (CCR) Title 17, Section 93105, the Asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations
- Bay Area Air Quality Management District (BAAQMD) Regulation 2, Permits (also addressed in project specifications)
- BAAQMD Regulation 6, Particulate Matter and Visible Emissions
- BAAQMD Regulation 11, Rule 2, Asbestos Demolition
- BAAQMD Regulation 11, Rule 14, Asbestos Containing Serpentine
- City and County of San Francisco Article 22B, Construction Dust Control Requirements
- CP/HPS EIR, Mitigation Measure HZ-15: Asbestos Dust Mitigation Plans and Dust Control Plans

Article 22B specifies a goal of minimizing visible dust emissions from the site and Article 22B and Section 106A.3.2.6 of the San Francisco Building Code outline housekeeping measures required to meet this goal. Mitigation Measure HZ-15 similarly defines best management practices (BMPs) including wetting and seeding unpaved, inactive areas, minimizing activity during periods of high wind, sweeping paved areas, covering trucks, etc. Additionally, BAAQMD Regulation 6, which generally prohibits emission of visible dust beyond the property boundary, is also applicable.

Because the site is in an area with serpentine rock, CCR Title 17, Section 93105 (ATCM) applies. ATCM includes, among other things, the requirement for submission of an Asbestos Dust Mitigation Plan for BAAQMD approval prior to grading activities. The ATCM also includes very specific practices to be implemented during construction. Mitigation Measure HZ-15 also provides BMPs for handling serpentine material, and BAAQMD Regulation 11, Rule 14 prohibits the use or sale of asbestos-containing serpentine materials for road surfacing.

In addition to emission controls for dust generated by general construction activities, specific requirements apply to asbestos-related dust generated by demolition activities. A qualified subcontractor licensed and experienced to manage asbestos- and lead-contaminated building

materials will perform demolition of existing structures. The subcontractor will demonstrate compliance with the requirements of BAAQMD 11- 2, which states that demolition activities will not be allowed to cause any visible plumes from any operation involving the demolition, removal, manufacture or fabrication of any product containing asbestos.

Contractors selected to perform demolition and grading will be responsible for obtaining applicable permits as described in the project specifications.

Background

Site Description

Parcel B includes 54 acres on the northern side of HPS, which is bounded by former Parcel A and Parcel C, private property, and the San Francisco Bay. The area of Parcel B covered by the DCP lies outside of IR Sites 7 and 18 and includes about 40 acres in the central and eastern portions of Parcel B (Figure 1). The portion of Parcel B addressed by this DCP includes a shoreline of approximately 1,500 feet along San Francisco Bay. Parcel G is located within the central portion of the former Parcel D, covers approximately 40 acres, and is surrounded by land with no associated shoreline.

Parcels B and G consist of flat lowlands that were constructed by placing borrowed fill material from various sources, including crushed serpentinite bedrock from the adjacent highland and dredged sediments. The serpentinite bedrock and serpentinite bedrock-derived fill material consist of minerals that naturally contain asbestos and relatively high concentrations of arsenic, manganese, nickel, and other metals. Nearly all of Parcels B & G are covered with buildings or degraded pavement or soil. A series of storm drains and sanitary sewer lines beneath the parcel have been recently removed.

Site History

The history of Parcels B and G is described in the many documents referenced in the pre-RACR RMP. This DCP is Appendix D of the pre-RACR RMP.

Phase II Scope of Work

Parcels B and G Phase II construction will consist of development of horizontal infrastructure to support later development. The work will consist of demolition of existing structures, site grading, utility system upgrades and construction of a superpad. Deconstruction of existing structures will be performed by a qualified contractor. The contractor will use proper handling and disposal techniques for any asbestos-containing material and lead based paint containing materials, including compliance with the requirements of BAAQMD 11- 2.

No Visible Dust Goal

The dust control measures set forth in this plan are intended to achieve a goal of no visible dust emissions associated with soil disturbance or excavation, to the extent required by Mitigation Measure HZ-15, BAAQMD Regulation 6, and the provisions of Articles 22B (areas over one-half acre) and 31 of the San Francisco Health Code. As required by Article 22B and Mitigation Measure HZ-15, Figure 2 shows the sensitive receptors (residence, school, childcare center, hospital or other health-care facility or group living quarters) located within 1,000 feet of Parcels B and G.

The DCP requires compliance with the following specific mitigation measures to the extent deemed necessary by the SFDPH to achieve no visible dust at the property boundary:

- Keep all graded and excavated areas, areas around soil improvement operations, visibly dry unpaved roads, parking and staging areas wetted at least three times per shift daily with reclaimed water during construction to prevent visible dust emissions from crossing the property line. Increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour
- Analysis of wind direction and placement of upwind and downwind particulate dust monitors.
- Record keeping for particulate monitoring results.
- Requirements for shutdown conditions based on wind, dust migration, or if dust is contained within the property boundary but not controlled after a specified number of minutes.
- Establishing a hotline for surrounding community members who may be potentially affected by Project-related dust. Contact person shall respond and take corrective action within 48 hours. Post publicly visible signs around the site with the hotline number as well as the phone number of the BAAQMD and make sure the numbers are given to adjacent residents, schools, and businesses.
- Limiting the area subject to construction activities at any one time.
- Installing dust curtains and windbreaks on windward and downwind sides of the property lines, as necessary. Windbreaks on windward side should have no more than 50% air porosity.
- Limiting the amount of soil in trucks hauling soil around the job site to the size of the truck bed and securing with a tarpaulin or ensuring the soil contains adequate moisture to minimize or prevent dust generation during transportation.
- Enforcing a 15 mph speed limit for vehicles entering and exiting construction areas.
- Sweeping affected streets with water sweepers at the end of the day.

- Hiring an independent third party to conduct inspections for visible dust and keeping records of those inspections.
- Minimizing the amount of excavated material or waste materials stored at the site.
- Prevent visible track out from the property onto adjacent paved roads. Sweep with reclaimed water at the end of each day if visible soil material is carried out from property.

In addition to conducting inspections for visible dust, particulate monitoring for the presence of airborne particulates will also be conducted using real-time particulate dust monitors as detailed on Page D-18. If readings are recorded above the action level(s), site specific actions will be specified based on the type of activity being conducted. Actions could include evaluation of site activities or stopping work until additional controls are implemented to reduce dust generation from the specific work area causing the problems.

Potential Sources of Emissions

Planned site activities have the potential to generate emissions in the form of fugitive dust and vehicle emissions. Possible sources of emissions include:

- Demolition Activities – Wrecking, intentional burning, moving or dismantling of any load-supporting structural member, or portion of a building. Any related cutting, disjointing, stripping or removal of structural elements. Crushing of concrete for recycling/reuse.
- Construction Traffic – Movement of construction equipment around the construction area is capable of creating construction emissions in excavated or cleared areas. There is also the potential for vehicular traffic on paved or unpaved roads and parking lots to produce construction emissions.
- Site Preparation and Foundation Work – Grading, excavation of footings and foundations, and backfilling operations can produce both fugitive dust and vehicle emissions.
- Trenching Activities – Excavation of trenches for the installation of underground utilities can cause construction emissions.
- Material Stockpiles – Stockpiles of excavated soil from trenching activities may contribute to windborne dust emissions.
- Soil Transport - Loading of soil into transport vehicles for disposal may contribute to windborne dust emissions.

- Cleanup and Grading – Backfilling, grading and re-vegetating of the excavated areas may produce both fugitive dust and vehicle emissions.

The California Code of Regulations (CCR) Title 17, Section 93105, the Asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations, prescribes specific dust mitigation measures.

Dust mitigation methods to be implemented at the Site, are described in detail below.

General Construction Emissions Control Methods

This section details dust control methods for fugitive dust and vehicle emissions generated from the following construction activities:

- Dust entrained during on-site travel on paved and unpaved surfaces.
- Dust entrained during site grading, excavation, crushing and back-filling at the construction site.
- Dust entrained during aggregate and soil stockpiling, loading, and unloading operations.
- Wind erosion of areas disturbed during construction activities.
- Vehicle emissions associated with construction equipment.

Additional requirements for dust control during demolition and deconstruction activities are described below. General dust control measures are also described in Section 5.3 of the Pre-RACR RMP.

Construction Traffic

Onsite Traffic Control

Fugitive dust emissions from construction traffic traveling on unpaved surfaces will be controlled with the following mitigation measures:

1. Visible speed limit signs will be posted at the construction site entrances. No vehicle will exceed 15 miles per hour (mph) within the construction site.
2. Implementation of erosion control measures identified in the Construction SWPPP, to be provided separately, will control fugitive dust emissions from pubic roadways and parking areas.
3. Gravel access pads will be constructed in the temporary stockpile locations. Four to six inches of appropriate gravel will be spread evenly to construct the pads. Additional gravel will be added periodically to maintain effectiveness.
4. One or more of the following:
    - All unpaved roads in the project construction site will be watered every two hours or frequently enough to maintain adequate wetness. The frequency of watering can be reduced or eliminated during periods of precipitation. (Article 21, Section 100 et seq. of the San Francisco Public Works Code requires that non-potable reclaimed water be

used for this purpose.) Watering frequency may be increased during above average ambient air temperatures or wind speeds.

- Chemical dust suppressants can also be applied consistent with manufacturer's directions.
- Maintaining a gravel cover with a silt content that is less than five (5) percent and asbestos content that is less than 0.25 percent, as determined using an approved asbestos bulk test method, to a depth of three (3) inches on the surface being used for travel; or
- Any other measure as effective as the measures listed above.

Trackout Prevention

Track-out of loose materials will be controlled using gravel pads along with a tire washing/cleaning station installed at the access point from the project site to the paved road to prevent tracking of mud on to public roadways. The stabilized construction entrance (gravel pads) will be installed according to the specifications provided in the Erosion and Sediment Control Plan of the Storm Water Pollution Prevention Plan (SWPPP) for the site. All vehicle tires will also be inspected and washed as necessary to prevent trackout prior to entering the paved roadways. Any visible track-out on a paved public road at any location where vehicles exit the work site MUST be removed. Removal MUST be done using wet sweeping or a high-efficiency particulate air (HEPA) filter-equipped vacuum device at the end of the work day or at least one time per day.

The following mitigation measures will be followed for fugitive dust emissions from construction traffic traveling on paved surfaces:

1. The main access and egress routes to and from the Parcel B and G main construction site for construction employees and delivery trucks will be paved prior to the initiation of construction.
2. No construction vehicles will be allowed to exitthe construction site except through the treated entrance roadways. Gravel pads will be installed at all egresspoints to prevent tracking of mud on to public roadways.
3. Construction areas adjacent to and above grade from any paved roadway will be treated with BMPs, as specified in the Construction SWPPP.
4. All paved roads within the construction site will be swept twice daily with a wet sweeper.

5. At least the first 500 feet of any public roadway exiting from the construction site will be swept twice daily. (The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.)

If any of the above mitigation measures fail to properly control fugitive dust emissions, one or more of the following reasonably available control measures, will be applied:

1. Unpaved active portions of the construction site will be watered or treated with dust control solutions to minimize windblown dust and dust generated by vehicle traffic.
2. Paved portions of the construction site will be swept more frequently as necessary to control windblown dust and dust generated by vehicle traffic. Streets adjacent to the construction site will be swept as necessary to remove accumulated dust and soil. Water may also be applied to the paved roads if necessary.
3. Physical or chemical stabilization will be applied to control dust on unpaved roads if necessary.
4. Gravel, re-crushed/recycled asphalt or other material of low silt content (<5 percent) will be applied to a depth of 3 or more inches, if necessary. Serpentine-containing material will not be used for this purpose.
5. Vehicle trips will be reduced if necessary.

Construction employees will park in paved or graveled areas to reduce fugitive dust emissions.

Off-site Transport

No trucks will be allowed to transport excavated material offsite unless:

1. Trucks are maintained such that no spillage can occur from holes or other openings in cargo compartments; and
2. Loads are adequately wetted and either:
   - Covered with tarps; or
   - Loaded such that the material does not touch the front, back, or sides of the cargo compartment at any point less than six inches from the top and that no point of the load extends above the top of the cargo compartment.
3. Visible track-out on the paved public road must be cleaned using wet sweeping or a HEPA filter equipped vacuum device within twenty-four (24) hours.

Vehicles will be checked to ensure that they are tarped and to remove any excess material on the shelf or exterior surfaces of the cargo compartment. All off-site haul trucks will access the site via paved access roads and established gravel pads. Every off-site haul truck will proceed through the decontamination gravel pad/tire cleaning area prior to departure from the site. Site personnel will be stationed at the access point to monitor inflow/outflow to and from the site and will be responsible for inspecting all vehicles exiting and performing the cleaning of the tires.

Site Preparation and Grading

Prior to any ground disturbance, sufficient water must be applied to the area to be disturbed to prevent visible emissions from crossing the property line.

Fugitive dust emissions from site preparation and foundation work will be controlled using the following methods:

1. During clearing and grubbing, surface soils will be pre-wet to the depth of anticipated cut where equipment will be operated. Soil moisture content will be sufficiently maintained to minimize fugitive dust creation. For construction fill areas which have an optimum moisture content for compaction, completion of the compaction process will be performed as expeditiously as possible to minimize fugitive dust.
2. If compaction will not take place immediately following clearing and grubbing, the surface soil will be stabilized with dust palliative and water to form a crust on the soil surface.
3. Keep all graded and excavated areas, visibly dry unpaved roads, parking and staging areas wetted at least three times per shift daily during construction to prevent visible dust emissions from crossing the property line. Increased watering frequency may be needed whenever wind speeds exceed 15 miles per hour.
4. Use dust enclosures, curtains, and dust collectors as necessary to control dust in the excavation area.
5. Graded areas will be stabilized with chemical stabilizers within 5 working days of grading completion. Seed and water all unpaved, inactive portions of the lot or lots under construction to maintain a grass cover if they are to remain inactive for long periods during building construction.
6. Halt all clearing, grading, earthmoving, and excavating activities when wind speeds are high enough to results in dust emissions crossing the property line, despite the application of dust mitigation measures.
7. Limit the area subject to excavation, grading or other construction activity at any one time.

8. Storage piles must be kept adequately wetted, treated with a chemical dust suppressant or covered with tarp(s) when material is not being added or removed from the pile.

Crushing

It is anticipated that concrete crushers will be mobilized to the site to crush and recycle concrete debris resulting from building and roadway demolition. Crushing operations will be visually monitored for the appearance of fugitive dust. If dust is being generated, water will be applied to control the dust.

The crusher may also be used to crush well-cemented concretions of other minerals within the serpentinite of the Franciscan formation that cannot be broken into manageable sizes using the standard construction equipment mobilized to the site for mass grading (bulldozers, excavators, scrapers, etc.). Serpentinite boulders will not be processed by the crusher.

Trenching Activities

Excavation activities will be visually monitored daily for the generation of fugitive dust. If dust is being generated, water will be applied to the point of excavation or drilling to control dust.

- Soil will be pre-wet prior to excavation to reduce dust migration. Additional water will be added during active excavation, material handling, and loading. Active excavation areas will be wet a minimum of twice daily during dry weather and more frequently as needed.
- The height from which excavated soil is dropped into trucks and onto either stockpiles or dewatering pads will be minimized.
- Dust suppressants will be applied in sufficient quantities to inactive disturbed areas so as to form a crust and create a stabilized surface.
- Backfill material will be covered or enclosed when not actively handled.
- Four to six inches of appropriate gravel will be spread evenly at key onsite loading areas, the temporary soil staging, and off-site transport loading area in order to reduce the potential for soil track-out beyond the site.

Screening

- Fugitive dust emissions from loading the screening pads, either by excavator, or by conveyor will be controlled by ensuring that all excavated material is adequately wetted prior to loading.
- Loader buckets will be emptied slowly and drop height from loader bucket minimized.

- Halt all loading activities during periods of sustained strong winds, hourly average wind speeds of 25 mph (40 km/h or greater).

Material Stockpiles

During excavation, backfilling and grading, soils may be stockpiled in areas adjacent to the activity. BMPs may include diversion of drainage from the stockpiles, installation of silt fencing/straw bale filter barriers on the downgradient toe of the stockpile slope, track-walking the slopes, and dust control. Stockpiles must be kept adequately wetted, treated with a chemical dust suppressant or covered with tarp(s) when material is not being added or removed from the pile.

Foundation Work

1. Sprinklers, wobblers, water trucks, or water pulls will be used to pre-water during cut and fill activities to allow time for penetration.
2. Building pads will be laid as soon as possible after grading to minimize fugitive dust emissions, unless seeding or soil binders are used in the interim.
3. Wind erosion control techniques, such as wind breaks, water/chemical dust suppressants, and vegetation, will be used on all construction areas that may be disturbed. Any windbreaks used will remain in place until the soil is stabilized or permanently covered with vegetation.
4. For back-filling during earthmoving operations, backfill material will be watered as needed to maintain moisture. If required, backfill soil will be mixed with water prior to moving. Loader buckets will be emptied slowly and drop height from loader bucket minimized. Once backfill material is in place, water will be applied immediately to form a crust, if necessary. A water truck or large hose will be dedicated to back-filling equipment and operations.
5. Use of high-pressure air to blow soil and debris from the form will be avoided; instead, water spray, sweeping, and/or an industrial shop vacuum will be used to clear the form.

Post-Construction Stabilization of Disturbed Areas

Unpaved areas disturbed during excavation, grading, and/or construction activities will be covered with one of the following to reduce dust generation on the site:

- An approved vegetative cover
- Coverage with a minimum of 3 inches of non-asbestos-containing material
- Building and related hardscape surface paving approved in the building permit.

Additional Requirements for Serpentine Material

Excavated materials, which will be transported off site, will be analyzed for asbestos content. Excavated materials being transported off-site with greater than 1 percent by-weight asbestos will be handled and disposed of off site in accordance with all requirements for proper disposal of asbestos.

BAAQMD Regulation 11, Rule 14 also defines procedures and notifications required if serpentine material is sold for use as a surfacing agent. No serpentine will be used for surfacing material or sold from the site.

The following waste management methods will be used when handling serpentine waste designated as hazardous:

- Keep asbestos-containing waste material adequately wetted at all times during handling and loading.
- Adhere to requirements of Section 11-2-608 for marking of vehicles used to transport asbestos-containing waste.
- Maintain waste shipment records as specified in Section 11-2-502.
- Provide a copy of the waste shipment record to the disposal site owner or operator upon delivery.
- Contact transporter and/or owner of the disposal site if the waste shipment has not arrived within 35 days of initial acceptance by the transporter as hazardous waste.
- Provide a written report to the Air Pollution Control Officer (APCO) if the waste shipment is not received within 45 days of initial acceptance by the transporter.

Demolition Emissions Control Methods

In addition to emission controls for dust generated by general construction activities described in the previous section, specific requirements apply to asbestos-related dust due to demolition activities. A qualified subcontractor, licensed and experienced to manage asbestos- and lead-contaminated building materials, will perform demolition of existing structures. The subcontractor will demonstrate compliance with the requirements of BAAQMD 11- 2, which states that demolition activities will not be allowed to cause any visible dust plumes from any operation involving the demolition, removal, manufacture or fabrication of any product containing asbestos. The subcontractor will implement the additional control methods summarized below.

Demolition Activities

Fugitive dust emissions from demolition activities will be controlled in accordance with the requirements of BAAQMD Section 11-2-303, as summarized below:

- All exposed regulated asbestos-containing material (RACM) will be adequately wetted and kept wet during cutting, stripping, demolition, renovation, removal and handling operations both inside and outside of a building.
- In lieu of wetting, a local HEPA filter exhaust, ventilation, and collection system designed and operated to capture the emissions from RACM and prevent any visible emissions to the outside air may be used under certain circumstances and subject to BAAQMD approval; requests for approval of dry removal must be in writing.
- RACM shall be removed prior to demolition, or other operations that would either break up, or preclude access to the RACM for subsequent removal.
- Elements that have RACM may be removed at any time in units or sections so long as the exposed RACM during cutting or disjointing is adequately wetted or encapsulated to prevent emissions of particulate asbestos material.
- All RACM not removed in units or sections shall be adequately wetted and kept wet, and transported to the ground in leak-tight chutes or containers, using negative air and HEPA equipment.
- Any building, structure, room, facility or installation from which RACM is being stripped or removed shall be isolated by physical barriers from the outside air to the extent feasible. Such barriers shall include transparent viewing ports which allow observation of all stripping and removal of RACM from outside the barrier. The negative air pressure inside the isolated work area shall be maintained at a pressure differential relative to

adjacent, nonisolated areas, and negative air pressure ventilation equipment shall be operated continuously from the establishment of isolation barriers through final cleanup of the work area following stripping or removal of RACM. Any such local exhaust ventilation system shall filter the air from the isolated area with a HEPA filter (or equivalent) prior to exhausting.

- All friable asbestos-containing waste material related to a specific demolition, renovation or removal, including pre-existing debris, shall be handled in accordance with the provisions of BAAQMD Sections 11-2-303 and 11-2-304.
- Except for ordered demolitions, prior to commencement of any demolition or renovation, the owner or operator shall thoroughly survey the affected structure or portion thereof for the presence of asbestos-containing material, including Category I and Category II non-friable asbestos-containing material. The survey shall be performed by a person who is certified by the Division of Occupational Safety and Health, who has taken and passed a USEPA-approved Building Inspector course, and who conforms to the procedures outlined in the course. The survey shall include sampling and the results of laboratory analysis of the asbestos content of all suspected asbestos-containing materials. This survey shall be made available to the Air Pollution Control Officer (APCO) prior to the commencement of any RACM removal or any demolition.
- When a structure, or portion thereof, is demolished under an ordered demolition, the survey must be done prior to, during, or after the demolition but prior to loading or removal of any demolition debris. If the debris contains regulated asbestos-containing material, all of the debris shall be treated as asbestos-containing waste material pursuant to BAAQMD Section 11-2-304. *A survey of asbestos-containing material has been completed for all structures to be demolished on Parcels B and G ’.*
- No RACM shall be stripped or removed unless at least one on-site representative, such as a foreman or management-level person or other authorized representative, certifies that he or she is familiar with the provisions of this rule as it pertains to demolition and renovation and the means of compliance therewith, and is present during all stripping and removing of RACM.
- If RACM is not discovered until after demolition begins and, as a result of the demolition, cannot be safely removed, the asbestos-contaminated debris shall be treated as asbestos-containing waste material and kept adequately wet at all times until disposed of according to the provisions of BAAQMD Section 11-2-304.
- The owner or operator of any building or other stationary structure to be demolished pursuant to an order of an authorized representative of a state or local governmental agency, issued because that building is structurally unsound and in danger of imminent collapse or has been declared a public nuisance, shall comply with the survey, wetting and disposal requirements of BAAQMD.
- If demolition is accomplished by intentional burning, all RACM, including Category I and Category II non-friable asbestos-containing material, shall be removed before burning.

RACM Waste Disposal

To prevent emissions from asbestos-containing material, the waste generated during the demolition process will be handled in accordance with BAAQMD 11-2-304, including the following:

- Treat asbestos-containing waste by thoroughly mixing with water and store in leak-proof containers before removing from containment area.
- Process asbestos-containing waste into non-friable form before disposal.
- Convert RACM and asbestos-containing waste material into asbestos-free material.
- Keep asbestos-containing waste material adequately wetted at all times after demolition and during handling and loading.
- Adhere to requirements of Section 11-2-608 for marking of vehicles used to transport asbestos-containing waste.
- Maintain waste shipment records as specified in Section 11-2-502.
- Provide a copy of the waste shipment record to the disposal site owner or operator upon delivery.
- Contact transporter and/or owner of the disposal site if the waste shipment has not arrived within 35 days of initial acceptance by the transporter.

Provide a written report to the APCO if the waste shipment is not received within 45 days of initial acceptance by the transporter.

Monitoring and Records

General

A hotline must be established and posted prior to starting construction and maintained during construction in a publicly visible sign with the telephone number for surrounding community members to call and report visible dust problems. The contractor will respond promptly and take corrective action within 48 hours. The number must be given to adjacent residents, schools, and businesses.

Monitoring to ensure compliance with the provisions of this plan will be performed by an independent third party observer. Control of visible dust will be the primary responsibility of the contractor working at the site. The Owner will provide quality assurance monitoring and will have the authority to direct the contractor to implement the measures outlined below if visible dust is observed.

Visible Dust During Site Activities

The goal of this plan is no visible dust. While all parties understand that soil disturbance and excavation activities, by their nature, will produce dust, site controls will be used to mitigate visible dust as it is generated in an effort to achieve the no visible dust goal. This section establishes the steps that must be taken toward achieving the goal of no visible dust from soil disturbance or excavation in terms of the amount of time permitted to address visible dust plumes. The criteria in this section apply to an active work site when equipment and personnel are driving on the site an performing work activities. The “initial observation” starts the clock for the required response measures described below. The “initial observation” is the time any of the following personnel observe visible dust: (a) workers who are disturbing soils or excavating for the permitted activity or (b) Owner, supervisor, contractor, subcontractor or consultant with responsibility for monitoring the permitted activity.

Visible Dust Crossing the Property Boundary

In the event visual dust from soil disturbance or excavation is observed crossing the property boundary, the following procedures will be followed to ensure adequate mitigation measures are in place to address the dust:

1. The specific source of the emissions will be immediately shut down and a more aggressive application of the existing mitigation measures as described on pages D-7 through D-9 (No Visible Dust Goal) will be directed.
2. Once the mitigation measures have been applied , the source of emissions will resume and observations will be conducted to verify that the mitigations measures were successful.

Onsite Visible Dust

In the event visual dust from soil disturbance or excavation is observed onsite, but does not cross the property boundary, the following procedures will be followed to ensure adequate mitigation measures are in place to address the dust:

1. A more aggressive application of the existing mitigation measures as described on pages D-7 through D-9 (No Visible Dust Goal) or additional measures of dust suppression will be directed to the specific source of emissions within 60 minutes the initial observation.
2. If despite these more aggressive and/or additional methods the visible dust emissions continue for 90 minutes from the time of the initial observation, the specific source of the emissions will be temporarily shut down until the implemented dust control mitigations is effective or, due to changed conditions, no longer necessary.

Windblown Visible Dust During Inactive Periods

The standards in this section apply on weekends and holidays or any other times when no equipment and personnel are performing work activities on site. In the event of observations on windblown visible dust plumes from soils originating on the project site, mitigation measures as described on pages D-7 through D-9 (No Visible Dust Goal) will be directed within less than 4 hours of making the observation. Mitigation measures will be applied until the visible dust plumes originating from the project site are minimized or eliminated. Any observations of visible dust originating from the project site during inactive periods should be reported to the Community Hotline.

Dust Monitoring

Real-time particulate dust monitors (Miniram PDR-1000 or equivalent) will be placed at adequate locations to measure particulates in the upwind and downwind locations of the Site. Prevailing wind on the site is from the west or southwest towards the east or northeast. Monitoring locations will initially be established based on these prevailing winds but will be checked daily and adjusted if necessary to maintain the upwind and downwind locations. An

action level of *0.75* milligrams per cubic meter (mg/m^3) above upwind levels, over a ten minute average has been developed for the site operations. At a minimum the data will be reviewed daily. It is anticipated that data review will be more frequent at project startup to validate BMPs. If dust is generated from on-site soil disturbance or excavation activities and dust levels from these activities are recorded above this action level, site specific actions will be specified based on the type of activity being conducted. Actions could include evaluation of site activities or stopping work until additional controls are implemented to reduce dust generation from the specific work area causing the problems. During periods of extended rain, realtime particulate monitoring will cease to prevent damage to the instruments.

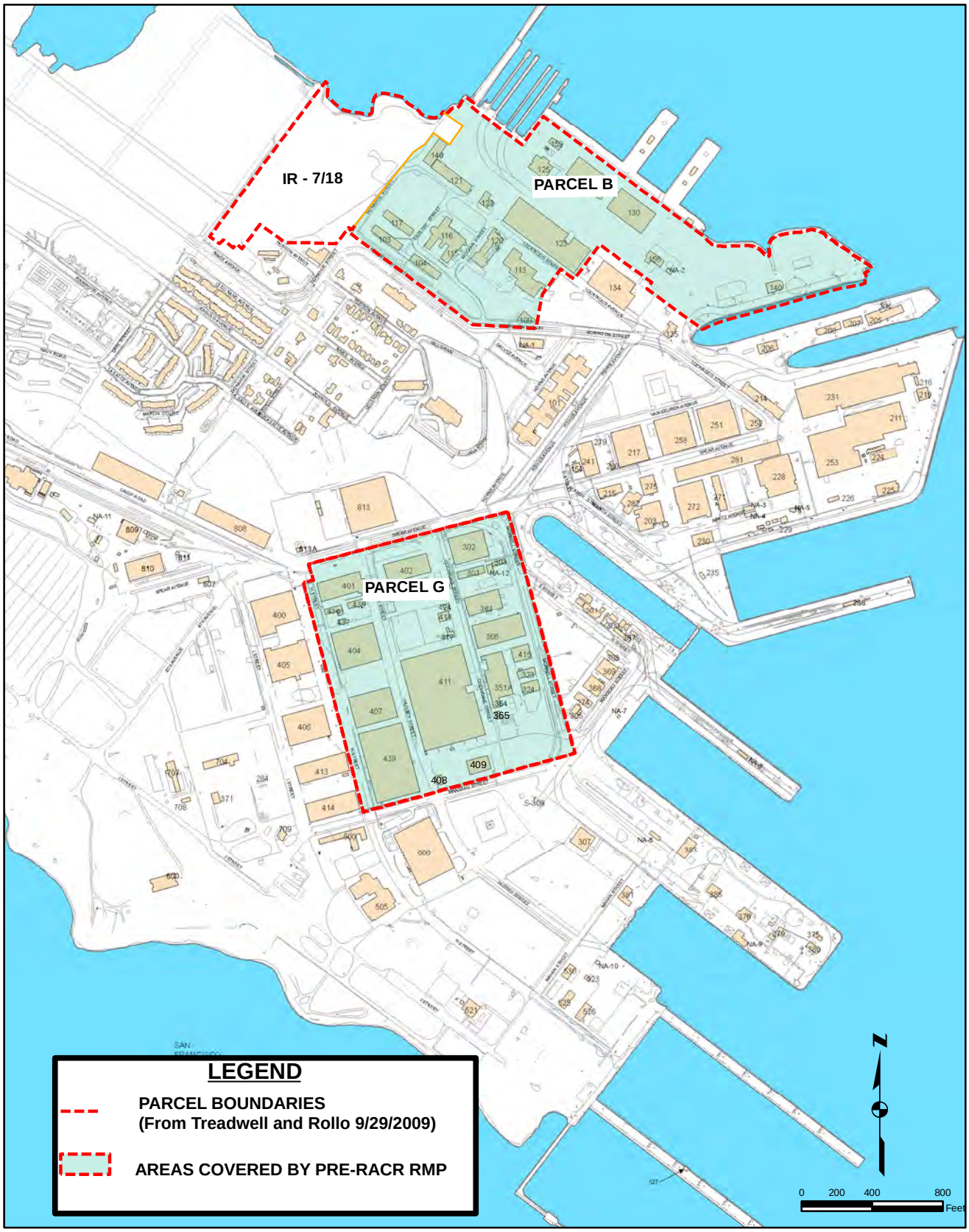
Recordkeeping and Reporting

Dust monitors will be equipped with data loggers. Dust monitoring data will be included with daily construction reports.

BAAQMD 11-2, Section 11-2-502 describes reporting and recordkeeping requirements for RACM demolition activities.

ATCM requires that results of air monitoring and any testing of serpentine materials be reported to the APCO and that records be retained for at least 7 years following the completion of the project.

FIGURES



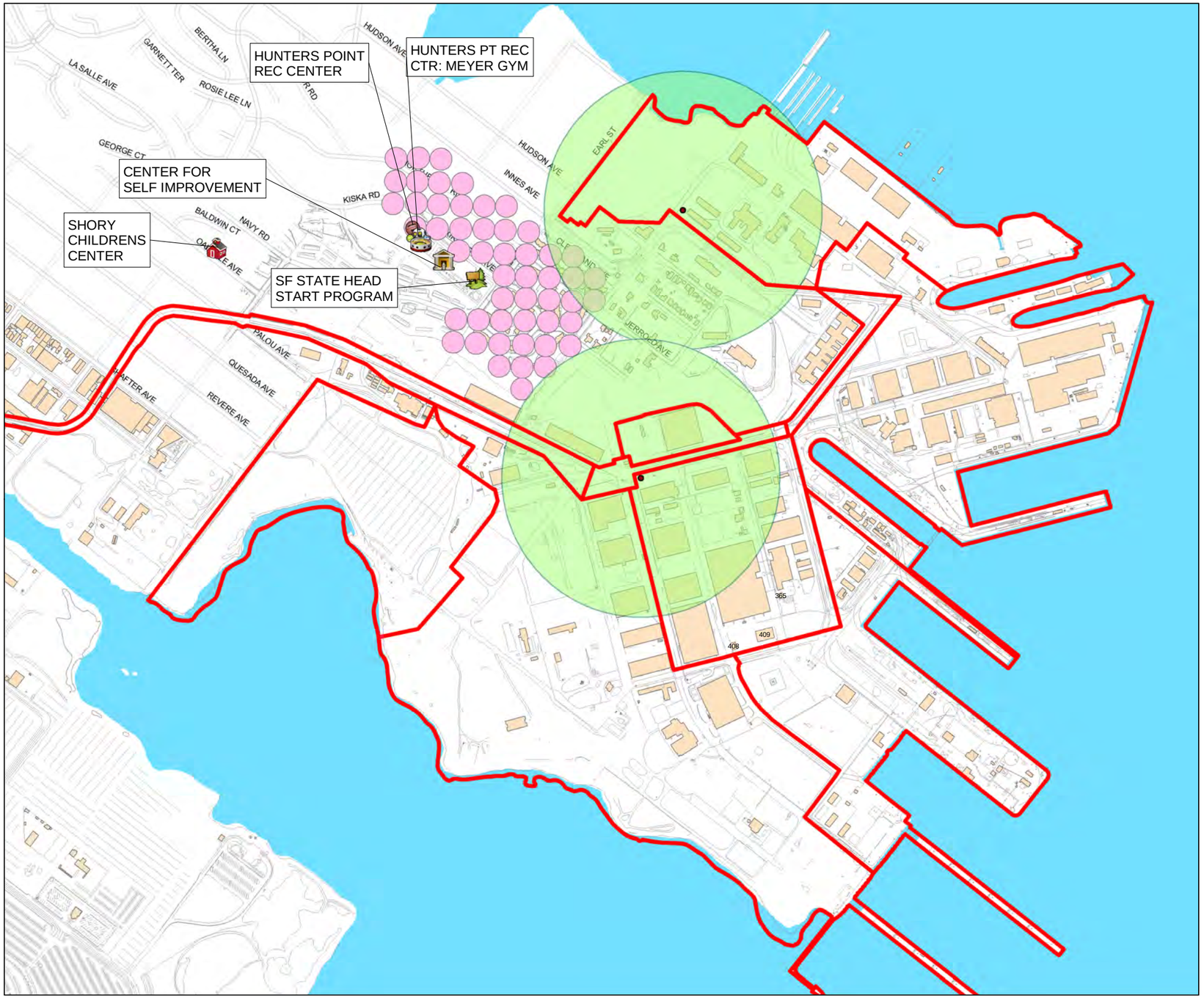
MACTEC

PARCEL B and G LOCATION MAP
PARCEL B & G PRE REMEDIAL ACTION COMPLETION REPORT
DUST CONTROL PLAN
HUNTERS POINT NAVAL SHIPYARD
SAN FRANCISCO, CALIFORNIA

FIGURE 1

DRAWN	JOB NUMBER	CHECKED	CHECKED DATE	APPROVED	APPROVED DATE
RDR	4096097772				

Wednesday, December 16, 2009 11:51:39 AM
P:\4096\097756_HPS-CP\GIS\MXD\Parcel_B_map1.mxd



LEGEND

- CP-HP EXISTING CONDITIONS
- NAVY PARCEL BOUNDARIES
- CP-HP EXISTING BUILDINGS
- SENSITIVE RECEPTORS WITHIN 1000 FEET
- RESIDENTS
- HUNTERS POINT REC CENTER
- HUNTERS PT REC CTR: MEYER GYM
- CENTER FOR SELF IMPROVEMENT
- SHORY CHILDRENS CENTER
- SF STATE HEAD START PROGRAM

N

0 200 400 800
Feet

Wednesday, June 9, 2010 4:25:23 PM
P:\4096\097756_HPS-CP\GIS\Data\MXD\Receptor\20100903_CPHP_Receptors_Buffer_Areas_Pre_Remidial.mxd

NO.	DATE	REVISIONS		
			DRAWN: JHD	PROJECT NO: 4096097772
			ENGINEER: DR	SCALE: AS SHOWN
			CHECKED:	APPROVED:
			DATE: 09-02-10	DATE: 09-02-10

MACTEC

HUNTERS POINT / CANDLESTICK POINT

INTEGRATED PROJECT
HUNTERS POINT NAVAL SHIPYARD
SAN FRANCISCO, CALIFORNIA

HUNTERS POINT COMMUNITY
POTENTIAL SENSITIVE RECEPTORS
PARCELS B AND G
PRE REMEDIAL ACTION COMPLETION REPORT
DUST CONTROL PLAN

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APPENDIX E

SOIL IMPORTATION PLAN OUTLINE

APPENDIX E
Soil Importation Plan Outline

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GROUNDWATER MANAGEMENT PLAN OUTLINE

Appendix F
Groundwater Management Plan Outline

1.0 Introduction

This Section should provide a description of the site where work is proposed, summarize the groundwater conditions in the area of proposed work, describe the work to be conducted including estimated volume of groundwater to be extracted, estimated duration of extraction and estimated area of groundwater that may be influenced by the extraction.

