Final

Finding of Suitability to Transfer
Phase 3B

Former Naval Air Station Alameda
Alameda, California

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Prepared for:
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ACRONYMS AND ABBREVIATIONS

§	Section
ACM	Asbestos-containing material
AOC	Area of concern
ARRA	Alameda Reuse and Redevelopment Authority
AST	Aboveground storage tank
BRAC	Base Realignment and Closure
CAA	Corrective action area
CCR	California Code of Regulations
CDPH	California Department of Public Health
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
City	City of Alameda
COC	Chemical of concern
DoD	Department of Defense
DTSC	California Department of Toxic Substances Control
EBS	Environmental baseline survey
EDC	Economic development conveyance
EPA	U.S. Environmental Protection Agency
EU	Exposure unit
FFA	Federal Facility Agreement
FFSRA	Federal Facility Site Remediation Agreement
FL	Fuel line
FOST	Finding of suitability to transfer
G-RAM	General radioactive material
HRA	"Final Historical Radiological Assessment Volume II, Alameda Naval Air Station, Use of General Radioactive Materials, 1941-2005."
HSC	California Health and Safety Code
IC	Institutional control
IR	Installation Restoration
ISCO	In situ chemical oxidation
LBP	Lead-based paint
LHA	Lifetime Health Advisory
LIFOC	Lease in Furtherance of Conveyance
LPL	Large Parcel Lease
MEC	Munitions and explosives of concern
MOA	Memorandum of Agreement

ACRONYMS AND ABBREVIATIONS (CONTINUED)

NACIP	Navy Assessment and Control of Installation Pollutants
NAS	Naval Air Station
Navy	Department of the Navy
NFA	No further action
NOSSA	Naval Ordnance Safety and Security Activity
OU	Operable unit
OWS	Oil-water separator
PAH	Polycyclic aromatic hydrocarbon
PCB	Polychlorinated biphenyl
PFAS	Polyfluoroalkyl substance
PFC	Perfluorinated compound
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctanesulfonic acid
Regional Water Board	San Francisco Bay Regional Water Quality Control Board
RACR	Remedial action completion report
RAP/ROD	Remedial action plan/record of decision
RCRA	Resource Conservation and Recovery Act
RFA	RCRA facility assessment
RG	Remedial goal
ROD	Record of Decision
SPL	Seaplane Lagoon
SWMU	Solid waste management unit
TCRA	Time-critical removal action
TPH	Total petroleum hydrocarbons
TtEC	Tetra Tech EC, Inc.
U.S.C.	United States Code
UST	Underground storage tank
Weston	Weston Solutions, Inc.

1.0 PURPOSE

The purpose of this Finding of Suitability to Transfer (FOST) is to summarize how the requirements and notifications for hazardous substances, petroleum products, and other regulated materials have been satisfied by the U.S. Department of the Navy (Navy) for a portion of the former Naval Air Station (NAS) Alameda, now referred to as Alameda Point (see Figure 1).

For simplicity, the lands covered by this FOST are referred to herein as the FOST Parcels. The FOST Parcels are composed of four non-contiguous upland areas. Figure 2 shows the FOST Parcels. The lands identified for this FOST are described in Section 2.0.

This FOST provides documentation that the FOST Parcels made available through the closure of NAS Alameda are environmentally suitable for transfer by deed. Note that certain environmental program activities are ongoing, including the Alameda Point Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Program, as discussed in Section 4.1 and Alameda Point Petroleum Program activities, as discussed in Section 4.2. A summary of required restrictions is provided in Section 5.0.

This FOST was prepared in accordance with the Department of Defense (DoD) Base Redevelopment and Realignment Manual (DoD 2006) and the Department of the Navy (Navy) Base Realignment and Closure (BRAC) Program Management Office Policy for Processing Findings of Suitability to Transfer or Lease (Navy 2008a).

2.0 PROPERTY DESCRIPTION

Alameda Point is located in the San Francisco Bay Area (see Figure 1) on the western end of Alameda Island, which lies on the eastern side of the San Francisco Bay, adjacent to the City of Oakland. The upland portion of Alameda Point is roughly rectangular in shape, approximately 2 miles long east to west and 1 mile wide north to south, and occupies 1,783 acres. The FOST Parcels shown on Figure 2 consist of four non-contiguous parcels of uplands identified as Parcels FOST3B-1 through FOST3B-4. Parcel FOST3B-4 includes the appurtenant improvements consisting of Seaplane Ramps 1 and 2, but not the underlying submerged sediments that were previously transferred with the Seaplane Lagoon (SPL). Although Seaplane Ramp 3 is partially contiguous with Parcel FOST3B-4, it was previously transferred to the City of Alameda.

The FOST Parcels comprise approximately 42 acres of upland area and no submerged land. Existing and former buildings and improvements adjacent to the FOST Parcels are shown on Figure 3.

The FOST Parcels are currently leased by the Navy to the City of Alameda (City) under a Lease in Furtherance of Conveyance (LIFOC).

Prior to the LIFOC, on March 24, 1997 the Navy entered into a Large Parcel Lease (LPL) with the Alameda Reuse and Redevelopment Authority (ARRA) to allow the ARRA to utilize various properties and buildings prior to deed transfer (Navy and ARRA 1997). In June 2000, the Navy entered into the aforementioned LIFOC with the ARRA to replace the LPL and to allow the ARRA to continue to lease property and buildings prior to transfer (Navy and ARRA 2000a). Also in June 2000, the Navy and the ARRA entered into a No Cost Economic Development Conveyance (EDC) Memorandum of Agreement (MOA) for conveyance of portions of Alameda Point to the ARRA (Navy and ARRA 2000b). The ARRA was subsequently dissolved in 2012, and the City, as the recognized Local Redevelopment Authority, then assumed all of ARRA's rights, duties, assets, and obligations under the LIFOC and the MOA. To date, the Navy has transferred approximately 89 percent of Alameda Point to the City and other entities. A summary of these transactions is presented in Table 1.

Certain utility and other infrastructure including sanitary sewer, storm drain, fuel lines (FL), and electric power lines are present within the FOST Parcels. The City is responsible for all operation, maintenance, repair, replacement, and administration of utilities and infrastructure located within property subject to the LIFOC.

3.0 REGULATORY COORDINATION

In September 1992, the Navy, the State of California Department of Health Services Toxic Substances Control Program (now referred to as the California Department of Toxic Substances Control [DTSC]), and the California Regional Water Quality Control Board—San Francisco Bay Region (Regional Water Board) entered into a Federal Facility Site Remediation Agreement (FFSRA) (DTSC 1992a); the U.S. Environmental Protection Agency (EPA) was not a signatory to the FFSRA. The FFSRA defined the Navy's obligations for corrective action and response action under the Resource Conservation and Recovery Act (RCRA) and CERCLA for sites that had been identified in the Navy's Installation Restoration (IR) Program at Alameda Point. Subsequent to the execution of the FFSRA and following designation of Alameda Point as a National Priorities List site in 1999, the Navy and EPA executed a Federal Facility Agreement (FFA) in July 2001. Subsequently, DTSC signed the FFA in October 2005 and the Regional Water Board signed it in November 2005. The FFA superseded the FFSRA and defined the Navy's corrective action and response obligations under CERCLA for the RCRA and CERCLA sites located at Alameda Point. EPA, DTSC, and the Regional Water Board were notified of the initiation of this FOST and were issued copies for review. Regulatory agency comments to this FOST are provided in Attachment 1.

3.1 RESOURCE CONSERVATION AND RECOVERY ACT PART A OR B PERMITS AND SUBTITLE C CORRECTIVE ACTION

This FOST reviews sites that were evaluated and addressed under the Navy's CERCLA and Defense Environmental Restoration Program authority, as well as sites addressed under the corrective action requirements of RCRA Subtitle C (for solid waste management units [SWMU]), RCRA Subtitle I (for underground storage tanks [UST]), and associated state laws and regulations, administered by EPA, the State of California, and Alameda County. These

corrective action authorities are similar to CERCLA in that they require response/corrective action (that is, cleanup) where necessary to ensure adequate protection of human health and the environment—see CERCLA Section (§) 121(d); California Health and Safety Code (HSC) § 25296.10(b); and California Code of Regulations (CCR) Title 23 § 2720 (definition of "corrective action") and § 2725(c), and Title 22 CCR § 66264.101(a).

The rationale for integrating CERCLA and RCRA corrective action requirements is straightforward. The cleanup standard for CERCLA is set forth in CERCLA § 121 (Cleanup Standards), which states in the relevant part of Section 121(b)(1): "…The President shall select a remedial action that is protective of human health and the environment…" (42 United States Code [U.S.C.] § 9621[b][1]). The cleanup standard for RCRA Subtitle C corrective action in the State of California, as set forth in Title 22 CCR § 66264.101(a), provides: "The owner or operator of a facility seeking a permit for the transfer, treatment, storage, or disposal of hazardous waste shall institute corrective action as necessary to protect human health and the environment for all releases of hazardous waste or constituents from any solid or hazardous waste management unit at the facility, regardless of the time at which waste was placed in such unit." Also see California HSC §§ 25187 and 25200.10(b).

Alameda Point was previously subject to a RCRA permit (CA2170023236), which expired in July 2003. As part of the RCRA permit closeout activities, a RCRA Facility Assessment (RFA) was conducted in 1992 and identified numerous SWMUs (which were referred to as "non-permitted SWMUs" for a period of time) at former NAS Alameda, and which had not been previously identified in the RCRA permit (DTSC 1992b). RCRA-permitted units within the FOST Parcels have been closed (DTSC 2000a, 2000b, 2000c) and non-permitted units were delegated either to the CERCLA Program or the Petroleum Program as detailed in Table 2 and shown on Figure 4. Table 2 provides information regarding the closure status of the CERCLA and petroleum sites to which the RCRA units were assigned. Additional information about the open petroleum sites within the FOST Parcels is discussed in Section 4.2.

3.2 RESOURCE CONSERVATION AND RECOVERY ACT SUBTITLE I CORRECTIVE ACTION

The Regional Water Board administers the UST corrective action program at Alameda Point pursuant to RCRA Subtitle I and California HSC §§ 25280 through 25299.8. The authority of the Regional Water Board to require corrective action at UST sites is set forth at Title 23 CCR Division 3, Chapter 16.

Many of the Petroleum Program sites were originally evaluated as part of investigations completed under CERCLA (Title 42 U.S.C. § 9601[14]) at Alameda Point between 1992 and 1995. However, petroleum and petroleum-related constituents are not included in the definition of hazardous substances under CERCLA (Title 42 U.S.C. § 9601[14]). By 1997, sufficient data had been obtained and analyzed for the BRAC Cleanup Team to conclude that a number of IR sites only contained petroleum or petroleum-related constituents, and, therefore, a subset of these sites was moved into the Petroleum Program (Navy 1997). By letter dated June 20, 1997, DTSC concurred with this decision (DTSC 1997). Petroleum-only sites and their constituents are being

remediated under the 1994 California UST regulation (Title 23 CCR § 2720), which addresses releases to soil and groundwater from former petroleum fuel-containing USTs, aboveground storage tanks (AST), and pipelines.

3.3 COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT

In 1993, the Defense Base Closure and Realignment Commission recommended the closure of NAS Alameda, which was operationally closed in 1997. In 1999, former NAS Alameda was added to the National Priorities List. Under Executive Order 12580, the Navy is the lead agency responsible for cleanup efforts at Navy properties.

CERCLA response actions are initiated at environmental sites where CERCLA hazardous substances have been or may have been released. Within the FOST Parcels, there are two areas known as IR Program sites and one area known as an area of concern (AOC). As discussed in Section 4.1, CERCLA investigations were conducted under the IR Program for these sites.

4.0 SUMMARY OF ENVIRONMENTAL CONDITIONS AND NOTIFICATIONS

This section summarizes the environmental conditions and notifications, as they relate to CERCLA, petroleum products and derivatives, asbestos-containing materials (ACM), lead-based paint (LBP), and other regulated materials.

The deed(s) for the CERCLA-impacted FOST Parcels will contain, to the extent such information is available on the basis of a complete search of agency files, a notification of hazardous substances stored for 1 year or more, or known to be released, or disposed of within the FOST Parcels, in the form and manner prescribed by CERCLA (42 U.S.C. § 9620[h]) and Title 40 of the Code of Federal Regulations Part 373. This notice is provided as Attachment 2, the Hazardous Substances Notification.

In addition to the hazardous substance notice, other environmental topics that must be addressed in a FOST are further discussed in the following Sections 4.1 through 4.9, including the environmental conditions and actions taken on the FOST Parcels; identification of notification requirements related to CERCLA, munitions response, and petroleum corrective action; and information regarding ACM, LBP, polychlorinated biphenyls (PCB), munitions and explosives of concern, radiological materials, and pesticides.

4.1 CERCLA PROGRAM

This section addresses the CERCLA sites within the FOST Parcels. The Navy initiated environmental investigations at NAS Alameda under the Navy Assessment and Control of Installation Pollutants (NACIP) Program. Under the NACIP Program, the Navy performed an initial assessment study in 1982 to assess NAS Alameda for areas posing a potential threat to

human health or the environment due to contamination from historical uses involving hazardous materials (Ecology and Environment 1983).

On June 6, 1988, the Navy received a Remedial Action Order from the Department of Health Services (now DTSC) that prescribed requirements for a remedial investigation and feasibility study of sites at NAS Alameda in accordance with the requirements of CERCLA. In response, the Navy converted its NACIP Program into the IR Program to be more consistent with CERCLA, and investigations were conducted in a phased approach.

A comprehensive base closure strategy was developed by the BRAC Cleanup Team as part of the 1997 BRAC Cleanup Plan at Alameda Point (Navy 1997). This strategy consolidated the initial 23 IR sites into four operable units (OU) to accelerate site investigation. OU-4 was later subdivided, and OU-5 and OU-6 were added when IR Sites 24 through 31 were added to the CERCLA program. IR Site 18 (Storm Drains) was reconfigured and eliminated as a separate IR site and the contamination attributable to or associated with the storm drains was investigated and remediated within the footprint of other related individual IR sites. An additional four new sites, IR Sites 32, 33, 34, and 35 were added, but were not assigned to an OU.

One area investigated under IR Site 35 is located within Parcel FOST3B-3 and three areas investigated under IR Site 35 are located within Parcel FOST3B-4 (Figure 5). Storm drain lines are located within all four FOST Parcels and they were addressed under two separate OU-2C records of decision (ROD) (Navy 2014, 2016b).

The portions of the CERCLA sites within the FOST Parcels have received regulatory agency concurrence for No Further Action (NFA). The status of CERCLA sites within the FOST Parcels are presented in Table 3. This FOST is based on the findings of evaluations or cleanup actions that the parcels are suitable for transfer as long as the applicable notifications and restrictions, outlined in Sections 4.0 and 5.0, have been implemented.

In addition to the IR sites, the Marsh Crust also was investigated under the CERCLA Program at Alameda Point. The Marsh Crust is a layer of sediment contaminated with polycyclic aromatic hydrocarbons (PAH) that were deposited across the tidelands and the former subtidal areas from the late 1800s until the 1920s. The contamination is believed to have resulted from former industrial processes in the area that discharged petroleum products and wastes directly into San Francisco Bay.

A summary of the CERCLA investigations conducted within the FOST Parcels is presented in the following sections.

4.1.1 OU-2C Drain Lines

Portions of existing or removed storm drain lines originating from within OU-2C are located within the FOST Parcels. Storm Drain Line A is located within Parcel FOST3B-2, continues through an adjacent parcel (previously assigned to the Department of Interior) and on through

Parcel FOST3B-1 to Outfall A (Figure 6). A portion of Storm Drain Line G is located within Parcel FOST3B-3. Storm Drain Lines F and FF and Outfalls F and FF are partially contained within the OU-2C boundary and are partially contained within Parcel FOST3B-4 (Figure 6).

Storm Drain Lines F and FF discharged into the northwest corner of the SPL, contained radioactive contamination, and required a response action to remove the contamination. An Action Memorandum was issued to document this decision, and a time-critical removal action (TCRA) work plan was finalized in June 2008 (Tetra Tech EC, Inc. [TtEC] 2008). Excavation of lines began in July 2008 and demobilization was completed in September 2010. To accommodate drainage needs, the removed storm drain lines were replaced. The "Final Time-Critical Removal Action Completion Report, IR Sites 5 and 10, Buildings 5 and 400, Storm Drain Line Removal, Alameda Point, Alameda, California" was submitted in September 2011 and the "Final Record of Decision OU-2C (IR Sites 5, 10, and 12), Former Naval Air Station, Alameda, California" document NFA for these lines (Navy 2014).

Storm Drain Lines A and G and Outfall A were initially identified in a feasibility study addendum issued in 2012 as potentially radiologically impacted (TtEC 2012). The storm drain lines and outfall were subsequently addressed by the "Final Record of Decision Operable Unit-2C Drain Lines Located Outside of Buildings 5 and 400, Former Naval Air Station" that addressed the drain lines located outside of Buildings 5 and 400 in OU-2C (Navy 2016). The OU-2C Drain Line ROD selected NFA for Storm Drain Lines A and G and no action for Outfall A.

No notifications or restrictions are required in association with the OU-2C drain lines located within the FOST Parcels.

4.1.2 Radiological Anomaly Area

A Radiological Anomaly Area, located adjacent to Outfall F (Figure 6), was removed and the area was released without restrictions for radionuclides with regulatory agency concurrence in 2016. See Section 4.7.2 for details of the removal action and closure of the site.

No notifications or restrictions are required in association with the Radiological Anomaly Area located within the Parcel FOST3B-4.

4.1.3 IR Site 35 Areas of Concern in Transfer Parcels

IR Site 35 is composed of 23 study areas, known as AOCs. One of the 23 AOCs (AOC 12) associated with IR Site 35 is partially located within Parcel FOST3B-3 and three are wholly or partially located on Parcel FOST3B-4 as shown on Figure 5.

AOC 12 is partially located in Parcel FOST3B-3 and was occupied by a former 200,000-gallon water tower. The "Final Record of Decision for Installation Restoration Site 35, Areas of Concern in Transfer Parcel EDC-35, Alameda Point" (Navy 2010) established the remedy for

soil contamination at AOC 12 that included excavation and off-site disposal of contaminated soil. The contaminated soil was removed in 2011 and EPA concurred with the IR Site 35 remedial action completion report (RACR) and with site closure (EPA 2012). In addition, the DTSC issued a Remedial Action Certification in 2013 (DTSC 2013).

The three AOCs associated with Parcel FOST3B-4 were primarily associated with former oil-water separators (OWS) and aircraft operating locations. The "Final Record of Decision for Installation Restoration Site 35, Areas of Concern in Transfer Parcel EDC-35, Alameda Point" (Navy 2010) documented the no action decision for soil and groundwater for each of the IR Site 35 areas within Parcel FOST3B-4. EPA concurred with the IR Site 35 RACR and with site closure (EPA 2012).

4.1.4 Marsh Crust

The Marsh Crust was also addressed under the CERCLA Program. The Marsh Crust is a layer of sediment contaminated with PAHs that were deposited across the tidelands and the former subtidal areas from the late 1800s until the 1920s. The contamination is believed to have resulted from former industrial processes in the area that discharged petroleum products and wastes directly into San Francisco Bay. The City of Alameda has enacted an ordinance referred to as the Marsh Crust Ordinance imposing controls on excavations on much of Alameda Point. In addition, the "Final Remedial Action Plan/Record of Decision for the Marsh Crust at the Fleet and Industrial Supply Center Oakland Alameda Facility/Alameda Annex and for the Marsh Crust and Former Subtidal Area at Alameda Point" (RAP/ROD) was signed in February 2001 (Navy 2001). The Marsh Crust RAP/ROD identifies restrictions on excavations that vary by location and apply to all or portions of some Parcels covered by the FOST. Figure 7 includes a depiction of the areas that are subject to the Marsh Crust Ordinance and that are subject to the Marsh Crust RAP/ROD restrictions.

4.2 PETROLEUM PRODUCTS AND DERIVATIVES

The history and status of the Alameda Point Petroleum Program are documented in the "Petroleum Management Plan" (Battelle 2010), a subsequent update (Battelle 2012; Multi-media Environmental Compliance Group 2017), and a "Technical Memorandum Regarding Second Update (2016) to the Petroleum Strategy" (Regional Water Board 2015a). Unless otherwise noted, these three documents are the primary sources for the descriptions in the following Sections 4.2.1 through 4.2.5 and associated tables (Tables 4, 5, and 6).

The Petroleum Program was created to address potential and actual soil and groundwater contamination related to petroleum products, which are excluded from CERCLA. The Navy developed a fuel site closure plan in 2001 in cooperation with the Regional Water Board and DTSC. The Regional Water Board provided concurrence on the approach in a letter issued in 2001 (Regional Water Board 2001).

The Navy identified a variety of corrective action areas (CAA) as part of the Petroleum Program (Figure 4). CAAs that are wholly or partially within the FOST Parcels are listed in Table 4. Some of the sites included in the Petroleum Program were originally identified as part of the RFA prepared by the Navy and DTSC in 1992 (DTSC 1992b); the purpose of the RFA was to identify sites potentially requiring closure under RCRA regulations. As discussed in Section 3.1, all former RCRA SWMUs that had not previously been closed under RCRA, were transferred to either the CERCLA or Petroleum Programs (SulTech 2007). RCRA SWMUs that were transferred to the Petroleum Program included individual or collections of OWSs, and generator accumulation points (Table 2 and Figure 8).

There are no ASTs located within the FOST Parcels as shown on Figure 9. Underground FLs are identified in Table 5 and shown on Figure 10.

4.2.1 Open Petroleum Program Sites

The Petroleum Program sites within the FOST Parcels discussed in this subsection are open and will be transferred prior to obtaining regulatory closure subject to the notices and restrictions discussed in Section 5.2. The open sites include the following (shown on Figure 4):

- Sites with outstanding site closure requests that are awaiting written regulatory concurrence
- Sites pending submission of site closure requests
- Sites requiring further investigation, remediation, and/or monitoring activities

CAA-B North: The site consists of FL-054, FL-068, FL-074, FL-073, FL-106, FL-107, and FL-109 used to transport jet fuel (about 2,600 feet). The FLs were removed in 1998 and they remain open sites with the exception of FL-074. FL-074 was closed without conditions (Regional Water Board 2014). The site is located within and adjacent to Parcel FOST3B-3. Petroleum Site CAA-B North requires further investigation and monitoring activities prior to closure. Additional soil and groundwater sampling is planned to delineate the extent of soil and groundwater contamination at the site.

CAA-B South: The site consists of the area around the three east-west, parallel FLs used to transport jet fuel, with multiple crossing FLs (about 22,500 feet) that link a series of fueling pits. The FLs were abandoned in place in 1998. The site is located within and adjacent to Parcel FOST3B-4 as shown on Figure 4. The extent of petroleum hydrocarbons, including PAHs in soil and PAHs and lead in groundwater, has not been fully assessed in portions of CAA-B South, and further investigation and monitoring activities are required for this area prior to site closure.

CAA-6: A small area of the site overlaps the northernmost portion of Parcel FOST3B-2. The CAA consists of the area around former Building 373 that was used as a fuel-loading station.

It includes USTs 373-1 and 373-2 (sometimes collectively called AOC 373), OWS 373, and a solvent storage area known as Generator Accumulation Point 37. The building, USTs, and OWS were all removed in 1998 and 1999. Dual-vacuum extraction and biosparging systems were installed and operated between 2002 and 2005. A small portion of the site, but none of the above-listed associated features, is within the FOST Parcel. Petroleum Site CAA-6, including the portion that overlaps into the FOST Parcel, requires further investigation and monitoring activities prior to closure. Semiannual groundwater monitoring events are planned to assess current TPH concentrations.

4.2.2 Open Aboveground Storage Tanks, Oil and Water Separators, Washdown Areas, Underground Storage Tanks, and Fuel Line Sites

There are no open ASTs, OWSs, washdown areas, USTs, or FL Petroleum Program sites present in the FOST Parcels that are not associated with a CAA or CERCLA site.

4.2.3 Closed Petroleum Program Sites

The following Petroleum Program sites are closed with written regulatory concurrence. Figure 4 shows all closed AOCs and CAAs in the area of the FOST Parcels.

AOC 23G: The site consists of 0.9 acre and is located in the northwest portion of NAS Alameda (Figure 4). The site is located at the eastern end of former Runway 25 and a portion of the site is contained within Parcel FOST3B-1. The site included former Building 71 (former Navy Exchange Service Station) and associated shop services maintenance garage. There were three USTs: one 8,000-gallon and two 5,000-gallon USTs that presumably contained gasoline or diesel fuels. All components reportedly were removed in 1951 to accommodate the extension of Runway 25. In 1995, as part of the environmental baseline survey (EBS), samples were collected that documented a release had occurred; however, it is not considered significant. In 2015, the Regional Water Board closed the site with NFA (Regional Water Board 2015b). There are no notices or restrictions required for AOC 23G.

CAA-12: The site consists of the area around Building 29 that was an aircraft weapons overhaul and testing facility; Building 38, which served as an acoustical enclosure for aircraft engines; and Facilities 461A, B, and C, which served as aircraft run-up areas. The site includes former AST 029 and former OWS 038. Former buildings 461A, B, and 38 were entirely located within Parcel FOST3B-4. Building 461C was partially located within the Parcel FOST3B-4, and Building 29 was adjacent to the west. Only the petroleum feature OWS 038 is located within the Parcel FOST3B-4 and it received closure by the Regional Water Board (Regional Water Board 2017b). Two small areas of CAA-12 were established to reflect specific areas of environmental concern. Those areas, CAA-12N and CAA-12S, received closure from the Regional Water Board. Following closure of those small areas, detailed as follows, the Regional Water Board issued an NFA closure letter for CAA-12 (Regional Water Board 2017b).

CAA-12N was identified as a site based on surface hydrocarbon staining attributed to leaks of fluids from airplane parking, maintenance, and refueling. Site CAA-12N is closed with NFA required by the Regional Water Board (Regional Water Board 2016a). This site has no requirements or conditions.

CAA-12S was identified based on a footprint of surface soil staining that was attributed to spills or leaks of jet fuel, hydraulic fluid, and oil. Site CAA-12S is closed with NFA required by the Regional Water Board (Regional Water Board 2016b). This site has requirements/conditions to protect the public against residual petroleum in soil and groundwater, which are discussed in Section 5.2.1. A notice will be included in the deed for the area identified as CAA-12 South on Figure 7.

FL-071, FL-023F, and FL-109 South in CAA-B South is a 13-acre site located immediately north of Seaplane Lagoon in the southern portion of CAA-B. CAA-B South consists of 12 fuel lines located within and adjacent to the FOST Parcels. FL-071, FL-109 South, and portions of FL-023F, referred to as FL-023F East, are in and adjacent to the FOST Parcel and have been closed with NFA required by the Regional Water Board (Regional Water Board 2017a). Former FL-071 was removed in September 1998. FL-023F East was closed in place in August 1998 and consists of the eastern parts of the 17,612-foot FL-023F pipeline. This includes approximately one 1,344-foot west-east segment, two 538-foot west-east segments, nine 180-foot north-south segments, and four 246-foot north-south segments, for a total of 5,024 feet of pipeline. Former FL-109 was removed in July 1998. FL-109 South consisted of the southern portion of the 300-foot-long FL-109 pipeline. The portions of FL-023F East and associated CAA-B South have requirements/conditions to protect the public against residual petroleum in soil and groundwater, which are discussed in Section 5.2.1. Language will be included in the deed for the area identified as CAA-B South on Figure 7.

TC Sump. The site consists of about 0.01 acres (10-foot radius around a Terra Cota "TC" Sump) located 170 feet northwest of the northwest corner of the Seaplane Lagoon as shown on Figure 8. The TC Sump was part of a drainage system that routed fuel and fluids south from former fueling pits located west of the hangar buildings (Buildings 20 through 24) via a system of pipelines to the TC Sump. The fueling pits and associated pipelines were oriented along a north-south alignment in the aircraft run-up areas (believed to be engine-warming areas). The pipelines associated with the drainage system were grouted in place in 2001. A geophysical survey indicates that the sump no longer exists and was most likely removed during construction of Building 25. The Regional Water Board closed the TC Sump site without conditions (Regional Water Board 2015c).

4.2.4 Closed Underground Storage Tanks

There are no former or current USTs located within the FOST Parcels.

4.2.5 Closed Aboveground Storage Tanks and Fuel Line Sites

There are no closed Petroleum Program ASTs, FLs, or OWSs present in the FOST Parcels that are not associated with a CAA or CERCLA site. No aircraft washdown areas are present in the FOST Parcels. Additional information can be found for FLs in Table 5. No notifications or restrictions are required for the sites listed in Table 5 to ensure the property remains protective of public health, safety, or the environment. FL-023F East has conditions associated with the NFA.

4.3 ASBESTOS-CONTAINING MATERIAL

DoD policy is to manage ACM in a manner protective of human health and the environment and to comply with all applicable federal, state, and local laws and regulations governing ACM hazards (DoD 1994). As noted in Section 2.0, the FOST Parcels were subject to the LPL and are currently subject to the existing EDC MOA and LIFOC with the City (Navy and ARRA 2000b). All available information regarding the existence, extent, and condition of known ACM was fully identified in Exhibit "B" to the LPL and again in Exhibit "I" to the EDC MOA. In addition, ACM may be present in underground utility lines. As required by the LPL and LIFOC, the City has been responsible for monitoring the condition of existing ACM in compliance with all applicable federal, state, and local laws relating to ACM, and restricting the use or occupancy of any buildings or structures containing known ACM prior to abatement of the ACM or demolition of the structure.

For the FOST Parcels, a notification regarding the potential presence of ACM, including the potential presence of ACM in underground utilities or structures within the FOST Parcels will be included in the deed. A restriction will also be included in the deed, as discussed in Section 5.3, to require the transferee to properly manage ACM after deed transfer.

4.4 LEAD-BASED PAINT

LBP hazards are defined in the Federal Residential Lead-Based Paint Hazard Reduction Act of 1992 (Title X of Public Law 102550), as codified in 42 U.S.C. § 4822 (the Act) as "any condition that causes exposure to lead that would result in adverse health effects." The Act provides for regulation of the lead hazard from LBP. Hazards include lead-contaminated dust and soil for target housing only. The Act defines target housing as any housing constructed before 1978, except any housing for the elderly or persons with disabilities (unless any child who is less than 6 years of age resides or is expected to reside in such housing for the elderly or persons with disabilities) or any zero-bedroom dwelling. Under the Act, the Navy is required to disclose the presence of known LBP and/or LBP hazards prior to the sale or transfer of property to a non-federal entity. There is no target housing in the FOST Parcels.

Notice of the potential presence of LBP in the buildings subject to the LIFOC at Alameda Point was provided to the City in 2000 when the LIFOC was executed (Navy and ARRA 2000a). The LIFOC transferred responsibility for LBP within the lease boundaries from the Navy to the City and required the City to comply with all applicable federal, state, and local laws.

The LIFOC also notified the City that (1) buildings and other painted structures in the leased premises potentially contained LBP, and (2) such buildings and structures were not suitable for occupancy for residential purposes until any inspections and abatement required by applicable law had been completed.

As a condition of property transfer, the transferee(s) will be required to acknowledge receipt of the EPA-approved pamphlet, "Protect Your Family From Lead in Your Home," (EPA 747-K-94-001) and to agree that for any improvements on the property defined as target housing by Title X and constructed before 1978, LBP hazards will be abated or disclosed to future occupants before use of such improvements as a residential dwelling.

A notification will be provided by the Navy that all buildings at Alameda Point that were constructed prior to 1978 may contain LBP, and demolition of nonresidential buildings constructed before 1978 poses the possibility that lead will be found in the soil as a result of these activities. As a condition of redevelopment, transferees may be required under applicable law or regulation to evaluate the soil adjacent to the nonresidential buildings for the hazards of lead in soil.

4.5 POLYCHLORINATED BIPHENYLS

DoD policy guidance for PCBs is based on the Toxic Substances Control Act regulations found in Title 40 of the Code of Federal Regulations Part 761. Sampling confirmed that all Navy equipment at Alameda Point with oil or other dielectric fluids that contained PCBs had concentrations of less than 40 parts per million; this equipment was transferred to the Alameda Bureau of Power and Light, currently known as the Alameda Municipal Power, in 2001.

4.6 MUNITIONS AND EXPLOSIVES OF CONCERN

Under the Munitions Response Program, the Navy conducted a search to address munitions and explosives of concern (MEC) and munitions constituents used or released at sites from past on-site activities.

In 1994, an EBS report was prepared and included a fence-to-fence inspection, a comprehensive document review, and personnel interviews to establish and document the history of MEC use, storage, and disposal at Alameda Point. The EBS report did not identify that ordnance storage had occurred within the FOST Parcels.

Ordnance was stored and used at Alameda Point throughout its history as a military installation. Ordnance storage included ship and aircraft weapons systems, combat force weapons, and small arms and ammunition used by base security personnel. The Navy has removed all stored ordnance from Alameda Point (Engineering Field Activity West Naval Facilities Engineering Command 1999). A Close-Out Explosives Safety Inspection was conducted March 4 to March 8, 2013, at Alameda Point, with research and off-site auditing conducted through September 2013. Based on inspection results, Alameda Point is in compliance with Termination

of Potential Explosion Sites requirements of Naval Sea Systems Command Ordnance Pamphlet 05 (Naval Ordnance Safety and Security Activity [NOSSA] 2013). Explosives safety quantity distance arcs for all potential explosion sites, not previously cancelled, at Alameda Point, are officially removed (NOSSA 2014). DoD Explosives Safety Board approval for transfer is not required for the specific property within the FOST Parcels.

No further MEC investigation is required for these FOST Parcels and no additional notices are required with respect to MEC.

4.7 RADIOLOGICAL PROGRAM

During the basewide EBS, the Navy reviewed on-site records and searched for additional information on known and potential uses of radiological materials at Alameda Point (ERM-West, Inc. 1994). Radioactive materials are any materials that are radioactive, except for excluded radioactive materials as defined in CERCLA § 101(22). Following the EBS, the Navy conducted a 1995 radiological survey and a subsequent Historical Radiological Assessment "Final Historical Radiological Assessment Volume II, Alameda Naval Air Station, Use of General Radioactive Materials, 1941–2005" (HRA; Weston Solutions, Inc. [Weston] 2007).

The results of the HRA were presented as a two-volume set. Volume I addressed radioactivity associated with the Naval Nuclear Propulsion Program (Pearl Harbor Naval Shipyard 2000). Volume II addressed radioactivity associated with general radioactive material (G-RAM), which, for the purposes of the HRA, is defined as any radioactive material used by the Navy or Navy contractors not associated with the Naval Nuclear Propulsion Program (Weston 2007). The two volumes were written by different organizations and published separately because G-RAM and the Naval Nuclear Propulsion Program are managed by different Naval Sea Systems Command offices.

4.7.1 Naval Nuclear Propulsion Program

Historically, nuclear-powered ships used NAS Alameda port facilities. Volume I of the HRA presented the Navy's investigation of radioactivity associated with the Naval Nuclear Propulsion Program at former NAS Alameda (Pearl Harbor Naval Shipyard 2000). The HRA assessed the impact on the environment from nuclear-powered ship maintenance, overhaul, and refueling. The HRA concluded that the berthing and maintenance of nuclear-powered ships at NAS Alameda from 1956 to 1997 resulted in no adverse effects on human health or the environment. As noted in the submittal letter for the Final HRA Volume I, DTSC had no comments, EPA was satisfied with the HRA draft, and no further response was required (Navy 2000). Volume I of the HRA also concluded that an independent review conducted by EPA was consistent with findings presented in the Navy report (Engineering Field Activity West Naval Facilities Engineering Command 1999).

No notices or restrictions are required regarding the Naval Nuclear Propulsion Program.

4.7.2 General Radioactive Material

Alameda Point used and stored G-RAM during past base operations. Volume II of the HRA designated historical use sites as either radiologically "impacted" or "non-impacted." The HRA defined a site as "impacted" when the site "has or historically had a potential for G-RAM contamination based on the site operating history or known contamination detected during previous radiation surveys." Therefore, an "impacted" site designation identified a site as having a possibility for contamination based on historical records. Impacted sites include those where radioactive materials were used or stored; known spills, discharges, or other instances involving radioactive materials have occurred; or where radioactive materials might have been disposed of or buried (Weston 2007).

Of 685 potential G-RAM sites at Alameda Point, the HRA historical review of records designated 23 as potentially radiologically "impacted." Of these impacted sites, one (the Seaplane Ramp and Parking Apron) is located within a FOST Parcel and is discussed below (see also Table 6). Portions of radiologically impacted Storm Drain Lines F and FF that were removed and replaced with new lines are also located in a FOST Parcel (Table 6 and Figure 6). The radiological site locations and status of each site within the FOST Parcels are shown on Figure 6.

The Seaplane Ramps and Parking Apron (Figure 6) is an impacted site for which the HRA recommended "free release pending final Navy and regulatory agency review and concurrence of a 100 percent gamma survey." "Free release" is defined in the HRA as "a recommendation made after historical documentation and previous and current investigations and surveys indicate all applicable release criteria have been met and the site is ready for review by Navy and regulatory agencies for future non-radiological use." The "Final Radiation Survey Report, Naval Air Station, Alameda, California, Volume I" found the seaplane ramps and parking apron to be within acceptable radiological contamination limits and the survey was reviewed and concurred upon by the Navy and regulatory agencies (PRC Environmental Management, Inc. 1998). The seaplane parking apron was also used during the IR Sites 5 and 10 TCRA to dry and screen sediment removed during the excavation and replacement of two radiologically contaminated storm drain lines (F and FF) that ran through Parcel FOST3B-4.

Prior to the IR Site 17 remedial action, source removal actions were conducted within the parking apron along the SPL shoreline. In addition to the TCRA for Storm Drain Lines F and FF, the removal actions also included removal of three construction debris piles, which were partially located on the parking apron shoreline and partially were submerged within the SPL. The debris piles areas were not backfilled, and the former debris piles areas are now submerged, as part of SPL. During the IR Sites 5 and 10 TCRA, radiological surveys were conducted along the western shoreline of the SPL, along the eastern shoreline in the vicinity of Outfall G, and following removal of the pads installed for the Storm Drain Lines F and FF sediment. Results indicated that only background levels of radioactivity were present. The IR Sites 5 and 10 TCRA also provided initial characterization and partial removal of the Radiological Anomaly Area located within the parking apron, near the shoreline. The remediation of this area was completed as a part of the IR Site 17 remedial action, and is described further below.

Subsequently, the seaplane ramps and parking apron were incorporated in the Radiologically Controlled Area in support of the remedial action at IR Site 17; a large drying pad was built over the previously released area on the seaplane ramps and parking apron. After the dredge work and sediment drying were completed, the Navy removed the drying pad. A radiological surface survey was conducted of the Seaplane Ramps and Parking Apron. The results indicated that only background levels of radioactivity are present, with no measurements exceeding the release criteria (TtEC 2011). No evidence of residual radioactivity from historical Navy activities was found. The Final RACR for IR Site 17 concluded that remedial action is complete and the area requires no notices or restrictions. DTSC and EPA concurred with the conclusions of the RACR (DTSC 2016; EPA 2016a).

Storm Drain Lines F and FF and Outfalls F and FF: Storm Drain Lines F and FF are associated with Buildings 5 and 400 and are partially contained within Parcel FOST3B-4 as shown on Figure 6. Storm Drain Line F and FF discharged into the northwest corner of the SPL and contained radioactive contamination and required a response action as detailed in Section 4.1.1. The "Final Record of Decision OU-2C (IR Sites 5, 10, and 12), Former Naval Air Station, Alameda, California" documents NFA for these lines and no notices or restrictions related to the Storm Drain Lines F and FF and Outfalls F and FF in Parcel FOST3B-4 are required (Navy 2014).

The Radiological Anomaly Area, located adjacent to Outfall F (Figure 6), was partially removed during an IR Sites 5 and 10 TCRA; however, high tides prevented the entire area from being removed at that time. Based on chemical and radiological analyses, GEL Laboratories, LLC, suggested that the anomaly material was very likely paint formulated using radium and zinc sulfide. The anomaly removal was completed after installing a cofferdam to isolate the area from the SPL. The IR Site 17 RACR documents completion of the remedial action for the Radiological Anomaly Area. DTSC and EPA's IR Site 17 concurrence on the IR Site 17 remediation included concurrence that remedial action is complete for the Radiological Anomaly Area (DTSC 2016; EPA 2016a).

Shoreline Scoping Survey: A scoping survey was conducted along the entire western SPL shoreline, due in part to the anomaly discussed above, and in response the Naval Air Rework Facility historical activities. An overall shoreline distance of approximately 480 meters was surveyed. A scoping survey was also conducted along the eastern shoreline from a point 30 meters north of Outfall G to a point 30 meters south of Outfall H, an overall distance of approximately 70 meters. The survey spanned a distance of approximately 6 meters inland from the top of the riprap slope and up to 5 meters downward along the riprap slope. No elevated readings were identified as a result of the surveys on the eastern shoreline around Outfall G. On the western shoreline, three discrete items were discovered and removed. After removing each of the items, 1 cubic foot of soil was removed from each of the locations where the items were found and confirmation samples were collected. Confirmation sample results verified removal of the contamination (TtEC 2011).

Storm Drain Line A and Outfall A: Portions of Storm Drain Line A and Outfall A lie within Parcels FOST3B-1 and FOST3B-2, as shown on Figure 6. Based on investigations and as

documented in the OU-2C Drain Line ROD, no action is necessary for Outfall A. Storm Drain Line A was investigated to evaluate whether it is radiologically impacted. The investigation included hydro-jetting, video surveys, gamma surveys, and limited excavation and disposal of sediment for the main trunk of Storm Drain Line A. This line was designated as NFA in the OU-2C Drain Line ROD. No notices or restrictions related to Storm Drain Line A and Outfall A in Parcels FOST3B-1 and FOST3B-2 are required (Navy 2016).

Storm Drain Line G: Portions of Storm Drain Line G lie within Parcel FOST3B-3. Storm Drain Line G was investigated to evaluate whether it is radiologically impacted. The investigation included hydro-jetting, video surveys, gamma surveys, and limited excavation and disposal of sediment for the main trunk of Storm Drain Line G. This line is shown on Figure 6 and was designated as NFA in the OU-2C Drain Line ROD and no notices or restrictions related to the Storm Drain Line G in Parcel FOST3B-2 are required (Navy 2016).

4.8 PESTICIDES

The FOST Parcels may contain residue from pesticides that have been applied in the management of the property. The Navy knows of no use of any registered pesticide in a manner inconsistent with its labeling and believes that all applications were made in accordance with the Federal Insecticide, Fungicide, and Rodenticide Act, Title 7 U.S.C. § 136, et seq., its implementing regulations, and according to the labeling provided with such substances. It is the Navy's position that it shall have no obligation under the covenants provided pursuant to Section 120(h)(3)(A)(ii) of CERCLA, Title 42 U.S.C. § 9620(h)(3)(A)(ii), for the remediation of legally applied pesticides. Regional Water Board authorities may require cleanup in the event that pesticides impact or threaten to impact beneficial uses.

4.9 OTHER AREAS INVESTIGATED/ISSUES

Perfluorinated compounds (PFC) and polyfluoroalkyl substances (PFAS) including perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) are "emerging" contaminants for which no specific regulatory or clean-up criteria have been promulgated. Consequently, they have not been previously included in basewide groundwater monitoring. In May 2016, the EPA issued a Lifetime Health Advisory (LHA) to provide Americans, including the most sensitive populations, with a margin of protection from a lifetime of exposure to PFOA and PFOS in drinking water (EPA 2016a). EPA established the health advisory level at 70 parts per trillion for the combined concentrations of PFOA and PFOS in drinking water.

Shallow groundwater at the former NAS Alameda is not used as a drinking water source and is not anticipated to be a future drinking water source (Alameda 2000). However, in October 2016, the Navy conducted a basewide groundwater monitoring event across the former NAS Alameda, which included sampling and analysis to confirm the presence or absence of PFCs/PFAS; specifically, PFOS, PFOA, and perfluorobutane sulfonate (PFBS) at six selected IR sites. None of the six groundwater sampling locations are on the FOST Parcels. Sample results at IR Sites 5, 6, 10 and 26, which are adjacent to various FOST parcels, exceeded the drinking water screening

criterion for PFAS. The results of this sampling are further detailed in Section 6.0 – Adjacent Properties.

5.0 SUMMARY OF RESTRICTIONS

This section summarizes the restrictions associated with the FOST Parcels proposed for transfer related to CERCLA/RCRA sites, petroleum sites, ACM, and LBP. These restrictions on certain activities ensure that post-transfer uses of the FOST Parcels are consistent with protection of human health and the environment.

5.1 CERCLA

As detailed in the following subsections, institutional controls (IC) will be implemented to prevent exposure to chemicals of concern (COC) in soil on the FOST Parcels. ICs will be included in the deed(s) between the Navy and the property recipient and in Covenants(s) to Restrict Use of Property between DTSC and the property recipient to limit exposure to contaminated soil. The CERCLA ICs will be implemented in accordance with remedial design documents for CERCLA sites where the remedy includes land-use restrictions.

Marsh Crust areas located within the FOST Parcels require CERCLA-related restrictions, which are discussed below. Figure 7 shows the approximate boundaries of these restrictions.

5.1.1 Marsh Crust

The Marsh Crust RAP/ROD (Navy 2001) was signed in February 2001. The Marsh Crust RAP/ROD identifies restrictions on excavations within the dashed purple line shown on Figure 7 including all of Parcel FOST3B-3 and portions of Parcels FOST3B-2 and FOST3B-4. In addition, excavation in the four FOST Parcels below the specified depths of 5 or 10 feet below ground surface as shown on Figure 7 must be performed using proper precautions outlined in the City Excavation Ordinance Number 2824 (City of Alameda 2000 and Navy 2001) to protect worker health and safety and to ensure that excavated material is disposed of properly. This prohibition will be implemented with a three-tiered approach following transfer of the land from the Navy to the transferee(s):

(1) A land-use covenant will be executed between DTSC and the transferee(s)

(2) An environmental restriction will be included in the deed

(3) Enforcement of the existing City Excavation Ordinance Number 2824 (City of Alameda 2000 and Navy 2001).

The Navy, City, and DTSC will all have enforcement authority for the Marsh Crust restrictions.

5.2 PETROLEUM PRODUCTS AND DERIVATIVES

Five Petroleum Program sites are located within the FOST Parcels (see Figure 4), CAA-B (North and South), CAA-6, CAA-12, and AOC 23G. Petroleum Sites CAA-12 and AOC 23G are partially contained within the FOST Parcels and have been closed. Petroleum Sites CAA-B North and CAA-6 are partially contained within the FOST Parcels and are open. Petroleum Site CAA-B South is partially located within the FOST Parcels and has been partially closed. One Petroleum Program site, CAA-10, is located adjacent to the FOST Parcels (see Figure 4) and while closed, impacts the FOST Parcels as described in the following subsections. Regional Water Board closure letters for closed Petroleum Sites referred to in this FOST are provided in Attachment 3.

5.2.1 Closed Petroleum Sites

Federal quitclaim deed(s) for transfer of property that include petroleum sites closed subject to conditions will contain a notice stating that the property has been investigated and remediated, but contains residual petroleum contamination. For any conditions with restrictions requiring enforcement of land use covenants, the property will be the subject of a recorded covenant between the City and the Regional Water Board that identifies the conditions and requirements necessary to protect human health, safety and the environment ("Covenant"). The Covenant will be executed and recorded immediately following conveyance of the property by the Navy to the City. A footprint of sites to which the Covenant shall apply shall be identified on a map to be approved by the Regional Water Board and attached to the Covenant. Property that includes restricted or conditioned closed petroleum sites will be enrolled in the City Land-Use Restriction Tracking and Site Management Plan Program ("City Program"). Any work conducted on the property that involves soil excavation, trenching, or groundwater contact shall be conducted in accordance with the Covenant and/or the City Program.

AOC 23G is a closed petroleum site partially located in Parcel FOST3B-1 as shown on Figure 4. The site was closed without restrictions as discussed in Section 4.2.3 (Regional Water Board 2015b).

UST 491-1 within CAA-10 is a closed petroleum site that is located to the north and shares a boundary with Parcel FOST3B-4, as shown on Figure 4. As discussed in Section 6.2.3.5, CAA-10 was closed with restrictions for the area identified as "UST 491-1 Restriction" on Figure 7 (Regional Water Board 2012). The restricted buffer area extends beyond the boundaries of Petroleum UST 491-1 (within Site CAA-10) and into the FOST Parcels; the following restrictions apply to the area shown on the figure:

- No residential land use.
- No grading, excavation, or subsurface activities without a soil management plan that includes procedures for proper notification, handling, and disposal of any potentially contaminated soil or groundwater encountered during construction or removed from the site. The plan must be acceptable to the Regional Water Board.

- Shallow groundwater beneath the site cannot be used for drinking water or other potential uses.

- The Regional Water Board must be notified in writing of any proposed change in land or groundwater use at the site.

- Any monitoring wells that will no longer be used must be properly destroyed pursuant to equivalent requirements of Alameda County Environmental Health Department and documentation of well destruction shall be submitted to the Regional Water Board.

CAA-12 is a closed petroleum site and includes CAA-12N and CAA-12S located in Parcel FOST3B-4 (shown as CAA-12 on Figure 4). CAA-12 and CAA-12N were closed without restrictions as discussed in Section 4.2.3 (Regional Water Board 2016a and 2017b). CAA-12S was closed with conditions/requirements for the area identified as CAA-12S on Figure 7 (Regional Water Board 2016b, 2017b). The conditions/requirements are discussed as follows:

- No residential land use.

- No grading, excavation, or subsurface activities without a soil management plan that include procedures for proper notification, handling, and disposal of any potentially contaminated soil or groundwater encountered during construction or removed from the site. The plan must be acceptable to the Regional Water Board.

- Shallow groundwater beneath the site cannot be used for drinking water or other potential uses.

- The Regional Water Board must be notified in writing of any proposed change in land or groundwater use at the site.

- Any monitoring wells that will no longer be used must be properly destroyed pursuant to equivalent requirements of Alameda County Environmental Health Department and documentation of well destruction shall be submitted to the Regional Water Board.

The area (CAA-12) is subject to the Naval Air Station Alameda Public Trust Exchange Act (Tidelands Trust) (Senate Bill No. 2049), which is sufficiently protective. Deed language will reference the Tidelands trust and any necessary requirements or conditions.

CAA-B South is a petroleum site partially contained within FOST3B-4. Site investigation is complete and no further action (NFA) is required for the former fuel pipelines (Fuel Lines 071, 023F East, and 109 South) located in CAA-B South, but portions of CAA-B South remain open as shown on Figure 4. FL-071, FL-023F East, and FL-109 South were closed with NFA, subject to specific site closure conditions/requirements, based on the assumption that shallow groundwater beneath the site is not suitable for drinking water or other potential uses (Figure 7

and Figure 10) (Regional Water Board 2017a). Because shallow groundwater use is unlikely, site-specific land use controls and covenants restricting groundwater use are not required. Specific site closure conditions/requirements applicable to the closed portions of CAA-B South will be addressed by notifications included in the federal deed for the FOST parcel. Any work conducted on the property that involves soil excavation, trenching, or groundwater contact shall be conducted in accordance with the City Program. Additionally, the Regional Water Board shall be notified in writing of any proposed change in land or groundwater use at the Property.

5.2.2 Open Petroleum Sites

Open petroleum sites CAA-B North, portions of CAA-B South, and CAA-6 are partially located within the FOST Parcels and have yet to obtain regulatory closure. Details regarding the environmental conditions of these sites are further discussed in Section 4.2.1. The transfer of open Petroleum Program sites is further discussed below.

Although the Navy intends to obtain regulatory closure for all sites under the Petroleum Program, the FOST Parcels will likely be transferred before the Navy obtains regulatory closure for some petroleum sites. The Navy retains responsibility for obtaining regulatory closure, including required investigation, remediation, and reporting, for these open sites after the transfer. Transfer while petroleum remediation is ongoing is allowable under CERCLA because CERCLA § 101(14) excludes crude oil and fractions of crude oil from the definition of a hazardous substance, including the hazardous substances such as benzene that are constituents of those petroleum substances. The Navy will fulfill its petroleum remediation obligation either by completing regulatory closure under Navy direction or by negotiating an agreement with the transferee to complete these actions on behalf of the Navy.

