SECTION 2.3

Remedial Action Objectives

Remedial Action Objectives (RAOs) describe the goals that proposed remedial actions are expected to accomplish, such as protecting human health and the environment by eliminating COCs above their action goals and/or eliminating exposures to human and ecological receptors. RAOs can differ with each specific site, depending on site conditions, exposure scenarios, and receptors. The FFS and ROD/RAP developed specific RAOs that were used to guide the development of alternatives for each Inboard Area site (discussed in Section 2.4).

This section describes the development of RAOs, identifies RAOs for the Inboard Area sites, and presents how the different agencies (DTSC, RWQCB, and Army) identify and implement their respective laws and standards for selection of remedies.

2.3.1 Definition of Remedial Action Objectives

RAOs were developed in this ROD/RAP to evaluate the ability of the remedial alternatives to comply with Applicable or Relevant, and Appropriate Requirements (ARARs), and to protect human health and the environment. RAOs are quantitative and qualitative expressions of goals for protecting human health and the environment. They are expressed in terms of contaminants and media of interest, possible receptors, and associated exposure pathways (CH2M HILL, 2001). Contaminants considered in establishing RAOs for the Inboard Area sites were based on COCs.

2.3.2 Identification of Remedial Action Objectives

Protection of human health and the environment in the future wetland can be accomplished by reducing the concentrations of residual COCs that are greater than their action goals or by controlling or eliminating the exposure of receptors to residual COCs that are greater than their action goals. The RAOs for the Army BRAC sites, Other Army BRAC Environmental Considerations, and HWRP issues are summarized in the following sections.

2.3.2.1 Army BRAC Sites

The RAOs for the Army BRAC sites are to prevent or mitigate the exposure of ecological and human receptors to soil and/or sediment containing concentrations of site specific COCs that are greater than their respective action goals at a given site. This can be accomplished by reducing the concentrations of residual COCs that are greater than their action goals or by controlling or eliminating the exposure of receptors to residual COCs that are greater than their action goals. Table 2.1-2 provides the action goals for the COCs at each of these sites.

2.3.2.2 Other Army BRAC Environmental Considerations

The RAOs for the other Army BRAC Environmental Consideration sites are to prevent or mitigate the exposure of ecological and human receptors to soil and/or sediment containing

concentrations of chemicals that are greater than the established action goals. This can be accomplished by reducing the concentrations of residual COCs that are greater than their action goals or by controlling or eliminating the exposure of receptors to residual COCs that are greater than their action goals.

2.3.2.3 Hamilton Wetland Restoration Project Issues

The RAOs for the issues that will be addressed by the HWRP (Inboard Area-Wide DDTs and PAHs near the runway) are to prevent or mitigate the exposure of ecological and human receptors to soil containing concentrations of COCs that are greater than their respective action goals for these issues. Table 2.1-2 provides the action goals for the COCs for these issues.

2.3.3 Remedy Selection Requirements and Process

State and federal agencies operate under different laws and regulations when selecting remedies for protection of human health and the environment. The State operates under the California Health and Safety Code, while the Army operates under CERCLA. This section describes how the different agencies identify and implement their respective laws and standards for selection of the remedies contained in this ROD/RAP.

2.3.3.1 State Remedy Selection Requirements and Process

The selection of the remedy by DTSC and the RWQCB is based on their authority to approve RAPs as set forth in Section 25356.1 of the California Health and Safety Code. The statutory requirements governing selection of the remedy are also contained in Health and Safety Code Section 25356.1.5. In summary, any remedy selected in a RAP must be based on, and be no less stringent than, requirements of the NCP (40 Code of Federal Regulations (CFR) Part 300), regulations and applicable requirements contained in Division 7 of the Water Code, regulations promulgated thereunder, resolutions issued by SWRCB and the San Francisco Bay Regional Water Quality Control Plan and applicable provisions of Chapter 6.8 of Division 20 of the Health and Safety Code.

