

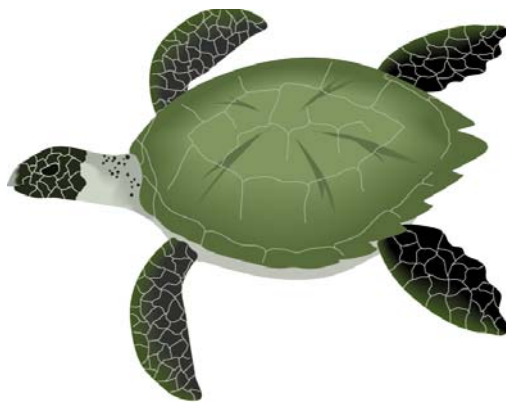


United States Air Force
15th Airlift Wing
Environmental Restoration Program

Final

FEASIBILITY STUDY REPORT
SITES LF01 AND DA101,
MARINE CORPS TRAINING AREA,
BELLOWS

OAHU, HAWAII



APPENDIX B
Applicable or Relevant and
Appropriate Requirements

Appendix B

Applicable or Relevant and Appropriate Requirements

This appendix presents a detailed analysis of applicable or relevant and appropriate requirements (ARARs) of federal and state environmental laws and regulations as they apply to remedial actions at Sites LF01 and DA101 at the Marine Corps Training Area, Bellows (MCTAB). The ARARs are listed in the following tables:

- B-1 Potential Action Levels
- B-2 Chemical-Specific ARARs
- B-3 Location-Specific ARARs
- B-4 Action-Specific ARARs

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Table B-1
 Chemical-Specific Numeric ARARs and Criteria to be Considered
FS Report for Sites LF01 and DA101, MCTAB, Hawaii

COC	HDOH Environmental Action Levels (mg/kg) ^a		EPA Region 9 Residential Soil PRG (mg/kg)	OSWER Directive 9355.4-12 (mg/kg)
	Ecotoxicity	Direct Exposure Action Levels (Residential)		
Lead in Soil	200	400	400 nc	400

Notes:

^a HDOH Interim Final: *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater* (May 2005, published on HDOH's website on <http://www.hawaii.gov/health/environmental/hazard/eal.html>). Environmental Action Levels (EALs) are found in Table B-1 (which applies to sites where groundwater is not a current or potential source of drinking water), Table I-1 (direct-exposure action levels for residential exposure scenario), and Table I-2 (direct-exposure action levels for commercial/industrial worker exposure scenario).

ARAR = applicable or relevant and appropriate requirement

COC = constituent of concern

EPA = U.S. Environmental Protection Agency

HDOH = Hawaii Department of Health

nc = Noncancer endpoint. EPA Region 9 has at times used the noncancer PRG (22 mg/kg) to evaluate sites, recognizing that this value tends to be above background levels yet still falls within the range of soil concentrations (7.3 to 96 mg/kg), which equates to the EPA's "acceptable" cancer risk range of 10^{-6} to 10^{-4} .

OSWER = Office of Solid Waste and Emergency Response

PRG = Preliminary Remediation Goal

Table B-2
 Chemical-Specific ARARs
FS Report for Sites LF01 and DA101, MCTAB, Hawaii

Standard, Requirement, Criterion, or Limitation	ARAR Status	Description	Comment
Interim Final HDOH EAL (HDOH, May 2005)	To Be Considered	The EALs document uses the same “three-tiered” approach to environmental risk assessment used in the HDOH’s 1996 Risk-Based Correction Action document. However, the EALs presents some additional considerations to derive action levels for environmental concerns, including terrestrial ecological, soil gas/ indoor air, nuisance, secondary maximum contaminant levels, and chronic surface water quality concerns. The number of chemicals has been expanded from 32 to 119. Also, an additional “site category” for evaluation – whether the site is ≤ 150 meters or > 150 meters from a surface water body – has been added.	EALs for sites located further than 150 meters to surface water, at which groundwater is not current or potential source of drinking water, may be a useful screening tool for determining the soil area that needs to be remediated. For a residential land-use scenario, the EAL is 400 mg/kg for lead.
EPA Region 9 PRGs	To Be Considered	PRGs are conservative, risk-based tools used for evaluating and cleaning up contaminated sites. EPA Region 9 has developed these risk-based concentrations for many constituents associated with contaminated sites.	PRGs may be a useful screening tool for determining the soil area that may need to be remediated. For a residential land-use scenario, the PRG is 400 mg/kg for lead. The PRG table can be found at: http://www.epa.gov/region09/waste/sfund/prg/index.htm (October 2004) (accessed January 10, 2005)