Federal quitclaim deed(s) for transfer of property that include open petroleum sites will contain a notice saying that the property has not been remediated to the satisfaction of the Regional Water Board, or has not been investigated to the satisfaction of the Regional Water Board to determine whether corrective action is appropriate. The property will be enrolled in the City Program discussed above, and any work conducted on the property that involves soil excavation, trenching, or groundwater contact shall be conducted pursuant to a Site Management Plan that is acceptable to the Regional Water Board, and in accordance with the City Program. However, such regulatory closure remains the Navy's responsibility and will be obtained at Navy direction or by negotiating an agreement with the transferee to complete these actions on behalf of the Navy.

5.3 ASBESTOS-CONTAINING MATERIAL

The deed will contain a notice that ACM may be present in building, structures, and inaccessible utility lines and a restriction implemented as a covenant running with the land, prohibiting occupancy and use of buildings and structures, or portions thereof, containing known asbestos hazards before abatement of such hazards. In connection with its use and occupancy of the FOST Parcels, including, but not limited to, demolition of buildings, structures, and inaccessible

underground utility lines containing asbestos or ACM, the transferee will be required to comply with all applicable federal, state, and local laws relating to asbestos and ACM.

In the event that friable, accessible, or damaged asbestos is discovered by the transferee, access, use, or occupancy of buildings or structures shall be prohibited until either (1) any necessary ACM abatement has been completed; or (2) the building or structure is demolished by the transferee in accordance with all applicable federal, state, and local laws and other requirements relating to asbestos or ACM. Until abatement or demolition is complete, the transferee must manage the ACM in accordance with all applicable federal, state, and local laws and requirements.

5.4 LEAD-BASED PAINT

The deed will contain a restriction that the transferee covenants, on behalf of itself, its successors and assigns, as a covenant running with the land, in its use and occupancy of the property, including, but not limited to, demolition of buildings, structures, and facilities, and identification and evaluation of any LBP hazards, the transferee shall be responsible for managing LBP and LBP hazards in accordance with applicable federal, state, and local laws, and other requirements relating to LBP and LBP hazards. Further, the transferee, its successors and assigns will prohibit residential occupancy and use of buildings and structures, or portions thereof, prior to identification and/or evaluation of any LBP hazards, and abatement of any hazards identified as required.

6.0 ADJACENT PROPERTIES

CERCLA and Petroleum Program sites located immediately adjacent to the FOST Parcels that could affect the FOST Parcels are discussed in Sections 6.1 and 6.2. Environmental programs at Alameda Point have progressed to the point where characterization of the extent of contamination is generally complete and the CERCLA and Petroleum Program site boundaries have been established to conservatively encompass all known contamination as well as any anticipated migration. As a result, these boundaries may be generally relied upon to evaluate whether the FOST Parcels are impacted by adjacent sites simply by identifying whether the site boundaries overlap onto the FOST Parcels. A review of CERCLA and Petroleum Program sites adjacent to the FOST Parcels shows that none of the adjacent sites is a potential source of contamination to the FOST Parcels, as further discussed in Sections 6.1 and 6.2.

6.1 ENVIROSTOR AND GEOTRACKER LISTED SITES

The DTSC EnviroStor and Regional Water Board GeoTracker databases were reviewed to identify whether any sites exist on the Alameda Point property that could affect the FOST Parcels. Sites outside of the Alameda Point boundary are far enough away that they would not affect the FOST Parcels. This section summarizes the evaluation of such sites.

Because of the size of Alameda Point, the majority of environmental sites adjacent to the FOST Parcels are associated with past Navy releases, and thus the Navy has the necessary information available to assess potential risks posed by these sites (Section 6.2). To identify adjacent environmental sites outside of Navy control, the DTSC EnviroStor and Regional Water Board GeoTracker databases were reviewed to evaluate whether any of these types of sites could affect the FOST Parcels. No non-Navy environmental releases were identified based on EnviroStor records.

The GeoTracker database lists only one non-Navy environmental site on Alameda, west of Main Street. The site is approximately a quarter mile from the FOST Parcels, is a closed site, and is not likely to impact the FOST Parcels.

6.2 FORMER NAS ALAMEDA ADJACENT PROPERTY

The following subsections address the property adjacent to the FOST parcels that is undergoing evaluation or remedial action pursuant to the CERCLA, petroleum, and radiological contaminants program. Storm drain corridors in the adjacent property have been investigated under the CERCLA Program and have been determined to not impact the FOST Parcels. In addition to the contaminants addressed by the CERCLA, petroleum, and radiological programs, PFAS was identified as an emerging contaminant at Alameda Point in the 2016 Five Year Review (Sealaska Technical Services, LLC 2016).

The Navy sampled groundwater at six IR sites where PFAS constituents may have been used (IR Site 4, 5, 6, 10, 14, 26), including fire fighter training areas, plating shops, aircraft maintenance shops, and hangars. PFAS was detected above the U.S. EPA 2016 LHA for drinking water in at least one groundwater sample at each site. Of the six sites, IR Sites 5, 6, 10, and 26 are located adjacent to the FOST Parcels (see Figure 5). Sites 5 and 6 are cross- and down-gradient to FOST parcel 3B-3. Sites 5 and 10 are up-gradient to FOST parcel 3B-4. Site 26 is cross-gradient to FOST parcels 3B-2. The shallow groundwater at the sites adjacent to the FOST parcels is not used for drinking water and is not anticipated to be used for drinking water in the future. In addition, there will be institutional controls on the use, handling and disposal of groundwater at IR Sites 5, 6 and 10. While the presence of PFAS has not been confirmed within the FOST parcels, PFAS may be present.

6.2.1 CERCLA Program Sites

A number of CERCLA Program sites are located adjacent to the FOST Parcels (see Figure 5). As discussed in the following subsections, adjacent CERCLA Program sites are not expected to impact the FOST Parcels.

6.2.1.1 OU-2C (IR Site 5, 10, and 12)

OU-2C consists of IR Sites 5, 10, 12, and adjacent areas as shown on Figure 5 and Figure 6. In addition, portions of Storm Drain Lines A, G, F, and FF, industrial waste lines and sanitary sewer lines are located within 100 feet of the FOST Parcel (as well as within the FOST Parcel) and have been addressed as part of the OU. The potential impact of each of these adjacent IR sites and drain lines are discussed in the following sections.

6.2.1.1.1 IR Site 5

IR Site 5, which includes Building 5 (Aircraft Rework Facility), is 47 acres in size and is located on the north side of OU-2C. IR Site 5 was used for aircraft, aircraft component repair, and maintenance operations, including cleaning, rework, and manufacture of metal parts; plating, painting, and tool maintenance operations; and specialty operations, including the application of radioluminescent paint (containing radium-226) to aircraft dial faces and refurbishment of aircraft instrumentation. Storm drain lines, sanitary sewer lines, industrial waste lines, a hazardous waste storage area, and an industrial waste treatment plant were also historically identified at IR Site 5. IR Site 5 is contiguous with the western edge of Parcel FOST3B-3, is relatively flat and includes several buildings, paved parking lots, and roads. Portions of OU-2C extend through Parcel FOST3B-4. Building 5 is the largest building and covers approximately 32 percent of the site. Additional features associated with IR Site 5 include several smaller buildings and paved and unpaved open space; USTs; ASTs; OWSs 005, 006A, 006B, and 615; SWMUs; sanitary sewer lines; storm drain lines; and industrial waste lines.

Volatile organic compounds and metals were identified as COCs in soil. Volatile organic compounds were identified as COCs in groundwater at IR Site 5. The presence of TPH-related compounds in soil and groundwater that are not being handled under CERCLA are being addressed under the Petroleum Program at IR Site 5. Potentially radiologically impacted storm drain lines running to the north and to the east of IR Site 5 are included in the OU-2C program and are located adjacent to and within the FOST Parcel. The lines were separately addressed in the "Final Record of Decision Operable Unit-2C Drain Lines Located Outside of Buildings 5 and 400, Former Naval Air Station Alameda" (Navy 2016b). Remedial actions and closure of the lines is further discussed in Sections 4.1.1 and 4.7.2. The "Final Record of Decision OU-2C (IR Sites 5, 10, and 12), Former Naval Air Station Alameda" was finalized in April 2014 (Navy 2014) and specified engineering controls and ICs for soil, no action for the shallow first water-bearing zone groundwater with the exception of a small area on the northeast corner of the site, and ICs for the deep second water-bearing zone groundwater. The small area on the northeast corner will be treated using in situ chemical oxidation (ISCO) or enhanced bioremediation.

The remaining remedial action work that needs to be conducted within IR Site 5 will not impact the FOST Parcels because contamination is confined within the site and the site boundaries were established to ensure any possible migration of contamination will be contained within the site boundaries. Work plans will include appropriate controls to ensure that there is no impact on the FOST Parcels for any remedial action required on adjacent property.

6.2.1.1.2 IR Site 10

IR Site 10, also known as Building 400 (Missile Rework Operations), is 4 acres in size and is located on the south side of OU-2C just north of Parcel FOST3B-4 (see Figure 5). IR Site 10 is relatively flat and is covered by buildings, paved parking lots, and roads. Building 400 covers approximately 85 percent of the site. Past uses for IR Site 10 include paint stripping, construction of fiberglass airplane components, airplane parts cleaning and degreasing, silk screening, and photographic development. The radium paint shop facilities for painting of radioluminescent (radium-226) aircraft instrument dials were moved from Building 5 to Building 400 in the late 1950s. The radiological status of the building is further discussed in Section 6.2.2.4. Building 400 is currently used as office space and a production lot.

IR Site 10 will not adversely affect the FOST Parcels because it has conservatively established boundaries that do not overlap the FOST Parcels that have been established cooperatively with regulatory oversight. Contamination is confined within the site and the site boundaries were established to ensure any possible migration of contamination will be contained within the site boundaries. Work plans will include appropriate controls to ensure that there is no impact on the FOST Parcels for any remedial action required on the adjacent property.

6.2.1.1.3 IR Site 12

IR Site 12 is an approximately 2-acre area located near the southwestern portion of Parcel FOST3B-3 (Figure 5). Building 10, the largest feature at IR Site 12, was constructed in 1940 as a power plant and operated until base closure in 1997. Activities at the site included the generation of steam and air compression. Building 10 was also used for storage of petroleum products, laboratory chemicals, plant treatment chemicals, microbiocides, morpholine, and corrosives. Boilers at the power plant originally generated power by using fuel oil and later by using natural gas. IR Site 12 is grouped with IR Sites 5 and 10 under OU-2C.

The 2008 remedial investigation evaluated IR Site 12 as part of a larger area referred to as Exposure Unit (EU) 1 of the larger footprint of OU-2C (Bechtel Environmental, Inc. 2008). COCs within EU 1 included volatile organic compounds in groundwater and volatile organic compounds, semivolatile organic compounds, pesticides, and PCBs in soil. IR Site 12 will not adversely affect the FOST Parcels because the "Final Record of Decision for Operable Unit-2C (IR Sites 5, 10, and 12), Former Naval Air Station Alameda, Alameda, California" closed the site with NFA (Navy 2014).

6.2.1.1.4 Storm Drain Line A

Portions of Storm Drain Line A are adjacent to Parcels FOST3B-1 and FOST3B-2, as shown on Figure 6. Storm Drain Line A was investigated to evaluate whether it is radiologically impacted and the line was designated as NFA in the OU-2C Drain Line ROD (Navy 2016b). No impacts to the FOST Parcels are anticipated from the adjacent sections of Storm Drain Line A.

6.2.1.1.5 Storm Drain Lines F and FF

Storm Drain Lines F and FF are associated with Buildings 5 and 400 and are partially adjacent to Parcel FOST3B-4 as shown on Figure 6. Storm Drain Line F discharges into the northwest corner of the SPL and it contained radioactive contamination and required a response action as detailed in Section 4.1.1. The "Final Record of Decision OU-2C (IR Sites 5, 10, and 12), Former Naval Air Station" found NFA is required for these lines (Navy 2014). No impacts to the FOST Parcels are anticipated from the adjacent sections of Storm Drain Lines F and FF.

6.2.1.1.6 Storm Drain Line G

Portions of Storm Drain Line G are adjacent to Parcel FOST3B-3. Storm Drain Line G was investigated to evaluate whether it is radiologically impacted. This line is shown on Figure 6 and was designated as NFA in the OU-2C Drain Line ROD (Navy 2016). No impacts to the FOST Parcels are anticipated from the adjacent sections of Storm Drain Line G.

6.2.1.1.7 Industrial Waste Lines

Two types of industrial waste lines located adjacent to FOST Parcels are associated with OU-2C Buildings 5 and 400, the gravity flow line and two force main lines. The industrial waste lines transported industrial waste including radium-226 paint wastes. The industrial waste line investigation included inspection and sampling from the lines and manholes and video inspection of a portion of the line. The OU-2C Drain Line ROD determined no remedial action is necessary for a portion of the industrial waste lines for which Buildings 5 and 400 are not sources. ICs and partial removal are the selected remedy for the remaining portions of the industrial waste lines associated with Buildings 5 and 400, as shown on ROD Figure 4 (Navy 2016b). The industrial waste lines are not expected to impact the FOST Parcels.

6.2.1.1.8 Sanitary Sewer Lines

Sanitary sewer lines are located adjacent to the FOST Parcels and serviced Buildings 5 and 400 within OU-2C. The lines were suspected of being used to transport radium-226 wastes. These lines are shown on Figure 6 and were designated as NFA in the OU-2C Drain Line ROD (Navy 2016b). No impacts to the FOST Parcels are anticipated from the sanitary sewer lines.

6.2.1.2 IR Site 6 (OU-1)

IR Site 6, also known as Building 41 (Aircraft Intermediate Maintenance Facility), is approximately 5.6 acres in size and is located southwest of Parcel FOST3B-3 (see Figure 5). The ROD for IR Site 6 selected sampling, excavation, and off-site disposal of soil (Navy 2007). No COCs were identified for soil; soil beneath and adjacent to OWSs 040A and 040B was identified for additional sampling as part of the remedial design. Groundwater remedial action beginning with ISCO (in 2010) was selected to address tetrachloroethene and trichloroethene and their chlorinated degradation products (cis-1,2-dichloroethene and vinyl chloride) from solvents

used during industrial activities historically conducted at IR Site 6. The contaminant plume footprint was reduced by ISCO efforts; however, 3 years of performance monitoring showed that remedial goals (RG) still had not been achieved. Since RGs had not been achieved, in accordance with the treatment sequence presented in the ROD, in situ bioremediation groundwater treatment has been implemented and is ongoing.

IR Site 6 will not adversely affect the FOST Parcels because it has conservatively established boundaries that do not overlap the FOST Parcels that have been established cooperatively with regulatory oversight. Potential contamination, if any, is confined within the site and the site boundaries were established to ensure any possible migration of contamination will be contained within the site boundaries. Work plans include appropriate controls to ensure that there is no impact on the FOST Parcels during monitoring and remedial actions at IR Site 6.

6.2.1.3 IR Site 8 (OU-1)

IR Site 8, known as Building 114, is a CERCLA site located adjacent and north of Parcel FOST3B-3 that has reached regulatory closure (see Figure 5). The site is approximately 4.3 acres and was formerly a pesticide storage area. In the "Final Record of Decision for Operable Unit 1, Installation Restoration Sites 6, 7, 8, and 16, Alameda Point," the Navy selected excavation and off-site disposal of contaminated soil and replacement with clean fill material to address potentially unacceptable human health risks associated with the presence of lead, dieldrin, and PCBs in soil. No action was required for groundwater (Navy 2007). EPA, Regional Water Board, and DTSC concurred that the remedy for IR Site 8 was performed properly and with the Navy's finding that the remedial action objectives (RAO) for soil at OU-1, IR Site 8, had been attained (Navy 2013). No impacts to the FOST Parcels are anticipated from IR Site 8.

6.2.1.4 IR Site 17 (OU-4B)

IR Site 17, the SPL, is an IR site that has reached regulatory closure and is contiguous with and located south and east of Parcel FOST3B-4 (see Figure 5). From the 1940s until 1975, untreated industrial wastewater and storm water were discharged into a network of storm drains and delivered to the SPL through storm drain outfalls in the northwestern and northeastern corners of the lagoon. The discharges resulted in the deposition of contamination in the sediment. Contaminants included PCBs, pesticides, metals (cadmium, chromium, and lead), and radium-226.

The contaminated sediment in the SPL was addressed through removal actions and the imposition of ICs. An Explanation of Significant Differences documented a change in the remedy from dredging and disposal of contaminated sediments to dredging and disposal of contaminated sediments and implementation of an IC applicable to any future dredging or removal of sediments that requires an approved sediment management plan prior to any such dredging (Navy 2016a). All remedial action is complete, and the IC has been documented in the deed and a covenant to restrict use of the property entered into between the Navy and DTSC. This site is not expected to impact the FOST Parcels.

6.2.1.5 IR Site 20 (OU-4C)

IR Site 20, Oakland Inner Harbor, is a CERCLA site that has reached regulatory closure. IR Site 20 is an offshore site located north-northeast of FOST Parcel FOST3B-1 (see Figure 5). Concentrations of metals and organic chemicals in sediments at IR Site 20 were evaluated and found to be relatively uniform, both in the surface sediments and at depth and the site was found to not pose an unacceptable risk to human health or the environment. The selected remedy for IR Site 20 was NFA (Navy 2008b). The site presents no impact to the FOST Parcels.

6.2.1.6 IR SITE 35

IR Site 35 is composed of 23 study areas, known as AOCs that are located throughout Alameda Point, several of which are adjacent to or within parcels FOST3B-3 and FOST3B-4 (see Figure 5). Between 1995 and 1997, a TCRA for storm drain sediment removal was completed by the Navy (International Technology Corporation 1997). A portion of this work occurred within IR Site 35. In 2001, a non-TCRA was conducted in AOC 12 to remove lead-containing soil (Shaw Environmental and Infrastructure, Inc. [Shaw] 2003). In 2002, there were two TCRAs to remove benzo(a)pyrene-equivalent contaminated soil and to remove a pesticide/fertilizer shed in AOC 8 (Shaw 2004). These interim actions were documented in the "Final Record of Decision for Installation Restoration Site 35, Areas of Concern in Transfer Parcel EDC-35, Alameda Point" (Navy 2010) as being protective of unrestricted site use. The "Final Record of Decision for Installation Restoration Site 35, Areas of Concern in Transfer Parcel EDC-35, Alameda Point" selected excavation and disposal remedies for AOCs 3, 10, and 12, and documented that the other 20 AOCs required NFA for unrestricted use.

The "Final Remedial Action Completion Report Installation Restoration Site 35 Areas of Concern 3, 10, and 12 in Transfer Parcel EDC-5, Alameda Point" documents the remedial actions completed to remove heptachlor from AOC 3 and lead-impacted soil from AOCs 10 and 12 in IR Site 35 between March and June 2011 (Oneida Total Integrated Enterprises 2012). EPA concurred with the "Final Remedial Action Completion Report Installation Restoration Site 35 Areas of Concern 3, 10, and 12 in Transfer Parcel EDC-5, Alameda Point" on August 27, 2012 (EPA 2012) and DTSC also concurred on September 6, 2012 (DTSC 2012). The site progressed through the CERCLA process and remedial actions have been completed. Portions of the site were transferred in 2013 to the City. This site is not expected to impact the FOST Parcels.

6.2.2 Radiological Sites

Several radiological sites are located adjacent to the FOST Parcels (see Figure 6). As discussed in the following subsections, no adjacent radiological sites will impact the FOST Parcels.

6.2.2.1 Seaplane Lagoon

The SPL is contiguous with and located south and east of Parcel FOST3B-4 as shown on Figure 4. The SPL is IR Site 17. The radiological contamination in the SPL has been addressed

under the CERCLA process as described in Section 6.2.1.4. The site has progressed through the CERCLA process and remedial actions have been completed. An IC has been documented in the deed and a covenant to restrict use of the property entered into between the Navy and DTSC.

The SPL transferred to the City in 2016 and is not expected to impact the FOST Parcels.

6.2.2.2 Hangar 12

Hangar 12 is a closed radiological site that was designated as radiologically impacted in the HRA. The hangar is located just north of Parcel FOST3B-4 as shown on Figure 6. Depleted uranium was improperly handled in the hangar resulting in surface contamination. The contaminated surfaces were decontaminated, surveys were conducted and the hangar was radiologically released for unrestricted use with the concurrence of DTSC and the California Department of Public Health (CDPH) as documented in the HRA (Weston 2007). Because Hangar 12 was released for unrestricted use, it is not expected to impact the FOST Parcels.

6.2.2.3 Building 114 Courtyard

The Building 114 Courtyard is located just north of the western leg of Parcel FOST3B-3 as shown on Figure 6. The courtyard was designated as radiologically impacted in the HRA based on its use for temporary storage of radium-contaminated piping removed by remediation contractors from Building 5 (Weston 2007). A survey was performed to confirm that the courtyard is free of radioactive materials (ChaduxTt 2013). The results of alpha surface radioactivity measurements collected in the 13 survey units of the Building 114 Courtyard indicate that only background levels of radioactivity are present, with no measurements exceeding the release criteria. No evidence of residual radioactivity from historical Navy activities was found in the Building 114 Courtyard. The Navy and CDPH agreed to reclassify the site as "not radiologically impacted" and documented that the site was suitable for unrestricted use in the Final Status Survey (ChaduxTt 2013). As a non-impacted site, CDPH agreed a free release of the site was not required.

6.2.2.4 Building 400

Building 400 is located just north of Parcel FOST3B-4 as shown on Figure 6. The building contained a radium paint shop beginning in the late 1950s. The use of radium paint in Building 400 continued through the early 1970s. The building was also used for the inspection and storage of depleted uranium counterweights and the inspection, storage, and repair of spark-gap irradiators that contained cesium-137, uranium oxide, or cobalt-60. Characterization surveys and remedial actions were conducted within the building. The "Final Building 400 Final Status Survey Report" was issued in 2016 documenting that no further remediation is required within Building 400 (TtEC 2016).

In addition to the radiological contamination within Building 400, Storm Drain Line FF and soil associated with a previously removed industrial waste line below the building are known or

suspected to have been contaminated in association with radioluminescent painting operations. The "Final Record of Decision OU-2C (IR Sites 5, 10, and 12), Former Naval Air Station Alameda" identified engineering controls (grout sealing of the lines and maintaining the building concrete slabs intact as a cap) along with ICs to address the drain lines and soil beneath the building (Navy 2014). This remedial action (grouting of the lines) was conducted between July and September 2016. The contaminated storm drain lines outside of buildings are discussed in Section 6.2.1.1.

The Building 400 radiologically impacted site will not adversely affect the FOST Parcels because it has conservatively established boundaries that do not overlap the FOST Parcels that have been established cooperatively with regulatory oversight. Potential contamination, if any, is confined within the site and the site boundaries were established to ensure any possible migration of contamination will be contained within the site boundaries. Building 400 will not impact the FOST Parcels.

6.2.3 Petroleum Sites

Seven petroleum sites (AOC 23G, CAA-B [North and South], CAA-8, CAA-6, CAA-10, and CAA-12) are located adjacent to the FOST Parcels (see Figure 4). As discussed in the following subsections, no adjacent petroleum sites will impact the FOST Parcels.

6.2.3.1 AOC 23G

AOC 23G is a closed petroleum site partially contained within and adjacent to Parcel FOST3B-1 that was closed by the Regional Water Board with NFA required (Regional Water Board 2015b). Additional detail regarding this site may be found in Section 4.2.3.

6.2.3.2 CAA-B (North and South)

CAA-B (North and South) are petroleum sites partially contained within and adjacent to Parcels FOST3B-3 and FOST3B-4. CAA-B North and portions of CAA-B South are open, and part of CAA-B South has been closed (Regional Water Board 2017a). Additional detail regarding these sites may be found in Sections 4.2.1 and 4.2.3.

6.2.3.3 CAA-6

CAA-6 is an open petroleum site partially contained within and adjacent to Parcel FOST3B-2. Potential contamination is confined within the CAA-6 site boundaries. Additional detail regarding CAA-6 may be found in Section 4.2.1.

6.2.3.4 CAA-8

CAA-8 is an open petroleum site contiguous with and north of Parcel FOST3B-3. Potential contamination, if any, is confined within the site and the site boundaries were established to ensure any possible migration of contamination will be contained within the site boundaries. Work plans will include appropriate controls to ensure that there is no impact on the FOST Parcels if any remedial action is required on the adjacent property.

6.2.3.5 CAA-10

CAA-10 is an open petroleum site contiguous with and north of Parcel FOST3B-4. The petroleum site includes four closed petroleum features: UST 491-1 (Figure 7); and three ASTs: ASTs 019A, 019B, and 019C (Figure 10). The Regional Water Board is currently reviewing the CAA for closure.

The boundaries of Petroleum Site CAA-10 do not overlap the FOST Property; but the Regional Water Board closure letter for the petroleum features within CAA-10 imposed restrictions that extend beyond the CAA-10 boundary, into the Parcel FOST3B-4 (Regional Water Board 2012). Those restrictions on the use of property apply to a 200-foot radius around a groundwater monitoring location based on residual petroleum contamination that remains in the subsurface. The area within Parcel FOST3B-4 that is subject to restrictions is identified as "UST 491-1 Restriction" on Figure 7. The following restrictions apply to the area shown on the figure:

- No residential land use.
- No grading, excavation, or subsurface activities without a soil management plan that include procedures for proper notification, handling, and disposal of any potentially contaminated soil or groundwater encountered during construction or removed from the site. The plan must be acceptable to the Regional Water Board.
- Shallow groundwater beneath the site cannot be used for drinking water or other potential uses.
- The Regional Water Board must be notified in writing of any proposed change in land or groundwater use at the site.
- Any monitoring wells that will no longer be used must be properly destroyed pursuant to equivalent requirements of Alameda County Environmental Health Department and documentation of well destruction must be submitted to the Regional Water Board.

6.2.3.6 CAA-12

CAA-12 is a closed petroleum site for which the original footprint was partially contained within and adjacent to Parcel FOST3B-4 as shown on Figure 4 (Regional Water Board 2017b). To

better reflect the areas of environmental concern, the footprint was subsequently separated to include two much smaller areas wholly contained within Parcel FOST3B-4. See Section 4.2.3 for additional detail regarding CAA-12.

7.0 ACCESS CLAUSE

The deed(s) will reserve and the transferee shall grant to the United States access to the FOST Parcels pursuant to CERCLA § 120(h)(3)(A)(iii). DTSC, the Regional Water Board, and EPA and their successors and assigns shall also be granted access to the property to enter the FOST Parcels in any case in which response action or corrective action is found necessary on the FOST Parcels after the date of transfer. In addition, the deed(s) will provide for a right of access for the United States to traverse property owned by the transferee to gain access to property still owned by the United States.

8.0 COVENANTS

The deed for transfer of any property on which "any hazardous substance was stored for one year or more, [or] known to have been released, or disposed…" as a result of former activities conducted by the United States, will include a covenant made pursuant to CERCLA § 120(h)(3)(A)(ii) and (B). The covenant will warrant that "all remedial action necessary to protect human health and the environment with respect to any hazardous substance identified pursuant to CERCLA § 120(h)(3)(A)(i)(I) remaining on the property has been taken before the date of this deed(s)" and that "any additional remedial action found to be necessary after the date of such transfer shall be conducted by the United States." This covenant will not apply to any remedial action required on the FOST Parcels that is the result of an act or omission of the transferee that causes a new release of hazardous substances.

9.0 FINDING OF SUITABILITY TO TRANSFER STATEMENT

Based on the information contained in this FOST and the notices, restrictions, and covenants that will be contained in the deed, the FOST Parcels at Alameda Point are suitable for transfer.

Signature: _____ Date: Aug 7, 2017

Lawrence Lansdale, P.E.
BRAC Environmental Director
By direction

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Regional Water Board. 2016b. "No Further Action for CAA 12S, Former Alameda Naval Air Station, Alameda County." October 14.

Regional Water Board. 2017a. "No Further Action for Portion of CAA-B (South), Fuel Line (FL)-71, FL-23F and FL-109 South, Former Alameda Naval Air Station, Alameda County." March 10.

Regional Water Board. 2017b. "No Further Action for Corrective Action Area (CAA) 12, Former Alameda Naval Air Station, Alameda County." March 15.

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TtEC. 2016. "Final Building 400 Final Status Survey Report, Alameda Point, Alameda, California." May.

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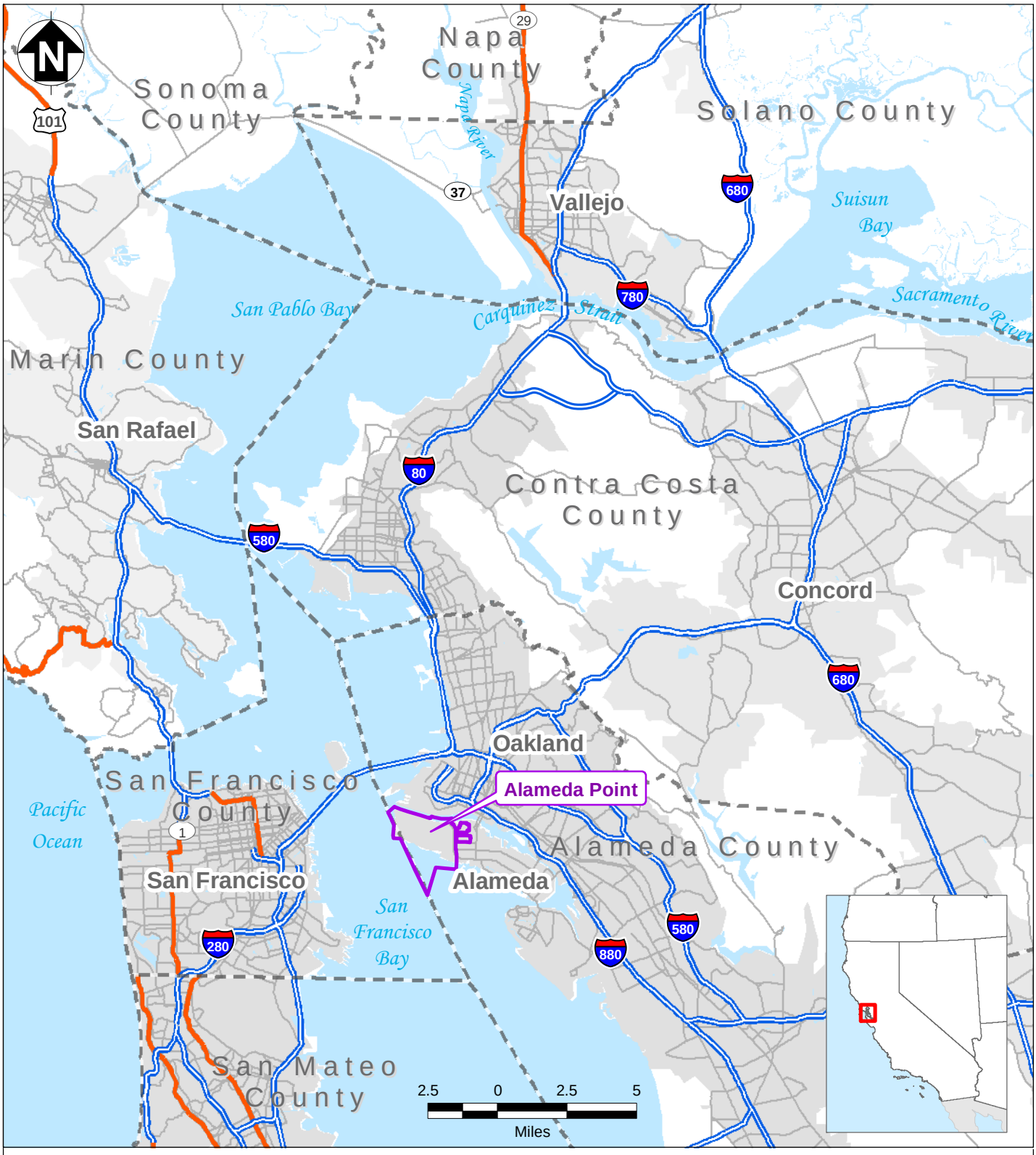
FIGURES



Former Naval Air Station Alameda
County Boundary
Urban Area*
Interstate
Highway
Major Road

Note:
* Darker shading indicates greater population density

Adanta

Former NAS Alameda, Alameda, California
Department of the Navy, BRAC PMO West, San Diego, California

Figure 1

Site Location Map

Finding of Suitability to Transfer Phase 3B
Former NAS Alameda

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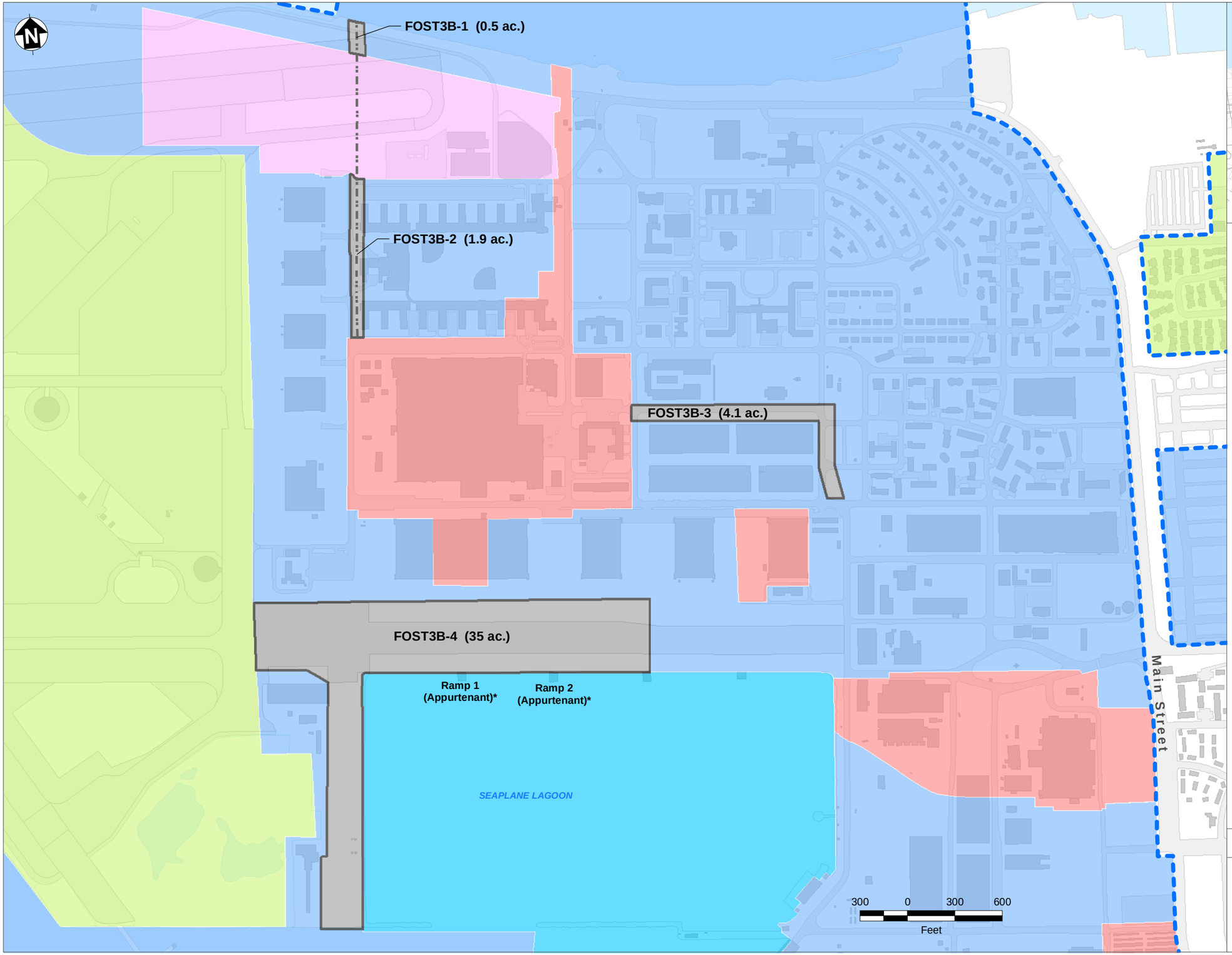

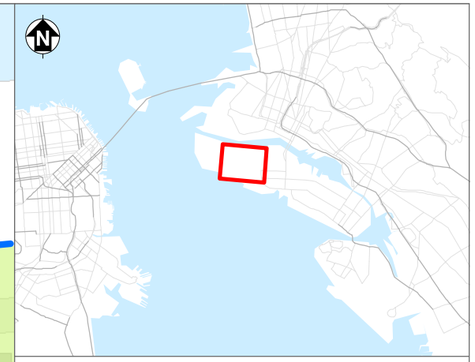

Storm Drain Line

FOST 3B

Transferred Federal Agency to Federal Agency

Previously Assigned PBC Property (DOI Sponsored)

Previously Transferred NC EDC Property

Previously Transferred NC EDC Seaplane Lagoon (Submerged Land)

Pending Parcels for NC EDC Transfer

Installation Boundary

Road or Airfield

Building

Notes:

* Ramp is part of Parcel FOST3B-4. Submerged land beneath the ramp previously transferred in April 2016 Conveyance.

DOI Department of the Interior
FOST Finding of Suitability to Transfer
NC EDC No Cost Economic Development Conveyance
PBC Public Benefit Conveyance

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Former NAS Alameda, Alameda, California
Department of the Navy, BRAC PMO West, San Diego, California

Figure 2

FOST Parcels

Finding of Suitability to Transfer Phase 3B
Former NAS Alameda

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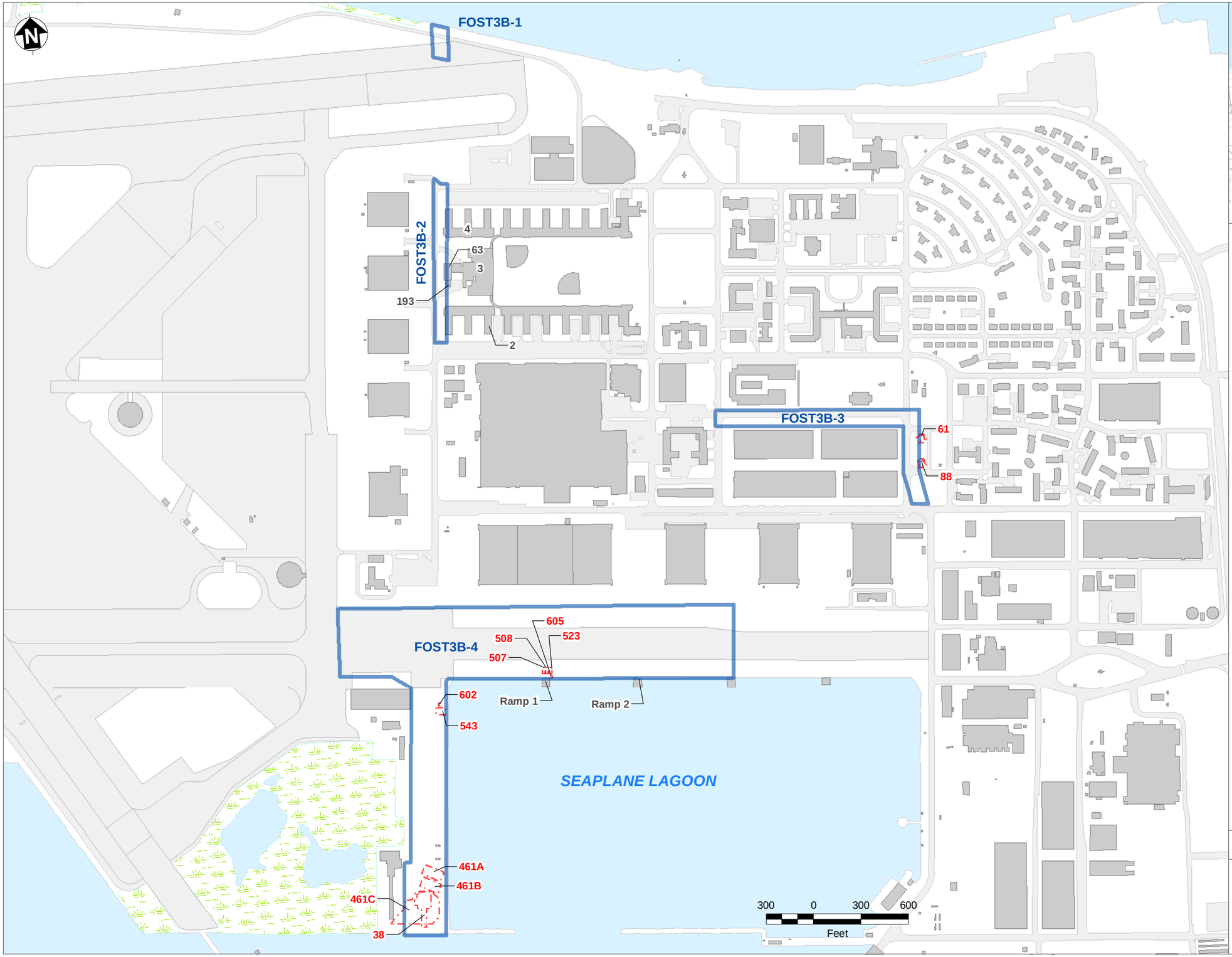

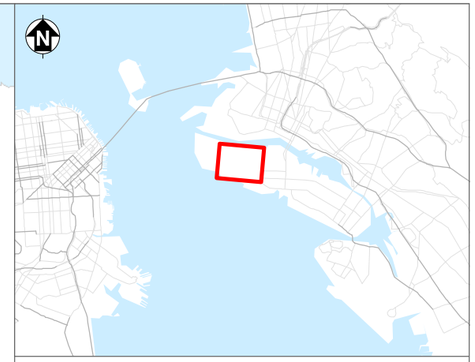

FOST Parcel Boundary
3 Building
88 Former Building
Road or Airfield
Water
Wetland

Note:
FOST Finding of Suitability to Transfer

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Former NAS Alameda, Alameda, California
Department of the Navy, BRAC PMO West, San Diego, California

Figure 3

Buildings in or Adjacent to the FOST Parcels

Finding of Suitability to Transfer Phase 3B
Former NAS Alameda

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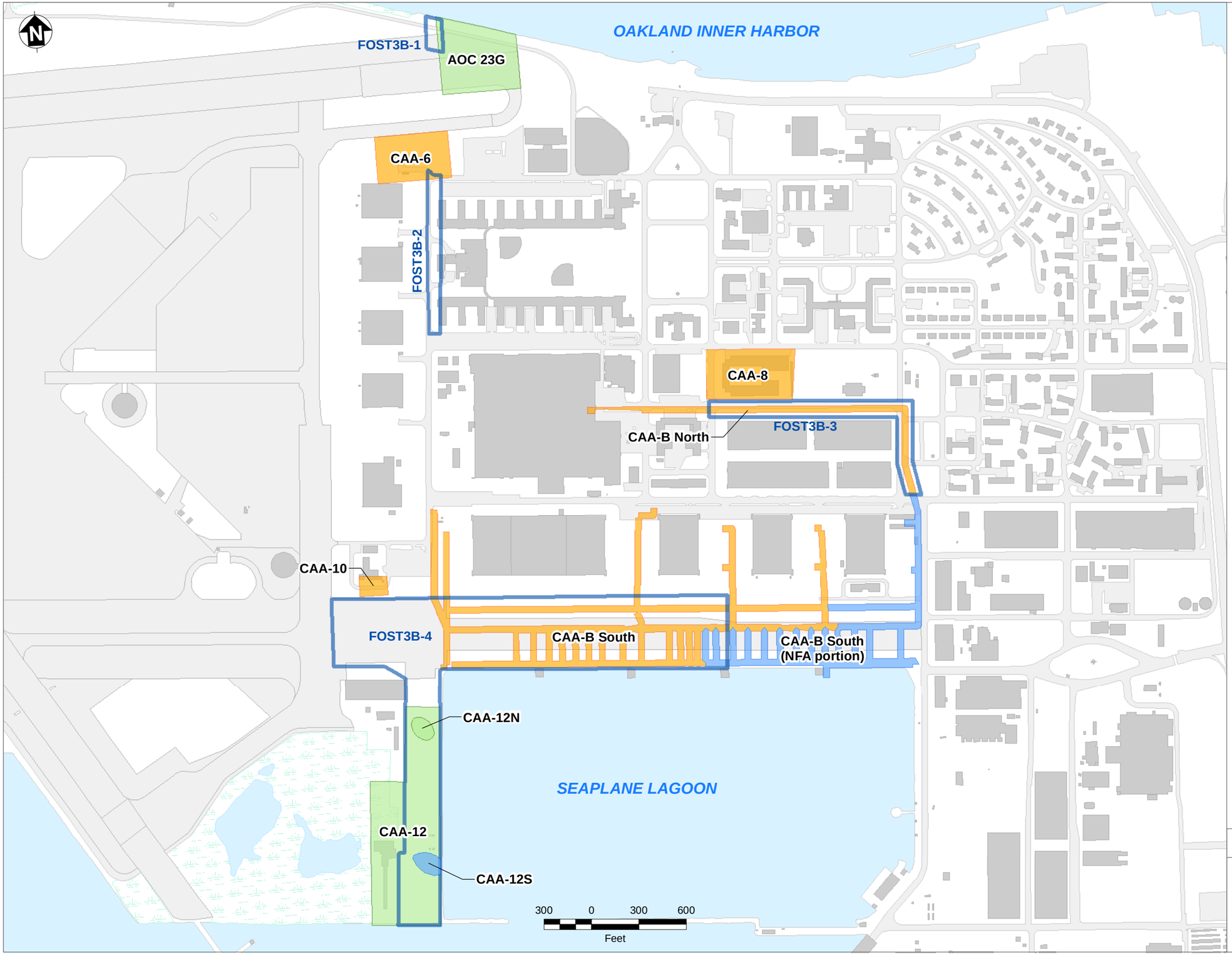


Petroleum Site Status*

- Open
- NFA with Restrictions
- NFA with Conditions
- NFA without Restrictions

- FOST Parcel Boundary
- Road or Airfield
- Building
- Wetland
- Water

Notes:

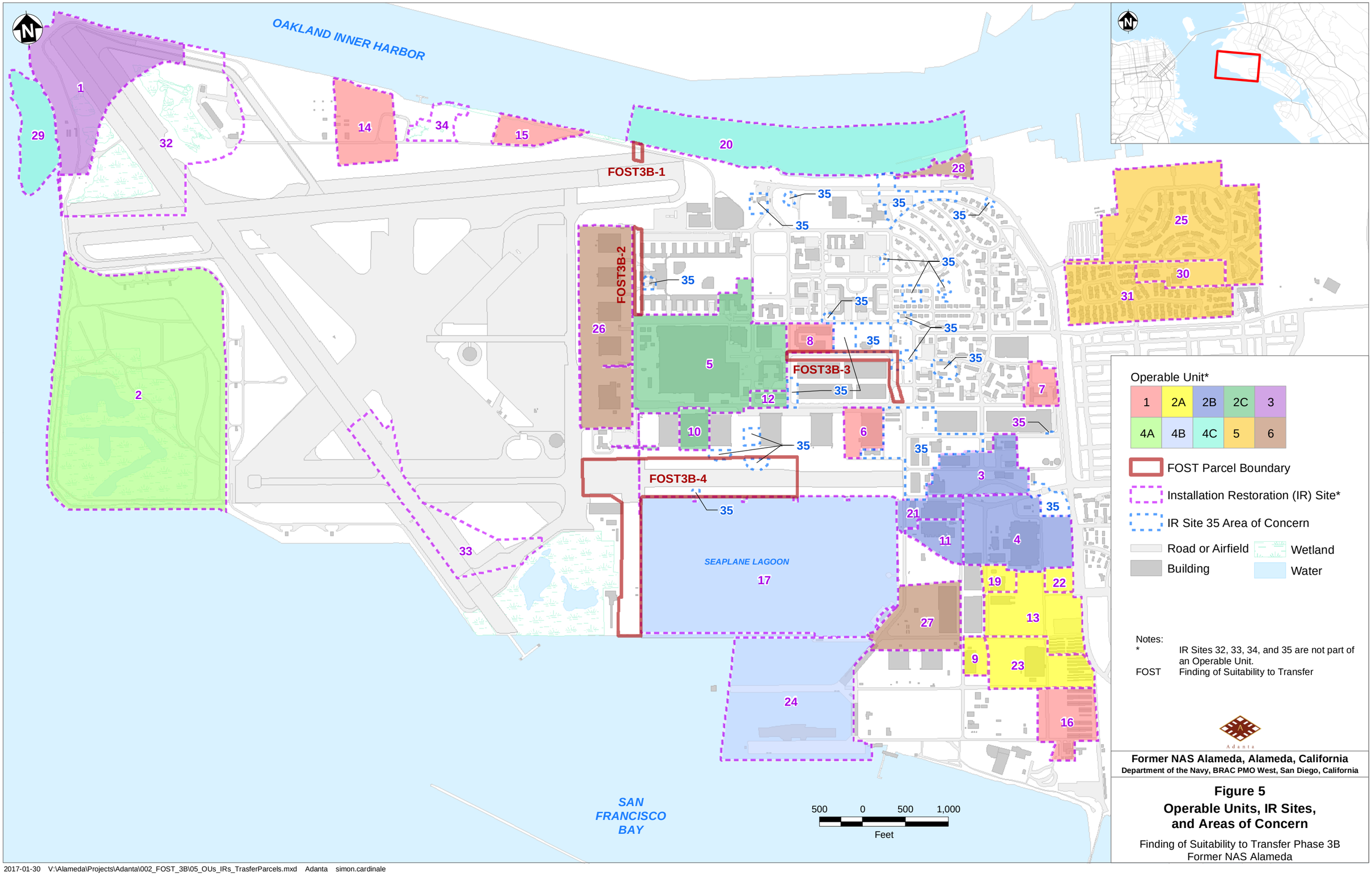
*	Sites within 100 feet of the FOST parcel are labeled.
AOC	Area of Concern
CAA	Petroleum Program Corrective Action Area
FOST	Finding of Suitability to Transfer
NFA	No Further Action

Adanta

Former NAS Alameda, Alameda, California
Department of the Navy, BRAC PMO West, San Diego, California

Figure 4
Total Petroleum Hydrocarbons Corrective Action Areas, Areas of Concern, and Other Areas
Finding of Suitability to Transfer Phase 3B
Former NAS Alameda

2017-05-04 V:\Alameda\Projects\Adanta\002_FOST_3B\04_TPH_CAAs.mxd Adanta simon.cardinale



Operable Unit*

1	2A	2B	2C	3
4A	4B	4C	5	6

FOST Parcel Boundary

Installation Restoration (IR) Site*

IR Site 35 Area of Concern

Road or Airfield

Building

Wetland

Water

Notes:

* IR Sites 32, 33, 34, and 35 are not part of an Operable Unit.