2.0 Groundwater management Plan

This Section should provide a description of the means and methods that will be used to extract (dewater) groundwater, temporary storage of extracted groundwater, and ultimate disposition of the extracted groundwater. Emphasis should be placed on using best management practices to minimize the area to be impacted by dewatering, protecting the public from exposure to contaminated groundwater, and disposal methods that are compliant with all applicable environmental regulations. If the work involves the installation of underground utility lines, best management practices should be implemented to mitigate the potential for the utility backfill to create a conduit for migration of contaminated groundwater from one area to another.

This Section should include a contingency plan for unexpected conditions, if they are encountered. Unexpected conditions could include the presence of free phase hydrocarbons floating on the groundwater surface, encountering odiferous and obviously discolored soil, extraction of a significantly larger volume of groundwater than anticipated, and other similar conditions.

3.0 Permitting and Reporting Requirements

This Section should include a discussion of the permit requirements that must be met to accomplish the dewatering project. At a minimum, consideration should be given to the City and County of San Francisco Department of Public Works, City of San Francisco Department of Public Health, San Francisco Public Utilities Commission, California Regional Water Quality Control Board and California Department of Toxic Substances Control. The discussion of permit requirements should also include a discussion of reporting and recordkeeping requirements.

4.0 Health and Safety

This Section should present a health and safety plan to protect construction workers conducting the dewatering and construction project and to protect the general public from direct and indirect exposure to hazardous substances,

5.0 References

This Section should present a list of references used to prepare this plan.

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PARCELS B AND G PRE-REMEDIAL ACTION COMPLETION REPORT

RISK MANAGEMENT PLAN

HUNTERS POINT SHIPYARD

SAN FRANCISCO, CALIFORNIA

WORKING DRAFT

January 2011

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Acronyms and Abbreviations

ABM	Abrasive blast material
ADMP	Asbestos Dust Mitigation Plan
AOC	Administrative Order on Consent
ARIC	Area requiring institutional controls
ATCM	Airborne Toxic Control Measures
BAAQMD	Bay Area Air Quality Management District
BCDC	San Francisco Bay Conservation and Development Commission
BMP	Best Management Practice
CCR	California Code of Regulations
CCSF	City and County of San Francisco
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CHHSLs	California Human Health Screening Levels
CIH	Certified Industrial Hygienist
COCs	Chemical of concern
CRUP	Covenants to Restrict use of Property
DCP	Dust Control Plan
DTSC	California Department of Toxic Substance Control
EHSPs	Environmental Health and Safety Plans
EIR	Environmental Impact Report
FFA	Federal Facilities Agreement
GMP	Groundwater Management Plan
HPS	Hunters Point Shipyard
ICs	Institutional controls
LUC	Land use control
NOA	Naturally occurring asbestos

NOI	Notice of intent
NPDES	National Pollutant Discharge Elimination System
O&M	Operation and maintenance
OSHA	Occupational Safety and Health Administration
OVA	Organic vapor analyzer
OVM	Organic vapor monitor
PAHs	Polycyclic aromatic hydrocarbons
PCBs	Polychlorinated biphenyls
PPE	Personnel protective equipment
QSD	Qualified SWPPP Developer
RA	Remedial Action
RACR	Remedial Action Completion Report
RCRA	Resource Conservation and Recovery Act
RAWP	Remedial Action Work Plan
RD	Remedial Design
ROD	Record of Decision
RMP	Risk Management Plan
RWQCB	Regional Water Quality Control Board
SFDPH	San Francisco Department of Public Health
SFPUC	San Francisco Public Utilities Commission
SFRA	San Francisco Redevelopment Agency
SIP	Soil Importation Plan
SSHO	Site Safety and Health Officer
SVE	Soil vapor extraction
SVOCs	Semi-volatile organic compounds
SWPPP	Storm Water Pollution Prevention Plan
TCRA	Time-critical removal action

TMSRA	Technical Memorandum in Support of a ROD Amendment
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USTs	Underground storage tanks
VOCs	Volatile organic compounds
WDRS	Water Discharge Requirements

1.0 INTRODUCTION

In accordance with the final Records of Decision (RODs) for Parcels B and G at the former Hunters Point Shipyard (HPS) in San Francisco, California, environmental cleanup activities are being implemented to provide for protection of human health and the environment. The cleanup activities are overseen by the United States Environmental Protection Agency (USEPA), the California Department of Toxic Substances Control (DTSC) and the Regional Water Quality Control Board (RWQCB). This Pre-Remedial Action Completion Report Risk Management Plan (hereafter referred to as the Pre-RACR RMP) has been prepared for Parcels B (excluding Installation Restoration [IR] Sites 7 and 18; See Section 1.1) and G to provide procedures and protocols that shall be used to conduct "pre-approved restricted activities" and "activities that require approval" on Parcels B and G during the period between the transfer of property from the Navy to other landowners and the time the FFA signatories approve the RACR demonstrating that the remedial activities called for in the ROD have been completed. Pre-approved restricted activities and activities that require approval are described later in Section 3. A separate document, the post-RACR RMP governs activities conducted in an area where the FFA signatories have approved a RACR demonstrating that the remedial activities called for in the ROD have been completed.

The following restricted activities are defined in the Parcel B ROD Amendment (*ChaduxTt, 2009*) and the Parcel G ROD (*Navy, 2009*):

- "Land disturbing activity" which includes, but is not limited to: (1) excavation of soil; (2) construction of roads, utilities, facilities, structures, and appurtenances of any kind; (3) demolition or removal of "hardscape" (for example, concrete roadways, parking lots, foundations, and sidewalks); (4) any activity that involves movement of soil to the surface from below the surface of the land; and (5) any other activity that causes or facilitates the movement of known contaminated groundwater.

- Alteration, disturbance, or removal of any component of a response or cleanup action (including, but not limited to, pump-and-treat facilities, soil vapor barriers, revetment walls and shoreline protection, and soil cover/containment systems); groundwater extraction, injection, and monitoring wells and associated piping and equipment; or associated utilities.

- Extraction of groundwater and installation of new groundwater wells.

- Removal of or damage to security features (for example, locks on monitoring wells, survey monuments, fencing, signs, or monitoring equipment and associated pipelines and appurtenances).

The RODs provide that the activity restrictions will be enforceable through Covenant(s) to Restrict Use of Property (CRUPs) and deed restrictions. Institutional controls (ICs) are enforced in the form of the deed(s) and CRUP(s), which are recorded in the official records of the City and County of San Francisco (CCSF) against all parcels that are subject to this Pre-RACR RMP and run with the land under California Civil Code 1471.

Additionally the RODs specify the following activity restrictions related to the potential exposure to volatile chemicals in the subsurface soil vapor:

- Any proposed construction of enclosed structures within the area requiring institutional controls (ARIC) for volatile chemicals must be approved by the FFA signatories in accordance with the CRUPs, Quitclaim deed(s), Land Use Control (LUC) Remedial Design (RD), prior to the conduct of such activity to ensure that the risks of potential exposures to volatile chemicals are reduced to levels that are adequately protective of human health. Initially the ARIC will include portions of Parcels B and G as presented in Figures 2 and 3. The reduction in potential risk caused by the presence of volatile chemicals can be achieved through engineering controls or other mitigation measures that meet the specifications set forth in the amended ROD, RD reports, LUC RD report, and the RMPs. The ARIC for volatile chemicals may be modified by the FFA signatories as the soil contamination areas and groundwater contaminant plumes that are producing unacceptable vapor inhalation risks are reduced over time or in response to further soil, vapor, and groundwater sampling and analysis for VOCs, SVOCs including PAHs and pesticides, that establishes that areas now included in the ARIC for volatile chemicals do not pose an unacceptable potential exposure risk to volatile chemicals.

This Pre-RACR RMP is organized as follows:

Section 2.0 Summary of Environmental Conditions: Provides a description of soil and groundwater conditions and the selected remedies.

Section 3.0 Site Activities and Regulatory Protocols: Describes pre-approved activities; activities requiring regulatory notification and approval, and procedures to modify the Pre-RACR RMP and Description of Areas Requiring Institutional Controls (ARICs)

Section 4.0 Reporting and Notice Protocols: Describes reporting and notification process, including notification entities, activities requiring notification and completion report requirements and approvals and annual reports.

Section 5.0 Risk Management Procedures and Protocols During Redevelopment: Presents risk management measures which must be implemented during performance of development and maintenance activities.

Section 6.0 References: Lists references used in the preparation of this Pre-RACR RMP.

1.1 Pre-RACR RMP Scope

The Pre-RACR RMP will cover Parcels B and G (Figure 1), excluding IR Sites 7 and 18, portions of which are subject to radiological restrictions (ARIC for Radionuclides). IR Sites 7 and 18 will be addressed in a separate RMP or operations and maintenance plan (*ChaduxTt, 2010*). Once the FFA signatories have approved the installation of the durable cover remedy as well as other remedial actions and the RACR report for an area has been accepted by the FFA signatories, this Pre-RACR RMP will no longer apply and the Post-RACR RMP will apply with respect to the area for which the RACR has been approved. Thus, the geographic area for which this Pre-RACR RMP applies will be dynamic and the geographic boundaries will decrease with time as the remedy, including the durable cover, is installed and approved by the FFA signatories. When a RACR is approved, copies of Figure 1 in both this Pre-RACR RMP and the Post-RACR RMP will be updated simultaneously and will be made available in the Hunters Point Shipyard information repositories (Section 3.4) and on the San Francisco Department of Public Health (SFDPH) Hunters Point Shipyard Redevelopment website (http://www.sfdph.org/dph/EH/HuntersPoint/default.asp).

The scope of this Pre-RACR RMP is limited to procedures and protocols used to manage risk following transfer and prior to development, during redevelopment activities, and prior to regulatory approval of the remedy. It is not intended to describe design details or procedures for implementation of remedial actions. All required remediation including, but not limited to soil vapor surveys, durable cover installation, installation of vapor mitigation systems, and groundwater remediation, and monitoring will

be conducted pursuant to the ROD and other documents that apply to the remedial work, including the Remedial Design documents (RDs), Remedial Action Work Plans (RAWPs), Administrative Order on Consent (AOC) and Remedial Design/Remedial Action (RD/RA) documents. Hence, any and all remediation including design requirements for installation of the durable cover fall outside the scope of the Pre-RACR RMP. In the event that any procedures or protocols in this document appear to conflict with the ROD or AOC, the ROD/AOC procedures govern the work. The Pre-RACR RMP also does not address post remediation actions such as actions required under an Operations and Maintenance Plan or activities that disturb an approved durable cover. The Pre-RACR RMP is the only RMP that should be used before the remedy has been installed and approved. It also does not address the management of restricted activities after the remedy is complete. Those procedures and protocols are set forth in the Post-RACR RMP.

Although this Pre-RACR RMP sets forth the requirements to appropriately manage the potential risks in soil, soil vapor and groundwater, prior to remedy installation, the Pre-RACR RMP is not intended to catalog all other legal requirements that may apply to the project or to activities conducted under the Pre-RACR RMP such as, but not limited to: worker health and safety governed by the Occupational Safety and Health Administration (OSHA) and compliance with Article 31 of the San Francisco Health Code. Article 31 contains special permit processing requirements that apply at Hunters Point Shipyard to address potential contamination.

1.2 Intended Users of The Pre-RACR RMP

This Pre-RACR RMP is intended for the following users or their designees who may perform or oversee the Restricted Activities described in Section 3.1.2 within Parcels B and G:

- San Francisco Redevelopment Agency (SFRA)
- San Francisco Department of Public Works
- Property developers
- Property Owners (defined as an Owner with a fee interest in the property or an Owner's Representative, hereinafter referred to as Owners)
- Lessees, permittees, tenants, or any other party with the legal right to perform subsurface work on the property

- Contractors
- Maintenance personnel
- Regulatory agencies (USEPA, DTSC, and RWQCB) and City of San Francisco Department of Public Health (SFDPH)
- The Department of Navy
- Any other person or entity who may perform the Restricted Activities described in Section 3.1.2.

The Pre-RACR RMP will be used by the regulatory agencies to ensure that future property owners comply with the ROD required land use restrictions to limit exposure to hazardous substances and that ensure that property owners maintain the integrity of the remedy.

1.3 Description of Planned Redevelopment

Parcels B and G will be developed as mixed use sites (Figures 2 and 3). Parcel B will include multi-family housing, public open space, retail, light industrial, and commercial uses. Parcel G could include mixed use (including residential), commercial, educational/cultural, industrial, and open space.

2.0 SUMMARY OF ENVIRONMENTAL CONDITIONS

Soil, groundwater and soil vapor investigations were conducted by the Navy within Parcels B and G to characterize the environmental conditions. Significant source areas that could impact human health and the environment were remediated by the Navy prior to transfer. Risk evaluations have been performed to confirm that the parcels could be developed as planned (based on the 1997 Redevelopment Plan for HPS), in a manner that would be safe for human health and the environment. The Remedial Investigation Reports for Parcel B (*PRC et al, 1996*) and Parcel G (*Tetra Tech, 1997a*), Feasibility Study Reports for Parcel B (PRC, 1996) and Parcel G (*Tetra Tech, 1997b*), Revised Feasibility Study for Parcel D (*SulTech, 2007*), 5-Year Review Report for Parcel B (Jonas, 2008), Technical Memorandum in Support of a Record of Decision (ROD) Amendment (TMSRA) for Parcel B (*ChaduxTt, 2007*) and its Radiological Addendum (*TtEC, 2008*), and ROD Amendment (*ChaduxTt, 2009*), and the ROD for Parcel G (*Navy, 2009*) are central to understanding environmental conditions at HPS. While this Pre-RACR RMP provides a summary of the various environmental findings in the site-specific investigations, the reader should refer to reports listed in Section 6.0 for more details regarding the specific findings of these investigations. A description of the history of Parcel B including geology, hydrogeology, regional setting and a description of previous investigations, can be found in the Parcel B TMSRA (*ChaduxTt, 2007*), and a description of the use and history of Parcel G can be found in the ROD for Parcel G (*Navy, 2009*). Parcel G is located within the central portion of the former 98-acre Parcel D. To support the early transfer of Parcel G, Parcel D was subdivided into Parcels G, D-1, D-2, and UC-1 (*Navy, 2009*).

2.1 Soil and Sediment Conditions

The primary chemicals of concern (COCs) detected in soil at Parcels B and G include volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and metals. The Navy conducted a series of excavations at Parcel B to reduce the risk to human health and the environment. A group of metals, primarily arsenic and manganese, were identified in soil at concentrations that consistently exceeded cleanup goals at locations across Parcel B. The widespread distribution of this group of metals in soil at Parcel B is related to the occurrence of these metals in the local bedrock that was quarried for fill during the expansion of HPS as well as the importation of other off site sources of fill used to further expand HPS. Following excavations in 106 locations on Parcel B, the FFA signatories determined that because of the ubiquitous nature of these metals in soil throughout Parcel B, excavation and removal of all soil exceeding risk-based cleanup standards to a depth of 10 feet was not economically feasible and the site conceptual model needed to be re-examined. As a result, the ROD

Amendment selected a remedial alternative to address the ubiquitous presence of metals using containment beneath covers in conjunction with institutional controls.

A large quantity of soil in Parcels B and G that was contaminated with constituents other than arsenic and manganese (lead, mercury, radionuclides, organic compounds or other Navy contaminants above remediation goals) was excavated and disposed off-site by the Navy prior to transfer. However, some soil, soil gas, and groundwater containing constituents of concern remain in place, as described in the Parcel B TMSRA and Parcel G ROD.

The Navy implemented investigations and corrective actions for total petroleum hydrocarbons (TPH) on Parcels B and G as part of the Navy's Petroleum Program. The RWQCB is the lead regulatory agency that oversees petroleum contamination and the underground storage tank (UST) program. For Parcel B, the petroleum corrective action work was conducted pursuant to a petroleum Corrective Action Plan (CAP). For Parcel G, no petroleum corrective actions were necessary, and therefore a CAP was not developed. The Navy is currently in the process of revising the Draft Final Petroleum Hydrocarbon Closeout Reports for Parcels B and G. The Navy anticipates the submission of Final Petroleum Hydrocarbon Site Closeout Reports for Parcels B and G in early 2011. Regional Water Board staff expects that closure will be completed for most if not all sites before the Navy issues a Final Finding of Suitability for Early Transfer (FOSET). The one exception to this schedule is the Parcel B petroleum site called Combined Sites Area Of Concern (CAA-21, CAA-22, Area Of Concern-46-A and Area Of Concern-46-B). The Navy completed all fieldwork and investigations of the Parcel B combined sites in late 2010 (*ITSI, 2011[need reference]*). Post-investigation actions such as monitoring likely could be ongoing at the Combined Sites Area Of Concern and therefore closure pending at the time of transfer.

The Navy identified metals, pesticides, PCBs, and polycyclic aromatic hydrocarbons (PAHs) in Parcel B shoreline sediments that may pose a risk to human health or ecological receptors. The selected remedy to prevent exposure to the COCs in the shoreline sediments included the construction of a shoreline revetment wall. Parcel G does not have any sediment concerns because it is not bordered by the bay.

At HPS, naturally occurring asbestos (NOA) is primarily found in the mineral form of chrysotile, which is present in approximately 1/8-inch veinlets scattered throughout the native serpentinite bedrock. The primary route of potential exposure to asbestos is through inhalation of air containing asbestos fibers. The primary release mechanism for asbestos fibers to the air would be through excavating and crushing the serpentinite bedrock. Best Management Practices (BMPs) incorporating the use of traditional dust suppression techniques during excavation would be adequate to mitigate potential health concerns related

to the inhalation of asbestos fibers. Samples of airborne particulates will be collected using real-time particulate dust monitors to evaluate the adequacy of and allow adjustments to BMPs (Appendix D).

2.2 Groundwater Conditions

COCs in groundwater above remediation goals are limited to the A-aquifer, which exists within unconsolidated artificial fill. The A-aquifer ranges in thickness from about 15 feet in the southwest to as much as 80 feet in the northeast, but averages about 25 feet over most of Parcel B. Groundwater is typically encountered within Parcel B in the A-aquifer at depths ranging from approximately 5 to 10 feet below ground surface, with up to 3 feet of typical seasonal variation. Groundwater in the A-aquifer at Parcel G is generally encountered 8 to 10 feet below ground surface with fluctuations of over 5 feet observed in the past. COCs for both Parcels B and G in the A-aquifer include volatile organic compounds (VOCs) (mainly trichloroethene and its breakdown products), in addition to metals such as chromium VI, mercury, and nickel. Plume areas identified in the Parcel B Amended ROD include IR Site 10 and IR Site 26 (Figure 2). Plume areas identified in the Parcel G ROD include IR Site 9, IR Site 33 and IR Site 71 (Figure 3). An indoor inhalation risk may exist in areas where volatile chemicals are present in soil or groundwater off-gas. Potential risks from groundwater are based on breathing volatile chemicals in soil and groundwater that may have migrated through the subsurface to indoor air (vapor intrusion). The results of the Human Health Risk Assessment show that the risk from exposure to vapors from the groundwater exceeded the excess lifetime cancer risk threshold in several areas in Parcel B (*ChaduxTt, 2009*) prior to the completion of the remedy. The selected remedy for groundwater at Parcel B includes treatment of the groundwater, implementation of institutional controls and long-term groundwater monitoring. A-aquifer groundwater in IR Site 9 and IR Site 71 at Parcel G has undergone treatment which has reportedly reduced VOC concentrations below cleanup levels (*Alliance, 2010*), though groundwater monitoring will continue to verify that the remediation is complete. Due to declining concentrations of COCs and low risk to future receptors, treatment of groundwater at IR 33 was not necessary (Alliance, 2010). (Note: *Update with latest groundwater sampling results at time of implementation*).

The risk posed by chromium VI, mercury, and nickel in groundwater is primarily to ecological receptors through potential transport to the bay. The Navy completed a removal action for the mercury source at IR-26 in Parcel B (*Insight, 2009*). Long-term groundwater monitoring will continue at Parcel B until concentrations of both the chromium VI and mercury are below action levels that are protective of ecological receptors in the bay. Chromium VI in Parcel G was associated with the former Pickling and Plate Yard (IR-09). The source of the chromium VI, including contaminated equipment and residue from

the Pickling and Plating Yard and the pickling and plating sump and surrounding soil, have been removed). Documentation of the plating sump removal will be included in the Parcel G RACR.

2.3 Known Existing or Former Below-Grade Structures

Below grade structures such as underground storage tanks (USTs), oil/water separators, sumps, or other structures were removed or investigated during previous investigations within Parcel B and G. Two known USTs (U439-1 and U439-2) were closed in place in Parcel G (Figure 3). No known USTs were closed in place within Parcel B (*ChaduxTt, 2010b*).

2.4 Selected Remedies

The CERCLA RODs for Parcels B and G selected remedial actions, which are required to provide adequate protection of human health and the environment and to allow the designated and beneficial reuse of the property as defined in the conveyance agreement executed between the Navy and the SFRA. The remedial actions will be implemented over time between approval of RD and RAWPs and ultimate reuse of the site. The following remedial actions were identified in the RODs to address contamination in soil, sediments, soil vapor, groundwater and structures within Parcels B and G:

- Radiological contamination indentified in buildings, former building sites, sewer lines and other areas affected by radiological sources was removed by the Navy and approved by the FFA signatories prior to transfer of Parcels B and G to the SFRA
- Removal and offsite disposal of excavated soil in areas where concentrations of organic chemicals and metals (excluding arsenic and manganese) were above remedial goals
- Installation of durable covers over the entire parcel to prevent contact with residual ubiquitous metals. A durable cover is defined in the RODs or RDs as hardscape (e.g., asphalt, buildings, sidewalks, etc.) or two feet of clean imported fill.
- Installation of a revetment wall along the Parcel B shoreline to cover and prevent access to sediments
- Operation of a soil vapor extraction (SVE) system (Parcel B only) to remove and treat VOCs in soil
- Treatment of groundwater to reduce the contaminant concentrations to or near the remediation goals defined in the RODs

- Implementation of a groundwater monitoring program to verify that remediation efforts continue to meet the remediation goals defined in the Parcel B ROD Amendment and Parcel G ROD
- Use of engineering controls and institutional controls (ICs) to prevent or minimize exposure to contaminated soil and soil vapor and to prevent or minimize exposure to contaminated groundwater by restricting activities related to groundwater.

Details concerning the selection, and performance and implementation of these remedies are presented in the TMSRA, Parcel B ROD Amendment, Parcel D FS, Parcel G ROD and Remedial Design Package, Design Basis Reports for Parcels B and G and referenced in Section 6. Implementation of the remedies will be documented in the RACRs.

3.0 SITE ACTIVITIES AND REGULATORY PROTOCOLS

This section describes the regulatory oversight protocols, types of activities and associated restrictions that are governed by this Pre-RACR RMP and the process for modifying this Pre-RACR RMP.

3.1 Regulatory Oversight

The groups of agencies that have oversight and approval roles for various obligations are described in this section. These agencies plus the Navy, as the previous landowner and CERCLA responsible party, are referred to as the Federal Facility Agreement (FFA) signatories. The FFA is an agreement entered into by the agencies to carry out the remediation of HPS. The FFA signatories and the City of San Francisco Department of Public Health (SFDPH) will be referred to as the Oversight Agencies and the DTSC, RWQCB, USEPA, and the SFDPH will be referred to as the Regulatory Agencies for the purposes of this RMP. A contact list is included in Appendix A.

Regulatory oversight regarding implementation of the Pre-RACR RMP includes, but is not limited to:

- Review and approval of modifications to the Pre-RACR RMP, as described in Section 3.3
- Review and approval of work plans for conducting Restricted Activities requiring FFA signatory approval that are specified in Section 3.1.3 of this Pre-RACR RMP
- Performance of inspections to verify compliance with the Pre-RACR RMP procedures and protocols
- Review and approval of completion reports described in Section 4.2.3.

3.1.1 Site Access Restrictions and Inspection

For areas where a durable cover has not yet been approved and signed off by the FFA signatories, the Owner shall ensure that the general public is restricted from site access. A gate shall control access to the parcels via any roads. At a minimum, a locked, 6-foot chain link fence surrounding the perimeter of the uncovered area is required. The fence must contain no trespassing signs posted every 200 feet and warning signs posted every 200 feet and at each gate stating that contamination may be present at levels that are harmful to human health. The Owner is responsible for ensuring that the integrity of the fence and other security controls are maintained. The integrity of the site access controls must be inspected at

least every seven calendar days. Repairs must be made within five calendar days of the discovery of deficiencies unless the regulators approve an extension due to extenuating circumstances. Additional site security information is provided in Section 5.9.

3.1.2 Pre-Approved Restricted Activities

Certain land disturbing activities may be conducted without obtaining FFA signatory approval as long as such activities are performed in accordance with all provisions and protocols specified in the RMP. Such activities are hereafter referred to as "pre-approved activities". Pre-approved activities include the following, except to the extent that the activities fall within one of the categories requiring FFA signatory approval under Section 3.1.3 below:

(1) Excavation of soil. Following completion of excavation activities, the excavated soil must either be hauled offsite or placed back in the excavation and the cover remedy re-installed. Excavated soil may be used at other sites so long as it is placed beneath an approved cover remedy (e.g., 2 feet of clean fill, asphalt cover, side walk, or street).

(2) Construction of roads, utilities, facilities, structures (other than enclosed structures in ARICs for volatile chemicals), and related appurtenances as necessary to complete the redevelopment. Following the completion of any of these activities, all excavated soil must either be hauled offsite or put back in place and an approved cover remedy must be installed.

(3) Demolition or removal of "hardscape" (e.g., concrete or asphalt roadways, parking lots, building foundations, and sidewalks).

(4) Any activity that involves movement of soil to the surface from below the surface of the land. Following completion of soil moving activities all soil that has been moved must either be hauled offsite or put back in place and must be covered with an approved cover remedy (e.g., 2 feet of clean fill, asphalt cover, side walk, or street); and

(5) Grading or other movement of soil. Following completion of grading activities existing or native soils must be covered with an approved cover remedy (e.g., 2 feet of clean fill, asphalt cover, side walk, or street).

Some specific examples of pre-approved activities include, but are not limited to:

- excavation of trenches, potholes or other movement of soil from the subsurface to the surface in support of the installation of new below grade utilities, foundations, or other subsurface foundational structures (e.g., sewer lines, water lines, storm water pump station wet wells, pile caps and/or grade beams, etc.). Following completion of these activities, all excavated soil must either be hauled offsite or placed back in the excavation and an approved cover remedy installed (e.g., 2 feet of clean fill, asphalt cover, side walk, or street). Excavated soil may be used at other sites so long as it is placed beneath an approved cover remedy. Additional information on the handling and management of soil is provided in Sections 5.2 and 5.3.
- demolition of existing below grade, at grade or above grade structures. Following completion of demolition activities exposed native or existing soil must be covered with an approved cover remedy (e.g., 2 feet of clean fill, asphalt cover, side walk, or street);
- grading for the purpose of raising and/or lowering site grade, creation of building pads, fine grading activities in support of road installation, and associated excavating, loading, hauling, stockpiling and/or compacting soil. Following completion of these activities existing or native soils must be covered with an approved cover remedy (e.g., 2 feet of clean fill, asphalt cover, side walk, or street);
- pre-drilling for pile installation including drilling pilot holes through fill material prior to the installation of foundation piles. In addition, in areas where there is no known groundwater contamination and to the extent that such activities will not impact areas of known groundwater contamination; temporary dewatering activities may be conducted including temporary pumping of groundwater to dewater below grade excavations in support of both infrastructure installation and/or foundation installation which may include both pumping of groundwater from an open excavation and/or pumping groundwater via perimeter temporary dewatering wells (typically used for building foundation installation). Additional information on groundwater management is provided in Section 5.6.

Anyone performing the above Pre-Approved Activities will be required to comply with the following applicable soil and groundwater management protocols, a Dust Control Plan (DCP), a Stockpile Management Plan (part of the DCP), a Soil Importation Plan, a Storm Water Pollution Prevention Plan (SWPPP), and a Groundwater Management Plan (GMP). Each of these elements is described in more detail in Section 5.0. In addition, contractors performing Pre-Approved Restricted Activities will be required to comply with their own Environmental Health and Safety Plan (EHSP). Reporting requirements for these Pre-Approved Restricted Activities are further described in Section 4.0.

Once a Remedial Action Completion Report has been submitted and approved by the FFA signatories, the activities described here will still be allowed to proceed, but within the framework of the Post-RACR RMP.

3.1.3 Restricted Activities Requiring FFA Signatory Approval

FFA signatory approval will be required for work in areas of Parcels B and G that involve the following types of active remediation:

- Soil vapor extraction
- Groundwater treatment

Specific restricted activities that affect remediation and may not be commenced without first obtaining written FFA signatory approval include:

- "Land disturbing activity" that causes or facilitates the movement of any known contaminated groundwater.
- Alteration, disturbance, or removal of any component of a response or cleanup action (including, but not limited to, pump-and-treat facilities, shoreline protection, and soil cover/containment systems); groundwater extraction, injection, and monitoring wells and associated piping and equipment (including monitoring well abandonment); or associated utilities.
- Extraction of groundwater and installation of new groundwater wells (including monitoring well replacement).
- Removal of or damage to security features (for example, locks on monitoring wells, survey monuments, fencing, signs, or monitoring equipment and associated pipelines and appurtenances).
- Reuse of soil waste generated from one of the active remediation activities described above and in an area that has not yet received closure, unless reuse is fully addressed in future modifications to this Pre-RACR RMP.
- Construction of enclosed structures or reuse of existing buildings located in ARICs for volatile chemicals.

3.1.4 Areas Requiring Institutional Controls (ARICs) for Volatile Chemicals

The criteria for determining ARICs for volatile chemicals was established by the Navy and presented in the Soil Vapor Intrusion Survey Work Plan (*Sealaska, 2010*). The Soil Vapor Intrusion Survey Work Plan also established criteria for the modification or elimination of ARICs for volatile chemicals. The ARIC for volatile chemicals may be modified with approval by the FFA signatories via additional soil gas sampling and analysis for COCs. If the data show that vapor inhalation risk is within the acceptable range specified in the ROD or ROD Amendment, the ARIC may be reduced accordingly and Figures 2 and 3 will be updated. In areas where the ARIC remains, engineering controls shall be installed in existing or new buildings to address remaining vapor inhalation risk. When construction of enclosed structures or reuse of an existing building is proposed in an area located in ARICs (shown on Figures 2 and 3) for volatile chemicals the design of the vapor mitigation system built into foundations must be approved by the regulatory agencies.

3.1.5 Prohibited Activities

The following activities are prohibited throughout the Pre-RACR RMP Area:

- Growing vegetables or fruits in native soil for human consumption
- Use of groundwater.

3.1.6 Compliance with Requirements of Public Agencies That Are Not Parties to the FFA

Compliance with this Pre-RACR RMP is required in addition to all federal, state and City of San Francisco permitting and environmental regulations and procedures for any construction or maintenance activity. The following is a list of state and local agencies that may have requirements for certain construction and maintenance activities, in addition to any requirements described in this Pre-RACR RMP. This list is an example of potential state and local regulatory agencies and is not intended to be complete.

- Bay Area Air Quality Management District (BAAQMD) – air emissions and/or dust control
- San Francisco Department of Public Health (SFDPH) – monitoring well permitting and SFDPH Article 31 oversight

- San Francisco Public Utilities Commission (SFPUC) - wastewater discharge permitting
- Cal/Occupational Safety and Health Administration (OSHA) – worker health and safety
- San Francisco Redevelopment Agency – redevelopment design review
- San Francisco Department of Building Inspection – building permitting
- San Francisco Department of Public Works – permitting of structures in existing or future public right-of-ways and parks; subdivision approvals
- San Francisco Municipal Transportation Agency – permitting of infrastructure related to transit and traffic management
- San Francisco Fire Marshall – approval of infrastructure related to Fire Department emergency response
- US Army Corps of Engineers – approval of repairs or modifications to the revetment wall and storm drain outfalls below sea level
- Bay Conservation and Development Commission - approval of repairs or modifications to the revetment wall within 100 feet of sea level.

3.2 Agency Site Access

The agencies responsible for enforcing the Pre-RACR RMP procedures and protocols within Parcels B and G (Oversight Agencies) may elect to visit the site, as needed, per the rights of access described in the deed(s) and access requirements in the CRUP(s). The purpose of such visits may include, but is not limited to confirming that the Pre-RACR RMP procedures and protocols are being properly implemented.

3.3 Modifications to the Pre-RACR RMP

Modifications to the Pre-RACR RMP may become necessary to address unanticipated future events, such as newly-identified COCs for which site-specific remediation goals have not been calculated, or in the event of a remedy failure. Additionally, based on the results of remedial activities, modification or termination of specific conditions or controls stated in this Pre-RACR RMP may be warranted.

