

FINAL
NAVAL AIR STATION ALAMEDA RESTORATION ADVISORY BOARD
MEETING SUMMARY

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Building 1, Suite 140, Community Conference Center
Alameda Point
Alameda, California

November 1, 2007

The following participants attended the meeting:

Co-Chairs:

George Humphreys	Restoration Advisory Board (RAB) Community Co-chair
Thomas Macchiarella	Base Realignment and Closure (BRAC) Program Management Office (PMO) West, BRAC Environmental Coordinator (BEC), Navy Co-chair

Attendees:

Jim Barse	Community Member
Anna-Marie Cook	U.S. Environmental Protection Agency (EPA)
Tommie Jean Damrel	Tetra Tech EM Inc.
Doug DeLong	BRAC PMO West, Environmental Compliance Manager
John Kaiser	San Francisco Bay Regional Water Quality Control Board (Water Board)
Dot Lofstrom	California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control (DTSC)
Patrick Lynch	Community member
John McMillan	Shaw Environmental
Steve Peck	Navy BRAC PMO West Remedial Project Manager (RPM)
Kurt Peterson	RAB
Vince Richards	Tetra Tech EC Inc.
Derek Robinson	Navy BRAC PMO West RPM
Peter Russell	Russell Resources/City of Alameda
Dale Smith	RAB/Sierra Club/Audubon Society
Jean Sweeney	RAB
Jim Sweeney	RAB

Hannah Thompson	Sullivan International Group, Inc. (Sullivan)
Michael John Torrey	RAB/Housing Authority of the City
Kent Weingardt	Tetra Tech EC Inc.
John West	Water Board
Jessica Woloshun	Sullivan

The meeting agenda is provided in Attachment A.

MEETING SUMMARY

I. Approval of Minutes

Mr. Humphreys called the meeting to order at 6:30 p.m. and distributed a list of documents and correspondence he received during October 2007. The list is provided as Attachment B-1.

Mr. Torrey provided the following comments:

- Page 7 of 10, fourth paragraph, “Mr. Torrey said that he has to assume since he saw the soils scanned only once,” will be revised to, “Mr. Torrey said that he has to assume that since he saw only one pile of the soil scanned, that all of the other soil was not scanned.”

Ms. Lofstrom provided the following comments:

- Page 4 of 10, third paragraph, second sentence will be revised from, “Eleven trenches were excavated in all the waste cells,” to “A total of 11 trenches were excavated in the waste cells.”

Mr. Humphreys provided the following comments:

- He questioned whether Mr. Douglas deHann is still a member of the RAB and suggested that he should also be considered an Alameda City Council member until future confirmation.
- Page 4 of 10, Section III., first paragraph, the last sentence will be revised from “The purpose of the trenching at Site 1 was to verify the waste volume estimates, confirm the absence of intact drums, and characterize the waste,” to “The purpose of the trenching at Site 1 was to verify the waste volume estimates and confirm the absence of intact drums.”
- Page 4 of 10, Section III., second paragraph, the last sentence will be revised from “No trenching occurred through the thick runway asphalt,” to “No trenching occurred through the thick concrete.”
- Page 4 of 10, Section III., second paragraph, a discussion ensued regarding the validity of the sentence, “Mr. Baughman replied that every trench was 6 to 8 feet deep before water was encountered,” compared to the sentence on page 5 of 10, second paragraph, “Mr. Baughman said that the trenches were excavated to a depth of 6 to 6.5 feet.” Mr. Macchiarella said that the trenches may have been excavated to a minimum depth of 6 to 6.5 feet. Mr. Torrey asked about the maximum depth of the trench. Mr. Macchiarella suggested checking the recording.

After the meeting, the tape review confirmed that Mr. Baughman reported that every trench was 6 to 8 feet deep before groundwater was encountered. In addition, on page 5 of 10, Mr. Baughman was referring to a specific trench that was approximately 6 to 6.5 feet deep, photographed on Slides 7 through 13. The text will be changed to the following, “Mr. Baughman said that the trench [depicted on a slide] was excavated to a depth of 6 to 6.5 feet.”

- Page 7 of 10, second paragraph, “Mr. Humphreys asked if the Navy revised its estimate of radiological materials after excavation,” will be revised to “Mr. Humphreys asked if the Navy revised its estimate of waste volumes after excavation.”
- Page 9 of 10, second sentence, “Mr. Russell said that he was on the RAB when the 5-year review was issued,” will be revised to “Mr. Russell said that he was at a RAB meeting when the 5-year review was issued.”

Ms. Smith provided the following comment:

- Attachment B-3, site visit notes, fifth paragraph, “..., and since was collecting them monthly to test air quality.” will be revised to “..., and since then was collecting them monthly to test air quality.”

Mrs. Sweeney provided the following comment:

- Page 5 of 10, last paragraph, “Mr. Leach said that the usual method of cut-and-fill trench is that there is some undisturbed distance in each trench,” will be revised to “Mr. Leach said that the usual method of a cut-and-fill trench is that there is some undisturbed distance of soil between each trench.”

The minutes were approved as amended.

II. Co-Chair Announcements

Mr. Humphreys referred to his list of documents received (Attachment B-1) and noted that the records of decision (RODs) for Installation Restoration (IR) Site 25 and IR Site 6 were issued during the month. He also noted that noteworthy report items include the work plan for the Seaplane Lagoon.

Mr. Humphreys asked if SES-TECH is a new subcontractor. Mr. Peck replied that SES-TECH is a joint venture between Tetra Tech EC Inc. (formerly Foster Wheeler Environmental Corporation) and Sealaka Environmental Services, Inc.

Mr. Humphreys said that Joan Konrad and Neil Coe were excused from the meeting.

Mr. Macchiarella thanked Mr. Humphreys for preparing his list of documents and correspondence received (Attachment B-1). He noted that copies of the list were distributed at the beginning of the meeting.

Mr. Macchiarella reminded the RAB that the election for a new community co-chair will occur in December; nominations will be accepted later. He asked if the usual holiday meeting with potluck was desired for the December meeting; the RAB agreed.

III. Site 17 Preliminary Design Presentation

Mr. Peck introduced his presentation as an update of the preliminary design for Site 17 Seaplane Lagoon. He said that the ROD was signed about a year ago. His presentation discussed events that had transpired since that time. Currently, the project is in the design phase and the design attributes are being refined. The presentation handout is included as Attachment B-2.

Mr. Peck introduced the Seaplane Lagoon and briefly discussed its history. He said the Navy conducted two design studies: a bathymetric or topographic survey, as well as geotechnical sampling and analysis of the basin.

Mr. Peck explained the dewatering treatability study, where sediments were collected from the lagoon and placed about a half mile away from shore. Various tests were conducted and concluded that, on average, it took approximately 10 days for the soil to dry.

Mr. Peterson asked about the dewatering, specifically about where the water will be deposited. Mr. Peck replied that the water will be treated and that the Navy is evaluating various locations to dispose of the water.