FOST Finding of Suitability to Transfer

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Former NAS Alameda, Alameda, California

Department of the Navy, BRAC PMO West, San Diego, California

Figure 5
Operable Units, IR Sites, and Areas of Concern

Finding of Suitability to Transfer Phase 3B
Former NAS Alameda

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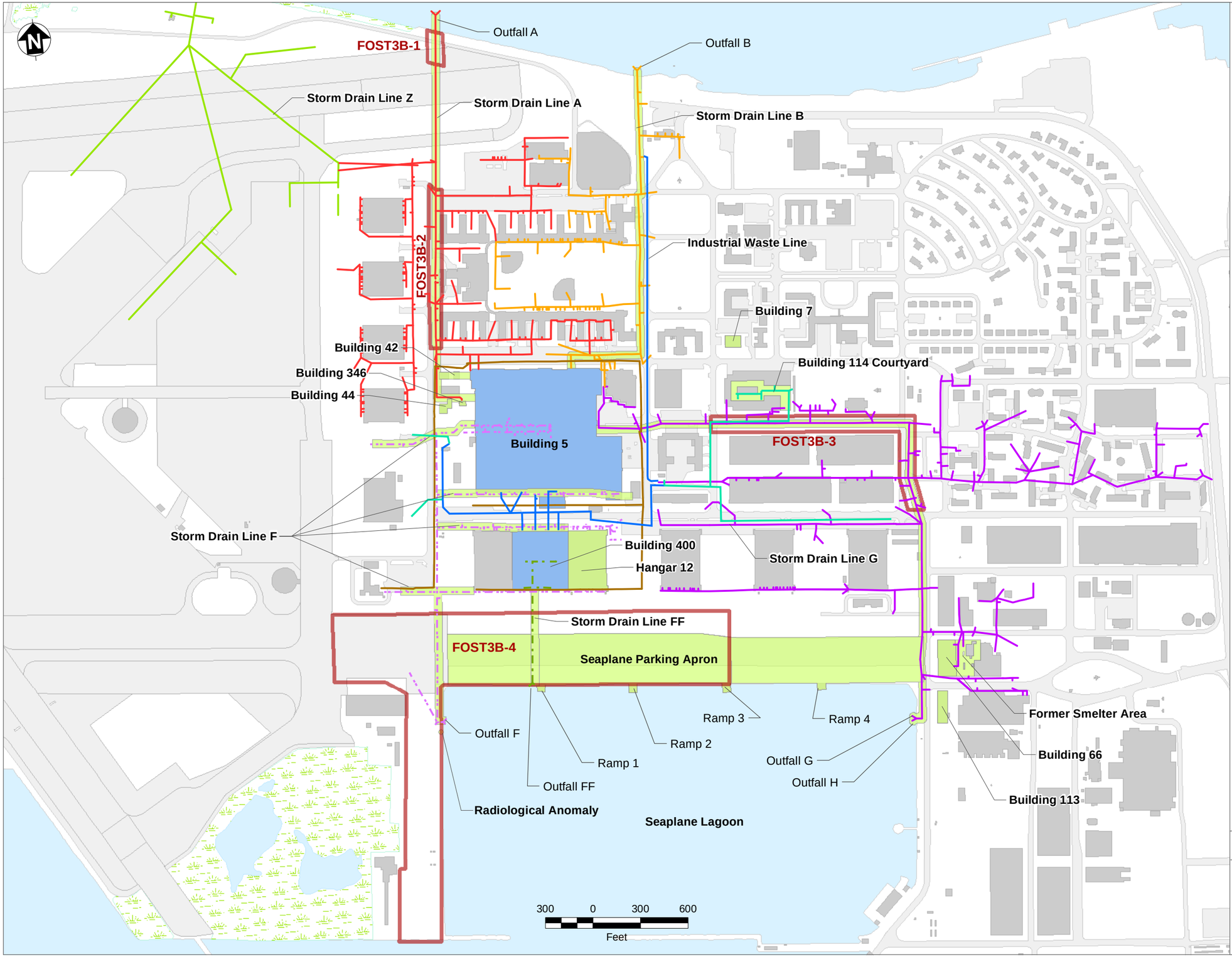

Suspected Radiologically Contaminated Area Status

- Unrestricted
- Open (has not received regulatory closure)

Drain Lines and Outfalls Addressed in OU2C Drain Lines Record of Decision or OU2C Record of Decision

- Sanitary Sewer (Unrestricted)
- Industrial Waste Line (Action Required)
- Industrial Waste Line (No Action Required)
- Storm Drain Line A (Unrestricted)
- Storm Drain Line B (Unrestricted)
- Storm Drain Line F (Unrestricted)
- Storm Drain Line FF (Unrestricted)
- Storm Drain Line G (Unrestricted)
- Storm Drain Line Z (Unrestricted)

- FOST Parcel Boundary
- Road or Airfield
- Building
- Wetland
- Water

Note:
FOST Finding of Suitability to Transfer

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Former NAS Alameda, Alameda, California
Department of the Navy, BRAC PMO West, San Diego, California

Figure 6

Drain Lines and Radiological Sites Within or Adjacent to the FOST Parcels

Finding of Suitability to Transfer Phase 3B
Former NAS Alameda

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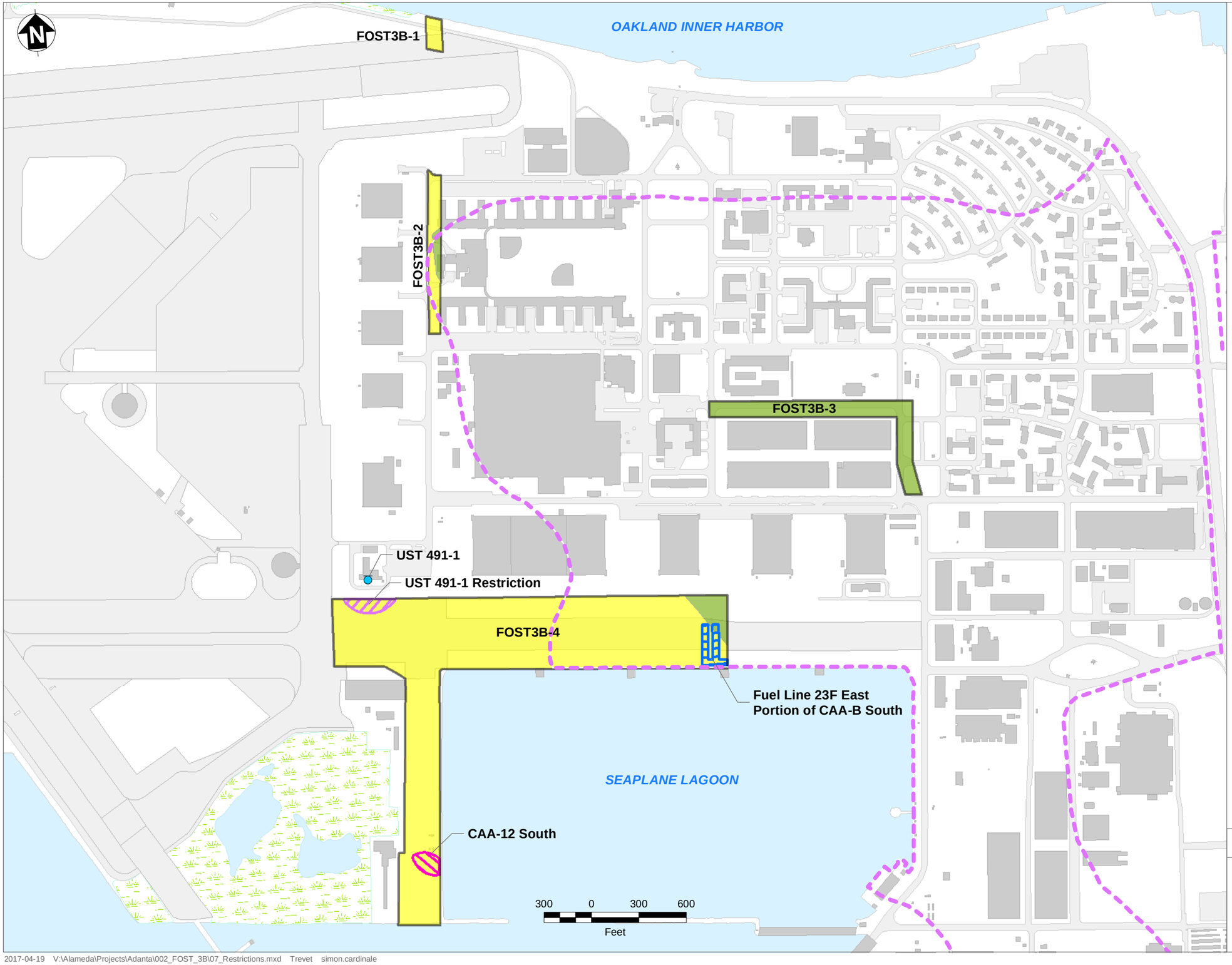

FOST Parcel Boundary

Petroleum UST 491-1

Petroleum Restriction - 200-foot buffer around UST 491-1 well location per Regional Water Board concurrence letter

Petroleum Condition - CAA-12 South per Regional Water Board concurrence letter

Petroleum Condition - Fuel Line 23F East portion of CAA-B South

Approximate Extent of Area Requiring Marsh Crust ICs

Existing Marsh Crust- and Subtidal Area-Related Restriction*

Excavation permit required for excavations below 5 feet bgs (MC 5)

Excavation permit required for excavations below 10 feet bgs (MC 10)

Road or

Building

Wetland

Water

Notes:

*	City of Alameda Ordinance No. 2824, Alameda Municipal Code Chapter XIII, Section 13-56.
bgs	Below ground surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
FOST	Finding of Suitability to Transfer
IC	Institutional control
MC	Marsh crust
UST	Underground storage tank

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Former NAS Alameda, Alameda, California

Department of the Navy, BRAC PMO West, San Diego, California

Figure 7
Footprint of Areas within FOST Parcels that Require Conditions or Restrictions

Finding of Suitability to Transfer Phase 3B
Former NAS Alameda

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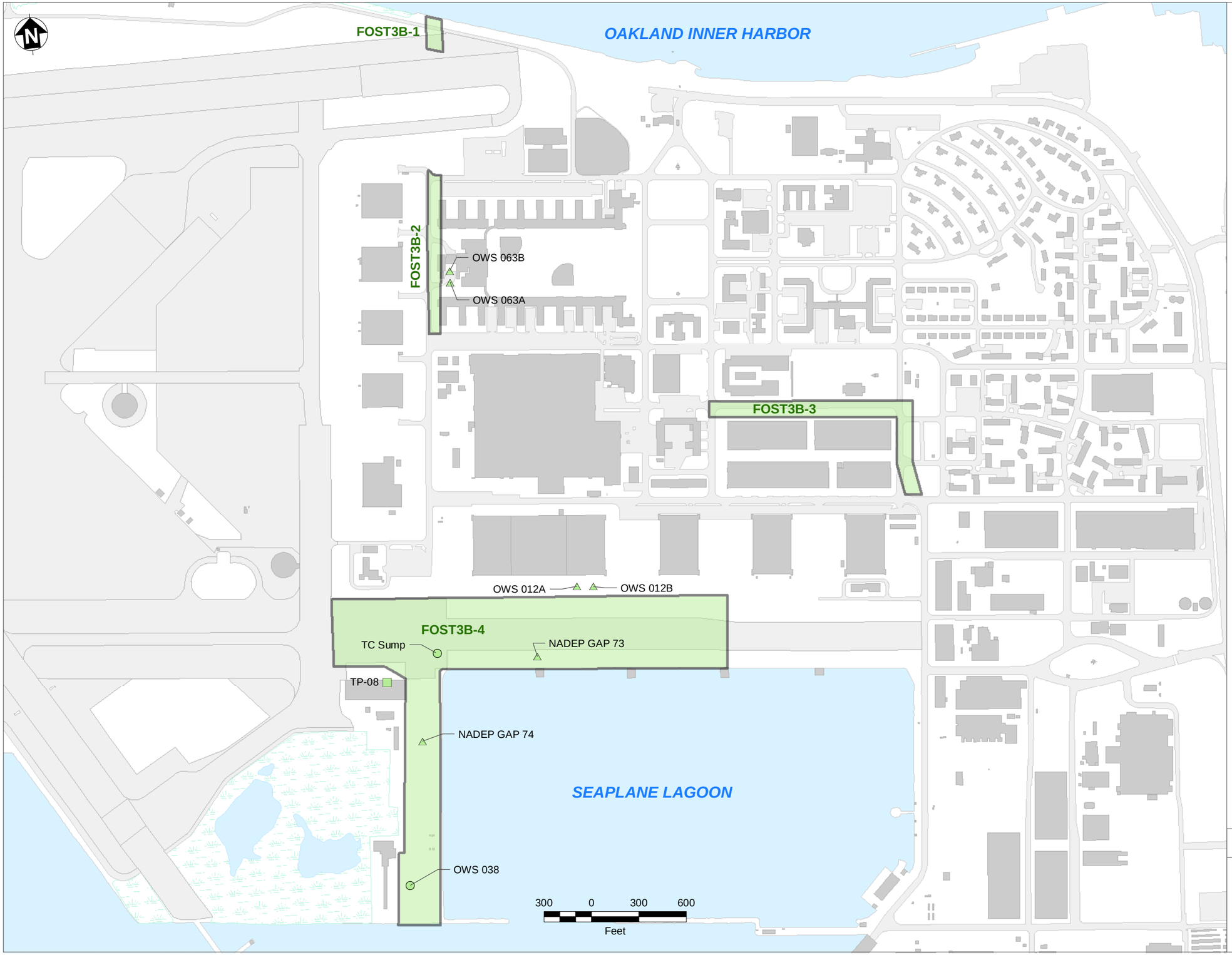

Solid Waste Management Units*

- RCRA; NFA
- CERCLA; Response Complete, NFA
- Petroleum; NFA without Restrictions

- FOST Parcel
- Road or Airfield
- Building
- Wetland
- Water

Notes:

*	Former RCRA Units within 100 feet of the FOST parcel are labeled.
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
FOST	Finding of Suitability to Transfer
GAP	Generator Accumulation Point
NA	Not Applicable (Not a site)
NADEP	Naval Aviation Depot Alameda
NAS	Naval Air Station
NFA	No Further Action
OWS	Oil-Water Separator
RCRA	Resource Conservation and Recovery Act
RFA	RCRA Facility Assessment
TP	Tiered Permit

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Former NAS Alameda, Alameda, California
Department of the Navy, BRAC PMO West, San Diego, California

Figure 8
Former Solid Waste Management Unit Status

Finding of Suitability to Transfer Phase 3B
Former NAS Alameda

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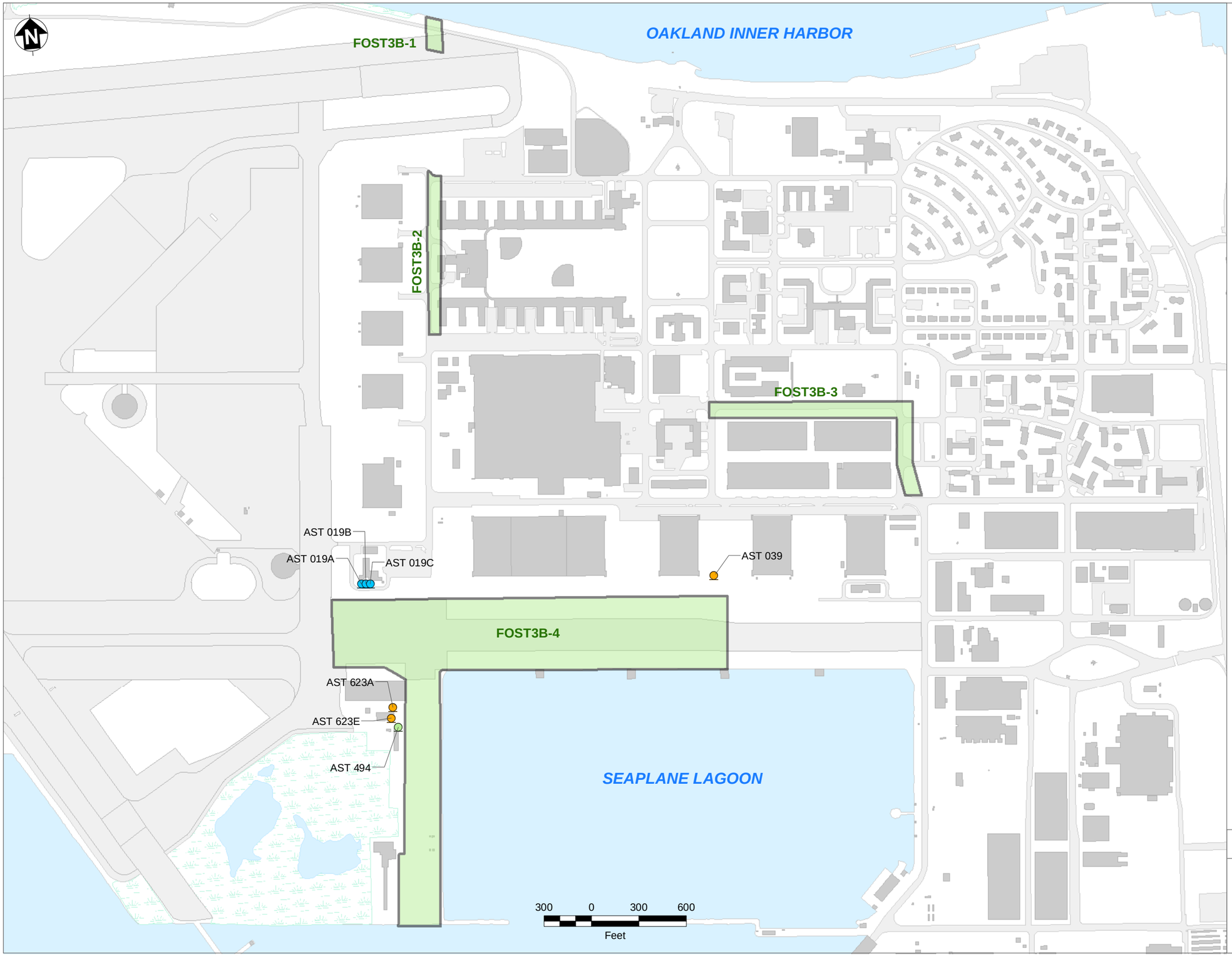

Aboveground Storage Tanks (ASTs)*
- Petroleum; Open
- Petroleum;NFA with Restrictions
- Petroleum; NFA without Restrictions

- FOST Parcel
- Road or Airfield
- Building
- Wetland
- Water

Notes:
* Tanks within 100 feet of the FOST parcel are shown.
FOST Finding of Suitability to Transfer
NFA No Further Action

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Former NAS Alameda, Alameda, California
Department of the Navy, BRAC PMO West, San Diego, California

Figure 9
Aboveground Storage Tank Status

Finding of Suitability to Transfer Phase 3B
Former NAS Alameda

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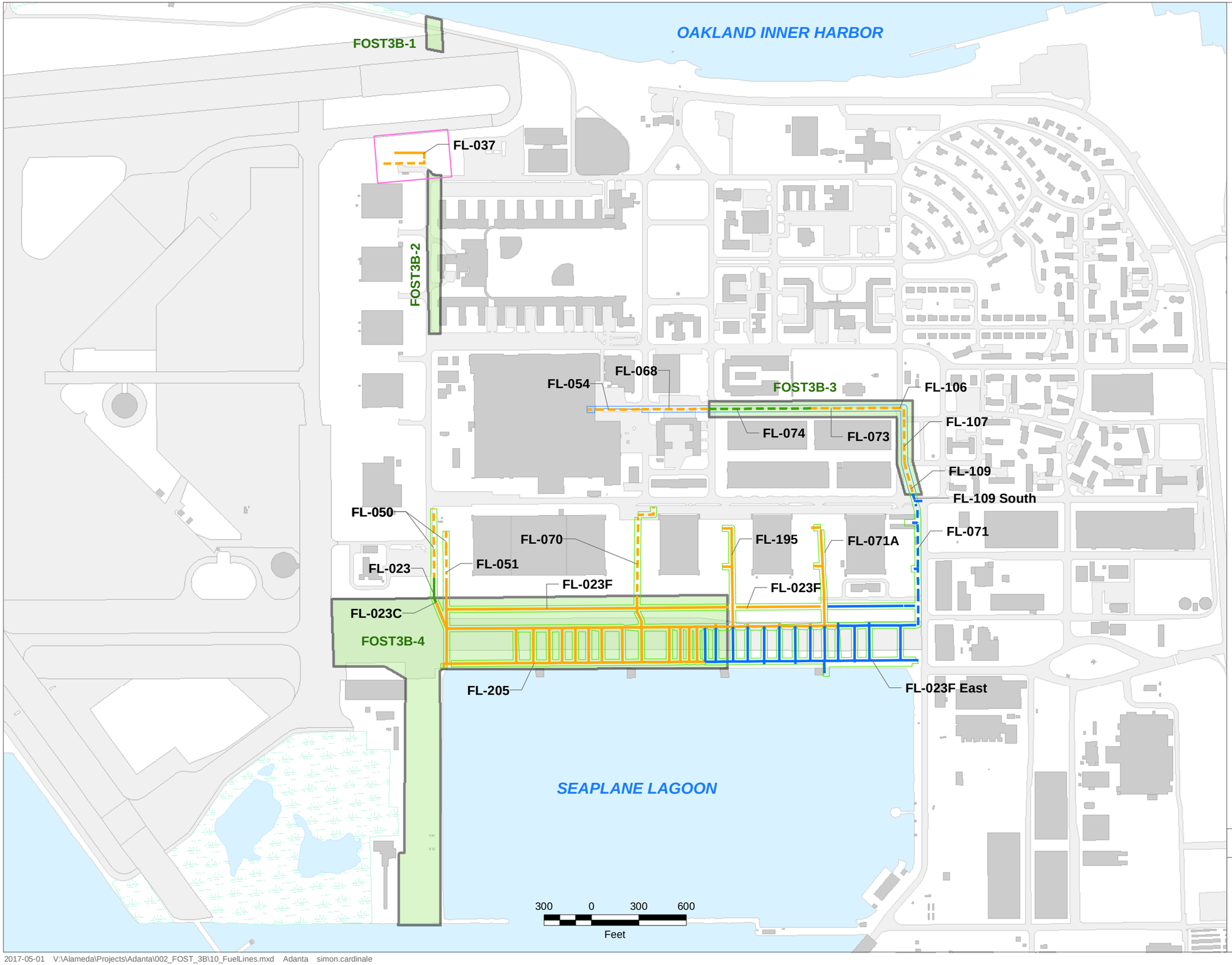

Fuel Line Site Status and Physical Disposition*

- Closed-in-Place†, Open
- Closed-in-Place†, NFA with Conditions
- Closed-in-Place†, NFA without Restrictions
- Removed, Open
- Removed, NFA with Conditions
- Removed, NFA without Restrictions

Associated Petroleum Corrective Action Area (CAA)

- CAA-06
- CAA-B North
- CAA-B South

- FOST Parcel
- Road or Airfield
- Building
- Wetland
- Water

Notes:

* Fuel Lines within 100 feet of the FOST parcel are shown.

† "Closed in Place" indicates that the fuel line has been drained, flushed, and pressure-grouted. The line remains in place, but it has been properly abandoned.

FOST Finding of Suitability to Transfer

NFA No Further Action

Adanta

Former NAS Alameda, Alameda, California

Department of the Navy, BRAC PMO West, San Diego, California

Figure 10

Underground Fuel Line Status

Finding of Suitability to Transfer Phase 3B
Former NAS Alameda

2017-05-01 V:\Alameda\Projects\Adanta\002_FOST_3B\10_FuelLines.mxd Adanta simon.cardinale

TABLES

(Note: References listed on the tables have different call-outs than those listed in the body of the text or in Section 10.0, References. Reference call-outs listed on tables are drawn from a basewide database.)

TABLE 1: PROPERTY DISPOSAL TO DATE

Finding of Suitability to Transfer Phase 3B - Former NAS Alameda

Type of Disposal	Recipient	When	Description	Acres
NC-EDC	City of Alameda	2000	East Housing	75.00
Lease Termination	City of Alameda	2000	Lease Termination	161.50
Federal Agency to Federal Agency	U.S. Coast Guard	2008	Marina Village Housing	28.00
PBC	City of Alameda	2009	Via U.S. Dept. of Interior (Park & Rec.)	44.00
NC-EDC (Phase 1)	City of Alameda	2013	June 2013 Conveyance	1,379.21
PBC	City of Alameda	2013	Estuary Park	8.00
Federal Agency to Federal Agency	Veterans' Administration	2014	June 2014 Conveyance	624.00
NC-EDC (Phase 2)	City of Alameda	2016	April 2016 Conveyance	183.44
PBC	Alameda Unified School District	2016	Island High School/Woodstock CDC	6.73
NC-EDC (Phase 3A)	City of Alameda	2017	April 2017 Conveyance	2.61

Notes:

CDC Child Development Center
NC-EDC No Cost Economic Development Conveyance
PBC Public Benefit Conveyance

TABLE 2: RCRA UNIT CLOSURES AND REASSIGNMENTS

Finding of Suitability to Transfer Phase 3B - Former NAS Alameda

RCRA Unit Identification	Description	Material Stored / Disposed Of	Program Reassignment	Assigned Site	Status	Closure Reference
NADEP GAP 73	Building 507 GAP	JP-5, and engine, lubrication, and hydraulic oils	CERCLA	IR 35	Response Complete, NFA	Bechtel 2005, DTSC 1999c
NADEP GAP 74	Building 543 Shop 95522 GAP	Petroleum product waste (oil, hydraulic oil, and JP-5) and waste solvents	CERCLA	IR 05	NFA	DTSC 1999c
OWS 038	Oil-Water Separator 038	Unknown	Petroleum	CAA-12	NFA without Restrictions	Regional Water Board 2012a
TC Sump	TC Sump	Drainage from fueling system hose pits.	Petroleum	NA	NFA without Restrictions	Regional Water Board 2015l

Notes:

CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	NA	Not applicable
CAA	Petroleum Program Corrective Action Area	NAS	Naval Air Station
DTSC	Department of Toxic Substances Control	NFA	No Further Action
GAP	Generator accumulation point	OWS	Oil-water separator
IR	Installation Restoration	Regional Water Board	Regional Water Quality Control Board
JP-5	Jet propellant #5	RCRA	Resource Conservation and Recovery Act
NADEP	Naval Aviation Depot	TC	Terra cotta
		UST	Underground storage tank

References:

Bechtel. 2005. "Final Site Inspection Report Transfer Parcel EDC-5." March.

DTSC. 1999c. “Review of RCRA Status for Environmental Baseline Survey at Alameda Point, Alameda, California.” November 4.

Regional Water Board. 2012a. "No Further Action for Oil-Water Separator (OWS) 038, Alameda Naval Air Station, Alameda, Alameda County." February 11.

Regional Water Board. 2015l. "No Further Action for Former TC Sump, Former Alameda Naval Air Station, Alameda County." May 7.

TABLE 3: CERCLA SITE STATUS

Finding of Suitability to Transfer Phase 3B - Former NAS Alameda

Identification	Site Name	Status	Reference
IR 35	Areas of Concern in Transfer Parcel EDC-5	Response Complete, NFA	EPA 2012b, OTIE 2012
OU-2C	IR 05, 10, 12 and associated drain lines	Portion in FOST Parcels, NFA	Navy 2014, Navy 2016b

Notes:

EDC	Economic development conveyance
EPA	U.S. Environmental Protection Agency
FOST	Finding of Suitability to Transfer
IR	Installation Restoration
NAS	Naval Air Station
Navy	Department of the Navy
NFA	No Further Action
OU	Operable Unit

References:

EPA. 2012b. Letter "Final RACR, IR Site 35, Alameda Point, Alameda, California." August 27.

Navy. 2014. "Final Record of Decision for Operable Unit-2C (IR Sites 5, 10, and 12), Former Naval Air Station, Alameda, California." April.

Navy. 2016b. "Final Record of Decision, Operable Unit 2C Drain Lines Located Outside of Buildings 5 and 400, Former Naval Air Station Alameda, California." December.

Oneida Total Integrated Enterprises. 2012. "Final Remedial Action Completion Report for IR Site 35." August 15.

TABLE 4: PETROLEUM CORRECTIVE ACTION AREA AND AREAS OF CONCERN SITE STATUS

Finding of Suitability to Transfer Phase 3B - Former NAS Alameda

Identification	Site Name	Status	Closure Reference
AOC 23G	Area of Concern 23G	NFA without Restrictions	Regional Water Board 2015j
CAA-6	Petroleum Corrective Action Area 6	Open	NA
CAA-12	Petroleum Corrective Action Area 12	NFA without Restrictions	Regional Water Board 2017b
CAA-12N	Petroleum Corrective Action Area 12 (North)	NFA without Restrictions	Regional Water Board 2016d
CAA-12S	Petroleum Corrective Action Area 12 (South)	NFA with Conditions	Regional Water Board 2016e
CAA-B North	Petroleum Corrective Action Area Fuel Line B North	Open	NA
CAA-B South	Petroleum Corrective Action Area Fuel Line B South	Open	NA
CAA-B South	NFA Portions of Petroleum Corrective Action Area Fuel Line B South	NFA with Conditions	Regional Water Board 2017a

Notes:

AOC	Area of Concern
CAA	Petroleum Program Corrective Action Area
NA	Not applicable
NAS	Naval Air Station
NFA	No Further Action
Regional Water Board	Regional Water Quality Control Board

References:

Regional Water Board. 2015j. "No Further Action for Area of Concern 23G (Three USTs), Former Alameda Naval Air Station, Alameda County." April 30.

Regional Water Board. 2016d. "No Further Action for CAA 12N, Former Alameda Naval Air Station, Alameda County." July 7.

Regional Water Board. 2016e. "No Further Action for CAA 12S, Former Alameda Naval Air Station, Alameda County." October 14.

Regional Water Board. 2017a. "No Further Action for Portion of CAA-B South, Fuel Line (FL)-71, FL-23F East, and FL-109 South, Former Alameda Naval Air Station, Alameda County." March 10.

Regional Water Board. 2017b. "No Further Action for Corrective Action Area (CAA) 12, Former Alameda Naval Air Station, Alameda County." March 15.

TABLE 5: UNDERGROUND FUEL LINE STATUS

Finding of Suitability to Transfer Phase 3B - Former NAS Alameda

Identification	Physical Status	Regulatory Status	Associated Site	Closure Reference
FL-023	Removed	NFA without Restrictions	CAA-B South	Regional Water Board 2007
FL-023C	Removed	Open	CAA-B South	NA
FL-023F	Closed in place	Open	CAA-B South	NA
FL-023F East	Closed in place	NFA with Conditions	CAA-B South	Regional Water Board 2017a
FL-068	Removed	Open	CAA-B North	NA
FL-070	Removed	Open	CAA-B South	NA
FL-073	Removed	Open	CAA-B North	NA
FL-074	Removed	NFA without Restrictions	CAA-B North	Regional Water Board 2014j
FL-106	Removed	Open	CAA-B North	NA
FL-107	Removed	Open	CAA-B North	NA
FL-109	Removed	Open	CAA-B North	NA
FL-205	Closed in place	Open	CAA-B South	NA

Notes:

CAA	Corrective Action Area
FL	Fuel Line
NA	Not applicable
NAS	Naval Air Station
NFA	No Further Action
Regional Water Board	Regional Water Quality Control Board

References:

Regional Water Board. 2007. "No Further Action and Site Summary for the Fuel Line Corrective Action Area A (CAA-A), Alameda Point, Alameda County." November 28.

Regional Water Board. 2014j. "No Further Action for Former Fuel Line Segment 074 Former Alameda Naval Air Station, Alameda County." July.

Regional Water Board. 2017a. "No Further Action for Portion of CAA-B South, Fuel Line (FL)-71, FL-23F East, and FL-109 South, Former Alameda Naval Air Station, Alameda County." March 10.

TABLE 6: RADIOLOGICALLY IMPACTED SITES WITHIN THE FOST PARCELS

Finding of Suitability to Transfer Phase 3B - Former NAS Alameda

Identification	Description	Status	Closure Reference
Radiological Anomaly	Source of anomalous radiation reading believed to be paint formulated using radium and zinc sulfide.	Unrestricted	DTSC 2016, EPA 2016a
Seaplane Apron (West)	Western portion of seaplane parking apron, providing access to the seaplane lagoon from the hangars at Buildings 11, 400, and 12 (Ra-226).	Unrestricted	DTSC 2016, Tetra Tech EC 2012
Storm Drain Line F	Storm drain associated with Buildings 5 and 400 and in particular the locations associated with radium paint facility work in both buildings (Ra-226).	Unrestricted	Navy 2014
Storm Drain Line FF	Storm drain associated with Building 400.	Unrestricted	Navy 2014
Storm Drain Lines A and G	Storm drain lines running from near Building 5 to the seaplane lagoon were potentially radiologically impacted.	Unrestricted	Navy 2016b

Notes:

DTSC Department of Toxic Substances Control
EPA U.S. Environmental Protection Agency
NAS Naval Air Station
Ra-226 Radium-226

References:

DTSC. 2016. Letter "DTSC Concurrence with Final Remedial Action Completion Report for Installation Restoration Site 17, Alameda Point, Alameda, California, September 2014." April 1.

EPA. 2016a. Letter regarding “Final Remedial Action Completion Report, IR, Site 17 Seaplane Lagoon, Alameda Point, Alameda, California, September 2014.” March 17.

Navy. 2014. "Final Record of Decision for Operable Unit-2C (IR Sites 5, 10, and 12), Former Naval Air Station, Alameda, California." April.

Navy. 2016b. "Final Record of Decision, Operable Unit 2C Drain Lines Located Outside of Buildings 5 and 400, Former Naval Air Station Alameda, California." December.

Tetra Tech EC, Inc. 2012. "Final Addendum 1, Completion Report TCRA, IR Site 17 Construction Debris Piles, Alameda Point, Alameda, California." October

ATTACHMENT 1
RESPONSES TO REGULATORY AGENCY COMMENTS

ATTACHMENT 1

RESPONSES TO COMMENTS FROM THE U.S. ENVIRONMENTAL PROTECTION AGENCY, THE DEPARTMENT OF TOXIC SUBSTANCES CONTROL, THE SAN FRANCISCO BAY REGIONAL WATER QUALITY CONTROL BOARD, AND THE CITY OF ALAMEDA ON THE DRAFT AND DRAFT FINAL FINDING OF SUITABILITY TO TRANSFER PHASE 3B, FORMER NAVAL AIR STATION ALAMEDA, ALAMEDA, CALIFORNIA, FEBRUARY AND MAY 2017

The table below contains the responses to comments received on the "Draft Finding of Suitability to Transfer Phase 3B, Former Naval Air Station Alameda, Alameda, California," dated February 2017. The comments addressed below were received from the U.S. Environmental Agency (EPA) on March 8, 2017, Department of Toxic Substances Control (DTSC) on March 7, 2017, San Francisco Bay Regional Water Quality Control Board (Regional Water Board) on March 27, 2017, and City of Alameda on February 24, 2017.

Comment No.	Section / Page	Comment	Response
Responses to Comments from EPA			
General Comment			
1.	--	EPA notes that Navy policy provides for a 30-day public notice prior to the signing of the Finding of Suitability to Transfer (FOST).	Comment noted.
Specific Comments			
1.	Section 2.0, Page 1	Please update the acreage for the upland portion of Alameda Point.	The acreage noted in Section 2.0 was changed to 1,783 acres representing the former uplands at the former Naval Air Station (NAS) Alameda.
2.	Section 4.1.1, Page 6	Should "discharge" be changed to "discharged" in the first sentence of the first paragraph on this page?	Because the sentence refers to past discharges of radium, the text was changed to "*discharged*" as suggested.
3.	Section 4.2.3, Pages 9-10	In the third sentence of the paragraph labeled "CAA-12S," "groundwater and" should be replaced with "groundwater, which . . . ." A similar change should be made in the last sentence of the paragraph ending at the top of page 10.	The third sentence of the paragraph was revised to replace "*and*" with *", which*" as suggested. A similar revision was made in the next paragraph as suggested.
4.	Section 4.7.2, Page 14	Should "discharge" be changed to "discharged" in the second sentence of the paragraph labeled "Storm Drain Lines F and FF and Outfalls F and FF"?	Because the sentence refers to past discharges of radium, the text was changed to "*discharged*" as suggested.
5.	Section 5.2.1, Page 18	For consistency, please use "Water Board" instead of "Regional Water Board" in the first bullet point at the top of the page.	References to "*Water Board*" have been globally revised to read "*Regional Water Board*" for consistency and also in response to Regional Water Board Comment #1.
6.	Section 6.2.1.1.3, Page 22	A parenthesis is missing after "(IR Sites 5, 10, and 12" in the last sentence of the second paragraph.	Inserted close parenthesis after *"(IR Sites 5, 10, and 12)"* as suggested.

RESPONSES TO COMMENTS FROM THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, THE DEPARTMENT OF TOXIC SUBSTANCES CONTROL, THE SAN FRANCISCO BAY REGIONAL WATER QUALITY CONTROL BOARD, AND THE CITY OF ALAMEDA ON THE DRAFT FINDING OF SUITABILITY TO TRANSFER PHASE 3B, FORMER NAVAL AIR STATION ALAMEDA, ALAMEDA, CALIFORNIA, FEBRUARY 2017

Comment No.	Section / Page	Comment	Response
Responses to Comments from EPA			
7.	Section 6.2.1.1.7, Page 23	"of" is missing after "two types" in the first sentence.	Inserted "*of*" as suggested.
8.	Section 6.2.3.4, Page 28	The second sentence is missing a comma and "because" or similar conjunction.	The subject sentence has been deleted and the section has been rewritten to address the conditions imposed by the Regional Water Board closure letter for CAA-10 affecting Parcel FOST3B-4.
9.	Figure 6	The FOST parcel boundaries are missing in the figure, while the legend shows the "FOST Parcel Boundary."	FOST Parcel boundaries have been added to the figure as suggested.

RESPONSES TO COMMENTS FROM THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, THE DEPARTMENT OF TOXIC SUBSTANCES CONTROL, THE SAN FRANCISCO BAY REGIONAL WATER QUALITY CONTROL BOARD, AND THE CITY OF ALAMEDA ON THE DRAFT FINDING OF SUITABILITY TO TRANSFER PHASE 3B, FORMER NAVAL AIR STATION ALAMEDA, ALAMEDA, CALIFORNIA, FEBRUARY 2017

Comment No.	Section / Page	Comment	Response
Responses to Comments from DTSC			
Specific Comments			
1.	Section 4.2.1, Page 8	Please describe the further actions required on each open petroleum sites CAA-B (North), CAA-B (South) and CAA-6, i.e. awaiting written regulatory concurrence, pending submission of site closure request, or requiring further investigation, remediation and/or monitoring activities. In the case that a site requires further investigation, remediation and/or monitoring activities, please describe those activities.	Additional text has been added to Section 4.2.1 describing the status of the sites and planned future activities as requested.
2.	Section 4.2.5, Page 10	Please describe the presence or lack thereof any closed washed down areas within the FOST Parcels.	A new second sentence was added to Section 4.2.5 as requested. It reads "*No aircraft washdown areas are present in the FOST Parcels.*"
3.	Section 5.2.1, Page 18	Please delete the sentence starting with "CAA-B south (including) is an open petroleum site…" This sentence deals with an open site and makes the section on closed sites confusing.	Portions of CAA-B South are closed and located partially within the FOST Parcel. The text of Section 5.2.1 has been revised to clarify that portions of CAA-B South located in the FOST Parcel are both open and closed.
4.	Section 6.1, Page 20	Please include the distances to the one non-Navy environmental site on Alameda in the GeoTracker database.	The last sentence of Section 6.1 has been revised to provide the requested distance information: "That site is approximately a quarter mile from the FOST Parcels, is a closed site, and is not likely to impact the FOST Parcels."
5.	Section 6.2.1.1.1, Page 21	a. Please add a discussion of the recent Record of Decision, OU2C drainlines located outside Buildings 5 and 400. b. Please add a discussion of the radium-226 paint activities within IR Site 5.	The section has been expanded to discuss the drain line record of decision (ROD) and the radium-226 paint activities as requested.
6.	Section 6.2.1.1.7, Page 23	Please revise the 5th sentence to remove the word "upgradient"—it is confusing.	Replaced "*located upgradient from*" with "*for which Buildings 5 and 400 are not sources*."
7.	Section 6.2.1.5, Page 25	Please delete the word "environmental" from the last sentence to mirror the language of other sections.	Deleted "environmental" as requested.

RESPONSES TO COMMENTS FROM THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, THE DEPARTMENT OF TOXIC SUBSTANCES CONTROL, THE SAN FRANCISCO BAY REGIONAL WATER QUALITY CONTROL BOARD, AND THE CITY OF ALAMEDA ON THE DRAFT FINDING OF SUITABILITY TO TRANSFER PHASE 3B, FORMER NAVAL AIR STATION ALAMEDA, ALAMEDA, CALIFORNIA, FEBRUARY 2017

Comment No.	Section / Page	Comment	Response
Responses to Comments from DTSC			
8.	Section 6.2.2.3, Page 26	Please revise this section to indicate that the California Department of Public Health has yet to issue a radiological unrestricted release recommendation. This recommendation is pending a final confirmation survey.	Revised text to read as follows: "*The Building 114 Courtyard is located just north of the western leg of Parcel FOST3B-3 as shown on Figure 6. The courtyard was designated as radiologically impacted in the HRA based on its use for temporary storage of radium-contaminated piping removed by remediation contractors from Building 5 (Weston 2007). A survey was performed to confirm that the courtyard is free of radioactive materials (ChaduxTt 2013). The results of alpha surface radioactivity measurements collected in the 13 survey units of the Building 114 Courtyard indicate that only background levels of radioactivity are present, with no measurements exceeding the release criteria. No evidence of residual radioactivity from historical Navy activities was found in the Building 114 Courtyard. The Navy and CDPH agreed to reclassify the site as "not radiologically impacted" and documented that the site was suitable for unrestricted use in the Final Status Survey (ChaduxTt 2013). As a non-impacted site, CDPH agreed a free release of the site was not required. "*
9.	Section 6.2.2.4, Page 27	Second paragraph. Please specify which storm drains have been contaminated in association with radioluminescent painting operations.	The second paragraph of Section 6.2.2.4 has been revised to specify the storm drain lines that were contaminated.
10.	Figure 4	Please remove NFA with Conditions from the legend as no CAAs or AOC depicted fall into this category.	The figure has been updated to show CAA-B (South) as "NFA with Conditions." Therefore, the category has been retained in the legend.
11.	Figure 6	Please revise the area of Building 114 Courtyard to "Open (has not received regulatory closure)" since the California Department of Public Health has not given a radiological unrestricted release recommendation.	The site received regulatory closure; therefore, the figure has not been changed. See additional discussion in the response to DTSC Comment #8, above.

RESPONSES TO COMMENTS FROM THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, THE DEPARTMENT OF TOXIC SUBSTANCES CONTROL, THE SAN FRANCISCO BAY REGIONAL WATER QUALITY CONTROL BOARD, AND THE CITY OF ALAMEDA ON THE DRAFT FINDING OF SUITABILITY TO TRANSFER PHASE 3B, FORMER NAVAL AIR STATION ALAMEDA, ALAMEDA, CALIFORNIA, FEBRUARY 2017

Comment No.	Section / Page	Comment	Response
Responses to Comments from Regional Water Board			
Specific Comments			
1.	Acronyms and Abbreviations, page v	In the list of Acronyms and Abbreviations, the California Regional Water Quality Control Board – San Francisco Bay Region is abbreviated "Water Board." Please revise this abbreviation to "Regional Water Board" and make this change globally in the document.	"*Water Board*" has been revised globally to read "*Regional Water Board*" as requested.
2.	Section 4.2	In the first paragraph, the text neglects to include the Regional Water Board's November 20, 2015, *Technical Memorandum Regarding Second Update (2016) to the Petroleum Strategy* as part of the history and status of the Alameda Point Petroleum Program. Please revise the text to also reference the November 20, 2015, Regional Water Board's *Technical Memorandum Regarding Second Update (2016) to the Petroleum Strategy* and include this reference in Section 10.0 References.	The first paragraph of Section 4.2 and the reference section have been revised to include reference to the Regional Water Board Technical Memorandum as requested.
3.	Section 4.2.3	CAA-12 is described incorrectly as having been subdivided into CAA-12N and CAA-12S; however, that was not the case. CAA-12 remained the CAA, despite having two subsections created within it, which were denoted CAA-12N and CAA-12S. CAA-12 was recently granted No Further Action in a letter dated March 15, 2017. Please update the text to reflect the status of CAA-12 as explained in the March 15, 2017, NFA closure letter. This will also include updating the text in Section 5.2.1 and Section 6.2.3.5, that refer to CAA-12, and globally in any other sections, tables, or figures, as applicable.	The text, tables, and figures have been revised throughout as requested to reflect the status of CAA-12 as explained in the Regional Water Board No Further Action (NFA) closure letter dated March 15, 2017.
4.	Section 4.2.3	The description of Fuel Lines (FL) FL-71 and FL-23F in CAA-B South excludes a small fuel line segment FL-109 South. The March 10, 2017, NFA closure letter includes FL-109 South. Please update the text to include part of FL-109, labeled FL-109 South, as closed. Update the text to reflect the description of the FL-109 South portion as contained in the March 10, 2017, NFA closure letter. This edit should be made globally, and includes revising the text in Section 5.2.1 also.	Sections 4.2.3 and 5.2.1 have been revised to include discussion of FL-109 South and for consistency with the Regional Water Board NFA closure letter dated March 10, 2017.

RESPONSES TO COMMENTS FROM THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, THE DEPARTMENT OF TOXIC SUBSTANCES CONTROL, THE SAN FRANCISCO BAY REGIONAL WATER QUALITY CONTROL BOARD, AND THE CITY OF ALAMEDA ON THE DRAFT FINDING OF SUITABILITY TO TRANSFER PHASE 3B, FORMER NAVAL AIR STATION ALAMEDA, ALAMEDA, CALIFORNIA, FEBRUARY 2017

Comment No.	Section / Page	Comment	Response
Responses to Comments from Regional Water Board			
5.	Section 4.2.3	The TC Sump is described in the last paragraph of this section, but there is no figure referenced to show the TC Sump's location. Please include TC Sump's location on Figure 4, or state in the text that the TC Sump is shown on Figure 8.	A reference to Figure 8 has been included in Section 4.2.3 as requested.
6.	Section 4.8	The text states that "It is the Navy's position that is shall have no obligation under the covenants provided pursuant to Section 120(h)(3)(A)(ii) of CERCLA, Title 42 U.S.C. Section 9620(h)(3)(A)(ii), for the remediation of legally applied pesticides." The Regional Water Board requests an additional sentence following this text. Please add this statement to Section 4.8, "Regional Water Board authorities may require cleanup in the event that pesticides impact or threaten to impact beneficial uses."	Navy acknowledges the Regional Water Board position; however, the language regarding pesticides is standardized and has been used over the last 4 years in the last two major FOSTs for NAS Alameda.
7.	Section 5.2.1	Third bullet stating, "Shallow groundwater beneath the site should not be used for drinking water or other potential uses." We request that the words "should not" be changed to "may not" or "shall not."	Revised language to read "cannot" to be consistent with the language in the Regional Water Board closure letter.
8.	Section 5.2.1	Fourth bullet stating, "The Regional Water Board should be notified in writing of any proposed change in land or groundwater use at the site." We request that the word "should" be changed to "shall."	Revised language to read "*must*" to be consistent with the language in the Regional Water Board closure letter.
9.	Table 4	Table 4 should reference the Regional Water Board 2017 closure letter for CAA-12.	Table 4 has been revised to reference the Regional Water Board closure letter for CAA-12 dated March 15, 2017.
10.	Table 5	Table 5 should be updated to include information on the portion of FL-109 (FL-109 South) that is closed, if there is a portion of FL-109 South that is included in the transfer. Update Table 5, if applicable, based on the 2017 NFA closure that includes FL-109 South.	Table 5 addresses fuel line (FL) segments that are located within the FOST Parcels. FL-109 South is not located within a FOST Parcel; therefore, the table does not include reference to FL-109 South.

RESPONSES TO COMMENTS FROM THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, THE DEPARTMENT OF TOXIC SUBSTANCES CONTROL, THE SAN FRANCISCO BAY REGIONAL WATER QUALITY CONTROL BOARD, AND THE CITY OF ALAMEDA ON THE DRAFT FINDING OF SUITABILITY TO TRANSFER PHASE 3B, FORMER NAVAL AIR STATION ALAMEDA, ALAMEDA, CALIFORNIA, FEBRUARY 2017

Comment No.	Section / Page	Comment	Response
Responses to Comments from City of Alameda			
Specific Comments			
1.	Section 4.1.1, 1st paragraph, final sentence.	1st paragraph, final sentence. Consider changing "*wholly*" to "*partially*" in the sentence "*Storm Drain Lines F and FF outfalls F and FF are **wholly** contained within the OU-2C boundary….*" Although the April 2014 ROD for OU-2C selects the CERCLA remedy for Storm Drain Lines F and FF and their outfalls, the entirety of both storm drain lines and their outfalls is not identified as part of OU-2C. See, for example, ROD Figures 2 and 6.	Revised "*wholly*" to "*partially*" as suggested.
2.	Section 4.1.4, last 2 sentences; Figure 7	Consider revising these sentences by inserting the **bold** words as follows: "*The Marsh Crust RAP/ROD identifies restrictions on excavation that…apply to all **or portions of some** Parcels **covered by** the FOST. Figure 7 includes a depiction of the Marsh Crust **Ordinance's** restrictions.*" Additionally, consider revising Figure 7 to show the Marsh Crust RAP/ROD ARIC in addition to the Marsh Crust Ordinance ARIC, which it now shows. The draft FOST appears to conflate the Marsh Crust Ordinance and the February 2001 Marsh Crust RAP/ROD. However, the former applies to all of Alameda Point, whereas the latter only to former subtidal area and tidal marshland, which is delineated in the RAP/ROD's Figure 4.	The changes to the text of Section 4.1.4 have been made as requested. Figure 7 has been revised to show the area that is subject to the Marsh Crust RAP/ROD ARIC. Figure 7 has also been revised to show that all of the FOST Parcels are subject to the Marsh Crust ordinance (some small areas in FOST3B-4 were previously shown as excluded based on mapping inaccuracies).
3.	Section 4.2.1, CAA-B (North) subheading, 2nd sentence; Table 5	The text identifies the specified fuel lines as having been abandoned in place, but Table 5 identifies these same fuel lines as having been removed, which appears to be correct. Consider resolving this apparent discrepancy.	The second sentence under CAA-B (North) in Section 4.2.1 was revised to replace "*abandoned in place*" with "*removed*."
4.	Section 4.2.1, CAA-B (North) and CAA-B (South) subheadings; Figure 10; and Table 5.	Consider revising the text, figure, and table to clarify that the Regional Water Board closed FL-71 and portions of FL-23F and FL-109 with conditions. (Revision of Water Board 2017 NFA letter is pending.)	The text in Section 4.2.3 CAA-B (North) and CAA-B (South) subheadings; Figure 10; and Table 5 have been revised to include discussion of the Regional Water Board closure letter for FL-71, portions of FL-23F and FL-109 South as requested. Also, see response to Regional Water Board Comment #4.