Other government entities may propose modifications of this Pre-RACR RMP, including terminating specific conditions of the Pre-RACR RMP, to the FFA signatories. Such modifications proposed to the

FFA signatories may include modifications proposed by Owners to other government entities that those government entities determine are appropriate. The FFA signatories will review the proposed changes, request any additional background information if needed, and issue a decision regarding the proposal within 45 (calendar) days of receiving the proposal and any additional requested information. Once approved, the modified Pre-RACR RMP will be filed in the public repository (Section 3.4).

The FFA signatories may also propose modifications to the Pre-RACR RMP based on new information that the Pre-RACR RMP must address to remain protective of human health and the environment. If the proposed modifications are not agreed upon between the FFA signatories, in consultation with the SFDPH, within 60 days, the Pre-RACR RMP shall continue in its original form until the FFA signatories come to a consensus on the appropriate modifications and notify the SFDPH of the modifications.

Changes in notification personnel are not considered a modification to the Pre-RACR RMP and do not require FFA signatory approval.

3.4 Public Repository of RMP

A copy of this Pre-RACR RMP and any Pre-RACR RMP modifications will be available at the Hunters Point Shipyard information repositories indicated below, and on the SFDPH Hunters Point Shipyard Redevelopment website (http://www.sfdph.org/dph/EH/HuntersPoint/default.asp). The Hunters Point Shipyard information repositories also contain the documents discussed in Section 2.0 and elsewhere in this Pre-RACR RMP.

San Francisco Main Library
100 Larkin Street
Government Information Center, 5th Floor
San Francisco, California 94102
Phone: 415-557-4500

Anna E. Waden Bayview Library
5075 Third Street
San Francisco, California 94124
Phone: 415-355-5757

Contact information for the FFA signatories is provided in Appendix A. Changes in contact information will be submitted to the SFDPH, which will be responsible for including the updated information on their SFDPH Hunters Point Shipyard Redevelopment website.

4.0 REPORTING AND NOTICE PROTOCOLS

This section describes reporting and notification protocols that shall be followed when the following circumstances arise:

- Annual Reporting of pre-approved restricted activities in accordance with this Pre-RACR RMP
- Upon preparation of a work plan proposing to conduct Restricted Activities Requiring FFA Signatory Approval (Section 3.1.3) and upon receipt of results of performing the work plan
- Upon discovery of previously-unknown environmental issues.

Notifications are the responsibility of the Owner, Lessee, permittee, tenants or any other party with the legal right to perform subsurface work on the property and with knowledge of circumstances. Under the circumstances described in Section 4.4, the SFRA will monitor compliance with notification requirements, and advise Oversight Agencies of noncompliance. The relevant time periods for notifications and associated responsible entities are described below. Other government entities with RMP oversight responsibilities are presented in Table 1.

4.1 Reporting for Pre-Approved Restricted Activities

Each year by June 30, the SFRA shall prepare and submit to the FFA signatories copies of the annual reports summarizing all of the Pre-Approved Restricted activities that have occurred on Owner's property and will identify any areas in the reports that indicate a non-compliance condition occurred within that year. If unknown areas of contamination or changes in the understanding of environmental conditions are discovered during the course of conducting pre-approved activities, Owner shall notify the FFA signatories via the notification process described in Section 4.3 and will follow the procedures presented in the Unknown Condition Response Plan (Appendix G).

4.2 Restricted Activities which require FFA signatory approval

These sections describe notification and reporting requirements for the restricted activities listed in Section 3.1.3.

4.2.1 Notification Prior to Restricted Activities Which Require FFA Signatory Approvals

The Owner shall notify the FFA signatories at least 60 calendar days prior to any plan to conduct Restricted Activities Requiring FFA Signatory Approval listed in Section 3.1.3. Notification shall be in the form of a proposed work plan detailing the specific activities to be conducted and the controls to be implemented to protect human health and the environment. The FFA signatories shall review and either approve or provide comments indicating deficiencies in the work plan within 30 calendar days of receipt of the work plan. The FFA signatories may also request an extension of the review period within no less than 10 days prior to the end of the 30 calendar day time period. The Owner and FFA signatories shall work collaboratively to resolve work plan issues. The FFA signatories shall approve work plans prior to commencement of field activities. Documents will be considered to be final if no comments are received within the 30-day comment period.

4.2.2 Information Required for Proposed Activities Requiring FFA Signatory Approval

When the Owner prepares a notification package to request approval to perform restricted activities requiring FFA signatory approval, the following information should be included:

- A description of the proposed activity or condition that warranted the notification, together with appropriate exhibits to illustrate the location and/or issue that is the subject of the notification
- Work plans, including schedules, prepared to perform activities
- Description of current site conditions.

4.2.3 Completion Reports for Restricted Activities which Required FFA Signatory Approval

Following completion or closure of the activity requiring FFA signatory approval, the Owner shall prepare a completion report for submittal to the FFA signatories. A completion report shall include the following components, as appropriate:

- A description of the activity or condition that warranted the notification, together with appropriate exhibits to illustrate the location and/or issue that is the subject of the notification
- Description of notification protocols followed, including approval from the FFA signatories

- References to work plans prepared to perform activities
- Description of activities performed
- Boring logs/well completion diagrams
- Laboratory analytical reports
- Waste disposal manifests
- Description of final site conditions and/or as-built drawings
- Verification that all activities were conducted in conformance with the requirements of this Pre-RACR RMP (signed by a California licensed Professional Engineer)
- A long-term maintenance and monitoring plan for any permanent facilities
- Other appropriate documentation or components as specified as a condition of undertaking the subject activity and/or required by the FFA signatories.

The Owner shall submit completion reports to the FFA signatories within 45 days of completing the restricted activities requiring FFA signatory approval. Analytical information will be submitted within 30 days of receiving final analytical reports for samples submitted to the laboratory. The FFA signatories will be informed if the submittal date of an individual report must be extended past this time frame. If the submittal date has a regulatory-mandated time line, then FFA signatory approval for the extension must be requested at least 21 calendar days prior to the due date of the submittal and the extension request will not be considered granted unless formally granted in writing. Extension requests will be granted, or may be denied, within 15 calendar days of receipt of the written extension request.

The FFA signatories will review all completion reports to confirm that the actions taken are consistent with the submitted work plan and Pre-RACR RMP procedures and protocols and if applicable, the ROD, AOC and Remedial Design. Within 30 calendar days of completing review of the completion report, the FFA signatories will notify the Owners of any discrepancies or deficiencies in the completion report regarding compliance with this Pre-RACR RMP, and the authors and regulators will work collaboratively to resolve such issues. Draft documents will be subject to a review period of 45 days. Reviewing parties may request an extension of the review period of for up to an additional 45 days from the party submitting

the document. The party submitting the document will have 45 days to revise the document to address the comments received.

Draft final documents will be subject to a review period of 30 days. The FFA signatories may extend the 30 day comment period for an additional 30 days by written notice to the party seeking approval prior to the end of the 30 day period. The party submitting the document will have 45 days to revise the document to address the comments received. The completion notification/report will be considered approved and final unless regulators submit comments or a request for an extension within 30 calendar days from their receipt of the document. Upon request, the Owner shall submit a corrective action work plan to the FFA signatories for review and approval. Upon concluding that the actions taken are consistent with the Pre-RACR RMP, and if applicable Remedial Action Objectives (RAOs) identified in the ROD are attained, the FFA signatories will issue an approval letter for the completion report.

4.3 Notification Requirements for Changes in Understanding of Environmental Conditions or Discovery of Unknowns

In the event that unexpected or previously unknown conditions are encountered in the field that may require remediation or mitigation, the Owner shall notify the FFA signatories as soon as practicable and in accordance with any other legal notification requirements, but no later than three days following the time at which the event became known to the Owner. Additionally, upon discovery of unexpected or previously unknown conditions, the Owner must temporarily halt work and determine: 1) whether the condition constitutes a Navy-Retained condition in accordance with the Early Transfer Cooperative Agreement; and 2)whether an appropriate path forward exists so that work can continue safely and in accordance with applicable regulatory protocol. These determinations will be made in accordance with the EHSP and the Unknown Condition Response Plan (Appendix G) as required under Article 31 of the San Francisco Health Code, and in accordance with any additional characterization deemed warranted. Additional information on the discovery of unknown or unexpected conditions is provided in Section 5.5.

4.4 Annual Inspection Reports

The Navy is ultimately liable for ensuring long-term compliance with the remedy, but upon transfer of property to SFRA, the Navy intends to transfer to SFRA the responsibility to perform certain ongoing compliance obligations. Subject to execution of a cooperative services agreement between the Navy and the SFRA as authorized by Title 10, United States Code, Section 2701(d), and receipt by SFRA of all funds to be paid by the Navy to SFRA in furtherance of the cooperative services agreement, SFRA anticipates that it will assume responsibility for the following Navy obligations: annual monitoring of

RMP compliance activities, annual inspection reporting, annual monitoring of long-term maintenance of the remedy and ensuring annual enforcement of the RMP in the event of non-compliance by Owners, Lessees, permittees, tenants or any other party with the legal right to perform subsurface work on the property. The SFRA will work with the regulatory agencies to confirm compliance with the land use restrictions, RMP protocols and reporting obligations. If the SFRA deems it appropriate, non-compliant Owners, Lessees, permittees, tenants or any other party with the legal right to perform subsurface work on the property will be referred to the SFDPH and the DTSC for additional enforcement activities.

Regardless of other notices, each year by June 30, the SFRA will submit an annual inspection report (Appendix B) that will include:

- Documentation (photos, inspection reports, maps, etc), based on a drive-by inspection of driveable areas of site and a walk around inspection, if needed, of parks/open space, of the current state of the property – location of fences, conditions of fences, location of areas with approved cover remedies, etc.

- Descriptions of areas where current and future pre-approved restricted activities, and restricted activities requiring FFA signatory approval, are planned with projected start and finish dates, if known

- Descriptions of pre-approved restricted activities and restricted activities requiring FFA signatory approval conducted during the previous year

- Descriptions of any previously unknown conditions and related response activities

- Description of any non-compliance conditions that arose during the year and how they were resolved, if known

The SFRA will submit an annual inspection report to the FFA signatories. The submittal will include a brief summary letter documenting the number of property owners and condition of their property, any problems noted in the annual inspection reports, and follow-up action taken on any noted problems. An annual inspection report is provided in Appendix B.

4.5 Notification of Owners and Lessees

By the terms of restrictions in the recorded deeds and CRUPs and by this RMP, Owners shall provide a copy of the Pre-RACR RMP to lessees, permittees, tenants, future transferees or any other party with the legal right to perform subsurface work on the property.

5.0 RISK MANAGEMENT PROCEDURES AND PROTOCOLS DURING PRE-COVER ACTIVITIES

This section describes risk management measures that will be implemented during redevelopment where performance of one or more of the Restricted Activities described in Section 1.0 subject to Sections 3.1.2 and 3.1.3 are conducted. The purpose of this section is to describe the appropriate risk management measures that will be implemented to control potential impacts to human health and the environment associated with potential exposure to COCs that might be present in soil, soil vapor and/or groundwater encountered during pre-cover activities, within Parcels B and G.

Development activities in Parcels B and G are likely to include various site preparation activities, including, but not limited to, demolition, excavation, stockpiling, trenching, grading, backfilling and temporary construction dewatering that have the potential to disturb soil and groundwater within the parcels.

5.1 Construction Worker Health and Safety

Construction and maintenance contractors, whose workers may contact potentially contaminated soil, soil vapor, or groundwater within the Pre-RACR RMP Area, are required to prepare site-specific EHSPs under the direction of a Certified Industrial Hygienist (CIH) and in a manner consistent with applicable occupational health and safety standards, including, but not limited to OSHA 1910.120. The contractor-specific EHSPs will be maintained by the contractor at the site.

An EHSP is required for contractors engaged in any Restricted Activity-related work, including those listed in Section 5.0, that would extend below the ground surface, except for grading in landscape areas that when completed, will contain a minimum of 2 feet of clean fill. Landscaped areas will be comprised of a minimum of 2 feet of clean fill (soil cover) on top of native soil. Nothing in this section is intended to relieve any person, including contractors or employers, of other mandated worker health and safety planning and training requirements under any federal, state or local statute or regulations.

It is the responsibility of the contractor preparing their EHSP to review information available in the Hunters Point Shipyard information repositories (see Section 3.4) regarding site conditions and potential health and safety concerns. It is also the responsibility of the contractor or other person preparing an EHSP to verify that the components of the EHSP are consistent with applicable Cal/OSHA occupational health and safety standards and currently available toxicological information for potential COCs at the work site. Contractor compliance with the Pre-RACR RMP obligations will be specified in the contract

documentation for the contractors who will be doing subsurface work. Each contractor must require its employees who may directly contact potentially contaminated site soil or groundwater to perform all activities in accordance with the contractor's EHSP. Each construction contractor will assure that its onsite construction workers will have the appropriate level of health and safety training, site-specific training, and will use the appropriate level of personal protective equipment as determined in the relevant EHSP based upon the evaluated job hazards and monitoring results. An example copy of the EHSP outline is included in Appendix C.

5.2 Soil Management Protocols

Native soil within the boundaries of Parcels B and G, but outside the areas defined in Section 3.1.3 may be moved within or between those parcels and soil from Parcel A may be moved from Parcel A onto Parcels B and G, without prior FFA signatory approval if and only if such soil will be placed underneath the required durable cover in Parcels B and G. For activities requiring FFA signatory approval defined in Section 3.1.3, soil reuse must be addressed, as necessary, as part of the submitted work plan. In the event that placement underneath the required durable cover is not accomplished immediately upon removal, such soil is to be stockpiled within Parcels B or G, with adequate protection, as further described in Section 5.3. Soil re-use criteria are discussed in greater detail in Section 5.2.1.

5.2.1 Movement of Soil

Native soil may be handled and moved from one portion of Parcel B and Parcel G to another location within each and between each Parcel and soil from Parcel A may be moved from Parcel A onto Parcels B and G, managed and reused without need for sampling, provided that reuse is conducted in accordance with the soil management practices described in this Pre-RACR RMP and that no unexpected conditions are encountered. Unexpected conditions would include the discovery of any contamination or subsurface object that was not previously identified on the parcel (i.e., current understanding of environmental conditions). Unexpected conditions and the protocols to follow if they are encountered are described in Section 5.5.

Native soil that is excavated and remains within Parcels B and G and any soil moved from Parcel A to Parcels B and G, must ultimately be covered by a durable cover, such as buildings or other hardscape such as streets, sidewalks, parking lots, and roads or by clean fill and landscaping in accordance with the durable cover requirements specified in the Parcel B ROD Amendment and the Parcel G ROD.

Trucks used to transport solid bulk material that have the potential to cause visible dust emissions will be loaded in a manner to provide at least 1 foot of freeboard. When transported within HPS, the soil will be either covered with a tarp or the materials will be sufficiently wetted. Unpaved haul routes will be wetted and trucks will not exceed speeds of 15 miles per hour. Potential impacts from dust associated with the handling and movement of soil, soil compaction, soil stockpiling, etc., will be addressed through the implementation of the Dust Control Plan, included in Appendix D.

5.2.2 Soil Stockpile Management Protocols

Stockpile management is addressed in the Dust Control Plan; however, several highlights on stockpile management are included here because stockpiles that are not properly maintained have the potential to generate sediment run-off and dust. Stockpiles shall be maintained within the site access controls of the project boundary. If stockpiles must be placed outside of the parcel boundary (assuming permission is first obtained from the Oversight Agencies), then separate fencing and access control for such stockpiles will be required. Stockpiles must be tarped, wetted, sloped, or controlled via appropriate means and methods as specified in the Dust Control Plan (Appendix D). Best management practices (BMPs) for erosion and sediment control will be implemented, as necessary, during construction activities. BMPs may include diversion of drainage from the stockpiles, installation of silt fencing/straw bale filter barriers on the downgradient toe of the stockpile slope and dust control. Stockpiles will be inspected at least weekly to ensure dust control and runoff control measures are functioning adequately.

5.3 Dust Control Plan

A Dust Control Plan (DCP) identifies the measures that will be taken to reduce particulate emissions during demolition of existing structures, grading, soil handling and stockpiling, vehicle loading, utility work, truck traffic and construction of site infrastructure. The DCP has been prepared in accordance with the requirements in Article 31 of the San Francisco Health Code and certain Bay Area Air Quality Management District (BAAQMD) regulations often applicable to redevelopment activities. Exposure of onsite construction workers to dust containing COCs will be minimized, and generation of nuisance dust will also be minimized to comply with Article 22B of the San Francisco Health Code and SFDPH requirements prohibiting visible dust on San Francisco construction sites. The DCP is attached as Appendix D.

General dust control measures that may be used at the site include, but are not limited to, watering unpaved haul routes, restricting vehicle speeds to 15 miles per hour, wetting and/or tarping stockpiles, wetting down excavation areas, reducing the height from which excavated soil is dropped, use of dust

palliatives in inactive disturbed areas, implementation of erosion control measures, construction of gravel access pads in the temporary stockpile locations, installation of gravel pads or wheel wash stations at all egress points to prevent tracking of soil onto paved roads, and periodic sweeping of paved roads within the construction site with wet sweepers.

During windy conditions the use of wind breaks may be employed to control fugitive dust emissions. Under periods of sustained strong wind conditions (hourly average wind speeds of 25 miles per hour or greater), all clearing, grading, earthmoving and excavating will be halted.

Naturally occurring asbestos (NOA) has been found in the serpentine bedrock and soil throughout the Hunters Point area. Large construction projects occurring within these areas are subject to the California Air Resources Board Airborne Toxic Control Measures (ATCM). For projects where surface soil will be disturbed in an area of one acre or larger, an Asbestos Dust Mitigation Plan (ADMP) will be submitted to and approved by the BAAQMD, as required. For projects less than one acre, an evaluation will be performed to determine whether an ATCM-compliant asbestos dust mitigation plan is required prior to initiation of potential dust generating activities.

5.4 Offsite Disposal of Soil and Wastes

Soil excavations will be required during construction of utility trenches, building foundations and other facilities. It is likely that excavated soil will be reused within the RMP area for grading activities. As a result, offsite soil disposal should be limited. Any offsite soil disposal is subject to all applicable federal and state laws and regulations. All activities associated with waste disposal, such as truck loading, truck traffic and decontamination of trucks leaving the facility will be performed in accordance with the DCP provided in Appendix D (and summarized below) and any other applicable federal or state law or regulation.

As detailed in the DCP, any trucks used to transport solid bulk material that have the potential to cause visible emissions will be provided with a tarp cover, or the materials will be sufficiently wetted and loaded onto the trucks in a manner to provide at least 1 foot of freeboard. Trucks loaded with loose soil or sand will be covered before they leave HPS.

Vehicles will be inspected to ensure that they are tarped and to remove any excess material on the bumpers, fenders or other exterior surfaces of the cargo compartment where soil could collect. All off-site haul trucks will access the sites via paved access roads. Every off-site haul truck will proceed through the decontamination gravel pad/tire cleaning area prior to departure. Site personnel will be

stationed at the access/egress point to monitor inflow/outflow to and from the site. They will be responsible for inspecting all vehicles exiting and performing any necessary cleaning to help prevent track out.

The contractor is responsible for characterization of any waste prior to transportation and offsite disposal. Characterization for disposal shall be in accordance with the requirements of Title 22 of the California Code of Regulations, Division 4.5, Chapter 11 and the requirements of the disposal facility and any other applicable law. Labeling requirements for transportation of waste shall additionally be in accordance with Title 29 of the Code of Federal Regulations, Parts 172 and 173 and any other applicable law. All waste transported for offsite disposal will be subject to the requirements of the AOC.

All soil to be disposed will be taken only to a certified and permitted California landfill or an equivalent out-of-state landfill, as appropriate and as determined by the waste profile.

5.5 Unexpected Conditions

The potential exists for encountering unexpected conditions within Parcels B and G. Unexpected conditions may include unanticipated soil contamination, abrasive blast material (ABM), subsurface structures, buried pipelines, radiological devices or other visual or olfactory evidence of contamination. As part of the site-specific health and safety training that will be required of equipment operators and site workers, instruction will be given on how to identify potential unexpected conditions.

Additionally, upon discovery of unexpected or previously unknown conditions, the Owner must temporarily halt work and determine: 1) whether the condition constitutes a Navy-Retained condition in accordance with the Early Transfer Cooperative Agreement; and 2) whether an appropriate path forward exists so that work can continue safely and in accordance with applicable regulatory protocol. These determinations will be made in accordance with the EHSP and the Unknown Condition Response Plan (Appendix G) as required under Article 31 of the San Francisco Health Code, unless additional characterization is deemed warranted.

In accordance with the site-specific EHSP, appropriate measures will be undertaken to ensure worker safety in areas where unexpected conditions are encountered. The SSHO will be responsible for evaluating any change in site conditions. The SSHO may stop work to determine if the level of site security and personnel protective equipment is adequate. Additional measures may include conducting contingency monitoring by taking organic vapor readings using an organic vapor monitor (OVM) or an organic vapor analyzer (OVA). If warranted the area in which unexpected conditions were encountered

will be secured with barricades or fencing, as appropriate, and signage to prevent unauthorized access to the area.

5.5.1 Olfactory or Visual Evidence of Contamination

Site development activities may result in the identification of previously unidentified areas or types of contamination. Olfactory or visual evidence of contamination which would trigger the use of the Unknown Condition Response Plan as discussed in Section 4.3 include, but are not limited to:

- Oily, shiny or soil saturated with free product
- Soil with a significant chemical or hydrocarbon-like odor
- Significantly stained or colored soil that reasonably indicates a contaminant source
- Groundwater odor, sheen or free-phase globules, or
- Any other indication that contamination may exist that would trigger notification protocols.

5.5.2 Abrasive Blast Material (ABM)

ABM is generally a non-cohesive, granular material and typically may have a characteristic green or black color. Granulated ABM made by all manufacturers is chemically inert; therefore it does not have hazardous waste characteristics of flammability, corrosivity, or reactivity. Due to the use of ABM on ships with lead-based paint, elevated levels of lead and other metals may be found in used ABM.

Historically, silica sands were commonly used as ABM, though current practices limit their use due to safety concerns related to silica dust. Other common ABMs used at Naval facilities include Green Diamond®, a ferro-nickel slag produced as a byproduct of nickel production from lateritic ore, and Black Beauty®, a coal slag abrasive. Coal slag sometimes contains low levels of naturally-occurring radionuclides (radium and its daughter products), which may be concentrated during the ABM manufacturing process, resulting in ABM with low, levels of radioactivity as compared to background. Anecdotal evidence suggests that ABM may have been used at HPS as bedding aggregate or backfill material (e.g., for pipelines, former fill areas, roadways and driveways).

As part of the site-specific health and safety training that will be required of equipment operators and site workers, instruction will be given on how to identify potential ABM. Because storm and sewer drains were removed by the Navy from the RMP Area and these drains are the most likely areas in which ABM

may have been placed there are no other areas which can be considered more likely than others to contain ABM. As a result, screening for ABM will initially rely on visual identification.

If ABM is found, it will be screened for the presence of radionuclides and metals. If radionuclides above the remedial goals are detected the ABM will be handled appropriately by the Navy, as a Navy-retained condition, otherwise all ABM identified will be dealt with by the Owner. If the ABM contains levels of radionuclides or metals that are above the remedial goals set forth in the Parcel B ROD amendment and the Parcel G ROD, the ABM will be handled as per the Unknown Condition Response Plan, will be disposed off site and will be subject to the requirements of applicable federal, state, and local laws.

5.5.3 Subsurface Structures

During the course of excavation and construction activities within Parcel B or G, it is possible that USTs, sumps, barrels, drums or other containers or other underground structures that were not discovered during previous site investigations could be discovered. For example, USTs may be identified during grading and site excavation activities by the presence of vent pipes, product distribution piping that leads to the UST, fill pipes, backfill materials and the UST itself. Other structures might not have any features that extend above the surface and could be unearthed when construction equipment comes into contact with them. If an unexpected subsurface structure is encountered, notification and health and safety procedures will be invoked as discussed in Sections 4.0 and 5.5 and work will proceed in accordance with the Unknown Contaminant Contingency Plan as required under Article 31 of the San Francisco Health Code.

Excavation activities will be visually monitored for the generation of fugitive dust. Controlling dust in excavation areas will include wetting soil prior to and during excavation, adjusting the height from which excavated soil is dropped, wetting and/or tarping backfill material and stockpiles, use of dust palliatives on disturbed areas, and using gravel pads in loading areas to reduce the potential for soil track-out.

5.5.4 Soil Import Criteria

All soil imported onto Parcels B and G from areas outside HPS, with the exception of soil imported from Parcel A, will be subject to sampling and soil quality controls established in a Soil Importation Plan (SIP). Soil moved from Parcel A onto Parcels B and G must be placed underneath the required durable cover. Soil quality parameters for imported soil are based on the Parcel B and G remediation goals presented in the Amended Parcel B ROD and the Parcel G ROD. Soil import criteria will meet the most recent California Human Health Screening Levels (CHHSLs) for residential soils. The SIP outline is included

as Appendix E. Soil that meets CHHSLs or background levels and is approved for import under a SIP will be suitable for use as a durable cover as long as it meets all RD and RAWP requirements.

5.6 Groundwater Management Protocols

As described in Section 2.2, localized areas of groundwater contamination have been identified within the Pre-RACR RMP area. Potential risks to construction workers associated with the contaminants in groundwater were evaluated in the TMSRA, but were based on data generated prior to the implementation of groundwater remedies presented in the Parcel B Amended ROD and the Parcel G ROD. The most recent groundwater monitoring data (*CE2-Kleinfelder, 2010*) will be evaluated by the Owner or their designee, prior to the initiation of construction or maintenance activities in the context of the EHSP to identify areas where groundwater contamination may be present and to determine the appropriate protective measures to address worker safety and prevent the movement of any residual groundwater contamination.

This section describes protocols to follow during performance of the Restricted Activities (pre-approved and those requiring FFA signatory approval) as described in Sections 3.1.2 and 3.1.3 in order to minimize worker exposure to contaminated groundwater and to minimize the potential for affecting contaminated groundwater. All activities discussed below will require notification and completion reporting in accordance with the protocols described in Section 4.0.

5.6.1 Temporary Dewatering Activities

Current development plans for Parcel B and G include utility trenches and below grade parking lots to support the residential and commercial development. Due to the depth of these proposed excavations, temporary construction dewatering may be necessary. A plan to manage the groundwater during construction activities (Groundwater Management Plan [GMP]) will be submitted to the Oversight Agencies for review and approval. A Groundwater Management Plan (GMP) outline is provided in Appendix F.

If it is determined via the procedure outlined in the GMP that construction necessitates the use of temporary dewatering, and the dewatering activities may occur in or around an area of known groundwater contamination, the regulatory agencies will be notified in accordance with Section 3.1.3. With that notification, a work plan discussing the dewatering scope and activities will be submitted for Oversight Agency review and approval. As a general guide, the following risk management protocols will be included in the work plan:

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

- Review of available groundwater monitoring data to evaluate groundwater quality in the vicinity of the planned dewatering activities.

- Based on the location of the proposed dewatering, a Professional Engineer or Geologist licensed in the State of California will evaluate whether the volume of water that would need to be removed would result in the enlargement of an existing groundwater plume or significant alterations in the groundwater flow patterns.

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

- If, based on the results of analysis, dewatering may result in enlargement of an existing groundwater plume, or result in significant alterations to groundwater flow in the vicinity of a plume, other engineering techniques will be proposed to minimize the impacts to the known plume configuration. The proposed engineering technique(s) will depend on the construction specifications and other site-specific factors, and will be determined by the Owner or Lessee's State of California, licensed Professional Engineer or Geologist on a site-by-site basis.

- Water removed during dewatering activities will be sampled and tested for profiling and the water disposed of in accordance with applicable permits and regulations. Disposal options may include pre-treatment and discharge into the City's sewer system under a San Francisco Public Utilities Commission (SFPUC) batch wastewater discharge permit. Compliance with provisions of any discharge permit is the responsibility of the Owner or Lessee (or other entity designated by the Owner or Lessee). The results of the analysis, plans for dewatering and disposition of accumulated groundwater will be contained in the notification to the entities listed in Section 4.0.

5.6.2 Prevention of the Potential for Creation of ConduitsAs much as practicable, installation of subsurface utilities in areas of known groundwater contamination will be avoided. Prior to subsurface utility trench installation, existing groundwater monitoring data will be evaluated by a Professional Engineer or Geologist licensed in the State of California to identify areas where contaminant plumes

remain at the site. As described in Section 5.6.1 a GMP will be approved prior the start of construction activities. The GMP will be used to mitigate the movement of potentially contaminated groundwater via subsurface utility trenches.

If the trenches extend into the vicinity of known groundwater contaminant plumes, the FFA signatories will be notified as described in Section 4.0. The presence of such trenches may create a horizontal conduit for groundwater and soil vapor flow and migration of COCs. Some of the management measures that may be implemented to minimize the potential for creating horizontal conduits are described below. The appropriate method for managing the groundwater and soil vapor will be determined by a Professional Engineer or Geologist licensed in the State of California and will be approved in advance by the FFA signatories.

Groundwater

Material that is less permeable than the surrounding soil can be placed at 200-foot intervals through a variety of methods. At a minimum, less permeable material can be placed in the utility trench at the edges of the area of known groundwater contamination to disrupt the flow within the trench backfill. One method during initial trench backfilling is the construction of a short section backfilled with a concrete or cement and bentonite mixture. Another method is the installation of a clay plug by compacting the clay around the circumference of the pipe for a five-foot section of trench. A third method is the installation of barrier collars (cutoff features) around the pipes by forming and pouring concrete in place. Trench plug locations will be selected to mitigate lateral migration of impacted groundwater.

Soil Vapor

To minimize potential migration of soil vapor from utility conduits, currently available engineering controls may be used including sealing the end of utility conduits with inert gas-impermeable material such as closed cell polyurethane foam. The seals will extend into the conduit a minimum of six conduit diameters or six inches, whichever is greater.

5.6.3 Prevention of the Potential for Groundwater Intrusion

For new subsurface utilities placed in the areas of known groundwater contamination described in Section 2.2, or newly discovered areas of groundwater contamination, the pipe joints of non-pressurized

utilities (e.g., sanitary sewer, storm drain) will be adequately sealed to prevent COCs in groundwater from entering the buried piping, and all materials will be selected to ensure the integrity of the piping when in contact with known contaminants.

5.7 Stormwater Management Controls

A construction Storm Water Pollution Prevention Plan (SWPPP) will be required prior to the start of construction activities. The SWPPP will provide the framework for contractors performing work at the site. The Construction SWPPP must conform to the requirements of the California State Water Resources Control Board (SWRCB) National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS00002, Water Discharge Requirements (WDRS) for Discharges of Stormwater Runoff Associated with Construction Activity. As required, a Notice of Intent (NOI) shall be filed with SWRCB prior to commencement of regulated construction work. Compliance with the SWPPP will be maintained throughout the duration of the construction work. The SWPPP will be prepared by a Qualified SWPPP Developer (QSD) per Section VII of the 2009-0009-DWQ Permit (http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/stormwater/construction.shtml).

5.8 Groundwater Monitoring Well Protocols

Monitoring wells associated with the groundwater monitoring programs are present within Parcels B and G and additional wells associated with remedial activity monitoring may be installed. Prior to the initiation of any demolition or earth-disturbing activities, the presence of groundwater monitoring wells will be identified. A map showing the locations of monitoring wells within Parcels B and G may be found in the Hunters Point Shipyard information repositories (Section 3.4) and on the SFDPH Hunters Point Shipyard Redevelopment website. Locations of additional wells to be installed as part of remedial alternatives can be found on the SFDPH Hunters Point Shipyard Redevelopment website within Remedial Design Implementation Reports within the Hunters Point information repositories. Current monitoring wells located in Parcels B and G are presented on Figures 2 and 3.

Any abandonment, unintentional damage to or replacement of groundwater monitoring wells will require adherence to the notification protocols as described in Section 4.0. As discussed in Section 4.2.1, a work plan must be submitted for FFA signatory review and approval. Only the FFA signatories can decide that a well that was installed as a part of the groundwater remedy is no longer needed or can be relocated. Assuming that regulatory approval for the work is obtained, any well that is part of a remedial action that is damaged or abandoned during construction must be replaced within sixty calendar days unless the FFA signatories grant an extension.

As discussed in the AOC, the Owner is also responsible for providing access for the FFA signatories to the monitoring wells for the purposes of sampling and maintenance. Thus, regulatory approval must be obtained prior to any action that will bar access to a monitoring well for a period greater than seven calendar days.

The following sections describe the protocols to follow to protect existing groundwater monitoring wells, in the event of abandonment or replacement of groundwater monitoring wells.

5.8.1 Abandonment of Existing Monitoring Wells

Prior to the abandonment of groundwater monitoring wells, approval will be obtained as required in Section 3.1.3 and the appropriate entities, as described in Section 4.0, will be notified, and if requested, replacement well locations will be selected in coordination with the FFA signatories. If an existing groundwater monitoring well cannot be preserved, the well will be abandoned in accordance with applicable State and SFDPH regulations. The Owner, Lessee, permittee, tenants or any other party with the legal right to perform subsurface work on the property is responsible for obtaining all appropriate permits and approvals.

Following abandonment of groundwater monitoring wells, a completion report will be prepared describing the abandonment procedures and submitted to the FFA signatories as described in Section 4.5. The report will include:

- The well location
- Photographic documentation of the abandonment
- A description of the well destruction activities, including rationale for abandonment; and
- All associated permits and waste disposal manifests, if necessary
- Department of Water Resources (DWR) well completion and abandonment reports.

5.8.2 Replacement of Monitoring Wells

Any required replacements of abandoned monitoring wells, which are part of an ongoing groundwater monitoring network, will be re-installed within sixty days of the prior well's abandonment date unless the regulatory agencies grant an extension. Replacement wells will be located as close as possible and constructed in the same manner as the original well, and will monitor, to the extent possible, the same

groundwater zone as the original well. The Owner, Lessee, permittee, tenants or any other party with the legal right to perform subsurface work on the property, is responsible for obtaining all appropriate permits and approvals.

Prior to the replacement of an abandoned well, a work plan will be submitted to the FFA signatories as described in Section 4.0 and approval will be obtained as required in Section 3.1.3. The work plan will include soil management protocols, sampling and analysis requirements for waste profiling, monitoring procedures, health and safety requirements, the boring log of the original well (obtained from the Hunters Point Shipyard information repositories), proposed well construction details, and will describe procedures to be followed during installation of the replacement well. The location of the replacement well must be approved by the FFA signatories.

Following installation of the replacement well(s), a monitoring well installation completion report will be submitted to the appropriate entities. The report will include, among other things:

- Well location
- Identification of driller and drilling procedures
- DWR Well Completion Report
- Decontamination procedures
- Well installation procedures
- Lithologic log
- Well development procedures
- Horizontal location coordinates and vertical elevation of top of well casing
- Well completion details (depth, screen interval, materials used, surface completion, etc.)
- Initial water level measurement
- Well sampling, if necessary
- Permitting information; and

- Disposition of installation-derived wastes.

The report shall be signed by a Professional Engineer or Geologist licensed in the State of California.

5.8.3 Measures to Protect Monitoring Wells

Existing monitoring wells that are not removed prior to earthwork will be located, marked and protected by the Owner, or other contractors or entities designated by the Owner. All monitoring wells will be addressed in this manner before starting construction within Parcels B and G. Monitoring wells will be marked with brightly colored painted steel pipes or bollards. The markers will extend above ground not less than 4 feet so as to be easily visible. All wells will be kept locked.