DTSC and the RWQCB generally follow the model used by the NCP in developing information necessary for selecting a remedy. However, the decision selecting the final remedial goals and the remedy to be implemented ultimately constitutes an independent exercise of discretion by DTSC and the RWQCB, subject to applicable state laws. Approval of a RAP by DTSC and the RWQCB under Health and Safety Code Section 25356.1 must consider the following factors:

- Health and safety risks posed by conditions at the site, including scientific data and reports that may have a relationship to the site
- The effect of contamination or pollution levels upon present, future, and probable beneficial uses of contaminated, polluted, or threatened resources
- The effect of alternative remedial action measures on the reasonable availability of groundwater resources for present, future, and probable beneficial uses

- Site-specific characteristics, including the potential for offsite migration of hazardous substances, the surface or subsurface soil, and the hydrogeologic conditions, as well as preexisting background contamination levels
- Cost-effectiveness of alternative remedial action measures
- Potential environmental impacts of alternative remedial action measures

DTSC and the RWQCB have determined that the action goals selected in this ROD/RAP meet the applicable laws and requirements of the State. DTSC and the RWQCB have also determined that the remedies selected in this ROD/RAP are in compliance with the requirements of the California Health and Safety Code. In selecting the remedy, DTSC and the RWQCB have considered the available information for HAAF.

2.3.3.2. Army Remedy Selection Requirements and Process

Pursuant to Section 121(d)(1) of CERCLA, remedial actions must attain a degree of cleanup, which is protective of both human health and the environment, and they must comply with ARARs. Additionally, remedial actions that leave hazardous substances, pollutants, or contaminants onsite must meet standards, requirements, limitations, or criteria that are ARARs. Although HAAF is not on the NPL of CERCLA sites, the remedial investigations and remedial actions conducted at the site are required to be consistent with the NCP. As such, this ARARs analysis was developed in a manner consistent with guidance and policy of CERCLA, as amended by SARA. The intent of this ARARs analysis is to identify those federal and more-stringent state regulations that will be considered during the implementation of remedial actions.

Federal ARARs include requirements under any federal environmental law, while state ARARs include promulgated requirements under state environmental laws that are more stringent than federal ARARs. To be an ARAR, the requirement must meet either of the following requirements (EPA, 1988a):

- **Applicable** requirements are those cleanup standards, standards of control, and other substantive environmental protection requirements, criteria, or limitations promulgated under federal or state law that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a CERCLA site.

Or:

- **Relevant and appropriate** requirements are those cleanup standards, standards of control, or other substantive environmental requirements, criteria, or limitations promulgated under federal or state law that, while not specifically "applicable" to a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a CERCLA site, address problems or situations sufficiently similar to those encountered at the site so that their use is well-suited to the particular site. A requirement must be both relevant and appropriate to be designated an ARAR.

ARARs are identified on a site-specific basis from information about site-specific chemicals, specific actions that are being considered, and specific features of the site location. For the Army to consider a state requirement to be an ARAR under CERCLA, the requirement must be:

- Legally enforceable
- Generally applicable to all circumstances covered by the requirement, not just Superfund sites
- More stringent than the federal regulation

Substantive requirements pertain directly to actions or conditions in the environment. They include restrictions for exposure to certain types of hazardous substances (e.g. chemical-specific ARARs), technology-based requirements for actions (e.g., action-specific ARARs), and restrictions on activities in certain locations (e.g., location-specific ARARs). For any onsite remedial activity, the administrative portions of the environmental standards criteria, or limitations are not ARARs because CERCLA, Section 121(e) exempts these actions from permitting requirements. This permit exemption applies to all administrative requirements, whether or not they are styled as "permits." Administrative requirements include the approval of or consultation with administrative bodies, issuance of permits, documentation, reporting, recordkeeping, and enforcement.

The three categories of ARARs are described as:

- Chemical-specific ARARs are numerical values that represent a health-based or risk-based standard or the results of methodologies that, when applied to site-specific conditions, are used to establish the acceptable amount or concentration of a chemical that may be found in, or discharged to, the ambient environment.
- Location-specific ARARs are restrictions on the conduct of activities solely because the site occurs in certain environmentally sensitive areas. Examples are wetlands, floodplains, endangered species habitat, or historically significant resources.
- Action-specific ARARs are technology-based or activity-based requirements or limitations on actions taken with respect to hazardous waste.

A requirement may not meet the definition of an ARAR as defined above, but still may be useful in determining whether to take action at a site or to what degree action is necessary. This can be particularly true when there are no ARARs for a site, action, or contaminant. Such requirements are called to-be-considered (TBC) criteria. TBC materials are nonpromulgated advisories or guidance issued by federal or state government that are not legally binding, but may provide useful information or recommended procedures for remedial action. Although TBCs do not have the status of ARARs, they are considered along with ARARs to establish the required level of cleanup for protection of health or the environment.