RESPONSES TO COMMENTS FROM THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, THE DEPARTMENT OF TOXIC SUBSTANCES CONTROL, THE SAN FRANCISCO BAY REGIONAL WATER QUALITY CONTROL BOARD, AND THE CITY OF ALAMEDA ON THE DRAFT FINDING OF SUITABILITY TO TRANSFER PHASE 3B, FORMER NAVAL AIR STATION ALAMEDA, ALAMEDA, CALIFORNIA, FEBRUARY 2017

Comment No.	Section / Page	Comment	Response
Responses to Comments from City of Alameda			
5.	Section 4.2.3, Fuel Lines (FL) FL-71 and FL-23F in CAA-B South subheading	Consider revising the text to clarify that FL-71 and portions of FL-23F and CAA-B South were closed by the Regional Water Board and are not in the FOST Parcel.	The text in Section 4.2.3, "*Fuel Lines (FL) FL-71 and FL-23F in CAA-B South*," subheading, has been revised to clarify the location and closure status of the FL segments.
6.	Section 4.2.3	Consider referring to a figure that shows the location of the TC Sump.	See response to Regional Water Board Comment #5.
7.	Section 5.1.1	Consider revising the text to distinguish between the ARIC and restrictions of the Marsh Crust RAP/ROD and that of the Marsh Crust Ordinance.	The text and Figure 7 have been revised to distinguish between the ARIC identified as the "Approximate Marsh Crust ROD Area" on the figure and areas subject to the Marsh Crust Ordinance identified as areas under the "Existing Marsh Crust- and Subtidal Area-Related Restriction."
8.	Section 5.2.1, penultimate paragraph, 1st sentence; Section 5.2.2, 1st paragraph, 1st sentence	Consider revising the text in both sentences to clarify that the Regional Water Board closed a portion of CAA-B. Additionally, a word appears to be missing from the sentence in Section 5.2.1 – in the parenthetical (typographical error).	Revised the text in second to last paragraph in Section 5.2.1 to include a discussion of the most recent closure of portions of CAA-B South within FOST3B-4. Preceded the word "*South*" with "*portions of*" in the first sentence of the first paragraph of Section 5.2.2.
9.	Section 5.2.2, last paragraph, 1st sentence	Consider discussing petroleum sites that are closed with conditions, instead of restrictions, such as, a portion of CAA-B. Additionally, this sentence appears to have a comma where none is needed – after "*restrictions*" (typographical error).	Globally revised petroleum text, tables, and figures to refer to "conditions" instead of "restrictions" where appropriate. The comma referred to in the comment has been deleted.
10.	Section 6.2.1.1.7, 1st sentence	A word appears to be missing between "*types*" and "*industrial*" (typographical error).	Inserted "*of*" between the two words as suggested.
11.	Section 6.2.1.3, penultimate sentence	Consider noting that US EPA concurred (that IR Site 8 is OPS and soil RAOs had been attained) in addition to the Regional Water Board and DTSC.	Added EPA as suggested.
12.	Figure 6	Consider deleting green lines labeled "Industrial Waste Line (No Action Required)" that are not shown in the ROD for OU-2C external drain, industrial waste, and sanitary lines. Additionally, consider showing the FOST Parcel boundary on the figure.	Modified Figure 6 to delete the industrial drain lines that are not in the ROD for Operable Unit -2C Drain Lines Located Outside of Buildings 5 and 400 as suggested. The FOST Parcel boundary has also been added to the figure.

RESPONSES TO COMMENTS FROM THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, THE DEPARTMENT OF TOXIC SUBSTANCES CONTROL, THE SAN FRANCISCO BAY REGIONAL WATER QUALITY CONTROL BOARD, AND THE CITY OF ALAMEDA ON THE DRAFT FINDING OF SUITABILITY TO TRANSFER PHASE 3B, FORMER NAVAL AIR STATION ALAMEDA, ALAMEDA, CALIFORNIA, FEBRUARY 2017

Comment No.	Section / Page	Comment	Response
Responses to Comments from City of Alameda			
13.	Figure 7	Consider revising the label for the portion FL-23F and CAA-B that the Regional Water Board closed to "*Petroleum Conditions*" from "*Petroleum Restriction.*"	The requested change has been made. See response to City of Alameda Comment #9.
14.	Table 1	Consider including a row for NC-EDC (Phase 3A).	A row for NC-EDC (Phase 3A) has been added to Table 1 as suggested.
15.	Table 5	Consider noting that the Regional Water Board closed the southern portion of FL-109 in 2017. (Revision of Water Board 2017 NFA letter is pending.)	Table 5 provides the status of FL segments that are in the FOST Parcel. When the Regional Water Board closed the segment of FL-109 the comment is referring to, the Board renamed it FL-109 South and that segment is located outside the FOST Parcel. Because FL-109 South is located outside the FOST Parcel, it has not been added to the table.

RESPONSES TO COMMENTS FROM THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, THE DEPARTMENT OF TOXIC SUBSTANCES CONTROL, THE SAN FRANCISCO BAY REGIONAL WATER QUALITY CONTROL BOARD, AND THE CITY OF ALAMEDA ON THE DRAFT FINDING OF SUITABILITY TO TRANSFER PHASE 3B, FORMER NAVAL AIR STATION ALAMEDA, ALAMEDA, CALIFORNIA, FEBRUARY 2017

The table below contains the responses to comments received on the "Draft Final Finding of Suitability to Transfer Phase 3B, Former Naval Air Station Alameda, Alameda, California," dated May 2017. The comments addressed below were received from the San Francisco Bay Regional Water Quality Control Board (Regional Water Board) on June 16, 2017.

Comment No.	Section / Page	Comment	Response
Responses to Comments from Regional Water Board			
1.	Attachment 1, item 6	Attachment 1, item 6, refers to the statement in Section 4.8 of the document. This text references the Navy's position to legally applied pesticides. The Regional Water Board requested that a statement be added to Section 4.8 regarding the Regional Water Board's position on pesticide cleanup. The Navy's response is to "acknowledge our position," but to not make a text edit based on what the Navy has standardized as text used in FOSTs for the past four years. This is an insufficient reason to not make a requested addition to the text. Simply because language has been used in past documents does not preclude that language from being refined and edited in subsequent documents of similar purpose. The Navy can best "acknowledge our position" by including the language that the Regional Water Board requested. By doing so, the four-year old text regarding the Navy's position is not excluded, altered, nor compromised. **Action requested:** Include additional text addressing the Regional Water Board's position on the remediation of legally applied pesticides.	The suggested language is not consistent with the purpose of a FOST which is to summarize how regulatory requirements have been satisfied; however, the addition of this statement is not fundamentally objectionable to the Navy. Section 4.8 has been revised to include the following suggested language at the end of the section: "*Regional Water Board authorities may require cleanup in the event that pesticides impact or threaten to impact beneficial uses.*"
2.	Attachment 3	Attachment 3, Petroleum Closure Letters, is provided on CD. The CD contains copies of the closure letters, but the CD copies do not show the electronic signatures. This makes the letters incomplete. **Action requested:** In the final FOST, please include the completed signature pages in letters included on Attachment 3 of the CD.	Completed signature pages in letters have been included on Attachment 3 of the CD.

ATTACHMENT 2
HAZARDOUS SUBSTANCES NOTIFICATION TABLE

ATTACHMENT 2: HAZARDOUS SUBSTANCES NOTIFICATION TABLE

Finding of Suitability to Transfer Phase 3B - Former NAS Alameda

Identification [a]	Media/ Description	Hazardous Substance [b,c]	Reportable Quantity (lbs) [b]	CAS Number	RCRA Waste Code [b]	Quantity Stored, Released, or Disposed [d]	Date Stored, Released, or Disposed [d]	Stored (S), Released (R), or Disposed (D)	Action Taken
Marsh Crust	Sediment	PAHs	NA	NA	NA	Unknown	Unknown	R	A layer of sediment contaminated with PAHs and referred to as the marsh crust was identified during environmental investigations between 1993 and 2000. The marsh crust was deposited across the Alameda Facility/Alameda Annex from the late 1800s until the 1920s, and is believed to have resulted from direct discharges of petroleum products and wastes from former manufactured gas plants and oil refineries to marshlands that underlie the current uplands. The ROD selected land use controls that prohibit excavation within the marsh crust and former subtidal area, unless proper precautions are taken to protect worker health and safety and to ensure that excavated material is disposed of properly (Navy 2001). The property is subject to a deed restriction, a Covenant to Restrict Use of Property, and permitting requirements for excavations in accordance with the Alameda Marsh Crust Ordinance No. 2824.
IR 35 (AOC 12)	Soil	Lead	10	7439-92-1	NA	Unknown	Unknown	R	AOC 12 is partially located in Parcel FOST3B-3. A former 200,000-gallon water tower occupied the area of AOC 12. The final ROD for Site 35 Areas established the remedy for soil contamination at AOC 12 to be excavation and off-site disposal of lead-contaminated soil (Navy 2010). The contaminated soil was removed in 2011 and EPA concurred with the IR Site 35 remedial action completion report and with site closure (EPA 2012). In addition, the DTSC issued a Remedial Action Certification in 2013 (DTSC 2013).

ATTACHMENT 2: HAZARDOUS SUBSTANCES NOTIFICATION TABLE

Finding of Suitability to Transfer Phase 3B - Former NAS Alameda

Identification [a]	Media/ Description	Hazardous Substance [b,c]	Reportable Quantity (lbs) [b]	CAS Number	RCRA Waste Code [b]	Quantity Stored, Released, or Disposed [d]	Date Stored, Released, or Disposed [d]	Stored (S), Released (R), or Disposed (D)	Action Taken
Building 38 (demolished)	NA	Fire extinguisher fluid	NA	NA	NA	Unknown	5/22/1990	S	The 1994 EBS identified the storage of this hazardous substance on site. No action necessary (ERM-WEST 1994). Materials stored on site. No spills or releases reported.
NADEP GAP 74	NA	Oil and engine oil waste	NA	NA	NA	55 gal			
		Lubricating oil waste	NA	NA	NA	55 gal			
Radiological Sites Seaplane Parking Apron, anomaly and other locations on western side of Seaplane Lagoon and Ramps and Storm Sewers	Soil	Ra-226	1 Curie	NA	NA	Unknown	Unknown	R	These areas were identified as impacted in the HRA (Weston Solutions, Inc. 2007). The sewer lines were contaminated through the disposal of Ra-226 down drains and the apron area was impacted by wash-down of aircraft. Following additional investigations and remedial activities the lines were found to require NFA or were subjected to a final status survey and received radiological release by the DTSC. The anomaly area and three other locations of elevated radiation readings identified during a survey of the western shoreline of the lagoon were all excavated and the excavations were surveyed and released (TtEC 2011; DTSC 2016; EPA 2016a).
IR 35 (EBS Parcel 205)	NA	Freon	NA	75-71-8	NA	NA	6/6/1990	S	The 1994 EBS identified the storage of this hazardous substance on site (ERM-WEST 1994). No action necessary. Materials stored on site. No spills or releases reported.
		Paint	NA	NA	NA	Unknown			
		Trichlorofluoro-methane	5,000	75-69-4	U121	55 gal			
	Groundwater	Vinyl chloride	1	75-01-4	UO43	Unknown	Unknown	R	Cis-1,2-dichloroethene and vinyl chloride were reported in groundwater at concentrations above preliminary screening criteria. The IR Site 35 ROD determined that no action was necessary for EBS Parcel 205.
		cis-1,2-Dichloroethene	1,000	156-59-2	NA	NA			

ATTACHMENT 2: HAZARDOUS SUBSTANCES NOTIFICATION TABLE

Finding of Suitability to Transfer Phase 3B - Former NAS Alameda

Identification [a]	Media/ Description	Hazardous Substance [b,c]	Reportable Quantity (lbs) [b]	CAS Number	RCRA Waste Code [b]	Quantity Stored, Released, or Disposed [d]	Date Stored, Released, or Disposed [d]	Stored (S), Released (R), or Disposed (D)	Action Taken
Open Space Between Buildings 507 and 508	NA	Nonhalogenated organics	NA	NA	NA	10 gal	1994	S	The 1994 EBS identified the storage of this hazardous substance on site (ERM-WEST 1994). No action necessary. Materials stored on site. No spills or releases reported.
Building 523	NA	Nonhalogenated organics	NA	NA	NA	2,000 gal	1988-1989	S	The 1994 EBS identified the storage of this hazardous substance on site (ERM-WEST 1994). No action necessary. Materials stored on site. No spills or releases reported.

Notes:
The information contained in this notice is required under the authority of regulations promulgated under Section 120(h) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or "Superfund") 42 U.S.C. Section 9620(h).

a No chemicals were found to have been stored, disposed, or released within other areas of the FOST Parcel.

b This table was prepared in accordance with 40 CFR 373 and 40 CFR 302.4. The substances which do not have chemical-specific break down (and associated annual reportable quantity) are not listed in 40 CFR 302.4, and therefore have no corresponding CAS number, no regulatory synonyms, no RCRA waste numbers, and no reportable quantities. Hazardous substances listed in this table were compiled based on known contamination at the sites and historic activities at specific locations.

c The FOST Parcel may contain pesticide residue from pesticides that have been applied in the management of the property. The Grantor knows of no use of any registered pesticide in a manner inconsistent with its labeling and labeling and believes that all applications were made in accordance with the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) (7 U.S.C. Sec. 136, et seq.), its implementing regulations, and according to the labeling provided with such substances . It is the Grantor's position that it shall have no obligation under the covenants provided pursuant to Section 120(h)(3)(A)(ii) of CERCLA, 42 U.S.C. Sections 9620(h)(3)(A)(ii), for the remediation of legally applied pesticides.

d The quantity stored, released, or disposed, and the date stored, released, or disposed, is unknown because documentation related to storage, release, or disposal of these hazardous substances was not available during records searches for the property.

References:

DTSC. 2013. "Remedial Action Certification, Installation Restoration Site 35 Areas of Concern 3, 10, and 12, in Transfer Parcel EDC-5 Alameda Point (Former Naval Air Station Alameda) Alameda, California." June 28.

DTSC. 2016. Letter "DTSC Concurrence with Final Remedial Action Completion Report for Installation Restoration Site 17, Alameda Point, Alameda, California, September 2014." April 1.

ERM-WEST. 1994. "Final Basewide Environmental Baseline Survey/Community Environmental Response Facilitation Act Report for NAS/NADEP Alameda." October.

Navy. 2001. "Final Remedial Action Plan/Record of Decision for the Marsh Crust at the Fleet and Industrial Supply Center Oakland Alameda Facility/Alameda Annex and for the Marsh Crust and Former Subtidal Area at Alameda Point." February.

Navy. 2010. "Final Record of Decision for Installation Restoration Site 35, Areas of Concern in Transfer Parcel EDC-35, Alameda Point. Alameda, California." February.

TtEC. 2011. "Final Time-Critical Removal Action Completion, IR Sites 5 and 10, Buildings 5 and 400, Storm Drain Line Removal, Alameda Point, Alameda, California." September.

EPA. 2012. Letter Regarding Final Remedial Action Completion Report, IR Site 35, Alameda Point, Alameda, California. August 2012. From Michael Montgomery, Assistant Director, Superfund Division, Federal Facilities and Site Cleanup Branch, EPA. To Derek Robinson, Department of the Navy, Base Realignment and Closure Environmental Coordinator, Program Management Office West. August 27.

EPA. 2016a. Letter regarding "Final Remedial Action Completion Report, IR, Site 17 Seaplane Lagoon, Alameda Point, Alameda, California, September 2014." March 17.

Weston Solutions, Inc. 2007. "Final Historical Radiological Assessment Volume II, Alameda Naval Air Station, Use of General Radioactive Materials, 1941-2005." June.

Acronyms:

AOC	Area of concern
CAS	Chemical Abstract System
CFR	Code of Federal Regulations
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
D	Disposed
DTSC	Department of Toxic Substances Control
EBS	Environmental Baseline Survey
EPA	Environmental Protection Agency
FOST	Finding of Suitability to Transfer
gal	Gallon
GAP	Generator accumulation point
HRA	Historical Radiological Assessment
IR	Installation restoration
lbs	Pounds
NA	Not available
NADEP	Naval Aviation Depot
NAS	Naval Air Station Alameda
Navy	Department of the Navy
NFA	No further action
PAH	Polycyclic aromatic hydrocarbon
R	Released
Ra-226	Radium 226
RCRA	Resource Conservation and Recovery Act
ROD	Record of decision
S	Stored
TtEC	Tetra Tech EC, Inc.
U.S.C.	United States Code

ATTACHMENT 3
PETROLEUM CLOSURE LETTERS

(*Provided on CD*)

CALIFORNIA
Water Boards

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

San Francisco Bay Regional Water Quality Control Board

April 30, 2015 (RAS)
GeoTracker ID: T0600109975

U.S. Department of the Navy
Attn. Cecily Sabedra
BRAC Environmental Coordinator
1455 Frazee Road, Suite 900
San Diego, CA 92108-4310
Via email: cecily.sabedra@navy.mil

Subject: **Uniform UST Letter, Area of Concern 23G (Three Underground Storage Tanks), Former Alameda Naval Air Station, Alameda County**

Dear Ms. Sabedra:

This letter confirms the completion of a site investigation and corrective action for the subject underground storage tank(s) formerly located at the above-described location. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the former underground storage tank(s) are greatly appreciated.

Based on information in the above-referenced file and with the provision that the information provided to this agency was accurate and representative of site conditions, we find that the site investigation and corrective action carried out at your underground storage tank site(s) is in compliance with the requirements of subdivisions (a) and (b) of Section 25296.10 of the Health and Safety Code and with corrective action regulations adopted pursuant to Section 25299.3 of the Health and Safety Code and that no further action (NFA) related to the petroleum release(s) at the site(s) is required.

This notice is issued pursuant to subdivision (g) of Section 25296.10 of the Health and Safety Code. Please contact our offices if you have any questions regarding this matter.

Sincerely,

Terry Seward for

Digitally signed by Terry Seward
DN: cn=Terry Seward, o=SF Water Board, ou=GWPD, email=Tseward@waterboards.ca.gov, c=US
Date: 2015.05.01 10:51:36 -07'00'

Bruce H. Wolfe
Executive Officer

November 5, 2012 (MLZ)
GeoTracker Global ID: T0600109975

Department of the Navy
Base Realignment and Closure Program Management Office West
Attn. Mr. Derek Robinson
1455 Frazee Road, Suite 900
San Diego, CA 92108-4310
Via email: Derek.Robinson@navy.mil

Subject: No Further Action for UST 491-1 and ASTs 019A, 019B, and 019C, Corrective Action Area 10, Alameda Naval Air Station, Alameda, Alameda County

Dear Mr. Robinson:

This letter confirms that based on the available information, and with the provision that the information provided is accurate and representative of site conditions, site investigation and corrective actions are complete and no further action (NFA) is required for the sites summarized below:

Site Name	GeoTracker Case ID	Regional Water Board Case No.
UST 491-1	T0600192070	2169.9285
AST 019A	T10000001382	2169.9285
AST 019B	T10000001382	2169.9285
AST 019C	T10000001383	2169.9285

Basis and Assumptions

This NFA status applies only to releases of petroleum fuel and fuel constituents associated with the sites referenced above. While the information provided indicates that the above-referenced sites are satisfactorily cleaned up to standards consistent with commercial and industrial land use, we may reconsider these findings should land use change or new information be discovered regarding previously undetected contamination.

This NFA is partially based on the assumption that shallow groundwater beneath the site is not suitable for drinking water or other potential uses, such as landscape and garden irrigation, and will not be used without further assessment and mitigation of potential risks.

Conditions and Requirements

Residual petroleum contamination remains in the subsurface. To ensure protection of public health, safety, or the environment, and to be consistent with the land and groundwater use assumptions above, the following restrictions are required:

- No residential land use: Areas of the site cannot support residential use due to potentially unacceptable direct contact and vapor intrusion risk from residual petroleum contamination in soil and groundwater. Specifically, residual contamination may remain in the vicinity of groundwater monitoring locations 491-6-ERM and CA 10-01. Therefore, the site is restricted from residential land use within a 200-foot radius of groundwater monitoring well 491-6-ERM. The latitude for monitoring location 491-6-ERM is 37.782128, the longitude is 122.309987.
- No grading, excavation, or subsurface activities without a soil management plan: Any work involving soil excavation, trenching, or groundwater contact must be conducted pursuant to a soil management plan that is acceptable to Regional Water Board staff. The plan must include procedures for proper notification, handling, and disposal of any potentially contaminated soil or groundwater encountered during construction or removed from the site. Current and future site workers, tenants, and landowners must be notified of the soil management requirements for the property.
- No shallow groundwater use: Shallow groundwater beneath the site cannot be used for drinking water or irrigation due to the potential risk from residual petroleum contamination.
- Notify Regional Water Board – land use change: The Regional Water Board must be notified of any proposed changes in future land or groundwater use at the sites. Formal Regional Water Board concurrence may be required.
- Decommission monitoring wells: Any monitoring wells that will no longer be used must be properly destroyed pursuant to requirements of the Alameda County Public Works Agency. For information regarding these requirements, please contact the Alameda County Public Works Agency at (510) 670-5480. Documentation of well destruction shall be submitted to the Regional Water Board.

Land Use Controls/Covenants

The Navy intends to transfer the property that includes these sites to the City of Alameda (City) and this NFA status requires a land use restriction stating that residential land use is prohibited in specific areas to protect public health, safety, or the environment. Therefore, at the time of ownership transfer from the Navy to the City, either the Navy or the City is required to record a land use restriction on the property title acceptable to the Water Board and in accordance with Section 1471 of the California Civil Code.

Closing

The Regional Water Board may require a separate cost recovery agreement for regulatory oversight with the future landowner in order to evaluate the above work plans and conditions or to review any proposed change in land or groundwater use.

Attached please find the uniform UST closure letter and site closure summary. Please contact Myriam Zech of my staff at (510) 622.5684 or mzech@waterboards.ca.gov if you have any questions regarding this matter.

Sincerely,

Terry Seward for

Digitally signed by Terry Seward
Date: 2012.11.05 09:34:08 -08'00'

Bruce H. Wolfe
Executive Officer

Attachments: Uniform Case Closure Letter
Site Closure Summary Form

Email distribution:

Dave Darrow (BRAC): david.c.darrow.ctr@navy.mil
James Fyfe (DTSC): JFyfe@dtsc.ca.gov
Jacques Lord (Navy): jacques.lord.ctr@navy.mil
Bill McGinnis (Navy): william.mcginnis1@navy.mil
Peter Russell (Russell Resources, Inc.): peter@russellresources.com
Dale Smith (RAB): dale2smith@yahoo.com
Xuan-Mai Tran (EPA): Tran.Xuan-Mai@epa.gov
Travis Williamson (Battelle): williamsont@battelle.org

CALIFORNIA
Water Boards

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

San Francisco Bay Regional Water Quality Control Board

November 5, 2012 (MLZ)
Geotracker Global ID: T0600109975

Department of the Navy
Base Realignment and Closure Program Management Office West
Attn: Mr. Derek Robinson
1455 Frazee Road, suite 900
San Diego, CA 92108-4310
Via email: Derek.Robinson@navy.mil

Subject: Uniform Case Closure Letter, UST 491-1, Alameda Naval Air Station, Alameda County, Regional Water Board Case No. 2169.9285

Dear Mr. Robinson:

This letter confirms the completion of a site investigation and corrective action for the subject underground storage tank formerly located at the above-described location. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the former underground storage tank are greatly appreciated.

Based on information in the above-referenced file and with the provision that the information provided to this agency was accurate and representative of site conditions, we find that the site investigation and corrective action carried out at your underground storage tank site is in compliance with the requirements of subdivisions (a) and (b) of Section 25296.10 of the Health and Safety Code and with corrective action regulations adopted pursuant to Section 25299.3 of the Health and Safety Code and that no further action (NFA) related to the petroleum release at the site is required.

This notice is issued pursuant to subdivision (g) of Section 25296.10 of the Health and Safety Code. Please contact our offices if you have any questions regarding this matter.

Sincerely,

Terry Seward
for

Digitally signed by Terry Seward
Date: 2012.11.05 09:34:25 -08'00'

Bruce H. Wolfe
Executive Officer

SITE CLOSURE SUMMARY

Date: November 5, 2012

I. AGENCY INFORMATION	
Agency Name: SF Bay Regional Water Quality Control Board	Address: 1515 Clay Street, Suite 1400
City/State/Zip: Oakland, CA 94612	Phone: 510-622-5684
Responsible Staff Person: Myriam Zech	Title: Water Resource Control Engineer

II. SITE INFORMATION	
Site Facility Name: Alameda Naval Air Station (NAS), Corrective Action Area (CAA)-10, Underground Storage Tank (UST) 491-1, Aboveground Storage Tanks [ASTs] 019A, AST 019B, and AST 019C	
Site Facility Address: 2450 Saratoga St., Suite 200, Alameda, CA 94501	
RB Case Nos.: T0600192070; T10000001382; T10000001383	Priority: Low
Responsible Parties	
Department of Navy, Base Realignment and Closure Program Management Office West	
1455 Frazee Road, Suite 900	
San Diego, CA 92108-4310	
Mr. Jacques Lord, CEG, (619) 532-0902	

Tank No.	Capacity in Gallons	Contents	Closed In—Place/Removed?	Date
UST 491-1	550*	Gasoline	Removed	Aug 25, 1994
AST 019A	250	Diesel	Removed	Unknown (before 2002)
AST 019B	250	Diesel	Removed	Unknown (before 2002)
AST 019C	40	Fuel	Removed	Unknown (before 2002)

* It is not clear in the historical record whether the tank held 550 or 1,000 Gallons.

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and Type of Release: No spills or releases were reported for the ASTs; however, UST 491-1 failed tightness testing and was removed from service in October 1991. The tank was removed on August 25, 1994, at which time the tank was corroded with holes on the western tank seal. Hydrocarbon odors were observed during tank removal and petroleum constituents were detected in the excavation soil sample.

Site characterization complete? Yes

Monitoring wells installed? Yes: four permanent wells (491-MW1, 491-MW2, 491-MW3, 491MJ-MW1) are located within CAA-10.	Number: 4	Proper screened interval? Yes: the wells are screened from 2 to 12 ft bgs, which is within the first water bearing zone (FWBZ).
Highest GW Depth Below Ground Surface: 5 ft	Lowest Depth: 8 ft	Flow Direction: East-Southeast to South-Southwest

Most Sensitive Current Use: Commercial/Industrial

Most Sensitive Potential Use and Probability of Use: Commercial (Alameda Reuse and Redevelopment Authority [ARRA], 2006)

Drinking water potential: No

Are drinking water wells affected? No	Aquifer Name: Alameda Deep Aquifer
Is surface water affected? No	Nearest surface water name: Seaplane Lagoon

Off-Site Beneficial Use Impacts (Addresses/Locations): None

Report(s) on file? Yes	Where is report(s) filed? San Francisco Bay Water Board - Oakland, CA; and Alameda Point Administrative Record – San Diego, CA

IV. TREATMENT AND DISPOSAL OF AFFECTED MATERIAL

Material	Amount (Include Units)	Action (Treatment or Disposal w/Destination)	Date
UST 491-1	550 gallons	Tank was corroded and had holes in the western tank seal when removed. Tank was properly disposed offsite.	Aug 25, 1994
Hydrocarbon mixture	Unknown	The residual hydrocarbon and water mixture in the UST at the time of removal were properly disposed offsite. There were no reports on the specific contents of the ASTs.	Aug 25, 1994
Soil	Unknown	Over-excavation around the UST was conducted but the amount of excavated soil was not reported.	Aug 25, 1994
Groundwater	Unknown	No groundwater treatment or disposal was conducted at this site.	NA
AST 019-A	250	Condition of tank at time of removal is unknown.	Before 2002
AST 019-B	250	Condition of tank at time of removal is unknown.	Before 2002
AST 019-C	40	Condition of tank at time of removal is unknown.	Before 2002

V. DOCUMENTED POLLUTANT CONCENTRATIONS—BEFORE AND AFTER CLEANUP

POLLUTANT	Soil (ppm)		Water (ppb)		Environmental Screening Levels [ESL] (2008)		Preliminary Remediation Criteria (PRC)	
	Before[a]	After[b]	Before[a]	After[b]	Soil (ppm)	Water (ppb)	Soil (ppm)	Water (ppb)
TTPH	**20,300**	ND <5	**58,060**	ND <250	-[c]	-[c]	-[c]	1,400
TPH-diesel	**3,500**	ND <2.5	**4,760**	ND <25	**180**	**210**	1,914	-[c]
TPH-gasoline	**15,000**	ND <0.5	**58,060**	ND <25	**180**	**210**	4,333	-[c]
TPH- motor oil	51	ND <5	**ND <500**	ND <250	**2,500**	**210**	2,680	-[c]
TPH-jet fuel	**1,800**	ND <2.5	**650**	ND <25	**180**	**210**	1,914	-[c]
Lead	ND <12	3.8	**ND <3**	ND <2.5	**750**	**2.5**	800	8.1
Benzene	**79**	ND <0.0025	**11,480**	ND <0.25	**0.27**	**46**	5.6	36
Toluene	**840**	ND <0.0025	**10,340**	1.7	**9.3**	**130**	930	215
Ethylbenzene	**220**	ND <0.0025	**1,946**	ND <0.25	**4.7**	**43**	29	25
Xylene	**1,200**	ND <0.0025	**15,850**	ND <0.25	**11**	**100**	300	100
1,2-DCA	-	ND <0.01	-	ND <0.5	**0.48**	**20**	2.2	11,300
MTBE	**ND <20**	ND <0.0025	150	ND <0.25	**8.4**	**1,800**	190	5,000
Acenaphthene	-	ND <0.013	-	ND <0.01	**19**	**23**	33,000	40
Acenaphthylene	-	ND <0.013	-	ND <0.01	**13**	**30**	33,000	300
Anthracene	-	ND <0.013	-	ND <0.01	**2.8**	**0.73**	170,000	300
Benzo(a)anthracene	-	ND <0.013	-	ND <0.01	**1.3**	**0.027**	2.1	300
Benzo(b)fluoranthene	-	ND <0.01	-	ND <0.01	**1.3**	**0.029**	2.1	300
Benzo(k)fluoranthene	-	ND <0.013	-	ND <0.01	**1.3**	**0.4**	1.3	300
Benzo(a)pyrene	-	ND <0.013	-	ND <0.01	**0.13**	**0.014**	0.21	300
Benzo(g,h,i)perylene	-	ND <0.013	-	ND <0.01	**27**	**0.1**	17,000	300
Chrysene	-	ND <0.01	-	ND <0.01	**13**	**0.35**	13	300
Dibenz(a,h)anthracene	-	ND <0.013	-	ND <0.01	**0.21**	**0.25**	0.21	300
Fluoranthene	-	ND <0.013	-	ND <0.01	**40**	**8**	22,000	11
Fluorene	-	ND <0.01	-	ND <0.01	**8.9**	**3.9**	22,000	300
Indeno(1,2,3-cd)pyrene	-	ND <0.013	-	ND <0.01	**2.1**	**0.048**	2.1	300
1-methylnaphthalene	-	ND <0.013	-	ND <0.01	**2.8**	**24**	99	1.4
2-methylnaphthalene	-	ND <0.013	-	ND <0.01	**0.25**	**2.1**	4,100	300
Naphthalene	-	ND <0.013	-	0.07	**2.8**	**24**	20	1.4
Pyrene	-	ND <0.013	-	ND <0.01	**85**	**2**	17,000	300

(a) "Before" samples were collected between January 1995 and April 2000 and represent conditions at the site during the time when the tanks would have likely been in use and after they were removed. There were 15 soil samples at 11 locations and 41 groundwater samples plus one duplicate at 38 locations collected during the historical sampling activities conducted during this period.

(b) "After" samples were collected in August 2009 and March 2010 and represent current conditions at the site. There were two soil samples plus one duplicate at two locations and eight groundwater samples at six locations collected during this period. There were no PRC exceedances in the soil or groundwater samples collected in 2009 and 2010. TPH-MO had a slightly elevated detection limit that exceeded the ESL (i.e., 250 µg/L compared to an ESL of 210 µg/L) in the groundwater samples collected in 2009 and 2010, but this does not indicate any continuing source of contamination or potential risk to human health or the environment.

(c) No value exists.

"-" = Not analyzed.

ND = Not detected.

Note: Bold font indicates ESL exceedance and bold font with shading indicates ESL and PRC exceedance.

Comments (Depth of Remediation, etc.):

- The following source documents were used to identify the treatment and disposal actions described above and the maximum concentrations:
  - *Technical Memorandum for Data Gaps Sampling at Various Petroleum Sites, Alameda Point, Alameda, California* dated September 2010 (Battelle).
- UST 491-1, ASTs 019A, 019B, 019C, (all of which are contained within CAA-10) are located west of Saratoga Avenue. Based on a letter issued by the SF Water Board on July 21, 2003, the shallow groundwater west of Saratoga avenue has received a MUN (Municipal and Domestic Supply) beneficial use exception.
- Planned re-use in the area of UST 491-1, AST 019A, AST 019B, AST 019C, and CAA-10 is commercial/industrial. Therefore, available soil data were compared to non-drinking water and commercial soil ESLs, and non-residential PRCs. Available groundwater data were compared to marine ecological receptor PRCs due to the proximity to storm sewers or the non-residential ingestion groundwater PRC, which ever was lower. A detailed summary of the ESL and PRC and their references is provided in the *Final Technical Memorandum: Update to Preliminary Remediation Criteria and Closure Strategy for Petroleum-Contaminated Sites Petroleum Program at Alameda Point Alameda, California* dated July 2009 (Navy).

VI. CLOSURE

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? Yes		
Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? Yes		
Does corrective action protect public health for current land use? Yes		
Site Management Requirements: There may be residual contamination in both soil and groundwater at the site that could pose an unacceptable risk under certain development activities such as site grading or excavation. Therefore, the impact of the disturbance of any residual contamination near the residual contamination shall be assessed and appropriate action taken so that there is no significant impact to human health, safety or the environment. This could necessitate additional sampling, health risk assessment, and mitigation measures. A 200-foot radius perimeter area around groundwater monitoring location 491-6-ERM is restricted from residential land use. The latitude for monitoring location 491-6-ERM is 37.782128, the longitude is 122.309987.		
Monitoring Wells Decommissioned: No	Number Decommissioned: NA	Number Retained: 4 – (491-MW1, 491-MW2, 491-MW3, 491MJ-MW1)
List Enforcement Actions Taken: None		
List Enforcement Actions Rescinded: None		

VII. TECHNICAL REPORTS, CORRESPONDENCE, ETC., THAT THIS CLOSURE RECOMMENDATION WAS BASED UPON	
Underground Storage Tank Summary Report, Alameda, California (Tetra Tech)	April 10, 2003
Letter Regarding "Concurrence that Groundwater Meets the Exemption Criteria in the State Water Resources Control Board Source of Drinking Water Policy Resolution 88-63, and San Francisco Bay Regional Water Quality Control Board Resolution 89-39 for Groundwater West of Saratoga Street at Alameda Point, City of Alameda, Alameda County" (Judy Huang, SF Water Board to Glenna Clark, Navy)	July 21, 2003
Alameda Point Preliminary Development Concept. Prepared for ARRA by Roma Design Group	February 1, 2006
Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater (Regional Board)	Revised May 2008.
Final No Further Action Evaluation and Data Gaps Sampling Work Plan for Various Petroleum Sites Alameda Point, Alameda, California (Battelle)	June 29, 2009
Technical Memorandum: Update to Preliminary Remediation Criteria and Closure Strategy for Petroleum-Contaminated Sites Petroleum Program at Alameda Point Alameda, California (Navy)	July 2009
Technical Memorandum for Data Gaps Sampling at Various Petroleum Sites, Alameda Point, Alameda, California (Battelle)	September 2010

VIII. ADDITIONAL COMMENTS, DATA, ETC.

Background: UST 491-1, AST 019A, AST 019B, and AST 019C are all located within CAA-10, which is in the central portion of Alameda Point.

UST 491-1 was a 550[‡]-gal tank that contained gasoline. The UST failed tightness testing and was removed from service in October 1991. The tank was removed on August 25, 1994, at which time the tank was corroded with holes on the western tank seal. Hydrocarbon odors were observed during tank removal and petroleum constituents were detected in the excavation sample. There was liquid in the tank at the time of removal but it was reported to be mostly made up of water. Over-excavation was conducted in August 1995 and all excavated soils were properly disposed offsite. During tank removal and over-excavation, groundwater was not encountered. There is very little information available on the three ASTs that were located within CAA-10. AST 019A and 019B were 250 gal tanks that contained diesel fuel. AST 019C was a 40 gal tank that held fuel. Based on a site visit in 2002, it is known that the tanks have been removed.

The 2003 Tetratech report figures for this site show five evenly spaced ASTs; A through E. This is the only mention of two additional ASTs (019D and 019E). Based on other documentation referring to three ASTs for which there still remains physical evidence around building 491, and a review of several aerial photos of the base, the Navy believes that the original mention of five ASTs was a typo and that ASTs 19D and 19E never existed. As a result, samples exist in association with ASTs 19A through 19C, not with ASTs 19D or 19E.

Between January 4, 1995 and April 28, 2000, which spans from approximately seven months prior to UST removal to 5 years after tank removal, 15 soil samples at 11 locations and 41 groundwater samples plus one duplicate at 38 locations were collected in the vicinity of the former tanks. There were exceedances of the environmental screening levels (ESLs) and preliminary remediation criteria (PRC) for benzene, toluene, ethyl benzene, and xylenes (BTEX) and total petroleum hydrocarbon (TPH) fractions including gasoline (-G), diesel (-D), jet fuel (JF), and motor oil (-MO) in soil and groundwater samples collected shortly after the tank removal activities. Due to these exceedances, an additional two subsurface soil samples plus one duplicate were collected from two locations in August 2009 and eight groundwater samples were collected from six locations in August 2009 and March 2010 to evaluated current conditions at the site. A detailed fact sheet on CAA-10 which includes UST 491-1, AST 019A, AST 019B, and AST 019C, a table summarizing the analytical data, and a map showing the sample locations is included in Attachment 1.

The PRCs presented in Section III of this Site Closure Summary *Release and Site Characterization Information* are based on the Petroleum Strategy Update (Navy, 2009), which has been used for this evaluation of the conditions at CAA-10 (including UST 491-1, AST 019A, AST 019B, and AST 019C). Note that in order to establish a conservative screening process, the lowest of the PRC values from Table 3 of the Petroleum Strategy Update were used in place of the ESL, if the value of the ESL for that exposure scenario was higher.

Soil: Although there are exceedances of the ESLs in soil samples collected between January 1995 and April 2000, there were no detections of any petroleum-related compounds in the two subsurface samples plus one duplicate collected in August 2009 and analyzed for TPH fractions, BTEX, methyl tert-butyl ether (MTBE), volatile organic compounds (VOCs), lead, and semi-volatile organic compounds (SVOCs). One soil sample (plus duplicate) was collected in the immediate vicinity of former UST 491-1 and a second soil sample was collected downgradient (approximately 35 ft southeast of the former tank) in an area where the highest concentrations were detected in groundwater in 2000. The soil samples confirm that there is no ongoing source of contamination from soil at this site, and that there are no risks to human health or the environment.

Groundwater: Due to numerous exceedances of ESL and PRC in groundwater samples collected between January 1995 and April 2000 and the general lack of groundwater data since 2000, additional groundwater samples were collected in August 2009 and March 2010 to evaluate the current conditions at the site. Samples were collected from two hydropunch points at 8 ft bgs in August 2009 in the same locations as the soil samples described above. In addition, the four existing monitoring wells (491-MW1, 491-MW2, 491-MW3, and 491MJ-MW1) were sampled in August 2009 and monitoring wells 491-MW1 and 491MJ-MW1, which are located downgradient from former UST 491-1, were sampled in March 2010. Samples were analyzed for TPH fractions, BTEX, MTBE, VOCs, lead, and SVOCs. Toluene and naphthalene were the only two analytes detected in the groundwater samples collected in August 2009. Toluene concentrations ranged from 0.83µg/L to 1.7 µg/L and naphthalene concentrations ranged from 0.021 µg/L to 0.07 µg/L, all of which were below their respective ESL

[‡] It is not clear in the historical record whether the tank held 550 or 1,000 Gallons.

and PRC. The March 2010 samples collected from wells 491-MW1 and 491MJ-MW1 had no detections of any of the petroleum-related compounds. TPH-MO was non-detect for all samples collected in 2009 and 2010 but samples had a slightly elevated detection limit which was above the ESL (i.e., detection limit of 250 µg/L versus an ESL of 210 µg/L). Analytical data indicates that there is not a continuing source of contamination and the releases from the tanks have attenuated (see figures inserted below) and do not present a risk to human health or the environment. The groundwater data collected in 2009 and 2010 confirm that the current conditions at CAA-10 (including UST 491-1, AST 019A, AST 019B, and AST 019C) are acceptable for site closure with no further action.

Based on the results of the soil and groundwater samples collected in 2009 and 2010, this site does not pose significant risk to human health, the environment, or water quality based on non-residential land use. In accordance with the 2009 Petroleum Strategy for Alameda Point and the "Regional Board Supplemental Instructions to State Water Board December 8, 1995, Interim Guidance on Required Cleanup at Low-Risk Fuel Sites" (SF Water Board January 5, 1996), this site is considered a low-risk fuel site. This is based on the fact that there is no ongoing source, no free product, the site has been adequately characterized, there is little or no groundwater impact remaining, no drinking water well or surface water are likely to be impacted, and the site presents no significant risk to human health or the environment. This document and the related CASE CLOSURE LETTER shall be retained by the lead agency as part of the official site file.

ATTACHMENT 1:

CAA-10 (UST 491-1, AST 019A, AST 019B, AST 019C) FACT SHEET, ANALYTICAL DATA, AND SAMPLE LOCATION MAP

Fact Sheet
Alameda Point
Petroleum Program

CAA-10 (UST 491-1, AST 019A, AST 019B, AST 019C) June 2011

Site Information

Site Name	Alternate Name	Type	Material	Size	Contents	Date Installed	Use/ Purpose	Secondary Containment	Piping
AST 019A	None known	AST	NA	250 gal	Diesel	Unknown	NA	NA	No
AST 019B	None known	AST	NA	250 gal	Diesel	Unknown	NA	NA	No
AST 019C	None known	AST	NA	40 gal	Fuel	Unknown	NA	NA	No
CAA-10	None known	Other – CAA	NA	NA	NA	NA	NA	NA	No
UST 491-1	None known	UST	Steel	550 gal	Gasoline	Unknown	Provided fuel to an emergency generator in Building 491.	NA	Yes

Hydrogeology

Site Name	Primary Groundwater Flow Direction	Groundwater Depth	Soil Characteristics
AST 019A	East	5-8 ft bgs	Artificial fill from ground surface to ~12 ft bgs consisting predominantly of yellowish-brown to dark greenish-gray silty sands.
AST 019B	East	5-8 ft bgs	Artificial fill from ground surface to ~12 ft bgs consisting predominantly of yellowish-brown to dark greenish-gray silty sands.
AST 019C	East	5-8 ft bgs	Artificial fill from ground surface to ~12 ft bgs consisting predominantly of yellowish-brown to dark greenish-gray silty sands.
CAA-10	East	5-8 ft bgs	Artificial fill from ground surface to ~12 ft bgs consisting predominantly of yellowish-brown to dark greenish-gray silty sands.
UST 491-1	East	5-8 ft bgs	Artificial fill from ground surface to ~12 ft bgs consisting predominantly of yellowish-brown to dark greenish-gray silty sands.

Exposure Information

Site Name	Current Use	Planned Re-Use*	Drinking Water Beneficial Use**	Nearest Surface Water Body and Distance	Nearest Storm Drain and Distance
AST 019A	Commercial	Other commercial	No	Seaplane Lagoon is located 786 ft southeast	Nearest storm drain is located 77 ft east
AST 019B	Commercial	Other commercial	No	Seaplane Lagoon is located 796 ft southeast	Nearest storm drain is located 69 ft east
AST 019C	Commercial	Other commercial	No	Seaplane Lagoon is located 792 ft southeast	Nearest storm drain is located 70 ft east
CAA-10	Commercial	Other commercial	No	Seaplane Lagoon is located 632 ft southeast	Nearest storm drain is located 3 ft north
UST 491-1	Commercial	Other commercial	No	Seaplane Lagoon is located 786 ft southeast	Nearest storm drain is located 73 ft east

* Planned re-use is determined by the 1996 Re-Use Plan and the 2006 Preliminary Development Concept (PDC). In the few areas where the planned land use per the 2006 PDC and the 1996 Re-Use plan differ, the land use designated in the PDC is shown.

** In a 2003 letter, the Water Board concurred that groundwater west of Saratoga Street met applicable drinking water exemption criteria while groundwater east of Saratoga Street did not. Other beneficial uses of groundwater west of Saratoga Street include: industrial process supply, industrial service supply, and agricultural supply.

Closure

Site Name	Relevant ESL and PRC	Closure Activity	Date of Closure Activity	Regulatory Closure Status
AST 019A	Soil ESL: Non-drinking water commercial shallow soil PRC: Non-residential Groundwater ESL: Not a source of drinking water, shallow soil (≤3m bgs) PRC: Non-residential vapor intrusion from groundwater, marine ecological receptor	Removed	Before 2002	Open
AST 019B	Soil ESL: Non-drinking water commercial shallow soil PRC: Non-residential Groundwater ESL: Not a source of drinking water, shallow soil (≤3m bgs) PRC: Non-residential vapor intrusion from groundwater, marine ecological receptor	Removed	Before 2002	Open
AST 019C	Soil ESL: Non-drinking water commercial shallow soil PRC: Non-residential Groundwater ESL: Not a source of drinking water, shallow soil (≤3m bgs) PRC: Non-residential vapor intrusion from groundwater, marine ecological receptor	Removed	Before 2002	Open
CAA-10	Soil ESL: Non-drinking water commercial shallow soil PRC: Non-residential Groundwater ESL: Not a source of drinking water, shallow soil (≤3m bgs) PRC: Non-residential vapor intrusion from groundwater, marine ecological receptor	NA	NA	Open
UST 491-1	Soil ESL: Non-drinking water commercial shallow soil PRC: Non-residential Groundwater ESL: Not a source of drinking water, shallow soil (≤3m bgs) PRC: Non-residential vapor intrusion from groundwater, marine ecological receptor	Removed	August 25, 1994	Open

Release History

Site Name	Known Release(s)	Contamination Upon Closure Activity/Suspected Releases	Condition Upon Removal
AST 019A	No releases recorded	Unknown	Unknown
AST 019B	No releases recorded	Unknown	Unknown
AST 019C	No releases recorded	Unknown	Unknown
CAA-10	No releases recorded	NA	NA
UST 491-1	No releases recorded	Hydrocarbon odors were observed during the excavation and petroleum constituents were detected in the excavation.	Tank was observed to be corroded and contained holes in the western tank seal.

Sampling Summary

Soil: 17 selected samples plus one duplicate from 13 locations within the Corrective Action Area were analyzed for one or more of the following: lead (7 samples), PAH (3 samples), TPH (17 samples), VOCs (14 samples); two selected samples plus one duplicate from two locations were collected and analyzed since corrective actions were completed.

Groundwater: 49 selected samples plus one duplicate from 40 locations within the Corrective Action Area were analyzed for one or more of the following: lead (12 samples), PAH (6 samples), TPH (50 samples), VOCs (50 samples); eight selected samples from six locations were collected and analyzed since corrective actions were completed.

Corrective Action

Site Name	Corrective Action Taken
AST 019A, AST 019B, AST 019E, CAA-10, UST 491-1	All tanks within CAA-10 were removed (before 2002) and overexcavation was conducted during removal of UST 491-1.

Assessment of Low Risk Fuel Site Criteria

#1 The leak has been stopped and ongoing sources, including free product, have been removed or remediated. Yes, any leaks and/or ongoing sources of contamination have been addressed. ASTs 019A through 019C were removed before 2002. UST 491-1 was also located within the boundary of CAA-10 and was removed in 1994 along with associated lines. Free product was not measured during historical investigations conducted in 1999 and 2000. There were two groundwater samples and one soil sample collected between 1995 and 2000 that contained total TPH concentrations greater than the free product screening criteria; however, there were no elevated concentrations measured in soil and groundwater samples collected in 2009 and 2010, thus indicating that no continuing source exists at the site.

#2 The site has been adequately characterized. Yes, the sites have been adequately characterized. Ten investigations have been conducted to confirm that no free product is present at the site, and to assess the contamination in soil and groundwater. A total of two surface and 15 subsurface soil samples plus one duplicate from 13 locations and 49 groundwater samples plus one duplicate from 40 locations were collected during the 10 investigations between 1995 and 2010. Quarterly sampling was conducted between December 1997 and April 1999 where potential seasonal fluctuations would be seen if present. Concentrations of BTEX, MTBE, and TPH increased slightly between December 1997 and March 1998 but then decreased significantly during the two subsequent sampling events (September 1998 and April 1999). Although significant decreases in concentrations of BTEX, MTBE, and TTPH were observed in a downgradient well in 1999, samples collected in 2000 during data gap sampling still showed some elevated concentrations of petroleum-related compounds. Therefore, to assess current conditions, soil and groundwater samples were collected in 2009 from areas within CAA-10 that were found to be more highly contaminated between 1995 and 2000. Groundwater samples were also collected from downgradient monitoring wells in 2009 to determine whether the hydrocarbon plume is migrating. A second set of samples was collected from two downgradient monitoring wells in March 2010 to assess any seasonal fluctuations at the site. Considering 10 investigations have been conducted since 1995, and current conditions were evaluated as recently as August 2009 and March 2010, CAA-10 has been adequately characterized.

#3 The dissolved hydrocarbon plume is not migrating. Groundwater samples have been collected on several occasions from permanent monitoring wells from 1995 to 2010. Data have shown a decreasing trend over the approximate 15-year period. With the exception of toluene and naphthalene, all petroleum-related concentrations in samples collected in 2009 were below detection including TPH-G, TPH-D, TPH-JF, TPH-MO, VOCs, lead, and PAH. Toluene concentrations ranged from 0.83 to 1.7 µg/L and naphthalene concentrations ranged from 0.021 to 0.7 µg/L in the permanent monitoring wells, which were well below their respective ESL and PRC. There were no detections of VOCs, PAH, lead, or TPH fractions in the two downgradient wells sampled in March 2010. Therefore, the dissolved hydrocarbon plume that was historically present at CAA-10 is not migrating, and concentrations have decreased significantly since initial investigations conducted in 1995.

#4 No water wells, deeper drinking water aquifers, surface water, or other sensitive receptors are likely to be impacted. The shallow aquifer in the area is not a potable water source. There are no drinking water wells, water supply wells, surface water bodies or other sensitive receptors within 250 ft of former UST 491-1 and ASTs 019A through 019C or CAA-10. Seaplane Lagoon is the nearest surface water body and it is between approximately 700 and 800 ft south of CAA-10 and former ASTs 019A through 019C. The nearest storm drain is approximately 75 ft north of the nearest former AST. Although the storm drain is within 250 ft of the former ASTs, it is not in the direction of groundwater flow. Therefore, none of these sensitive receptors are likely to be impacted.

#5 The site presents no significant risk to human health. The data collected over approximately 15 years have shown a decreasing trend in contamination across the site. The data collected in August 2009 show very low levels of petroleum-related compounds. In soil, only lead was detected at concentrations between 2.5 and 3.8 mg/kg, which is well below the nonresidential ESL and PRC for lead of 750 and 800 mg/kg, respectively. No other analytes were detected in soil. Toluene and naphthalene were the only two compounds detected in the round of groundwater samples collected at the site in August 2009. Toluene was detected at levels between 0.83 and 1.7 µg/L and naphthalene was detected at levels between 0.021 and 0.7 µg/L. Both of these compounds are below their respective non-drinking water ESL and non-residential PRC. There were no detections of VOCs, PAH, lead, or TPH fractions in the two downgradient wells sampled in March 2010.

#6 The site presents no significant risk to the environment. There are no surface water bodies within 250 ft of the site. The storm drain is approximately 75 ft north of the nearest former AST, but is not in the direction of groundwater flow. In addition, the most recent data are below the marine ecological receptor PRC for all petroleum-related compounds.

References

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San Francisco Regional Water Quality Control Board. 2003. *Concurrence That Groundwater Meets the Exemption Criteria in the State Water Resources Control Board Source of Drinking Water Policy Resolution 88-63 and San Francisco Bay Regional Water Quality Control Board Resolution 89-39 for Groundwater West of Saratoga Street at Alameda Point, City of Alameda, Alameda County.* Letter from Judy Huang (Water Board) to Glenna M. Clark (Department of the Navy). July 21.

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TtEMI. 2002. *Internal Draft Corrective Action Area 10 No Further Action Report Request for No Further Action, Underground Storage Tank 491-1, Alameda Point, Alameda, California.* February 19.

TtEMI. 2003. *Underground Storage Tank Summary Report, Alameda Point, Alameda, California.* April 10.

Recommendations

The criteria for no further action have been met, as outlined in the Petroleum Strategy for Alameda Point. Therefore, no further action is recommended. This recommendation is based on the results of the evaluation presented above for non-residential land use and groundwater that is not a potential source of drinking water.