5.9 Access Control During Redevelopment Activities

Access to the site during construction activities will be limited to authorized personnel in compliance with EHSP requirements (Section 5.1).

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

- Except in streets, security fencing will be placed around any site without a regulatory agency approved durable cover to prevent pedestrian/vehicular entry except at controlled (gated) points. Gates will be closed and locked during non-construction hours. Fencing will consist of a 6-foot chain link or equivalent fence unless particular safety considerations warrant the use of a higher fence.

- In streets, use a combination of K-rails or similar barriers and fences with locked gates

- Post “No Trespassing” signs every 200 feet

- Post signs every 200 feet warning that contamination within the fenced areas may be harmful to health.

Implementation of appropriate site-specific measures as outlined above will reduce the potential for trespassers or visitors to gain access to construction areas and to come into direct contact with soil or groundwater. Compliance with the specific access control measures is the responsibility of the Owners, Lessees, permittees, tenants or any other party with the legal right to perform subsurface work on the

property. As described in Section 1.3, the SFRA will assume the responsibility for compliance monitoring. If the Navy does not transfer the property to SFRA and enter into a cooperative services agreement with the SFRA as specified, the above obligations will be the responsibility of each future property owner and ultimately the Navy.

5.10 Risk Management Measures to be Implemented During Construction or Excavation Activities in Areas of Special Concern

This section describes risk management measures to be followed in areas of special concern. These areas include shoreline areas and Bay sediments outside the Pre-RACR RMP area.

5.10.1 Shoreline Improvements

Development activities at Parcel B may include installation or improvements to revetment walls, rip rap, sheet piles, or bulkheads at the bay margin. Work performed in these areas may be required to conform to the durable cover and/or revetment wall designs described in the RD/RA Report depending on how and where the structure is being improved or installed. All appropriate Navy documents must be consulted to determine the applicable requirements.

5.10.2 Sediments Outside of Pre-RACR RMP Area

Bay sediments, referred to as Parcel F, are outside the scope of this Pre-RACR RMP; however, disturbance of these sediments may occur during such activities as outfall construction and shoreline improvements. Work that carries over into Parcel F will be subject to the requirements of the AOC. All work performed in these areas must be planned and coordinated with the Navy (prior to transfer of Parcel F), California State Lands Commission, or other appropriate agencies (U.S Army Corps of Engineers [USACE], U.S. Fish and Wildlife Service [USFWS], San Francisco Bay Conservation and Development Commission [BCDC], RWQCB, DTSC and USEPA). In addition to coordinating with the agencies listed above, a work plan must be submitted to the FFA signatories for review and approval sixty calendar days prior to conducting any work on Parcel F.

The FFA signatories must be contacted during the planning phase of work to obtain information concerning the nature of the sediments to be disturbed, potential activities being performed in these areas by others, and requirements for work plans and other specific requirements. Contact information for these entities can be found in Appendix A.

6.0 REFERENCES

CE2-Kleinfelder, 2010. *Semiannual Groundwater Monitoring Report, October 2009 – March 2010, Hunters Point Shipyard, San Francisco, California*. June.

ChaduxTt, A Joint Venture of St. George Chadux Corp. and Tetra Tech EM Inc., (ChaduxTt), 2007. *Final Parcel B Technical Memorandum in Support of a Record of Decision Amendment, Hunters Point Shipyard, San Francisco, California*. December 12.

_____, 2009. *Final Amended Parcel B Record of Decision, Hunters Point Shipyard, San Francisco, California.* January 14.

_____, 2010a. *Final Remedial Design Package, Installation Restoration Sites 7 and 18, Parcel B, Design Basis Report, Remedial Action Monitoring Plan, Land Use Control Remedial Design, Preconstruction Operation and Maintenance Plan, Preconstruction Cost Opinion, Hunters Point Shipyard, San Francisco, California.* January 8.Department of the Navy (Navy), 2009. *Final Record of Decision for Parcel G, Hunters Point Shipyard, San Francisco, California*. February 18.

_____, 2010b. *Draft Finding of Suitability for Early Transfer of Parcels B (Excluding Installation Restorartion Sites 7 and 18) and Parcel G, Hunters Point Naval Shipyard, San Francisco, California.* December 10.

Innovative Technical Solutions, Inc. (ITSI), 2010. *Final Addendum to Project Work Plan, Petroleum Hydrocarbon Corrective Action Implementation Parcel B, Hunters Point Shipyard, San Francisco, California.* October.

Insight EEC, INC. (Insight), 2009. *Final Hunters Point Shipyard Parcel B, IR-26 Time Critical Removal Action, Removal Action Closeout Report, Hunters Point Shipyard, San Francisco, California.* January.

Jonas & Associates, Inc., 2008 (Jonas). *Second Five-Year Review of Remedial Actions, Hunters Point Shipyard, San Francisco, California*. September 8.

PRC, 1996. *Parcel B Feasibility Study, Final Report, Hunters Point Shipyard, San Francisco, California*. November 26.

PRC, Harding Lawson Associates, Levine-Fricke, and Uribe & Associates (PRC et al). 1996. *Parcel B remedial Investigation, Draft Final Report, Hunters Point Shipyard, San Francisco, California*. June 3.

Sealaska Environmental Services, LLC (Sealaska), 2010. Draft Work Plan For Soil Vapor Intrusion Survey, Parcels B, D-1, G and UC-2, *Hunters Point Shipyard, San Francisco, California*. July.

SulTech, A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc., (SulTech), 2007. *Final Revised Feasibility Study for Parcel D, Hunters Point Shipyard, San Francisco, California.* November 30.

Tetra Tech, 1997a. *Final Parcel D RI Report, Hunters Point Shipyard, San Francisco, California*. January 31.

_____, 1997b. *Final Parcel D FS, Hunters Point Shipyard, San Francisco, California*. August 29.

_____, 2001. *Final Remedial Design Amendment, Parcel B, Hunters Point Shipyard, San Francisco, California.* February 20.

Tetra Tech EC, Inc (TtEC), 2008. *Final Parcel B Technical Memorandum in Support of a Record of Decision Amendment Radiological Addendum, Hunter Point Shipyard, San Francisco, California.* Marcy 14.

The Alliance Compliance Group Joint Venture (Alliance), 2010. *Draft Final Parcels D-1 and G Groundwater Treatability Study Technical Report, IR-09, IR-33 and IR-71, Hunters Point Shipyard, San Francisco, CA*. January.

TABLES

Table 1. Risk Management Plan Oversight Responsibilities

RMP Element	Responsible Oversight Agency	Additional Comments
Construction Worker Health and Safety	California Occupational Health and Safety Administration (Cal-OSHA)	
Dust Control	San Francisco Department of Public Health (SFDPH)	
Asbestos Dust Mitigation Plans	Bay Area Air Quality Management District	
Storm Water and Groundwater Management	Regional Water Quality Control Board	
Groundwater Discharges to Sanitary Sewer	SF Public Utilities Commission (SFPUC)	
Permits to engage in subsurface work	SFDBI or SFDPW	Subject to the requirements of Article 31 of the Health Code

FIGURES

APPENDIX A

CONTACT INFORMATION

APPENDIX A
Contact Information

FAA Signatory Points of Contact

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Other Points of Contact

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San Francisco, CA 94102
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100 Howe Avenue, Suite 100 South
Sacramento, CA 95825
Phone: 916-574-1900

U.S. Army Corps of Engineers
1455 Market Street
San Francisco, CA 94103
Phone: 415-503-6773

U.S. Fish and Wildlife Service
2800 Cottage Way
Sacramento, CA 95825
Phone: 916-414-6464

San Francisco Bay Conservation and Development Commission
50 California Street, Suite 2600
San Francisco, CA 94111
Phone: 415-352-3600

San Francisco Main Library
100 Larkin Street
Government Information Center, 5th Floor
San Francisco, CA 94102
Phone: 415-557-4500

APPENDIX B

ANNUAL INSPECTION REPORT

PRE-RACR RISK MANAGEMENT PLAN (RMP)
ANNUAL REPORT
FOR
PARCELS B and G, HUNTERS POINT SHIPYARD
SAN FRANCISCO, CALIFORNIA

Property Owner:	Owner Contact Information:
Annual Report Preparer and Affiliation:	Preparer Contact Information:
Property Address:	
Date and Time of Inspection:	Weather and tidal conditions at time of inspection:

INTRODUCTION:

In accordance with the final Records of Decision (RODs) for Parcels B and G at the former Hunters Point Shipyard (HPS) in San Francisco, California, environmental cleanup activities are being implemented to provide for protection of human health and the environment. The cleanup activities are overseen by the United States Environmental Protection Agency (USEPA), the California Department of Toxic Substances Control (DTSC) and the Regional Water Quality Control Board (RWQCB). These agencies plus the Navy, as the previous landowner and CERCLA responsible party, are referred to as the Federal Facility Agreement (FFA) signatories. The FFA is an agreement entered into by the agencies to carry out the remediation of HPS. This Pre-Remedial Action Completion Report Risk Management Plan (hereafter referred to as the Pre-RACR RMP) has been prepared for Parcels B and G to provide procedures and protocols that shall be used to conduct "pre-approved restricted activities" on Parcels B and G during the period between the transfer of property from the Navy to other landowners and the time the FFA signatories approve the RACR demonstrating that the remedial activities called for in the ROD have been completed.

This Annual Report form has been designed such that the annual reporting obligations of the Pre-RACR RMP can be comprehensively addressed and property conditions documented. The objectives of the annual report are to provide the necessary information to verify that field activities and related risk management measures that have been conducted during the reporting period meet the requirements of the Pre-RACR RMP. The Annual Report should include field notes and photographs taken at the time of the inspection to document the condition of the site at the time of the inspection.

As outlined in the RMPs, certain activities are allowed to progress without first gaining approval of the FFA Signatories (defined as the USEPA, DTSC, RWQCB and US Navy). These activities are called ***Pre-Approved Activities*** and are discussed in more detail in Section 3.1.2 of the Pre-RACR RMP. Certain other activities are NOT allowed to progress without first gaining the approval of the FFA Signatories. These activities are called ***Restricted Activities Requiring FFA Signatory Approval*** and are discussed in more detail in Section 3.1.3 of the Pre-RACR RMP. Notification and Reporting requirements are discussed in Section 4.0 of the Pre-RACR RMP.

This Annual Report is organized into three Sections. Section 1 provides documentation for Pre-Approved Activities and Section 2 provides documentation results for Restricted Activities Requiring FFA Signatory Approval. If Restricted Activities Requiring FFA Signatory Approval were

conducted during the reporting period, the approved Work Plan and corresponding Closure Report must be submitted as attachments to the Annual Report. Section 3 provides a summary of action items that are planned and must be completed to remain in compliance with the Pre-RACR RMP.

SECTION 1: PRE-APPROVED ACTIVITIES

SECTION 1A: ACTIVITY DESCRIPTION

Indicate which pre-approved activities have been completed during the reporting period (See Pre-RACR RMP Section 3.1.2):	☐ Soil excavation, grading and movement of soil within Parcels B and G or moving soil from Parcel A onto Parcels B and G. Transportation offsite	Description of activity (attach photographs and additional sheets as necessary):
	☐ Construction of roads, utilities, facilities, structures, and appurtenances of any kind	Description of activity (attach photographs and additional sheets as necessary):
	☐ Demolition and/or removal of hardscape (e.g., existing concrete or asphalt roadways, parking lots, existing foundations, and existing sidewalks)	Description of activity (attach photographs and additional sheets as necessary):
	☐ Any activity, not listed above, that moved subsurface soil to the ground surface (e.g., trenching, pothole excavations, scarifying, etc.)	Description of activity (attach photographs and additional sheets as necessary):
	☐ Importation of soil in accordance with approved SIP.	Description of activity (attach photographs and additional sheets as necessary):
	☐ Temporary dewatering of below grade excavations (e.g., utility trenches, building foundations, etc.)	Description of activity (attach photographs and additional sheets as necessary):

	in areas that are greater than 200 feet from an active groundwater remediation area.	
	☐ Disturbance of existing shoreline protection, sea walls, bulkheads, etc.	Description of activity (attach photographs and additional sheets as necessary):
SECTION 1B: GENERAL SITE MANAGEMENT ACTIVITIES		
Was an environmental health and safety plan prepared for work indicated in Section 1A?	☐ Yes ☐ No	Attach copy of plan(s)
Was a Dust Control Plan prepared for work indicated in Section 1A?	☐ Yes ☐ No	Attach copy of plan and monitoring data collected in accordance with the plan for each activity conducted above.
Was an Asbestos Dust Mitigation Plan prepared for work indicated in Section 1A?	☐ Yes ☐ No	Attach copy of plan and monitoring data collected in accordance with the plan for each activity conducted above.
Was a storm water pollution prevention plan prepared for work indicated in Section 1A?	☐ Yes ☐ No	Attach copy of plan and monitoring data collected in accordance with the plan for each activity conducted above.
Are perimeter security fences in place and in operable condition?	☐ Yes ☐ No	If no, describe repairs and/or modifications that are required to restore integrity:
Is signage in place and in good condition?	☐ Yes ☐ No	If no, describe repairs and/or modifications that are required to restore integrity:

SECTION 1C: SOIL MANAGEMENT ACTIVITIES		
For all soil management activities indicated in Section 1A, was surplus soil disposed off-site?	☐ Yes ☐ No	If yes, please attach copies of waste profile, waste manifest, name, address and contact of disposal facility:
For all soil management activities indicated in Section 1A, was soil transported and placed in an on-site location other than its place of origin?	☐ Yes ☐ No	If yes, describe the quantity of soil, origin of soil, location of placement:
For all soil management activities indicated in Section 1A, was soil imported to the site for use as fill material?	☐ Yes ☐ No	If yes, describe the quantity, source/origin of soil, location of placement, attach soil chemical profile, provide letter certifying that the imported soil meets the soil import criteria (see RMP, Appendix D):
Indicate any unexpected and/or unknown conditions encountered during soil excavation activities:	☐ Evidence of soil contamination (strong odor, visible oily liquid, discolored or stained soil, etc.)	Describe condition and action taken (attach photographs and additional sheets if necessary):
	☐ Undocumented structures (e.g. underground storage tanks, buried sumps, oil water separators, refractory brick, pipelines, etc.)	Describe condition and action taken (attach photographs and additional sheets if necessary):
	☐ Abrasive blast material	Describe condition and action taken (attach photographs and additional sheets if necessary):
	☐ Radiological devices (e.g. radium dials)	Describe condition and action taken (attach photographs and additional sheets if necessary):
	☐ Free phase liquid floating on the groundwater (e.g. floating oil)	Describe condition and action taken (attach photographs and additional sheets if necessary):
SECTION 1D: GROUNDWATER MANAGEMENT ACTIVITIES		

For all groundwater dewatering activities, was water discharged to the sanitary sewer or storm drain under an NPDES permit or SFPUC batch wastewater discharge permit?	☐ Yes ☐ No	If yes, attach copy of NPDES permit and compliance documentation. If no, how was water disposed?
For all groundwater not discharged under an NPDES or SFPUC permit, indicate disposal details:	☐ Water used for dust control ☐ Water contained and allowed to percolate back into groundwater ☐ Water contained and allowed to evaporate ☐ Other (describe):	Provide and attach supporting information including volume of water, chemical test results, regulatory agency approval letters, etc.
SECTION 2: RESTRICTED ACTIVITIES REQUIRING FFA SIGNATORY APPROVAL		
SECTION 2A: ACTIVITY DESCRIPTION		
Indicate which land disturbing activities were conducted within areas undergoing active remediation within the reporting period (See Pre-RACR RMP Section 3.1.3). Indicate if any activities involved the alteration, disturbance or removal of any component of a ROD response action or cleanup action that was in conflict with planned redevelopment activities:	☐ Excavation of soil,	Description of activity (attach photographs and additional sheets as necessary):
	☐ Construction of roads, utilities, facilities, structures, and appurtenances of any kind	Description of activity (attach photographs and additional sheets as necessary):
	☐ Demolition or removal of hardscape	Description of activity (attach photographs and additional sheets as necessary):
	☐ Any activity that moves subsurface	Description of activity (attach photographs and additional sheets as necessary):

	soil to the Site surface	
	☐ Any other activity that causes or facilitates the movement of known contaminated groundwater	Description of activity (attach photographs and additional sheets as necessary):
Indicate if any activities involved the alteration, disturbance or removal of any component of a ROD response action or cleanup action that was in conflict with planned redevelopment activities	☐ Groundwater monitoring well and/or groundwater remediation system, including extraction wells, conveyance piping, and treatment system.	Description of activity (attach photographs and additional sheets as necessary):
	☐ Soil vapor extraction system, including extraction wells, monitoring wells, conveyance piping and treatment system.	Description of activity (attach photographs and additional sheets as necessary):
	☐ Revetment Walls (not a likely occurrence in a Pre-RACR state):	Description of activity (attach photographs and additional sheets as necessary):
	☐ Temporary dewatering of below grade excavations (e.g., utility trenches, building foundations, etc.) in areas that are within 200 feet of an active groundwater remediation area.	Description of activity (attach photographs and additional sheets as necessary):
	☐ Placement of utility line vapor or groundwater trench plugs	Description of activity (attach photographs and additional sheets as necessary):
	☐ Construction of building in an Area	Description of activity (attach photographs and additional

	Requiring Institutional Controls (ARIC) for Volatile Organic Compounds (VOCs) requiring soil vapor mitigation	sheets as necessary):
SECTION 2B: ACTIVITY DOCUMENTATION		
For all restricted activities requiring FFA signatory approval, indicate which documentation was produced:	☐ Work Plan	Attach copy of plan and FFA signatory approval letter for each activity indicated in Section 2A.
	☐ Activity Closeout Report	Attach copy of Activity Closeout Report, including monitoring documentation and FFA signatory approval of Closeout Report for each activity indicated in Section 2A.

SECTION 3: ACTIONS TO BE COMPLETED

FOLLOW UP ACTION If applicable, provide a summary of additional action items that are planned to be completed to remain in compliance with the pre-RACR RMP (such as soil waste off-haul, completion of elevation survey, water discharge to sewer, etc.).	**RESPONSIBLE PARTY**	**TARGET COMPLETION DATE**
1.	☐ Owner Name: Phone #: ☐ Tenant Name: Phone #: ☐ Contractor Name: Phone #: ☐ Developer Name: Phone #:	

2.	☐ Owner Name: Phone #: ☐ Tenant Name: Phone #: ☐ Contractor Name: Phone #: ☐ Developer Name: Phone #:	
3.	☐ Owner Name: Phone #: ☐ Tenant Name: Phone #: ☐ Contractor Name: Phone #: ☐ Developer Name:	

	Phone #:	
SECTION 4: RESOLUTION OF PREVIOUS REPORT ACTION ITEMS		
1.Previous Action Item	Action Taken:	Date Completed:
2. Previous Action Item	Action Taken:	Date Completed:
3. Previous Action Item:	Action Taken:	Date Completed:

Certification Statement:
Under penalty of perjury, I certify that the above information is true and correct and appropriately reflects the activities that have occurred during the inspection period and the condition of the site is as represented at the time of the inspection.
By:_____ Company:_____
Name:_____ Date:_____
Title:_____ Registration number and expiration date:_____

APPENDIX C

ENVIRONMENTAL HEALTH AND SAFETY PLAN OUTLINE

APPENDIX C
Environmental Health and Safety Plan Outline

All EHSPs will include a description of specific tasks to be performed, key personnel, health and safety responsibilities, site background, job hazard analysis and mitigation, air monitoring procedures, PPE, work zones and site security measures, decontamination measures, general safe work practices, contingency plans and emergency information, medical surveillance and specific training requirements.

SITE EMERGENCY INFORMATION

1.0 INTRODUCTION

- 1.1 Purpose of the Site Health and Safety Plan
- 1.2 Implementation and Modification of the Site Safety Plan
- 1.3 Project-Related Documents

2.0 BACKGROUND AND DESCRIPTION OF WORK

- 2.1 Site Description and Background
- 2.2 Scope of Work

3.0 KEY PERSONNEL ROLES AND RESPONSIBILITIES

- 3.1 Project and Task Managers
- 3.2 Field Supervisor
- 3.3 Site Health and Safety Officer
- 3.4 Competent Person
- 3.5 Subcontractors, Visitors and Other Onsite Personnel

4.0 JOB HAZARD ANALYSIS

5.0 GENERAL SITE SAFE WORK PRACTICES

- 5.1 Biological Hazards
- 5.2 Radiological Hazards
- 5.3 Dust Control
- 5.4 Electrical
- 5.5 Excavation/Trenching
- 5.6 Fire/Explosion Control
- 5.7 Hand and Power Tools
- 5.8 Heat Stress
- 5.9 Heavy Equipment
- 5.10 Lifting
- 5.11 Material Handling
- 5.12 Noise
- 5.13 Overhead / Falling Debris
- 5.14 Slips/Trips/Falls
- 5.15 Utilities: Underground and Overhead
- 5.16 Vehicle Traffic

6.0 CHEMICAL HAZARDS

6.1 Chemicals of Concern
6.2 Action Levels

7.0 PERSONAL PROTECTIVE EQUIPMENT

8.0 AIR MONITORING PROCEDURES

8.1 Ambient Air Monitoring
8.2 Worker Exposure Monitoring

9.0 TRAINING AND MEDICAL MONITORING

10.0 CONTINGENCY AND EMERGENCY EVACUATION PLANS

11.0 SANITATION, HYGIENE AND DECONTAMINATION

11.1 Sanitation and Personal Hygiene
11.2 Drinking Water
11.3 Personnel Decontamination
11.4 Equipment Decontamination

12.0 SITE AND TRAFFIC CONTROL PLAN AND SITE SECURITY

12.1 Site Control
12.1.1 Support Zone
12.1.2 Contamination Reduction Zone
12.1.3 Regulated Area/Exclusion Zone
12.2 Traffic Control

13.0 REFERENCES

APPENDIX D

DUST CONTROL PLAN

Draft

Pre-RACR RMP Dust Control Plan
Parcels B and G
Hunters Point Shipyard

January 2011

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FIGURES

1 Parcels B And G Location Map

2 Sensitive Receptors

Acronyms and Abbreviations

APCO	Air Pollution Control Officer
ATCM	Asbestos Airborne Toxic Control Measure
BAAQMD	Bay Area Air Quality Management District
BMP	best management practice
CCR	California Code of Regulations
CP/HPS	Candlestick Point/Hunters Point Shipyard
DTSC	Department of Toxic Substance Control
EIR	Final Environmental Impact Report
HEPA	high-efficiency particulate air
HPS	Hunters Point Shipyard
mph	mile per hour
RACM	regulated asbestos-containing material
ROD	Record of Decision
RWQCB	Regional Water Quality Control Board
SWPPP	Storm Water Pollution Prevention Plan
USEPA	United States Environmental Protection Agency

Introduction

Document Objective

This pre-RACR RMP dust control plan is submitted by Lennar/Bayview Hunters Point and MACTEC in preparation process for upcoming demolition, deconstruction, mass grading activities, and development of horizontal infrastructure at the Hunters Point Shipyard (HPS) Parcels B and G (the site) in San Francisco, California (Figure 1).

This pre-RACR RMP Dust Control Plan has been prepared by MACTEC in accordance with the requirements of the permit process established in Article 31 and compliance with Article 22B of the City and County of San Francisco Health Code and certain Bay Area Air Quality Management District (BAAQMD) regulations often applicable to redevelopment activities, as further described herein. This plan addresses dust control measures that will be implemented during deconstruction and development of horizontal infrastructure at the site.

This plan applies to demolition of existing structures, and dust control associated with soil disturbance or excavation on Parcels B and G. In accordance with the requirements of Article 31, this plan was prepared under the supervision of a professional engineer registered in the State of California.

Regulatory Basis

The Final Environmental Impact Report (EIR) 2010 for the Candlestick Point/Hunters Point Shipyard (CP/HPS) project includes mitigation measures requiring actions that will reduce or eliminate adverse environmental impacts during development of Parcel B and G. These mitigation measures were adopted in a Mitigation Monitoring and Reporting Program. The Disposition and Development Agreement incorporates Final EIR mitigation measures that are relevant for Phase II development on Parcels B and G and includes the commitments for implementing mitigation measures set forth in Section 18 of the Disposition and Development Agreement and in the EIR.

Dust control is one of the specific mitigation measures applicable to Phase II development in Parcels B and G, and this plan specifically identifies the steps that will be taken to reduce air emissions during demolition of existing structures, grading, utility work, and construction of site infrastructure. This plan also includes the necessary monitoring and reporting requirements.

This Dust Control Plan incorporates requirements of the following applicable regulations:

- California Code of Regulations (CCR) Title 17, Section 93105, the Asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations
- Bay Area Air Quality Management District (BAAQMD) Regulation 2, Permits (also addressed in project specifications)
- BAAQMD Regulation 6, Particulate Matter and Visible Emissions
- BAAQMD Regulation 11, Rule 2, Asbestos Demolition
- BAAQMD Regulation 11, Rule 14, Asbestos Containing Serpentine
- City and County of San Francisco Article 22B, Construction Dust Control Requirements
- CP/HPS EIR, Mitigation Measure HZ-15: Asbestos Dust Mitigation Plans and Dust Control Plans

Article 22B specifies a goal of minimizing visible dust emissions from the site and Article 22B and Section 106A.3.2.6 of the San Francisco Building Code outline housekeeping measures required to meet this goal. Mitigation Measure HZ-15 similarly defines best management practices (BMPs) including wetting and seeding unpaved, inactive areas, minimizing activity during periods of high wind, sweeping paved areas, covering trucks, etc. Additionally, BAAQMD Regulation 6, which generally prohibits emission of visible dust beyond the property boundary, is also applicable.

Because the site is in an area with serpentine rock, CCR Title 17, Section 93105 (ATCM) applies. ATCM includes, among other things, the requirement for submission of an Asbestos Dust Mitigation Plan for BAAQMD approval prior to grading activities. The ATCM also includes very specific practices to be implemented during construction. Mitigation Measure HZ-15 also provides BMPs for handling serpentine material, and BAAQMD Regulation 11, Rule 14 prohibits the use or sale of asbestos-containing serpentine materials for road surfacing.

In addition to emission controls for dust generated by general construction activities, specific requirements apply to asbestos-related dust generated by demolition activities. A qualified subcontractor licensed and experienced to manage asbestos- and lead-contaminated building

materials will perform demolition of existing structures. The subcontractor will demonstrate compliance with the requirements of BAAQMD 11- 2, which states that demolition activities will not be allowed to cause any visible plumes from any operation involving the demolition, removal, manufacture or fabrication of any product containing asbestos.

Contractors selected to perform demolition and grading will be responsible for obtaining applicable permits as described in the project specifications.

Background

Site Description

Parcel B includes 54 acres on the northern side of HPS, which is bounded by former Parcel A and Parcel C, private property, and the San Francisco Bay. The area of Parcel B covered by the DCP lies outside of IR Sites 7 and 18 and includes about 40 acres in the central and eastern portions of Parcel B (Figure 1). The portion of Parcel B addressed by this DCP includes a shoreline of approximately 1,500 feet along San Francisco Bay. Parcel G is located within the central portion of the former Parcel D, covers approximately 40 acres, and is surrounded by land with no associated shoreline.

Parcels B and G consist of flat lowlands that were constructed by placing borrowed fill material from various sources, including crushed serpentinite bedrock from the adjacent highland and dredged sediments. The serpentinite bedrock and serpentinite bedrock-derived fill material consist of minerals that naturally contain asbestos and relatively high concentrations of arsenic, manganese, nickel, and other metals. Nearly all of Parcels B & G are covered with buildings or degraded pavement or soil. A series of storm drains and sanitary sewer lines beneath the parcel have been recently removed.

Site History

The history of Parcels B and G is described in the many documents referenced in the pre-RACR RMP. This DCP is Appendix D of the pre-RACR RMP.

Phase II Scope of Work

Parcels B and G Phase II construction will consist of development of horizontal infrastructure to support later development. The work will consist of demolition of existing structures, site grading, utility system upgrades and construction of a superpad. Deconstruction of existing structures will be performed by a qualified contractor. The contractor will use proper handling and disposal techniques for any asbestos-containing material and lead based paint containing materials, including compliance with the requirements of BAAQMD 11- 2.

No Visible Dust Goal

The dust control measures set forth in this plan are intended to achieve a goal of no visible dust emissions associated with soil disturbance or excavation, to the extent required by Mitigation Measure HZ-15, BAAQMD Regulation 6, and the provisions of Articles 22B (areas over one-half acre) and 31 of the San Francisco Health Code. As required by Article 22B and Mitigation Measure HZ-15, Figure 2 shows the sensitive receptors (residence, school, childcare center, hospital or other health-care facility or group living quarters) located within 1,000 feet of Parcels B and G.

The DCP requires compliance with the following specific mitigation measures to the extent deemed necessary by the SFDPH to achieve no visible dust at the property boundary:

- Keep all graded and excavated areas, areas around soil improvement operations, visibly dry unpaved roads, parking and staging areas wetted at least three times per shift daily with reclaimed water during construction to prevent visible dust emissions from crossing the property line. Increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour
- Analysis of wind direction and placement of upwind and downwind particulate dust monitors.
- Record keeping for particulate monitoring results.
- Requirements for shutdown conditions based on wind, dust migration, or if dust is contained within the property boundary but not controlled after a specified number of minutes.
- Establishing a hotline for surrounding community members who may be potentially affected by Project-related dust. Contact person shall respond and take corrective action within 48 hours. Post publicly visible signs around the site with the hotline number as well as the phone number of the BAAQMD and make sure the numbers are given to adjacent residents, schools, and businesses.
- Limiting the area subject to construction activities at any one time.
- Installing dust curtains and windbreaks on windward and downwind sides of the property lines, as necessary. Windbreaks on windward side should have no more than 50% air porosity.
- Limiting the amount of soil in trucks hauling soil around the job site to the size of the truck bed and securing with a tarpaulin or ensuring the soil contains adequate moisture to minimize or prevent dust generation during transportation.
- Enforcing a 15 mph speed limit for vehicles entering and exiting construction areas.
- Sweeping affected streets with water sweepers at the end of the day.

- Hiring an independent third party to conduct inspections for visible dust and keeping records of those inspections.
- Minimizing the amount of excavated material or waste materials stored at the site.
- Prevent visible track out from the property onto adjacent paved roads. Sweep with reclaimed water at the end of each day if visible soil material is carried out from property.

In addition to conducting inspections for visible dust, particulate monitoring for the presence of airborne particulates will also be conducted using real-time particulate dust monitors as detailed on Page D-18. If readings are recorded above the action level(s), site specific actions will be specified based on the type of activity being conducted. Actions could include evaluation of site activities or stopping work until additional controls are implemented to reduce dust generation from the specific work area causing the problems.

Potential Sources of Emissions

Planned site activities have the potential to generate emissions in the form of fugitive dust and vehicle emissions. Possible sources of emissions include:

- Demolition Activities – Wrecking, intentional burning, moving or dismantling of any load-supporting structural member, or portion of a building. Any related cutting, disjointing, stripping or removal of structural elements. Crushing of concrete for recycling/reuse.
- Construction Traffic – Movement of construction equipment around the construction area is capable of creating construction emissions in excavated or cleared areas. There is also the potential for vehicular traffic on paved or unpaved roads and parking lots to produce construction emissions.
- Site Preparation and Foundation Work – Grading, excavation of footings and foundations, and backfilling operations can produce both fugitive dust and vehicle emissions.
- Trenching Activities – Excavation of trenches for the installation of underground utilities can cause construction emissions.
- Material Stockpiles – Stockpiles of excavated soil from trenching activities may contribute to windborne dust emissions.
- Soil Transport - Loading of soil into transport vehicles for disposal may contribute to windborne dust emissions.

- Cleanup and Grading – Backfilling, grading and re-vegetating of the excavated areas may produce both fugitive dust and vehicle emissions.

The California Code of Regulations (CCR) Title 17, Section 93105, the Asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations, prescribes specific dust mitigation measures.

Dust mitigation methods to be implemented at the Site, are described in detail below.

General Construction Emissions Control Methods

This section details dust control methods for fugitive dust and vehicle emissions generated from the following construction activities:

- Dust entrained during on-site travel on paved and unpaved surfaces.
- Dust entrained during site grading, excavation, crushing and back-filling at the construction site.
- Dust entrained during aggregate and soil stockpiling, loading, and unloading operations.
- Wind erosion of areas disturbed during construction activities.
- Vehicle emissions associated with construction equipment.

Additional requirements for dust control during demolition and deconstruction activities are described below. General dust control measures are also described in Section 5.3 of the Pre-RACR RMP.

Construction Traffic

Onsite Traffic Control

Fugitive dust emissions from construction traffic traveling on unpaved surfaces will be controlled with the following mitigation measures:

1. Visible speed limit signs will be posted at the construction site entrances. No vehicle will exceed 15 miles per hour (mph) within the construction site.
2. Implementation of erosion control measures identified in the Construction SWPPP, to be provided separately, will control fugitive dust emissions from pubic roadways and parking areas.
3. Gravel access pads will be constructed in the temporary stockpile locations. Four to six inches of appropriate gravel will be spread evenly to construct the pads. Additional gravel will be added periodically to maintain effectiveness.
4. One or more of the following:
    - All unpaved roads in the project construction site will be watered every two hours or frequently enough to maintain adequate wetness. The frequency of watering can be reduced or eliminated during periods of precipitation. (Article 21, Section 100 et seq. of the San Francisco Public Works Code requires that non-potable reclaimed water be

used for this purpose.) Watering frequency may be increased during above average ambient air temperatures or wind speeds.

- Chemical dust suppressants can also be applied consistent with manufacturer's directions.
- Maintaining a gravel cover with a silt content that is less than five (5) percent and asbestos content that is less than 0.25 percent, as determined using an approved asbestos bulk test method, to a depth of three (3) inches on the surface being used for travel; or
- Any other measure as effective as the measures listed above.

Trackout Prevention

Track-out of loose materials will be controlled using gravel pads along with a tire washing/cleaning station installed at the access point from the project site to the paved road to prevent tracking of mud on to public roadways. The stabilized construction entrance (gravel pads) will be installed according to the specifications provided in the Erosion and Sediment Control Plan of the Storm Water Pollution Prevention Plan (SWPPP) for the site. All vehicle tires will also be inspected and washed as necessary to prevent trackout prior to entering the paved roadways. Any visible track-out on a paved public road at any location where vehicles exit the work site MUST be removed. Removal MUST be done using wet sweeping or a high-efficiency particulate air (HEPA) filter-equipped vacuum device at the end of the work day or at least one time per day.

The following mitigation measures will be followed for fugitive dust emissions from construction traffic traveling on paved surfaces:

1. The main access and egress routes to and from the Parcel B and G main construction site for construction employees and delivery trucks will be paved prior to the initiation of construction.
2. No construction vehicles will be allowed to exitthe construction site except through the treated entrance roadways. Gravel pads will be installed at all egresspoints to prevent tracking of mud on to public roadways.
3. Construction areas adjacent to and above grade from any paved roadway will be treated with BMPs, as specified in the Construction SWPPP.
4. All paved roads within the construction site will be swept twice daily with a wet sweeper.

5. At least the first 500 feet of any public roadway exiting from the construction site will be swept twice daily. (The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.)