Table B-2
 Chemical-Specific ARARs
 FS Report for Sites LF01 and DA101, MCTAB, Hawaii

Standard, Requirement, Criterion, or Limitation	ARAR Status	Description	Comment
<p>EPA Revised Interim Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities, EPA/540/F-94/043, OSWER 9355.4-12, July 1994.</p> <p>EPA Clarification to the 1994 Revised Interim Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities, EPA/540/F-98/030, OSWER 9200.4-27P, 1998.</p>	To Be Considered	The guidance establishes OSWER's approach to addressing lead in soil at CERCLA and RCRA sites. It describes the approach to develop site-specific PRGs at CERCLA sites and media cleanup standards at RCRA Corrective Action Facilities for residential land use and a strategy for management of lead contamination that have multiple sources of lead.	A 400 mg/kg screening level is recommended for lead in soil at residential properties.
RCRA Hazardous Waste Determination			
Hawaii Identification and Listing Hazardous Waste Regulations, HAR 11-261-21, 11-261-22, 11-261-23, and 11-261-24, and 11-261 Subchapter D	Applicable	A waste is considered a RCRA hazardous waste if it exhibits any of the characteristics of ignitability, corrosivity, reactivity, or toxicity, or if it is listed as a hazardous waste. Most waste determinations will focus on whether the generated waste could be classified as toxicity characteristic waste as defined by the contaminant concentrations (for example, a D-code hazardous waste). The toxicity characteristic is determined by running TCLP analyses on the waste.	<p>Applicable if waste is generated (Alternatives 3, 6, and 7). Any wastes generated during remediation at Sites LF01 and DA101 must be characterized and managed in accordance with RCRA requirements (see Action-Specific ARARs). Using the 20x rule to screen constituents detected in the previous investigation, some soil constituents may exceed TCLP limits when excavated. These constituents and their applicable TCLP limits are:</p> <ul style="list-style-type: none"> • Lead – 5.0 mg/L (D008)

Table B-2
 Chemical-Specific ARARs
FS Report for Sites LF01 and DA101, MCTAB, Hawaii

Standard, Requirement, Criterion, or Limitation	ARAR Status	Description	Comment
Management of Soils Containing Hazardous Waste			
Contained-In Policy (63 FR 28618-28620; May 26, 1998)	Applicable	Contaminated media, of itself, is not hazardous waste. However, contaminated environmental media can be subject to regulation under RCRA if it "contains" hazardous waste (that is, contains levels of contaminants that are above the waste criteria discussed above, or is contaminated with a listed hazardous waste [listed wastes are found in 40 CFR 261])	<p>Applicable if hazardous waste is generated (Alternatives 3, 6, and 7). Soil containing hazardous waste must be managed as hazardous waste until it no longer contains the hazardous waste (that is, it no longer exhibits a characteristic of hazardous waste or when concentrations are below risk-based levels).</p> <p>A solid waste that contains lead at concentrations greater than 5.0 mg/L for the toxicity characteristic is considered hazardous waste.</p>
Disposal of Soils Containing Hazardous Waste			
Hawaii Land Disposal Restrictions, HAR 11-268	Applicable	<p>If hazardous waste is to be disposed of at a landfill, it must first be treated to meet the LDRs found in HAR 11-268.</p> <p>Hazardous debris can be treated to meet the standards found in HAR 11-268-45. Other hazardous wastes must be treated to meet the LDR standards found in HAR 11-268-48.</p> <p>If hazardous waste is treated onsite before land disposal (even if the disposal is offsite), a waste analysis plan is needed in accordance with HAR 11-268-7(a)(5). This waste analysis plan must describe the procedures used to treat the waste to comply with the LDRs. The plan must include all information needed to treat the waste, including laboratory analyses required. A waste analysis plan is not needed to treat hazardous debris.</p>	<p>Applicable if hazardous waste is generated (Alternatives 3, 6, and 7).</p> <p>The Hawaii Universal Treatment Standard is:</p> <ul style="list-style-type: none"> • 0.37 mg/L for lead <p>in the extract of the waste or in the extract of the treatment residue.</p> <p>Note that, while the federal regulations at 40 CFR 268.49 have adopted a 10x the LDR rule for concentrations of hazardous constituents in soil, Hawaii has not yet adopted these provisions. (The federal regulations allow the LDRs for soils to be 10x the LDR for non-wastewater found in 40 CFR 268.48. This provision must be adopted by the state where the waste is disposed of before the provision can be used.)</p>