Analytical Data for CAA-10 (UST 491-1, AST 019A, AST 019B, AST 019C)

Point ID	Sample ID	Date	Sample Depth (ft bgs)	Distance to Nearest Shoreline (ft)	Distance to Nearest Storm Sewer (ft)	Benzene	Marine Eco PRC*	Toluene	Ethylbenzene	Total Xylenes	MTBE	Marine Eco PRC*	1,2-DCA	Lead	Marine Eco PRC*	Total TPH	Marine Eco PRC*	TPH-G	TPH-D	TPH-JF	TPH-MO
Groundwater Data within the Corrective Action Area (units = µg/L)																					
491-10-ERM	491-W10	1/4/95		750	101	0.5 U	380	0.5 U	0.9	4.4	-		-	-		500 U	4839	500 U	500 U	-	-
491-11-ERM	491-W11	1/4/95		735	95	0.5 U	253	0.5 U	0.5 U	1.5 U	-		-	-		500 U	3216	500 U	500 U	-	-
491-12-ERM	491-W12	1/4/95		733	76	666.9	253	40.5	53.9	42.4	-		-	-		2387	3216	2387	500 U	-	-
491-1-ERM	491-W1	1/4/95		802	68	0.5 U	164	0.5 U	0.5 U	1.5 U	-		-	-		500 U	2092	500 U	500 U	-	-
491-2-ERM	491-W2	1/4/95		799	91	0.5 U	253	0.5 U	0.5 U	1.5 U	-		-	-		500 U	3216	500 U	500 U	-	-
491-3-ERM	491-W3	1/4/95		786	95	0.5 U	253	0.5 U	0.9	3.2	-		-	-		500 U	3216	500 U	500 U	-	-
491-4-ERM	491-W4	1/4/95		770	86	0.5 U	253	0.5 U	1.2	5.8	-		-	-		500 U	3216	500 U	500 U	-	-
491-5-ERM	491-W5	1/4/95		759	73	231.3	164	32.5	23	33.4	-		-	-		559	2092	559	500 U	-	-
491-6-ERM	491-W6	1/4/95		770	56	11480	164	10340	1946	15850	-		-	-		58060	2092	58060	500 U	-	-
491-7-ERM	491-W7	1/4/95		792	102	33.5	380	99.1	368.2	2352	-		-	-		19850	4839	15090	4760	-	-
491-8-ERM	491-W8	1/4/95		782	110	5.2	380	13.2	6.9	18.1	-		-	-		500 U	4839	500 U	500 U	-	-
491-9-ERM	491-W9	1/4/95		762	112	7.8	380	22.2	8.9	28.8	-		-	-		500 U	4839	500 U	500 U	-	-
491-13-ERM	491-W13	1/5/95		750	56	311.8	164	271	64	109.4	-		-	-		1102	2092	1102	500 U	-	-
491-14-ERM	491-W14	1/5/95		758	43	221	115	9.5	0.5 U	1.5 U	-		-	-		500 U	1467	500 U	500 U	-	-
491-15-ERM	491-W15	1/5/95		744	35	0.5 U	115	0.5 U	394	2410.2	-		-	-		7275	1467	7275	500 U	-	-
491-16-ERM	491-W16	1/5/95		734	67	2.4	164	0.7	5.9	35.8	-		-	-		500 U	2092	500 U	500 U	-	-
491-17-ERM	491-W17	1/5/95		714	92	51.9	253	0.5 U	1.8	1.5 U	-		-	-		500 U	3216	500 U	500 U	-	-
491-18-ERM	491-W18	1/5/95		719	108	0.5 U	380	0.5 U	0.5 U	1.5 U	-		-	-		500 U	4839	500 U	500 U	-	-
491-19-ERM	491-W19	1/5/95		726	121	0.5 U	380	0.5 U	0.5 U	1.5 U	-		-	-		500 U	4839	500 U	500 U	-	-
491-20-ERM	491-W20	1/5/95		736	129	0.5 U	546	0.5 U	0.5 U	1.5 U	-		-	-		500 U	6949	500 U	500 U	-	-
491-21-ERM	491-W21	1/5/95		754	130	0.5 U	546	0.5 U	1	4.9	-		-	-		500 U	6949	500 U	500 U	-	-
491-22-ERM	491-W22	1/5/95		770	131	0.5 U	546	0.5 U	0.5 U	1.5 U	-		-	-		500 U	6949	500 U	500 U	-	-
491-23-ERM	491-W23	1/5/95		788	127	0.5 U	546	0.5 U	0.5 U	1.5 U	-		-	-		500 U	6949	500 U	500 U	-	-
491-24-ERM	491-W24	1/5/95		797	119	0.5 U	380	0.5 U	0.5 U	21.5	-		-	-		500 U	4839	500 U	500 U	-	-
491-25-ERM	491-W25	1/5/95		814	119	0.5 U	380	29.1	0.5 U	41.4	-		-	-		500 U	4839	500 U	500 U	-	-
491-26-ERM	491-W26	1/5/95		732	33	0.5 U	115	0.6	16.6	96	-		-	-		500 U	1467	500 U	500 U	-	-
491-27-ERM	491-W27	1/5/95		725	64	0.5 U	164	0.6	18.9	124.6	-		-	-		500 U	2092	500 U	500 U	-	-
491-28-ERM	491-W28	1/5/95		698	86	0.5 U	253	0.5 U	0.6	2.1	-		-	-		500 U	3216	500 U	500 U	-	-
491-29-ERM	491-W29	1/5/95		691	118	0.5 U	380	0.5 U	0.5 U	1.5 U	-		-	-		500 U	4839	500 U	500 U	-	-
491-MW1	491-MW1	2/8/95	1.9	715	56	1600	164	8.5	150	4.2	-		-	-		2400	2092	2300	100	-	-
491-MW1	081240-06	8/10/09	1.9	715	56	0.25 U	164	1.4	0.25 U	0.25 U	0.25 U	7471	0.25 U	2.5 U	12	250 U	2092	25 U	25 U	25 U	250 U
491-MW1	030801-07	3/4/10		715	56	0.25 U	164	0.25 U	0.25 U	0.25 U	0.25 U	7471	0.5 U	2.5 U	12	250 U	2092	25 U	25 U	25 U	250 U
491-MW2	491-MW2	2/8/95	1	696	106	0.5 U	380	0.5 U	0.5 U	0.5 U	-		-	-		50 U	4839	50 U	50 U	-	-
491-MW2	081240-08	8/10/09	1	696	106	0.25 U	380	1.7	0.25 U	0.25 U	0.25 U	17283	0.25 U	2.5 U	28	250 U	4839	25 U	25 U	25 U	250 U
491-MW3	491-MW3	2/8/95	1.7	789	112	0.5 U	380	0.5 U	0.5 U	0.5 U	-		-	-		50 U	4839	50 U	50 U	-	-
491-MW3	081240-18	8/10/09	1.7	789	112	0.25 U	380	1.5	0.25 U	0.25 U	0.25 U	17283	0.25 U	2.5 U	28	250 U	4839	25 U	25 U	25 U	250 U
491-1-MOJ	491-P1W	8/25/97		696	60	500	164	42	270	85	50 U	7471	-	-		2700	2092	2100	600	100 U	500 U
491-2-MOJ	491-P2W	8/25/97		716	69	6.9	164	0.7	1.7	0.5 U	5 U	7471	-	-		250 U	2092	50 U	50 U	50 U	250 U
491MJ-MW1	491MJ-MW1	12/13/97		697	63	84	164	4	76	6.9	74	7471	-	-		2150	2092	1700	450	50 U	250 U
491MJ-MW1	491MJ-MW1	3/17/98		697	63	110	164	8.2	90	34	150	7471	-	-		2100	2092	740	710	650	250 U
491MJ-MW1	491MJ-MW1	9/29/98		697	63	4.8	164	0.5 U	1.9	0.64	2.5 U	7471	-	-		227	2092	57	93	77	250 U
491MJ-MW1	491MJ-MW1	4/2/99		697	63	0.87	164	0.5 U	0.5 U	0.5 U	2.5 U	7471	-	-		65	2092	50 U	65	50 U	250 U
491MJ-MW1	081240-07	8/10/09		697	63	0.25 U	164	0.83	0.25 U	0.25 U	0.25 U	7471	0.25 U	2.5 U	12	250 U	2092	25 U	25 U	25 U	250 U
491MJ-MW1	030801-06	3/4/10		697	63	0.25 U	164	0.25 U	0.25 U	0.25 U	0.25 U	7471	0.5 U	2.5 U	12	250 U	2092	25 U	25 U	25 U	250 U
CA10-03	030-CAP-118	4/27/00	3	782	69	10 U	164	1600	430	2200	20 U	7471	-	3 U	12	12000	2092	12000	100 U	100 U	500 U
CA10-03	030-CAP-365	4/27/00	3	782	69	10 U	164	1100	310	1400	20 U	7471	-	3 U	12	11000	2092	11000	100 U	100 U	500 U
CA10-01	030-CAP-098	4/28/00	0	768	52	23	164	190	1100	1390	2 U	7471	-	3 U	12	21400	2092	19000	2400	-	500 U
CA10-02	030-CAP-099	4/28/00	0	790	102	0.5 U	380	1 U	1 U	1 U	2 U	17283	-	3 U	28	500 U	4839	50 U	100 U	-	500 U
491-GW-01	081043-03	8/5/09	8	787	75	0.25 U	253	0.25 U	0.25 U	0.25 U	0.25 U	11486	0.25 U	2.5 U	19	250 U	3216	25 U	25 U	25 U	250 U
491-GW-02	081043-04	8/5/09	8	753	44	0.25 U	115	0.25 U	0.25 U	0.25 U	0.25 U	5238	0.25 U	2.5 U	8	250 U	1467	25 U	25 U	25 U	250 U
Floating Product Screening Criteria																20000					
ESL (Not a source of drinking water, shallow soil (≤3m bgs))						21		130	43	100	1800		20	2.5				210	210	210	210
PRC (Non-residential vapor intrusion from GW)						36		427000	94	58900	5910		42								
PRC (Marine ecological receptor)						110		215	25	100	5000		11300	8		1400					
Soil Data within the Corrective Action Area (units = mg/kg)																					
491-11-ERM	491-11	1/4/95	5.5	735	95	0.005 U		0.005 U	0.005 U	0.015 U	-		-	-		10 U		10 U	10 U	-	-
491-12-ERM	491-12	1/4/95	5.5	733	76	0.005 U		0.005 U	0.005 U	0.015 U	-		-	-		10 U		10 U	10 U	-	-
491-15-ERM	491-15	1/5/95	5.5	744	35	1.89		1.07	9.9	60.3	-		-	-		391		391	10 U	-	-
491-MW1	491-MW1	1/23/95	3.5	715	56	6		6 U	6 U	6 U	-		-	-		1.2 U		1 U	1.2 U	-	-
491-MW2	491-MW2	1/24/95	1.5	696	106	6		6 U	6 U	6 U	-		-	-		1.2 U		1 U	1.2 U	-	-
491-MW3	491-MW3	1/24/95	2.5	789	112	6		6 U	6 U	6 U	-		-	-		1.2 U		1 U	1.2 U	-	-
029-001-001	029-0001M	3/22/95	0	803	79	-		-	-	-	-		-	-		50 U		50 U	50 U	-	-
029-001-002	029-0002M	3/23/95	0	788	76	-		-	-	-	-		-	-		57.4		0.61 U	6.4	-	51
029-001-002	029-0002	3/23/95	0.5	788	76	-		-	-	-	-		-	-		22		-	11 U	-	22 YJ
491-E	491-E	8/25/95	5.5	787	69	79		840	220	1200	-		-	5 U		20300		15000	3500	1800	5 U
491MJ-MW1	491MJ-MW1	11/4/97	3.5	697	63	0.12 U		0.12 U	0.12 U	0.25 U	0.62 U		-	-		55		55	5 U	10 U	-
CA10-03	030-CAP-100	4/27/00	3	782	69	0.01 U		0.01 U	0.01 U	0.01 U	0.01 U		-	11 U		250 U		0.5 U	10 U	10 U	250 U
CA10-03	030-CAP-101	4/27/00	6.3	782	69	20 U		62	69	520	20 U		-	12 U		3620		3500	69	51	250 U
CA10-03	030-CAP-363	4/27/00	7.5	782	69	0.01 U		0.01 U	0.01 U	0.01 U	0.01 U		-	-		71		0.5 U	44	27	250 U
CA10-03	030-CAP-363A	4/27/00	5.9	782	69	-		-	-	-	-		-	12 U		-		-	-	-	-
491-SB-01	081043-14	8/5/09	3	787	75	0.0025 U		0.0025 U	0.0025 U	0.0025 U	0.0025 U		0.01 U	2.5		5 U		0.5 U	2.5 U	2.5 U	5 U
491-SB-01	081043-15	8/5/09	3	787	75	0.0025 U		0.0025 U	0.0025 U	0.0025 U	0.0025 U		0.01 U	3.8		5 U		0.5 U	2.5 U	5 U	5 U
491-SB-02	081043-05	8/5/09	3	753	44	0.0025 U		0.0025 U	0.0025 U	0.0025 U	0.0025 U		0.01 U	3.5		5 U		0.5 U	2.5 U	2.5 U	5 U
Floating Product Screening Criteria																14000					
ESL (Non-drinking water commercial shallow soil)						0.27		9.3	4.7	11	8.4		0.48	750				180	180	180	2500
PRC (Non-residential)						5.6		930	29	300	190		2.2	800				4333	1914	1914	2680

* Distance-corrected Marine Ecological Receptor PRC. See Table 4 from the Final Technical Memorandum containing the Updated Petroleum Strategy for Alameda Point issued by the Navy in September 2009.
Shaded rows indicate samples collected since the most recent remediation activity.
Shaded cells indicate result exceeds corresponding floating product/ESL/PRC.
'-' indicates analyte not analyzed.

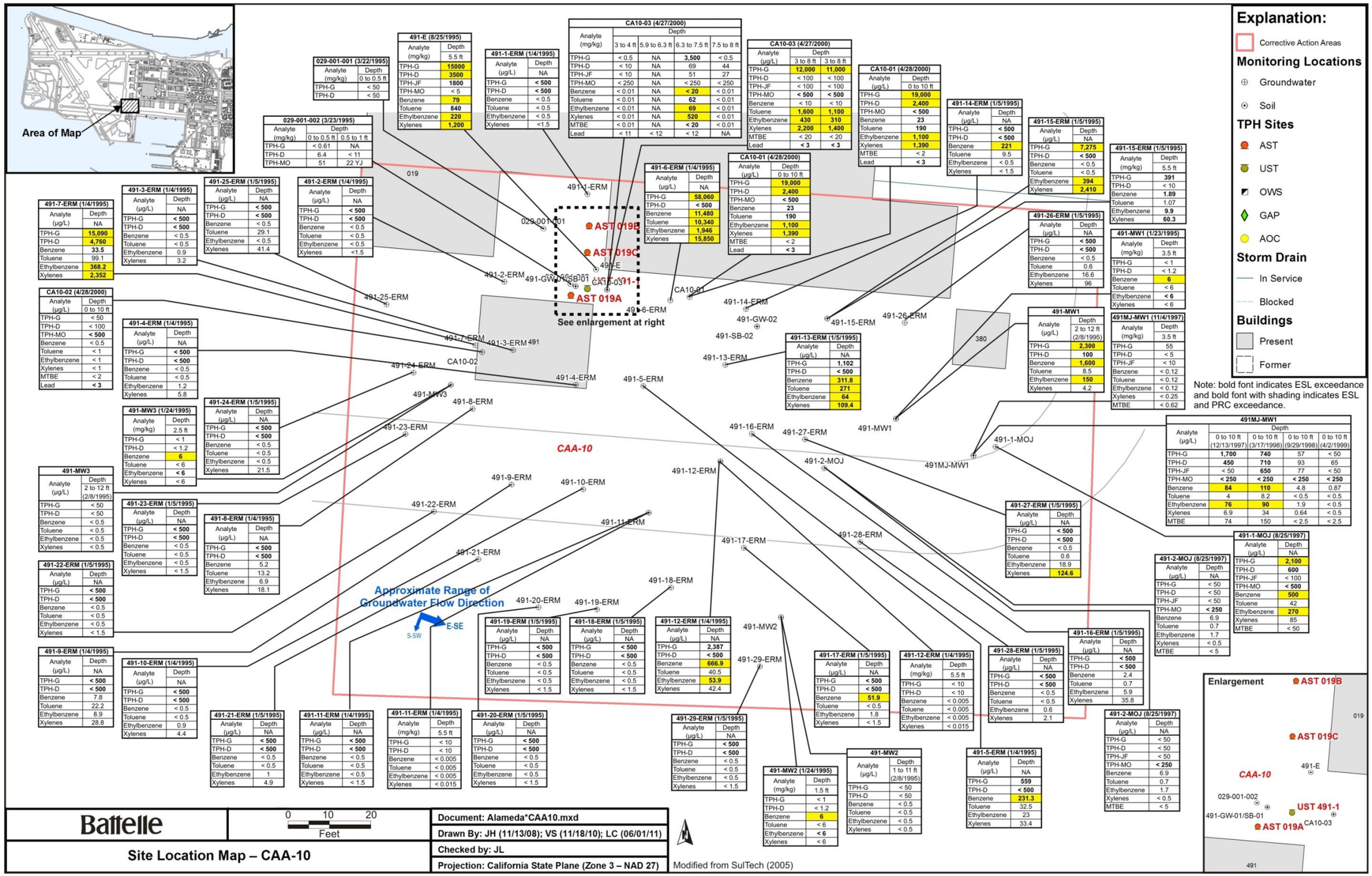
Analytical Data for CAA-10 (UST 491-1, AST 019A, AST 019B, AST 019C)

Point ID	Sample ID	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a) anthracene	Benzo(b) fluoranthene	Benzo(k) fluoranthene	Benzo(a) pyrene	Benzo(g,h,i) perylene	Chrysene	Dibenz(a,h) anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd) pyrene	1-methyl naphthalene	2-methyl naphthalene	Naphthalene	Pyrene
Groundwater Data within the Corrective Action Area (units = µg/L)																		
491-10-ERM	491-W10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491-11-ERM	491-W11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491-12-ERM	491-W12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491-1-ERM	491-W1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491-2-ERM	491-W2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491-3-ERM	491-W3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491-4-ERM	491-W4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491-5-ERM	491-W5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491-6-ERM	491-W6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491-7-ERM	491-W7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491-8-ERM	491-W8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491-9-ERM	491-W9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491-13-ERM	491-W13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491-14-ERM	491-W14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491-15-ERM	491-W15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491-16-ERM	491-W16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491-17-ERM	491-W17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491-18-ERM	491-W18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491-19-ERM	491-W19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491-20-ERM	491-W20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491-21-ERM	491-W21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491-22-ERM	491-W22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491-23-ERM	491-W23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491-24-ERM	491-W24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491-25-ERM	491-W25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491-26-ERM	491-W26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491-27-ERM	491-W27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491-28-ERM	491-W28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491-29-ERM	491-W29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491-MW1	491-MW1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491-MW1	081240-06	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.053	0.01 U
491-MW1	030801-07	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.02 U	0.01 U
491-MW2	491-MW2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491-MW2	081240-08	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.021	0.01 U
491-MW3	491-MW3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491-MW3	081240-18	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.07	0.01 U
491-1-MOJ	491-P1W	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491-2-MOJ	491-P2W	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491MJ-MW1	491MJ-MW1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491MJ-MW1	491MJ-MW1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491MJ-MW1	491MJ-MW1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491MJ-MW1	491MJ-MW1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491MJ-MW1	081240-07	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.033	0.01 U
491MJ-MW1	030801-06	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.02 U	0.01 U
CA10-03	030-CAP-118	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CA10-03	030-CAP-365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CA10-01	030-CAP-098	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CA10-02	030-CAP-099	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491-GW-01	081043-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5 U	-
491-GW-02	081043-04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5 U	-
Floating Product Screening Criteria																		
ESL (Not a source of drinking water, shallow soil		23	30	0.73	0.027	0.03	0.4	0.014	0.1	0.35	0.25	8	3.9	0.048	1.4	2.1	1.4	2
PRC (Non-residential vapor intrusion from GW)																	89	
PRC (Marine ecological receptor)		40	300	300	300	300	300	300	300	300	300	11	300	300	1.4	300	1.4	300
Soil Data within the Corrective Action Area (units = mg/kg)																		
491-11-ERM	491-11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491-12-ERM	491-12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491-15-ERM	491-15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491-MW1	491-MW1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491-MW2	491-MW2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491-MW3	491-MW3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
029-001-001	029-0001M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
029-001-002	029-0002M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
029-001-002	029-0002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491-E	491-E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491MJ-MW1	491MJ-MW1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CA10-03	030-CAP-100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CA10-03	030-CAP-101	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CA10-03	030-CAP-363	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CA10-03	030-CAP-363A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
491-SB-01	081043-14	0.013 U	0.013 U	0.013 U	0.013 U	0.01 U	0.013 U	0.013 U	0.013 U	0.01 U	0.013 U	0.013 U	0.01 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U
491-SB-01	081043-15	0.013 U	0.013 U	0.013 U	0.013 U	0.01 U	0.013 U	0.013 U	0.013 U	0.01 U	0.013 U	0.013 U	0.01 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U
491-SB-02	081043-05	0.013 U	0.013 U	0.013 U	0.013 U	0.01 U	0.013 U	0.013 U	0.013 U	0.01 U	0.013 U	0.013 U	0.01 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U
Floating Product Screening Criteria																		
ESL (Non-drinking water commercial shallow soil		19	13	2.8	1.3	1.3	1.3	0.13	27	13	0.21	40	8.9	2.1	2.8	0.25	2.8	85
PRC (Non-residential)		33000	33000	2E+05	2.1	2.1	1.3	0.21	17000	13	0.21	22000	#####	2.1	99	4100	20	17000

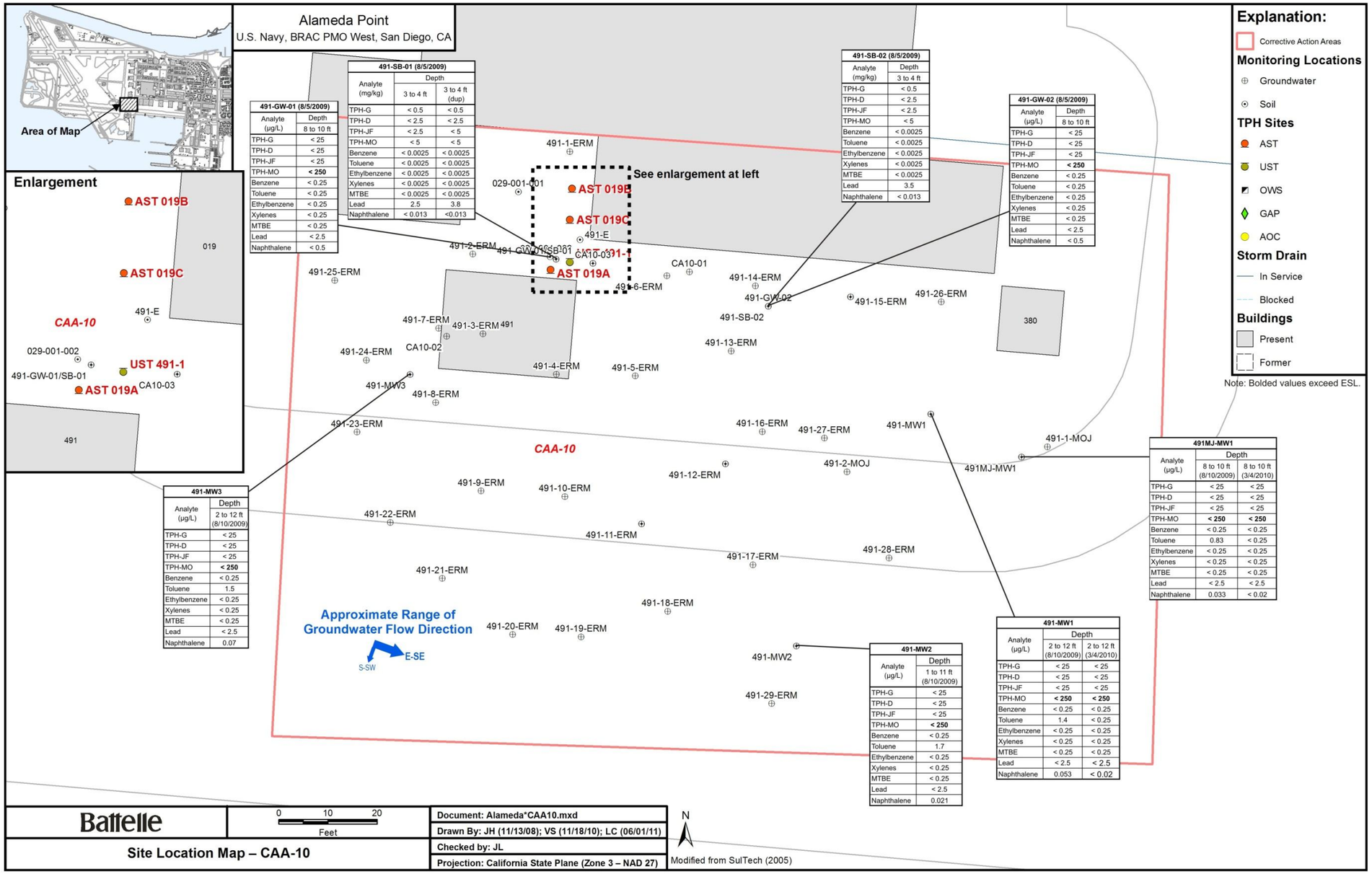
* Distance-corrected Marine Ecological Receptor PRC. See Table 4 from the Final Technical Memorandum containing the Updated Petroleum Strategy for Alameda Point issued by the Navy in September 2009.
Shaded rows indicate samples collected since the most recent remediation activity.
Shaded cells indicate result exceeds corresponding floating product/ESL/PRC.
'-' indicates analyte not analyzed.

Qualifiers Used in Data Summaries for Alameda Petroleum Program

Qualifier	Qualifier Description
B	The analyte was found in an associated blank, as well as in the sample indicating possible/probable blank contamination.
D	The reported value is from a secondary dilution.
E	The reported value is estimated due to the presence of interference.
G	Organic compound has varying amounts of recovery.
H	Reporting Limit was increased due to the hydrocarbons present in the sample.
J	Indicates an estimated value. The analyte was positively identified, but the quantitation is an estimation.
L	Concentration may include contributions from heavier-end hydrocarbons (e.g., motor oil) that elute in the subject carbon range.
M	A matrix effect was present.
N	Spiked sample recovery not within control limits.
P	Analysis method qualifier meaning Inductively Coupled Plasma Atomic Emission Spectrophotometry (ICP-AES) analysis method was used.
R	Rejected
S	Surrogate recovery was outside of the laboratory acceptance limits.
U	Analyte analyzed for but not detected above method detection limit.
X	Qualifier from a historical laboratory that has not been defined.
Y	Due to coeluting organics resulting from overlapping C-ranges between gasoline, jet fuel, diesel, and motor oil, concentration determination is based on matching chromatographic fingerprints.
Z	Concentration may include contributions from lighter-end (e.g. gasoline) and heavier-end (e.g. motor oil) hydrocarbons that coelute in the subject carbon range.



CAA-10 (UST 491-1, AST 019A, AST 019B, AST 019C) Site Map with Historical Data



491-SB-01 (8/5/2009)		
Analyte (mg/kg)	Depth	
	3 to 4 ft	3 to 4 ft (dup)
TPH-G	< 0.5	< 0.5
TPH-D	< 2.5	< 2.5
TPH-JF	< 2.5	< 5
TPH-MO	< 5	< 5
Benzene	< 0.0025	< 0.0025
Toluene	< 0.0025	< 0.0025
Ethylbenzene	< 0.0025	< 0.0025
Xylenes	< 0.0025	< 0.0025
MTBE	< 0.0025	< 0.0025
Lead	2.5	3.8
Naphthalene	< 0.013	<0.013

491-GW-01 (8/5/2009)	
Analyte (µg/L)	Depth
	8 to 10 ft
TPH-G	< 25
TPH-D	< 25
TPH-JF	< 25
TPH-MO	**< 250**
Benzene	< 0.25
Toluene	< 0.25
Ethylbenzene	< 0.25
Xylenes	< 0.25
MTBE	< 0.25
Lead	< 2.5
Naphthalene	< 0.5

491-SB-02 (8/5/2009)	
Analyte (mg/kg)	Depth
	3 to 4 ft
TPH-G	< 0.5
TPH-D	< 2.5
TPH-JF	< 2.5
TPH-MO	< 5
Benzene	< 0.0025
Toluene	< 0.0025
Ethylbenzene	< 0.0025
Xylenes	< 0.0025
MTBE	< 0.0025
Lead	3.5
Naphthalene	< 0.013

491-GW-02 (8/5/2009)	
Analyte (µg/L)	Depth
	8 to 10 ft
TPH-G	< 25
TPH-D	< 25
TPH-JF	< 25
TPH-MO	**< 250**
Benzene	< 0.25
Toluene	< 0.25
Ethylbenzene	< 0.25
Xylenes	< 0.25
MTBE	< 0.25
Lead	< 2.5
Naphthalene	< 0.5

491MJ-MW1		
Analyte (µg/L)	Depth	
	8 to 10 ft (8/10/2009)	8 to 10 ft (3/4/2010)
TPH-G	< 25	< 25
TPH-D	< 25	< 25
TPH-JF	< 25	< 25
TPH-MO	**< 250**	**< 250**
Benzene	< 0.25	< 0.25
Toluene	0.83	< 0.25
Ethylbenzene	< 0.25	< 0.25
Xylenes	< 0.25	< 0.25
MTBE	< 0.25	< 0.25
Lead	< 2.5	< 2.5
Naphthalene	0.033	< 0.02

491-MW3	
Analyte (µg/L)	Depth
	2 to 12 ft (8/10/2009)
TPH-G	< 25
TPH-D	< 25
TPH-JF	< 25
TPH-MO	**< 250**
Benzene	< 0.25
Toluene	1.5
Ethylbenzene	< 0.25
Xylenes	< 0.25
MTBE	< 0.25
Lead	< 2.5
Naphthalene	0.07

491-MW2	
Analyte (µg/L)	Depth
	1 to 11 ft (8/10/2009)
TPH-G	< 25
TPH-D	< 25
TPH-JF	< 25
TPH-MO	**< 250**
Benzene	< 0.25
Toluene	1.7
Ethylbenzene	< 0.25
Xylenes	< 0.25
MTBE	< 0.25
Lead	< 2.5
Naphthalene	0.021

491-MW1		
Analyte (µg/L)	Depth	
	2 to 12 ft (8/10/2009)	2 to 12 ft (3/4/2010)
TPH-G	< 25	< 25
TPH-D	< 25	< 25
TPH-JF	< 25	< 25
TPH-MO	**< 250**	**< 250**
Benzene	< 0.25	< 0.25
Toluene	1.4	< 0.25
Ethylbenzene	< 0.25	< 0.25
Xylenes	< 0.25	< 0.25
MTBE	< 0.25	< 0.25
Lead	< 2.5	< 2.5
Naphthalene	0.053	< 0.02

CAA-10 (UST 491-1, AST 019A, AST 019B, AST 019C) Site Map with Current Data

CALIFORNIA
Water Boards

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

San Francisco Bay Regional Water Quality Control Board

July 14, 2014 (RAS)
GeoTracker Global ID: T0600109975

NAVFAC HQ, BRAC PMO
Attn.: Derek J. Robinson
BRAC Environmental Coordinator
1455 Frazee Road; Suite 900
San Diego, California 92108
via email: derek.j.robinson1@navy.mil

Subject: **No Further Action for Former Fuel Line Segment 074 Former Alameda Naval Air Station, Alameda County**

Dear Mr. Robinson:

This letter confirms that based on the available information, and with the provision that the information provided is accurate and representative of site conditions, there was no significant release of petroleum and therefore, no further action (NFA) is required for the former Fuel Line Segment 074 (FL) summarized below:

Site Name	GeoTracker Case ID
Former Fuel Line Segment 74	T10000005670

Basis and Assumptions

This NFA status applies only to releases of petroleum fuel and fuel constituents associated with the site referenced above. While the information provided indicates that the above-referenced former pipeline site is satisfactorily cleaned up to standards consistent with residential land use, we may reconsider these findings should new information be discovered regarding previously undetected contamination.

Conditions and Requirements

Any monitoring wells that will no longer be used must be properly destroyed pursuant to equivalent requirements of Alameda County Environmental Health. For information regarding these requirements, please contact Alameda County Environmental Health at (510) 567-6858. Documentation of well destruction shall be submitted to the Regional Water Board.

Please contact Ross Steenson of my staff at (510) 622-2445 or rsteenson@waterboards.ca.gov if you have any questions regarding this matter.

Sincerely,

Terry Seward
for

Digitally signed by Terry Seward
DN: cn=Terry Seward, o=SF Water Board, ou=GWPD, email=Tseward@waterboards.ca.gov, c=US
Date: 2014.07.14 13:18:37 -07'00'

Bruce H. Wolfe
Executive Officer

Attachments: Site Closure Summary Form

cc: Mr. William McGinnis, william.mcginnis1@navy.mil
Mr. Dave Darrow, dave.c.darrow.ctr@navy.mil
Ms. Xuan-Mai Tran, tran.xuan-mai@epamail.epa.gov
Mr. James Fyfe, james.fyfe@dtsc.ca.gov
Mr. David Elias, delias@waterboards.ca.gov
Mr. John West, jwest@waterboards.ca.gov
Mr. Peter Russell, peter@russellresources.com

SITE CLOSURE SUMMARY

Former FL 074

Date: July 14, 2014

1. AGENCY INFORMATION	
Agency Name: SF Bay Regional Water Quality Control Board	**Address:** 1515 Clay Street, Suite 1400
City/State/Zip: Oakland, CA 94612	**Phone:** (510) 622-2300
Responsible Staff Person: Ross Steenson, CHG	**Title:** Engineering Geologist
Division: Groundwater Protection	**Program:** Dept. of Defense Cleanup (DoD)

2. SITE AND FILE INFORMATION	
Site Name: Alameda Naval Air Station, Former Fuel Line Segment (FL) 074	
Parent Military Base: Alameda Naval Air Station (NAS)	
Site Address: 2450 Saratoga Street, Suite 200, Alameda, CA 94501	
Site Latitude (decimal degrees): 37.784663995729	**Site Longitude:** -122.301133531704
Site Type: Military Cleanup	
WB Case No.: 2199.9285	**GeoTracker Case ID:** T10000005670
WB File No. : 2199.9285	**Paperless Office ID:** T0600109975 (Alameda NAS Parent ID)

3. RESPONSIBLE PARTY:
Company/Agency: Department of the Navy, BRAC Program Management Office West **Contact Name:** Mr. Derek Robinson **Contact Title:** BRAC Environmental Coordinator **Street Address:** 1455 Frazee Road, Suite 900 **City, State, Zip Code:** San Diego, CA 94108-4310 **Tel. No.:** (619) 532-0907 **E-mail:** derek.j.robinson1@navy.mil

4. SITE DESCRIPTION, LAND USE, AND BENEFICIAL USE	
Site Size and Description: The site consists of 0.6 acres (700 feet. east-west and 40 feet north-south located in the central portion of Alameda NAS, east of Saratoga Street. Fuel Line Segment 74 (FL 074) was a portion of the fueling system at Alameda NAS that conveyed fuel from the Oakland Inner Harbor to various points on the base. Adjacent fuel line segments include FL 073 (east) and FL 068 (west). FL 074 consisted of two 6-inch diameter pipelines that primarily conveyed aviation gasoline and were buried beneath and adjacent to West Ranger Avenue. The nearest surface water body is San Francisco Bay (Seaplane Lagoon), located about 1,700 feet south of the site.	
Vicinity: The buildings that line West Ranger Street along FL 074 are Buildings 101 and 141 (north) and Buildings 008 and 092 (south).	
Site Plan Map Attached: Figure 1 - Site Location Map	Figure 2 – Site Plan
Current Site Use(s): road (West Ranger Avenue)	

SITE CLOSURE SUMMARY – Former Fuel Line Segment 074

4. SITE DESCRIPTION, LAND USE, AND BENEFICIAL USE (CONTINUED)
Future Land Use(s): Community, Institutional and Civic, which excludes residential use but potentially allows sensitive uses (e.g., a daycare center) (Roma Design Group 2006).
Beneficial Uses: Alameda NAS lies within the East Bay Plain groundwater sub-basin (number 2-9.04) of the Santa Clara Valley groundwater basin (Figure 2-10 of Basin Plan). The existing and potential beneficial uses for groundwater include municipal and domestic, industrial process, industrial service, and agricultural water supply (Table 2-2 of Basin Plan). The existing and potential beneficial uses for the Lower San Francisco Bay surface water include industrial service supply; ocean, commercial, and sport fishing; shellfish harvesting; estuarine habitat; fish migration; preservation of rare and endangered species; fish spawning; wildlife habitat; contact and noncontact water recreation; and navigation (Table 2-1 of Basin Plan).
Exceptions to Drinking Water Policy: None

5. RELEASE INFORMATION

Source	Capacity or dimensions	Contents	How Closed?	Date	Latitude (decimal degrees)	Longitude (decimal degrees)
Fuel Line Segment 074	Two 6-inch diameter pipelines	Aviation gasoline	Removed	1998	37.784663995729	-122.301133531704

6. SITE CHARACTERIZATION AND CONCEPTUAL SITE MODEL

Cause and description of release: Fuel Line Segment 74 was a portion of the fueling system at Alameda NAS that conveyed primarily aviation gasoline from the Oakland Inner Harbor to various points on the base. Based on soil and groundwater data collected beneath or near the former pipelines, there does not appear to have been a significant release.

Groundwater (GW)	**Depth to first GW**: Between 4 and 6.5 feet below grade
	GW gradient direction: Primarily toward the southwest
	GW sampled?: Yes (10 grab groundwater samples)
GW monitoring wells	**GW monitoring wells installed?**: None
	Total number of monitoring wells used in support of closure decision: None
	Status of MWs: Not applicable

7. CLEANUP STANDARDS AND SITE REMEDIATION

Describe basis for cleanup standards: Soil: residential PRC (although the future anticipated site use is Community, Institutional and Civic, which includes no residential use); groundwater: marine ecological PRC.

Describe risk-based approach to develop cleanup standards: The screening criteria are presented in the September 2009 *Final Technical Memorandum, Update to Preliminary Remediation Criteria and Closure Strategy for Petroleum-Contaminated Sites, Petroleum Program at Alameda Point, Alameda, California* (Battelle, 2009). The criteria include the ESLs (risk-based and non-risk-based criteria) and the PRCs (risk-based). The PRCs are used for evaluating residual concentrations against criteria consistent with the future land use and for evaluating discharge to the Bay (marine ecological receptor PRC). For chemicals and exposure pathways that have no PRC (e.g., TPH in groundwater where the potential beneficial use of groundwater includes drinking water), then an ESL may be used. The document also describes the groundwater PRC for protection of marine ecological receptors and how it varies based on distance from the shoreline.

Describe remediation efforts for soil and groundwater: None.

8. CLOSURE CRITERIA CHECKLIST

1a. Contamination sources are identified and evaluated

- √ ***Leak/spill sources (tanks, sumps, pipelines, etc.) are identified and controlled***
- √ ***The pollutant source zone (sorbed/entrained residual pollutants and free product that sustain groundwater & vapor plumes) is identified and delineated***

Comments: Yes. The fuel pipelines were removed.

1b. The site is adequately characterized

- √ ***Site history, hydrology, and hydrogeology are characterized***
- √ ***The nature & extent (lateral and vertical) of pollutants are characterized in soil, groundwater & soil gas, as necessary***

Comments: Yes. Soil and groundwater data collected beneath or near the former fuel pipelines indicate no significant release.

1c. Exposure pathways, receptors, and potential risks, threats, and other environmental concerns are identified and assessed

- √ ***Nearby receptors (wetlands, streams, wells, homes, schools, businesses, etc.) are identified***
- √ ***Groundwater & vapor migration/exposure pathways, natural & artificial (storm drains, sewer lines, buried channels, abandoned wells, etc.) are assessed***
- √ ***Reasonably anticipated land and water use scenarios have been considered***
- √ ***Actual and potential risks to receptors and adverse effects to beneficial uses are assessed***

Comments: Not applicable. There was no significant release from FL 074.

8. CLOSURE CRITERIA CHECKLIST (CONTINUED)

2a. Contaminant sources are remediated to the extent feasible

- √ *The technical and economic feasibility of source remediation methods/technologies have been evaluated*
- √ *Feasible source remediation technologies have been implemented*
- √ *Appropriate source remediation performance monitoring has been conducted*
- √ *Source mass removal has been documented*
- √ *The effects of source remediation on groundwater/vapor plume behavior have been evaluated*

Comments: Not applicable. There was no significant release from FL 074.

2b. Unacceptable risks to human health, ecological health, and sensitive receptors, considering current and future land and water uses, are mitigated

- √ *Necessary & appropriate corrective actions have been implemented*
- √ *Confirmation sampling, monitoring, and/or risk management measures demonstrate that risks are mitigated*

Comments: Not applicable. There was no significant release from FL 074.

2c. Unacceptable threats to groundwater and surface water resources, considering existing and potential beneficial uses, are mitigated

- √ *Necessary & appropriate corrective actions have been implemented*
- √ *Confirmation sampling, monitoring, and/or risk management measures demonstrate that threats are mitigated*

Comments: Not applicable. There was no significant release from FL 074.

3a. Groundwater plumes are stable or decreasing (For petroleum groundwater plumes, stability is usually a sufficient criterion. For solvent or other non-petroleum groundwater plumes, closure should be supported by evident of a decreasing plume in time and space.)

- √ *Appropriate plume monitoring has confirmed the lateral and vertical extent over time*
- √ *Spatial and temporal trends for pollutants, including parent and breakdown products, have been evaluated*
- √ *Spatial and temporal trends for natural attenuation indicators have been evaluated*
- √ *Evidence of breakdown to acceptable end products is documented*
- √ *Plume concentrations are decreasing and the plume is not moving or expanding*

Comments: Not applicable. There was no significant release from FL 074.

8. CLOSURE CRITERIA CHECKLIST (CONTINUED)

3b. Cleanup standards have been met or can be met in a reasonable timeframe

- √ ***The estimated timeframe to achieve cleanup standards throughout the affected area is evaluated***
- √ ***The anticipated timeframe for beneficial use of the affected and nearby water resources is evaluated***
- √ ***The potential to adversely affect beneficial uses is assessed considering cleanup and beneficial use timeframes, hydrogeologic conditions, and the CSM***

Comments: Not applicable. There was no significant release from FL 074.

3c. Risk management measures are appropriate, documented, and do not require future Water Board oversight

- √ ***Necessary risk management measures (land use restrictions, engineered vapor barriers, soil management plans, etc.) are implemented and documented***
- √ ***Risk management measures do not require future Water Board oversight***

Comments: No risk management measures are necessary. Nevertheless, the City of Alameda Ordinance 2824 (Marsh Crust Ordinance) restricts disturbance of soil at the former Alameda NAS between depths of 5 to 15 feet bgs due to potential elevated concentrations of PAHs. In the vicinity of this site, the threshold depth is 5 feet bgs.

9. NFA BASIS AND ASSUMPTIONS

This NFA status applies only to releases of petroleum fuel and fuel constituents associated with the fuel line segment referenced above. While the information provided indicates that there was no significant release from the above-referenced fuel line segment, we may reconsider these findings should new information be discovered regarding previously undetected contamination.

10a. NFA CONDITIONS AND REQUIREMENTS

This NFA requires that any wells located on this site be decommissioned (unless still in use for monitoring nearby contamination). Any monitoring wells that will no longer be used must be properly destroyed pursuant to requirements of the Alameda County Environmental Health. For information regarding these requirements, please contact the Alameda County Environmental Health at (510) 567-6858. Documentation of well destruction shall be submitted to the Regional Water Board.

10b. LAND USE CONTROLS/COVENANTS

No land use controls/covenants are necessary.

11. ADDITIONAL COMMENTS – None.

SITE CLOSURE SUMMARY – Former Fuel Line Segment 074

12. TECHNICAL REPORTS, CORRESPONDENCE, ETC., THAT THIS CLOSURE RECOMMENDATION WAS BASED UPON		
REPORTS ON FILE	**Where is report(s) filed?:** Paperless Office (Place Number T0600109975)	
Alameda Point Preliminary Development Concept. Prepared for the Alameda Reuse and Redevelopment Authority by the Roma Design Group.		February 1, 2006
Final Technical Memorandum, Update to Preliminary Remediation Criteria and Closure Strategy for Petroleum-Contaminated Sites, Petroleum Program at Alameda Point, Alameda, California. Battelle.		September 2009
San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan). California Regional Water Quality Control Board, San Francisco Bay Region.		June 29, 2013
Final Fact Sheet Fuel Line 074, Alameda Point, Alameda, California. CB&I.		May 21, 2014

Attachments: Figure 1 (Site Location Map), Figure 2 (Site Plan)

Notes and Abbreviations (in alphabetical order):

AST – Aboveground storage tank.
bgs – Below ground surface.
CAA – Corrective action area.
CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act.
1,2-DCA – 1,2-dichloroethane.
ESL – Environmental screening level (San Francisco Bay Regional Water Quality Control Board, *Environmental Screening Levels*, 2008).
gal. – gallon.
IR – Installation Restoration
mg/kg – milligrams per kilogram, or parts per million.
MTBE – Methyl tertiary butyl ether.
NFA – No further action (aka closure).
PAHs – Polycyclic aromatic hydrocarbons.
PRC – Preliminary remediation criteria (Battelle, *Final Technical Memorandum, Update to Preliminary Remediation Criteria and Closure Strategy for Petroleum-Contaminated Sites, Petroleum Program at Alameda Point, Alameda, California*, 2009).
SWRCB – State Water Resources Control Board.
TPH – Total Petroleum Hydrocarbons.
TPHg – TPH as gasoline.
TPHd – TPH as diesel.
TPHjf – TPH as jet fuel.
TPHmo – TPH as motor oil.
TTPH – total TPH; sum of TPH gasoline, TPH diesel, TPH jet fuel, and TPH motor oil.

N

0 800 1,600 2,400 3,200

Feet

CBI

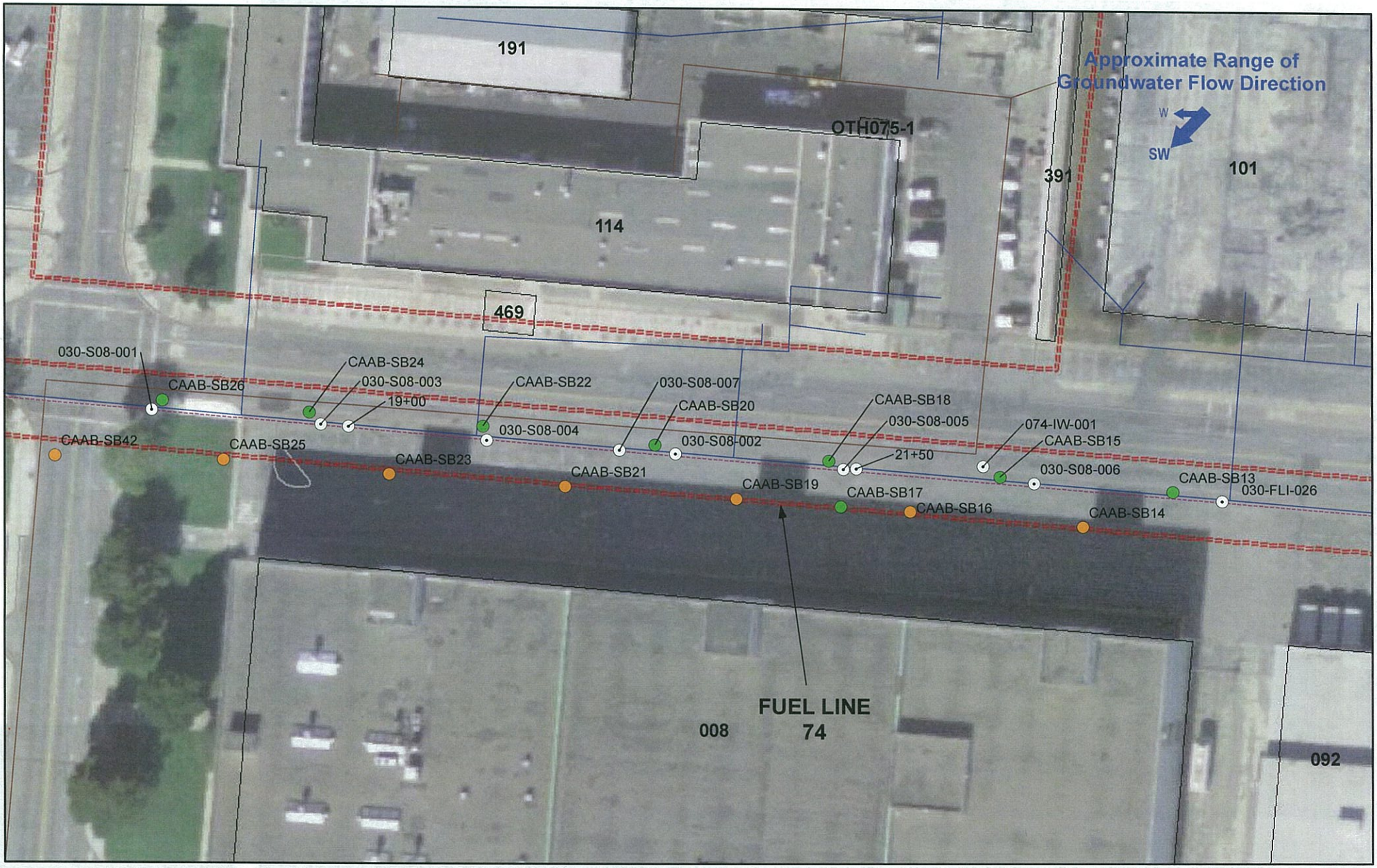
4005 Port Chicago Hwy
Concord, CA 94520

Department of the Navy
Base Realignment and Closure
Program Mangement Office West
San Diego, CA

FIGURE 1

DGI SITE LOCATION

FL - 074



Legend

Sample Locations
- Groundwater
- Soil and Groundwater
- Soil

Historic Sample Locations
- Groundwater
- Soil (approximate)

Fuel Line
- Present
- Removed
- Abandoned

Storm Drain
- In Service
- Blocked
- Industrial Waste Line

Corrective Action Area

Buildings
- Present
- Former

N

0 10 20 30 40 50 60 70
Feet

CBI

4005 Port Chicago Hwy
Concord, CA 94520

Department of the Navy
Base Realignment and Closure
Program Management Office West
San Diego, CA

FIGURE 2

FL - 074

CALIFORNIA
Water Boards

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

San Francisco Bay Regional Water Quality Control Board

April 30, 2015 (RAS)
GeoTracker Global ID: T0600109975

NAVFAC HQ, BRAC PMO
Attn.: Cecily Sabedra
BRAC Environmental Coordinator
1455 Frazee Road; Suite 900
San Diego, California 92108
via email: cecily.sabedra@navy.mil

Subject: **No Further Action for Area of Concern 23G (Three USTs), Former Alameda Naval Air Station, Alameda County**

Dear Ms. Sabedra:

This letter confirms that based on the available information, and with the provision that the information provided is accurate and representative of site conditions, site investigation is complete and, therefore, no further action (NFA) is required for the underground storage tank (UST) site summarized below:

Site Name	GeoTracker Case ID
Area of Concern 23G (three USTs)	T10000001374

Basis and Assumptions

This NFA status applies only to releases of petroleum fuel and fuel constituents associated with the UST site referenced above. While the information provided indicates that the above-referenced petroleum UST site is satisfactorily cleaned up to standards consistent with unrestricted land use (e.g., residential), we may reconsider these findings should new information be discovered regarding previously undetected contamination.

Conditions and Requirements

Any monitoring wells that will no longer be used must be properly destroyed pursuant to equivalent requirements of Alameda County Environmental Health. For information regarding these requirements, please contact Alameda County Environmental Health at (510) 567-6858. Documentation of well destruction shall be submitted to the Regional Water Board.

Please contact Ross Steenson of my staff at (510) 622-2445 or ross.steenson@waterboards.ca.gov if you have any questions regarding this matter.