During an overview discussion regarding site contamination, Mr. Peck described two remedial action objectives: protecting ecological receptors, primarily fish and fish-eating birds; and protecting human health by a reduction in bioaccumulation of polychlorinated biphenyls (PCBs) in fish. After the members of the team defined the two remedial action objectives with qualitative statements, they defined quantitative values. The remediation goals from the ecological assessment for chemicals of concern (COCs) are as follows: cadmium, 24.4 milligrams per kilogram (mg/kg); total PCBs, 1.13 mg/kg; and total DDX, 0.13 mg/kg (DDX is the collective term for dichlorodiphenyltrichloroethane [DDT], dichlorodiphenyldichloroethylene [DDE], and dichlorodiphenyldichloroethane [DDD]). Ms. Smith asked if the values were specific to Alameda Point and whether they were “raised background levels.” Mr. Peck responded that Ms. Smith was probably referring to cadmium and asked Ms. Cook if she knew about these values. Ms. Cook responded that she did not work on this ROD. Mr. Peck said that he would find an answer to the question for Ms. Smith.

Mr. Humphreys mentioned that the report prepared by Battelle and Neptune and Company assumed that birds and fish were present only 10 percent of the time. From this report, he supposed that the values are higher by a factor of 10. Mr. Macchiarella responded that that he would like to discuss the site-use factors. Mr. Humphreys said that cleanup levels for Seaplane Lagoon will set a precedent for the cleanup of Navy shoreline sites, such as IR Sites 1 and 2, along the estuary, as well as for private polluters. Mr. Peck asked if the discussion concerned ecological-based site-use factors. Mr. Macchiarella noted that it is typical in an ecological-risk assessment to develop site-use factors from regulatory agencies rather than as Mr. Humphreys suggested. Mr. Humphreys asked Mr. Macchiarella why the Navy would assume a series of values if the correct numbers were already known. Mr. Macchiarella responded that he would like to bring in a regulatory ecological risk assessor to help describe the process in the future. Mr. Humphreys said that he does not agree with the use of the site-use factors in a broad bay-wide area because the least terns will forage for their chicks within reasonably close proximity to

their nests. He mentioned the issue because it was related to whether these values are elevated; he believed they were elevated.

Mr. Russell noted his recollection of the document and said that the values are not background concentrations, but instead are risk-based results derived from site-use factors designed to prevent ecological risk. Ms. Lofstrom recalled that the ecological risk was the driving force as well. Mr. Peck said it appeared that the data were broader and bay-wide, agreeing with Mr. Humphreys. Mr. Humphreys said that bird species dispersal is limited to specific areas, and not bay-wide. Ms. Smith commented that the birds will not fly to other environments, especially during nesting season.

Mr. Peck continued on with his overview of contamination and identified the remedial dredging areas. Ms. Smith asked where the Navy plans to install dikes to dewater. Mr. Peck explained that the Navy will not lower the water table of the lagoon and said that the dotted line shown on the poster board is the typical location for a turbidity curtain, a material similar to "silt curtains," to surround the area. Mr. Peck said that he will discuss the dredge process later in the presentation.

Mr. Peck reviewed the dewatering technology and said that the Navy chose passive dewatering with mechanical agitation. He said that within the dredging design, the target depth is 4 feet, but will dredge to a depth of 5 feet below the surface. In addition, the Navy will use an environmental clamshell bucket to dredge (Slide 14). Mr. Peterson asked how the Navy would prevent water from entering the bucket. Mr. Peck said that the bucket will trap water, but it is sealed to limit water from pouring out and disturbing the sediment. Ms. Cook clarified that the water is not contaminated. The concern is the displacement of the contaminated soil from the water that would spill from the bucket when it is removed from the lagoon. She reiterated that the clamshell bucket is sealed after it traps the soil. The process is slow, so it will minimize the disturbance. Mr. Humphreys asked if the bucket is sealed on top, and Mr. Peck confirmed that it is sealed on the top.

Mrs. Sweeney asked if the Navy is mapping the surface to accurately dredge the entire area. Mr. Peck said that maps are being prepared, but there will also be some intentional overlap. Ms. Sweeney asked about the steep slopes on the sides of the lagoon and how the Navy plans to excavate the 5 feet along the surface. Mr. Peck said that the Navy will dredge 5 feet along the contours of the lagoon but will not disrupt the stability of the slopes. Ms. Sweeney also asked if each bucket of soil will be analyzed to examine the level of contamination and determine whether to excavate deeper to remove all the contaminated soil. Mr. Peck responded that there will be a confirmation sampling grid across the area, and soil from each grid will be sampled. He said that in some cases the Navy may have to excavate deeper.

Mr. Humphreys added that, since the slope appeared steep at one side, he is concerned that the bucket might slide down and fail to capture the targeted soil. Mr. Peck said that the bucket is controlled by a cable and maneuvers slowly. Mr. Peck added that he will collaborate with experienced engineers to capture soil and maintain slope stability in a 3 to 1 ratio.

Ms. Smith asked about the depth of the riprap. Mr. Peck said that he does not know the depth, but that it supports the sea wall. Mr. Robinson said that it is about 5 feet high above the sediment; however, it is difficult to determine the bottom depth. Ms. Smith asked if the Navy will excavate to the base of the riprap. Mr. Peck said that from a structural standpoint, excavation will leave a slope of 3 to 1 to support the integrity of the sides of the lagoon. He asked Mr. Delong if he knew the depth of the riprap. Mr. Delong said that he was not positive and that his understanding was that work would occur outside of the riprap. Ms. Smith asked if the Navy planned to leave the contaminated soil intact that is directly above the riprap. Mr. Peck noted that Slide 14 shows the design and slope, away from the edge of the seawall and the riprap. Mr. Barse requested that the Navy clearly characterize the balance between maintaining structural integrity and removal of the contaminants. Mr. Peck said that the soil near the riprap will be investigated during the confirmation sampling. He said he will look further into the issue and present his findings in the future.

Mr. Peck explained the water treatment system shown on Slide 16. Ms. Lofstrom asked Mr. Peck to describe the turbidity curtains. Mr. Peck said that turbidity curtains will be installed along the periphery of the work area, down the column of water that is about 10 to 15 feet. Mrs. Sweeney asked about the material composition of the turbidity curtain. Mr. Peck said he believed it was a gauged plastic. Mr. Humphreys mentioned that the material should be porous and weighted. Mr. Peck said the turbidity curtain will be weighted as well. Ms. Sweeney said it appeared that the material is permeable, like a screen. Mr. Russell said that it is probably a filter fabric because the tide would disturb it. Mr. Barse asked if the intent was to extend the turbidity curtain to the lagoon floor. Mr. Peck said that the intent is to keep the sediments contained as a secondary preventative action next to the clamshell bucket. Mr. Barse asked about the stability of the weighted curtain. Mr. Peck said it will be weighted and will further discuss the specific details with the project engineers. Mr. Peck noted he would try to bring in a sample of the turbidity curtain for the RAB to view. Ms. Lofstrom mentioned that she initiated the conversation about the turbidity curtains because the curtain was considered satisfactory during the remedial design discussions with the DTSC toxicologist and the California Department of Fish and Game representative. Mr. Barse indicated that the information may not be acceptable because of alleged instances where the DTSC has concurred with materials left at Site 1. Mr. Peck noted that he would bring all comments and feedback on the design back to the design team.

Mrs. Sweeney asked if the Navy plans to remove the soil and not backfill. Mr. Peck confirmed that the Navy would not backfill the excavation areas.

Ms. Smith asked about the density of the soil and whether it is loose. Mr. Peck said the exact density of the soil is explained in the appendices to the design report. Mr. Peck said that a large part of the material is in the mud areas and that some areas may be denser toward the center. The density also varies with the bathymetry and deposits over time. Mr. Torrey asked if the Navy will fill in the trench. Ms. Smith said that the trench will fill in through natural processes. Mr. Peck agreed and responded that the bottom of the trench will become the sea floor of the lagoon.