If any of the above mitigation measures fail to properly control fugitive dust emissions, one or more of the following reasonably available control measures, will be applied:

1. Unpaved active portions of the construction site will be watered or treated with dust control solutions to minimize windblown dust and dust generated by vehicle traffic.
2. Paved portions of the construction site will be swept more frequently as necessary to control windblown dust and dust generated by vehicle traffic. Streets adjacent to the construction site will be swept as necessary to remove accumulated dust and soil. Water may also be applied to the paved roads if necessary.
3. Physical or chemical stabilization will be applied to control dust on unpaved roads if necessary.
4. Gravel, re-crushed/recycled asphalt or other material of low silt content (<5 percent) will be applied to a depth of 3 or more inches, if necessary. Serpentine-containing material will not be used for this purpose.
5. Vehicle trips will be reduced if necessary.

Construction employees will park in paved or graveled areas to reduce fugitive dust emissions.

Off-site Transport

No trucks will be allowed to transport excavated material offsite unless:

1. Trucks are maintained such that no spillage can occur from holes or other openings in cargo compartments; and
2. Loads are adequately wetted and either:
   - Covered with tarps; or
   - Loaded such that the material does not touch the front, back, or sides of the cargo compartment at any point less than six inches from the top and that no point of the load extends above the top of the cargo compartment.
3. Visible track-out on the paved public road must be cleaned using wet sweeping or a HEPA filter equipped vacuum device within twenty-four (24) hours.

Vehicles will be checked to ensure that they are tarped and to remove any excess material on the shelf or exterior surfaces of the cargo compartment. All off-site haul trucks will access the site via paved access roads and established gravel pads. Every off-site haul truck will proceed through the decontamination gravel pad/tire cleaning area prior to departure from the site. Site personnel will be stationed at the access point to monitor inflow/outflow to and from the site and will be responsible for inspecting all vehicles exiting and performing the cleaning of the tires.

Site Preparation and Grading

Prior to any ground disturbance, sufficient water must be applied to the area to be disturbed to prevent visible emissions from crossing the property line.

Fugitive dust emissions from site preparation and foundation work will be controlled using the following methods:

1. During clearing and grubbing, surface soils will be pre-wet to the depth of anticipated cut where equipment will be operated. Soil moisture content will be sufficiently maintained to minimize fugitive dust creation. For construction fill areas which have an optimum moisture content for compaction, completion of the compaction process will be performed as expeditiously as possible to minimize fugitive dust.
2. If compaction will not take place immediately following clearing and grubbing, the surface soil will be stabilized with dust palliative and water to form a crust on the soil surface.
3. Keep all graded and excavated areas, visibly dry unpaved roads, parking and staging areas wetted at least three times per shift daily during construction to prevent visible dust emissions from crossing the property line. Increased watering frequency may be needed whenever wind speeds exceed 15 miles per hour.
4. Use dust enclosures, curtains, and dust collectors as necessary to control dust in the excavation area.
5. Graded areas will be stabilized with chemical stabilizers within 5 working days of grading completion. Seed and water all unpaved, inactive portions of the lot or lots under construction to maintain a grass cover if they are to remain inactive for long periods during building construction.
6. Halt all clearing, grading, earthmoving, and excavating activities when wind speeds are high enough to results in dust emissions crossing the property line, despite the application of dust mitigation measures.
7. Limit the area subject to excavation, grading or other construction activity at any one time.

8. Storage piles must be kept adequately wetted, treated with a chemical dust suppressant or covered with tarp(s) when material is not being added or removed from the pile.

Crushing

It is anticipated that concrete crushers will be mobilized to the site to crush and recycle concrete debris resulting from building and roadway demolition. Crushing operations will be visually monitored for the appearance of fugitive dust. If dust is being generated, water will be applied to control the dust.

The crusher may also be used to crush well-cemented concretions of other minerals within the serpentinite of the Franciscan formation that cannot be broken into manageable sizes using the standard construction equipment mobilized to the site for mass grading (bulldozers, excavators, scrapers, etc.). Serpentinite boulders will not be processed by the crusher.

Trenching Activities

Excavation activities will be visually monitored daily for the generation of fugitive dust. If dust is being generated, water will be applied to the point of excavation or drilling to control dust.

- Soil will be pre-wet prior to excavation to reduce dust migration. Additional water will be added during active excavation, material handling, and loading. Active excavation areas will be wet a minimum of twice daily during dry weather and more frequently as needed.
- The height from which excavated soil is dropped into trucks and onto either stockpiles or dewatering pads will be minimized.
- Dust suppressants will be applied in sufficient quantities to inactive disturbed areas so as to form a crust and create a stabilized surface.
- Backfill material will be covered or enclosed when not actively handled.
- Four to six inches of appropriate gravel will be spread evenly at key onsite loading areas, the temporary soil staging, and off-site transport loading area in order to reduce the potential for soil track-out beyond the site.

Screening

- Fugitive dust emissions from loading the screening pads, either by excavator, or by conveyor will be controlled by ensuring that all excavated material is adequately wetted prior to loading.
- Loader buckets will be emptied slowly and drop height from loader bucket minimized.

- Halt all loading activities during periods of sustained strong winds, hourly average wind speeds of 25 mph (40 km/h or greater).

Material Stockpiles

During excavation, backfilling and grading, soils may be stockpiled in areas adjacent to the activity. BMPs may include diversion of drainage from the stockpiles, installation of silt fencing/straw bale filter barriers on the downgradient toe of the stockpile slope, track-walking the slopes, and dust control. Stockpiles must be kept adequately wetted, treated with a chemical dust suppressant or covered with tarp(s) when material is not being added or removed from the pile.

Foundation Work

1. Sprinklers, wobblers, water trucks, or water pulls will be used to pre-water during cut and fill activities to allow time for penetration.
2. Building pads will be laid as soon as possible after grading to minimize fugitive dust emissions, unless seeding or soil binders are used in the interim.
3. Wind erosion control techniques, such as wind breaks, water/chemical dust suppressants, and vegetation, will be used on all construction areas that may be disturbed. Any windbreaks used will remain in place until the soil is stabilized or permanently covered with vegetation.
4. For back-filling during earthmoving operations, backfill material will be watered as needed to maintain moisture. If required, backfill soil will be mixed with water prior to moving. Loader buckets will be emptied slowly and drop height from loader bucket minimized. Once backfill material is in place, water will be applied immediately to form a crust, if necessary. A water truck or large hose will be dedicated to back-filling equipment and operations.
5. Use of high-pressure air to blow soil and debris from the form will be avoided; instead, water spray, sweeping, and/or an industrial shop vacuum will be used to clear the form.

Post-Construction Stabilization of Disturbed Areas

Unpaved areas disturbed during excavation, grading, and/or construction activities will be covered with one of the following to reduce dust generation on the site:

- An approved vegetative cover
- Coverage with a minimum of 3 inches of non-asbestos-containing material
- Building and related hardscape surface paving approved in the building permit.

Additional Requirements for Serpentine Material

Excavated materials, which will be transported off site, will be analyzed for asbestos content. Excavated materials being transported off-site with greater than 1 percent by-weight asbestos will be handled and disposed of off site in accordance with all requirements for proper disposal of asbestos.

BAAQMD Regulation 11, Rule 14 also defines procedures and notifications required if serpentine material is sold for use as a surfacing agent. No serpentine will be used for surfacing material or sold from the site.

The following waste management methods will be used when handling serpentine waste designated as hazardous:

- Keep asbestos-containing waste material adequately wetted at all times during handling and loading.
- Adhere to requirements of Section 11-2-608 for marking of vehicles used to transport asbestos-containing waste.
- Maintain waste shipment records as specified in Section 11-2-502.
- Provide a copy of the waste shipment record to the disposal site owner or operator upon delivery.
- Contact transporter and/or owner of the disposal site if the waste shipment has not arrived within 35 days of initial acceptance by the transporter as hazardous waste.
- Provide a written report to the Air Pollution Control Officer (APCO) if the waste shipment is not received within 45 days of initial acceptance by the transporter.

Demolition Emissions Control Methods

In addition to emission controls for dust generated by general construction activities described in the previous section, specific requirements apply to asbestos-related dust due to demolition activities. A qualified subcontractor, licensed and experienced to manage asbestos- and lead-contaminated building materials, will perform demolition of existing structures. The subcontractor will demonstrate compliance with the requirements of BAAQMD 11- 2, which states that demolition activities will not be allowed to cause any visible dust plumes from any operation involving the demolition, removal, manufacture or fabrication of any product containing asbestos. The subcontractor will implement the additional control methods summarized below.

Demolition Activities

Fugitive dust emissions from demolition activities will be controlled in accordance with the requirements of BAAQMD Section 11-2-303, as summarized below:

- All exposed regulated asbestos-containing material (RACM) will be adequately wetted and kept wet during cutting, stripping, demolition, renovation, removal and handling operations both inside and outside of a building.
- In lieu of wetting, a local HEPA filter exhaust, ventilation, and collection system designed and operated to capture the emissions from RACM and prevent any visible emissions to the outside air may be used under certain circumstances and subject to BAAQMD approval; requests for approval of dry removal must be in writing.
- RACM shall be removed prior to demolition, or other operations that would either break up, or preclude access to the RACM for subsequent removal.
- Elements that have RACM may be removed at any time in units or sections so long as the exposed RACM during cutting or disjointing is adequately wetted or encapsulated to prevent emissions of particulate asbestos material.
- All RACM not removed in units or sections shall be adequately wetted and kept wet, and transported to the ground in leak-tight chutes or containers, using negative air and HEPA equipment.
- Any building, structure, room, facility or installation from which RACM is being stripped or removed shall be isolated by physical barriers from the outside air to the extent feasible. Such barriers shall include transparent viewing ports which allow observation of all stripping and removal of RACM from outside the barrier. The negative air pressure inside the isolated work area shall be maintained at a pressure differential relative to

adjacent, nonisolated areas, and negative air pressure ventilation equipment shall be operated continuously from the establishment of isolation barriers through final cleanup of the work area following stripping or removal of RACM. Any such local exhaust ventilation system shall filter the air from the isolated area with a HEPA filter (or equivalent) prior to exhausting.

- All friable asbestos-containing waste material related to a specific demolition, renovation or removal, including pre-existing debris, shall be handled in accordance with the provisions of BAAQMD Sections 11-2-303 and 11-2-304.
- Except for ordered demolitions, prior to commencement of any demolition or renovation, the owner or operator shall thoroughly survey the affected structure or portion thereof for the presence of asbestos-containing material, including Category I and Category II non-friable asbestos-containing material. The survey shall be performed by a person who is certified by the Division of Occupational Safety and Health, who has taken and passed a USEPA-approved Building Inspector course, and who conforms to the procedures outlined in the course. The survey shall include sampling and the results of laboratory analysis of the asbestos content of all suspected asbestos-containing materials. This survey shall be made available to the Air Pollution Control Officer (APCO) prior to the commencement of any RACM removal or any demolition.
- When a structure, or portion thereof, is demolished under an ordered demolition, the survey must be done prior to, during, or after the demolition but prior to loading or removal of any demolition debris. If the debris contains regulated asbestos-containing material, all of the debris shall be treated as asbestos-containing waste material pursuant to BAAQMD Section 11-2-304. *A survey of asbestos-containing material has been completed for all structures to be demolished on Parcels B and G ’.*
- No RACM shall be stripped or removed unless at least one on-site representative, such as a foreman or management-level person or other authorized representative, certifies that he or she is familiar with the provisions of this rule as it pertains to demolition and renovation and the means of compliance therewith, and is present during all stripping and removing of RACM.
- If RACM is not discovered until after demolition begins and, as a result of the demolition, cannot be safely removed, the asbestos-contaminated debris shall be treated as asbestos-containing waste material and kept adequately wet at all times until disposed of according to the provisions of BAAQMD Section 11-2-304.
- The owner or operator of any building or other stationary structure to be demolished pursuant to an order of an authorized representative of a state or local governmental agency, issued because that building is structurally unsound and in danger of imminent collapse or has been declared a public nuisance, shall comply with the survey, wetting and disposal requirements of BAAQMD.
- If demolition is accomplished by intentional burning, all RACM, including Category I and Category II non-friable asbestos-containing material, shall be removed before burning.

RACM Waste Disposal

To prevent emissions from asbestos-containing material, the waste generated during the demolition process will be handled in accordance with BAAQMD 11-2-304, including the following:

- Treat asbestos-containing waste by thoroughly mixing with water and store in leak-proof containers before removing from containment area.
- Process asbestos-containing waste into non-friable form before disposal.
- Convert RACM and asbestos-containing waste material into asbestos-free material.
- Keep asbestos-containing waste material adequately wetted at all times after demolition and during handling and loading.
- Adhere to requirements of Section 11-2-608 for marking of vehicles used to transport asbestos-containing waste.
- Maintain waste shipment records as specified in Section 11-2-502.
- Provide a copy of the waste shipment record to the disposal site owner or operator upon delivery.
- Contact transporter and/or owner of the disposal site if the waste shipment has not arrived within 35 days of initial acceptance by the transporter.

Provide a written report to the APCO if the waste shipment is not received within 45 days of initial acceptance by the transporter.

Monitoring and Records

General

A hotline must be established and posted prior to starting construction and maintained during construction in a publicly visible sign with the telephone number for surrounding community members to call and report visible dust problems. The contractor will respond promptly and take corrective action within 48 hours. The number must be given to adjacent residents, schools, and businesses.

Monitoring to ensure compliance with the provisions of this plan will be performed by an independent third party observer. Control of visible dust will be the primary responsibility of the contractor working at the site. The Owner will provide quality assurance monitoring and will have the authority to direct the contractor to implement the measures outlined below if visible dust is observed.

Visible Dust During Site Activities

The goal of this plan is no visible dust. While all parties understand that soil disturbance and excavation activities, by their nature, will produce dust, site controls will be used to mitigate visible dust as it is generated in an effort to achieve the no visible dust goal. This section establishes the steps that must be taken toward achieving the goal of no visible dust from soil disturbance or excavation in terms of the amount of time permitted to address visible dust plumes. The criteria in this section apply to an active work site when equipment and personnel are driving on the site an performing work activities. The "initial observation" starts the clock for the required response measures described below. The "initial observation" is the time any of the following personnel observe visible dust: (a) workers who are disturbing soils or excavating for the permitted activity or (b) Owner, supervisor, contractor, subcontractor or consultant with responsibility for monitoring the permitted activity.

Visible Dust Crossing the Property Boundary

In the event visual dust from soil disturbance or excavation is observed crossing the property boundary, the following procedures will be followed to ensure adequate mitigation measures are in place to address the dust:

1. The specific source of the emissions will be immediately shut down and a more aggressive application of the existing mitigation measures as described on pages D-7 through D-9 (No Visible Dust Goal) will be directed.
2. Once the mitigation measures have been applied , the source of emissions will resume and observations will be conducted to verify that the mitigations measures were successful.

Onsite Visible Dust

In the event visual dust from soil disturbance or excavation is observed onsite, but does not cross the property boundary, the following procedures will be followed to ensure adequate mitigation measures are in place to address the dust:

1. A more aggressive application of the existing mitigation measures as described on pages D-7 through D-9 (No Visible Dust Goal) or additional measures of dust suppression will be directed to the specific source of emissions within 60 minutes the initial observation.
2. If despite these more aggressive and/or additional methods the visible dust emissions continue for 90 minutes from the time of the initial observation, the specific source of the emissions will be temporarily shut down until the implemented dust control mitigations is effective or, due to changed conditions, no longer necessary.

Windblown Visible Dust During Inactive Periods

The standards in this section apply on weekends and holidays or any other times when no equipment and personnel are performing work activities on site. In the event of observations on windblown visible dust plumes from soils originating on the project site, mitigation measures as described on pages D-7 through D-9 (No Visible Dust Goal) will be directed within less than 4 hours of making the observation. Mitigation measures will be applied until the visible dust plumes originating from the project site are minimized or eliminated. Any observations of visible dust originating from the project site during inactive periods should be reported to the Community Hotline.

Dust Monitoring

Real-time particulate dust monitors (Miniram PDR-1000 or equivalent) will be placed at adequate locations to measure particulates in the upwind and downwind locations of the Site. Prevailing wind on the site is from the west or southwest towards the east or northeast. Monitoring locations will initially be established based on these prevailing winds but will be checked daily and adjusted if necessary to maintain the upwind and downwind locations. An

action level of *0.75* milligrams per cubic meter (mg/m^3) above upwind levels, over a ten minute average has been developed for the site operations. At a minimum the data will be reviewed daily. It is anticipated that data review will be more frequent at project startup to validate BMPs. If dust is generated from on-site soil disturbance or excavation activities and dust levels from these activities are recorded above this action level, site specific actions will be specified based on the type of activity being conducted. Actions could include evaluation of site activities or stopping work until additional controls are implemented to reduce dust generation from the specific work area causing the problems. During periods of extended rain, realtime particulate monitoring will cease to prevent damage to the instruments.

Recordkeeping and Reporting

Dust monitors will be equipped with data loggers. Dust monitoring data will be included with daily construction reports.

BAAQMD 11-2, Section 11-2-502 describes reporting and recordkeeping requirements for RACM demolition activities.

ATCM requires that results of air monitoring and any testing of serpentine materials be reported to the APCO and that records be retained for at least 7 years following the completion of the project.

APPENDIX E

SOIL IMPORTATION PLAN OUTLINE

APPENDIX E
Soil Importation Plan Outline

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APPENDIX F

GROUNDWATER MANAGEMENT PLAN OUTLINE

Appendix F
Groundwater Management Plan Outline

1.0 Introduction

This Section should provide a description of the site where work is proposed, summarize the groundwater conditions in the area of proposed work, describe the work to be conducted including estimated volume of groundwater to be extracted, estimated duration of extraction and estimated area of groundwater that may be influenced by the extraction.

2.0 Groundwater management Plan

This Section should provide a description of the means and methods that will be used to extract (dewater) groundwater, temporary storage of extracted groundwater, and ultimate disposition of the extracted groundwater. Emphasis should be placed on using best management practices to minimize the area to be impacted by dewatering, protecting the public from exposure to contaminated groundwater, and disposal methods that are compliant with all applicable environmental regulations. If the work involves the installation of underground utility lines, best management practices should be implemented to mitigate the potential for the utility backfill to create a conduit for migration of contaminated groundwater from one area to another.

This Section should include a contingency plan for unexpected conditions, if they are encountered. Unexpected conditions could include the presence of free phase hydrocarbons floating on the groundwater surface, encountering odiferous and obviously discolored soil, extraction of a significantly larger volume of groundwater than anticipated, and other similar conditions.

3.0 Permitting and Reporting Requirements

This Section should include a discussion of the permit requirements that must be met to accomplish the dewatering project. At a minimum, consideration should be given to the City and County of San Francisco Department of Public Works, City of San Francisco Department of Public Health, San Francisco Public Utilities Commission, California Regional Water Quality Control Board and California Department of Toxic Substances Control. The discussion of permit requirements should also include a discussion of reporting and recordkeeping requirements.

4.0 Health and Safety

This Section should present a health and safety plan to protect construction workers conducting the dewatering and construction project and to protect the general public from direct and indirect exposure to hazardous substances,

5.0 References

This Section should present a list of references used to prepare this plan.

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RISK MANAGEMENT PLAN

HUNTERS POINT SHIPYARD

SAN FRANCISCO, CALIFORNIA

WORKING DRAFT

January 2011

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Acronyms and Abbreviations

ABM	Abrasive blast material
ADMP	Asbestos Dust Mitigation Plan
AOC	Administrative Order on Consent
ARIC	Area requiring institutional controls
ATCM	Airborne Toxic Control Measures
BAAQMD	Bay Area Air Quality Management District
BCDC	San Francisco Bay Conservation and Development Commission
BMP	Best Management Practice
CCR	California Code of Regulations
CCSF	City and County of San Francisco
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CHHSLs	California Human Health Screening Levels
CIH	Certified Industrial Hygienist
COCs	Chemical of concern
CRUP	Covenants to Restrict use of Property
DCP	Dust Control Plan
DTSC	California Department of Toxic Substance Control
EHSPs	Environmental Health and Safety Plans
EIR	Environmental Impact Report
FFA	Federal Facilities Agreement
GMP	Groundwater Management Plan
HPS	Hunters Point Shipyard
ICs	Institutional controls
LUC	Land use control
NOA	Naturally occurring asbestos

NOI	Notice of intent
NPDES	National Pollutant Discharge Elimination System
O&M	Operation and maintenance
OSHA	Occupational Safety and Health Administration
OVA	Organic vapor analyzer
OVM	Organic vapor monitor
PAHs	Polycyclic aromatic hydrocarbons
PCBs	Polychlorinated biphenyls
PPE	Personnel protective equipment
QSD	Qualified SWPPP Developer
RA	Remedial Action
RACR	Remedial Action Completion Report
RCRA	Resource Conservation and Recovery Act
RAWP	Remedial Action Work Plan
RD	Remedial Design
ROD	Record of Decision
RMP	Risk Management Plan
RWQCB	Regional Water Quality Control Board
SFDPH	San Francisco Department of Public Health
SFPUC	San Francisco Public Utilities Commission
SFRA	San Francisco Redevelopment Agency
SIP	Soil Importation Plan
SSHO	Site Safety and Health Officer
SVE	Soil vapor extraction
SVOCs	Semi-volatile organic compounds
SWPPP	Storm Water Pollution Prevention Plan
TCRA	Time-critical removal action

TMSRA	Technical Memorandum in Support of a ROD Amendment
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USTs	Underground storage tanks
VOCs	Volatile organic compounds
WDRS	Water Discharge Requirements

1.0 INTRODUCTION

In accordance with the final Records of Decision (RODs) for Parcels B and G at the former Hunters Point Shipyard (HPS) in San Francisco, California, environmental cleanup activities are being implemented to provide for protection of human health and the environment. The cleanup activities are overseen by the United States Environmental Protection Agency (USEPA), the California Department of Toxic Substances Control (DTSC) and the Regional Water Quality Control Board (RWQCB). This Pre-Remedial Action Completion Report Risk Management Plan (hereafter referred to as the Pre-RACR RMP) has been prepared for Parcels B (excluding Installation Restoration [IR] Sites 7 and 18; See Section 1.1) and G to provide procedures and protocols that shall be used to conduct "pre-approved restricted activities" and "activities that require approval" on Parcels B and G during the period between the transfer of property from the Navy to other landowners and the time the FFA signatories approve the RACR demonstrating that the remedial activities called for in the ROD have been completed. Pre-approved restricted activities and activities that require approval are described later in Section 3. A separate document, the post-RACR RMP governs activities conducted in an area where the FFA signatories have approved a RACR demonstrating that the remedial activities called for in the ROD have been completed.

The following restricted activities are defined in the Parcel B ROD Amendment (*ChaduxTt, 2009*) and the Parcel G ROD (*Navy, 2009*):

- "Land disturbing activity" which includes, but is not limited to: (1) excavation of soil; (2) construction of roads, utilities, facilities, structures, and appurtenances of any kind; (3) demolition or removal of "hardscape" (for example, concrete roadways, parking lots, foundations, and sidewalks); (4) any activity that involves movement of soil to the surface from below the surface of the land; and (5) any other activity that causes or facilitates the movement of known contaminated groundwater.

- Alteration, disturbance, or removal of any component of a response or cleanup action (including, but not limited to, pump-and-treat facilities, soil vapor barriers, revetment walls and shoreline protection, and soil cover/containment systems); groundwater extraction, injection, and monitoring wells and associated piping and equipment; or associated utilities.

- Extraction of groundwater and installation of new groundwater wells.

- Removal of or damage to security features (for example, locks on monitoring wells, survey monuments, fencing, signs, or monitoring equipment and associated pipelines and appurtenances).

The RODs provide that the activity restrictions will be enforceable through Covenant(s) to Restrict Use of Property (CRUPs) and deed restrictions. Institutional controls (ICs) are enforced in the form of the deed(s) and CRUP(s), which are recorded in the official records of the City and County of San Francisco (CCSF) against all parcels that are subject to this Pre-RACR RMP and run with the land under California Civil Code 1471.

Additionally the RODs specify the following activity restrictions related to the potential exposure to volatile chemicals in the subsurface soil vapor:

- Any proposed construction of enclosed structures within the area requiring institutional controls (ARIC) for volatile chemicals must be approved by the FFA signatories in accordance with the CRUPs, Quitclaim deed(s), Land Use Control (LUC) Remedial Design (RD), prior to the conduct of such activity to ensure that the risks of potential exposures to volatile chemicals are reduced to levels that are adequately protective of human health. Initially the ARIC will include portions of Parcels B and G as presented in Figures 2 and 3. The reduction in potential risk caused by the presence of volatile chemicals can be achieved through engineering controls or other mitigation measures that meet the specifications set forth in the amended ROD, RD reports, LUC RD report, and the RMPs. The ARIC for volatile chemicals may be modified by the FFA signatories as the soil contamination areas and groundwater contaminant plumes that are producing unacceptable vapor inhalation risks are reduced over time or in response to further soil, vapor, and groundwater sampling and analysis for VOCs, SVOCs including PAHs and pesticides, that establishes that areas now included in the ARIC for volatile chemicals do not pose an unacceptable potential exposure risk to volatile chemicals.

This Pre-RACR RMP is organized as follows:

Section 2.0 Summary of Environmental Conditions: Provides a description of soil and groundwater conditions and the selected remedies.

Section 3.0 Site Activities and Regulatory Protocols: Describes pre-approved activities; activities requiring regulatory notification and approval, and procedures to modify the Pre-RACR RMP and Description of Areas Requiring Institutional Controls (ARICs)

Section 4.0 Reporting and Notice Protocols: Describes reporting and notification process, including notification entities, activities requiring notification and completion report requirements and approvals and annual reports.

Section 5.0 Risk Management Procedures and Protocols During Redevelopment: Presents risk management measures which must be implemented during performance of development and maintenance activities.

Section 6.0 References: Lists references used in the preparation of this Pre-RACR RMP.

1.1 Pre-RACR RMP Scope

The Pre-RACR RMP will cover Parcels B and G (Figure 1), excluding IR Sites 7 and 18, portions of which are subject to radiological restrictions (ARIC for Radionuclides). IR Sites 7 and 18 will be addressed in a separate RMP or operations and maintenance plan (*ChaduxTt, 2010*). Once the FFA signatories have approved the installation of the durable cover remedy as well as other remedial actions and the RACR report for an area has been accepted by the FFA signatories, this Pre-RACR RMP will no longer apply and the Post-RACR RMP will apply with respect to the area for which the RACR has been approved. Thus, the geographic area for which this Pre-RACR RMP applies will be dynamic and the geographic boundaries will decrease with time as the remedy, including the durable cover, is installed and approved by the FFA signatories. When a RACR is approved, copies of Figure 1 in both this Pre-RACR RMP and the Post-RACR RMP will be updated simultaneously and will be made available in the Hunters Point Shipyard information repositories (Section 3.4) and on the San Francisco Department of Public Health (SFDPH) Hunters Point Shipyard Redevelopment website (http://www.sfdph.org/dph/EH/HuntersPoint/default.asp).

The scope of this Pre-RACR RMP is limited to procedures and protocols used to manage risk following transfer and prior to development, during redevelopment activities, and prior to regulatory approval of the remedy. It is not intended to describe design details or procedures for implementation of remedial actions. All required remediation including, but not limited to soil vapor surveys, durable cover installation, installation of vapor mitigation systems, and groundwater remediation, and monitoring will

be conducted pursuant to the ROD and other documents that apply to the remedial work, including the Remedial Design documents (RDs), Remedial Action Work Plans (RAWPs), Administrative Order on Consent (AOC) and Remedial Design/Remedial Action (RD/RA) documents. Hence, any and all remediation including design requirements for installation of the durable cover fall outside the scope of the Pre-RACR RMP. In the event that any procedures or protocols in this document appear to conflict with the ROD or AOC, the ROD/AOC procedures govern the work. The Pre-RACR RMP also does not address post remediation actions such as actions required under an Operations and Maintenance Plan or activities that disturb an approved durable cover. The Pre-RACR RMP is the only RMP that should be used before the remedy has been installed and approved. It also does not address the management of restricted activities after the remedy is complete. Those procedures and protocols are set forth in the Post-RACR RMP.

Although this Pre-RACR RMP sets forth the requirements to appropriately manage the potential risks in soil, soil vapor and groundwater, prior to remedy installation, the Pre-RACR RMP is not intended to catalog all other legal requirements that may apply to the project or to activities conducted under the Pre-RACR RMP such as, but not limited to: worker health and safety governed by the Occupational Safety and Health Administration (OSHA) and compliance with Article 31 of the San Francisco Health Code. Article 31 contains special permit processing requirements that apply at Hunters Point Shipyard to address potential contamination.

1.2 Intended Users of The Pre-RACR RMP

This Pre-RACR RMP is intended for the following users or their designees who may perform or oversee the Restricted Activities described in Section 3.1.2 within Parcels B and G:

- San Francisco Redevelopment Agency (SFRA)
- San Francisco Department of Public Works
- Property developers
- Property Owners (defined as an Owner with a fee interest in the property or an Owner's Representative, hereinafter referred to as Owners)
- Lessees, permittees, tenants, or any other party with the legal right to perform subsurface work on the property

- Contractors
- Maintenance personnel
- Regulatory agencies (USEPA, DTSC, and RWQCB) and City of San Francisco Department of Public Health (SFDPH)
- The Department of Navy
- Any other person or entity who may perform the Restricted Activities described in Section 3.1.2.

The Pre-RACR RMP will be used by the regulatory agencies to ensure that future property owners comply with the ROD required land use restrictions to limit exposure to hazardous substances and that ensure that property owners maintain the integrity of the remedy.

1.3 Description of Planned Redevelopment

Parcels B and G will be developed as mixed use sites (Figures 2 and 3). Parcel B will include multi-family housing, public open space, retail, light industrial, and commercial uses. Parcel G could include mixed use (including residential), commercial, educational/cultural, industrial, and open space.

2.0 SUMMARY OF ENVIRONMENTAL CONDITIONS

Soil, groundwater and soil vapor investigations were conducted by the Navy within Parcels B and G to characterize the environmental conditions. Significant source areas that could impact human health and the environment were remediated by the Navy prior to transfer. Risk evaluations have been performed to confirm that the parcels could be developed as planned (based on the 1997 Redevelopment Plan for HPS), in a manner that would be safe for human health and the environment. The Remedial Investigation Reports for Parcel B (*PRC et al, 1996*) and Parcel G (*Tetra Tech, 1997a*), Feasibility Study Reports for Parcel B (PRC, 1996) and Parcel G (*Tetra Tech, 1997b*), Revised Feasibility Study for Parcel D (*SulTech, 2007*), 5-Year Review Report for Parcel B (Jonas, 2008), Technical Memorandum in Support of a Record of Decision (ROD) Amendment (TMSRA) for Parcel B (*ChaduxTt, 2007*) and its Radiological Addendum (*TtEC, 2008*), and ROD Amendment (*ChaduxTt, 2009*), and the ROD for Parcel G (*Navy, 2009*) are central to understanding environmental conditions at HPS. While this Pre-RACR RMP provides a summary of the various environmental findings in the site-specific investigations, the reader should refer to reports listed in Section 6.0 for more details regarding the specific findings of these investigations. A description of the history of Parcel B including geology, hydrogeology, regional setting and a description of previous investigations, can be found in the Parcel B TMSRA (*ChaduxTt, 2007*), and a description of the use and history of Parcel G can be found in the ROD for Parcel G (*Navy, 2009*). Parcel G is located within the central portion of the former 98-acre Parcel D. To support the early transfer of Parcel G, Parcel D was subdivided into Parcels G, D-1, D-2, and UC-1 (*Navy, 2009*).

2.1 Soil and Sediment Conditions

The primary chemicals of concern (COCs) detected in soil at Parcels B and G include volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and metals. The Navy conducted a series of excavations at Parcel B to reduce the risk to human health and the environment. A group of metals, primarily arsenic and manganese, were identified in soil at concentrations that consistently exceeded cleanup goals at locations across Parcel B. The widespread distribution of this group of metals in soil at Parcel B is related to the occurrence of these metals in the local bedrock that was quarried for fill during the expansion of HPS as well as the importation of other off site sources of fill used to further expand HPS. Following excavations in 106 locations on Parcel B, the FFA signatories determined that because of the ubiquitous nature of these metals in soil throughout Parcel B, excavation and removal of all soil exceeding risk-based cleanup standards to a depth of 10 feet was not economically feasible and the site conceptual model needed to be re-examined. As a result, the ROD

Amendment selected a remedial alternative to address the ubiquitous presence of metals using containment beneath covers in conjunction with institutional controls.

A large quantity of soil in Parcels B and G that was contaminated with constituents other than arsenic and manganese (lead, mercury, radionuclides, organic compounds or other Navy contaminants above remediation goals) was excavated and disposed off-site by the Navy prior to transfer. However, some soil, soil gas, and groundwater containing constituents of concern remain in place, as described in the Parcel B TMSRA and Parcel G ROD.

The Navy implemented investigations and corrective actions for total petroleum hydrocarbons (TPH) on Parcels B and G as part of the Navy's Petroleum Program. The RWQCB is the lead regulatory agency that oversees petroleum contamination and the underground storage tank (UST) program. For Parcel B, the petroleum corrective action work was conducted pursuant to a petroleum Corrective Action Plan (CAP). For Parcel G, no petroleum corrective actions were necessary, and therefore a CAP was not developed. The Navy is currently in the process of revising the Draft Final Petroleum Hydrocarbon Closeout Reports for Parcels B and G. The Navy anticipates the submission of Final Petroleum Hydrocarbon Site Closeout Reports for Parcels B and G in early 2011. Regional Water Board staff expects that closure will be completed for most if not all sites before the Navy issues a Final Finding of Suitability for Early Transfer (FOSET). The one exception to this schedule is the Parcel B petroleum site called Combined Sites Area Of Concern (CAA-21, CAA-22, Area Of Concern-46-A and Area Of Concern-46-B). The Navy completed all fieldwork and investigations of the Parcel B combined sites in late 2010 (*ITSI, 2011[need reference]*). Post-investigation actions such as monitoring likely could be ongoing at the Combined Sites Area Of Concern and therefore closure pending at the time of transfer.

The Navy identified metals, pesticides, PCBs, and polycyclic aromatic hydrocarbons (PAHs) in Parcel B shoreline sediments that may pose a risk to human health or ecological receptors. The selected remedy to prevent exposure to the COCs in the shoreline sediments included the construction of a shoreline revetment wall. Parcel G does not have any sediment concerns because it is not bordered by the bay.

At HPS, naturally occurring asbestos (NOA) is primarily found in the mineral form of chrysotile, which is present in approximately 1/8-inch veinlets scattered throughout the native serpentinite bedrock. The primary route of potential exposure to asbestos is through inhalation of air containing asbestos fibers. The primary release mechanism for asbestos fibers to the air would be through excavating and crushing the serpentinite bedrock. Best Management Practices (BMPs) incorporating the use of traditional dust suppression techniques during excavation would be adequate to mitigate potential health concerns related

to the inhalation of asbestos fibers. Samples of airborne particulates will be collected using real-time particulate dust monitors to evaluate the adequacy of and allow adjustments to BMPs (Appendix D).