Section 121 (d)(4) of CERCLA provides six specific circumstances in which potential ARARs may be waived. These waivers apply only to meeting ARARs with respect to remedial actions onsite. Other statutory requirements, such as remedies being protective of human health and the environment, cannot be waived. Currently, it is not envisioned that any waivers will be requested for the Main Airfield Parcel sites; however, the circumstances under which potential ARARs could be waived are summarized below for sake of completeness:

- Interim Measures: The remedial action selected is only part of a total remedial action that will attain such a level or standard of control when completed [Section 121 (d)(4)(A)].
- Greater Risk to Human Health and the Environment: Compliance with such requirement at the facility will result in greater risk to human health and the environment than alternative options [Section 121 (d)(4)(B)].
- Technical Impracticability: Compliance with such a requirement is technically impractical from an engineering perspective [Section 121 (d)(4)(C)].
- Equivalent Standard of Performance: The remedial action selected will attain a standard of performance that is equivalent to that required under the otherwise applicable standard, requirement, criteria, or limitation, using another method or approach [Section 121 (d)(4)(D)].
- Inconsistent Application of State Requirements: With respect to a state standard, requirement, criterion, or limitation, the state has not consistently applied the standard, requirement, criterion, or limitation in similar circumstances at other remedial actions [Section 121 (d)(4)(E)].
- Fund Balancing: The Hazardous Substance Response Fund (Fund) waiver may apply when the selection of a remedial action that attains such level or standard of control will not provide a balance between the need for protection of public health and welfare and the environment at the facility under consideration and the availability of amounts from the Fund to respond to other sites that present or may present a threat to public health or welfare or the environment, considering the relative immediacy of such threats [Section 121 (d)(4)(F)]. The Fund Balancing waiver does not apply because funding for Hamilton is provided by the BRAC Environmental Restoration Account.

The ARARs for this ROD/RAP were developed using the following guidelines and documents:

- *CERCLA Compliance with Other Laws Manual, Part I: Interim Final* (EPA, 1988b)
- *CERCLA Compliance with Other Laws Manual, Part II: Clean Air Act and Other Environmental Statutes and State Requirements* (EPA, 1989)
- *California State Water Resources Control Board ARARs Under CERCLA* (SWRCB, 1992).

2.3.3.3 Chemical-Specific ARARs and TBCs

Chemical-specific ARARs include those requirements that regulate the release to, or presence in, the environment of materials possessing certain chemical or physical characteristics or containing specified chemical compounds. These requirements generally set health- or risk-based concentration limits or discharge limitations for specific chemicals. When a specific chemical is subject to more than one discharge or exposure limit, the more stringent of the requirements is used. Potential chemical-specific ARARs were evaluated on the basis of contaminants and the media affected. The potential requirements were reviewed and deemed not applicable, relevant, or appropriate to establishing cleanup goals. However, chemical-specific requirements may be applicable, relevant, or appropriate to actions to

be taken at the site. Therefore, a discussion of chemical-specific ARARs that apply only to specific actions that may be taken to clean up the site is provided under action-specific ARARs.

The chemical-specific ARARs and TBCs for the Inboard Area sites can be divided into two categories: (1) those that affect action goals, and (2) those that affect soil and sediment characterization and disposal. Table 2.3-1 lists the TBC criteria. Chemical-specific ARARs that affect soil and sediment characterization and disposal are described below, in the section on Action-Specific ARARS.

Because there are no promulgated chemical-specific ARARs that can be applied as soil or sediment action goals, a variety of TBC criteria have been considered. The sources for chemical-specific TBCs for the Inboard Area sites follow:

- ER-Ls from E. R. Long, D. D. MacDonald, S. L. Smith, and F. D. Calder, 1995, "Incidence of Adverse Biological Effects within Ranges of Chemical Concentrations in Marine and Estuarine Sediments," *Environmental Management*, 19: 81-97.
- San Francisco Bay ambient levels from *San Francisco Bay RWQCB Staff Report: Ambient Concentrations of Toxic Chemicals in San Francisco Bay Sediments*. May 1998.
- *Report of Petroleum Hydrocarbon Bioassay and Point-of-Compliance Concentration Determinations; Saltwater Ecological Protection Zone; Presidio of San Francisco, California,* Dated December 1997.

2.3.3.4 Location-Specific ARARs

Location-specific ARARs are those requirements that relate to the geographical position or physical condition of the site. These requirements may limit the type of remedial action that can be implemented or may impose additional constraints on some remedial alternatives. The potential location-specific ARARs for the Inboard Area sites are summarized in Table 2.3-2.