Referring to the poster board of the Seaplane Lagoon, Mr. Peck said there will be two separate dewatering pads for separation and screening of sediments; radiological (RAD) and non-RAD. RAD sediment will be placed in the northwestern portion of the site, and non-RAD sediment will be placed in the northeastern section of the site. Mr. Humphreys asked if these areas are flat asphalt. Mr. Peck confirmed that the areas are flat asphalt. Mr. Peck explained that there will be sampling along with screening surveys before the soil is transported to an appropriate landfill. Furthermore, the water will pass through a treatment system and then ultimately be replaced into the lagoon.

Ms. Smith asked about the solid lines around the removal area, referring to the poster board of Seaplane Lagoon. Mr. Peck responded that the solid line represents the location of the turbidity curtain.

Mr. Peterson requested an estimate for project completion. Mr. Peck said the time frame of this project depends on the length of each workday. The project will take about 60 weeks with 8-hour shifts in a 5-day work week. He noted the necessity to discuss with the community whether longer workdays may be acceptable. If each workday is increased to 16 hours, the project will in theory last about 30 weeks.

Mrs. Sweeney asked if the RAB can assume that the lagoon is clean after the dredging is complete. Mr. Peck said it would meet the requirements of the ROD.

Ms. Smith asked about the mooring “dolphin” shown on Slide 23. Mr. Macchiarella said it is a structural component to support the barge. Ms. Smith asked if it is a maritime dolphin, as opposed to a chemical treatment dolphin. Mr. Macchiarella stated it is a maritime dolphin.

Mr. Peck concluded the presentation with an overview of implementation of the action plan.

IV. Sites 5 and 10 Radium Impacted Storm Drain Removal Action Work Plan Presentation

Mr. Robinson began his presentation with an agenda to explain the background of IR Sites 5 and 10, the scope and approach of the action, field methods, and their path forward. A handout of the presentation is included as Attachment B-3. He said that Sites 5 and 10 consist of Buildings 5 and 400 and are located next to Seaplane Lagoon. These buildings were used for painting radioluminescent dials with radium, which caused contamination in drainpipes. These drainpipes were connected to the storm drain lines, some of which were removed in 1997 and 1998. The remaining affected storm drain lines are to be removed under this project.

Mr. Peterson asked if the drain lines to be removed flow into the Seaplane Lagoon and if this project would be completed before the project at IR Site 17 discussed previously. Mr. Robinson confirmed that the drain lines flow to the Seaplane Lagoon and noted that Site 17 Seaplane Lagoon remedial action will take place before work begins at Sites 5 and 10.

Mr. Humphreys asked where Section 1 is located. Mr. Robinson said Section 1 is north of Building 5. Mr. Peterson asked if the storm drains run underneath any of the buildings.

Mr. Robinson replied that all drain lines located inside of the building to the subsurface were removed. Mr. Peck said that one pipe remains under a portion of a building. Mr. Peterson asked about the composition of the pipes, and Mr. Robinson confirmed that they are metal.

Mr. Robinson described the surface areas as flat asphalt or concrete and said that the average pipe is approximately 8 feet below the ground surface. He noted the Navy will excavate to a depth of about 12 feet below ground surface. He explained that the presence of shallow groundwater causes significant challenges.

Mr. Robinson continued that, since the excavation is within the groundwater saturation zone, the Navy will freeze the soil down to 12 feet to greatly reduce groundwater intrusion. Mr. Robinson summarized the process shown on Slide 10:

1. Freeze the ground
2. Excavate the trench
3. Remove the pipes
4. Test the soil
5. Reinstall the new storm drains
6. Refill the trenches with uncontaminated soil.

Ms. Smith asked if the drain pipe system will be reinstalled. Mr. Robinson replied that the new drain pipe system will be installed according to the same specifications as the old system. Ms. Smith asked why the Navy will reinstall the system without knowing what buildings will be constructed there in the future. Mr. Robinson said that the same size pipes are used because the current system is unlikely to be used for future development and pipes are needed in the trenches for storm water in the meantime.

Ms. Smith asked if side-wall testing would be conducted. Mr. Robinson pointed out that groundwater freezing assists in the side-wall testing. He noted that the ground will remain frozen until testing confirms that all the contamination is cleared before the storm drains are reinstalled and the soil is backfilled. Ms. Smith asked if the Navy will backfill the excavations with the same soil. Mr. Robinson replied that it would be backfilled with new soil. Ms. Smith said that the existing soil will need to be treated and dewatered. Mr. Robinson confirmed that all the soil identified to be contaminated will be properly disposed. Mr. Torrey asked if the soil surrounding the trench would be tested. Mr. Robinson assured the board that testing is designed to address potential migration of contaminated soils.

Mr. Robinson presented figures and example photographs (Slides 14 through 20) from the vendor and explained the process and benefits of the ground freezing technology. He also noted the importance of dust controls and how the Navy will be sensitive to the issue in its plan.

Mrs. Sweeney noted that this process must use a great deal of electricity. Mr. Robinson confirmed her assumption but asserted that the extra cost of electrical usage is offset by reduced soil excavation, water treatment, and man-hour costs.

Mr. Robinson concluded the presentation and noted that the Navy hopes to start trenching in late November. The work plans will probably be submitted during the second week of November.

Mr. Barse expressed concerns for any storm water abatement and soil erosion controls that need to be addressed; especially any dewatering within the excavation trench during the rainy season. Mr. Weingardt said the Navy has developed a plan for all projected or calculated rain events during the season and also has drafted a prevention plan for any rainwater that intrudes into the trenches. He commented that a heavy, short-term storm may require that water be pumped out, and that some water may freeze in the case of a drizzle. Mr. Weingardt confirmed that the equipment would freeze the rainwater. Mr. Barse asked if the Navy has treatment plans for any rainwater pumped from the trenches. Mr. Robinson said that any water pumped from the trenches would be collected, sampled, and disposed of accordingly.

V. RAB Community Co-Chair Nominations for 2008

Mr. Macchiarella thanked Mr. Humphreys for his excellent job as the RAB community co-chair for the last 2 years.

Ms. Sweeney nominated Mr. Humphreys as well as Mr. James D. Leach, RAB (not present).

Mr. Torrey seconded the nomination for Mr. Humphreys.

Mr. Humphreys accepted the nominations.

Mr. Macchiarella said he would post Mr. Humphreys on the nominations list and accept more nominations in December. He also reminded members to bring a treat for the holiday potluck after the December meeting.

VI. Community and RAB Comment Period

Mr. Lynch said that he hopes the IR Sites 5 and 10 time-critical removal action (TCRA) will be “time-critical” or completed immediately. He mentioned similar remedial actions conducted using onshore trenches and said that he believed the Navy should have completed the project in a shorter time. He noted an example of discharges of contaminated water directly from a trench into the storm sewer and open containers with radioactive waste that was left unlabeled in a parking lot openly accessible. Mr. Lynch said that the Navy is portraying this project professionally and with environmental controls, but stated, “we have to wait to see it happen because that’s not the way it has been in the past.”

Mr. Lynch said that during the IR Site 1 presentation at the October RAB meeting he did not recall any samples analyzed for asbestos at the ground surface or waste content. He questioned the health and safety plan, and he did not recall any use of respiratory protection or protective clothing in the video.

Mr. Macchiarella responded that he is not aware that the Navy has found any data on asbestos for IR Site 1. He will address the issue in the future.