2.2 Groundwater Conditions

COCs in groundwater above remediation goals are limited to the A-aquifer, which exists within unconsolidated artificial fill. The A-aquifer ranges in thickness from about 15 feet in the southwest to as much as 80 feet in the northeast, but averages about 25 feet over most of Parcel B. Groundwater is typically encountered within Parcel B in the A-aquifer at depths ranging from approximately 5 to 10 feet below ground surface, with up to 3 feet of typical seasonal variation. Groundwater in the A-aquifer at Parcel G is generally encountered 8 to 10 feet below ground surface with fluctuations of over 5 feet observed in the past. COCs for both Parcels B and G in the A-aquifer include volatile organic compounds (VOCs) (mainly trichloroethene and its breakdown products), in addition to metals such as chromium VI, mercury, and nickel. Plume areas identified in the Parcel B Amended ROD include IR Site 10 and IR Site 26 (Figure 2). Plume areas identified in the Parcel G ROD include IR Site 9, IR Site 33 and IR Site 71 (Figure 3). An indoor inhalation risk may exist in areas where volatile chemicals are present in soil or groundwater off-gas. Potential risks from groundwater are based on breathing volatile chemicals in soil and groundwater that may have migrated through the subsurface to indoor air (vapor intrusion). The results of the Human Health Risk Assessment show that the risk from exposure to vapors from the groundwater exceeded the excess lifetime cancer risk threshold in several areas in Parcel B (*ChaduxTt, 2009*) prior to the completion of the remedy. The selected remedy for groundwater at Parcel B includes treatment of the groundwater, implementation of institutional controls and long-term groundwater monitoring. A-aquifer groundwater in IR Site 9 and IR Site 71 at Parcel G has undergone treatment which has reportedly reduced VOC concentrations below cleanup levels (*Alliance, 2010*), though groundwater monitoring will continue to verify that the remediation is complete. Due to declining concentrations of COCs and low risk to future receptors, treatment of groundwater at IR 33 was not necessary (Alliance, 2010). (Note: *Update with latest groundwater sampling results at time of implementation*).

The risk posed by chromium VI, mercury, and nickel in groundwater is primarily to ecological receptors through potential transport to the bay. The Navy completed a removal action for the mercury source at IR-26 in Parcel B (*Insight, 2009*). Long-term groundwater monitoring will continue at Parcel B until concentrations of both the chromium VI and mercury are below action levels that are protective of ecological receptors in the bay. Chromium VI in Parcel G was associated with the former Pickling and Plate Yard (IR-09). The source of the chromium VI, including contaminated equipment and residue from

the Pickling and Plating Yard and the pickling and plating sump and surrounding soil, have been removed). Documentation of the plating sump removal will be included in the Parcel G RACR.

2.3 Known Existing or Former Below-Grade Structures

Below grade structures such as underground storage tanks (USTs), oil/water separators, sumps, or other structures were removed or investigated during previous investigations within Parcel B and G. Two known USTs (U439-1 and U439-2) were closed in place in Parcel G (Figure 3). No known USTs were closed in place within Parcel B (*ChaduxTt, 2010b*).

2.4 Selected Remedies

The CERCLA RODs for Parcels B and G selected remedial actions, which are required to provide adequate protection of human health and the environment and to allow the designated and beneficial reuse of the property as defined in the conveyance agreement executed between the Navy and the SFRA. The remedial actions will be implemented over time between approval of RD and RAWPs and ultimate reuse of the site. The following remedial actions were identified in the RODs to address contamination in soil, sediments, soil vapor, groundwater and structures within Parcels B and G:

- Radiological contamination indentified in buildings, former building sites, sewer lines and other areas affected by radiological sources was removed by the Navy and approved by the FFA signatories prior to transfer of Parcels B and G to the SFRA
- Removal and offsite disposal of excavated soil in areas where concentrations of organic chemicals and metals (excluding arsenic and manganese) were above remedial goals
- Installation of durable covers over the entire parcel to prevent contact with residual ubiquitous metals. A durable cover is defined in the RODs or RDs as hardscape (e.g., asphalt, buildings, sidewalks, etc.) or two feet of clean imported fill.
- Installation of a revetment wall along the Parcel B shoreline to cover and prevent access to sediments
- Operation of a soil vapor extraction (SVE) system (Parcel B only) to remove and treat VOCs in soil
- Treatment of groundwater to reduce the contaminant concentrations to or near the remediation goals defined in the RODs

- Implementation of a groundwater monitoring program to verify that remediation efforts continue to meet the remediation goals defined in the Parcel B ROD Amendment and Parcel G ROD
- Use of engineering controls and institutional controls (ICs) to prevent or minimize exposure to contaminated soil and soil vapor and to prevent or minimize exposure to contaminated groundwater by restricting activities related to groundwater.

Details concerning the selection, and performance and implementation of these remedies are presented in the TMSRA, Parcel B ROD Amendment, Parcel D FS, Parcel G ROD and Remedial Design Package, Design Basis Reports for Parcels B and G and referenced in Section 6. Implementation of the remedies will be documented in the RACRs.

3.0 SITE ACTIVITIES AND REGULATORY PROTOCOLS

This section describes the regulatory oversight protocols, types of activities and associated restrictions that are governed by this Pre-RACR RMP and the process for modifying this Pre-RACR RMP.

3.1 Regulatory Oversight

The groups of agencies that have oversight and approval roles for various obligations are described in this section. These agencies plus the Navy, as the previous landowner and CERCLA responsible party, are referred to as the Federal Facility Agreement (FFA) signatories. The FFA is an agreement entered into by the agencies to carry out the remediation of HPS. The FFA signatories and the City of San Francisco Department of Public Health (SFDPH) will be referred to as the Oversight Agencies and the DTSC, RWQCB, USEPA, and the SFDPH will be referred to as the Regulatory Agencies for the purposes of this RMP. A contact list is included in Appendix A.

Regulatory oversight regarding implementation of the Pre-RACR RMP includes, but is not limited to:

- Review and approval of modifications to the Pre-RACR RMP, as described in Section 3.3
- Review and approval of work plans for conducting Restricted Activities requiring FFA signatory approval that are specified in Section 3.1.3 of this Pre-RACR RMP
- Performance of inspections to verify compliance with the Pre-RACR RMP procedures and protocols
- Review and approval of completion reports described in Section 4.2.3.

3.1.1 Site Access Restrictions and Inspection

For areas where a durable cover has not yet been approved and signed off by the FFA signatories, the Owner shall ensure that the general public is restricted from site access. A gate shall control access to the parcels via any roads. At a minimum, a locked, 6-foot chain link fence surrounding the perimeter of the uncovered area is required. The fence must contain no trespassing signs posted every 200 feet and warning signs posted every 200 feet and at each gate stating that contamination may be present at levels that are harmful to human health. The Owner is responsible for ensuring that the integrity of the fence and other security controls are maintained. The integrity of the site access controls must be inspected at

least every seven calendar days. Repairs must be made within five calendar days of the discovery of deficiencies unless the regulators approve an extension due to extenuating circumstances. Additional site security information is provided in Section 5.9.

3.1.2 Pre-Approved Restricted Activities

Certain land disturbing activities may be conducted without obtaining FFA signatory approval as long as such activities are performed in accordance with all provisions and protocols specified in the RMP. Such activities are hereafter referred to as "pre-approved activities". Pre-approved activities include the following, except to the extent that the activities fall within one of the categories requiring FFA signatory approval under Section 3.1.3 below:

(1) Excavation of soil. Following completion of excavation activities, the excavated soil must either be hauled offsite or placed back in the excavation and the cover remedy re-installed. Excavated soil may be used at other sites so long as it is placed beneath an approved cover remedy (e.g., 2 feet of clean fill, asphalt cover, side walk, or street).

(2) Construction of roads, utilities, facilities, structures (other than enclosed structures in ARICs for volatile chemicals), and related appurtenances as necessary to complete the redevelopment. Following the completion of any of these activities, all excavated soil must either be hauled offsite or put back in place and an approved cover remedy must be installed.

(3) Demolition or removal of "hardscape" (e.g., concrete or asphalt roadways, parking lots, building foundations, and sidewalks).

(4) Any activity that involves movement of soil to the surface from below the surface of the land. Following completion of soil moving activities all soil that has been moved must either be hauled offsite or put back in place and must be covered with an approved cover remedy (e.g., 2 feet of clean fill, asphalt cover, side walk, or street); and

(5) Grading or other movement of soil. Following completion of grading activities existing or native soils must be covered with an approved cover remedy (e.g., 2 feet of clean fill, asphalt cover, side walk, or street).

Some specific examples of pre-approved activities include, but are not limited to:

- excavation of trenches, potholes or other movement of soil from the subsurface to the surface in support of the installation of new below grade utilities, foundations, or other subsurface foundational structures (e.g., sewer lines, water lines, storm water pump station wet wells, pile caps and/or grade beams, etc.). Following completion of these activities, all excavated soil must either be hauled offsite or placed back in the excavation and an approved cover remedy installed (e.g., 2 feet of clean fill, asphalt cover, side walk, or street). Excavated soil may be used at other sites so long as it is placed beneath an approved cover remedy. Additional information on the handling and management of soil is provided in Sections 5.2 and 5.3.
- demolition of existing below grade, at grade or above grade structures. Following completion of demolition activities exposed native or existing soil must be covered with an approved cover remedy (e.g., 2 feet of clean fill, asphalt cover, side walk, or street);
- grading for the purpose of raising and/or lowering site grade, creation of building pads, fine grading activities in support of road installation, and associated excavating, loading, hauling, stockpiling and/or compacting soil. Following completion of these activities existing or native soils must be covered with an approved cover remedy (e.g., 2 feet of clean fill, asphalt cover, side walk, or street);
- pre-drilling for pile installation including drilling pilot holes through fill material prior to the installation of foundation piles. In addition, in areas where there is no known groundwater contamination and to the extent that such activities will not impact areas of known groundwater contamination; temporary dewatering activities may be conducted including temporary pumping of groundwater to dewater below grade excavations in support of both infrastructure installation and/or foundation installation which may include both pumping of groundwater from an open excavation and/or pumping groundwater via perimeter temporary dewatering wells (typically used for building foundation installation). Additional information on groundwater management is provided in Section 5.6.

Anyone performing the above Pre-Approved Activities will be required to comply with the following applicable soil and groundwater management protocols, a Dust Control Plan (DCP), a Stockpile Management Plan (part of the DCP), a Soil Importation Plan, a Storm Water Pollution Prevention Plan (SWPPP), and a Groundwater Management Plan (GMP). Each of these elements is described in more detail in Section 5.0. In addition, contractors performing Pre-Approved Restricted Activities will be required to comply with their own Environmental Health and Safety Plan (EHSP). Reporting requirements for these Pre-Approved Restricted Activities are further described in Section 4.0.

Once a Remedial Action Completion Report has been submitted and approved by the FFA signatories, the activities described here will still be allowed to proceed, but within the framework of the Post-RACR RMP.

3.1.3 Restricted Activities Requiring FFA Signatory Approval

FFA signatory approval will be required for work in areas of Parcels B and G that involve the following types of active remediation:

- Soil vapor extraction
- Groundwater treatment

Specific restricted activities that affect remediation and may not be commenced without first obtaining written FFA signatory approval include:

- "Land disturbing activity" that causes or facilitates the movement of any known contaminated groundwater.
- Alteration, disturbance, or removal of any component of a response or cleanup action (including, but not limited to, pump-and-treat facilities, shoreline protection, and soil cover/containment systems); groundwater extraction, injection, and monitoring wells and associated piping and equipment (including monitoring well abandonment); or associated utilities.
- Extraction of groundwater and installation of new groundwater wells (including monitoring well replacement).
- Removal of or damage to security features (for example, locks on monitoring wells, survey monuments, fencing, signs, or monitoring equipment and associated pipelines and appurtenances).
- Reuse of soil waste generated from one of the active remediation activities described above and in an area that has not yet received closure, unless reuse is fully addressed in future modifications to this Pre-RACR RMP.
- Construction of enclosed structures or reuse of existing buildings located in ARICs for volatile chemicals.

3.1.4 Areas Requiring Institutional Controls (ARICs) for Volatile Chemicals

The criteria for determining ARICs for volatile chemicals was established by the Navy and presented in the Soil Vapor Intrusion Survey Work Plan (*Sealaska, 2010*). The Soil Vapor Intrusion Survey Work Plan also established criteria for the modification or elimination of ARICs for volatile chemicals. The ARIC for volatile chemicals may be modified with approval by the FFA signatories via additional soil gas sampling and analysis for COCs. If the data show that vapor inhalation risk is within the acceptable range specified in the ROD or ROD Amendment, the ARIC may be reduced accordingly and Figures 2 and 3 will be updated. In areas where the ARIC remains, engineering controls shall be installed in existing or new buildings to address remaining vapor inhalation risk. When construction of enclosed structures or reuse of an existing building is proposed in an area located in ARICs (shown on Figures 2 and 3) for volatile chemicals the design of the vapor mitigation system built into foundations must be approved by the regulatory agencies.

3.1.5 Prohibited Activities

The following activities are prohibited throughout the Pre-RACR RMP Area:

- Growing vegetables or fruits in native soil for human consumption
- Use of groundwater.

3.1.6 Compliance with Requirements of Public Agencies That Are Not Parties to the FFA

Compliance with this Pre-RACR RMP is required in addition to all federal, state and City of San Francisco permitting and environmental regulations and procedures for any construction or maintenance activity. The following is a list of state and local agencies that may have requirements for certain construction and maintenance activities, in addition to any requirements described in this Pre-RACR RMP. This list is an example of potential state and local regulatory agencies and is not intended to be complete.

- Bay Area Air Quality Management District (BAAQMD) – air emissions and/or dust control
- San Francisco Department of Public Health (SFDPH) – monitoring well permitting and SFDPH Article 31 oversight

- San Francisco Public Utilities Commission (SFPUC) - wastewater discharge permitting
- Cal/Occupational Safety and Health Administration (OSHA) – worker health and safety
- San Francisco Redevelopment Agency – redevelopment design review
- San Francisco Department of Building Inspection – building permitting
- San Francisco Department of Public Works – permitting of structures in existing or future public right-of-ways and parks; subdivision approvals
- San Francisco Municipal Transportation Agency – permitting of infrastructure related to transit and traffic management
- San Francisco Fire Marshall – approval of infrastructure related to Fire Department emergency response
- US Army Corps of Engineers – approval of repairs or modifications to the revetment wall and storm drain outfalls below sea level
- Bay Conservation and Development Commission - approval of repairs or modifications to the revetment wall within 100 feet of sea level.

3.2 Agency Site Access

The agencies responsible for enforcing the Pre-RACR RMP procedures and protocols within Parcels B and G (Oversight Agencies) may elect to visit the site, as needed, per the rights of access described in the deed(s) and access requirements in the CRUP(s). The purpose of such visits may include, but is not limited to confirming that the Pre-RACR RMP procedures and protocols are being properly implemented.

3.3 Modifications to the Pre-RACR RMP

Modifications to the Pre-RACR RMP may become necessary to address unanticipated future events, such as newly-identified COCs for which site-specific remediation goals have not been calculated, or in the event of a remedy failure. Additionally, based on the results of remedial activities, modification or termination of specific conditions or controls stated in this Pre-RACR RMP may be warranted.

Other government entities may propose modifications of this Pre-RACR RMP, including terminating specific conditions of the Pre-RACR RMP, to the FFA signatories. Such modifications proposed to the

FFA signatories may include modifications proposed by Owners to other government entities that those government entities determine are appropriate. The FFA signatories will review the proposed changes, request any additional background information if needed, and issue a decision regarding the proposal within 45 (calendar) days of receiving the proposal and any additional requested information. Once approved, the modified Pre-RACR RMP will be filed in the public repository (Section 3.4).

The FFA signatories may also propose modifications to the Pre-RACR RMP based on new information that the Pre-RACR RMP must address to remain protective of human health and the environment. If the proposed modifications are not agreed upon between the FFA signatories, in consultation with the SFDPH, within 60 days, the Pre-RACR RMP shall continue in its original form until the FFA signatories come to a consensus on the appropriate modifications and notify the SFDPH of the modifications.

Changes in notification personnel are not considered a modification to the Pre-RACR RMP and do not require FFA signatory approval.

3.4 Public Repository of RMP

A copy of this Pre-RACR RMP and any Pre-RACR RMP modifications will be available at the Hunters Point Shipyard information repositories indicated below, and on the SFDPH Hunters Point Shipyard Redevelopment website (http://www.sfdph.org/dph/EH/HuntersPoint/default.asp). The Hunters Point Shipyard information repositories also contain the documents discussed in Section 2.0 and elsewhere in this Pre-RACR RMP.

San Francisco Main Library
100 Larkin Street
Government Information Center, 5th Floor
San Francisco, California 94102
Phone: 415-557-4500

Anna E. Waden Bayview Library
5075 Third Street
San Francisco, California 94124
Phone: 415-355-5757

Contact information for the FFA signatories is provided in Appendix A. Changes in contact information will be submitted to the SFDPH, which will be responsible for including the updated information on their SFDPH Hunters Point Shipyard Redevelopment website.

4.0 REPORTING AND NOTICE PROTOCOLS

This section describes reporting and notification protocols that shall be followed when the following circumstances arise:

- Annual Reporting of pre-approved restricted activities in accordance with this Pre-RACR RMP
- Upon preparation of a work plan proposing to conduct Restricted Activities Requiring FFA Signatory Approval (Section 3.1.3) and upon receipt of results of performing the work plan
- Upon discovery of previously-unknown environmental issues.

Notifications are the responsibility of the Owner, Lessee, permittee, tenants or any other party with the legal right to perform subsurface work on the property and with knowledge of circumstances. Under the circumstances described in Section 4.4, the SFRA will monitor compliance with notification requirements, and advise Oversight Agencies of noncompliance. The relevant time periods for notifications and associated responsible entities are described below. Other government entities with RMP oversight responsibilities are presented in Table 1.

4.1 Reporting for Pre-Approved Restricted Activities

Each year by June 30, the SFRA shall prepare and submit to the FFA signatories copies of the annual reports summarizing all of the Pre-Approved Restricted activities that have occurred on Owner's property and will identify any areas in the reports that indicate a non-compliance condition occurred within that year. If unknown areas of contamination or changes in the understanding of environmental conditions are discovered during the course of conducting pre-approved activities, Owner shall notify the FFA signatories via the notification process described in Section 4.3 and will follow the procedures presented in the Unknown Condition Response Plan (Appendix G).

4.2 Restricted Activities which require FFA signatory approval

These sections describe notification and reporting requirements for the restricted activities listed in Section 3.1.3.

4.2.1 Notification Prior to Restricted Activities Which Require FFA Signatory Approvals

The Owner shall notify the FFA signatories at least 60 calendar days prior to any plan to conduct Restricted Activities Requiring FFA Signatory Approval listed in Section 3.1.3. Notification shall be in the form of a proposed work plan detailing the specific activities to be conducted and the controls to be implemented to protect human health and the environment. The FFA signatories shall review and either approve or provide comments indicating deficiencies in the work plan within 30 calendar days of receipt of the work plan. The FFA signatories may also request an extension of the review period within no less than 10 days prior to the end of the 30 calendar day time period. The Owner and FFA signatories shall work collaboratively to resolve work plan issues. The FFA signatories shall approve work plans prior to commencement of field activities. Documents will be considered to be final if no comments are received within the 30-day comment period.

4.2.2 Information Required for Proposed Activities Requiring FFA Signatory Approval

When the Owner prepares a notification package to request approval to perform restricted activities requiring FFA signatory approval, the following information should be included:

- A description of the proposed activity or condition that warranted the notification, together with appropriate exhibits to illustrate the location and/or issue that is the subject of the notification
- Work plans, including schedules, prepared to perform activities
- Description of current site conditions.

4.2.3 Completion Reports for Restricted Activities which Required FFA Signatory Approval

Following completion or closure of the activity requiring FFA signatory approval, the Owner shall prepare a completion report for submittal to the FFA signatories. A completion report shall include the following components, as appropriate:

- A description of the activity or condition that warranted the notification, together with appropriate exhibits to illustrate the location and/or issue that is the subject of the notification
- Description of notification protocols followed, including approval from the FFA signatories

- References to work plans prepared to perform activities
- Description of activities performed
- Boring logs/well completion diagrams
- Laboratory analytical reports
- Waste disposal manifests
- Description of final site conditions and/or as-built drawings
- Verification that all activities were conducted in conformance with the requirements of this Pre-RACR RMP (signed by a California licensed Professional Engineer)
- A long-term maintenance and monitoring plan for any permanent facilities
- Other appropriate documentation or components as specified as a condition of undertaking the subject activity and/or required by the FFA signatories.

The Owner shall submit completion reports to the FFA signatories within 45 days of completing the restricted activities requiring FFA signatory approval. Analytical information will be submitted within 30 days of receiving final analytical reports for samples submitted to the laboratory. The FFA signatories will be informed if the submittal date of an individual report must be extended past this time frame. If the submittal date has a regulatory-mandated time line, then FFA signatory approval for the extension must be requested at least 21 calendar days prior to the due date of the submittal and the extension request will not be considered granted unless formally granted in writing. Extension requests will be granted, or may be denied, within 15 calendar days of receipt of the written extension request.

The FFA signatories will review all completion reports to confirm that the actions taken are consistent with the submitted work plan and Pre-RACR RMP procedures and protocols and if applicable, the ROD, AOC and Remedial Design. Within 30 calendar days of completing review of the completion report, the FFA signatories will notify the Owners of any discrepancies or deficiencies in the completion report regarding compliance with this Pre-RACR RMP, and the authors and regulators will work collaboratively to resolve such issues. Draft documents will be subject to a review period of 45 days. Reviewing parties may request an extension of the review period of for up to an additional 45 days from the party submitting

the document. The party submitting the document will have 45 days to revise the document to address the comments received.

Draft final documents will be subject to a review period of 30 days. The FFA signatories may extend the 30 day comment period for an additional 30 days by written notice to the party seeking approval prior to the end of the 30 day period. The party submitting the document will have 45 days to revise the document to address the comments received. The completion notification/report will be considered approved and final unless regulators submit comments or a request for an extension within 30 calendar days from their receipt of the document. Upon request, the Owner shall submit a corrective action work plan to the FFA signatories for review and approval. Upon concluding that the actions taken are consistent with the Pre-RACR RMP, and if applicable Remedial Action Objectives (RAOs) identified in the ROD are attained, the FFA signatories will issue an approval letter for the completion report.

4.3 Notification Requirements for Changes in Understanding of Environmental Conditions or Discovery of Unknowns

In the event that unexpected or previously unknown conditions are encountered in the field that may require remediation or mitigation, the Owner shall notify the FFA signatories as soon as practicable and in accordance with any other legal notification requirements, but no later than three days following the time at which the event became known to the Owner. Additionally, upon discovery of unexpected or previously unknown conditions, the Owner must temporarily halt work and determine: 1) whether the condition constitutes a Navy-Retained condition in accordance with the Early Transfer Cooperative Agreement; and 2)whether an appropriate path forward exists so that work can continue safely and in accordance with applicable regulatory protocol. These determinations will be made in accordance with the EHSP and the Unknown Condition Response Plan (Appendix G) as required under Article 31 of the San Francisco Health Code, and in accordance with any additional characterization deemed warranted. Additional information on the discovery of unknown or unexpected conditions is provided in Section 5.5.

4.4 Annual Inspection Reports

The Navy is ultimately liable for ensuring long-term compliance with the remedy, but upon transfer of property to SFRA, the Navy intends to transfer to SFRA the responsibility to perform certain ongoing compliance obligations. Subject to execution of a cooperative services agreement between the Navy and the SFRA as authorized by Title 10, United States Code, Section 2701(d), and receipt by SFRA of all funds to be paid by the Navy to SFRA in furtherance of the cooperative services agreement, SFRA anticipates that it will assume responsibility for the following Navy obligations: annual monitoring of

RMP compliance activities, annual inspection reporting, annual monitoring of long-term maintenance of the remedy and ensuring annual enforcement of the RMP in the event of non-compliance by Owners, Lessees, permittees, tenants or any other party with the legal right to perform subsurface work on the property. The SFRA will work with the regulatory agencies to confirm compliance with the land use restrictions, RMP protocols and reporting obligations. If the SFRA deems it appropriate, non-compliant Owners, Lessees, permittees, tenants or any other party with the legal right to perform subsurface work on the property will be referred to the SFDPH and the DTSC for additional enforcement activities.

Regardless of other notices, each year by June 30, the SFRA will submit an annual inspection report (Appendix B) that will include:

- Documentation (photos, inspection reports, maps, etc), based on a drive-by inspection of driveable areas of site and a walk around inspection, if needed, of parks/open space, of the current state of the property – location of fences, conditions of fences, location of areas with approved cover remedies, etc.

- Descriptions of areas where current and future pre-approved restricted activities, and restricted activities requiring FFA signatory approval, are planned with projected start and finish dates, if known

- Descriptions of pre-approved restricted activities and restricted activities requiring FFA signatory approval conducted during the previous year

- Descriptions of any previously unknown conditions and related response activities

- Description of any non-compliance conditions that arose during the year and how they were resolved, if known

The SFRA will submit an annual inspection report to the FFA signatories. The submittal will include a brief summary letter documenting the number of property owners and condition of their property, any problems noted in the annual inspection reports, and follow-up action taken on any noted problems. An annual inspection report is provided in Appendix B.

4.5 Notification of Owners and Lessees

By the terms of restrictions in the recorded deeds and CRUPs and by this RMP, Owners shall provide a copy of the Pre-RACR RMP to lessees, permittees, tenants, future transferees or any other party with the legal right to perform subsurface work on the property.

5.0 RISK MANAGEMENT PROCEDURES AND PROTOCOLS DURING PRE-COVER ACTIVITIES

This section describes risk management measures that will be implemented during redevelopment where performance of one or more of the Restricted Activities described in Section 1.0 subject to Sections 3.1.2 and 3.1.3 are conducted. The purpose of this section is to describe the appropriate risk management measures that will be implemented to control potential impacts to human health and the environment associated with potential exposure to COCs that might be present in soil, soil vapor and/or groundwater encountered during pre-cover activities, within Parcels B and G.

Development activities in Parcels B and G are likely to include various site preparation activities, including, but not limited to, demolition, excavation, stockpiling, trenching, grading, backfilling and temporary construction dewatering that have the potential to disturb soil and groundwater within the parcels.

5.1 Construction Worker Health and Safety

Construction and maintenance contractors, whose workers may contact potentially contaminated soil, soil vapor, or groundwater within the Pre-RACR RMP Area, are required to prepare site-specific EHSPs under the direction of a Certified Industrial Hygienist (CIH) and in a manner consistent with applicable occupational health and safety standards, including, but not limited to OSHA 1910.120. The contractor-specific EHSPs will be maintained by the contractor at the site.

An EHSP is required for contractors engaged in any Restricted Activity-related work, including those listed in Section 5.0, that would extend below the ground surface, except for grading in landscape areas that when completed, will contain a minimum of 2 feet of clean fill. Landscaped areas will be comprised of a minimum of 2 feet of clean fill (soil cover) on top of native soil. Nothing in this section is intended to relieve any person, including contractors or employers, of other mandated worker health and safety planning and training requirements under any federal, state or local statute or regulations.

It is the responsibility of the contractor preparing their EHSP to review information available in the Hunters Point Shipyard information repositories (see Section 3.4) regarding site conditions and potential health and safety concerns. It is also the responsibility of the contractor or other person preparing an EHSP to verify that the components of the EHSP are consistent with applicable Cal/OSHA occupational health and safety standards and currently available toxicological information for potential COCs at the work site. Contractor compliance with the Pre-RACR RMP obligations will be specified in the contract

documentation for the contractors who will be doing subsurface work. Each contractor must require its employees who may directly contact potentially contaminated site soil or groundwater to perform all activities in accordance with the contractor's EHSP. Each construction contractor will assure that its onsite construction workers will have the appropriate level of health and safety training, site-specific training, and will use the appropriate level of personal protective equipment as determined in the relevant EHSP based upon the evaluated job hazards and monitoring results. An example copy of the EHSP outline is included in Appendix C.

5.2 Soil Management Protocols

Native soil within the boundaries of Parcels B and G, but outside the areas defined in Section 3.1.3 may be moved within or between those parcels and soil from Parcel A may be moved from Parcel A onto Parcels B and G, without prior FFA signatory approval if and only if such soil will be placed underneath the required durable cover in Parcels B and G. For activities requiring FFA signatory approval defined in Section 3.1.3, soil reuse must be addressed, as necessary, as part of the submitted work plan. In the event that placement underneath the required durable cover is not accomplished immediately upon removal, such soil is to be stockpiled within Parcels B or G, with adequate protection, as further described in Section 5.3. Soil re-use criteria are discussed in greater detail in Section 5.2.1.

5.2.1 Movement of Soil

Native soil may be handled and moved from one portion of Parcel B and Parcel G to another location within each and between each Parcel and soil from Parcel A may be moved from Parcel A onto Parcels B and G, managed and reused without need for sampling, provided that reuse is conducted in accordance with the soil management practices described in this Pre-RACR RMP and that no unexpected conditions are encountered. Unexpected conditions would include the discovery of any contamination or subsurface object that was not previously identified on the parcel (i.e., current understanding of environmental conditions). Unexpected conditions and the protocols to follow if they are encountered are described in Section 5.5.

Native soil that is excavated and remains within Parcels B and G and any soil moved from Parcel A to Parcels B and G, must ultimately be covered by a durable cover, such as buildings or other hardscape such as streets, sidewalks, parking lots, and roads or by clean fill and landscaping in accordance with the durable cover requirements specified in the Parcel B ROD Amendment and the Parcel G ROD.

Trucks used to transport solid bulk material that have the potential to cause visible dust emissions will be loaded in a manner to provide at least 1 foot of freeboard. When transported within HPS, the soil will be either covered with a tarp or the materials will be sufficiently wetted. Unpaved haul routes will be wetted and trucks will not exceed speeds of 15 miles per hour. Potential impacts from dust associated with the handling and movement of soil, soil compaction, soil stockpiling, etc., will be addressed through the implementation of the Dust Control Plan, included in Appendix D.

5.2.2 Soil Stockpile Management Protocols

Stockpile management is addressed in the Dust Control Plan; however, several highlights on stockpile management are included here because stockpiles that are not properly maintained have the potential to generate sediment run-off and dust. Stockpiles shall be maintained within the site access controls of the project boundary. If stockpiles must be placed outside of the parcel boundary (assuming permission is first obtained from the Oversight Agencies), then separate fencing and access control for such stockpiles will be required. Stockpiles must be tarped, wetted, sloped, or controlled via appropriate means and methods as specified in the Dust Control Plan (Appendix D). Best management practices (BMPs) for erosion and sediment control will be implemented, as necessary, during construction activities. BMPs may include diversion of drainage from the stockpiles, installation of silt fencing/straw bale filter barriers on the downgradient toe of the stockpile slope and dust control. Stockpiles will be inspected at least weekly to ensure dust control and runoff control measures are functioning adequately.

5.3 Dust Control Plan

A Dust Control Plan (DCP) identifies the measures that will be taken to reduce particulate emissions during demolition of existing structures, grading, soil handling and stockpiling, vehicle loading, utility work, truck traffic and construction of site infrastructure. The DCP has been prepared in accordance with the requirements in Article 31 of the San Francisco Health Code and certain Bay Area Air Quality Management District (BAAQMD) regulations often applicable to redevelopment activities. Exposure of onsite construction workers to dust containing COCs will be minimized, and generation of nuisance dust will also be minimized to comply with Article 22B of the San Francisco Health Code and SFDPH requirements prohibiting visible dust on San Francisco construction sites. The DCP is attached as Appendix D.

General dust control measures that may be used at the site include, but are not limited to, watering unpaved haul routes, restricting vehicle speeds to 15 miles per hour, wetting and/or tarping stockpiles, wetting down excavation areas, reducing the height from which excavated soil is dropped, use of dust

palliatives in inactive disturbed areas, implementation of erosion control measures, construction of gravel access pads in the temporary stockpile locations, installation of gravel pads or wheel wash stations at all egress points to prevent tracking of soil onto paved roads, and periodic sweeping of paved roads within the construction site with wet sweepers.

During windy conditions the use of wind breaks may be employed to control fugitive dust emissions. Under periods of sustained strong wind conditions (hourly average wind speeds of 25 miles per hour or greater), all clearing, grading, earthmoving and excavating will be halted.

Naturally occurring asbestos (NOA) has been found in the serpentine bedrock and soil throughout the Hunters Point area. Large construction projects occurring within these areas are subject to the California Air Resources Board Airborne Toxic Control Measures (ATCM). For projects where surface soil will be disturbed in an area of one acre or larger, an Asbestos Dust Mitigation Plan (ADMP) will be submitted to and approved by the BAAQMD, as required. For projects less than one acre, an evaluation will be performed to determine whether an ATCM-compliant asbestos dust mitigation plan is required prior to initiation of potential dust generating activities.

5.4 Offsite Disposal of Soil and Wastes

Soil excavations will be required during construction of utility trenches, building foundations and other facilities. It is likely that excavated soil will be reused within the RMP area for grading activities. As a result, offsite soil disposal should be limited. Any offsite soil disposal is subject to all applicable federal and state laws and regulations. All activities associated with waste disposal, such as truck loading, truck traffic and decontamination of trucks leaving the facility will be performed in accordance with the DCP provided in Appendix D (and summarized below) and any other applicable federal or state law or regulation.

As detailed in the DCP, any trucks used to transport solid bulk material that have the potential to cause visible emissions will be provided with a tarp cover, or the materials will be sufficiently wetted and loaded onto the trucks in a manner to provide at least 1 foot of freeboard. Trucks loaded with loose soil or sand will be covered before they leave HPS.

Vehicles will be inspected to ensure that they are tarped and to remove any excess material on the bumpers, fenders or other exterior surfaces of the cargo compartment where soil could collect. All off-site haul trucks will access the sites via paved access roads. Every off-site haul truck will proceed through the decontamination gravel pad/tire cleaning area prior to departure. Site personnel will be

stationed at the access/egress point to monitor inflow/outflow to and from the site. They will be responsible for inspecting all vehicles exiting and performing any necessary cleaning to help prevent track out.

The contractor is responsible for characterization of any waste prior to transportation and offsite disposal. Characterization for disposal shall be in accordance with the requirements of Title 22 of the California Code of Regulations, Division 4.5, Chapter 11 and the requirements of the disposal facility and any other applicable law. Labeling requirements for transportation of waste shall additionally be in accordance with Title 29 of the Code of Federal Regulations, Parts 172 and 173 and any other applicable law. All waste transported for offsite disposal will be subject to the requirements of the AOC.

All soil to be disposed will be taken only to a certified and permitted California landfill or an equivalent out-of-state landfill, as appropriate and as determined by the waste profile.

5.5 Unexpected Conditions

The potential exists for encountering unexpected conditions within Parcels B and G. Unexpected conditions may include unanticipated soil contamination, abrasive blast material (ABM), subsurface structures, buried pipelines, radiological devices or other visual or olfactory evidence of contamination. As part of the site-specific health and safety training that will be required of equipment operators and site workers, instruction will be given on how to identify potential unexpected conditions.

Additionally, upon discovery of unexpected or previously unknown conditions, the Owner must temporarily halt work and determine: 1) whether the condition constitutes a Navy-Retained condition in accordance with the Early Transfer Cooperative Agreement; and 2) whether an appropriate path forward exists so that work can continue safely and in accordance with applicable regulatory protocol. These determinations will be made in accordance with the EHSP and the Unknown Condition Response Plan (Appendix G) as required under Article 31 of the San Francisco Health Code, unless additional characterization is deemed warranted.