Clean Water Act (Section 404)

Section 404 of the Clean Water Act (CWA), 33 U.S.C. §1344, requires a permit to discharge dredged or fill material into waters of the United States. Activities associated with investigation activities that might trigger Section 404 requirements include placement of fill into wetlands following excavation and confirmation sampling and construction of temporary roads in the wetland area. Runoff of excavated materials into the wetlands may also occur. The *Guidelines for Specification of Disposal of Sites for Dredged or Fill Material* [40 CFR Part 230, Section 404(b)(1)] define requirements that limit the discharge of dredged or fill material into the aquatic environment or aquatic ecosystems. These guidelines specify consideration of activities that have less adverse impacts. They prohibit discharges that would result in exceedance of surface water quality standards, exceedance of toxic effluent standards, and jeopardization of threatened or endangered species. Actions that can be taken to minimize potential adverse impacts of the discharge on the aquatic ecosystem are specified in Subpart H of 40 CFR 230, and include:

- Confining the discharge's effects on aquatic biota
- Avoiding disruptions of periodic water inundation patterns
- Selection of disposal site and method of discharge
- Minimizing or preventing standing pools of water

In addition, under CWA Section 401, every applicant for a federal permit or license for any activity that may result in a discharge to a water body (e.g., Section 404 Permit) must obtain State Water Quality Certification (Certification) that the proposed activity will comply with state water quality standards.

2.3.3.5 Action-Specific ARARs

Hazardous Waste Characterization

The action-specific ARARs that affect soil and sediment characterization and disposal include the requirements for identification of hazardous waste found in Title 22 of the California Code of Regulations (CCR), Division 4.5, Chapter 11. A waste is a hazardous waste under both RCRA and California law if it exhibits any of the characteristics of ignitability, corrosivity, reactivity, or toxicity identified in 22 CCR 66261.21, 66261.22(a)(1), 66261.22(a)(2), 66261.23, and 66261.24(a)(1), or if it is listed as a hazardous waste in Article 4 of Chapter 11. In addition, under the California RCRA-authorized program, wastes can be classified as California-only hazardous wastes if they exceed the Soluble Threshold Limit Concentration (STLC) or the Total Threshold Limit Concentration (TTLC) values contained in 22 CCR 66261.24(a)(2).

The numerical values presented in 22 CCR 66261.24 (a)(1) and (a)(2) are not considered action goals but are compared to contaminant concentrations in excavated materials to determine how the material should be managed. In other words, the Toxicity Characteristic Leaching Procedure (TCLP), TTLC, and STLC criteria are not compared to in situ contaminant concentrations in soil or sediment, but rather are compared to the soil or sediment after it has been excavated (i.e., after the waste has been "generated"). If wastes generated at HAAF are characterized as hazardous waste, the regulations that govern the treatment, storage, and disposal of hazardous waste will be applicable. These requirements are found at Division 4.5 of Title 22 of the CCR.

If contaminant concentrations in excavated materials are less than the TCLP, TTLC, or STLC, but still contain contaminants that could cause degradation of surface or groundwater, these materials may be considered a designated waste. A designated waste is defined in Section 13173 of the California Water Code as a nonhazardous waste that consists of, or contains, pollutants that, under ambient environmental conditions at a waste management unit, could be released in concentrations exceeding applicable water quality objectives, or that could reasonably be expected to affect beneficial uses of the waters of the state, as contained in the appropriate state water quality control plan. The *Designated Level Methodology for Waste Classification and Cleanup Level Determination* (Central Valley RWQCB October 1986, Updated June 1989) provides a methodology for calculating levels for specific constituents of a waste that provides a site-specific indication of the water quality impairment potential of the waste. As a result, wastes that contain contaminants above these calculated levels would be characterized as designated wastes. Removal actions proposed at HAAF may include disposal of designated waste to an offsite landfill. Title 27 CCR 20210 requires that designated waste be discharged to Class I or Class II waste management units.

Table 2.3-3 summarizes the action-specific ARARs for the Inboard Area sites.