Mr. Torrey said he understood that the sampling process shown in IR Site 1 video was unacceptable to the Alameda City Council. Mr. Humphreys also questioned the health and safety plans for the IR Site 1 project and cited the importance of protecting the workers from inhalation of radium within dust. Mr. Torrey commented that the workers were not properly protected in the video.

Mrs. Sweeney noted from the Alameda Reuse and Redevelopment Authority (ARRA) Board's last month's minutes that the ARRA Board does not find the Site 1 cover remedy acceptable. She asked Mr. Macchiarella if his superiors have commented on that.

Mr. Macchiarella said that his superiors at the Navy and the regulatory agencies clearly understand the remedial approach at Site 1. The approach includes a soil cover over the waste cell areas. The goal of the IR Site 1 removal action, which is nearly complete, is to remove the known radiologically impacted spots that are outside of the areas to be covered by the planned soil cover. He was asked about the extent of excavation in the areas outside of the waste cells and answered that a minimum of 2 feet would be excavated.

Mr. Humphreys noted that a surface survey outside of Area 1A cannot measure any radioactivity below a depth of 2 feet. He mentioned that the Navy is removing only surface contamination.

Mr. Robinson said that the areas being covered are the areas identified as waste cells. Outside of the waste cells, the Navy expects the contamination to be at the surface only because there was not any disposal. Mr. Sweeney asked about the radiologically impacted area within the burn area. Mr. Robinson responded that this area has been excavated.

Mr. Robinson responded to Mr. Humphreys' remark and stated that the areas outside of Area 1A are currently under institutional controls, preventing excavation outside of the covered area. Mr. Humphreys said that his concern was directed toward Area 1A and said essentially a quarter of the material excavated by trenching was radioactively contaminated. He said it is reasonable to assume that the portion of Area 1A that the Navy has not excavated is similarly contaminated with radioactivity. Mr. Humphreys asked if the Navy planned to address this contamination. Mr. Macchiarella replied that the Navy's intention for IR Site 1 is to cover Area 1A, as has been shown in the ROD. Ms. Sweeney said that the city may have changed its mind about constructing a golf course on the site and instead may construct housing in that area. Mr. Macchiarella said that the Navy has not heard such an idea, but that residential use is typically prohibited on landfills and that other controls on this particular property such as Tidelands Trust issues would also prevent housing from being built there.

Mr. Humphreys asked, hypothetically, if the city did not accept Site 1 and if the Navy decided to make a federal transfer, could residences be built there. Mr. Macchiarella said that another portion of the Site 1 remedial action is to restrict excavation and implement other institutional controls including a prohibition on residential use atop the landfill.

Mr. Barse asked Mr. Macchiarella where a concerned citizen can address questions while the project is unfolding. Mr. Macchiarella welcomed all questions and said that he is available for

all inquiries at any time; his contact information is readily accessible on fact sheets and newspaper notices.

Mrs. Sweeney noted a newspaper report commenting that the Navy will complete remedial action in 2017. Mr. Macchiarella responded that the most recent projection is that the last remedial action at the IR sites will complete in 2016. *[P.S. Mr. Macchiarella subsequently reviewed the Site Management Plan and realized that his response of “2016” was a mistake. The most recent projection is that the last remedial action at the IR sites will complete in 2014. He would like to note that this date does not include long term monitoring and long term maintenance that will be required at some sites.]*

Mr. Lynch said he found a figure in one of his files that shows the extent of the plume contamination in IR Site 3. He said that the remediation equipment was installed earlier in 2007 and the date of the figure was 1979. He said since it took 28 years to install a remediation system after the extent of the contamination had been fully delineated, and that a span of 10 years for this plan seemed highly optimistic. Mr. Macchiarella noted that other remediation systems were associated with IR Site 3. Mr. Lynch commented that it took 28 years to clean up a fuel spill. Mr. Peck added that he was curious about the date, 1979. Mr. Lynch responded that the date was correct and he has a report that delineated contamination on this spill site after people were injured and evacuation occurred because the soil smelled of gasoline.

Mrs. Sweeney asked for an explanation of the term “dial sludge” mentioned during the October meeting. Mr. Humphreys said he raised the question of “dial sludge” because of an article he read in the *Alameda Sun* stating that dial sludge had been disposed of at IR Site 1. In addition, Mr. Andrew Baughman (Navy) showed a slide referring to solid pieces of radioluminescent dials. At the time, Mr. Humphreys asked whether dial sludge would be dispersed in the soil. Mr. Humphreys noted that he did not think his question was answered. He said he thinks that when paint brushes that hold contaminated materials are rinsed; the residue will be a sludge or viscous particulate matter. He speculated that it will not be solid and possibly dispersed in the soil. Mrs. Sweeney observed that it is difficult to differentiate between the sludge and the dial chips. Mr. Humphreys said that the dial chips are considered solids. Mr. Macchiarella added that whether there is a dial or a chunk of soil or loose soil, that all of the material from the IR Site 1 TCRA was screened. He clarified that screening was conducted on the material whether it distinguished as a specific object or not.

Mrs. Sweeney said she discovered a discrepancy in the October minutes on page 5 of 10 stating “...some undisturbed distance of soil.” Mr. Humphreys said this statement involved the undisturbed soil between the filled trenches. On this site, the trenches are referred to as waste cells, and Mr. Leach was referring to the undisturbed soil between the waste cells. Mr. Macchiarella explained that Mr. Leach initially asked whether all the trenches that the Navy excavated were exploratory and if they were parallel. The correction is noted in Section I of these minutes.

VII. RAB Meeting Adjournment

The meeting was adjourned at 8:37 PM.

ATTACHMENT A

**NAVAL AIR STATION ALAMEDA
RESTORATION ADVISORY BOARD MEETING AGENDA
November 1, 2007**

(One Page)

RESTORATION ADVISORY BOARD

NAVAL AIR STATION, ALAMEDA

AGENDA

NOVEMBER 1, 2007, 6:30 PM

ALAMEDA POINT – BUILDING 1 – SUITE 140

COMMUNITY CONFERENCE ROOM

(FROM PARKING LOT ON W MIDWAY AVE, ENTER THROUGH MIDDLE WING)

<u>TIME</u>	<u>SUBJECT</u>	<u>PRESENTER</u>
6:30 - 6:40	Approval of Minutes	Mr. George Humphreys
6:40 - 6:50	Co-Chair Announcements	Co-Chairs
6:50 – 7:20	Site 17 Preliminary Design Presentation	Mr. Steve Peck
7:20 – 7:50	Sites 5 & 10 Removal Action Workplan (Radium Impacted Storm Drain Removal) Presentation	Mr. Derek Robinson
7:50 – 8:00	RAB Community Co-Chair Nominations for 2008	Mr. Thomas Macchiarella
8:00 – 8:30	Community & RAB Comment Period	Community & RAB
8:30	RAB Meeting Adjournment	

ATTACHMENT B

**NAVAL AIR STATION ALAMEDA
RESTORATION ADVISORY BOARD MEETING HANDOUT MATERIALS**

- B-1 List of Reports and Correspondence Received during October 2007, distributed by George Humphreys, RAB Community Co-Chair (2 pages)
- B-2 Site 17 Preliminary Design Presentation, presented by Mr. Steve Peck (13 pages)
- B-3 Sites 5 & 10 Removal Action Work Plan (Radium Impacted Storm Drain Removal) Presentation, presented by Mr. Derek Robinson (12 pages)