Sincerely,

Terry Seward for

Digitally signed by Terry Seward
DN: cn=Terry Seward, o=SF Water Board, ou=GWPD, email=Tseward@waterboards.ca.gov, c=US
Date: 2015.05.01 10:50:32 -07'00'

Bruce H. Wolfe
Executive Officer

Attachments: Site Closure Summary Form, UST Closure Letter

cc: Mr. William McGinnis, william.mcginnis1@navy.mil
Mr. Dave Darrow, dave.c.darrow.ctr@navy.mil
Ms. Xuan-Mai Tran, tran.xuan-mai@epamail.epa.gov
Mr. James Fyfe, james.fyfe@dtsc.ca.gov
Mr. David Elias, delias@waterboards.ca.gov
Ms. Yemia Hashimoto, yemia.hashimoto@waterboards.ca.gov
Mr. Peter Russell, peter@russellresources.com

April 30, 2015 (RAS)
GeoTracker ID: T0600109975

U.S. Department of the Navy
Attn. Cecily Sabedra
BRAC Environmental Coordinator
1455 Frazee Road, Suite 900
San Diego, CA 92108-4310
Via email: cecily.sabedra@navy.mil

Subject: Uniform UST Letter, Area of Concern 23G (Three Underground Storage Tanks), Former Alameda Naval Air Station, Alameda County

Dear Ms. Sabedra:

This letter confirms the completion of a site investigation and corrective action for the subject underground storage tank(s) formerly located at the above-described location. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the former underground storage tank(s) are greatly appreciated.

Based on information in the above-referenced file and with the provision that the information provided to this agency was accurate and representative of site conditions, we find that the site investigation and corrective action carried out at your underground storage tank site(s) is in compliance with the requirements of subdivisions (a) and (b) of Section 25296.10 of the Health and Safety Code and with corrective action regulations adopted pursuant to Section 25299.3 of the Health and Safety Code and that no further action (NFA) related to the petroleum release(s) at the site(s) is required.

This notice is issued pursuant to subdivision (g) of Section 25296.10 of the Health and Safety Code. Please contact our offices if you have any questions regarding this matter.

Sincerely,

Bruce H. Wolfe
Executive Officer

SITE CLOSURE SUMMARY
Area of Concern 23G (Three USTs)

Date: April 30, 2015

1. AGENCY INFORMATION	
Agency Name: SF Bay Regional Water Quality Control Board	**Address**: 1515 Clay Street, Suite 1400
City/State/Zip: Oakland, CA 94612	**Phone**: (510) 622-2300
Responsible Staff Person: Ross Steenson, CHG	**Title**: Engineering Geologist
Division: Groundwater Protection	**Program**: Dept. of Defense Cleanup (DoD)

2. SITE AND FILE INFORMATION	
Site Name: Alameda Naval Air Station, Area of Concern (AOC) 23G	
Parent Military Base: Alameda Naval Air Station (NAS)	
Site Address: 2450 Saratoga Street, Suite 200, Alameda, CA 94501	
Site Latitude: 37.7909366569036	**Site Longitude:** -122.306786477566
Site Type: Military UST	
WB Case No.: 2199.9285	**GeoTracker Case ID**: T10000001374
WB File No. : 2199.9285	**Paperless Office ID**: T0600109975 (Alameda NAS Parent ID)

3. RESPONSIBLE PARTY:

Company/Agency: Department of the Navy, BRAC Program Management Office West
Contact Name: Ms. Cecily Sabedra
Contact Title: BRAC Environmental Coordinator
Street Address: 1455 Frazee Road, Suite 900
City, State, Zip Code: San Diego, CA 94108-4310
Tel. No.: (619) 532-0972
E-mail: cecily.sabedra@navy.mil

4. SITE DESCRIPTION, LAND USE, AND BENEFICIAL USE

Site Size and Description: The site consists of 0.9 acres (110-foot radius around the center of the site) located in the northwest portion of Alameda NAS. The site was located at the eastern end of former Runway 25. The site included former Building 71 (former Navy Exchange Service Station) and associated shop services maintenance garage. There were three USTs: one 8,000-gallon and two 5,000-gallon USTs that presumably contained gasoline or diesel fuels. All components reportedly were removed in 1951 to accommodate the extension of Runway 25. Note that removal of the USTs was confirmed by geophysical survey in 2007. In 1995, as part of the Environmental Baseline Survey (EBS), samples were collected that documented a release had occurred. The nearest surface water is San Francisco Bay (Oakland Inner Harbor), which is about 120 feet to the north.

Vicinity: The site is in the former runway area northwest of Building 76.

Site Plan Map Attached: Figure – Site Plan

Current Site Use(s): not used

4. SITE DESCRIPTION, LAND USE, AND BENEFICIAL USE (CONTINUED)

Future Land Use(s): Park/open space (Roma Design Group, 2006). The site falls within the Tidelands Trust.

Beneficial Uses: Alameda NAS lies within the East Bay Plain groundwater sub-basin (number 2-9.04) of the Santa Clara Valley groundwater basin (Figure 2-10 of Basin Plan). The existing and potential beneficial uses for groundwater include industrial process, industrial service, and agricultural water supply (Table 2-2 of Basin Plan). Note that municipal and domestic supply beneficial uses are excluded from the shallow groundwater beneficial use list due to the exception to drinking water policy discussed in the next section. The existing and potential beneficial uses for the Lower San Francisco Bay surface water include industrial service supply; ocean, commercial, and sport fishing; shellfish harvesting; estuarine habitat; fish migration; preservation of rare and endangered species; fish spawning; wildlife habitat; contact and noncontact water recreation; and navigation (Table 2-1 of Basin Plan).

Exceptions to Drinking Water Policy: In response to the Navy's July 10, 2003, exception to drinking water policy request, Regional Water Board staff issued a concurrence on July 21, 2003, that groundwater in the first two water bearing zones west of Saratoga Street at Alameda NAS meets exception criteria included in SWRCB Resolution 88-63 and Regional Water Board Resolution No. 89-39, "Sources of Drinking Water." This site is located within the area that meets the exception criteria.

5. RELEASE INFORMATION

Source	Capacity or dimensions	Contents	How Closed?	Date	Latitude (decimal degrees)	Longitude (decimal degrees)
3 USTs	one 8,000 gal. and two 5,000 gal.	Fuels for service station	Demolished	1951	37.7909366569036	-122.306786477566

6. SITE CHARACTERIZATION AND CONCEPTUAL SITE MODEL

Cause and description of release: There appears to have been a historically significant release based on soil and groundwater sampling and the persistence of elevated concentrations of hydrocarbons nearly 70 years after demolition of the former Navy Exchange Service Station.

Groundwater (GW)	**Depth to first GW**: Between about 4.5 feet bgs to 5.5 feet bgs.
	GW gradient direction: Northeast
	GW sampled?: Yes

6. SITE CHARACTERIZATION AND CONCEPTUAL SITE MODEL (CONTINUED)	
GW monitoring wells	**GW monitoring wells installed?**: Yes
	Total number of monitoring wells used in support of closure decision: 3
	Status of MWs: The Navy is managing the monitoring wells as part of the Basewide Groundwater Monitoring Program.

7. CLEANUP STANDARDS AND SITE REMEDIATION

Describe basis for cleanup standards: Soil: residential PRC; groundwater: marine ecological PRC.

Describe risk-based approach to develop cleanup standards: The screening criteria are presented in the September 2009 *Final Technical Memorandum, Update to Preliminary Remediation Criteria and Closure Strategy for Petroleum-Contaminated Sites, Petroleum Program at Alameda Point, Alameda, California* (Battelle, 2009). The criteria include the ESLs (risk-based and non-risk-based criteria) and the PRCs (risk-based). The PRCs are used for evaluating residual concentrations against criteria consistent with the future land use and for evaluating discharge to the Bay (marine ecological receptor PRC). For chemicals and exposure pathways that have no PRC (e.g., TPH in groundwater where the potential beneficial use of groundwater includes drinking water), then an ESL may be used. The document also describes the groundwater PRC for protection of marine ecological receptors and how it varies based on distance from the shoreline.

Describe remediation efforts for soil and groundwater: No active remediation has been performed.

8. CLOSURE CRITERIA CHECKLIST

1a. Contamination sources are identified and evaluated

√ ***Leak/spill sources (tanks, sumps, pipelines, etc.) are identified and controlled***

√ ***The pollutant source zone (sorbed/entrained residual pollutants and free product that sustain groundwater & vapor plumes) is identified and delineated***

Comments: Yes.

1b. The site is adequately characterized

√ ***Site history, hydrology, and hydrogeology are characterized***

√ ***The nature & extent (lateral and vertical) of pollutants are characterized in soil, groundwater & soil gas, as necessary***

Comments: Yes. In 2008, soil borings and groundwater monitoring wells were advanced at 35 locations at and around the former location of the USTs. Seventy-three soil samples, six grab groundwater samples, and three groundwater well samples were collected and analyzed for TPH-gasoline, BTEX, and lead. For soil, many of the constituents were not detected or the detected concentrations were below residential criteria. However there are a five soil samples (in four borings) in the central portion of the site that exceed residential criteria (e.g., 4,900 mg/kg TPH-gasoline at SB-11 at 4.5 feet bgs versus a residential criterion of 950 mg/kg). These single exceedances are scattered (i.e., there are intervening lower concentration results laterally and vertically). Based on our review, site soil is adequately characterized, and these few isolated exceedances pose no significant threat. Therefore, the site is adequate for unrestricted reuse. All of the downgradient groundwater results are below discharge-to-the-bay criteria. In the central portion of the site, the grab groundwater samples from HP-02 exceed the Tier 1 criterion (1,400 µg/L total TPH) at 1,580 µg/L, but are below the distance-to-shoreline-adjusted criterion (4,800 µg/L at 100 feet from the shoreline). Therefore, we conclude there is no significant threat to the Bay.

8. CLOSURE CRITERIA CHECKLIST (CONTINUED)

1c. Exposure pathways, receptors, and potential risks, threats, and other environmental concerns are identified and assessed

- √ ***Nearby receptors (wetlands, streams, wells, homes, schools, businesses, etc.) are identified***
- √ ***Groundwater & vapor migration/exposure pathways, natural & artificial (storm drains, sewer lines, buried channels, abandoned wells, etc.) are assessed***
- √ ***Reasonably anticipated land and water use scenarios have been considered***
- √ ***Actual and potential risks to receptors and adverse effects to beneficial uses are assessed***

Comments: Yes.

2a. Contaminant sources are remediated to the extent feasible

- √ ***The technical and economic feasibility of source remediation methods/technologies have been evaluated***
- √ ***Feasible source remediation technologies have been implemented***
- √ ***Appropriate source remediation performance monitoring has been conducted***
- √ ***Source mass removal has been documented***
- √ ***The effects of source remediation on groundwater/vapor plume behavior have been evaluated***

Comments: Yes.

2b. Unacceptable risks to human health, ecological health, and sensitive receptors, considering current and future land and water uses, are mitigated

- √ ***Necessary & appropriate corrective actions have been implemented***
- √ ***Confirmation sampling, monitoring, and/or risk management measures demonstrate that risks are mitigated***

Comments: Yes.

2c. Unacceptable threats to groundwater and surface water resources, considering existing and potential beneficial uses, are mitigated

- √ ***Necessary & appropriate corrective actions have been implemented***
- √ ***Confirmation sampling, monitoring, and/or risk management measures demonstrate that threats are mitigated***

Comments: Yes.

8. CLOSURE CRITERIA CHECKLIST (CONTINUED)

3a. Groundwater plumes are stable or decreasing **(For petroleum groundwater plumes, stability is usually a sufficient criterion. For solvent or other non-petroleum groundwater plumes, closure should be supported by evidence of a decreasing plume in time and space.)**

- √ ***Appropriate plume monitoring has confirmed the lateral and vertical extent over time***
- √ ***Spatial and temporal trends for pollutants, including parent and breakdown products, have been evaluated***
- √ ***Spatial and temporal trends for natural attenuation indicators have been evaluated***
- √ ***Evidence of breakdown to acceptable end products is documented***
- √ ***Plume concentrations are decreasing and the plume is not moving or expanding***

Comments: Yes.

3b. Cleanup standards have been met or can be met in a reasonable timeframe

- √ ***The estimated timeframe to achieve cleanup standards throughout the affected area is evaluated***
- √ ***The anticipated timeframe for beneficial use of the affected and nearby water resources is evaluated***
- √ ***The potential to adversely affect beneficial uses is assessed considering cleanup and beneficial use timeframes, hydrogeologic conditions, and the CSM***

Comments: Yes.

3c. Risk management measures are appropriate, documented, and do not require future Water Board oversight

- √ ***Necessary risk management measures (land use restrictions, engineered vapor barriers, soil management plans, etc.) are implemented and documented***
- √ ***Risk management measures do not require future Water Board oversight***

Comments: Not applicable. Nevertheless, the City of Alameda Ordinance 2824 (Marsh Crust Ordinance) restricts disturbance of soil at the former Alameda NAS between depths of 5 to 15 feet bgs due to potential elevated concentrations of semivolatile organic compounds (e.g., PAHs). In the vicinity of this site, the threshold depth is 10 feet bgs.

9. NFA BASIS AND ASSUMPTIONS

This NFA status applies only to releases of petroleum fuel and fuel constituents associated with the UST site referenced above. While the information provided indicates that there was no significant release from the above-referenced UST site, we may reconsider these findings should new information be discovered regarding previously undetected contamination.

SITE CLOSURE SUMMARY – Area of Concern 23G (Three USTs)

10a. NFA CONDITIONS AND REQUIREMENTS

This NFA requires that any wells located on this site be decommissioned (unless still in use for monitoring nearby contamination). Any monitoring wells that will no longer be used must be properly destroyed pursuant to requirements of Alameda County Environmental Health. For information regarding these requirements, please contact Alameda County Environmental Health at (510) 567-6858. Documentation of well destruction shall be submitted to the Regional Water Board

10b. LAND USE CONTROLS/COVENANTS

No land use controls/covenants are necessary regarding the site.

11. ADDITIONAL COMMENTS - None

12. TECHNICAL REPORTS, CORRESPONDENCE, ETC., THAT THIS CLOSURE RECOMMENDATION WAS BASED UPON

REPORTS ON FILE	**Where is report(s) filed?**: Paperless Office (Place Number T0600109975)
Alameda Point Preliminary Development Concept. Prepared for the Alameda Reuse and Redevelopment Authority by the Roma Design Group.	February 1, 2006
Final Petroleum Investigation Report, Petroleum Site Investigation AOC 23G, Alameda Point, Alameda California. Shaw	August 2008
Final Technical Memorandum, Update to Preliminary Remediation Criteria and Closure Strategy for Petroleum-Contaminated Sites, Petroleum Program at Alameda Point, Alameda, California. Battelle.	September 2009
Concurrence with Request for Beneficial Use Exception for Shallow Groundwater at Southeast Portion of the Former Naval Air Station. San Francisco Bay Regional Water Quality Control Board.	September 13, 2012
San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan). California Regional Water Quality Control Board, San Francisco Bay Region.	June 29, 2013
Site Closure Summaries, No Further Action Request AOC 23G, Alameda Point, Alameda, California. Gilbane	March 4, 2015

Attachments: Figure (Site Plan)

Notes and Abbreviations (in alphabetical order):

AST – Aboveground storage tank.
bgs – Below ground surface.
CAA – Corrective action area.
CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act.
1,2-DCA – 1,2-dichloroethane.
ESL – Environmental screening level (San Francisco Bay Regional Water Quality Control Board, Environmental Screening Levels, 2008), as agreed per the 2009 *Final Technical Memorandum, Update to Preliminary Remediation Criteria and Closure Strategy for Petroleum-Contaminated Sites, Petroleum Program at Alameda Point*.
gal. – gallon.
IR – Installation Restoration
mg/kg – milligrams per kilogram, or parts per million.
MTBE – Methyl tertiary butyl ether.

Notes and Abbreviations (continued):

NFA – No further action (aka closure).

PAHs – Polycyclic aromatic hydrocarbons.

PRC – Preliminary remediation criteria per the 2009 *Final Technical Memorandum, Update to Preliminary Remediation Criteria and Closure Strategy for Petroleum-Contaminated Sites, Petroleum Program at Alameda Point, Alameda, California*.

SWRCB – State Water Resources Control Board.

TPH – Total Petroleum Hydrocarbons.

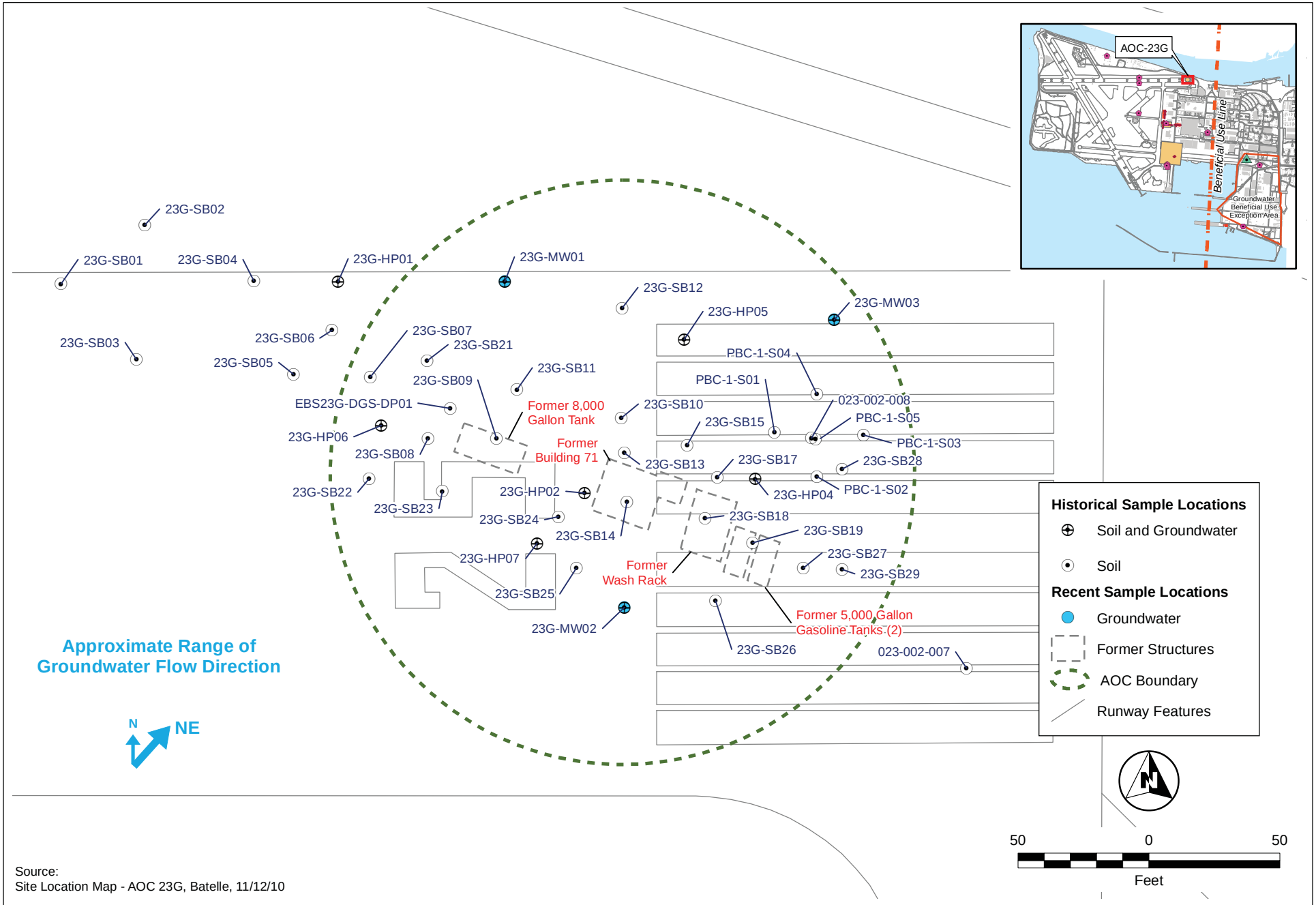
TPHg – TPH as gasoline.

TPHd – TPH as diesel.

TPHjf – TPH as jet fuel.

TPHmo – TPH as motor oil.

TTPH – total TPH; sum of TPH gasoline, TPH diesel, TPH jet fuel, and TPH motor oil.



Source:
Site Location Map - AOC 23G, Batelle, 11/12/10

Gilbane

No Further Action Sites
Former Naval Air Station Alameda
Alameda, California

Figure 1
Sample Location Map
AOC 23G

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Table 4
Phases I and II, Soil Sampling Results for AOC 23G, February through April 2008
Alameda Point, Alameda, California

Sample Location	Sample Date	Sample ID	Sample Depth (feet)		TPH as Gasoline C6-C12	TPH as Jet Fuel C10-C16	TPH as Diesel C12-C24	TPH as Motor Oil C24-C36	Total TPH *	Lead	Benzene	Toluene	Ethylbenzene	Total Xylenes**	Naphthalene
				Method	8015	8015	8015	8015		6010	8260	8260	8260	8260	8260
				Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
				Comparison Value	5,900	6,700	6,700	9,400	NA	800	5.6	46,000	29	2,600	20
				Comparison Reference	PRC nr	PRC nr	PRC nr	PRC nr	NA	PRG ind	PRG ind	PRG ind	PRG ind	PRG ind	PRG ind
Phase I															
23G-HP01	2/27/2008	23G-HP01-1050	4.5		0.11 J	12	27	110	137.1	9 J	<0.01	<0.01	<0.01	<0.01	0.0017 J
23G-HP01	2/27/2008	23G-HP01-1051	7.3		<0.51 U	<1.6 U	8.2	35	43.2	5.1	<0.016	<0.016	<0.016	<0.016	<0.016
23G-HP02	2/27/2008	23G-HP02-1054	5.5		0.062 J	2.9	150	750	900.1	20	<0.012	<0.012	<0.012	<0.012	<0.012
23G-HP04	2/27/2008	23G-HP04-1061	4.5		3,100 J+	1,400	690	540	4,330 J+	38	<0.12#	<5.8	4.9 J	0.28	13
23G-HP04	2/27/2008	23G-HP04-1062	7		3.2 J+	1.1 J	6.7	35	44.9	4.6	0.004 J	0.0012 J	0.06	0.004	0.42
23G-SB01	2/20/2008	23G-SB01-1000	4.4		0.033 J	<1.2 UJ	3.9 J-	31 J-	34.9 J-	6.2	<0.0074	<0.0074	<0.0074	<0.0074	<0.0074 UJ
23G-SB01	2/20/2008	23G-SB01-1001	7.5		0.038 J	<1.2 UJ	<1.2 UJ	1.2 J-	1.2 J-	4.5	<0.005	<0.005	<0.005	<0.005	<0.005 UJ
23G-SB02	2/20/2008	23G-SB02-1002	4.7		<0.41	<1.1 UJ	6.5 J-	40 J-	46.5 J-	5.7	<0.011	<0.011	<0.011	<0.011	<0.011 UJ
23G-SB02	2/20/2008	23G-SB02-1003	6.5		<0.41	<1.2 U	<1.2 U	2.3 J	2.3	4.7	<0.0065 UJ	<0.0065 UJ	<0.0065 UJ	<0.0065 UJ	<0.0065 UJ
23G-SB02 (dup)	2/20/2008	23G-SB02-1004	6.5		0.85 J	<1.2 U	<1.2 U	1.2 J	2.1	3.8	<0.0095	<0.0095	<0.0095	<0.0095	<0.0095 UJ
23G-SB03	2/20/2008	23G-SB03-1006	7		0.016 J	<1.2 U	<1.2 U	1.1 J	1.1	5	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051 UJ
23G-SB04	2/21/2008	23G-SB04-1007	4.7		0.057 J	<1.3 U	5.3	38	43.4	13	<0.026	<0.026	<0.026	<0.026	<0.026
23G-SB04	2/21/2008	23G-SB04-1008	5.3		<0.71 U	<1.2 U	3.5	21	24.5	7.3	<0.017	<0.017	<0.017	<0.017	<0.017
23G-SB05	2/20/2008	23G-SB05-1010	5.6		0.018 J	2	15	89	104	11	<0.009	<0.009	<0.009	<0.009	<0.009 UJ
23G-SB06	2/21/2008	23G-SB06-1011	4.6		<0.27 UJ	5.8	86	570	656	5.3	<0.0059	0.00045 J+	<0.0059	<0.0059	<0.0059 UJ
23G-SB06	2/21/2008	23G-SB06-1012	6.3		<0.69 U	<1.5 U	12	40	52	9.5	<0.014	<0.014	<0.014	<0.014	<0.014
23G-SB07	2/21/2008	23G-SB07-1014	6.3		<0.66 U	<1.3 U	6.7	26	32.7	16	<0.012	<0.012	<0.012	<0.012	<0.012
23G-SB08	2/21/2008	23G-SB08-1016	4.7		<0.44 U	<1.2 U	<1.2	3.4 J	3.4	1.7	<0.0084	<0.0084	<0.0084	<0.0084	0.0051 J
23G-SB08	2/21/2008	23G-SB08-1017	6.8		1,500 J+	580	340	1,300	3,140 J+	17	<0.29	<0.29	0.14 J+	<0.29	<0.29

Table 4
Phases I and II, Soil Sampling Results for AOC 23G, February through April 2008
Alameda Point, Alameda, California

Sample Location	Sample Date	Sample ID	Sample Depth (feet)		TPH as Gasoline C6-C12	TPH as Jet Fuel C10-C16	TPH as Diesel C12-C24	TPH as Motor Oil C24-C36	Total TPH *	Lead	Benzene	Toluene	Ethylbenzene	Total Xylenes**	Naphthalene
				Method	8015	8015	8015	8015		6010	8260	8260	8260	8260	8260
				Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
				Comparison Value	5,900	6,700	6,700	9,400	NA	800	5.6	46,000	29	2,600	20
				Comparison Reference	PRC nr	PRC nr	PRC nr	PRC nr	NA	PRG ind	PRG ind	PRG ind	PRG ind	PRG ind	PRG ind
Phase I															
23G-SB08	2/21/2008	23G-SB08-1044	11		0.034 J	0.28 J	<1.2	0.92 J	0.96	2.5	<0.012	<0.012	<0.012	<0.012	<0.012
23G-SB09	2/21/2008	23G-SB09-1018	5.5		<0.68 U	<1.2 U	<1.2	2.3 J	2.3	1.4	<0.0091	<0.0091	<0.0091	<0.0091	<0.0091
23G-SB09	2/21/2008	23G-SB09-1019	7.5		0.13 J	<1.2	1.2	7.9	9.2	2.4	<0.012	<0.012	<0.012	<0.012	<0.012
23G-SB10	2/21/2008	23G-SB10-1020	5		5.3 J	1.6	17	170	192.3	4.1	<0.0073	<0.0073	<0.0073	<0.0073	<0.0073 UJ
23G-SB10	2/21/2008	23G-SB10-1021	5.5		15 J+	11	33	120	168	78	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071
23G-SB10	2/21/2008	23G-SB10-1045	7.8		0.29 J	3	14	49	63.3	7.6	<0.015	<0.015	<0.015	<0.015	<0.015
23G-SB11	2/21/2008	23G-SB11-1022	4.5		4,900 J+	950	220	170	5,290 J+	10	<2.9	<2.9	5.3 J+	<2.9	12 J+
23G-SB11	2/21/2008	23G-SB11-1023	6.5		1,300 J+	150	63	55	1,418 J+	12	<4.2	<4.2	1.2 J+	<4.2	3.1 J+
23G-SB11	2/21/2008	23G-SB11-1046	8.4		12 J-	73	270	670	952	210	0.23 J+	0.012 J+	0.02 J+	0.0196 J+	0.012 J+
23G-SB12	2/21/2008	23G-SB12-1024	4		0.3 J-	3.6	26	110	136.3	45	<0.0072	<0.0072	<0.0072	<0.0072	<0.0072 UJ
23G-SB12	2/21/2008	23G-SB12-1025	8.5		0.16 J	<1.2 U	0.23 J	<6	0.4	1.2	<0.01	<0.01	<0.01	<0.01	<0.01
23G-SB13	2/20/2008	23G-SB13-1026	4.6		0.018 J	2.3	36	150	186	14	<0.0068	<0.0068	<0.0068	<0.0068	<0.0068 UJ
23G-SB13	2/20/2008	23G-SB13-1027	7		<7.6 U	1.5	6.4	27	33.4	9	<0.012	<0.012	<0.012	<0.012	<0.012 UJ
23G-SB13 (dup)	2/20/2008	23G-SB13-1028	7		<1.9	1.1 J	4.6	21	25.6	10	<0.029	<0.029	<0.029	<0.029	<0.029 UJ
23G-SB14	2/22/2008	23G-SB14-1030	7.4		1.8 J	2.1	21	120	142.8	29	<0.013	<0.013	<0.013	<0.013	<0.013
23G-SB14 (dup)	2/22/2008	23G-SB14-1047	7.4		1.9 J	1.2 J	13	90	104.9	12	<0.017	<0.017	<0.017	<0.017	<0.017
23G-SB15	2/22/2008	23G-SB15-1031	4.5		1.1 J	<1.2 U	0.17 J	2.3 J	3.6	1.5	<0.0081	<0.0081	<0.0081	<0.0081	<0.0081
23G-SB15	2/22/2008	23G-SB15-1032	6		0.027 J	<1.2 U	7.1	37	44.1	68 J	<0.01	<0.01	<0.01	<0.01	<0.01
23G-SB17	2/22/2008	23G-SB17-1035	5		0.024 J	<1.1 U	7.2	49	56.2	13	<0.009	<0.009	<0.009	<0.009	<0.009

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Sample Location	Sample Date	Sample ID	Sample Depth (feet)		TPH as Gasoline C6-C12	TPH as Jet Fuel C10-C16	TPH as Diesel C12-C24	TPH as Motor Oil C24-C36	Total TPH *	Lead	Benzene	Toluene	Ethylbenzene	Total Xylenes**	Naphthalene
				Method	8015	8015	8015	8015		6010	8260	8260	8260	8260	8260
				Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
				Comparison Value	5,900	6,700	6,700	9,400	NA	800	5.6	46,000	29	2,600	20
				Comparison Reference	PRC nr	PRC nr	PRC nr	PRC nr	NA	PRG ind	PRG ind	PRG ind	PRG ind	PRG ind	PRG ind
Phase I															
23G-SB17	2/22/2008	23G-SB17-1036	9.4		0.5 J	<2.3 UJ	12	67	79.5	12	0.0028 J	<0.039	0.0048 J	<0.039	<0.039
23G-SB17	2/22/2008	23G-SB17-1048	13.3		0.2 J	0.67 J	1.2	2.5 J	3.9	3.2	<0.012	<0.012	0.0082 J	<0.012	<0.012
23G-SB18	2/22/2008	23G-SB18-1038	4.5		0.033 J	<1.1 UJ	<1.1 U	5.4	5.4	3	<0.0072	<0.0072	<0.0072	<0.0072	<0.0072
23G-SB18 (dup)	2/22/2008	23G-SB18-1039	5		0.032 J	<1.1 UJ	3.3	31	34.3	3.5	<0.0078	<0.0078	<0.0078	<0.0078	<0.0078
23G-SB19	2/22/2008	23G-SB19-1040	5		0.029 J	<1.1 U	<1.1	3.5 J	3.5	3.3	<0.0095	<0.0095	<0.0095	<0.0095	<0.0095
23G-SB19	2/22/2008	23G-SB19-1041	7.5		480 J+	360 J	230	200	910 J+	11	<1.1	<1.1 U	3.3	0.15	3.1
23G-SB19	2/22/2008	23G-SB19-1049	12		950 J+	170	91	110	1,151 J+	11	0.075 J	0.076 J	3.7	0.28	2.7
Phase II															
23G-HP05	3/28/2008	23G-HP05-1093	5.5		<0.26 U	<1.2 U	2.3	25	27.3	5	<0.005	<0.005	<0.005	<0.005	<0.005 U
23G-HP05	3/28/2008	23G-HP05-1094	7		<0.25 U	<1.2 U	<1.2 U	7.5	7.5	2.3	<0.0063	<0.0063	<0.0063	<0.0063	<0.0063
23G-HP07	3/28/2008	23G-HP07-1100	5.5		1.1	<1.2	1.8	11	13.9	2.2	<0.0065	<0.0065	<0.0065	<0.0065	<0.0065
23G-SB21	3/28/2008	23G-SB21-1071	6.5		1	<1.2 U	3.3	14	18.3	6.6	<0.0074	<0.0074	<0.0074	<0.0074	<0.0074
23G-SB22	3/28/2008	23G-SB22-1073	6		<0.82 U	1.9	19	120	139	8.1	<0.014	<0.014	<0.014	<0.014	<0.014
23G-SB22	3/28/2008	23G-SB22-1074	6.5		<0.68 U	<1.5 U	11	49	60	6.2	<0.017	<0.017	<0.017	<0.017	<0.017
23G-SB22	3/28/2008	23G-SB22-1075	7		<0.21 U	<1.2 U	<1.2 U	2.3	2.3	4.6	<0.0088	<0.0088	<0.0088	<0.0088	<0.0088
23G-SB23	3/28/2008	23G-SB23-1076	6.5		<0.25 U	<1.2 U	<1.3 U	6.6	6.6	2.3	<0.0059	<0.0059	<0.0059	<0.0059	<0.0059
23G-SB23	3/28/2008	23G-SB23-1077	7.5		<0.26 U	<1.2 U	5.6	19	24.6	1.7	<0.0086	<0.0086	<0.0086	<0.0086	<0.0086
23G-SB24	3/28/2008	23G-SB24-1078	6		<0.29 U	<1.2 U	7.8	34	41.8	4.9	<0.0079	<0.0079	<0.0079	<0.0079	<0.0079
23G-SB24	3/28/2008	23G-SB24-1079	7		0.96	<1.2 U	5.3	28	34.3	6.8	<0.011	<0.011	<0.011	<0.011	<0.011 U

Table 4
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Sample Location	Sample Date	Sample ID	Sample Depth (feet)		TPH as Gasoline C6-C12	TPH as Jet Fuel C10-C16	TPH as Diesel C12-C24	TPH as Motor Oil C24-C36	Total TPH *	Lead	Benzene	Toluene	Ethylbenzene	Total Xylenes**	Naphthalene
				Method	8015	8015	8015	8015		6010	8260	8260	8260	8260	8260
				Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
				Comparison Value	5,900	6,700	6,700	9,400	NA	800	5.6	46,000	29	2,600	20
				Comparison Reference	PRC nr	PRC nr	PRC nr	PRC nr	NA	PRG ind	PRG ind	PRG ind	PRG ind	PRG ind	PRG ind
Phase II															
23G-SB25	3/28/2008	23G-SB25-1080	6		<0.33 U	<1.5 U	10	38	48	6.6	<0.01	<0.01	<0.01	<0.01	<0.01
23G-SB25	3/28/2008	23G-SB25-1081	7.5		<0.32 U	<1.2 U	1.7	7.1	8.8	4.4	<0.012	<0.012	<0.012	<0.012	<0.012
23G-SB26	3/28/2008	23G-SB26-1082	6		<0.38 U	<1.9 U	<1.9 U	5.8	5.8	2.6	<0.0092	<0.0092	<0.0092	<0.0092	<0.0092
23G-SB26	3/28/2008	23G-SB26-1083	7.5		<0.34 U	3.6	20	170	190	6.4	<0.013	<0.013	<0.013	<0.013	<0.013 U
23G-SB27	3/28/2008	23G-SB27-1084	5.5		2.4	2.9	4.3	10	16.7	1.8	<0.011	<0.011	0.0043	<0.011	0.058
23G-SB27	3/28/2008	23G-SB27-1085	7		0.58	3.8	19	81	100.6	5.7	<0.019	<0.019	0.024	<0.019	<0.019 U
23G-SB28	3/28/2008	23G-SB28-1086	6		<0.29 U	<14 U	550	2,100	2,650	51	<0.008	<0.008	<0.008	<0.008	<0.008 U
23G-MW01	4/9/2008	23G-MW01-1104	5.5		<0.22 U	<1.2 U	<1.2 U	3.5	3.5	3.1	<0.0074	<0.0074	<0.0074	<0.0074	<0.0074
23G-MW01	4/9/2008	23G-MW01-1105	7		<0.36 U	<1.2	<1.2	<6	<6	3.7	<0.007	<0.007	<0.007	<0.007	<0.007
23G-MW01 (dup)	4/9/2008	23G-MW01-1115	7		<0.21 U	<1.2 U	<1.2 U	3.8	3.8	3	<0.0073	<0.0073	<0.0073	<0.0073	<0.0073
23G-MW02	4/9/2008	23G-MW02-1107	6		<0.25 U	<1.3 U	<1.3 U	3.7	3.7	1.8	<0.0097	<0.0097	<0.0097	<0.0097	<0.0097
23G-MW02	4/9/2008	23G-MW02-1108	8		0.06 J-	2.4	12	49	61.1 J-	11	<0.018	<0.018	<0.018	<0.018	<0.018
23G-MW02 (dup)	4/9/2008	23G-MW02-1116	8		0.065 J-	2.1	11	44	55.1	9.1	<0.015	<0.015	<0.015	<0.015	<0.015
23G-MW03	4/9/2008	23G-MW03-1111	7.5		0.022	<1.2 U	<1.2	1.9	1.9	3	<0.0089	0.00083	<0.0089	<0.0089	<0.0089
23G-MW03	4/9/2008	23G-MW03-1112	11.5		0.028	<1.2	<1.2	0.91	0.9	1.4	<0.0073	<0.0073	<0.0073	<0.0073	<0.0073
23G-SB29	4/9/2008	23G-SB29-1089	5 - 5.5		910 J+	53	100	190	1,200 J+	7.8	<1.6	0.098	0.084	0.21	<1.6 U
23G-SB29	4/9/2008	23G-SB29-1090	7		0.078	1.2	6.2	13	19.3	8.9	<0.016	0.003	<0.016	<0.016	<0.016

Table 4
Phases I and II, Soil Sampling Results for AOC 23G, February through April 2008
Alameda Point, Alameda, California

Notes:	Methods are per USEPA Test Methods for Evaluating Solid Waste, SW-846 Physical/Chemical Methods (1996)
PRC nr	Non-Residential PRC [U.S. Department of the Navy, 2001, Preliminary Remediation Criteria and Closure Strategy for Petroleum-Contaminated Sites at Alameda Point, Alameda, California, May 16]
PRG ind	Industrial PRG [EPA Region 9, Screening Levels for Chemical Contaminants, PRG Table, July 2008; October 2004 (for lead only)]
mg/kg	Milligrams per kilogram
µg/kg	Micrograms per kilogram
TPH	Total Petroleum Hydrocarbons
PQL	Practical Quantitation Limit
<	Not detected at the indicated PQL
#	The numeric value shown is the MDL. The PQL exceeds the cleanup goal requirement because of elevated concentrations of other target analytes in the sample; however, the MDL is at or below the cleanup goal requirement
J	Concentration is estimated
J+	Concentration is estimated with possible high bias
J-	Concentration is estimated with possible low bias
U	Originally detected by the lab but qualified as non-detected as a result of blank contamination
UJ	Practical quantitation limit is estimated
*	Total TPH is the sum of concentrations for Gasoline, Diesel, and Motor Oil; it does not include Jet Fuel as it overlaps both gasoline and diesel
**	Total Xylenes is the sum of concentrations for m,p-Xylene and o-Xylene

Table 5
Phases I and II, Groundwater Sampling Results for AOC 23G, February through April 2008
Alameda Point, Alameda, California

Sample Location	Sample Date	Sample Depth (feet)		TPH as Gasoline C6-C12	TPH as Jet Fuel C10-C16	TPH as Diesel C12-C24	TPH as Motor Oil C24-C36	Total TPH *	Lead	Benzene	Toluene	Ethylbenzene	Total Xylenes**	Naphthalene
			Method	8015	8015	8015	8015		6010	8260	8260	8260	8260	8260
			Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
			Comparison Value	NA	NA	NA	NA	4,839	28	2,420	5,000	430	100	62
			Comparison Reference	NA	NA	NA	NA	PRC 100	PRC 100	PRC 100	PRC pr	PRC pr	ESL	ESL
Phase I														
23G-HP01	2/27/2008	8		<50 U	<50 U	78	370	448	<3	<0.5	0.1 J	<0.5	<0.5	<2
23G-HP02	2/27/2008	7.5 - 10		<50 U	<50 U	280	1,300	1,580	<3	<0.5	<0.5	<0.5	<0.5	<2
23G-HP02 (dup)	2/27/2008	7.5 - 10		<50	<50 U	250	1,200	1,450	<3	<0.5	<0.5	<0.5	<0.5	<2
23G-HP04	2/27/2008	7.5 - 10		990 J+	910	180	88 J	1,258 J+	<3	57	8.4	120	9.6	230
Phase II														
23G-HP05	3/28/2008	8.5 - 10		220 J+	<53 U	<50 U	<300	220 J+	<3	<0.5	0.1 J	<0.5	0.1	<2
23G-HP06	3/28/2008	8 - 10		<50 U	<50 U	<50	<300	<300	<3	<0.5	<0.5	<0.5	<0.5	<2
23G-HP07	3/28/2008	8.5 - 10		<50 U	<50	<50	<300	<300	<3	<0.5	<0.5	<0.5	<0.5	<2
23G-MW01	4/18/2008	8		<50 U	<50	<50	<300	<300	<3	<0.5	<0.5	<0.5	<0.5	<2 UJ
23G-MW02	4/18/2008	7		<50 U	<50	<50	<300	<300	<3	<0.5	<0.5	<0.5	<0.5	<2 UJ
23G-MW02 (dup)	4/18/2008	7		<50 U	<50	<50	<300	<300	<3	<0.5	<0.5	<0.5	<0.5	<2 UJ
23G-MW03	4/18/2008	8		<50 U	<50 U	<50	<300	<300	<3	<0.5	<0.5	<0.5	<0.5	<2

Table 5
Phases I and II, Groundwater Sampling Results for AOC 23G, February through April 2008
Alameda Point, Alameda, California

Notes:	Methods are per USEPA Test Methods for Evaluating Solid Waste, SW-846 Physical/Chemical Methods (1996)
	Highlighted cells indicate exceedances of the comparison value
PRC pr	Marine ecological risk PRC point of receptor [U.S. Department of the Navy, 2001, Preliminary Remediation Criteria and Closure Strategy for Petroleum-Contaminated Sites at Alameda Point, Alameda, California, May 16]
PRC 100	Marine ecological risk PRC 100 feet from shoreline [Navy, 2001]
ESL	California Water Board ESL [Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, ESL from Table F-4a, Marine Aquatic Habitat, revised May 2008]
µg/L	Micrograms per liter
TPH	Total Petroleum Hydrocarbons
PQL	Practical Quantitation Limit
<	Not detected at the indicated PQL
J	Concentration is estimated
J+	Concentration is estimated with possible high bias
U	Originally detected by the lab but qualified as non-detected as a result of blank contamination
UJ	Practical quantitation limit is estimated
*	Total TPH is the sum of concentrations for Gasoline, Diesel, and Motor Oil; it does not include Jet Fuel as it overlaps both gasoline and diesel
**	Total Xylenes is the sum of concentrations for m,p-Xylene and o-Xylene

CALIFORNIA
Water Boards

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

San Francisco Bay Regional Water Quality Control Board

May 7, 2015 (RAS)
GeoTracker Global ID: T0600109975

NAVFAC HQ, BRAC PMO
Attn.: Ms. Cecily Sabedra
BRAC Environmental Coordinator
1455 Frazee Road; Suite 900
San Diego, California 92108
via email: cecily.sabedra@navy.mil

Subject: **No Further Action for Former TC Sump, Former Alameda Naval Air Station, Alameda County**

Dear Mr. Robinson:

This letter confirms that based on the available information, and with the provision that the information provided is accurate and representative of site conditions, there was no significant release of petroleum and therefore; no further action (NFA) is required for the former petroleum site summarized below:

Site Name	GeoTracker Case ID
Former TC Sump	T10000002020

Basis and Assumptions

This NFA status applies only to releases of petroleum fuel and fuel constituents associated with the site referenced above. While the information provided indicates that the above-referenced petroleum site is satisfactorily cleaned up to standards consistent with unrestricted land use (e.g., residential), we may reconsider these findings should new information be discovered regarding previously undetected contamination.

Conditions and Requirements

Any monitoring wells that will no longer be used must be properly destroyed pursuant to equivalent requirements of Alameda County Environmental Health. For information regarding these requirements, please contact Alameda County Environmental Health at (510) 567-6858. Documentation of well destruction shall be submitted to the Regional Water Board.

Please contact Ross Steenson of my staff at (510) 622-2445 or ross.steenson@waterboards.ca.gov if you have any questions regarding this matter.

Sincerely,

Terry Seward for

Digitally signed by Terry Seward
DN: cn=Terry Seward, o=SF Water Board, ou=GWPD, email=Tseward@waterboards.ca.gov, c=US
Date: 2015.05.08 10:35:30 -07'00'

Bruce H. Wolfe
Executive Officer

Attachments: Site Closure Summary Form

cc: Mr. William McGinnis, william.mcginnis1@navy.mil
Mr. Dave Darrow, dave.c.darrow.ctr@navy.mil
Ms. Xuan-Mai Tran, tran.xuan-mai@epamail.epa.gov
Mr. James Fyfe, james.fyfe@dtsc.ca.gov
Mr. David Elias, delias@waterboards.ca.gov
Ms. Yemia Hashimoto, yemia.hashimoto@waterboards.ca.gov
Mr. Peter Russell, peter@russellresources.com

SITE CLOSURE SUMMARY

Former TC Sump

Date: May 7, 2015

1. AGENCY INFORMATION	
Agency Name: SF Bay Regional Water Quality Control Board	**Address:** 1515 Clay Street, Suite 1400
City/State/Zip: Oakland, CA 94612	**Phone:** (510) 622-2300
Responsible Staff Person: Ross Steenson, CHG	**Title:** Engineering Geologist
Division: Groundwater Protection	**Program:** Dept. of Defense Cleanup (DoD)

2. SITE AND FILE INFORMATION	
Site Name: Alameda Naval Air Station, TC Sump	
Parent Military Base: Alameda Naval Air Station (NAS)	
Site Address: 2450 Saratoga Street, Suite 200, Alameda, CA 94501	
Site Latitude: 37.7807856776284	**Site Longitude:** -122.308559303075
Site Type: Military Cleanup	
WB Case No.: 2199.9285	**GeoTracker Case ID:** T10000002020
WB File No. : 2199.9285	**Paperless Office ID:** T0600109975 (Alameda NAS Parent ID)

3. RESPONSIBLE PARTY:
Company/Agency: Department of the Navy, BRAC Program Management Office West **Contact Name:** Ms. Cecily Sabedra **Contact Title:** BRAC Environmental Coordinator **Street Address:** 1455 Frazee Road, Suite 900 **City, State, Zip Code:** San Diego, CA 94108-4310 **Tel. No.:** (619) 532-0972 **E-mail:** cecily.sabedra@navy.mil

4. SITE DESCRIPTION, LAND USE, AND BENEFICIAL USE
Site Size and Description: The site consists of about 0.01 acres (10-foot radius around TC Sump) located in the central south portion of Alameda NAS, west of Saratoga Street. TC Sump was part of a drainage system that routed fuel fluids from former fueling pits west of the hangar buildings (Buildings 20 through 24) along a north-south alignment to the aircraft run-up areas (believed to be engine-warming areas) to Structures 451A and 451B. A geophysical survey conducted in 2010 indicates that the sump no longer exists and was most likely removed during construction of Building 25. Fluid from the fueling pits was routed over 1,700 feet to the TC Sump. The pipelines were grouted in place in 2001. The nearest surface water body is San Francisco Bay (Sea Plane Lagoon), located about 170 feet south, southeast of the site.
Vicinity: To the north, east, and west is open space. To the south is Sea Plane Lagoon.
Site Plan Map Attached: Figure – Site Plan
Current Site Use(s): Commercial mixed used
Future Land Use(s): Commercial mixed use (includes residential) (Figure 18, Roma Design Group, 2006).

SITE CLOSURE SUMMARY – Former TC Sump

4. SITE DESCRIPTION, LAND USE, AND BENEFICIAL USE (CONTINUED)

Beneficial Uses: Alameda NAS lies within the East Bay Plain groundwater sub-basin (number 2-9.04) of the Santa Clara Valley groundwater basin (Figure 2-10 of Basin Plan). The existing and potential beneficial uses for groundwater include industrial process, industrial service, and agricultural water supply (Table 2-2 of Basin Plan). Note that municipal and domestic supply beneficial uses are excluded from the shallow groundwater beneficial use list due to the exception to drinking water policy discussed in the next section. The existing and potential beneficial uses for the Lower San Francisco Bay surface water include industrial service supply; ocean, commercial, and sport fishing; shellfish harvesting; estuarine habitat; fish migration; preservation of rare and endangered species; fish spawning; wildlife habitat; contact and noncontact water recreation; and navigation (Table 2-1 of Basin Plan).

Exceptions to Drinking Water Policy: In response to the Navy's July 10, 2003, exception to drinking water policy request, Regional Water Board staff issued a concurrence on July 21, 2003, that groundwater in the first two water bearing zones west of Saratoga Street at Alameda NAS meets exception criteria included in the SWRCB Resolution 88-63 and Regional Water Board Resolution No. 89-39, "Sources of Drinking Water." This site is located within the area that meets the exception criteria.

5. RELEASE INFORMATION

Source	Capacity or dimensions	Contents	How Closed?	Date	Latitude (decimal degrees)	Longitude (decimal degrees)
TC Sump	60 gal.	Heating Oil	Removed	Before 1994	37.7807856776284	-122.308559303075
Fuel Lines	Unknown	Fuel	Grouted in place	2001	'--	'--

6. SITE CHARACTERIZATION AND CONCEPTUAL SITE MODEL

Cause and description of release: There does not appear to have been a significant release from the former TC Sump based on soil and groundwater sampling of the area located in and around the former TC Sump.

Groundwater (GW)	**Depth to first GW**: Between about 4 feet bgs to 5 feet bgs.
	GW gradient direction: East
	GW sampled?: Yes (6 grab groundwater locations)
GW monitoring wells	**GW monitoring wells installed?**: No
	Total number of monitoring wells used in support of closure decision: none
	Status of MWs: There are no monitoring wells at the site.

SITE CLOSURE SUMMARY – Former TC Sump

7. CLEANUP STANDARDS AND SITE REMEDIATION

Describe basis for cleanup standards: Soil: residential PRC; groundwater: marine ecological PRC.

Describe risk-based approach to develop cleanup standards: The screening criteria are presented in the September 2009 *Final Technical Memorandum, Update to Preliminary Remediation Criteria and Closure Strategy for Petroleum-Contaminated Sites, Petroleum Program at Alameda Point, Alameda, California* (Battelle, 2009). The criteria include the ESLs (risk-based and non-risk-based criteria) and the PRCs (risk-based). The PRCs are used for evaluating residual concentrations against criteria consistent with the future land use and for evaluating discharge to the Bay (marine ecological receptor PRC). For chemicals and exposure pathways that have no PRC (e.g., TPH in groundwater where the potential beneficial use of groundwater includes drinking water), then an ESL may be used. The document also describes the groundwater PRC for protection of marine ecological receptors and how it varies based on distance from the shoreline.

Describe remediation efforts for soil and groundwater: None.

8. CLOSURE CRITERIA CHECKLIST

1a. Contamination sources are identified and evaluated

- √ ***Leak/spill sources (tanks, sumps, pipelines, etc.) are identified and controlled***
- √ ***The pollutant source zone (sorbed/entrained residual pollutants and free product that sustain groundwater & vapor plumes) is identified and delineated***

Comments: Yes.