TABLE 2.3-1
Chemical-Specific To-Be-Considered Criteria for Developing Action Goals

Contaminants	Chemical-Specific TBCs Inboard Sites (ppm)
[redacted]	
Cadmium	1.2[a]
Chromium	112[b]
Copper	68.1[b]
Lead	46.7[a]
Total Mercury	0.43[b]
Silver	1[a]
Zinc	158[b]
[redacted]	
Total DDTs	0.03[c]
[redacted]	
TPH-d/TPH-motor	144[d]
TPH-g/JP-4	12[d]
[redacted]	
Total PAHs	4.022[a]

[a] E.R. Long, D.D. MacDonald, S.L. Smith, and F.D. Calder, 1995, "Incidence of Adverse Biological Effects within Ranges of Chemical Concentrations in Marine and Estuarine Sediments," *Environmental Management*, 19:81-97.

[b] *San Francisco Bay RWQCB Staff Report: Ambient Concentrations of Toxic Chemicals in San Francisco Bay Sediments.* May 1998.

[c] The DDT values were developed in the *Coastal Salt Marsh Focused Feasibility Study* (CH2M HILL, 2003).

[d] *Report of Petroleum Hydrocarbon Bioassay of Point-of-Compliance Concentration Determinations; Saltwater Ecological Protection Zone; Presidio of San Francisco, California.* Dated December 1997.

TABLE 2.3-2
Location-Specific ARARs for Inboard Area Sites

Source	Citation	ARAR Status	Description of ARARs
California Toxics Rule	40 CFR 131.38	Relevant and Appropriate	Contains criteria for priority toxic pollutants in the State of California for inland surface waters and enclosed bays and estuaries, except those waters subject to objectives in San Francisco RWQCB's 1986 Basin Plan.
California Endangered Species Act	Title 14, CCR 670.1, 670.2, and 670.5	Applicable[a]	Contains standards for the identification and protection of listed or proposed threatened or endangered plants or animals.
California Fish and Game Code	Section 1900—California Native Plant Protection Act	Applicable[a]	Contains standards for the identification and protection of plants by the Act.
	Sections 3503.5, 3511, 4700, and 5050		Identifies and protects certain birds, mammals, reptiles, and amphibians.
Federal Endangered Species Act	50 CFR 402	Applicable	Contains standards for the identification and protection of current or possible future listed threatened or endangered plants or animals. Section 7 requires Federal agencies to consult the USFWS to ensure that actions do not jeopardize listed species or adversely modify their critical habitat. Section 9 prohibits taking of endangered species, while Section 10 permits incidental takes.
Federal Clean Water Act	40 CFR 230.3, Section 404—Definition of Wetlands	Applicable	Authorized the USACE to delineate wetlands.
	USACE, Public Notice 92-7: Interim Testing Procedures for Evaluating Dredged Material Disposed of in San Francisco Bay	Relevant and Appropriate	Reassures that all wetland creation, uplands disposal, or dredging projects complete certain notifications and listings.
	Section 401, 33 U.S.C. 1341	Applicable	State Water Quality Certification – wetlands destruction/alteration would require a 404 permit and this certification assures that the proposed activity will comply with state water quality standards
Coastal Zone Management Act	16 U.S.C. 1456	Relevant and Appropriate	Establishes the authority of the Bay Conservation and Development Commission (BCDC) to regulate construction and other activities within 100 feet inland from highest tidal action.

TABLE 2.3-2
Location-Specific ARARs for Inboard Area Sites

Source	Citation	ARAR Status	Description of ARARs
Rivers and Harbors Act	33 CFR 323.1, Parts 320, 325, and 328	Relevant and Appropriate	Gives the USACE permitting authority over the discharge of dredged materials into the waters of the United States. In addition, the USACE must permit any work within historically navigable waters, including behind levees.
Fish and Game Code	[illegible]	Relevant and Appropriate	It is unlawful to deposit in, permit to pass into, or place where it can pass into the waters of the state any material listed in the Code.
Procedures for Implementing the Requirements of the Council on Environmental Quality on NEPA – Wetlands Protection	40 CFR 6.302(a)	Applicable	Executive Order 11990, Protection of Wetlands, requires federal agencies to avoid adverse impacts on wetlands. A floodplains/ wetlands assessment is also required.