ATTACHMENT B-1

List of Reports and Correspondence Received during October 2007
(2 pages)

Restoration Advisory Board
List of Document and Correspondence
Received during October 2007

Reports

1. September 30, 2007 (Rec'd Oct. 3, 2007), "2008 Final Amendment to the Site Management Plan, Alameda Point, Alameda, California", prepared by BRAC Program Management Office West and submitted to U. S. EPA, Region IX.
2. September 28, 2007, "Radiological Characterization Survey Report, Radiological Survey at IR Site 32 and the Shorelines of IR Sites 1 and 2, Alameda Point, Alameda, California", prepared by Tetra Tech EC, Inc. for BRAC Program Management Office West.
3. October 2, 2007, "Final Bench Scale Test Workplan, Data Gap Sampling Investigation, Installation Restoration Site 28, Alameda Point, Alameda, California," prepared by Innovative Technical Solutions Inc. for BRAC Program Management Office West.
4. October 2, 2007, "Final, Pilot Test Work Plan Installation Restoration Site 14, Alameda Point, Alameda, California", prepared by Innovative Technical Solutions, Inc. for BRAC Program Management Office West.
5. October 10, 2007, "Final Site Inspection Report Transfer Parcel EDC-12, Alameda Point, Alameda, California", package consisting of CD, document spine, document cover, signature page, pages 2-5 and 2-6, Figure 1-3, Rev. B, Attach. A, Table B3-1, prepared by Bechtel Environmental, Inc. for BRAC Program Management Office West.
6. October 11, 2007, "Final Record of Decision for Installation Restoration Site 28, Todd Shipyards", prepared by Sul Tech for BRAC Program Management Office West.
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8. October 12, 2007, "Preliminary Remedial Design/Draft Remedial Action Work Plan, Volume 1-Preliminary Remedial Design, IR Site 17, Seaplane Lagoon, Former Naval Air Station Alameda, Alameda Point, Alameda, California", prepared by SES-Tech for BRAC Program Management Office West.
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CD and replacement pages, prepared by SES-Tech for BRAC Program Management Office West.

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Correspondence

1. September 27, 2007 (Rec'd Oct. 3, 2007), "Review of the Draft Final Site Inspection Report, Transfer Parcel EDC-17, Alameda Point, Alameda, California, August 2007", letter from Xuan-Mai Tran, U. S. EPA Region IX to Mr. Thomas Macchiarella, BRAC Program Management Office West.
2. September 27, 2007 (Rec'd Oct. 3, 2007), "Review of Draft Final Site Inspection Report for Western Bayside and Breakwater Beach, Alameda Point, Alameda, California", letter from Xuan-Mai Tran, U. S. EPA Region IX to Mr. Thomas Macchiarella, BRAC Program Management Office West.
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4. September 27, 2007 (Rec'd Oct. 11, 2007), "Draft Final Site Inspection Report, Western Bayside and Breakwater Beach, Alameda Point, Alameda County, California", letter from Ms. Angela A. Singh, DTSC to Mr. Thomas L. Macchiarella, BRAC Program Management Office West.
5. September 26, 2007 (Rec'd Oct. 11, 2007), "Draft Final Site Inspection Report, Transfer Parcel EDC-17, Alameda Point, Alameda County, California, August 2007", letter from Ms. Angela A. Singh, DTSC, to Mr. Thomas L. Macchiarella, BRAC Program Management Office West.
6. October 10, 2007 (Rec'd Oct. 11, 2007), "Review of Draft Final Record of Decision (ROD) for Operable Unit 1 OU-1 Installation Restoration Sites 6, 7, 8 and 16, Alameda Point, Alameda, California", letter from Ms. Dot Lofstrom, P. G., DTSC, to Mr. Thomas L. Macchiarella, BRAC Program Management Office West.
7. September 26, 2007, (Rec'd October 12, 2007), "Draft Final Site Inspection Report, Transfer Parcel EDC-12, Alameda Point, Alameda County, California, August 2007", letter from Ms. Angela A. Singh, DTSC, to Mr. Thomas L. Macchiarella, BRAC Program Management Office West.
8. October 18, 2007 (Rec'd Oct. 27, 2007), "Review of Draft Final Site Inspection Report, Western Bayside and Breakwater Beach, Alameda Point, Alameda, California, August 2007", from Xuan-Mai Tran, U. S. EPA Region IX to Mr. Thomas Macchiarella, BRAC Program Management Office West.

ATTACHMENT B-2

Site 17 Preliminary Design Presentation

(13 pages)



RAB MEETING

**BRAC
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IR SITE 17 SEAPLANE LAGOON PRELIMINARY DESIGN

**Former Naval Air Station Alameda
Alameda Point, Alameda, California**

Steve Peck, P.E.

Remedial Project Manager

BRAC Program Management Office

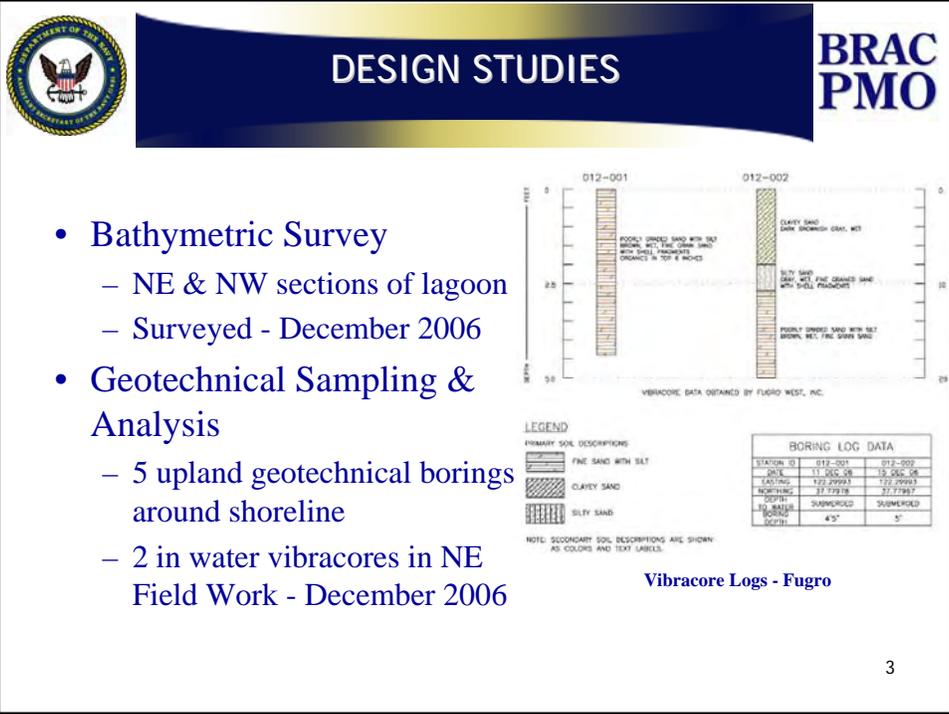
November 1, 2007



PRESENTATION OUTLINE

**BRAC
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1. Introduction – Site Location
2. Scope of Work
 - a) Design Studies
 - b) Remedial Design
 - c) Remedial Action Work Plan
3. Questions





DESIGN STUDIES

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- Dewatering Treatability Study
 - Sediment Drying Time
 - Up to 10 days during inclement weather
 - As low as 2 days when dry
 - Dependent on sediment characteristics
 - Additives help to reduce drying time