1b. The site is adequately characterized

- √ ***Site history, hydrology, and hydrogeology are characterized***
- √ ***The nature & extent (lateral and vertical) of pollutants are characterized in soil, groundwater & soil gas, as necessary***

Comments: Yes. In 2010, seven soil samples were collected around the former TC Sump and analyzed for TPH-gasoline, TPH-jet fuel, TPH-diesel, TPH-motor oil, BTEX, MTBE, 1,2-DCA, and PAHs. Many of the constituents were not detected, and the detected concentrations were low. For example, in soil, the maximum total TPH concentration was 183 mg/kg. The maximum total TPH detected in groundwater was 387 µg/L, but the downgradient result was non-detect. All of the soil results are below residential use criteria. All of the groundwater results are below discharge-to-the-bay criteria. Soil and groundwater data collected in the vicinity of the two former USTs indicate no significant release.

1c. Exposure pathways, receptors, and potential risks, threats, and other environmental concerns are identified and assessed

- √ ***Nearby receptors (wetlands, streams, wells, homes, schools, businesses, etc.) are identified***
- √ ***Groundwater & vapor migration/exposure pathways, natural & artificial (storm drains, sewer lines, buried channels, abandoned wells, etc.) are assessed***
- √ ***Reasonably anticipated land and water use scenarios have been considered***
- √ ***Actual and potential risks to receptors and adverse effects to beneficial uses are assessed***

Comments: Yes.

8. CLOSURE CRITERIA CHECKLIST (CONTINUED)

2a. Contaminant sources are remediated to the extent feasible

- √ *The technical and economic feasibility of source remediation methods/technologies have been evaluated*
- √ *Feasible source remediation technologies have been implemented*
- √ *Appropriate source remediation performance monitoring has been conducted*
- √ *Source mass removal has been documented*
- √ *The effects of source remediation on groundwater/vapor plume behavior have been evaluated*

Comments: Yes.

2b. Unacceptable risks to human health, ecological health, and sensitive receptors, considering current and future land and water uses, are mitigated

- √ *Necessary & appropriate corrective actions have been implemented*
- √ *Confirmation sampling, monitoring, and/or risk management measures demonstrate that risks are mitigated*

Comments: Yes.

2c. Unacceptable threats to groundwater and surface water resources, considering existing and potential beneficial uses, are mitigated

- √ *Necessary & appropriate corrective actions have been implemented*
- √ *Confirmation sampling, monitoring, and/or risk management measures demonstrate that threats are mitigated*

Comments: Yes.

3a. Groundwater plumes are stable or decreasing (For petroleum groundwater plumes, stability is usually a sufficient criterion. For solvent or other non-petroleum groundwater plumes, closure should be supported by evident of a decreasing plume in time and space.)

- √ *Appropriate plume monitoring has confirmed the lateral and vertical extent over time*
- √ *Spatial and temporal trends for pollutants, including parent and breakdown products, have been evaluated*
- √ *Spatial and temporal trends for natural attenuation indicators have been evaluated*
- √ *Evidence of breakdown to acceptable end products is documented*
- √ *Plume concentrations are decreasing and the plume is not moving or expanding*

Comments: Yes.

8. CLOSURE CRITERIA CHECKLIST (CONTINUED)

3b. Cleanup standards have been met or can be met in a reasonable timeframe

- √ ***The estimated timeframe to achieve cleanup standards throughout the affected area is evaluated***
- √ ***The anticipated timeframe for beneficial use of the affected and nearby water resources is evaluated***
- √ ***The potential to adversely affect beneficial uses is assessed considering cleanup and beneficial use timeframes, hydrogeologic conditions, and the CSM***

Comments: Yes.

3c. Risk management measures are appropriate, documented, and do not require future Water Board oversight

- √ ***Necessary risk management measures (land use restrictions, engineered vapor barriers, soil management plans, etc.) are implemented and documented***
- √ ***Risk management measures do not require future Water Board oversight***

Comments: Not applicable. Nevertheless, the City of Alameda Ordinance 2824 (Marsh Crust Ordinance) restricts disturbance of soil at the former Alameda NAS between depths of 5 to 15 feet bgs due to potential elevated concentrations of semivolatile organic compounds (e.g., PAHs). In the vicinity of this site, the threshold depth is 10 feet bgs.

9. NFA BASIS AND ASSUMPTIONS

This NFA status applies only to releases of petroleum fuel and fuel constituents associated with the site referenced above. While the information provided indicates that there was no significant release from the above-referenced former site, we may reconsider these findings should new information be discovered regarding previously undetected contamination.

10a. NFA CONDITIONS AND REQUIREMENTS

This NFA requires that any wells located on this site be decommissioned (unless still in use for monitoring nearby contamination). Any monitoring wells that will no longer be used must be properly destroyed pursuant to requirements of Alameda County Environmental Health. For information regarding these requirements, please contact Alameda County Environmental Health at (510) 567-6858. Documentation of well destruction shall be submitted to the Regional Water Board

10b. LAND USE CONTROLS/COVENANTS

No land use controls/covenants are necessary regarding the site.

11. ADDITIONAL COMMENTS – None

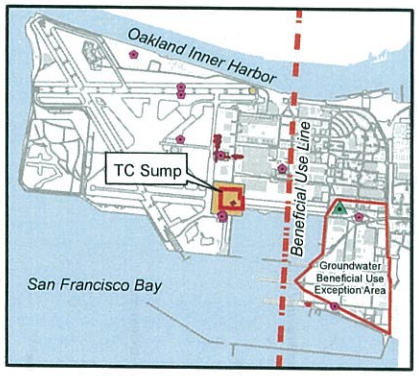
SITE CLOSURE SUMMARY – Former TC Sump

12. TECHNICAL REPORTS, CORRESPONDENCE, ETC., THAT THIS CLOSURE RECOMMENDATION WAS BASED UPON		
REPORTS ON FILE	**Where is report(s) filed?**: Paperless Office (Place Number T0600109975)	
Concurrence that Groundwater Meets the Exception Criteria in the SWRCB Sources of Drinking Water Resolution 88-63 and SFBRWQCB Resolution 89-39 for Groundwater West of Saratoga Street, at Alameda Point, City of Alameda, Alameda County. CA Regional Water Quality Control Board, San Francisco Bay.		July 21, 2003
Alameda Point Preliminary Development Concept. Prepared for the Alameda Reuse and Redevelopment Authority by the Roma Design Group.		February 1, 2006
Final Technical Memorandum, Update to Preliminary Remediation Criteria and Closure Strategy for Petroleum-Contaminated Sites, Petroleum Program at Alameda Point, Alameda, California. Battelle.		September 2009
Final Technical Memorandum TC Drain Sump Assessment, TC Sump Drain Assessment, Alameda Point, Alameda, California. Gilbane		October 5, 2010
San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan). California Regional Water Quality Control Board, San Francisco Bay Region.		June 29, 2013
Petroleum Site Closeout Report, TC Sump, Alameda Point, Alameda, California. Gilbane		March 2, 2015

Attachments: Figures (Site Plan)

Notes and Abbreviations (in alphabetical order):

AST – Aboveground storage tank.
bgs – Below ground surface.
CAA – Corrective action area.
CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act.
1,2-DCA – 1,2-dichloroethane.
ESL – Environmental screening level (San Francisco Bay Regional Water Quality Control Board, Environmental Screening Levels, 2008), as agreed per the 2009 *Final Technical Memorandum, Update to Preliminary Remediation Criteria and Closure Strategy for Petroleum-Contaminated Sites, Petroleum Program at Alameda Point.*
gal. – gallon.
IR – Installation Restoration
mg/kg – milligrams per kilogram, or parts per million.
MTBE – Methyl tertiary butyl ether.
NFA – No further action (aka closure).
PAHs – Polycyclic aromatic hydrocarbons.
PRC – Preliminary remediation criteria per the 2009 *Final Technical Memorandum, Update to Preliminary Remediation Criteria and Closure Strategy for Petroleum-Contaminated Sites, Petroleum Program at Alameda Point, Alameda, California.*
SWRCB – State Water Resources Control Board.
TPH – Total Petroleum Hydrocarbons.
TPHg – TPH as gasoline.
TPHd – TPH as diesel.
TPHjf – TPH as jet fuel.
TPHmo – TPH as motor oil.
TTPH – total TPH; sum of TPH gasoline, TPH diesel, TPH jet fuel, and TPH motor oil.



Approximate Groundwater Flow Direction

E

CAAC-TC05

TC Sump

CAAC-TC07

CAAC-TC03

CAAC-TC04

CAAC-TC01

023-SS-002

CAAC-TC02

CAAC-TC06

TC Sump

Historical Sample Locations

Soil

Recent Sample Locations

Soil and Groundwater

Soil

TC Gasoline Drainage Pipeline

Storm Drain Line

Source:
Figure 2, TC Drain Sample Location Map, Shaw Environmental, Inc., 07/13/10

N

5 0 5

Feet

Gilbane

No Further Action Sites
Former Naval Air Station Alameda
Alameda, California

Figure 1
Sample Location Map
TC Sump

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Table 2
Soil Sampling Results for TC Drain Investigation, March 23, 2010
Alameda Point, Alameda, California

Sample Location	Sample Date	Sample Depth (feet)		TPH as Gasoline C6-C12	TPH as Jet Fuel C10-C16	TPH as Diesel C12-C24	TPH as Motor Oil C24-C36	Total TPH *	Lead	Benzene	Toluene	Ethylbenzene	Total Xylenes**	Naphthalene	MTBE	1,2-Dichloroethane	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene***	Pyrene
			Method	8015	8015	8015	8015	8015	6010	8260	8260	8260	8260	8260	8260	8260	8270-SIM	8270-SIM	8270-SIM	8270-SIM	8270-SIM	8270-SIM	8270-SIM	8270-SIM	8270-SIM	8270-SIM	8270-SIM	8270-SIM	8270-SIM	8270-SIM	8270-SIM	8270-SIM	8270-SIM	8270-SIM
			Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
			PRC	950	429	429	600	NA	80	1.1	930	5.7	300	3.9	39	0.45	22	310	3,400	3,400	17,000	0.15	0.015	0.15	1,700	0.38	3.8	0.015	2,300	2,300	0.15	3.9	NA	1,700
CAA C																																		
CTO11-CAAC-TC01	3/23/2010	3.5 - 4		1.2	1.2	2.7	21	24.9	2.8	<0.0058	<0.0058	<0.0058	<0.0058	<0.0058	<0.0058	<0.0058	<0.0058	<0.0058	<0.0058	<0.0058	<0.0058	<0.0058	<0.0058	<0.0058	<0.0058	<0.0058	<0.0058	<0.0058	<0.0058	0.008	<0.0058	<0.0058	<0.0058	<0.0058	0.022
CTO11-CAAC-TC02	3/23/2010	3 - 3.5		<0.27	8.8	11	72	83	7.5	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0057	<0.0057	<0.0057	<0.0057	<0.0057	<0.0057	<0.0057	0.0064	<0.0057	<0.0057	<0.0057	<0.0057	0.0088	<0.0057	<0.0057	<0.0057	<0.0057	0.028
CTO11-CAAC-TC03	3/23/2010	3 - 3.5		110 J+	5.1	11	62	183 J+	8.5	<0.0054	<0.0054	<0.0054	<0.0054	<0.0054	<0.0054	<0.0054	<0.0057	<0.0057	<0.0057	<0.0057	0.0081	<0.0057	<0.0057	<0.0057	<0.0057	<0.0057	<0.0057	<0.0057	0.028	<0.0057	<0.0057	<0.0057	0.016	0.021
CTO11-CAAC-TC04	3/23/2010	3 - 3.5		530	27	7.5	15	552.5	9.3	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	0.0072	0.0089	0.0074	<0.0055	<0.0055	<0.0055	<0.0055	0.007	<0.0055	<0.0055	0.0066	<0.0055	0.013	0.008	<0.0055	<0.0055	0.023	0.017
CTO11-CAAC-TC05	3/23/2010	3.5 - 4		<0.24	<1.3	5	57	62	2.4	<0.0063	<0.0063	<0.0063	<0.0063	<0.0063	<0.0063	<0.0063	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062	<0.0062
CTO11-CAAC-TC06	3/23/2010	3 - 3.5		<0.22	<1.1	<1.1	<5.7	<5.7	2.5	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011
CTO11-CAAC-TC07	3/23/2010	3 - 3.5		4.2	2.4	4.5	14	22.7	24	<0.0059	<0.0059	<0.0059	<0.0059	<0.0059	<0.0059	<0.0059	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027

Notes:

Green highlighted cells indicate non-detect reporting limit values that equal or exceed the comparison criteria, as indicated in Table 1.

Methods are per USEPA Test Methods for Evaluating Solid Waste, SW-846 Physical/Chemical Methods (1996).

mg/kg	Milligrams per kilogram
TPH	Total Petroleum Hydrocarbons
MTBE	Methyl Tert-Butyl Ether
NA	Not Applicable
PRC	Preliminary Remediation Criteria
8270- SIM	Method SW8270C Selected Ion Monitoring (SIM)
RL	Reporting Limit
<	Not detected at the RL.
J+	Concentration is estimated with possible high bias.
*	Total TPH is the sum of concentrations for Gasoline, Diesel, and Motor Oil; it does not include Jet Fuel as it overlaps both gasoline and diesel.
**	Total Xylenes is the sum of concentrations for m,p-Xylene and o-Xylene.
***	Phenanthrene does not have a PRC in the Updated Petroleum Strategy.

Table 3
Groundwater Sampling Results for TC Drain Investigation, March 23,2010
Alameda Point, Alameda, California

Sample Location	Sample Date	Sample Depth (feet)		TPH as Gasoline C6-C12	TPH as Jet Fuel C10-C16	TPH as Diesel C12-C24	TPH as Motor Oil C24-C36	Total TPH *	Lead	Benzene	Toluene	Ethylbenzene	Total Xylenes**	MTBE	1,2-Dichloroethane	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene***	Pyrene
			Method	8015	8015	8015	8015	8015	6010	8260	8260	8260	8260	8260	8260	8270-SIM	8270-SIM	8270-SIM	8270-SIM	8270-SIM	8270-SIM	8270-SIM	8270-SIM	8270-SIM	8270-SIM	8270-SIM	8270-SIM	8270-SIM	8270-SIM	8270-SIM	8270-SIM	8270-SIM	8270-SIM
			Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
			PRC	NA	NA	NA	NA	1,400	8.1	21	215	25	100	3,520	25	1.4	300	40	300	300	300	300	300	300	300	300	300	300	11	300	300	1.4	NA	300
CAA C																																	
CTO11-CAAC-TC01	3/23/2010	5 - 7		320	<50	<50	<300	320	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.09	<0.09	0.3	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09 UJ	0.3	<0.09	<0.09	<0.09	<0.09	0.3
CTO11-CAAC-TC02	3/23/2010	5 - 7		520	<50	<50	<300	520	2.1	0.13 J	<0.5	<0.5	<0.5	<0.5	<0.5	<0.09	<0.09	0.7	<0.09	0.1	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09 UJ	0.3	<0.09	<0.09	0.2	<0.09	0.2
CTO11-CAAC-TC04	3/23/2010	5 - 7		310	<50	<50	<300	310	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.09	<0.09	0.4	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	0.1	<0.09	<0.09	<0.09	<0.09	<0.09
CTO11-CAAC-TC05	3/23/2010	6 - 8		<50	<50	<50	<300	<300	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.09	<0.09	0.2	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	0.6
CTO11-CAAC-TC06	3/23/2010	5 - 7		130	<50	<50	<300	130	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.09	<0.09	0.8	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	0.5	<0.09	<0.09	<0.09	<0.09	0.2
CTO11-CAAC-TC07	3/23/2010	5 - 7		1,200 J+	<50	<50	<300	1,200 J+	1.4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.09	<0.09	0.9	<0.09	0.2	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09 UJ	0.3	0.1	<0.09	<0.09	0.2	0.3

Notes:

Methods are per USEPA Test Methods for Evaluating Solid Waste, SW-846 Physical/Chemical Methods (1996).

Sample depth is represented as screen interval.

µg/L Micrograms per liter
TPH Total Petroleum Hydrocarbons
MTBE Methyl Tert-Butyl Ether
NA Not Applicable
PRC Preliminary Remediation Criteria
8270-SIM Method SW8270C Selected Ion Monitoring (SIM)
RL Reporting Limit

< Not detected at the RL.
UJ Reporting limit is estimated.
J Concentration is estimated.
J+ Concentration is estimated with possible high bias.

* Total TPH is the sum of concentrations for Gasoline, Diesel, and Motor Oil; it does not include Jet Fuel as it overlaps both gasoline and diesel.
** Total Xylenes is the sum of concentrations for m,p-Xylene and o-Xylene.
*** Phenanthrene does not have a PRC in the Updated Petroleum Strategy.

CALIFORNIA
Water Boards

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

San Francisco Bay Regional Water Quality Control Board

July 7, 2016 (YTH)
GeoTracker ID: T10000005740

NAVFAC HQ, BRAC PMO
Attn. Ms. Cecily Sabedra
33000 Nixie Way, Bldg 50
San Diego, California 92147
Via email: cecily.sabedra@navy.mil

Subject: **No Further Action for CAA 12N, Former Alameda Naval Air Station, Alameda County**

Dear Ms. Sabedra:

This letter confirms that based on the available information, and with the provision that the information provided is accurate and representative of site conditions, there was no significant release of petroleum and therefore; no further action (NFA) is required for the former corrective action area (CAA) summarized below:

Site Name	GeoTracker Case ID
CAA 12N	T10000005740

Basis and Assumptions

This NFA status applies only to releases of petroleum fuel and fuel constituents associated with the site referenced above. While the information provided indicates that the above-referenced CAA is satisfactorily cleaned up to standards consistent with unrestricted land use (e.g., residential), we may reconsider these findings should new information be discovered regarding previously undetected contamination.

Conditions/Requirements

Any monitoring wells that will no longer be used must be properly destroyed pursuant to equivalent requirements of Alameda County Environmental Health. For information regarding these requirements, please contact Alameda County Environmental Health at (510) 567-6858. Documentation of well destruction shall be submitted to the Regional Water Board.

Please contact Yemia Hashimoto of my staff at (510) 622-2756 or yemia.hashimoto@waterbaords.ca.gov if you have any questions regarding this matter.

Sincerely,

Terry Seward for

Digitally signed by Terry Seward 4
DN: cn=Terry Seward 4, o=SF Water Board, ou=GWPD, email=tseward@waterboards.ca.gov, c=US
Date: 2016.07.11 15:00:51 -07'00'

Bruce H. Wolfe
Executive Officer

Attachments: Site Closure Summary Form

Cc (via Email):

Mr. William McGinnis, william.mcginnis1@navy.mil
Mr. Dave Darrow, dave.c.darrow.ctr@navy.mil
Ms. Xuan-Mai Tran, tran.xuan-mai@epamail.epa.gov
Mr. James Fyfe, james.fyfe@dtsc.ca.gov
Mr. David Elias, delias@waterboards.ca.gov
Mr. Peter Russell, peter@russellresources.com

SITE CLOSURE SUMMARY

CAA 12 N

Date: July 7, 2016

1. AGENCY INFORMATION	
Agency Name: SF Bay Regional Water Quality Control Board	**Address:** 1515 Clay Street, Suite 1400
City/State/Zip: Oakland, CA 94612	**Phone:** (510) 622-2300
Responsible Staff Person: Yemia Hashimoto, CHG	**Title:** Engineering Geologist
Division: Groundwater Protection	**Program:** Dept. of Defense Cleanup (DoD)

2. SITE AND FILE INFORMATION	
Site Name: Alameda Naval Air Station, CAA 12N	
Parent Military Base: Alameda Naval Air Station (NAS)	
Site Address: 2450 Saratoga Street, Suite 200, Alameda, CA 94501	
Site Latitude (decimal degrees): 37.7788676707204	**Longitude:** -122.30938622124
Site Type: Military Cleanup	
WB Case No.: 2199.9285	**GeoTracker Case ID:** T10000005740
WB File No.: 2199.9285	**Paperless Office ID:** T0600109975 (Alameda NAS Parent ID)

3. RESPONSIBLE PARTY:

Company/Agency: Department of the Navy, BRAC Program Management Office West
Contact Name: Ms. Cecily Sabedra
Contact Title: BRAC Environmental Coordinator
Street Address: 33000 Nixie Way, Bldg 50
City, State, Zip Code: San Diego, CA 92147
Tel. No.: (619) 524-4569
E-mail: cecily.sabedra@navy.mil

4. SITE DESCRIPTION, LAND USE, AND BENEFICIAL USE

Site Size and Description: The site is located in the south-central part of the former Naval Air Station Alameda, west of Saratoga Avenue. The site is west of the Seaplane Lagoon, north of building 461, east of buildings 623 and 494, and south of open space and a road. The CAA 12N site's environmental issue is a footprint of surface soil staining that was observed in 1993. Two storm drains run north-south and one east-west through CAA 12, and one runs through CAA 12N. The nearest downgradient surface water body is Seaplane Lagoon, approximately 50 feet to the east.

Vicinity: CAA 12N is located in an area that previously conducted aircraft parking, refueling, and maintenance activities, in the parking apron in the northern area of CAA 12. No specific petroleum storage or conveyance feature was located at this location, but historical aerial photographs revealed large stains on the northernmost section of

the parking apron. Current site use is commercial/industrial. The site is located within the Tidelands Trust area, which prevents future industrial, retail, commercial, office, or residential uses; future use is open space.
Site Plan Map Attached: Figure 1 – Site Location Map; Figure 2 – Sample Location Map
Current Site Use(s): Commercial/industrial
Future Land Use(s): Open space (Tidelands Trust)
Beneficial Uses: Alameda NAS lies within the East Bay Plain groundwater sub-basin (number 2-9.04) of the Santa Clara Valley groundwater basin (Figure 2-10 of Basin Plan). The existing and potential beneficial uses for groundwater include municipal and domestic water supply, industrial process water supply, industrial service water supply, and agricultural water supply (Table 2-2 of Basin Plan). The existing and potential beneficial uses for the Lower San Francisco Bay surface water include industrial service supply; ocean, commercial, and sport fishing; shellfish harvesting; estuarine habitat; fish migration; preservation of rare and endangered species; fish spawning; wildlife habitat; contact and noncontact water recreation; and navigation (Table 2-1 of Basin Plan).
Exceptions to Drinking Water Policy: In response to the Navy's July 10, 2003, exception to drinking water policy request, Regional Water Board staff issued a concurrence on July 21, 2003, that groundwater in the first two water bearing zones west of Saratoga Street at Alameda NAS meets exception criteria included in the SWRCB Resolution 88-63 and Regional Water Board Resolution No. 88-39, "Sources of Drinking Water." This site is located within the area that meets the exception criteria.

5. RELEASE INFORMATION

Source	Capacity or dimensions	Contents	How Closed?	Date	Latitude (decimal degrees)	Longitude (decimal degrees)
Surface staining	74,000 sq ft estimate	Aircraft fuel/fluids	Not applicable	Not applicable	37.7788676707204	-122.30938622124

6. SITE CHARACTERIZATION AND CONCEPTUAL SITE MODEL

Cause and description of release: Historical aerial photographs examined during 1993, and confirmed by site visits, revealed surface hydrocarbon staining. Historical sources for petroleum releases in the northern parking apron included airplane parking, maintenance and refueling. Leaks of fluids from these activities are the presumed cause of the observed surface staining.

Groundwater (GW)	**Depth to first GW**: Between about 4 feet bgs to 8 feet bgs.
	GW gradient direction: Southeast
	GW sampled?: Yes
GW monitoring wells	**GW monitoring wells installed?**: No
	Total number of monitoring wells used in support of closure decision: 0
	Status of MWs: Not applicable. There are no monitoring wells at the CAA 12N site.

SITE CLOSURE SUMMARY
CAA 12N

7. CLEANUP STANDARDS AND SITE REMEDIATION

Describe basis for cleanup standards: Soil: residential ESLs; groundwater: residential ESLs

Describe risk-based approach to develop cleanup standards: The screening criteria are presented in the September 2009 *Final Technical Memorandum, Update to Preliminary Remediation Criteria and Closure Strategy for Petroleum-Contaminated Sites, Petroleum Program at Alameda Point, Alameda, California* (Battelle, 2009) and updated in the *Technical Memorandum Regarding Second Update to the Petroleum Strategy, Alameda Point (Former Alameda Naval Air Station)* (Regional Water Board, November 20, 2015). The criteria include the ESLs (risk-based and non-risk-based criteria) and background screening strategy for PAHs. The ESLs are used for evaluating residual concentrations against criteria consistent with the future land use and for evaluating discharge to the bay (marine ecological receptor) with attenuation factors based on distance from the shoreline.

Describe remediation efforts for soil and groundwater: None.

8. CLOSURE CRITERIA CHECKLIST (include comments as necessary)

1a Pollutant sources are identified and evaluated

√ ***Leak/spill sources (tanks, sumps, pipelines, etc.) are identified and controlled***

√ ***The pollutant source zone (sorbed/entrained residual pollutants and free product that sustain groundwater & vapor plumes) is identified and delineated***

Comments: Yes. The suspected surface source was aircraft operations and maintenance that may have resulted in fuel and aviation fluid leaks in the vicinity. These source activities have been discontinued.

1b The site is adequately characterized

√ ***Site history, hydrology, and hydrogeology are characterized***

√ ***The nature & extent (lateral and vertical) of pollutants are characterized in soil, groundwater & soil gas, as necessary***

Comments: Yes. Investigation and sampling activities were performed in 1995, 2000, 2001 and 2013. From 10 boring locations, 21 soil samples were collected and analyzed for TPH fractions, BTEX, MTBE, lead, 1,2-DCA, and PAHs. ESLs were not exceeded for BTEX, MTBE, lead, 1,2-DCA, nor PAHs in any of the soil samples collected. In one soil sample collected in 1995 from 4 feet bgs at location 026-004-007, TPHd was detected at 1700 mg/kg, exceeding the ESL of 230 mg/kg. In 2013, boring CAA12N-SB005 was advanced southeast (and downgradient) of 026-004-007 and only low levels of TPH fractions were detected at 2 and 4 feet bgs. To further investigate any elevated concentrations across the site, boring, CAA12N-SB01 was advanced southeast of historical location CAA12-DGS-DP04, where the maximum TPHmo concentration had been detected at 690 mg/kg (TPHmo ESL is 11,000 mg/kg). Only low levels of TPH fractions were detected in the samples collected from CAA12N-SB01 in 2013.

Groundwater was collected from six locations (one location in 2000, and five locations in 2013). The samples collected in 2013 were analyzed for TPH fractions, BTEX compounds, MTBE, lead, 1,2-DCA, and PAHs; the one sample collected in 2000 was analyzed for the same constituents except PAHs. Groundwater samples had no ESL exceedances of the compounds analyzed; however, the non-detect reporting limits for lead and some individual PAH compounds were greater than the ESL criteria for the 2013 samples.

SITE CLOSURE SUMMARY
CAA 12N

1c Exposure pathways, receptors, and potential risks, threats, and other environmental concerns are identified and assessed

- √ *Nearby receptors (wetlands, streams, wells, homes, schools, businesses, etc.) are identified*
- √ *Groundwater & vapor migration/exposure pathways, natural & artificial (storm drains, sewer lines, buried channels, abandoned wells, etc.) are assessed*
- √ *Reasonably anticipated land and water use scenarios have been considered*
- √ *Actual and potential risks to receptors and adverse affects to beneficial uses are assessed*

Comments: Yes.

2a Pollutant sources are remediated to the extent feasible

- √ *The technical and economic feasibility of source remediation methods/technologies have been evaluated*
- √ *Feasible source remediation technologies have been implemented*
- √ *Appropriate source remediation performance monitoring has been conducted*
- √ *Source mass removal has been documented*
- √ *The effects of source remediation on groundwater/vapor plume behavior have been evaluated*

Comments: Yes.

2b Unacceptable risks to human health, ecological health, and sensitive receptors, considering current and future land and water uses, are mitigated

- √ *Necessary & appropriate corrective actions have been implemented*
- √ *Confirmation sampling, monitoring, and/or risk management measures demonstrate that risks are mitigated*

Comments: Yes.

2c Unacceptable threats to groundwater and surface water resources, considering existing and potential beneficial uses, are mitigated

- √ *Necessary & appropriate corrective actions have been implemented*
- √ *Confirmation sampling, monitoring, and/or risk management measures demonstrate that threats are mitigated*

Comments: Yes.

3a Groundwater plumes are stable or decreasing[1]

- √ *Appropriate plume monitoring has confirmed the lateral and vertical extent over time*
- √ *Spatial and temporal trends for pollutants, including parent and breakdown products, have*

been evaluated

√ *Spatial and temporal trends for natural attenuation indicators have been evaluated*

√ *Evidence of breakdown to acceptable end products is documented*

√ *Plume concentrations are decreasing and the plume is not moving or expanding*

Comments: Yes.

3b Cleanup standards have been met or can be met in a reasonable timeframe

√ *The estimated timeframe to achieve cleanup standards throughout the affected area is evaluated*

√ *The anticipated timeframe for beneficial use of the affected and nearby water resources is evaluated*

√ *The potential to adversely affect beneficial uses is assessed considering cleanup and beneficial use timeframes, hydrogeologic conditions, and the CSM*

Comments: Yes.

3c Risk management measures are appropriate, documented, and do not require future Water Board oversight

√ *Necessary risk management measures (land use restrictions, engineered vapor barriers, soil management plans, etc.) are implemented and documented*

√ *Risk management measures do not require future Water Board oversight*

Comments: Not applicable. Nevertheless, the City of Alameda ordinance 2824 (Marsh Crust Ordinance) restricts disturbance of soil at the former Alameda NAS between depths of 5 to 15 feet bgs due to potential elevated concentrations of semivolatile organic compounds (e.g., PAHs). In the vicinity of this site, the threshold depth is 10 feet bgs.

9. NFA BASIS AND ASSUMPTIONS

This NFA status applies only to releases of petroleum fuel and fuel constituents associated with the CAA referenced above. While the information provided indicates that there was no significant release from the above-referenced CAA, we may reconsider these findings should new information be discovered regarding previously undetected contamination.

10a. NFA CONDITIONS AND REQUIREMENTS

This NFA requires that any wells located on this site be decommissioned (unless still in use for monitoring nearby contamination). Any monitoring wells that will no longer be used must be properly destroyed pursuant to requirements of the Alameda County Environmental Health. For information regarding these requirements, please contact the Alameda County Environmental Health at (510) 567-6858. Documentation of well destruction shall be submitted to the Regional Water Board.

SITE CLOSURE SUMMARY
CAA 12N

10b. LAND USE CONTROLS/COVENANTS
No land use controls/covenants are necessary regarding this CAA.

11. ADDITIONAL COMMENTS
None.

12. TECHNICAL REPORTS, CORRESPONDENCE, ETC., THAT THIS CLOSURE RECOMMENDATION WAS BASED UPON

REPORTS ON FILE	**Where is report(s) filed?**: Paperless Office (Place Number T10000001435)
Concurrence that Groundwater Meets the Exception Criteria in the SWRCB Sources of Drinking Water Resolution 88-63 and SFBRWQCB Resolution 89-39 for Groundwater West of Saratoga Street, at Alameda Point, City of Alameda, Alameda County. CA Regional Water Quality Control Board, San Francisco Bay.	July 21, 2003
Final Technical Memorandum, Update to Preliminary Remediation Criteria and Closure Strategy for Petroleum-Contaminated Sites, Petroleum Program at Alameda Point, Alameda, California. Battelle.	September 2009
San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan). California Regional Water Quality Control Board, San Francisco Bay Region.	June 29, 2013
Petroleum Site Closeout Report, CAA 12-N, Alameda Point, Alameda, California. Gilbane.	February 2016

Attachments: Figure 1 (Site Location Map), Figure 2 (Sample Location Map)

Notes and Abbreviations (in alphabetical order):

bgs – Below ground surface.
ESL – Environmental screening level (San Francisco Bay Regional Water Quality Control Board, Environmental Screening Levels, 2016), as agreed per the November 20, 2015 *Draft Technical Memorandum Regarding Second Update to the Petroleum Strategy, Alameda Point (Former Alameda Naval Air Station)*.
mg/kg – milligrams per kilogram, or parts per million.
NFA – No further action (aka closure).
PAHs – Polycyclic aromatic hydrocarbons.
SWRCB – State Water Resources Control Board.
TPH – Total Petroleum Hydrocarbons.
TPHd – TPH as diesel
TPHmo – TPH as motor oil

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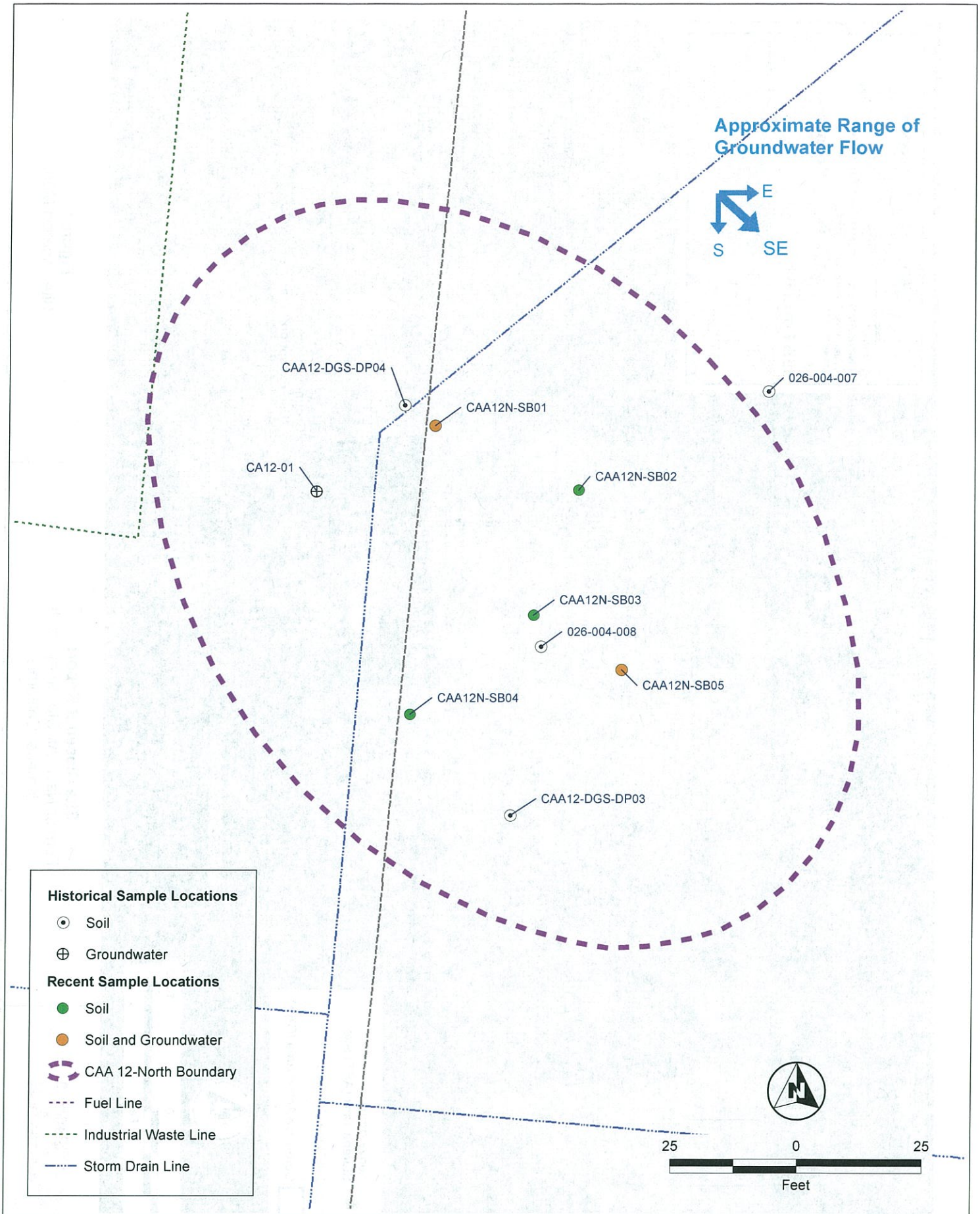
Gilbane

Site Closeout Report
Former Naval Air Station Alameda
Alameda, California

Figure 1
Site Location Map



Gilbane

Site Closeout Report
Former Naval Air Station Alameda
Alameda, California

Figure 2
Sample Location Map
CAA 12-North

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GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

San Francisco Bay Regional Water Quality Control Board

October 14, 2016 (YTH)
GeoTracker Global ID: T0600109975

NAVFAC HQ, BRAC PMO
Attn.: Ms. Cecily Sabedra
33000 Nixie Way, Bldg 50
San Diego, California 92147
Via email: cecily.sabedra@navy.mil

Subject: No Further Action for CAA 12S, Former Alameda Naval Air Station, Alameda County

Dear Ms. Sabedra:

This letter confirms that based on the available information, and with the provision that the information provided is accurate and representative of site conditions, site investigation and corrective actions are complete and no further action (NFA) is required for the site summarized below:

Site Name	GeoTracker Case ID
CAA-12S	T10000009242

Basis and Assumptions

This NFA status applies only to releases of petroleum fuel and fuel constituents associated with the site referenced above. While the information provided indicates that the above-referenced site is satisfactorily cleaned up to standards consistent with commercial/industrial and open space land use, we may reconsider these findings should land use change or new information be discovered regarding previously undetected contamination.

This NFA is based on the assumption that shallow groundwater beneath the site is not suitable for drinking water or other potential uses (such as landscape and garden irrigation), contains residual hydrocarbons, and should not be used, extracted, or discharged to surface water without further assessment and mitigation of potential risks. In addition, residual petroleum hydrocarbons are anticipated to degrade over time.

Conditions/Requirements

Residual petroleum contamination remains in the subsurface. To ensure protection of public health, safety, or the environment, and to be consistent with the land and groundwater use assumptions above, the following conditions/requirements apply:

- No residential land use: The site cannot support residential use in a 3,900 square foot area of the site, due to potentially unacceptable direct contact risk from residual petroleum contamination in soil (see Figure 4 in attached Site Closure Summary).
- No grading, excavation, or subsurface activities without a soil management plan: Any work involving soil excavation, trenching, or groundwater contact must be conducted pursuant to a soil management plan that is acceptable to Regional Water Board staff. The plan must include procedures for proper notification, handling, and disposal of any potentially contaminated soil or groundwater encountered during construction or removed from the site. Current and future site workers, tenants, and landowners must be notified of the soil management requirements for the property.
- No shallow groundwater use: Shallow groundwater beneath the site cannot be used for drinking water or irrigation due to the potential risk from residual petroleum contamination.
- Notify Regional Water Board – land/groundwater use change: The Regional Water Board must be notified of any proposed changes in future land or groundwater use at the site. Formal Regional Water Board concurrence may be required.
- Decommission monitoring wells: Any monitoring wells that will no longer be used must be properly destroyed pursuant to equivalent requirements of Alameda County Environmental Health. For information regarding these requirements, please contact Alameda County Environmental Health at (510) 567-6858. Documentation of well destruction shall be submitted to the Regional Water Board.

Land Use Controls/Covenants

This site would normally require a deed restriction prohibiting residential land use and to secure the above conditions and requirements necessary to protect public health, safety, or the environment. However, an acceptable and comparable institutional control was recorded June 30, 2014 as part of the Naval Air Station Alameda Public Trust Exchange Act, Chapter 734 of the Statutes of 2000, as amended, and is known as the Tidelands Trust. The Tidelands Trust holds the land in public trust for statewide public purposes, including commerce, navigation, fisheries, preservation of lands in their natural state, and other recognized public trust uses that do not include residential land use. The Tidelands Trust is sufficiently protective and an additional deed restriction is not necessary.

Closing

Attached please find the site closure summary. Please contact Yemia Hashimoto of my staff at (510) 622-2756 or yemia.hashimoto@waterboards.ca.gov if you have any questions regarding this matter.

Sincerely,

Terry Seward for

Digitally signed by Terry Seward 4
DN: cn=Terry Seward 4, o=SF Water Board, ou=GWPD, email=tseward@waterboards.ca.gov, c=US
Date: 2016.10.14 09:34:29 -07'00'

Bruce H. Wolfe
Executive Officer

Attachments: Site Closure Summary Form

Cc (via Email):

Mr. William McGinnis, william.mcginnis1@navy.mil
Mr. Dave Darrow, dave.c.darrow.ctr@navy.mil
Ms. Xuan-Mai Tran, tran.xuan-mai@epamail.epa.gov
Mr. James Fyfe, james.fyfe@dtsc.ca.gov
Mr. David Elias, delias@waterboards.ca.gov
Mr. Peter Russell, peter@russellresources.com

SITE CLOSURE SUMMARY

Former CAA 12S

Date: October 14, 2016

1. AGENCY INFORMATION	
Agency Name: SF Bay Regional Water Quality Control Board	**Address**: 1515 Clay Street, Suite 1400
City/State/Zip: Oakland, CA 94612	**Phone**: (510) 622-2300
Responsible Staff Person: Yemia Hashimoto, CHG	**Title**: Engineering Geologist
Division: Groundwater Protection and Waste Containment	**Program**: Dept. of Defense (DoD)

2. SITE AND FILE INFORMATION	
Site Name: Alameda Naval Air Station, CAA 12S	
Parent Military Base: Alameda Naval Air Station (NAS)	
Site Address: 2450 Saratoga Street, Suite 200, Alameda, CA 94501	
Site Latitude (decimal degrees): 37.7783727560056	**Longitude:** -122.309945999191
Site Type: Military Cleanup	
WB Case No.: 2199.9285	**GeoTracker Case ID**: T10000009242
WB File No.: 2199.9285	**Paperless Office ID**: T0600109975 (Alameda NAS Parent ID)

3. RESPONSIBLE PARTY:

Company/Agency: Department of the Navy, BRAC Program Management Office West
Contact Name: Ms. Cecily Sabedra
Contact Title: BRAC Environmental Coordinator
Street Address: 33000 Nixie Way, Bldg 50
City, State, Zip Code: San Diego, CA 92147
Tel. No.: (619) 524-4569
E-mail: cecily.sabedra@navy.mil

4. SITE DESCRIPTION, LAND USE, AND BENEFICIAL USE

Site Size and Description: The site is located in the south-central part of the former Naval Air Station Alameda, west of Saratoga Avenue in CAA-12. The site is west of the Seaplane Lagoon, north of building 38, east of building 29, and south of open space. The CAA 12S site is based on a footprint of surface soil staining that was observed in the mid-1990s. Storm drains run north-south and one east-west through CAA 12. The nearest downgradient surface water body is Seaplane Lagoon, approximately 10 feet to the east.

Vicinity: CAA 12S is located in CAA-12, in an area that contained buildings used for aircraft weapons overhaul and testing (building 29) and an acoustical enclosure for aircraft engines (building 28). Both buildings had an associated AST and Building 38 housed an oil-water separator that was removed prior to 2002. CAA 12 had no specific petroleum storage or conveyance feature, but historical aerial photographs revealed large stains that showed

evidence of surface releases in the vicinity of former operations areas 461A and 461B (used for power check pad), located within the current footprint of CAA 12S. The dark surface stains suggested spills or leaks of jet fuel, hydraulic fluid, and oil. Current site use is commercial/industrial. The site is located within the Tidelands Trust area, which holds the land in public trust for statewide public purposes, including commerce, navigation, fisheries, preservation of lands in their natural state, and other recognized public trust uses that do not include residential land use. The Tidelands Trust is sufficiently protective and an additional deed restriction is not necessary.

Site Plan Map Attached: Figure 1 – Site Location Map; Figure 2 – Sample Location Map; Figure 4 – Distribution of Petroleum Hydrocarbons in Soil and Groundwater Samples

Current Site Use(s): Commercial/industrial

Future Land Use(s): Open space (Tidelands Trust)

Beneficial Uses: Alameda NAS lies within the East Bay Plain groundwater sub-basin (number 2-9.04) of the Santa Clara Valley groundwater basin (Figure 2-10 of Basin Plan). The existing and potential beneficial uses for groundwater include municipal and domestic water supply, industrial process water supply, industrial service water supply, and agricultural water supply (Table 2-2 of Basin Plan). The existing and potential beneficial uses for the Lower San Francisco Bay surface water include industrial service supply; ocean, commercial, and sport fishing; shellfish harvesting; estuarine habitat; fish migration; preservation of rare and endangered species; fish spawning; wildlife habitat; contact and noncontact water recreation; and navigation (Table 2-1 of Basin Plan).

Exceptions to Drinking Water Policy: In response to the Navy's July 10, 2003, exception to drinking water policy request, Regional Water Board staff issued a concurrence on July 21, 2003, that groundwater in the first two water bearing zones west of Saratoga Street at Alameda NAS meets exception criteria included in the SWRCB Resolution 88-63 and Regional Water Board Resolution No. 88-39, "Sources of Drinking Water." This site is located within the area that meets the exception criteria.

5. RELEASE INFORMATION

Source	Capacity or dimensions	Contents	How Closed?	Date	Latitude (decimal degrees)	Longitude (decimal degrees)
Surface staining	74,000 sq ft estimate	Aircraft fuel/fluids	Not applicable	Not applicable	37.7783727560056	-122.309945999191

6. SITE CHARACTERIZATION AND CONCEPTUAL SITE MODEL

Cause and description of release: Historical aerial photographs examined during 1993, and confirmed by site visits, revealed surface hydrocarbon staining. Historical sources for petroleum releases in the northern parking apron included spills from engine run-up areas in the vicinity of former operations areas 461A and 461B. Leaks of fluids from these activities are the presumed cause of the observed surface staining.

Groundwater (GW)	**Depth to first GW**: Between about 4 feet bgs to 8 feet bgs.
	GW gradient direction: east to south
	GW sampled?: Yes

SITE CLOSURE SUMMARY
CAA 12S

GW monitoring wells	**GW monitoring wells installed?:** No
	Total number of monitoring wells used in support of closure decision: 0
	Status of MWs: Not applicable. There are no monitoring wells at the CAA 12S site.

7. CLEANUP STANDARDS AND SITE REMEDIATION

Describe basis for cleanup standards: Soil: commercial/industrial ESLs; groundwater: aquatic salt water ecotox ESLs. Typically, samples are also compared to residential criteria, even for sites not expected to permit residential use, because sites meeting residential closure can be closed without restrictions. At this site, the Tidelands Trust serves as a restriction from residential use; therefore, it is unnecessary to compare samples to residential criteria.

Describe risk-based approach to develop cleanup standards: The screening criteria are presented in the September 2009 *Final Technical Memorandum, Update to Preliminary Remediation Criteria and Closure Strategy for Petroleum-Contaminated Sites, Petroleum Program at Alameda Point, Alameda, California* (Battelle, 2009) and updated in the *Technical Memorandum Regarding Second Update to the Petroleum Strategy, Alameda Point (Former Alameda Naval Air Station)* (Regional Water Board, November 20, 2015). The criteria include the ESLs (risk-based and non-risk-based criteria) and background screening strategy for PAHs. The ESLs are used for evaluating residual concentrations against criteria consistent with the future land use and for evaluating discharge to the bay (marine ecological receptor) with attenuation factors based on distance from the shoreline.

Describe remediation efforts for soil and groundwater: None.

8. CLOSURE CRITERIA CHECKLIST (include comments as necessary)

1a Pollutant sources are identified and evaluated

√ ***Leak/spill sources (tanks, sumps, pipelines, etc.) are identified and controlled***

√ ***The pollutant source zone (sorbed/entrained residual pollutants and free product that sustain groundwater & vapor plumes) is identified and delineated***

Comments: Yes. The suspected surface source was aircraft engine run-up operations and maintenance that may have resulted in fuel and aviation fluid leaks in the vicinity. These source activities have been discontinued.

1b The site is adequately characterized

√ ***Site history, hydrology, and hydrogeology are characterized***

√ ***The nature & extent (lateral and vertical) of pollutants are characterized in soil, groundwater & soil gas, as necessary***

Comments: Yes. Investigation and sampling activities were performed in 1995, 2001, 2011, and 2013. From 27 boring locations, 60 soil samples were collected and analyzed for petroleum constituents. Recent investigations (2011 and 2013) included analyses for TPH fractions, BTEX, MTBE, lead, 1,2-DCA, and PAHs, whereas some historical samples did not include all of these analyses. Results of soil and groundwater samples analyzed for BTEX, MTBE, PAHs, 1,2-DCA, and lead did not have concentrations that exceeded commercial/industrial ESLs and aquatic salt water ecotox ESLs, respectively. However, in

soil samples, TPHd concentrations exceeded the commercial/industrial ESLs at 7 (CAA12-DGS-DP01, 026-003-004, CTO06-CAA12S-SB07, CTO06-CAA12S-SB08, CTO06-CAA12S-SB10, CTO06-CAA12S-SB12, CTO06-CAA12S-SB14) central locations delineated by 20 soil samples. TPHd concentrations ranged from 2,572 mg/kg to 11,600 mg/kg in the seven soil samples, exceeding the commercial/industrial ESL of 1,100 mg/kg., TPHd concentrations exceeded the aquatic salt water ecotox ESL of 640 mg/L and ranged from 700 ug/L to 950 ug/L in two central locations delineated by two groundwater samples (026-005-009, CTO06-CAA12S-SB09). The distance-based ESL criteria (distance to surface water body) includes multipliers applied to the aquatic salt water ecotox ESLs to account for the potential to affect wildlife habitats should the plume discharge into the surface water body. For the two groundwater samples analyzed, both were less than the distance-adjusted aquatic salt water ecotox ESL criterion (9,145 ug/L with 14.29 attenuation factor applied). The elevated levels of TPH constituents in soil and groundwater is limited to the center of the site to an area approximately 130 feet long and 30 feet wide and about 60 feet from the Seaplane Lagoon (See Figure 3).

1c Exposure pathways, receptors, and potential risks, threats, and other environmental concerns are identified and assessed

- √ ***Nearby receptors (wetlands, streams, wells, homes, schools, businesses, etc.) are identified***
- √ ***Groundwater & vapor migration/exposure pathways, natural & artificial (storm drains, sewer lines, buried channels, abandoned wells, etc.) are assessed***
- √ ***Reasonably anticipated land and water use scenarios have been considered***
- √ ***Actual and potential risks to receptors and adverse affects to beneficial uses are assessed***

Comments: Yes.

2a Pollutant sources are remediated to the extent feasible

- √ ***The technical and economic feasibility of source remediation methods/technologies have been evaluated***
- √ ***Feasible source remediation technologies have been implemented***
- √ ***Appropriate source remediation performance monitoring has been conducted***
- √ ***Source mass removal has been documented***
- √ ***The effects of source remediation on groundwater/vapor plume behavior have been evaluated***

Comments: Yes.

2b Unacceptable risks to human health, ecological health, and sensitive receptors, considering current and future land and water uses, are mitigated

- √ ***Necessary & appropriate corrective actions have been implemented***
- √ ***Confirmation sampling, monitoring, and/or risk management measures demonstrate that risks are mitigated***

Comments: Yes.

2c Unacceptable threats to groundwater and surface water resources, considering existing and potential beneficial uses, are mitigated

- √ *Necessary & appropriate corrective actions have been implemented*
- √ *Confirmation sampling, monitoring, and/or risk management measures demonstrate that threats are mitigated*

Comments: Yes.

3a Groundwater plumes are stable or decreasing[1]

- √ *Appropriate plume monitoring has confirmed the lateral and vertical extent over time*
- √ *Spatial and temporal trends for pollutants, including parent and breakdown products, have been evaluated*
- √ *Spatial and temporal trends for natural attenuation indicators have been evaluated*
- √ *Evidence of breakdown to acceptable end products is documented*
- √ *Plume concentrations are decreasing and the plume is not moving or expanding*

Comments: Yes. Based on groundwater samples collected from temporary data points from historical (1995, 2000, 2009), and recent (2013) investigations, the affected groundwater is delineated and is stable. Current groundwater concentrations are less than the distance-adjusted aquatic salt water ecotox ESL criterion.

3b Cleanup standards have been met or can be met in a reasonable timeframe

- √ *The estimated timeframe to achieve cleanup standards throughout the affected area is evaluated*
- √ *The anticipated timeframe for beneficial use of the affected and nearby water resources is evaluated*
- √ *The potential to adversely affect beneficial uses is assessed considering cleanup and beneficial use timeframes, hydrogeologic conditions, and the CSM*

Comments: Yes. The potential to affect nearby surface water resources is evaluated. The residual petroleum hydrocarbon concentrations present in site soil are expected to naturally degrade over time. The two groundwater exceedances (one from historical data and one from recent data) were detected above the aquatic salt water ecotox ESLs, but were below the aquatic salt water ecotox values once a distance-based attenuation factor was applied, as described in the updated Petroleum Strategy.