[a] Applicable only if threatened or endangered species are identified on site.
USC = United States Code
NEPA = National Environmental Policy Act

TABLE 2.3-3
Action-Specific ARARs for Inboard Area Sites

Source	Standard, Requirement, Criterion, or Limitation	ARAR Status	Description of ARARs
Federal			
Federal Clean Water Act	40 CFR 122—EPA Administered Permit Programs: The National Pollution Discharge Elimination System; 40 CFR 122.26; 40 CFR 122.41(d); 40 CFR 122.41(e); 40 CFR 122.44(d)	Relevant and Appropriate	Requirements to ensure that stormwater discharges from remedial action activities do not contribute to a violation of surface water quality standards. All reasonable steps must be taken to minimize or prevent discharges that have a reasonable likelihood of causing adverse impacts on surface water quality [40 CFR 122.41(d)]. Discharges into surface water must achieve federal and state water quality standards [40 CFR 122.44(d)].
State of California Hazardous Waste			
California Hazardous Waste Control Law	Title 22, Division 4.5 (Environmental Health Standards for Management of Hazardous Waste), Chapter 11 (Identification and Listing of Hazardous Waste); 22 CCR 66261.1 through 22 CCR 66261.126	Relevant and Appropriate[a]	Defines hazardous waste and includes procedures for identifying hazardous waste.
California Hazardous Waste Control Law	Title 22, Division 4.5 (Environmental Health Standards for Management of Hazardous Waste), Chapter 12 (Standards Applicable to Generators of Hazardous Waste), Article 3 (Pre-Transport Requirements); 22 CCR 66262.30 through 66262.34	Relevant and Appropriate[a]	These standards establish requirements for generators of hazardous waste located in California. Before transportation, containers must be packaged, labeled, marked, and placarded in accordance with RCRA and Department of Transportation requirements. Accumulation of hazardous wastes onsite for longer than 90 days would be subject to RCRA requirements for storage facilities. These requirements are applicable to hazardous waste that is stored temporarily onsite before offsite disposal.
California Hazardous Waste Control Law	Title 22, Division 4.5 (Environmental Health Standards for Management of Hazardous Waste), Chapter 14 (Standards for Owners and Operators of Hazardous Waste Transfer, Treatment, Storage, and Disposal Facilities), Article 9 (Use and Management of Containers); 22 CCR 66264.171 through 22 CCR 66264.178	Relevant and Appropriate[a]	Soil will need to be managed as a hazardous waste only if it is classified as a hazardous waste. The treatment, storage, and disposal requirements for hazardous wastes include: using containers to store the recovered product that are compatible with this material (22 CCR 66264.172); using containers that are in good condition (22 CCR 66264.171); segregating the waste from incompatible wastes (22 CCR 66264.177); inspecting the containers (22 CCR 66264.176); providing adequate secondary containment for the water stored (22 CCR 66264.175); closing containers during transfer (22 CCR 66264.173); and removing all hazardous material at closure (22 CCR 66264.178).

TABLE 2.3-3
Action-Specific ARARs for Inboard Area Sites

Source	Standard, Requirement, Criterion, or Limitation	ARAR Status	Description of ARARs
California Hazardous Waste Control Law	Title 22, Division 4.5 (Environmental Health Standards for Management of Hazardous Waste), Chapter 14 (Standards for Owners and Operators of Hazardous Waste Transfer, Treatment, Storage, and Disposal Facilities), Article 12 (Waste Piles); 22 CCR 66264.250 through 22 CCR 66264.259	Relevant and Appropriate[a]	Delineates requirements for the management of waste piles for hazardous waste. This regulation is applicable to sites where excavated materials are classified as hazardous wastes and managed in waste piles. These regulations include 22 CCR 66264.251—Design and Operating Requirements; 22 CCR 66264.254—Monitoring and Inspection; 22 CCR 66264.256—Special Requirements for Ignitable or Reactive Waste; 22 CCR 66264.257—Special Requirements for Incompatible Wastes; 22 CCR 66264.258—Closure and Post-Closure Care; and 22 CCR 66264.259—Special Requirements for Hazardous Wastes F020, F021, F022, F023, F026, and F027. Hazardous waste will be managed in accordance with the standards stated in these sections of the regulation.
California Hazardous Waste Control Law	Title 22, Division 4.5 (Environmental Health Standards for Management of Hazardous Waste), Chapter 18 (Land Disposal Restrictions), Article 1 (General); 22 CCR 66268.1 through 22 CCR 66268.9	Relevant and Appropriate[a]	Provides the purpose, scope, and applicability of LDRs. The title of the sections of the regulations are: 22 CCR 66268.3—Dilution Prohibited as a Substitute for Treatment; 22 CCR 66268.7—Waste Analysis and Record Keeping; and 22 CCR 66268.9—Special Rules Regarding Wastes that Exhibit a Characteristic. If hazardous waste is land disposed within the meaning of the LDRs, the hazardous waste will be managed in accordance with the standards stated in applicable sections of the regulation. Only applicable if hazardous wastes are disposed of or treated in an area not designated as a CAMU or disposed of or treated beyond the area of contamination.
California Hazardous Waste Control Law	Title 22, Division 4.5 (Environmental Health Standards for Management of Hazardous Waste), Chapter 18 (Land Disposal Restrictions), Article 3 (Prohibitions on Land Disposal); 22 CCR 66268.30 through 22 CCR 66268.35	Relevant and Appropriate[a]	These standards are applicable to sites where excavated material is classified as hazardous waste and is disposed of or treated in an area not designated as a CAMU. If hazardous waste is land disposed within the meaning of the LDRs, the hazardous waste will be managed in accordance with the standards stated in these sections of the regulation.