In accordance with the site-specific EHSP, appropriate measures will be undertaken to ensure worker safety in areas where unexpected conditions are encountered. The SSHO will be responsible for evaluating any change in site conditions. The SSHO may stop work to determine if the level of site security and personnel protective equipment is adequate. Additional measures may include conducting contingency monitoring by taking organic vapor readings using an organic vapor monitor (OVM) or an organic vapor analyzer (OVA). If warranted the area in which unexpected conditions were encountered

will be secured with barricades or fencing, as appropriate, and signage to prevent unauthorized access to the area.

5.5.1 Olfactory or Visual Evidence of Contamination

Site development activities may result in the identification of previously unidentified areas or types of contamination. Olfactory or visual evidence of contamination which would trigger the use of the Unknown Condition Response Plan as discussed in Section 4.3 include, but are not limited to:

- Oily, shiny or soil saturated with free product
- Soil with a significant chemical or hydrocarbon-like odor
- Significantly stained or colored soil that reasonably indicates a contaminant source
- Groundwater odor, sheen or free-phase globules, or
- Any other indication that contamination may exist that would trigger notification protocols.

5.5.2 Abrasive Blast Material (ABM)

ABM is generally a non-cohesive, granular material and typically may have a characteristic green or black color. Granulated ABM made by all manufacturers is chemically inert; therefore it does not have hazardous waste characteristics of flammability, corrosivity, or reactivity. Due to the use of ABM on ships with lead-based paint, elevated levels of lead and other metals may be found in used ABM.

Historically, silica sands were commonly used as ABM, though current practices limit their use due to safety concerns related to silica dust. Other common ABMs used at Naval facilities include Green Diamond®, a ferro-nickel slag produced as a byproduct of nickel production from lateritic ore, and Black Beauty®, a coal slag abrasive. Coal slag sometimes contains low levels of naturally-occurring radionuclides (radium and its daughter products), which may be concentrated during the ABM manufacturing process, resulting in ABM with low, levels of radioactivity as compared to background. Anecdotal evidence suggests that ABM may have been used at HPS as bedding aggregate or backfill material (e.g., for pipelines, former fill areas, roadways and driveways).

As part of the site-specific health and safety training that will be required of equipment operators and site workers, instruction will be given on how to identify potential ABM. Because storm and sewer drains were removed by the Navy from the RMP Area and these drains are the most likely areas in which ABM

may have been placed there are no other areas which can be considered more likely than others to contain ABM. As a result, screening for ABM will initially rely on visual identification.

If ABM is found, it will be screened for the presence of radionuclides and metals. If radionuclides above the remedial goals are detected the ABM will be handled appropriately by the Navy, as a Navy-retained condition, otherwise all ABM identified will be dealt with by the Owner. If the ABM contains levels of radionuclides or metals that are above the remedial goals set forth in the Parcel B ROD amendment and the Parcel G ROD, the ABM will be handled as per the Unknown Condition Response Plan, will be disposed off site and will be subject to the requirements of applicable federal, state, and local laws.

5.5.3 Subsurface Structures

During the course of excavation and construction activities within Parcel B or G, it is possible that USTs, sumps, barrels, drums or other containers or other underground structures that were not discovered during previous site investigations could be discovered. For example, USTs may be identified during grading and site excavation activities by the presence of vent pipes, product distribution piping that leads to the UST, fill pipes, backfill materials and the UST itself. Other structures might not have any features that extend above the surface and could be unearthed when construction equipment comes into contact with them. If an unexpected subsurface structure is encountered, notification and health and safety procedures will be invoked as discussed in Sections 4.0 and 5.5 and work will proceed in accordance with the Unknown Contaminant Contingency Plan as required under Article 31 of the San Francisco Health Code.

Excavation activities will be visually monitored for the generation of fugitive dust. Controlling dust in excavation areas will include wetting soil prior to and during excavation, adjusting the height from which excavated soil is dropped, wetting and/or tarping backfill material and stockpiles, use of dust palliatives on disturbed areas, and using gravel pads in loading areas to reduce the potential for soil track-out.

5.5.4 Soil Import Criteria

All soil imported onto Parcels B and G from areas outside HPS, with the exception of soil imported from Parcel A, will be subject to sampling and soil quality controls established in a Soil Importation Plan (SIP). Soil moved from Parcel A onto Parcels B and G must be placed underneath the required durable cover. Soil quality parameters for imported soil are based on the Parcel B and G remediation goals presented in the Amended Parcel B ROD and the Parcel G ROD. Soil import criteria will meet the most recent California Human Health Screening Levels (CHHSLs) for residential soils. The SIP outline is included

as Appendix E. Soil that meets CHHSLs or background levels and is approved for import under a SIP will be suitable for use as a durable cover as long as it meets all RD and RAWP requirements.

5.6 Groundwater Management Protocols

As described in Section 2.2, localized areas of groundwater contamination have been identified within the Pre-RACR RMP area. Potential risks to construction workers associated with the contaminants in groundwater were evaluated in the TMSRA, but were based on data generated prior to the implementation of groundwater remedies presented in the Parcel B Amended ROD and the Parcel G ROD. The most recent groundwater monitoring data (*CE2-Kleinfelder, 2010*) will be evaluated by the Owner or their designee, prior to the initiation of construction or maintenance activities in the context of the EHSP to identify areas where groundwater contamination may be present and to determine the appropriate protective measures to address worker safety and prevent the movement of any residual groundwater contamination.

This section describes protocols to follow during performance of the Restricted Activities (pre-approved and those requiring FFA signatory approval) as described in Sections 3.1.2 and 3.1.3 in order to minimize worker exposure to contaminated groundwater and to minimize the potential for affecting contaminated groundwater. All activities discussed below will require notification and completion reporting in accordance with the protocols described in Section 4.0.

5.6.1 Temporary Dewatering Activities

Current development plans for Parcel B and G include utility trenches and below grade parking lots to support the residential and commercial development. Due to the depth of these proposed excavations, temporary construction dewatering may be necessary. A plan to manage the groundwater during construction activities (Groundwater Management Plan [GMP]) will be submitted to the Oversight Agencies for review and approval. A Groundwater Management Plan (GMP) outline is provided in Appendix F.

If it is determined via the procedure outlined in the GMP that construction necessitates the use of temporary dewatering, and the dewatering activities may occur in or around an area of known groundwater contamination, the regulatory agencies will be notified in accordance with Section 3.1.3. With that notification, a work plan discussing the dewatering scope and activities will be submitted for Oversight Agency review and approval. As a general guide, the following risk management protocols will be included in the work plan:

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

- Review of available groundwater monitoring data to evaluate groundwater quality in the vicinity of the planned dewatering activities.

- Based on the location of the proposed dewatering, a Professional Engineer or Geologist licensed in the State of California will evaluate whether the volume of water that would need to be removed would result in the enlargement of an existing groundwater plume or significant alterations in the groundwater flow patterns.

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

- If, based on the results of analysis, dewatering may result in enlargement of an existing groundwater plume, or result in significant alterations to groundwater flow in the vicinity of a plume, other engineering techniques will be proposed to minimize the impacts to the known plume configuration. The proposed engineering technique(s) will depend on the construction specifications and other site-specific factors, and will be determined by the Owner or Lessee's State of California, licensed Professional Engineer or Geologist on a site-by-site basis.

- Water removed during dewatering activities will be sampled and tested for profiling and the water disposed of in accordance with applicable permits and regulations. Disposal options may include pre-treatment and discharge into the City's sewer system under a San Francisco Public Utilities Commission (SFPUC) batch wastewater discharge permit. Compliance with provisions of any discharge permit is the responsibility of the Owner or Lessee (or other entity designated by the Owner or Lessee). The results of the analysis, plans for dewatering and disposition of accumulated groundwater will be contained in the notification to the entities listed in Section 4.0.

5.6.2 Prevention of the Potential for Creation of ConduitsAs much as practicable, installation of subsurface utilities in areas of known groundwater contamination will be avoided. Prior to subsurface utility trench installation, existing groundwater monitoring data will be evaluated by a Professional Engineer or Geologist licensed in the State of California to identify areas where contaminant plumes

remain at the site. As described in Section 5.6.1 a GMP will be approved prior the start of construction activities. The GMP will be used to mitigate the movement of potentially contaminated groundwater via subsurface utility trenches.

If the trenches extend into the vicinity of known groundwater contaminant plumes, the FFA signatories will be notified as described in Section 4.0. The presence of such trenches may create a horizontal conduit for groundwater and soil vapor flow and migration of COCs. Some of the management measures that may be implemented to minimize the potential for creating horizontal conduits are described below. The appropriate method for managing the groundwater and soil vapor will be determined by a Professional Engineer or Geologist licensed in the State of California and will be approved in advance by the FFA signatories.

Groundwater

Material that is less permeable than the surrounding soil can be placed at 200-foot intervals through a variety of methods. At a minimum, less permeable material can be placed in the utility trench at the edges of the area of known groundwater contamination to disrupt the flow within the trench backfill. One method during initial trench backfilling is the construction of a short section backfilled with a concrete or cement and bentonite mixture. Another method is the installation of a clay plug by compacting the clay around the circumference of the pipe for a five-foot section of trench. A third method is the installation of barrier collars (cutoff features) around the pipes by forming and pouring concrete in place. Trench plug locations will be selected to mitigate lateral migration of impacted groundwater.

Soil Vapor

To minimize potential migration of soil vapor from utility conduits, currently available engineering controls may be used including sealing the end of utility conduits with inert gas-impermeable material such as closed cell polyurethane foam. The seals will extend into the conduit a minimum of six conduit diameters or six inches, whichever is greater.

5.6.3 Prevention of the Potential for Groundwater Intrusion

For new subsurface utilities placed in the areas of known groundwater contamination described in Section 2.2, or newly discovered areas of groundwater contamination, the pipe joints of non-pressurized

utilities (e.g., sanitary sewer, storm drain) will be adequately sealed to prevent COCs in groundwater from entering the buried piping, and all materials will be selected to ensure the integrity of the piping when in contact with known contaminants.

5.7 Stormwater Management Controls

A construction Storm Water Pollution Prevention Plan (SWPPP) will be required prior to the start of construction activities. The SWPPP will provide the framework for contractors performing work at the site. The Construction SWPPP must conform to the requirements of the California State Water Resources Control Board (SWRCB) National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS00002, Water Discharge Requirements (WDRS) for Discharges of Stormwater Runoff Associated with Construction Activity. As required, a Notice of Intent (NOI) shall be filed with SWRCB prior to commencement of regulated construction work. Compliance with the SWPPP will be maintained throughout the duration of the construction work. The SWPPP will be prepared by a Qualified SWPPP Developer (QSD) per Section VII of the 2009-0009-DWQ Permit (http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/stormwater/construction.shtml).

5.8 Groundwater Monitoring Well Protocols

Monitoring wells associated with the groundwater monitoring programs are present within Parcels B and G and additional wells associated with remedial activity monitoring may be installed. Prior to the initiation of any demolition or earth-disturbing activities, the presence of groundwater monitoring wells will be identified. A map showing the locations of monitoring wells within Parcels B and G may be found in the Hunters Point Shipyard information repositories (Section 3.4) and on the SFDPH Hunters Point Shipyard Redevelopment website. Locations of additional wells to be installed as part of remedial alternatives can be found on the SFDPH Hunters Point Shipyard Redevelopment website within Remedial Design Implementation Reports within the Hunters Point information repositories. Current monitoring wells located in Parcels B and G are presented on Figures 2 and 3.

Any abandonment, unintentional damage to or replacement of groundwater monitoring wells will require adherence to the notification protocols as described in Section 4.0. As discussed in Section 4.2.1, a work plan must be submitted for FFA signatory review and approval. Only the FFA signatories can decide that a well that was installed as a part of the groundwater remedy is no longer needed or can be relocated. Assuming that regulatory approval for the work is obtained, any well that is part of a remedial action that is damaged or abandoned during construction must be replaced within sixty calendar days unless the FFA signatories grant an extension.

As discussed in the AOC, the Owner is also responsible for providing access for the FFA signatories to the monitoring wells for the purposes of sampling and maintenance. Thus, regulatory approval must be obtained prior to any action that will bar access to a monitoring well for a period greater than seven calendar days.

The following sections describe the protocols to follow to protect existing groundwater monitoring wells, in the event of abandonment or replacement of groundwater monitoring wells.

5.8.1 Abandonment of Existing Monitoring Wells

Prior to the abandonment of groundwater monitoring wells, approval will be obtained as required in Section 3.1.3 and the appropriate entities, as described in Section 4.0, will be notified, and if requested, replacement well locations will be selected in coordination with the FFA signatories. If an existing groundwater monitoring well cannot be preserved, the well will be abandoned in accordance with applicable State and SFDPH regulations. The Owner, Lessee, permittee, tenants or any other party with the legal right to perform subsurface work on the property is responsible for obtaining all appropriate permits and approvals.

Following abandonment of groundwater monitoring wells, a completion report will be prepared describing the abandonment procedures and submitted to the FFA signatories as described in Section 4.5. The report will include:

- The well location
- Photographic documentation of the abandonment
- A description of the well destruction activities, including rationale for abandonment; and
- All associated permits and waste disposal manifests, if necessary
- Department of Water Resources (DWR) well completion and abandonment reports.

5.8.2 Replacement of Monitoring Wells

Any required replacements of abandoned monitoring wells, which are part of an ongoing groundwater monitoring network, will be re-installed within sixty days of the prior well's abandonment date unless the regulatory agencies grant an extension. Replacement wells will be located as close as possible and constructed in the same manner as the original well, and will monitor, to the extent possible, the same

groundwater zone as the original well. The Owner, Lessee, permittee, tenants or any other party with the legal right to perform subsurface work on the property, is responsible for obtaining all appropriate permits and approvals.

Prior to the replacement of an abandoned well, a work plan will be submitted to the FFA signatories as described in Section 4.0 and approval will be obtained as required in Section 3.1.3. The work plan will include soil management protocols, sampling and analysis requirements for waste profiling, monitoring procedures, health and safety requirements, the boring log of the original well (obtained from the Hunters Point Shipyard information repositories), proposed well construction details, and will describe procedures to be followed during installation of the replacement well. The location of the replacement well must be approved by the FFA signatories.

Following installation of the replacement well(s), a monitoring well installation completion report will be submitted to the appropriate entities. The report will include, among other things:

- Well location
- Identification of driller and drilling procedures
- DWR Well Completion Report
- Decontamination procedures
- Well installation procedures
- Lithologic log
- Well development procedures
- Horizontal location coordinates and vertical elevation of top of well casing
- Well completion details (depth, screen interval, materials used, surface completion, etc.)
- Initial water level measurement
- Well sampling, if necessary
- Permitting information; and

- Disposition of installation-derived wastes.

The report shall be signed by a Professional Engineer or Geologist licensed in the State of California.

5.8.3 Measures to Protect Monitoring Wells

Existing monitoring wells that are not removed prior to earthwork will be located, marked and protected by the Owner, or other contractors or entities designated by the Owner. All monitoring wells will be addressed in this manner before starting construction within Parcels B and G. Monitoring wells will be marked with brightly colored painted steel pipes or bollards. The markers will extend above ground not less than 4 feet so as to be easily visible. All wells will be kept locked.

5.9 Access Control During Redevelopment Activities

Access to the site during construction activities will be limited to authorized personnel in compliance with EHSP requirements (Section 5.1).

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

- Except in streets, security fencing will be placed around any site without a regulatory agency approved durable cover to prevent pedestrian/vehicular entry except at controlled (gated) points. Gates will be closed and locked during non-construction hours. Fencing will consist of a 6-foot chain link or equivalent fence unless particular safety considerations warrant the use of a higher fence.

- In streets, use a combination of K-rails or similar barriers and fences with locked gates

- Post “No Trespassing” signs every 200 feet

- Post signs every 200 feet warning that contamination within the fenced areas may be harmful to health.

Implementation of appropriate site-specific measures as outlined above will reduce the potential for trespassers or visitors to gain access to construction areas and to come into direct contact with soil or groundwater. Compliance with the specific access control measures is the responsibility of the Owners, Lessees, permittees, tenants or any other party with the legal right to perform subsurface work on the

property. As described in Section 1.3, the SFRA will assume the responsibility for compliance monitoring. If the Navy does not transfer the property to SFRA and enter into a cooperative services agreement with the SFRA as specified, the above obligations will be the responsibility of each future property owner and ultimately the Navy.

5.10 Risk Management Measures to be Implemented During Construction or Excavation Activities in Areas of Special Concern

This section describes risk management measures to be followed in areas of special concern. These areas include shoreline areas and Bay sediments outside the Pre-RACR RMP area.

5.10.1 Shoreline Improvements

Development activities at Parcel B may include installation or improvements to revetment walls, rip rap, sheet piles, or bulkheads at the bay margin. Work performed in these areas may be required to conform to the durable cover and/or revetment wall designs described in the RD/RA Report depending on how and where the structure is being improved or installed. All appropriate Navy documents must be consulted to determine the applicable requirements.

5.10.2 Sediments Outside of Pre-RACR RMP Area

Bay sediments, referred to as Parcel F, are outside the scope of this Pre-RACR RMP; however, disturbance of these sediments may occur during such activities as outfall construction and shoreline improvements. Work that carries over into Parcel F will be subject to the requirements of the AOC. All work performed in these areas must be planned and coordinated with the Navy (prior to transfer of Parcel F), California State Lands Commission, or other appropriate agencies (U.S Army Corps of Engineers [USACE], U.S. Fish and Wildlife Service [USFWS], San Francisco Bay Conservation and Development Commission [BCDC], RWQCB, DTSC and USEPA). In addition to coordinating with the agencies listed above, a work plan must be submitted to the FFA signatories for review and approval sixty calendar days prior to conducting any work on Parcel F.

The FFA signatories must be contacted during the planning phase of work to obtain information concerning the nature of the sediments to be disturbed, potential activities being performed in these areas by others, and requirements for work plans and other specific requirements. Contact information for these entities can be found in Appendix A.

6.0 REFERENCES

CE2-Kleinfelder, 2010. *Semiannual Groundwater Monitoring Report, October 2009 – March 2010, Hunters Point Shipyard, San Francisco, California*. June.

ChaduxTt, A Joint Venture of St. George Chadux Corp. and Tetra Tech EM Inc., (ChaduxTt), 2007. *Final Parcel B Technical Memorandum in Support of a Record of Decision Amendment, Hunters Point Shipyard, San Francisco, California*. December 12.

_____, 2009. *Final Amended Parcel B Record of Decision, Hunters Point Shipyard, San Francisco, California.* January 14.

_____, 2010a. *Final Remedial Design Package, Installation Restoration Sites 7 and 18, Parcel B, Design Basis Report, Remedial Action Monitoring Plan, Land Use Control Remedial Design, Preconstruction Operation and Maintenance Plan, Preconstruction Cost Opinion, Hunters Point Shipyard, San Francisco, California.* January 8.Department of the Navy (Navy), 2009. *Final Record of Decision for Parcel G, Hunters Point Shipyard, San Francisco, California*. February 18.

_____, 2010b. *Draft Finding of Suitability for Early Transfer of Parcels B (Excluding Installation Restorartion Sites 7 and 18) and Parcel G, Hunters Point Naval Shipyard, San Francisco, California.* December 10.

Innovative Technical Solutions, Inc. (ITSI), 2010. *Final Addendum to Project Work Plan, Petroleum Hydrocarbon Corrective Action Implementation Parcel B, Hunters Point Shipyard, San Francisco, California.* October.

Insight EEC, INC. (Insight), 2009. *Final Hunters Point Shipyard Parcel B, IR-26 Time Critical Removal Action, Removal Action Closeout Report, Hunters Point Shipyard, San Francisco, California.* January.

Jonas & Associates, Inc., 2008 (Jonas). *Second Five-Year Review of Remedial Actions, Hunters Point Shipyard, San Francisco, California*. September 8.

PRC, 1996. *Parcel B Feasibility Study, Final Report, Hunters Point Shipyard, San Francisco, California*. November 26.

PRC, Harding Lawson Associates, Levine-Fricke, and Uribe & Associates (PRC et al). 1996. *Parcel B remedial Investigation, Draft Final Report, Hunters Point Shipyard, San Francisco, California*. June 3.

Sealaska Environmental Services, LLC (Sealaska), 2010. Draft Work Plan For Soil Vapor Intrusion Survey, Parcels B, D-1, G and UC-2, *Hunters Point Shipyard, San Francisco, California*. July.

SulTech, A Joint Venture of Sullivan Consulting Group and Tetra Tech EM Inc., (SulTech), 2007. *Final Revised Feasibility Study for Parcel D, Hunters Point Shipyard, San Francisco, California.* November 30.

Tetra Tech, 1997a. *Final Parcel D RI Report, Hunters Point Shipyard, San Francisco, California*. January 31.

_____, 1997b. *Final Parcel D FS, Hunters Point Shipyard, San Francisco, California*. August 29.

_____, 2001. *Final Remedial Design Amendment, Parcel B, Hunters Point Shipyard, San Francisco, California.* February 20.

Tetra Tech EC, Inc (TtEC), 2008. *Final Parcel B Technical Memorandum in Support of a Record of Decision Amendment Radiological Addendum, Hunter Point Shipyard, San Francisco, California.* Marcy 14.

The Alliance Compliance Group Joint Venture (Alliance), 2010. *Draft Final Parcels D-1 and G Groundwater Treatability Study Technical Report, IR-09, IR-33 and IR-71, Hunters Point Shipyard, San Francisco, CA*. January.

TABLES

Table 1. Risk Management Plan Oversight Responsibilities

RMP Element	Responsible Oversight Agency	Additional Comments
Construction Worker Health and Safety	California Occupational Health and Safety Administration (Cal-OSHA)	
Dust Control	San Francisco Department of Public Health (SFDPH)	
Asbestos Dust Mitigation Plans	Bay Area Air Quality Management District	
Storm Water and Groundwater Management	Regional Water Quality Control Board	
Groundwater Discharges to Sanitary Sewer	SF Public Utilities Commission (SFPUC)	
Permits to engage in subsurface work	SFDBI or SFDPW	Subject to the requirements of Article 31 of the Health Code

FIGURES

APPENDIX A

CONTACT INFORMATION

APPENDIX A
Contact Information

FAA Signatory Points of Contact

DTSC
Mr. Ryan Miya
Project Manager
Department of Toxic Substances Control
700 Heinz Avenue, Suite 200
Berkeley, CA 94710
Phone: 510-540-3775
Email: RMiya@dtsc.ca.gov

RWQCB
Mr. Ross Steenson
Project Manager
San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612
Phone: 510-622-2445
Email: rsteenson@waterboards.ca.gov

U.S. EPA
Mr. Mark Ripperda
Project Manager
U.S. Environmental Protection Agency, Region 9
75 Hawthorne Street
San Francisco, CA 94105
Phone: 415-972-3028
Email: Ripperda.Mark@epa.gov

U.S. Navy
Mr. Keith Forman
BRAC Environmental Coordinator
BRAC Program Management Office West
1455 Frazee Road, Suite 900
San Diego, CA 92108-4310
Phone: 619-532-0913
Email: keith.s.forman@navy.mil

Other Points of Contact

San Francisco City and County Department of Public Health
Ms. Amy Brownell
Environmental Engineer
1390 Market Street, Suite 210
San Francisco, CA 94102
Phone: 415-252-3800

California State Lands Commission
100 Howe Avenue, Suite 100 South
Sacramento, CA 95825
Phone: 916-574-1900

U.S. Army Corps of Engineers
1455 Market Street
San Francisco, CA 94103
Phone: 415-503-6773

U.S. Fish and Wildlife Service
2800 Cottage Way
Sacramento, CA 95825
Phone: 916-414-6464

San Francisco Bay Conservation and Development Commission
50 California Street, Suite 2600
San Francisco, CA 94111
Phone: 415-352-3600

San Francisco Main Library
100 Larkin Street
Government Information Center, 5th Floor
San Francisco, CA 94102
Phone: 415-557-4500

APPENDIX B

ANNUAL INSPECTION REPORT

PRE-RACR RISK MANAGEMENT PLAN (RMP)
ANNUAL REPORT
FOR
PARCELS B and G, HUNTERS POINT SHIPYARD
SAN FRANCISCO, CALIFORNIA

Property Owner:	Owner Contact Information:
Annual Report Preparer and Affiliation:	Preparer Contact Information:
Property Address:	
Date and Time of Inspection:	Weather and tidal conditions at time of inspection:

INTRODUCTION:

In accordance with the final Records of Decision (RODs) for Parcels B and G at the former Hunters Point Shipyard (HPS) in San Francisco, California, environmental cleanup activities are being implemented to provide for protection of human health and the environment. The cleanup activities are overseen by the United States Environmental Protection Agency (USEPA), the California Department of Toxic Substances Control (DTSC) and the Regional Water Quality Control Board (RWQCB). These agencies plus the Navy, as the previous landowner and CERCLA responsible party, are referred to as the Federal Facility Agreement (FFA) signatories. The FFA is an agreement entered into by the agencies to carry out the remediation of HPS. This Pre-Remedial Action Completion Report Risk Management Plan (hereafter referred to as the Pre-RACR RMP) has been prepared for Parcels B and G to provide procedures and protocols that shall be used to conduct "pre-approved restricted activities" on Parcels B and G during the period between the transfer of property from the Navy to other landowners and the time the FFA signatories approve the RACR demonstrating that the remedial activities called for in the ROD have been completed.

This Annual Report form has been designed such that the annual reporting obligations of the Pre-RACR RMP can be comprehensively addressed and property conditions documented. The objectives of the annual report are to provide the necessary information to verify that field activities and related risk management measures that have been conducted during the reporting period meet the requirements of the Pre-RACR RMP. The Annual Report should include field notes and photographs taken at the time of the inspection to document the condition of the site at the time of the inspection.

As outlined in the RMPs, certain activities are allowed to progress without first gaining approval of the FFA Signatories (defined as the USEPA, DTSC, RWQCB and US Navy). These activities are called ***Pre-Approved Activities*** and are discussed in more detail in Section 3.1.2 of the Pre-RACR RMP. Certain other activities are NOT allowed to progress without first gaining the approval of the FFA Signatories. These activities are called ***Restricted Activities Requiring FFA Signatory Approval*** and are discussed in more detail in Section 3.1.3 of the Pre-RACR RMP. Notification and Reporting requirements are discussed in Section 4.0 of the Pre-RACR RMP.

This Annual Report is organized into three Sections. Section 1 provides documentation for Pre-Approved Activities and Section 2 provides documentation results for Restricted Activities Requiring FFA Signatory Approval. If Restricted Activities Requiring FFA Signatory Approval were

conducted during the reporting period, the approved Work Plan and corresponding Closure Report must be submitted as attachments to the Annual Report. Section 3 provides a summary of action items that are planned and must be completed to remain in compliance with the Pre-RACR RMP.

SECTION 1: PRE-APPROVED ACTIVITIES

SECTION 1A: ACTIVITY DESCRIPTION

Indicate which pre-approved activities have been completed during the reporting period (See Pre-RACR RMP Section 3.1.2):	☐ Soil excavation, grading and movement of soil within Parcels B and G or moving soil from Parcel A onto Parcels B and G. Transportation offsite	Description of activity (attach photographs and additional sheets as necessary):
	☐ Construction of roads, utilities, facilities, structures, and appurtenances of any kind	Description of activity (attach photographs and additional sheets as necessary):
	☐ Demolition and/or removal of hardscape (e.g., existing concrete or asphalt roadways, parking lots, existing foundations, and existing sidewalks)	Description of activity (attach photographs and additional sheets as necessary):
	☐ Any activity, not listed above, that moved subsurface soil to the ground surface (e.g., trenching, pothole excavations, scarifying, etc.)	Description of activity (attach photographs and additional sheets as necessary):
	☐ Importation of soil in accordance with approved SIP.	Description of activity (attach photographs and additional sheets as necessary):
	☐ Temporary dewatering of below grade excavations (e.g., utility trenches, building foundations, etc.)	Description of activity (attach photographs and additional sheets as necessary):

	in areas that are greater than 200 feet from an active groundwater remediation area.	
	☐ Disturbance of existing shoreline protection, sea walls, bulkheads, etc.	Description of activity (attach photographs and additional sheets as necessary):
SECTION 1B: GENERAL SITE MANAGEMENT ACTIVITIES		
Was an environmental health and safety plan prepared for work indicated in Section 1A?	☐ Yes ☐ No	Attach copy of plan(s)
Was a Dust Control Plan prepared for work indicated in Section 1A?	☐ Yes ☐ No	Attach copy of plan and monitoring data collected in accordance with the plan for each activity conducted above.
Was an Asbestos Dust Mitigation Plan prepared for work indicated in Section 1A?	☐ Yes ☐ No	Attach copy of plan and monitoring data collected in accordance with the plan for each activity conducted above.
Was a storm water pollution prevention plan prepared for work indicated in Section 1A?	☐ Yes ☐ No	Attach copy of plan and monitoring data collected in accordance with the plan for each activity conducted above.
Are perimeter security fences in place and in operable condition?	☐ Yes ☐ No	If no, describe repairs and/or modifications that are required to restore integrity:
Is signage in place and in good condition?	☐ Yes ☐ No	If no, describe repairs and/or modifications that are required to restore integrity:

SECTION 1C: SOIL MANAGEMENT ACTIVITIES		
For all soil management activities indicated in Section 1A, was surplus soil disposed off-site?	☐ Yes ☐ No	If yes, please attach copies of waste profile, waste manifest, name, address and contact of disposal facility:
For all soil management activities indicated in Section 1A, was soil transported and placed in an on-site location other than its place of origin?	☐ Yes ☐ No	If yes, describe the quantity of soil, origin of soil, location of placement:
For all soil management activities indicated in Section 1A, was soil imported to the site for use as fill material?	☐ Yes ☐ No	If yes, describe the quantity, source/origin of soil, location of placement, attach soil chemical profile, provide letter certifying that the imported soil meets the soil import criteria (see RMP, Appendix D):
Indicate any unexpected and/or unknown conditions encountered during soil excavation activities:	☐ Evidence of soil contamination (strong odor, visible oily liquid, discolored or stained soil, etc.)	Describe condition and action taken (attach photographs and additional sheets if necessary):
	☐ Undocumented structures (e.g. underground storage tanks, buried sumps, oil water separators, refractory brick, pipelines, etc.)	Describe condition and action taken (attach photographs and additional sheets if necessary):
	☐ Abrasive blast material	Describe condition and action taken (attach photographs and additional sheets if necessary):
	☐ Radiological devices (e.g. radium dials)	Describe condition and action taken (attach photographs and additional sheets if necessary):
	☐ Free phase liquid floating on the groundwater (e.g. floating oil)	Describe condition and action taken (attach photographs and additional sheets if necessary):
SECTION 1D: GROUNDWATER MANAGEMENT ACTIVITIES		

For all groundwater dewatering activities, was water discharged to the sanitary sewer or storm drain under an NPDES permit or SFPUC batch wastewater discharge permit?	☐ Yes ☐ No	If yes, attach copy of NPDES permit and compliance documentation. If no, how was water disposed?
For all groundwater not discharged under an NPDES or SFPUC permit, indicate disposal details:	☐ Water used for dust control ☐ Water contained and allowed to percolate back into groundwater ☐ Water contained and allowed to evaporate ☐ Other (describe):	Provide and attach supporting information including volume of water, chemical test results, regulatory agency approval letters, etc.
SECTION 2: RESTRICTED ACTIVITIES REQUIRING FFA SIGNATORY APPROVAL		
SECTION 2A: ACTIVITY DESCRIPTION		
Indicate which land disturbing activities were conducted within areas undergoing active remediation within the reporting period (See Pre-RACR RMP Section 3.1.3). Indicate if any activities involved the alteration, disturbance or removal of any component of a ROD response action or cleanup action that was in conflict with planned redevelopment activities:	☐ Excavation of soil,	Description of activity (attach photographs and additional sheets as necessary):
	☐ Construction of roads, utilities, facilities, structures, and appurtenances of any kind	Description of activity (attach photographs and additional sheets as necessary):
	☐ Demolition or removal of hardscape	Description of activity (attach photographs and additional sheets as necessary):
	☐ Any activity that moves subsurface	Description of activity (attach photographs and additional sheets as necessary):

	soil to the Site surface	
	☐ Any other activity that causes or facilitates the movement of known contaminated groundwater	Description of activity (attach photographs and additional sheets as necessary):
Indicate if any activities involved the alteration, disturbance or removal of any component of a ROD response action or cleanup action that was in conflict with planned redevelopment activities	☐ Groundwater monitoring well and/or groundwater remediation system, including extraction wells, conveyance piping, and treatment system.	Description of activity (attach photographs and additional sheets as necessary):
	☐ Soil vapor extraction system, including extraction wells, monitoring wells, conveyance piping and treatment system.	Description of activity (attach photographs and additional sheets as necessary):
	☐ Revetment Walls (not a likely occurrence in a Pre-RACR state):	Description of activity (attach photographs and additional sheets as necessary):
	☐ Temporary dewatering of below grade excavations (e.g., utility trenches, building foundations, etc.) in areas that are within 200 feet of an active groundwater remediation area.	Description of activity (attach photographs and additional sheets as necessary):
	☐ Placement of utility line vapor or groundwater trench plugs	Description of activity (attach photographs and additional sheets as necessary):
	☐ Construction of building in an Area	Description of activity (attach photographs and additional

	Requiring Institutional Controls (ARIC) for Volatile Organic Compounds (VOCs) requiring soil vapor mitigation	sheets as necessary):
SECTION 2B: ACTIVITY DOCUMENTATION		
For all restricted activities requiring FFA signatory approval, indicate which documentation was produced:	☐ Work Plan	Attach copy of plan and FFA signatory approval letter for each activity indicated in Section 2A.
	☐ Activity Closeout Report	Attach copy of Activity Closeout Report, including monitoring documentation and FFA signatory approval of Closeout Report for each activity indicated in Section 2A.

SECTION 3: ACTIONS TO BE COMPLETED

FOLLOW UP ACTION If applicable, provide a summary of additional action items that are planned to be completed to remain in compliance with the pre-RACR RMP (such as soil waste off-haul, completion of elevation survey, water discharge to sewer, etc.).	**RESPONSIBLE PARTY**	**TARGET COMPLETION DATE**
1.	☐ Owner Name: Phone #: ☐ Tenant Name: Phone #: ☐ Contractor Name: Phone #: ☐ Developer Name: Phone #:	

2.	☐ Owner Name: Phone #: ☐ Tenant Name: Phone #: ☐ Contractor Name: Phone #: ☐ Developer Name: Phone #:	
3.	☐ Owner Name: Phone #: ☐ Tenant Name: Phone #: ☐ Contractor Name: Phone #: ☐ Developer Name:	

	Phone #:	
SECTION 4: RESOLUTION OF PREVIOUS REPORT ACTION ITEMS		
1.Previous Action Item	Action Taken:	Date Completed:
2. Previous Action Item	Action Taken:	Date Completed:
3. Previous Action Item:	Action Taken:	Date Completed:

Certification Statement:
Under penalty of perjury, I certify that the above information is true and correct and appropriately reflects the activities that have occurred during the inspection period and the condition of the site is as represented at the time of the inspection.
By:_____ Company:_____
Name:_____ Date:_____
Title:_____ Registration number and expiration date:_____

APPENDIX C

ENVIRONMENTAL HEALTH AND SAFETY PLAN OUTLINE

APPENDIX C
Environmental Health and Safety Plan Outline

All EHSPs will include a description of specific tasks to be performed, key personnel, health and safety responsibilities, site background, job hazard analysis and mitigation, air monitoring procedures, PPE, work zones and site security measures, decontamination measures, general safe work practices, contingency plans and emergency information, medical surveillance and specific training requirements.