3c Risk management measures are appropriate, documented, and do not require future Water Board oversight

- √ *Necessary risk management measures (land use restrictions, engineered vapor barriers, soil management plans, etc.) are implemented and documented*
- √ *Risk management measures do not require future Water Board oversight*

Comments: The City of Alameda ordinance 2824 (Marsh Crust Ordinance) restricts disturbance of soil at the former Alameda NAS between depths of 5 to 15 feet bgs due to potential elevated concentrations of semivolatile organic compounds (e.g., PAHs). In the vicinity of this site, the threshold depth is 10 feet

bgs. The City of Alameda also restricts the land use based on the Naval Air Station Public Trust Exchange Act, Chapter 734 of the Statutes of 2000, as amended, or otherwise known as the Tidelands Trust. The Tidelands Trust holds the land in public trust for statewide public purposes, including commerce, navigation, fisheries, preservation of lands in their natural state, and other recognized public trust uses that do not include residential.

9. NFA BASIS AND ASSUMPTIONS

This NFA status applies only to releases of petroleum fuel and fuel constituents associated with the site referenced above. The media of concern is soil only, because groundwater samples do not exceed aquatic salt water ecotox ESLs modified with an attenuation factor, and shallow groundwater it not suitable for drinking water or other potential uses due to high TDS.

While the information provided indicates that 7 soil sample locations in an area approximately 130 ft by 30 ft exceed commercial/industrial ESLs (see Figure 3), the petroleum is expected to degrade over time. The exposure pathways that could threaten human health or the environment are not currently complete; there are no receptors in contact with the affected soil. Because the commercial/industrial ESLs are exceeded, this conservatively indicates there is potential for an exposure risk if a receptor is exposed to affected soil (both odor nuisance and direct contact risk). For this site, however, the exposure frequency, time and duration that a receptor (e.g., construction worker) may be in contact with affected soil for direct exposure or odor nuisance is limited by the extent of the contamination and that the site is slated for open space land use into the known future.

We may reconsider these findings should land use change or new information be discovered regarding previously undetected contamination.

10a. NFA CONDITIONS AND REQUIREMENTS

Residual petroleum contamination remains in the subsurface. To ensure protection of public health, safety, or the environment, and to be consistent with the land and groundwater use assumptions above, the following conditions/requirements apply:

- No residential land use: The site cannot support residential use in the 3,900 square foot area of the site (Figure 4), due to potentially unacceptable direct contact risk from residual petroleum contamination in soil.
- No grading, excavation, or subsurface activities without a soil management plan: Any work involving soil excavation, trenching, or groundwater contact must be conducted pursuant to a soil management plan that is acceptable to Regional Water Board staff. The plan must include procedures for proper notification, handling, and disposal of any potentially contaminated soil or groundwater encountered during construction or removed from the site. Current and future site workers, tenants, and landowners must be notified of the soil management requirements for the property.
- No shallow groundwater use: Shallow groundwater beneath the site cannot be used for drinking water or irrigation due to the potential risk from residual petroleum contamination.
- Notify Regional Water Board – land/groundwater use change: The Regional Water Board must be notified of any proposed changes in future land or groundwater use at the site. Formal Regional Water Board concurrence may be required.
- Decommission monitoring wells: Any monitoring wells that will no longer be used must be properly destroyed pursuant to equivalent requirements of Alameda County Environmental Health. For information regarding these requirements, please contact Alameda County Environmental Health at (510) 567-6858. Documentation of well destruction shall be submitted to the Regional Water Board.

SITE CLOSURE SUMMARY
CAA 12S

10b. LAND USE CONTROLS/COVENANTS
This site would normally require a deed restriction prohibiting residential land use and to secure the above conditions and requirements necessary to protect public health, safety, or the environment. However, an acceptable and comparable institutional control was recorded June 30, 2014 as part of the Naval Air Station Alameda Public Trust Exchange Act, Chapter 734 of the Statutes of 2000, as amended, and is known as the Tidelands Trust. The Tidelands Trust holds the land in public trust for statewide public purposes, including commerce, navigation, fisheries, preservation of lands in their natural state, and other recognized public trust uses that do not include residential land uses. The Tidelands Trust is sufficiently protective and an additional deed restriction is not necessary.

11. ADDITIONAL COMMENTS
None.

12. TECHNICAL REPORTS, CORRESPONDENCE, ETC., THAT THIS CLOSURE RECOMMENDATION WAS BASED UPON

REPORTS ON FILE	**Where is report(s) filed?**: Paperless Office (Place Number T10000001435)
Concurrence that Groundwater Meets the Exception Criteria in the SWRCB Sources of Drinking Water Resolution 88-63 and SFBRWQCB Resolution 89-39 for Groundwater West of Saratoga Street, at Alameda Point, City of Alameda, Alameda County. CA Regional Water Quality Control Board, San Francisco Bay.	July 21, 2003
Final Technical Memorandum, Update to Preliminary Remediation Criteria and Closure Strategy for Petroleum-Contaminated Sites, Petroleum Program at Alameda Point, Alameda, California. Battelle.	September 2009
San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan). California Regional Water Quality Control Board, San Francisco Bay Region.	June 29, 2013
Petroleum Site Closeout Report, CAA 12-S, Alameda Point, Alameda, California. Gilbane.	February 2016

Attachments: Figure 1 (Site Location Map), Figure 2 (Sample Location Map), Figure 4 (Distribution of Petroleum Hydrocarbons in Soil and Groundwater samples)

Notes and Abbreviations (in alphabetical order):

bgs – Below ground surface.
ESL – Environmental screening level (San Francisco Bay Regional Water Quality Control Board, Environmental Screening Levels, 2016), as agreed per the November 20, 2015 *Draft Technical Memorandum Regarding Second Update to the Petroleum Strategy, Alameda Point (Former Alameda Naval Air Station)*.
mg/kg – milligrams per kilogram, or parts per million.
NFA – No further action (aka closure).
PAHs – Polycyclic aromatic hydrocarbons.
SWRCB – State Water Resources Control Board.
TPH – Total Petroleum Hydrocarbons.
TPHd – TPH as diesel
TPHmo – TPH as motor oil

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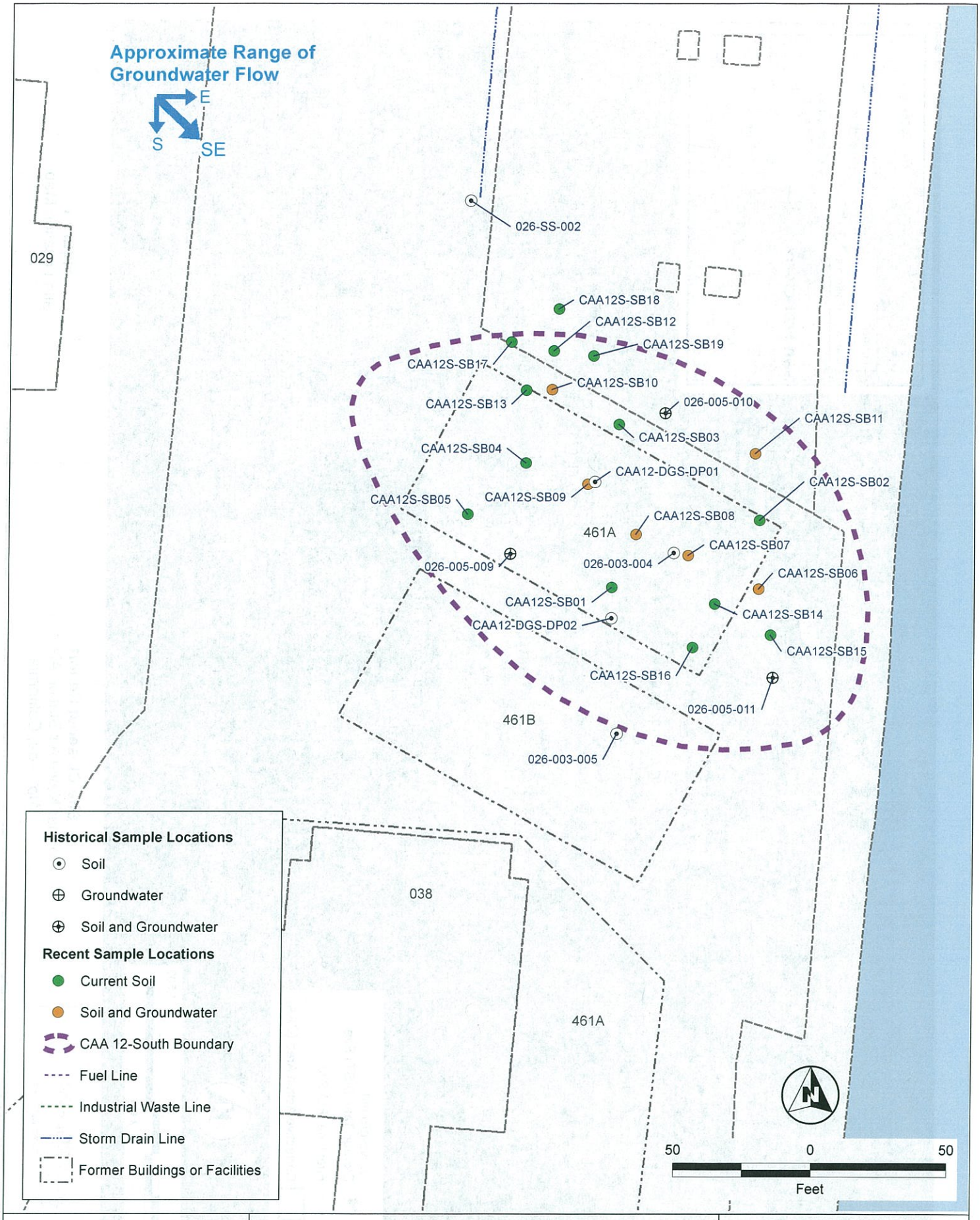
Gilbane

Site Closeout Report
Former Naval Air Station Alameda
Alameda, California

Figure 1
Site Location Map



Gilbane

Site Closeout Report
Former Naval Air Station Alameda
Alameda, California

Figure 2
Sample Location Map
CAA 12-South

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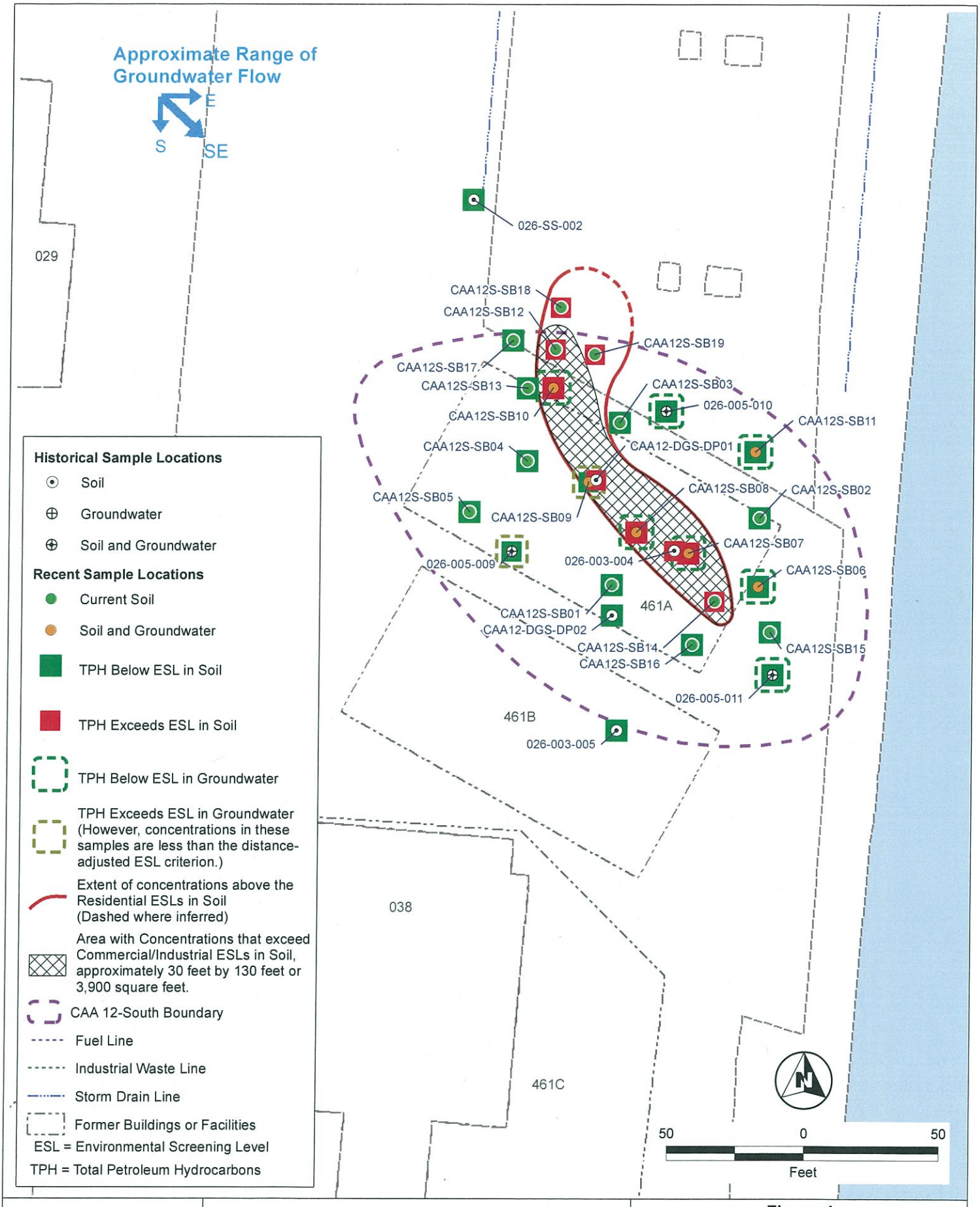

Gilbane

Site Closeout Report
Former Naval Air Station Alameda
Alameda, California

Figure 4
Distribution of
Petroleum Hydrocarbons in
Soil and Groundwater Samples
CAA 12-South

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March 10, 2017 (YTH)
GeoTracker Global ID: T0600109975

NAVFAC HQ, BRAC PMO
Attn. Cecily Sabedra
BRAC Environmental Coordinator
33000 Nixie Way, Bldg 50
San Diego, California 92147
via email: cecily.sabedra@navy.com

Subject: No Further Action for Portion of CAA-B South, Fuel Line (FL)-71, FL-23F East, and FL-109 South, Former Alameda Naval Air Station, Alameda County

Dear Ms. Sabedra:

This letter confirms that based on the available information, and with the provision that the information provided is accurate and representative of site conditions, site investigation is complete and no further action (NFA) is required for the former fuel pipelines located in Corrective Action Area (CAA) B South, summarized below:

Site Name	GeoTracker Case ID
Portion of CAA-B South, Fuel Line (FL)-71, FL-23F East, and FL-109 South	T10000009981

Basis and Assumptions

This NFA status applies only to releases of petroleum fuel and fuel constituents associated with the site referenced above. While the information provided indicates that the above-referenced fuel pipeline site is satisfactorily cleaned up to standards consistent with residential land use, with restrictions on groundwater use, we may reconsider these findings should new information be discovered regarding previously undetected contamination.

This NFA is based on the assumption that shallow groundwater beneath the site is not suitable for drinking water or other potential uses (such as landscape and garden irrigation), contains residual hydrocarbons, and should not be used, extracted, or discharged to surface water without further assessment and mitigation of potential risks. In addition, residual petroleum hydrocarbons are anticipated to degrade over time.

Conditions/Requirements

Residual petroleum contamination remains in the groundwater at concentrations that do not exceed non-drinking water standards for odor and nuisance; however, to ensure protection of public health, safety, and the environment, and to be consistent with the land and groundwater use assumptions above, the following conditions/requirements apply:

1. No shallow groundwater use: Shallow groundwater beneath the site should not be used for drinking water or other potential uses as per the NFA assumptions above.

2. Notify Regional Water Board – land/groundwater use change: The Regional Water Board should be notified in writing of any proposed change in land or groundwater use at the site.

3. Real estate property transfer disclosures: This document shall be included in any subject site property real estate disclosure documentation, in perpetuity.

Land Use Controls/Covenants

Site-specific land use controls and covenants restricting shallow groundwater use are not required for the reasons presented below that mitigate the likelihood of shallow groundwater use:

1. Agricultural and domestic water wells require a 20-foot and 50-foot sanitary seal, respectively, thereby eliminating use of shallow groundwater for agricultural and drinking water purposes.

2. Domestic water on Alameda Point is currently supplied by East Bay Municipal Utility District, which is not anticipated to change.

3. Petroleum hydrocarbons present in site soil and shallow groundwater are expected to naturally degrade over time.

4. Alameda County California Code of Ordinances, Title 6, Chapter 6.88 prohibits the construction of any water well screened in aquifers producing saline, contaminated or polluted water.

5. The City of Alameda Site Management Plan provides risk management measures to be implemented prior to, during, and after site redevelopment.

6. The City of Alameda Ordinance No. 2824 (Marsh Crust Ordinance) restricts disturbance of soil at the former Alameda NAS between depths of 5 to 15 feet below ground surface due to potential elevated concentrations of semi-volatile organic compounds (SVOCs). The restriction requires a City permit, approved site-specific Health and Safety Plan, and special material handling procedures whenever disturbing soil at these depths.

Closing

Attached please find the site closure summary. Please contact Yemia Hashimoto of my staff at (510) 622-2756 or yemia.hashimoto@waterboards.ca.gov if you have any questions regarding this matter.

Sincerely

Terry Seward
for

Digitally signed by Terry Seward 4
DN: cn=Terry Seward 4, o=SF Water Board, ou=GWPD, email=tseward@waterboards.ca.gov, c=US
Date: 2017.03.14 15:39:40 -07'00'

Bruce H. Wolfe
Executive Officer

Attachment: Site Closure Summary Form

cc: Mr. Adam Hill, adam.j.hill@navy.mil
Mr. David Darrow, david.c.darrow.ctr@navy.mil
Ms. Xuan-Mai Tran, tran.xuan-mai@epamail.epa.gov
Ms. Emily Mortazavi, emily.mortazavi@dtsc.ca.gov
Ms. Yemia Hashimoto, yemia.hashimoto@waterboards.ca.gov
Mr. David Elias, delias@waterboards.ca.gov
Mr. Peter Russell, peter@russellresources.com

SITE CLOSURE SUMMARY

Portion of CAA-B South, Fuel Line (FL)-71, FL-23F East, and FL-109 South

Date: March 10, 2017

1. AGENCY INFORMATION	
Agency Name: SF Bay Regional Water Quality Control Board	**Address**: 1515 Clay Street, Suite 1400
City/State/Zip: Oakland, CA 94612	**Phone**: (510) 622-2300
Responsible Staff Person: Yemia Hashimoto, CHG	**Title**: Engineering Geologist
Division: Groundwater Protection and Waste Containment	**Program**: Dept. of Defense (DoD)

2. SITE AND FILE INFORMATION	
Site Name: Alameda Naval Air Station, Portion of CAA-B South, Fuel Line (FL)-71, and FL-23F East, and FL-109 South	
Parent Military Base: Alameda Naval Air Station (NAS)	
Site Address: 2450 Saratoga Street, Suite 200, Alameda, CA 94501	
Site Latitude (decimal degrees): 37.780911348783	**Longitude:** -122.298795830689
Site Type: Military Cleanup	
WB Case No.: 2199.9285	**GeoTracker Case ID**: T10000009981
WB File No.: 2199.9285	**Paperless Office ID***:* T0600109975 (Alameda NAS Parent ID)

3. RESPONSIBLE PARTY:

Company/Agency: Department of the Navy, BRAC Program Management Office West
Contact Name: Ms. Cecily Sabedra
Contact Title: BRAC Environmental Coordinator
Street Address: 33000 Nixie Way, Bldg 50
City, State, Zip Code: San Diego, CA 92147
Tel. No.: (619) 524-4569
E-mail: cecily.sabedra@navy.mil

4. SITE DESCRIPTION, LAND USE, AND BENEFICIAL USE

Site Size and Description:

Corrective Action Area (CAA) B South is a 13-acre site located immediately north of Seaplane Lagoon (the nearest surface water body), in the southern portion of Corrective Action Area (CAA) B (T10000001459) (Figure 1). CAA B South consists of twelve fuel lines, three of which are FL-71, FL-23F and FL-109. FL-23F and FL-109 are further subdivided into an eastern portion labeled FL-23F East and a southern portion labeled FL-109 South, respectively. See Figure 2.

Former FL-71 was removed in September 1998. FL-71 consisted of 728 linear feet of north to south trending steel fuel conveyance pipe. The FL-23F East fuel conveyance steel pipeline was closed in place in August 1998. FL-23F

East consists of the eastern parts of the 17,612 feet long FL-23F pipeline. This includes: approximately one 1,344 foot long west-east pipeline, two 538 foot long west-east pipelines, nine 180 foot long north-south pipelines, and four 246 foot long north-south lines, for a total of 5,024 feet of pipeline. Former FL-109 was removed in July 1998. FL-109 South consisted of the southern portion of the 300 foot long FL-109 pipeline. This includes: approximately one 50 foot long north-south pipeline. See Figure 2.

The FL-71, FL-23F East and FL-109 South areas are currently covered by asphalt and concrete paved areas, which were formerly used as an aircraft tarmac, fuel truck loading station and aircraft staging, maintenance, street, and sediments drying areas. The inactive fuel lines present beneath the former tarmac were used to supply aviation fuel to Alameda NAS aircraft.

Vicinity*:* FL-71, FL-23F and FL-109 are located within CAA B South. They are north of Seaplane Lagoon and generally south of West Tower Avenue and buildings 40 and 41. To the east is Ferry Point roadway. FL-23F continues to the west into CAA B South. FL-109 continues north into CAA-B North.

Site Plan Map Attached*:* Figure 1 – Site Location Map; Figure 2 – Site Plan;

Current Site Use(s): Commercial/industrial. Vacant.

Future Land Use(s): Commercial mixed use (includes residential)

Beneficial Uses: Alameda NAS lies within the East Bay Plain groundwater sub-basin (number 2-9.04) of the Santa Clara Valley groundwater basin (Figure 2-10 of Basin Plan). The existing and potential beneficial uses for groundwater include industrial process, industrial service, agricultural water supply, municipal and domestic supply (Table 2-2 of Basin Plan). Note that municipal and domestic supply beneficial uses are unlikely to be utilized as described in the shallow groundwater beneficial use exception to drinking water policy request discussed in the next section. The existing and potential beneficial uses for the Lower San Francisco Bay surface water include industrial service supply; ocean, commercial, and sport fishing; shellfish harvesting; estuarine habitat; fish migration; preservation of rare and endangered species; fish spawning; wildlife habitat; contact and noncontact water recreation; and navigation (Table 2-1 of Basin Plan).

Exceptions to Drinking Water Policy: In response to the Navy's February, July, and August, 2012, exception to drinking water policy request packages, on September 13, 2012, Regional Water Board staff issued a concurrence letter indicating that groundwater in the water bearing zones between the ground surface and the Yerba Buena Mud Aquitard (about 70 to 79 feet bgs) within the Southeast Portion of Alameda NAS meets exception criteria included in the SWRCB Resolution 88-63 and Regional Water Board Resolution No. 89-39, "Sources of Drinking Water. " Only a small southeastern portion of FL-23F East is located within the area that meets the exception criteria, but the majority of the site has been formally designated as meeting the requirements for an exception to the drinking water policy.

5. RELEASE INFORMATION

Source	Capacity or dimensions	Contents	How Closed?	Date	Latitude (decimal degrees)	Longitude (decimal degrees)
FL-71	6-inch, 728 feet length	Jet fuel	Removed	9/14/1998	37.7816756130514	-122.298305212067
FL-23F East	4-inch to 6 inch, 5,024 feet length	Jet fuel	In-place	8/17/1998	37.7807937349829	-122.299120603608

FL-109 South	6-inch, 50 feet length	Jet fuel	Removed	7/1/1998	37.782924	-122.298027

6. SITE CHARACTERIZATION AND CONCEPTUAL SITE MODEL

Cause and description of release There are no known releases from FL-71 in CAA B South, nor from FL-23F East, nor from FL-109 South. Based on the soil and groundwater samples from investigations collected near FL-71, FL-23F and FL-109, historically in 1995, 1998, 2000, and 2016, there is no indication of a significant release from FL-71, FL-23F East and FL-109 South. However, groundwater concentrations in samples collected during the 2016 investigation did contain residual petroleum hydrocarbons, PAHs, and lead. The concentrations of TPHd did not exceed non-drinking water odor nuisance ESLs, and lead concentrations do not exceed saltwater ecotox aquatic habitat ESLs. PAHs were flagged as estimates at concentrations above the Tier 1 ESLs in three samples, and at reporting limits that exceeded the Tier 1 ESLs in 61 samples.

Groundwater (GW)	**Depth to first GW**: Between about 2 to 4 feet below ground surface (bgs)
	GW gradient direction: South
	GW sampled?: Yes
GW monitoring wells	**GW monitoring wells installed?**: No
	Total number of monitoring wells used in support of closure decision: None
	Status of MWs: No groundwater monitoring wells

7. CLEANUP STANDARDS AND SITE REMEDIATION

Describe basis for cleanup standards: Soil: residential ESLs; groundwater: non-drinking water odor nuisance level ESLs. Typically, samples are compared to residential criteria, even for sites not expected to be developed for residential use, because sites meeting residential closure can be closed without restrictions.

Describe risk-based approach to develop cleanup standards: The screening criteria are presented in the September 2009 *Final Technical Memorandum, Update to Preliminary Remediation Criteria and Closure Strategy for Petroleum-Contaminated Sites, Petroleum Program at Alameda Point, Alameda, California* (Battelle, 2009) and updated in the *Technical Memorandum Regarding Second Update to the Petroleum Strategy, Alameda Point (Former Alameda Naval Air Station)* (Regional Water Board, November 20, 2015). The criteria include the ESLs (risk-based and non-risk-based criteria) and background screening strategy for PAHs. Carcinogenic PAHs in soil are screened using a screening value of 0.62 mg/kg for benzo(a)pyrene (BaP) equivalents as compared to the 95% UCL of the average, with a not-to-exceed concentration of 1 mg/kg.. The ESLs are used for evaluating residual concentrations against criteria consistent with the future land use and for evaluating discharge to the bay (marine ecological receptor) with attenuation factors based on distance from the shoreline.

Describe remediation efforts for soil and groundwater: FL-71 and FL-109 were removed in 1998 and FL-23F East was closed in place in 1998.

8. CLOSURE CRITERIA CHECKLIST (include comments as necessary)

1a Pollutant sources are identified and evaluated

√ ***Leak/spill sources (tanks, sumps, pipelines, etc.) are identified and controlled***

√ ***The pollutant source zone (sorbed/entrained residual pollutants and free product that sustain groundwater & vapor plumes) is identified and delineated***

Comments: Yes. FL-71 and FL-109 were removed and FL-23F East was closed in place. Investigations of soil and groundwater were conducted at the pipelines in 1995, 1998, 2000, and 2016. No significant release of petroleum is present, although residual petroleum and lead is present in groundwater.

1b The site is adequately characterized

√ ***Site history, hydrology, and hydrogeology are characterized***

√ ***The nature & extent (lateral and vertical) of pollutants are characterized in soil, groundwater & soil gas, as necessary***

Comments: Yes, soil and groundwater investigations were conducted in 1995, 1998, 2000, and 2016. At least 58 soil samples and 67 groundwater samples were collected. Soil and groundwater samples were analyzed for total petroleum hydrocarbons (TPH) as diesel, as gasoline, as jet fuel and as motor oil, lead, benzene, ethylbenzene, toluene, xylenes, MTBE, 1,2-dichloroethane and PAHs.

Soil: Residual petroleum hydrocarbons and PAHs in soil exceeded the residential ESLs for historical soil samples collected in 1995 and 1998. The 47 soil samples collected in 2016 did not have Tier 1 residential ESL exceedances for TPH constituents or PAH. PAH concentrations were also not co-located with petroleum hydrocarbons. The imported soils used to fill wetlands and create Alameda Point included sediments dredged from San Francisco Bay that contained PAHs. Therefore, many soil samples collected from Alameda Point contain PAHs at concentrations exceeding background and are not associated with the subject petroleum site investigation. PAHs that are not attributable to a specific point source are referred to as "ambient." The elevated PAH concentrations at this site are likely associated with ambient conditions at Alameda Point. Soil samples with detections of petroleum collected in 2016 have soil concentrations less than those collected from neighboring sample locations collected in 1995 and 1998, which may indicate natural degradation of petroleum hydrocarbons.

Groundwater: Historical groundwater samples analyzed for BTEX compounds, TPHg and TPHd have had ESL exceedances, but 2016 samples were nondetect or were detected at concentrations below the appropriate residential non-drinking water ESLs. PAHs were flagged as estimates at concentrations above the Tier 1 ESLs in three samples, and at reporting limits exceeded the Tier 1 ESLs in 61 samples. Although there is no screening value specific to Alameda Point for PAHs in groundwater, there is for PAHs in soil. Alameda Point used imported soils that contain PAHs at concentrations exceeding background and are often not associated with subject petroleum site investigation, as stated above, and this may contribute to detections of PAHs in groundwater.

1c Exposure pathways, receptors, and potential risks, threats, and other environmental concerns are identified and assessed

√ ***Nearby receptors (wetlands, streams, wells, homes, schools, businesses, etc.) are identified***

√ ***Groundwater & vapor migration/exposure pathways, natural & artificial (storm drains, sewer lines, buried channels, abandoned wells, etc.) are assessed***

- √ ***Reasonably anticipated land and water use scenarios have been considered***
- √ ***Actual and potential risks to receptors and adverse effects to beneficial uses are assessed***

Comments: Yes.

2a Pollutant sources are remediated to the extent feasible

- √ ***The technical and economic feasibility of source remediation methods/technologies have been evaluated***
- √ ***Feasible source remediation technologies have been implemented***
- √ ***Appropriate source remediation performance monitoring has been conducted***
- √ ***Source mass removal has been documented***
- √ ***The effects of source remediation on groundwater/vapor plume behavior have been evaluated***

Comments: Yes.

2b Unacceptable risks to human health, ecological health, and sensitive receptors, considering current and future land and water uses, are mitigated

- √ ***Necessary & appropriate corrective actions have been implemented***
- √ ***Confirmation sampling, monitoring, and/or risk management measures demonstrate that risks are mitigated***

Comments: Yes.

2c Unacceptable threats to groundwater and surface water resources, considering existing and potential beneficial uses, are mitigated

- √ ***Necessary & appropriate corrective actions have been implemented***
- √ ***Confirmation sampling, monitoring, and/or risk management measures demonstrate that threats are mitigated***

Comments: Yes.

3a Groundwater plumes are stable or decreasing[1]

- √ ***Appropriate plume monitoring has confirmed the lateral and vertical extent over time***
- √ ***Spatial and temporal trends for pollutants, including parent and breakdown products, have been evaluated***
- √ ***Spatial and temporal trends for natural attenuation indicators have been evaluated***
- √ ***Evidence of breakdown to acceptable end products is documented***
- √ ***Plume concentrations are decreasing and the plume is not moving or expanding***

Comments: Yes. Based on groundwater samples collected from temporary data points from historical (1995, 1998, 2000), and recent (2016) investigations, the affected groundwater is delineated and is

stable. Current groundwater concentrations are less than the distance-adjusted aquatic salt water ecotox ESL criterion.

3b Cleanup standards have been met or can be met in a reasonable timeframe

- √ ***The estimated timeframe to achieve cleanup standards throughout the affected area is evaluated***
- √ ***The anticipated timeframe for beneficial use of the affected and nearby water resources is evaluated***
- √ ***The potential to adversely affect beneficial uses is assessed considering cleanup and beneficial use timeframes, hydrogeologic conditions, and the CSM***

Comments: Yes. The potential to affect nearby surface water resources is evaluated. The residual petroleum hydrocarbon concentrations present in site soil do not exceed residential non-drinking water ESLs and are expected to continue to naturally degrade over time. The residual hydrocarbons and lead in groundwater are below the aquatic salt water ecotox ESLs.

3c Risk management measures are appropriate, documented, and do not require future Water Board oversight

- √ ***Necessary risk management measures (land use restrictions, engineered vapor barriers, soil management plans, etc.) are implemented and documented***
- √ ***Risk management measures do not require future Water Board oversight***

Comments: The City of Alameda ordinance 2824 (Marsh Crust Ordinance) restricts disturbance of soil at the former Alameda NAS between depths of 5 to 15 feet bgs due to potential elevated concentrations of semivolatile organic compounds (e.g., PAHs). In the vicinity of this site, the threshold depth applies to an excavation deeper than five feet.

9. NFA BASIS AND ASSUMPTIONS

This NFA status applies only to releases of petroleum fuel and fuel constituents associated with the site referenced above. While the information provided indicates that the above-referenced fuel pipeline site is satisfactorily cleaned up to standards consistent with residential land use, we may reconsider these findings should new information be discovered regarding previously undetected contamination.

This NFA is based on the assumption that shallow groundwater beneath the site is not suitable for drinking water or other potential uses (such as landscape and garden irrigation), contains residual hydrocarbons, and should not be used, extracted, or discharged to surface water without further assessment and mitigation of potential risks. In addition, residual petroleum hydrocarbons are anticipated to degrade over time.

10a. NFA CONDITIONS AND REQUIREMENTS

Residual petroleum contamination remains in groundwater at concentrations that do not exceed non-drinking water standards for odor and nuisance; however, to ensure protection of public health, safety, and the environment, and to be consistent with the land and groundwater use assumptions above, the following conditions/requirements apply:

1. No shallow groundwater use: Shallow groundwater beneath the site should not be used for drinking water or other potential uses as per the NFA assumptions above.

2. Notify Regional Water Board – land/groundwater use change: The Regional Water Board should be notified in writing of any proposed change in land or groundwater use at the site.

3. Real estate property transfer disclosures: This document shall be included in any subject site property real estate disclosure documentation, in perpetuity.

10b. LAND USE CONTROLS/COVENANTS

Site-specific land use controls and covenants restricting shallow groundwater use are not required for the reasons presented below that mitigate the likelihood of shallow groundwater use:

1. Agricultural and domestic water wells require a 20-foot and 50-foot sanitary seal, respectively, thereby eliminating use of shallow groundwater for agricultural and drinking water purposes.
2. Domestic water on Alameda Point is currently supplied by East Bay Municipal Utility District, which is not anticipated to change.
3. Petroleum hydrocarbons present in site soil and shallow groundwater are expected to naturally degrade over time.
4. Alameda County Code or Ordinances, Title 6, Chapter 6.88, prohibits the construction of any water well screened in aquifers producing saline, contaminated, or polluted water.
5. The City of Alameda Site Management Plan provides risk management measures to be implemented prior, during, and after site redevelopment.
6. The City of Alameda Ordinance No. 2824 (Marsh Crust Ordinance) restricts disturbance of soil at the former Alameda NAS between depths of 5 to 15 below ground surface due to potential elevated concentrations of semi-volatile organic compounds (SVOCs). The restriction requires a City permit, approved site-specific Health and Safety Plan, and special material handling procedures whenever disturbing soil at these depths.

11. ADDITIONAL COMMENTS

None.

12. TECHNICAL REPORTS, CORRESPONDENCE, ETC., THAT THIS CLOSURE RECOMMENDATION WAS BASED UPON

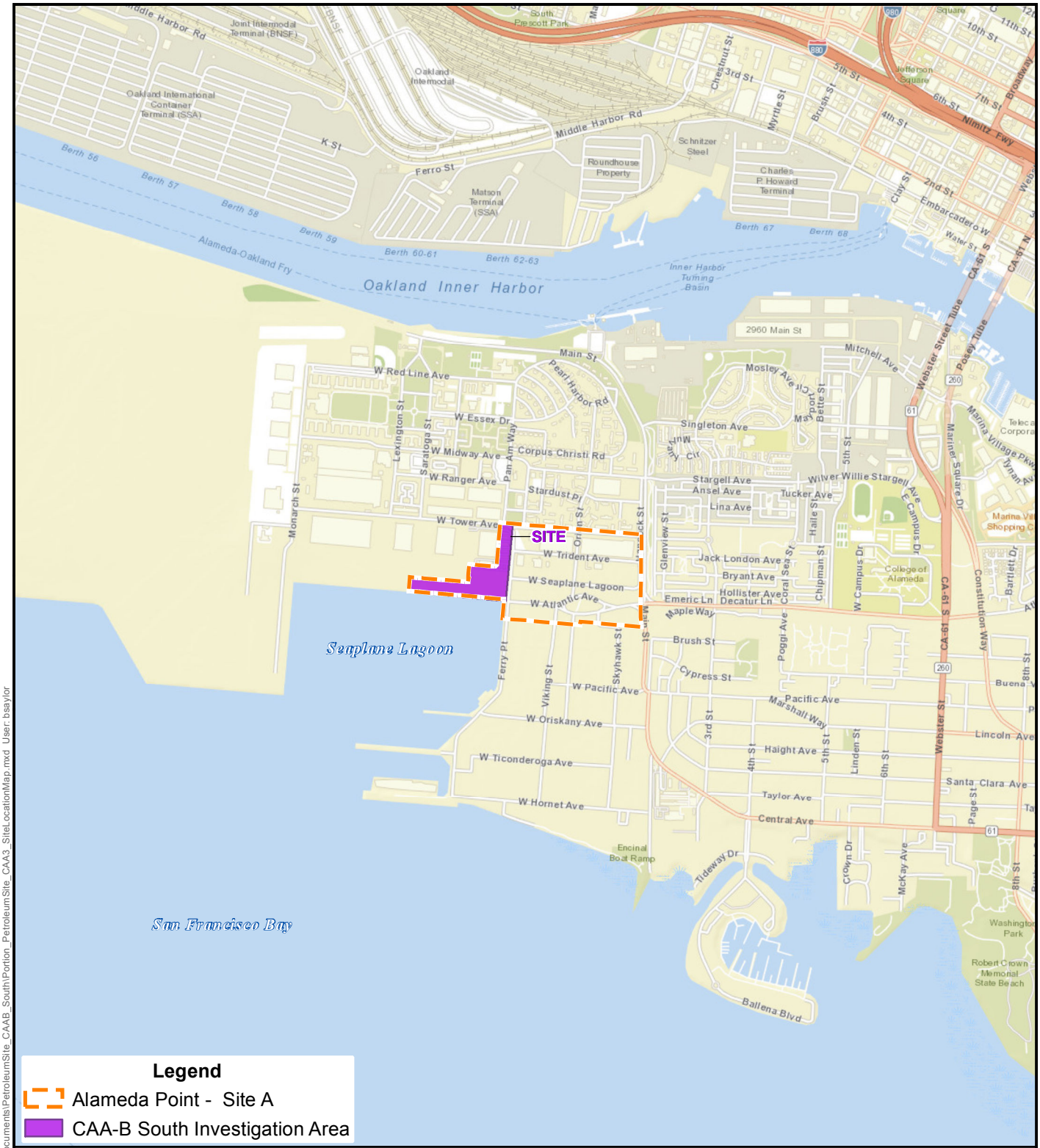
REPORTS ON FILE	**Where is report(s) filed?**: Paperless Office (Place Number T10000001435)
Final Fuel Pipeline Removal Oversight and Sampling, Alameda Point, Alameda, California. Tetra Tech EM Inc.	May 11, 2000
Final Technical Memorandum, Update to Preliminary Remediation Criteria and Closure Strategy for Petroleum-Contaminated Sites, Petroleum Program at Alameda Point, Alameda, California. Battelle.	September 2009

Concurrence with Request for Beneficial Use Exception for Shallow Groundwater at Southeast Portion of the Former Naval Air Station, Alameda Point, Alameda County. CA Regional Water Quality Control Board, San Francisco Bay.	September 13, 2012
San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan). California Regional Water Quality Control Board, San Francisco Bay Region.	June 29, 2013
Technical Memorandum Regarding Second Update to the Petroleum Strategy, Alameda Point (Former Alameda Naval Air Station), Regional Water Quality Control Board, San Francisco Bay.	November 20, 2015
Data Gaps Investigation Summary Report Petroleum Site CAA-B South Former Alameda Naval Air Station, Alameda Point, Alameda, California. Langan Treadwell Rollo.	July 21, 2016

Attachments: Figure 1 (Site Location Map), Figure 2 (Site Plan),

Notes and Abbreviations (in alphabetical order):

bgs – Below ground surface.
ESL – Environmental screening level (San Francisco Bay Regional Water Quality Control Board, Environmental Screening Levels, 2016), as agreed per the November 20, 2015 *Draft Technical Memorandum Regarding Second Update to the Petroleum Strategy, Alameda Point (Former Alameda Naval Air Station)*.
mg/kg – milligrams per kilogram, or parts per million.
NFA – No further action (aka closure).
PAHs – Polycyclic aromatic hydrocarbons.
SWRCB – State Water Resources Control Board.
TPH – Total Petroleum Hydrocarbons.
TPHd – TPH as diesel



Notes:
1. World street basemap is provided through Langan's Esri ArcGIS software licensing and ArcGIS online. Credits: Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN..
2. Map displayed in California State Plane Coordinate System, Zone III, North American Datum of 1983 (NAD83), US Survey Feet.

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Feet

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ALAMEDA POINT - SITE A
Alameda, California

PORTION OF CAA-B SOUTH SITE LOCATION MAP

LANGAN

Date 3/3/2017	Project 731652101	Figure 1

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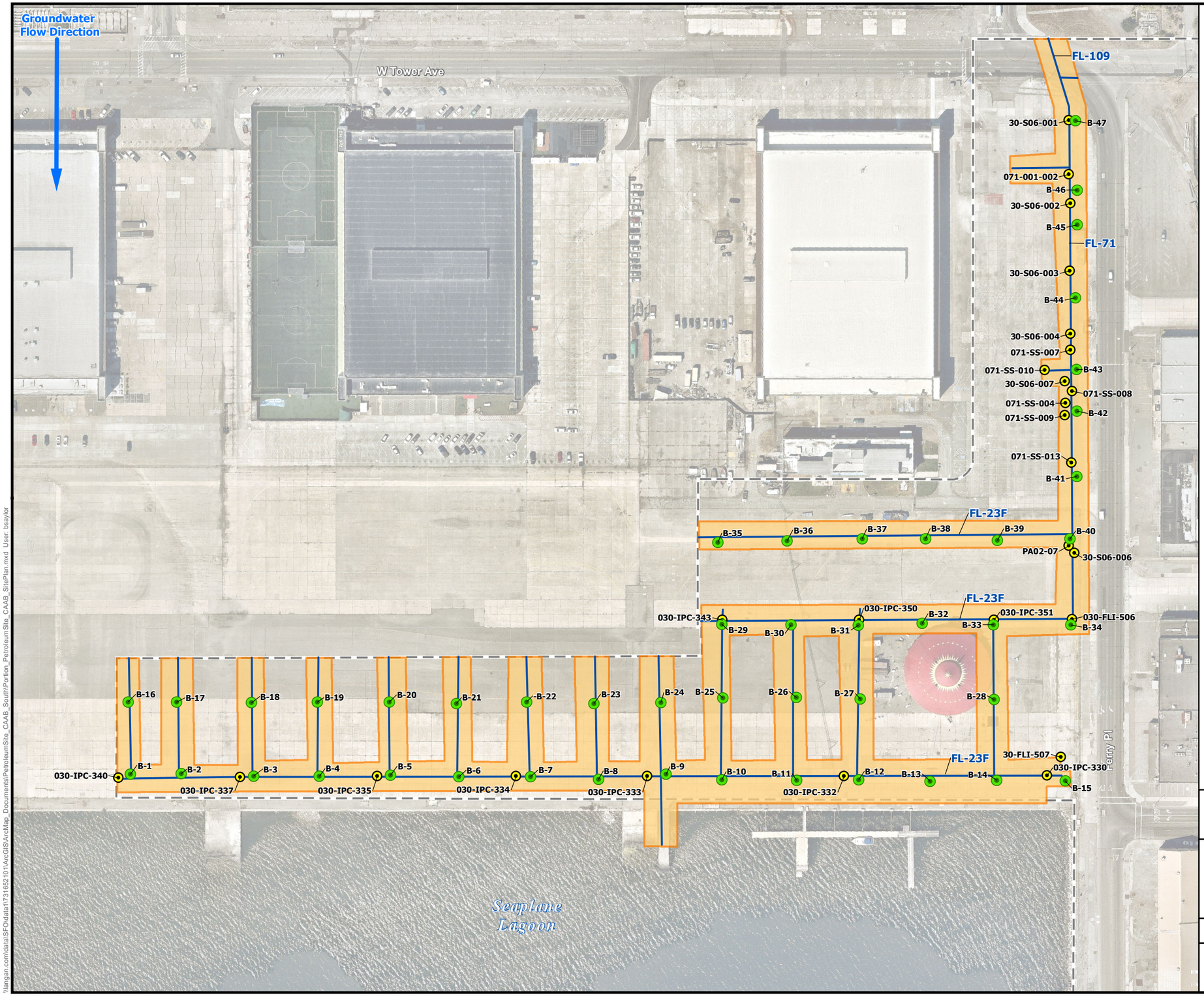

Legend

- Soil and Groundwater Sample Location, Langan Treadwell Rollo, April 2016
- Historical Soil and Groundwater Sample Location
- Fuel Line (Removed or Closed in Place)
- Data Gap Investigation Area
- Alameda Point Site A
- CAA — Corrective Action Area
- FL — Fuel Line

Notes:

1. All data to be considered approximate.
2. Data displayed is based on figures provided by Clarson, Barbee & Gibson Inc.; Tetra Tech.
3. Development plan basemap provided by BAR Architects dated 2/23/2015.
4. Aerial imagery provided through Langan's subscription to Nearmap.com. Aerial imagery flown on August 17, 2016.
5. Map displayed in California State Plane Coordinate System, Zone III, North American Datum of 1983 (NAD83), US Survey Feet.

0 70 140 280

Feet

ALAMEDA POINT - SITE A
Alameda, California

PORTION OF CAA-B SOUTH SITE PLAN

Date 3/3/2017	Project 731652101	Figure 2

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March 15, 2017 (YTH)
GeoTracker Global ID: T0600109975

NAVFAC HQ, BRAC PMO
Attn. Cecily Sabedra
BRAC Environmental Coordinator
33000 Nixie Way, Bldg 50
San Diego, California 92147
via email: cecily.sabedra@navy.com

Subject: **No Further Action for Corrective Action Area (CAA) 12, Former Alameda Naval Air Station, Alameda County**

Dear Ms. Sabedra:

This letter confirms that based on the available information, and with the provision that the information provided is accurate and representative of site conditions, site investigation is complete and no further action (NFA) is required for the Corrective Action Area (CAA) 12, summarized below:

Site Name	GeoTracker Case ID
CAA 12	T10000004871

CAA 12 is located west of, and adjacent to, Seaplane Lagoon, in an area that contained buildings used for aircraft weapons overhaul and testing and an acoustical enclosure for aircraft engines. CAA 12 was created in Geotracker to represent a corrective action area that may contain numerous individual sites associated with appurtenant piping, underground storage tanks (USTs), above ground storage tanks (AGTs), oil water separators (OWS), etc. Contamination present within the larger CAA Site may be co-mingled with the smaller individual Sites. So, while all individual Sites may be closed, the CAA Site may still remain open with residual contamination not associated with the individual Sites located within the CAA. Therefore, this CAA Site could not be closed in Geotracker until: 1) all of the individual Sites had been closed; and 2) the Water Board caseworker had completed a comprehensive review of all of the Individual Site closures within the CAA Site and evaluated both the residual petroleum contamination associated with the CAA Site and the individual Sites, and determined that no further action is necessary for the entire CAA.

To date, all of the individual Sites within CAA 12 have been closed:

Site Name	GeoTracker Case ID	NFA Date	Closure Status
OWS 038	T10000001442	May 11, 2012	Unrestricted
Former AST 029	T10000001385	June 25, 2014	Unrestricted
CAA 12N	T10000005740	July 7, 2016	Unrestricted
CAA 12S	T10000009242	October 14, 2016	Groundwater conditions

The caseworker has reviewed the site information and determined that no known residual petroleum contamination associated with the individual Sites nor the CAA Site exists, other than the area within individual Site CAA 12 S. At CAA 12 S, shallow groundwater is not suitable for drinking water or other potential uses (such as landscape and garden irrigation), contains residual hydrocarbons, and should not be used, extracted, or discharged to surface water without further assessment and mitigation of potential risks.

Basis and Assumptions

This NFA status applies only to releases of petroleum fuel and fuel constituents associated with the site referenced above. While the information provided indicates that the above-referenced CAA Site is satisfactorily cleaned up to standards consistent with residential land use, with restrictions on groundwater use at individual Site CAA 12S, we may reconsider these findings should new information be discovered regarding previously undetected contamination.

This NFA is based on the assumption that the closed individual Sites represent the known features within CAA 12 and that no additional individual Sites or residual petroleum is present.

Conditions/Requirements

Residual petroleum contamination remains in the groundwater at concentrations that do not exceed non-drinking water standards for odor and nuisance; however, to ensure protection of public health, safety, and the environment, and to be consistent with the land and groundwater use assumptions above, the following conditions/requirements apply at individual Site CAA 12S within CAA 12:

1. No shallow groundwater use: Shallow groundwater beneath the site should not be used for drinking water or other potential uses as per the NFA assumptions above.

2. Notify Regional Water Board – land/groundwater use change: The Regional Water Board should be notified in writing of any proposed change in land or groundwater use at the site.

3. Real estate property transfer disclosures: This document shall be included in any subject site property real estate disclosure documentation, in perpetuity.

Land Use Controls/Covenants

Site-specific land use controls and covenants restricting shallow groundwater use are not required for the reasons presented below that mitigate the likelihood of shallow groundwater use:

1. Agricultural and domestic water wells require a 20-foot and 50-foot sanitary seal, respectively, thereby eliminating use of shallow groundwater for agricultural and drinking water purposes.

2. Domestic water on Alameda Point is currently supplied by East Bay Municipal Utility District, which is not anticipated to change.

3. Petroleum hydrocarbons present in site soil and shallow groundwater are expected to naturally degrade over time.

4. Alameda County California Code of Ordinances, Title 6, Chapter 6.88 prohibits the construction of any water well screened in aquifers producing saline, contaminated or polluted water.

5. The City of Alameda Site Management Plan provides risk management measures to be implemented prior to, during, and after site redevelopment.

6. The City of Alameda Ordinance No. 2824 (Marsh Crust Ordinance) restricts disturbance of soil at the former Alameda NAS between depths of 5 to 15 below ground surface due to potential elevated concentrations of semi-volatile organic compounds (SVOCs). The restriction requires a City permit, approved site-specific Health and Safety Plan, and special material handling procedures whenever disturbing soil at these depths.

Closing

Please contact Yemia Hashimoto of my staff at (510) 622-2756 or yemia.hashimoto@waterboards.ca.gov if you have any questions regarding this matter.

Sincerely,

Terry Seward for

Digitally signed by Terry Seward 4
DN: cn=Terry Seward 4, o=SF Water Board, ou=GWPD, email=tseward@waterboards.ca.gov, c=US
Date: 2017.03.15 13:07:54 -07'00'

Bruce H. Wolfe
Executive Officer

cc: Mr. Adam Hill, adam.j.hill@navy.mil
Mr. David Darrow, david.c.darrow.ctr@navy.mil
Ms. Xuan-Mai Tran, tran.xuan-mai@epamail.epa.gov
Ms. Emily Mortazavi, emily.mortazavi@dtsc.ca.gov
Ms. Yemia Hashimoto, yemia.hashimoto@waterboards.ca.gov
Mr. David Elias, delias@waterboards.ca.gov
Mr. Peter Russell, peter@russellresources.com