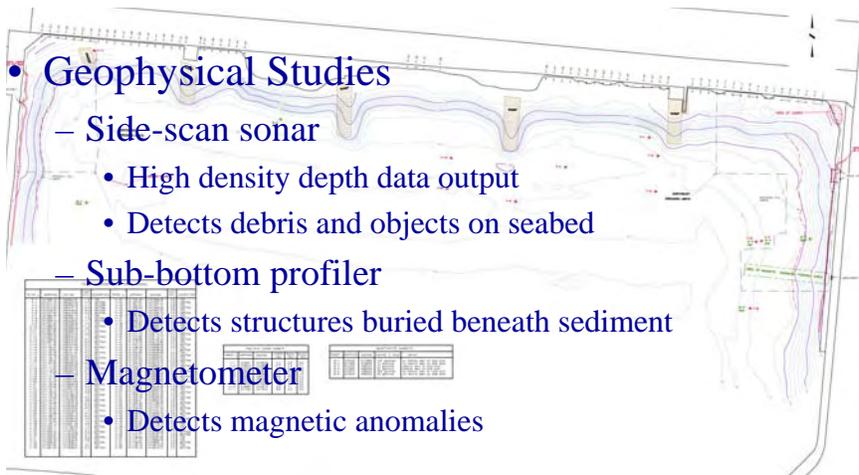
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DESIGN STUDIES

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- Geophysical Studies
 - Side-scan sonar
 - High density depth data output
 - Detects debris and objects on seabed
 - Sub-bottom profiler
 - Detects structures buried beneath sediment
 - Magnetometer
 - Detects magnetic anomalies



5



REMEDIAL DESIGN

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- Overview of Contamination
- Basis of Design / Design Criteria
 - Technology Reviews
 - Dredging & Dewatering Design
- Construction Sequencing
- Site Layout

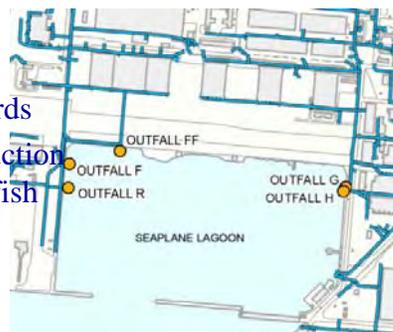
6



OVERVIEW OF CONTAMINATION

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- Remedial action objectives
 - protecting ecological receptors primarily fish and fish-eating birds
 - protecting human health by reduction of bioaccumulation of PCBs in fish
- Remediation goals for COCs
 - Cadmium 24.4 mg/kg
 - Total PCBs 1.13 mg/kg
 - Total DDx 0.13 mg/kg



7



OVERVIEW OF CONTAMINATION

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- The remedial investigation (RI) concluded that the radium (^{226}Ra) in the sediments do not pose an unacceptable risk to human health or the environment.
- Albeit ^{226}Ra was not identified as a risk driver, as a precaution sediments excavated adjacent to the northwest outfall (Outfall F) will be sorted and screened for ^{226}Ra prior to disposal.

8



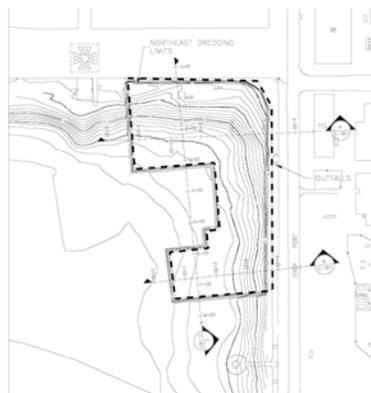
OVERVIEW OF CONTAMINATION

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- Remedial Dredging Areas



NW Dredge Area



NE Dredge Area

9



TECHNOLOGY REVIEWS

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- Dredging
 - Evaluated hydraulic, mechanical, vacuum, coffer dam
 - Factors for choosing method
 - Contaminated sediment
 - Low turbidity
 - High percent solids
 - Debris handling
 - Chose environmental clamshell bucket for sediment
 - Chose clamshell bucket for debris



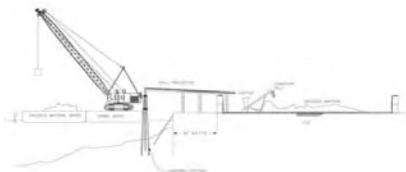
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TECHNOLOGY REVIEWS

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- Dewatering
 - Evaluated passive, mechanical, geotubes, barge, additives, continuous systems
 - Factors for choosing method
 - Upland space limited
 - Works with mechanical dredging
 - Debris handling
 - Dewatering time
 - Chose passive dewatering with mechanical agitation



11



TECHNOLOGY REVIEWS

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- Soil Sorting
 - Evaluated
 - Segmented Gate System
 - Difficulty with heavy claylike soil and debris
 - SS-SERIES
 - Works well with high percent moisture
 - Debris up to 18”
 - Manual NaI Surveys
 - 6” material “lifts”
 - Sediment must be dewatered and debris removed
 - Factors for choosing method
 - Work with mechanical dredging and dewatering process
 - Minimize downtime (equipment breakdown)
 - Chose Manual NaI Surveying method



12



REMEDIAL DESIGN

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- Dredging design
 - Based within provided boundaries
 - No dredging under riprap
 - Dredge to 5-feet below surface
 - 3H:1V slope away from riprap and bulkhead
 - Dredge quantities (3-D modeled total 59,094 cy)
 - NW = 22,034 cy
 - NE = 37,060 cy



13



REMEDIAL DESIGN

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- Dredging design
 - Environmental clamshell bucket
 - Reduces turbidity
 - High percent solids
 - Designed for contaminated sediments
 - Depth and turbidity sensors on bucket
 - Used with flooring mapping software for accuracy



14



REMEDIAL DESIGN

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- Dewatering design
 - Two separate dewatering pads for separation of non-RAD (NE) from RAD (NW)
 - Each dewatering pad to be sized for:
 - Full dredged sediment capacity
 - 15% entrained water in bucket
 - 1-ft freeboard for 25-year rain event
 - Passive dewatering with mechanical agitation
 - Water from dredged material to pass through two clarification areas before pumped to water treatment system

15



CONSTRUCTION SEQUENCING

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- Water Treatment System
 - Pumped from dewatering pad
 - Sedimentation tanks
 - Water treatment system
 - Holding tanks
 - Discharge
 - Lagoon
 - POTW



21,000 gal steel tank - Rain For Rent

16



CONSTRUCTION SEQUENCING

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- Dredging & Dewatering
 - Pre-dredging bathymetric survey
 - Install mooring piles and turbidity curtains
 - Remove in-water debris with clamshell bucket
 - Dredge sediment with environmental clamshell bucket
 - Dredge NE area first, than NW area
 - Fill barge until desired draft
 - Move barge to mooring piles to offload
 - Place sediment in dewatering pad using same bucket
 - Agitate sediment in pad until dry (paint filter test)