SITE EMERGENCY INFORMATION

1.0 INTRODUCTION

- 1.1 Purpose of the Site Health and Safety Plan
- 1.2 Implementation and Modification of the Site Safety Plan
- 1.3 Project-Related Documents

2.0 BACKGROUND AND DESCRIPTION OF WORK

- 2.1 Site Description and Background
- 2.2 Scope of Work

3.0 KEY PERSONNEL ROLES AND RESPONSIBILITIES

- 3.1 Project and Task Managers
- 3.2 Field Supervisor
- 3.3 Site Health and Safety Officer
- 3.4 Competent Person
- 3.5 Subcontractors, Visitors and Other Onsite Personnel

4.0 JOB HAZARD ANALYSIS

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- 5.1 Biological Hazards
- 5.2 Radiological Hazards
- 5.3 Dust Control
- 5.4 Electrical
- 5.5 Excavation/Trenching
- 5.6 Fire/Explosion Control
- 5.7 Hand and Power Tools
- 5.8 Heat Stress
- 5.9 Heavy Equipment
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- 5.11 Material Handling
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- 5.13 Overhead / Falling Debris
- 5.14 Slips/Trips/Falls
- 5.15 Utilities: Underground and Overhead
- 5.16 Vehicle Traffic

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8.1 Ambient Air Monitoring
8.2 Worker Exposure Monitoring

9.0 TRAINING AND MEDICAL MONITORING

10.0 CONTINGENCY AND EMERGENCY EVACUATION PLANS

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11.2 Drinking Water
11.3 Personnel Decontamination
11.4 Equipment Decontamination

12.0 SITE AND TRAFFIC CONTROL PLAN AND SITE SECURITY

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12.1.1 Support Zone
12.1.2 Contamination Reduction Zone
12.1.3 Regulated Area/Exclusion Zone
12.2 Traffic Control

13.0 REFERENCES

APPENDIX D

DUST CONTROL PLAN

Draft

Pre-RACR RMP Dust Control Plan
Parcels B and G
Hunters Point Shipyard

January 2011

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FIGURES

1 Parcels B And G Location Map

2 Sensitive Receptors

Acronyms and Abbreviations

APCO	Air Pollution Control Officer
ATCM	Asbestos Airborne Toxic Control Measure
BAAQMD	Bay Area Air Quality Management District
BMP	best management practice
CCR	California Code of Regulations
CP/HPS	Candlestick Point/Hunters Point Shipyard
DTSC	Department of Toxic Substance Control
EIR	Final Environmental Impact Report
HEPA	high-efficiency particulate air
HPS	Hunters Point Shipyard
mph	mile per hour
RACM	regulated asbestos-containing material
ROD	Record of Decision
RWQCB	Regional Water Quality Control Board
SWPPP	Storm Water Pollution Prevention Plan
USEPA	United States Environmental Protection Agency

Introduction

Document Objective

This pre-RACR RMP dust control plan is submitted by Lennar/Bayview Hunters Point and MACTEC in preparation process for upcoming demolition, deconstruction, mass grading activities, and development of horizontal infrastructure at the Hunters Point Shipyard (HPS) Parcels B and G (the site) in San Francisco, California (Figure 1).

This pre-RACR RMP Dust Control Plan has been prepared by MACTEC in accordance with the requirements of the permit process established in Article 31 and compliance with Article 22B of the City and County of San Francisco Health Code and certain Bay Area Air Quality Management District (BAAQMD) regulations often applicable to redevelopment activities, as further described herein. This plan addresses dust control measures that will be implemented during deconstruction and development of horizontal infrastructure at the site.

This plan applies to demolition of existing structures, and dust control associated with soil disturbance or excavation on Parcels B and G. In accordance with the requirements of Article 31, this plan was prepared under the supervision of a professional engineer registered in the State of California.

Regulatory Basis

The Final Environmental Impact Report (EIR) 2010 for the Candlestick Point/Hunters Point Shipyard (CP/HPS) project includes mitigation measures requiring actions that will reduce or eliminate adverse environmental impacts during development of Parcel B and G. These mitigation measures were adopted in a Mitigation Monitoring and Reporting Program. The Disposition and Development Agreement incorporates Final EIR mitigation measures that are relevant for Phase II development on Parcels B and G and includes the commitments for implementing mitigation measures set forth in Section 18 of the Disposition and Development Agreement and in the EIR.

Dust control is one of the specific mitigation measures applicable to Phase II development in Parcels B and G, and this plan specifically identifies the steps that will be taken to reduce air emissions during demolition of existing structures, grading, utility work, and construction of site infrastructure. This plan also includes the necessary monitoring and reporting requirements.

This Dust Control Plan incorporates requirements of the following applicable regulations:

- California Code of Regulations (CCR) Title 17, Section 93105, the Asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations
- Bay Area Air Quality Management District (BAAQMD) Regulation 2, Permits (also addressed in project specifications)
- BAAQMD Regulation 6, Particulate Matter and Visible Emissions
- BAAQMD Regulation 11, Rule 2, Asbestos Demolition
- BAAQMD Regulation 11, Rule 14, Asbestos Containing Serpentine
- City and County of San Francisco Article 22B, Construction Dust Control Requirements
- CP/HPS EIR, Mitigation Measure HZ-15: Asbestos Dust Mitigation Plans and Dust Control Plans

Article 22B specifies a goal of minimizing visible dust emissions from the site and Article 22B and Section 106A.3.2.6 of the San Francisco Building Code outline housekeeping measures required to meet this goal. Mitigation Measure HZ-15 similarly defines best management practices (BMPs) including wetting and seeding unpaved, inactive areas, minimizing activity during periods of high wind, sweeping paved areas, covering trucks, etc. Additionally, BAAQMD Regulation 6, which generally prohibits emission of visible dust beyond the property boundary, is also applicable.

Because the site is in an area with serpentine rock, CCR Title 17, Section 93105 (ATCM) applies. ATCM includes, among other things, the requirement for submission of an Asbestos Dust Mitigation Plan for BAAQMD approval prior to grading activities. The ATCM also includes very specific practices to be implemented during construction. Mitigation Measure HZ-15 also provides BMPs for handling serpentine material, and BAAQMD Regulation 11, Rule 14 prohibits the use or sale of asbestos-containing serpentine materials for road surfacing.

In addition to emission controls for dust generated by general construction activities, specific requirements apply to asbestos-related dust generated by demolition activities. A qualified subcontractor licensed and experienced to manage asbestos- and lead-contaminated building

materials will perform demolition of existing structures. The subcontractor will demonstrate compliance with the requirements of BAAQMD 11- 2, which states that demolition activities will not be allowed to cause any visible plumes from any operation involving the demolition, removal, manufacture or fabrication of any product containing asbestos.

Contractors selected to perform demolition and grading will be responsible for obtaining applicable permits as described in the project specifications.

Background

Site Description

Parcel B includes 54 acres on the northern side of HPS, which is bounded by former Parcel A and Parcel C, private property, and the San Francisco Bay. The area of Parcel B covered by the DCP lies outside of IR Sites 7 and 18 and includes about 40 acres in the central and eastern portions of Parcel B (Figure 1). The portion of Parcel B addressed by this DCP includes a shoreline of approximately 1,500 feet along San Francisco Bay. Parcel G is located within the central portion of the former Parcel D, covers approximately 40 acres, and is surrounded by land with no associated shoreline.

Parcels B and G consist of flat lowlands that were constructed by placing borrowed fill material from various sources, including crushed serpentinite bedrock from the adjacent highland and dredged sediments. The serpentinite bedrock and serpentinite bedrock-derived fill material consist of minerals that naturally contain asbestos and relatively high concentrations of arsenic, manganese, nickel, and other metals. Nearly all of Parcels B & G are covered with buildings or degraded pavement or soil. A series of storm drains and sanitary sewer lines beneath the parcel have been recently removed.

Site History

The history of Parcels B and G is described in the many documents referenced in the pre-RACR RMP. This DCP is Appendix D of the pre-RACR RMP.

Phase II Scope of Work

Parcels B and G Phase II construction will consist of development of horizontal infrastructure to support later development. The work will consist of demolition of existing structures, site grading, utility system upgrades and construction of a superpad. Deconstruction of existing structures will be performed by a qualified contractor. The contractor will use proper handling and disposal techniques for any asbestos-containing material and lead based paint containing materials, including compliance with the requirements of BAAQMD 11- 2.

No Visible Dust Goal

The dust control measures set forth in this plan are intended to achieve a goal of no visible dust emissions associated with soil disturbance or excavation, to the extent required by Mitigation Measure HZ-15, BAAQMD Regulation 6, and the provisions of Articles 22B (areas over one-half acre) and 31 of the San Francisco Health Code. As required by Article 22B and Mitigation Measure HZ-15, Figure 2 shows the sensitive receptors (residence, school, childcare center, hospital or other health-care facility or group living quarters) located within 1,000 feet of Parcels B and G.

The DCP requires compliance with the following specific mitigation measures to the extent deemed necessary by the SFDPH to achieve no visible dust at the property boundary:

- Keep all graded and excavated areas, areas around soil improvement operations, visibly dry unpaved roads, parking and staging areas wetted at least three times per shift daily with reclaimed water during construction to prevent visible dust emissions from crossing the property line. Increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour
- Analysis of wind direction and placement of upwind and downwind particulate dust monitors.
- Record keeping for particulate monitoring results.
- Requirements for shutdown conditions based on wind, dust migration, or if dust is contained within the property boundary but not controlled after a specified number of minutes.
- Establishing a hotline for surrounding community members who may be potentially affected by Project-related dust. Contact person shall respond and take corrective action within 48 hours. Post publicly visible signs around the site with the hotline number as well as the phone number of the BAAQMD and make sure the numbers are given to adjacent residents, schools, and businesses.
- Limiting the area subject to construction activities at any one time.
- Installing dust curtains and windbreaks on windward and downwind sides of the property lines, as necessary. Windbreaks on windward side should have no more than 50% air porosity.
- Limiting the amount of soil in trucks hauling soil around the job site to the size of the truck bed and securing with a tarpaulin or ensuring the soil contains adequate moisture to minimize or prevent dust generation during transportation.
- Enforcing a 15 mph speed limit for vehicles entering and exiting construction areas.
- Sweeping affected streets with water sweepers at the end of the day.

- Hiring an independent third party to conduct inspections for visible dust and keeping records of those inspections.
- Minimizing the amount of excavated material or waste materials stored at the site.
- Prevent visible track out from the property onto adjacent paved roads. Sweep with reclaimed water at the end of each day if visible soil material is carried out from property.

In addition to conducting inspections for visible dust, particulate monitoring for the presence of airborne particulates will also be conducted using real-time particulate dust monitors as detailed on Page D-18. If readings are recorded above the action level(s), site specific actions will be specified based on the type of activity being conducted. Actions could include evaluation of site activities or stopping work until additional controls are implemented to reduce dust generation from the specific work area causing the problems.

Potential Sources of Emissions

Planned site activities have the potential to generate emissions in the form of fugitive dust and vehicle emissions. Possible sources of emissions include:

- Demolition Activities – Wrecking, intentional burning, moving or dismantling of any load-supporting structural member, or portion of a building. Any related cutting, disjointing, stripping or removal of structural elements. Crushing of concrete for recycling/reuse.
- Construction Traffic – Movement of construction equipment around the construction area is capable of creating construction emissions in excavated or cleared areas. There is also the potential for vehicular traffic on paved or unpaved roads and parking lots to produce construction emissions.
- Site Preparation and Foundation Work – Grading, excavation of footings and foundations, and backfilling operations can produce both fugitive dust and vehicle emissions.
- Trenching Activities – Excavation of trenches for the installation of underground utilities can cause construction emissions.
- Material Stockpiles – Stockpiles of excavated soil from trenching activities may contribute to windborne dust emissions.
- Soil Transport - Loading of soil into transport vehicles for disposal may contribute to windborne dust emissions.

- Cleanup and Grading – Backfilling, grading and re-vegetating of the excavated areas may produce both fugitive dust and vehicle emissions.

The California Code of Regulations (CCR) Title 17, Section 93105, the Asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations, prescribes specific dust mitigation measures.

Dust mitigation methods to be implemented at the Site, are described in detail below.

General Construction Emissions Control Methods

This section details dust control methods for fugitive dust and vehicle emissions generated from the following construction activities:

- Dust entrained during on-site travel on paved and unpaved surfaces.
- Dust entrained during site grading, excavation, crushing and back-filling at the construction site.
- Dust entrained during aggregate and soil stockpiling, loading, and unloading operations.
- Wind erosion of areas disturbed during construction activities.
- Vehicle emissions associated with construction equipment.

Additional requirements for dust control during demolition and deconstruction activities are described below. General dust control measures are also described in Section 5.3 of the Pre-RACR RMP.

Construction Traffic

Onsite Traffic Control

Fugitive dust emissions from construction traffic traveling on unpaved surfaces will be controlled with the following mitigation measures:

1. Visible speed limit signs will be posted at the construction site entrances. No vehicle will exceed 15 miles per hour (mph) within the construction site.
2. Implementation of erosion control measures identified in the Construction SWPPP, to be provided separately, will control fugitive dust emissions from pubic roadways and parking areas.
3. Gravel access pads will be constructed in the temporary stockpile locations. Four to six inches of appropriate gravel will be spread evenly to construct the pads. Additional gravel will be added periodically to maintain effectiveness.
4. One or more of the following:
    - All unpaved roads in the project construction site will be watered every two hours or frequently enough to maintain adequate wetness. The frequency of watering can be reduced or eliminated during periods of precipitation. (Article 21, Section 100 et seq. of the San Francisco Public Works Code requires that non-potable reclaimed water be

used for this purpose.) Watering frequency may be increased during above average ambient air temperatures or wind speeds.

- Chemical dust suppressants can also be applied consistent with manufacturer's directions.
- Maintaining a gravel cover with a silt content that is less than five (5) percent and asbestos content that is less than 0.25 percent, as determined using an approved asbestos bulk test method, to a depth of three (3) inches on the surface being used for travel; or
- Any other measure as effective as the measures listed above.

Trackout Prevention

Track-out of loose materials will be controlled using gravel pads along with a tire washing/cleaning station installed at the access point from the project site to the paved road to prevent tracking of mud on to public roadways. The stabilized construction entrance (gravel pads) will be installed according to the specifications provided in the Erosion and Sediment Control Plan of the Storm Water Pollution Prevention Plan (SWPPP) for the site. All vehicle tires will also be inspected and washed as necessary to prevent trackout prior to entering the paved roadways. Any visible track-out on a paved public road at any location where vehicles exit the work site MUST be removed. Removal MUST be done using wet sweeping or a high-efficiency particulate air (HEPA) filter-equipped vacuum device at the end of the work day or at least one time per day.

The following mitigation measures will be followed for fugitive dust emissions from construction traffic traveling on paved surfaces:

1. The main access and egress routes to and from the Parcel B and G main construction site for construction employees and delivery trucks will be paved prior to the initiation of construction.
2. No construction vehicles will be allowed to exitthe construction site except through the treated entrance roadways. Gravel pads will be installed at all egresspoints to prevent tracking of mud on to public roadways.
3. Construction areas adjacent to and above grade from any paved roadway will be treated with BMPs, as specified in the Construction SWPPP.
4. All paved roads within the construction site will be swept twice daily with a wet sweeper.

5. At least the first 500 feet of any public roadway exiting from the construction site will be swept twice daily. (The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.)

If any of the above mitigation measures fail to properly control fugitive dust emissions, one or more of the following reasonably available control measures, will be applied:

1. Unpaved active portions of the construction site will be watered or treated with dust control solutions to minimize windblown dust and dust generated by vehicle traffic.
2. Paved portions of the construction site will be swept more frequently as necessary to control windblown dust and dust generated by vehicle traffic. Streets adjacent to the construction site will be swept as necessary to remove accumulated dust and soil. Water may also be applied to the paved roads if necessary.
3. Physical or chemical stabilization will be applied to control dust on unpaved roads if necessary.
4. Gravel, re-crushed/recycled asphalt or other material of low silt content (<5 percent) will be applied to a depth of 3 or more inches, if necessary. Serpentine-containing material will not be used for this purpose.
5. Vehicle trips will be reduced if necessary.

Construction employees will park in paved or graveled areas to reduce fugitive dust emissions.

Off-site Transport

No trucks will be allowed to transport excavated material offsite unless:

1. Trucks are maintained such that no spillage can occur from holes or other openings in cargo compartments; and
2. Loads are adequately wetted and either:
   - Covered with tarps; or
   - Loaded such that the material does not touch the front, back, or sides of the cargo compartment at any point less than six inches from the top and that no point of the load extends above the top of the cargo compartment.
3. Visible track-out on the paved public road must be cleaned using wet sweeping or a HEPA filter equipped vacuum device within twenty-four (24) hours.

Vehicles will be checked to ensure that they are tarped and to remove any excess material on the shelf or exterior surfaces of the cargo compartment. All off-site haul trucks will access the site via paved access roads and established gravel pads. Every off-site haul truck will proceed through the decontamination gravel pad/tire cleaning area prior to departure from the site. Site personnel will be stationed at the access point to monitor inflow/outflow to and from the site and will be responsible for inspecting all vehicles exiting and performing the cleaning of the tires.

Site Preparation and Grading

Prior to any ground disturbance, sufficient water must be applied to the area to be disturbed to prevent visible emissions from crossing the property line.

Fugitive dust emissions from site preparation and foundation work will be controlled using the following methods:

1. During clearing and grubbing, surface soils will be pre-wet to the depth of anticipated cut where equipment will be operated. Soil moisture content will be sufficiently maintained to minimize fugitive dust creation. For construction fill areas which have an optimum moisture content for compaction, completion of the compaction process will be performed as expeditiously as possible to minimize fugitive dust.
2. If compaction will not take place immediately following clearing and grubbing, the surface soil will be stabilized with dust palliative and water to form a crust on the soil surface.
3. Keep all graded and excavated areas, visibly dry unpaved roads, parking and staging areas wetted at least three times per shift daily during construction to prevent visible dust emissions from crossing the property line. Increased watering frequency may be needed whenever wind speeds exceed 15 miles per hour.
4. Use dust enclosures, curtains, and dust collectors as necessary to control dust in the excavation area.
5. Graded areas will be stabilized with chemical stabilizers within 5 working days of grading completion. Seed and water all unpaved, inactive portions of the lot or lots under construction to maintain a grass cover if they are to remain inactive for long periods during building construction.
6. Halt all clearing, grading, earthmoving, and excavating activities when wind speeds are high enough to results in dust emissions crossing the property line, despite the application of dust mitigation measures.
7. Limit the area subject to excavation, grading or other construction activity at any one time.

8. Storage piles must be kept adequately wetted, treated with a chemical dust suppressant or covered with tarp(s) when material is not being added or removed from the pile.

Crushing

It is anticipated that concrete crushers will be mobilized to the site to crush and recycle concrete debris resulting from building and roadway demolition. Crushing operations will be visually monitored for the appearance of fugitive dust. If dust is being generated, water will be applied to control the dust.

The crusher may also be used to crush well-cemented concretions of other minerals within the serpentinite of the Franciscan formation that cannot be broken into manageable sizes using the standard construction equipment mobilized to the site for mass grading (bulldozers, excavators, scrapers, etc.). Serpentinite boulders will not be processed by the crusher.

Trenching Activities

Excavation activities will be visually monitored daily for the generation of fugitive dust. If dust is being generated, water will be applied to the point of excavation or drilling to control dust.

- Soil will be pre-wet prior to excavation to reduce dust migration. Additional water will be added during active excavation, material handling, and loading. Active excavation areas will be wet a minimum of twice daily during dry weather and more frequently as needed.
- The height from which excavated soil is dropped into trucks and onto either stockpiles or dewatering pads will be minimized.
- Dust suppressants will be applied in sufficient quantities to inactive disturbed areas so as to form a crust and create a stabilized surface.
- Backfill material will be covered or enclosed when not actively handled.
- Four to six inches of appropriate gravel will be spread evenly at key onsite loading areas, the temporary soil staging, and off-site transport loading area in order to reduce the potential for soil track-out beyond the site.

Screening

- Fugitive dust emissions from loading the screening pads, either by excavator, or by conveyor will be controlled by ensuring that all excavated material is adequately wetted prior to loading.
- Loader buckets will be emptied slowly and drop height from loader bucket minimized.

- Halt all loading activities during periods of sustained strong winds, hourly average wind speeds of 25 mph (40 km/h or greater).

Material Stockpiles

During excavation, backfilling and grading, soils may be stockpiled in areas adjacent to the activity. BMPs may include diversion of drainage from the stockpiles, installation of silt fencing/straw bale filter barriers on the downgradient toe of the stockpile slope, track-walking the slopes, and dust control. Stockpiles must be kept adequately wetted, treated with a chemical dust suppressant or covered with tarp(s) when material is not being added or removed from the pile.

Foundation Work

1. Sprinklers, wobblers, water trucks, or water pulls will be used to pre-water during cut and fill activities to allow time for penetration.
2. Building pads will be laid as soon as possible after grading to minimize fugitive dust emissions, unless seeding or soil binders are used in the interim.
3. Wind erosion control techniques, such as wind breaks, water/chemical dust suppressants, and vegetation, will be used on all construction areas that may be disturbed. Any windbreaks used will remain in place until the soil is stabilized or permanently covered with vegetation.
4. For back-filling during earthmoving operations, backfill material will be watered as needed to maintain moisture. If required, backfill soil will be mixed with water prior to moving. Loader buckets will be emptied slowly and drop height from loader bucket minimized. Once backfill material is in place, water will be applied immediately to form a crust, if necessary. A water truck or large hose will be dedicated to back-filling equipment and operations.
5. Use of high-pressure air to blow soil and debris from the form will be avoided; instead, water spray, sweeping, and/or an industrial shop vacuum will be used to clear the form.

Post-Construction Stabilization of Disturbed Areas

Unpaved areas disturbed during excavation, grading, and/or construction activities will be covered with one of the following to reduce dust generation on the site:

- An approved vegetative cover
- Coverage with a minimum of 3 inches of non-asbestos-containing material
- Building and related hardscape surface paving approved in the building permit.

Additional Requirements for Serpentine Material

Excavated materials, which will be transported off site, will be analyzed for asbestos content. Excavated materials being transported off-site with greater than 1 percent by-weight asbestos will be handled and disposed of off site in accordance with all requirements for proper disposal of asbestos.

BAAQMD Regulation 11, Rule 14 also defines procedures and notifications required if serpentine material is sold for use as a surfacing agent. No serpentine will be used for surfacing material or sold from the site.

The following waste management methods will be used when handling serpentine waste designated as hazardous:

- Keep asbestos-containing waste material adequately wetted at all times during handling and loading.
- Adhere to requirements of Section 11-2-608 for marking of vehicles used to transport asbestos-containing waste.
- Maintain waste shipment records as specified in Section 11-2-502.
- Provide a copy of the waste shipment record to the disposal site owner or operator upon delivery.
- Contact transporter and/or owner of the disposal site if the waste shipment has not arrived within 35 days of initial acceptance by the transporter as hazardous waste.
- Provide a written report to the Air Pollution Control Officer (APCO) if the waste shipment is not received within 45 days of initial acceptance by the transporter.

Demolition Emissions Control Methods

In addition to emission controls for dust generated by general construction activities described in the previous section, specific requirements apply to asbestos-related dust due to demolition activities. A qualified subcontractor, licensed and experienced to manage asbestos- and lead-contaminated building materials, will perform demolition of existing structures. The subcontractor will demonstrate compliance with the requirements of BAAQMD 11- 2, which states that demolition activities will not be allowed to cause any visible dust plumes from any operation involving the demolition, removal, manufacture or fabrication of any product containing asbestos. The subcontractor will implement the additional control methods summarized below.

Demolition Activities

Fugitive dust emissions from demolition activities will be controlled in accordance with the requirements of BAAQMD Section 11-2-303, as summarized below:

- All exposed regulated asbestos-containing material (RACM) will be adequately wetted and kept wet during cutting, stripping, demolition, renovation, removal and handling operations both inside and outside of a building.
- In lieu of wetting, a local HEPA filter exhaust, ventilation, and collection system designed and operated to capture the emissions from RACM and prevent any visible emissions to the outside air may be used under certain circumstances and subject to BAAQMD approval; requests for approval of dry removal must be in writing.
- RACM shall be removed prior to demolition, or other operations that would either break up, or preclude access to the RACM for subsequent removal.
- Elements that have RACM may be removed at any time in units or sections so long as the exposed RACM during cutting or disjointing is adequately wetted or encapsulated to prevent emissions of particulate asbestos material.
- All RACM not removed in units or sections shall be adequately wetted and kept wet, and transported to the ground in leak-tight chutes or containers, using negative air and HEPA equipment.
- Any building, structure, room, facility or installation from which RACM is being stripped or removed shall be isolated by physical barriers from the outside air to the extent feasible. Such barriers shall include transparent viewing ports which allow observation of all stripping and removal of RACM from outside the barrier. The negative air pressure inside the isolated work area shall be maintained at a pressure differential relative to

adjacent, nonisolated areas, and negative air pressure ventilation equipment shall be operated continuously from the establishment of isolation barriers through final cleanup of the work area following stripping or removal of RACM. Any such local exhaust ventilation system shall filter the air from the isolated area with a HEPA filter (or equivalent) prior to exhausting.

- All friable asbestos-containing waste material related to a specific demolition, renovation or removal, including pre-existing debris, shall be handled in accordance with the provisions of BAAQMD Sections 11-2-303 and 11-2-304.
- Except for ordered demolitions, prior to commencement of any demolition or renovation, the owner or operator shall thoroughly survey the affected structure or portion thereof for the presence of asbestos-containing material, including Category I and Category II non-friable asbestos-containing material. The survey shall be performed by a person who is certified by the Division of Occupational Safety and Health, who has taken and passed a USEPA-approved Building Inspector course, and who conforms to the procedures outlined in the course. The survey shall include sampling and the results of laboratory analysis of the asbestos content of all suspected asbestos-containing materials. This survey shall be made available to the Air Pollution Control Officer (APCO) prior to the commencement of any RACM removal or any demolition.
- When a structure, or portion thereof, is demolished under an ordered demolition, the survey must be done prior to, during, or after the demolition but prior to loading or removal of any demolition debris. If the debris contains regulated asbestos-containing material, all of the debris shall be treated as asbestos-containing waste material pursuant to BAAQMD Section 11-2-304. *A survey of asbestos-containing material has been completed for all structures to be demolished on Parcels B and G ’.*
- No RACM shall be stripped or removed unless at least one on-site representative, such as a foreman or management-level person or other authorized representative, certifies that he or she is familiar with the provisions of this rule as it pertains to demolition and renovation and the means of compliance therewith, and is present during all stripping and removing of RACM.
- If RACM is not discovered until after demolition begins and, as a result of the demolition, cannot be safely removed, the asbestos-contaminated debris shall be treated as asbestos-containing waste material and kept adequately wet at all times until disposed of according to the provisions of BAAQMD Section 11-2-304.
- The owner or operator of any building or other stationary structure to be demolished pursuant to an order of an authorized representative of a state or local governmental agency, issued because that building is structurally unsound and in danger of imminent collapse or has been declared a public nuisance, shall comply with the survey, wetting and disposal requirements of BAAQMD.
- If demolition is accomplished by intentional burning, all RACM, including Category I and Category II non-friable asbestos-containing material, shall be removed before burning.

RACM Waste Disposal

To prevent emissions from asbestos-containing material, the waste generated during the demolition process will be handled in accordance with BAAQMD 11-2-304, including the following:

- Treat asbestos-containing waste by thoroughly mixing with water and store in leak-proof containers before removing from containment area.
- Process asbestos-containing waste into non-friable form before disposal.
- Convert RACM and asbestos-containing waste material into asbestos-free material.
- Keep asbestos-containing waste material adequately wetted at all times after demolition and during handling and loading.
- Adhere to requirements of Section 11-2-608 for marking of vehicles used to transport asbestos-containing waste.
- Maintain waste shipment records as specified in Section 11-2-502.
- Provide a copy of the waste shipment record to the disposal site owner or operator upon delivery.
- Contact transporter and/or owner of the disposal site if the waste shipment has not arrived within 35 days of initial acceptance by the transporter.

Provide a written report to the APCO if the waste shipment is not received within 45 days of initial acceptance by the transporter.

Monitoring and Records

General

A hotline must be established and posted prior to starting construction and maintained during construction in a publicly visible sign with the telephone number for surrounding community members to call and report visible dust problems. The contractor will respond promptly and take corrective action within 48 hours. The number must be given to adjacent residents, schools, and businesses.

Monitoring to ensure compliance with the provisions of this plan will be performed by an independent third party observer. Control of visible dust will be the primary responsibility of the contractor working at the site. The Owner will provide quality assurance monitoring and will have the authority to direct the contractor to implement the measures outlined below if visible dust is observed.

Visible Dust During Site Activities

The goal of this plan is no visible dust. While all parties understand that soil disturbance and excavation activities, by their nature, will produce dust, site controls will be used to mitigate visible dust as it is generated in an effort to achieve the no visible dust goal. This section establishes the steps that must be taken toward achieving the goal of no visible dust from soil disturbance or excavation in terms of the amount of time permitted to address visible dust plumes. The criteria in this section apply to an active work site when equipment and personnel are driving on the site an performing work activities. The "initial observation" starts the clock for the required response measures described below. The "initial observation" is the time any of the following personnel observe visible dust: (a) workers who are disturbing soils or excavating for the permitted activity or (b) Owner, supervisor, contractor, subcontractor or consultant with responsibility for monitoring the permitted activity.

Visible Dust Crossing the Property Boundary

In the event visual dust from soil disturbance or excavation is observed crossing the property boundary, the following procedures will be followed to ensure adequate mitigation measures are in place to address the dust:

1. The specific source of the emissions will be immediately shut down and a more aggressive application of the existing mitigation measures as described on pages D-7 through D-9 (No Visible Dust Goal) will be directed.
2. Once the mitigation measures have been applied , the source of emissions will resume and observations will be conducted to verify that the mitigations measures were successful.

Onsite Visible Dust

In the event visual dust from soil disturbance or excavation is observed onsite, but does not cross the property boundary, the following procedures will be followed to ensure adequate mitigation measures are in place to address the dust:

1. A more aggressive application of the existing mitigation measures as described on pages D-7 through D-9 (No Visible Dust Goal) or additional measures of dust suppression will be directed to the specific source of emissions within 60 minutes the initial observation.
2. If despite these more aggressive and/or additional methods the visible dust emissions continue for 90 minutes from the time of the initial observation, the specific source of the emissions will be temporarily shut down until the implemented dust control mitigations is effective or, due to changed conditions, no longer necessary.

Windblown Visible Dust During Inactive Periods

The standards in this section apply on weekends and holidays or any other times when no equipment and personnel are performing work activities on site. In the event of observations on windblown visible dust plumes from soils originating on the project site, mitigation measures as described on pages D-7 through D-9 (No Visible Dust Goal) will be directed within less than 4 hours of making the observation. Mitigation measures will be applied until the visible dust plumes originating from the project site are minimized or eliminated. Any observations of visible dust originating from the project site during inactive periods should be reported to the Community Hotline.

Dust Monitoring

Real-time particulate dust monitors (Miniram PDR-1000 or equivalent) will be placed at adequate locations to measure particulates in the upwind and downwind locations of the Site. Prevailing wind on the site is from the west or southwest towards the east or northeast. Monitoring locations will initially be established based on these prevailing winds but will be checked daily and adjusted if necessary to maintain the upwind and downwind locations. An

action level of *0.75* milligrams per cubic meter (mg/m^3) above upwind levels, over a ten minute average has been developed for the site operations. At a minimum the data will be reviewed daily. It is anticipated that data review will be more frequent at project startup to validate BMPs. If dust is generated from on-site soil disturbance or excavation activities and dust levels from these activities are recorded above this action level, site specific actions will be specified based on the type of activity being conducted. Actions could include evaluation of site activities or stopping work until additional controls are implemented to reduce dust generation from the specific work area causing the problems. During periods of extended rain, realtime particulate monitoring will cease to prevent damage to the instruments.

Recordkeeping and Reporting

Dust monitors will be equipped with data loggers. Dust monitoring data will be included with daily construction reports.

BAAQMD 11-2, Section 11-2-502 describes reporting and recordkeeping requirements for RACM demolition activities.

ATCM requires that results of air monitoring and any testing of serpentine materials be reported to the APCO and that records be retained for at least 7 years following the completion of the project.

APPENDIX E

SOIL IMPORTATION PLAN OUTLINE

APPENDIX E
Soil Importation Plan Outline

ACRONYMS AND ABBREVIATIONS .....

1.0 INTRODUCTION .....

1.1 Document Objective .....
1.2 Certification .....

2.0 PROJECT DESCRIPTION .....

2.1 Construction Scope .....
2.2 Imported Soil Volume .....

3.0 IMPORTED SOIL SCREENING CRITERIA .....

3.1 Article 31 Screening Criteria .....
3.2 Radiological Screening Criteria and Radionuclide Analyte List .....
3.3 Additional Restrictions Regarding Asbestos .....

4.0 IMPORTED SOIL TESTING PLAN .....

4.1 Analytical Requirements .....
4.2 Testing Frequency .....
4.3 Additional Requirements .....

5.0 TESTING OF OTHER MATERIALS .....

5.1 Recycled Concrete .....
5.2 Imported Aggregate Drainage Fill .....
5.3 Imported Sand .....

6.0 REFERENCES .....

APPENDIX F

GROUNDWATER MANAGEMENT PLAN OUTLINE

Appendix F
Groundwater Management Plan Outline

1.0 Introduction

This Section should provide a description of the site where work is proposed, summarize the groundwater conditions in the area of proposed work, describe the work to be conducted including estimated volume of groundwater to be extracted, estimated duration of extraction and estimated area of groundwater that may be influenced by the extraction.

2.0 Groundwater management Plan

This Section should provide a description of the means and methods that will be used to extract (dewater) groundwater, temporary storage of extracted groundwater, and ultimate disposition of the extracted groundwater. Emphasis should be placed on using best management practices to minimize the area to be impacted by dewatering, protecting the public from exposure to contaminated groundwater, and disposal methods that are compliant with all applicable environmental regulations. If the work involves the installation of underground utility lines, best management practices should be implemented to mitigate the potential for the utility backfill to create a conduit for migration of contaminated groundwater from one area to another.

This Section should include a contingency plan for unexpected conditions, if they are encountered. Unexpected conditions could include the presence of free phase hydrocarbons floating on the groundwater surface, encountering odiferous and obviously discolored soil, extraction of a significantly larger volume of groundwater than anticipated, and other similar conditions.

3.0 Permitting and Reporting Requirements

This Section should include a discussion of the permit requirements that must be met to accomplish the dewatering project. At a minimum, consideration should be given to the City and County of San Francisco Department of Public Works, City of San Francisco Department of Public Health, San Francisco Public Utilities Commission, California Regional Water Quality Control Board and California Department of Toxic Substances Control. The discussion of permit requirements should also include a discussion of reporting and recordkeeping requirements.

4.0 Health and Safety

This Section should present a health and safety plan to protect construction workers conducting the dewatering and construction project and to protect the general public from direct and indirect exposure to hazardous substances,

5.0 References

This Section should present a list of references used to prepare this plan.

APPENDIX G

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APPENDICIES?

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