TABLE 2.3-3
Action-Specific ARARs for Inboard Area Sites

Source	Standard, Requirement, Criterion, or Limitation	ARAR Status	Description of ARARs
California Hazardous Waste Control Law	Title 22, Division 4.5 (Environmental Health Standards for Management of Hazardous Waste), Chapter 18 (Land Disposal Restrictions), Article 5 (Prohibitions on Storage); 22 CCR 66268.50	Relevant and Appropriate[a]	This standard is applicable to sites where excavated material is classified as hazardous waste. The standard provides prohibitions on storage of restricted wastes. If hazardous waste is land disposed within the meaning of the LDRs, the hazardous waste will be managed in accordance with the standards stated in these sections of the regulation.
State of California Air			
California Clean Air Act	BAAQMD, Regulation 6 (Particulate Matter and Visible Emissions)	Applicable	This regulation limits visible emissions, particulate emissions by weight, and emissions from sulfuric acid plants and sulfur recovery units. This regulation is applicable to any remedial action activity, which may discharge air contaminants, as defined by the rule.
	BAAQMD, Regulation 7 (Odorous Substances)	Applicable	This regulation limits odorous emissions per complaints received from persons on properties where the emissions did not occur and places maximum concentration limits on certain organic emissions.
	BAAQMD, Regulation 8, Rule 40 (Aeration of Contaminated Soil and Removal of Underground Storage Tanks)	Applicable	This rule limits the emissions of organic compounds with organic chemicals or petroleum and provides procedures for controlling emissions during underground storage tank removal and soil stockpiling. Exemptions are provided for soil that contains nonvolatile hydrocarbons and for soil, which is in-situ.
	BAAQMD, Regulation 11 (Hazardous Pollutants, Rule 1 (Lead)	Relevant and Appropriate	This regulation limits the emission of lead to the atmosphere based on ground-level concentrations of lead in air.

TABLE 2.3-3
Action-Specific ARARs for Inboard Area Sites

Source	Standard, Requirement, Criterion, or Limitation	ARAR Status	Description of ARARs
State of California Surface Water, Groundwater, and Soil			
California Water Code	SWRCB Order 99-08-DWQ (General order for stormwater management at construction sites)	Applicable	Must identify the sources of sediment and other pollutants that affect the quality of stormwater discharges and implement practices to reduce these discharges. Stormwater discharges from construction sites must meet pollutant limits and standards. The narrative effluent standard includes the requirements to implement BMPs and/or appropriate pollution-prevention control practices. Inspections of the construction site before anticipated storm events and after actual storm events need to be conducted to identify areas contributing to stormwater discharge and evaluated for the effectiveness of BMPs and other control practices. Applies to construction sites 5 acres or greater in size. It also applies to smaller sites that are part of a larger common plan of development or sale. Administrative portions of this permit are not applicable in accordance with CERCLA.
Porter-Cologne Water Quality Control Act (California Water Code Sections 13240)	San Francisco Bay Basin (Region 2) Water Quality Control Plan	Applicable	Establishes water-quality objectives, including narrative and numerical standards that protect the beneficial uses of surface waters and groundwaters in the region. Establishes beneficial uses of affected water bodies.
Porter-Cologne Water Quality Control Act (California Water Code Sections 13000, 13140, 13240)	SWRCB Resolution 68-16	Applicable	The resolution establishes requirements for activities involving discharges of contamination directly into surface waters or groundwater. According to the RWQCB, this resolution requires that high-quality surface and groundwater be maintained to the maximum extent possible.