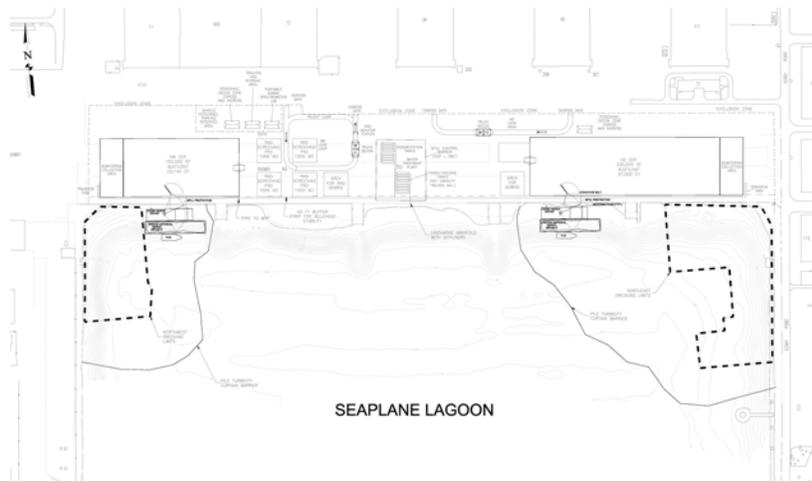


17



SITE LAYOUT

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18



CONSTRUCTION SEQUENCING

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- Non-RAD Sediment
 - Dredge and place in NE dewatering pad
 - Pass paint filter test
 - Stockpile dry sediment and sample every 100 cy for TSDF
 - Sediment loaded into trucks for disposal
 - Trucks decontaminated

19



CONSTRUCTION SEQUENCING

BRAC
PMO

- **RAD Sediment**
 - Dredge and place in NW dewatering pad
 - Pass paint filter test
 - Spread 6 inch layer on screening pads
 - Use a towed array and handheld instruments
 - If readings are below
 - Soils will be sampled at a rate of 2 samples / 14 cy
 - If readings are above
 - Re-survey, flag, remove w/ surrounding 18 inches, and resurvey
 - Elevated sediments placed in roll-off bins
 - sample at 5 random points and composited at lab
 - Stockpile dry sediment and sample every 100 cy for TSDF
 - Sediment loaded into trucks for disposal
 - Trucks decontaminated and scanned

20



ACTION IMPLEMENTATION

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- **Remedial Action Contractor Selection**
 - Develop SOW and selection criteria
 - Evaluate proposals & establish a contract
 - Review & approve contractor health and safety plan
 - Address notifications, permits, access agreements, etc.
 - Authorize mobilization

21



ACTION IMPLEMENTATION

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- Contractor's Mobilization
 - Setup site facilities (office, facilities, etc.)
 - Establish site control (fence, signage, etc.)
 - Conduct baseline bathymetric survey, utility survey, pre-dredge sampling, etc.)
 - Layout locations of waste management areas, traffic routes, decontamination areas, dewatering pads, etc.
 - Mobilize contraction equipment, materials and personnel.
 - Conduct training of field personnel, check records, etc

22



ACTION IMPLEMENTATION

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- Site Preparation
 - Establish erosion and sediment control measures
 - Baseline RAD survey of soil staging areas
 - Construct dewatering pads
 - Construct dredged material loading facilities
 - Mooring dolphin installation
 - Turbidity curtain installation

23



ACTION IMPLEMENTATION

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- **Sediment Removal**
 - Dredge sediment and deliver to dewatering pads
 - Conduct RAD screening of sediments (from NW SPL, only)
 - Segregate & containerize RAD contamination
 - Stage the RAD-screened soil and profile
 - Off-site transportation & disposal
 - Treat and discharge water from dewatering pads

24



ACTION IMPLEMENTATION

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- **Work Completion**
 - Conduct confirmation sampling at SPL
 - Remove pads & RAD screen the work areas that may have come in contact with RAD contaminated sediments
 - Remove all facilities, equipment, supplies, field personnel, fencing
 - Final site inspection ; address punch list items
 - Prepare Project Completion Report

25



QUESTIONS

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ATTACHMENT B-3

**Sites 5 & 10 Removal Action Work Plan (Radium Impacted Storm Drain Removal)
Presentation**

(12 pages)



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Time Critical Removal Action

Installation Restoration Sites 5 and 10

(Buildings 5 and 400)

Storm Drain Removal

Alameda Point, Alameda

Project Overview

November 1, 2007



TCRA – IR SITES 5 AND 10

**BRAC
PMO**

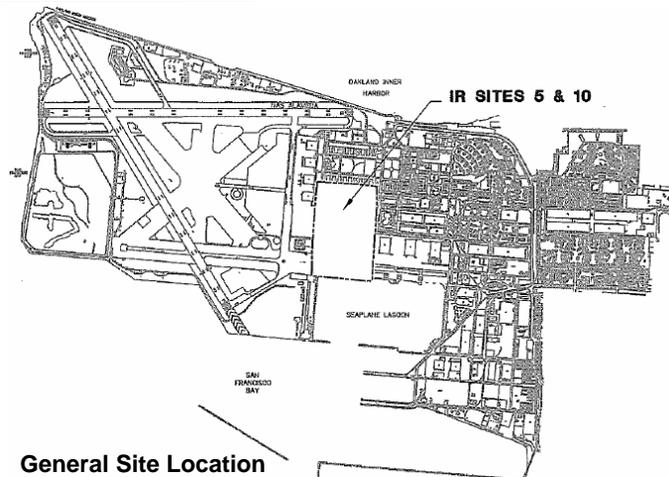
AGENDA

- **Background**
- **Scope and Approach**
- **Field Methods**
- **Path Forward**



TCRA – IR SITES 5 AND 10

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TCRA – IR SITES 5 AND 10

BRAC
PMO

PROJECT BACKGROUND

- IR Sites 5 and 10 consist of Buildings 5 and 400 respectively.
- Buildings utilized for painting radioluminescent dials with ^{226}Ra .
- Drainpipes were contaminated and are connected to storm drain lines.
- Some impacted storm drain lines were removed in 1997/1998.
- Remaining impacted storm drain lines are to be removed under this project.



TCRA – IR SITES 5 AND 10

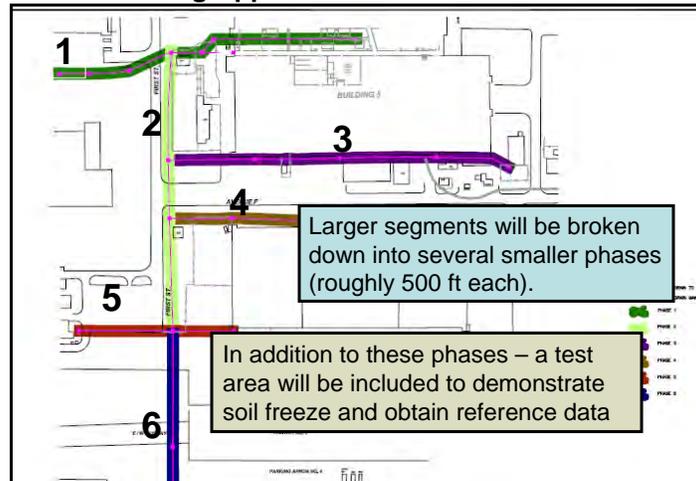
BRAC PMO



TCRA – IR SITES 5 AND 10

BRAC PMO

General Phasing Approach for Excavation





TCRA – IR SITES 5 AND 10

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TYPICAL VIEWS OF SITE



Termination manhole of the main NS line. View looking north along the proposed excavation.



The Building 5 lateral, beneath asphalt patch, located on the south side of Building 5. View looking due west along proposed excavation.



TCRA – IR SITES 5 AND 10

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PROJECT DETAILS

- Approximately 4,600 lineal feet of impacted storm drain lines planned for removal under this project
- Impacted drain lines are between 15-inch and 24-inch diameter
- Average pipe is 8-feet (to invert) below ground surface
- Groundwater depth in as shallow as 2-feet below ground surface (excavation will be into saturated zone)
- Surface areas are asphalt or concrete paved and very flat
- Storm drain lines will be replaced “in kind.”



TCRA – IR SITES 5 AND 10

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PROJECT APPROACH

- Draft Action Memorandum has been issued, reviewed by regulatory agencies, and comments are in resolution. Planned to be formally issued with public notification in November.
- Draft Work Plans and Design have been issued, reviewed by regulatory agencies, and comments are in resolution. Draft-Final Plans will be issued in November.



TCRA – IR SITES 5 AND 10

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PROJECT APPROACH

- Project will be phased working in ~500 lineal feet segments
- Excavation areas will be fenced and asphalt/concrete cut and removed
- Ground freezing will be implemented at each section
- Soil and pipe debris will be excavated and placed on screening pads
- Trench excavations will be scanned and sampled for evidence of contamination
- Over-excavation will be implemented where evidence of soil contamination remains
- Excavated soils will be screened and sampled for evidence of contamination (radioactive and chemical)
- New drain line system will be installed according to specs “in kind” with existing system
- Clean import backfill will be used for pipe bedding and overburden
- Surface will be restored to match existing surface features “in kind.”
- Waste materials will be characterized and disposed in accordance with applicable regulations and approved, permitted and licensed facilities.



TCRA – IR SITES 5 AND 10

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WHY SOIL FREEZING?

- Saturated soils encountered at ~4 – feet below ground surface
- Excavation to several feet below pipe (~12 feet below ground surface and potentially deeper)
- Trenches will be inundated with groundwater (350-400 gallons/minute)
- Conventional construction would use dewatering via pumping/extraction, with shoring or sloping, including wastewater treatment and discharge (major effort)
- Shoring would interfere with radiological survey of trench
- Sloping would generate massive amounts of soil for screening and characterization
- Soil freezing around trench eliminates groundwater intrusion and mechanical shoring with near vertical excavation

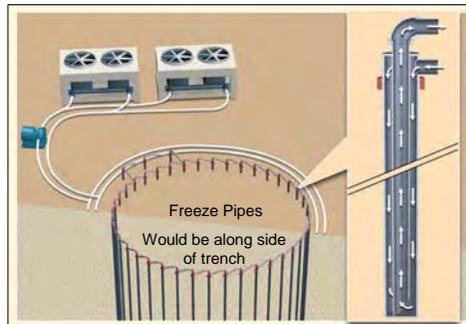


SOIL FREEZING

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Generic Soil Freezing Schematic

Aboveground Refrigeration Units



Tetra Tech is currently evaluating proposals from 3 reputable soil freeze subcontractors with recognized experience with similar projects.

X-Section “In-Well”
Coolant Circulation



SOIL FREEZING

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GENERAL VENDOR CLAIMS

- Effective in all soil types.
- Effective in warm saline groundwater with tidal influence.
- Soil strata joined, not fractured.
- No internal bracing required.
- Environmentally benign calcium-chloride brine.
- No excavation required for installation.
- Can form impermeable barrier around existing utilities. “Dry hole” excavation possible.
- Non-evasive installation, maintenance, and removal. Low vibration and settlement.
- Technical approach will be developed in conjunction with Tetra Tech engineering staff and sewer line design subcontractor (RBF).



FREEZE PIPE INSTALLATION

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Driven or Drilled



Thorough utility clearance performed prior to installation and excavation.

*Vendor provided photos of past Soil Freeze projects.



FREEZE SYSTEM

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Heads and Manifolds



*Vendor provided photos of past Soil Freeze projects.



REFRIGERATION UNIT

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*Vendor provided photos of past Soil Freeze projects.



FLEXIBLE LAYOUT

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Structural Shoring and Water Cutoff



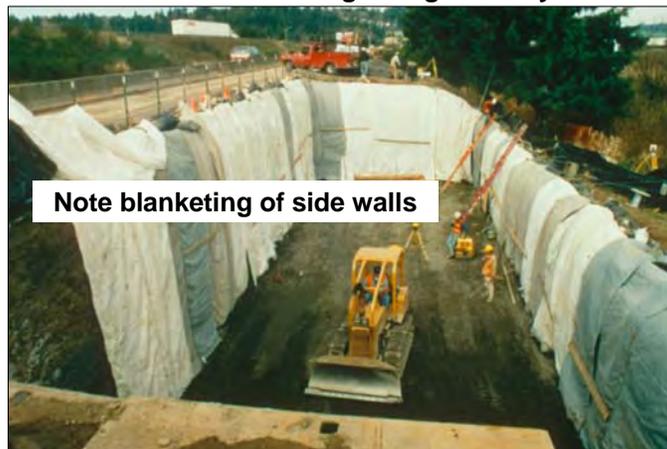
*Vendor provided photos of past Soil Freeze projects.



LARGE FOOTPRINT EXCAVATION

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Structural Shoring Along Freeway

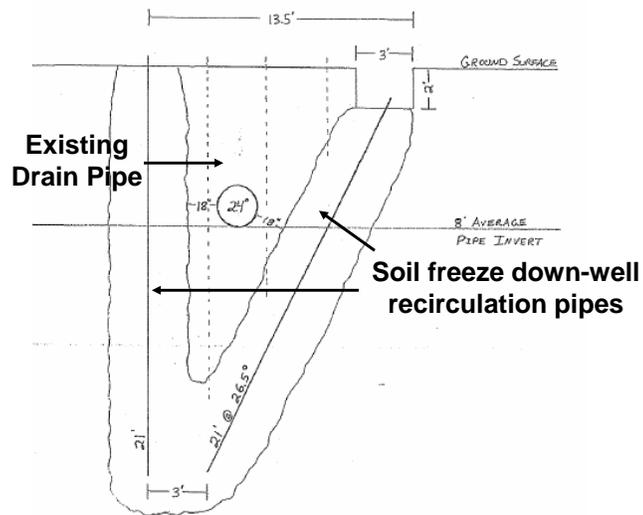


*Vendor provided photos of past Soil Freeze projects.



PRELIMINARY SHORING CONCEPT

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VERY LARGE SCALE EXCAVATION EXAMPLE

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*Vendor provided photos of past Soil Freeze projects.



TCRA – IR SITES 5 AND 10

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AIR EMISSIONS – DUST CONTROL

- In general, all contaminated soil is from saturated zone (wet soil).
- If contaminated soil excavated from above saturated zone, water spray will be applied.
- Soil will be placed in lined/bermed areas for screening/storage.
- Soil stockpiles will be covered when not in active use.
- Dust control will be utilized on all haul routes and work areas (water application).
- Air sampling will be conducted for contaminants of concern.
- Dust monitoring will be utilized.
- Work will not be performed during periods of high winds.



TCRA – IR SITES 5 AND 10

**BRAC
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PATH FORWARD

- Mobilization Currently Underway (Baseline Radiological Surveys, Fencing, Trailer Set-up, Structure Demolition, Land Survey)
- Finalizing Major Procurements (Soil Freezing Subcontractor, On Site Radiological Lab – all other procurements complete)
- Finalizing Work Plans and Action Memorandum (Public Notice)
- Begin Trenching Late November, Early December
- Currently Envision 10-month effort (complete in field Oct. 2008)
- Project Completion Report – 6-months after fieldwork complete



TCRA – IR SITES 5 AND 10

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QUESTIONS?