TABLE 2.3-3
Action-Specific ARARs for Inboard Area Sites

Source	Standard, Requirement, Criterion, or Limitation	ARAR Status	Description of ARARs
Porter-Cologne Water Quality Control Act (California Water Code Sections 13000, 13140, 13240)	SWRCB Resolution 88-63	Applicable	Specifies that, with certain exceptions, all ground and surface waters have the beneficial use of municipal or domestic water supply. Applies in determining beneficial uses for waters that may be affected by discharges of waste. SWRCB Resolution 88-63 applies to all sites that may be affected by discharges of waste to groundwater or surface water. The resolution specifies that, with certain exceptions, all groundwater and surface waters have beneficial use of municipal or domestic water supply. These exceptions include, among others, if: (1) the TDS exceed 3,000 mg/L or (2) the water source does not provide sufficient water to supply a single well capable of producing an average sustained yield of 200 gallons per day. In the case of HAAF, both these exceptions apply; therefore, groundwater below the site may not be considered suitable for municipal or domestic water supplies.
Porter-Cologne Water Quality Control Act (California Water Code Sections 13140, 13240, 13260, 13263, 13267, 13300, 13304, 13307)	SWRCB Resolution 92-49 (as amended April 12, 1994 and October 2, 1996) Subparagraph IIIG	Applicable	Section IIIG directs the water boards to ensure that dischargers clean up and abate the effects of discharges in a manner promoting attainment of either background water quality or the best reasonable water quality if background quality is not feasible. (Feasibility is determined by the factors listed in Section IIIG and 23 CCR, Chapter 15, Section 2550.4.) Minimum water standards must be protective of the beneficial use(s). Section IIIG directs the water boards to apply 23 CCR, Chapter 15, Section 2550.4 in approving any alternative cleanup levels less stringent than background quality. The requirement to obtain the water board's approval is not a substantive requirement (ARAR); however, the Army will consult with the water board in applying the State's criteria to establish alternative cleanup level(s).
Porter-Cologne Water Quality Control Act (California Water Code Sections 13140 - 13147, 13172, 13260, 13263, 13267, 13304)	Title 27 (Environmental Protection), Division 2 (Solid Waste), Chapter 1, Article 1 (General) 27 CCR 20090(d)	Applicable	Actions taken by or at the direction of public agencies to clean up from unauthorized releases are exempt from Title 27, except that wastes removed from the immediate place of release and discharged to land must be managed in accordance with classification (Title 27 CCR, Section 20200) and siting requirements of Title 27. Wastes contained or left in place must comply with Title 27 to the extent feasible.

TABLE 2.3-3
Action-Specific ARARs for Inboard Area Sites

Source	Standard, Requirement, Criterion, or Limitation	ARAR Status	Description of ARARs
Porter-Cologne Water Quality Control Act (California Water Code Sections 13140 - 13147, 13172, 13260, 13263, 13267, 13304)	Title 27 (Waters), Division 2 (Solid Waste), Chapter 3 (Criteria for waste Management Units), Article 2 (Waste Classification and Management) 27 CCR, 20200, 20210, 20220, and 20230	Applicable	Waste Classification: Wastes must be classified as: hazardous waste, designated waste, nonhazardous solid waste, or inert waste. A hazardous waste can only be discharged to a Class I facility (unless a variance is applicable under Title 22 regulations). A designated waste can be discharged to a Class I or Class II facility. A nonhazardous solid waste can be discharged to a Class I, II, or III facility. Inert wastes do not need to be sent to a classified facility.
Other State of California TBCs			
Resolution 92-145	Interim Final Sediment Screening Criteria and Testing Requirements for Wetland Creation and Upland Beneficial Reuse dated December 1992, Resolution No. 92-145 (referenced in the San Francisco Bay Region Water Quality Control Plan, approved in 1995).	TBC	In this Resolution, the RWQCB established screening criteria guidelines to be used to evaluate the appropriateness of using dredged material for beneficial purposes.
	Draft Staff Report titled Beneficial Reuse of Dredged Materials: Sediment Screening and Testing Guidelines dated May 2000.	TBC	This document is an update of the December 1992 document described previously. These guidelines fall into the category of TBC.

[a] The Army interprets these as relevant and appropriate; DTSC interprets them as applicable.

BAAQMD = Bay Area Air Quality Management District
BMP = best management practice
CAMU = corrective action management unit
CCR = California Code of Regulations
cm/sec = centimeter per second
DWQ = Department of Water Quality
LDR = land disposal restriction
RCRA = Resource Conservation and Recovery Act