Table B-2
 Chemical-Specific ARARs
FS Report for Sites LF01 and DA101, MCTAB, Hawaii

Standard, Requirement, Criterion, or Limitation	ARAR Status	Description	Comment
Hawaii Water Quality Standards HAR 11-54	Relevant and Appropriate	<p>Establishes numeric aquatic life criteria and numeric human health criteria for selected toxic pollutants. These criteria are applicable to fresh and salt waters and fish consumed by humans.</p> <p>Prohibits waste discharge into designated protected waters; requires best degree of treatment or control for waste discharged into all surface waters; prohibits new sewage and industrial discharges within estuaries and embayments, with the exception of acceptable noncontact thermal and floating drydock or marine railway discharges within specified geographic locations; requires monitoring of all state waters for basic water quality criteria, acute and chronic toxicity, and the protection of human health; Requires HDOH certification of discharge permits.</p>	<p>Relevant and appropriate for Alternatives 3, 6, and 7.</p> <p>This standard establishes criteria for surface water quality. As such, it is relevant and appropriate for groundwater discharges to surface waters from Sites LF01 and DA101.</p>

Notes:

- CERCRA = Comprehensive Environmental Response, Compensation, and Liability Act
- CFR = Code of Federal Regulations
- EAL = Environmental Action Level
- FR = Federal Register
- HAR = Hawaii Administrative Rules
- HDOH = Hawaii Department of Health
- LDR = land disposal restriction
- RCRA = Resource Conservation and Recovery Act
- PRG = Preliminary Remediation Goal
- OSWER = Office of Solid Waste and Emergency Response
- TCLP = toxicity characteristic leaching procedure

Table B-3
 Location-Specific ARARs
FS Report for Sites LF01 and DA101, MCTAB, Hawaii

Location	Regulatory Citation	ARAR Status	Description	Comments
Cultural Resources				
Presence of Archaeological Resources	Protection of Archaeological Resources, 43 CFR 7.4(a), 7.5(b)(1)	Applicable	<p>May not excavate, remove, damage, or otherwise alter or deface such resource unless by permit or exception.</p> <p>Must protect any such archaeological resources if discovered</p>	<p>Applicable if intrusive activities uncover or disturb cultural resources (Alternatives 3, 4, 6, and 7).</p> <p>The proposed remedial actions will not alter or destroy any known prehistoric or historic archaeological features at Sites LF01 and DA101. However, because there is always a possibility that buried historic or prehistoric remains could be discovered during construction mitigation measures to protect the area would be required if such a discovery were uncovered.</p> <p>MCTAB has developed an Archaeological Monitoring Plan for environmental projects.</p>
Presence of Human Remains, Funerary Objects, Sacred Objects, or Objects of Cultural Patrimony for Native Hawaiians	Native American Graves Protection and Repatriation Regulations, 43 CFR 10.4(c) and (d)	Applicable	<p>Must stop activities in the area of discovery and make a reasonable effort to secure and protect the objects discovered.</p> <p>Must consult with Native Hawaiian organization likely to be affiliated with the objects to determine further disposition per 43 CFR 10.5(b).</p>	<p>Applicable if intrusive activities uncover and disturb graves (Alternatives 3, 4, 6, and 7).</p> <p>MCTAB has developed an Archaeological Monitoring Plan for environmental projects.</p>
Caves	Protections of Cave, HRS 0006D	Applicable	Protects caves, and the unique cultural and natural resources inside them, of the State of Hawaii.	Applicable if intrusive activities uncover and disturb caves (Alternatives 3, 4, and 7). Note that Site DA101 is a natural depression where caves may exist.

Table B-3
 Location-Specific ARARs
FS Report for Sites LF01 and DA101, MCTAB, Hawaii

Location	Regulatory Citation	ARAR Status	Description	Comments
Endangered or Threatened Species and Critical Habitats				
Habitat of Endangered or Threatened Species	Endangered Species Act, 16 USC §1531, 50 CFR 402 Hawaii Endangered and Threatened Species Regulations, HAR 13-107, 122 and 124 Hawaii Conservation and Resources Statutes, HRS 12-195D-4-21	Relevant and Appropriate	Activities affecting species listed as endangered or threatened or their critical habitat. Action must not threaten continued existence of listed species or destroy critical habitat. Consultation required with the U.S. Fish and Wildlife Service. Prohibits the taking (harassment, harming or killing) of any endangered or threatened species of aquatic or terrestrial plants or wildlife.	Relevant and appropriate for Alternatives 3 through 7. At MCTAB, endangered or threatened species include green sea turtle, hawksbill turtle, Hawaiian stilt, Hawaiian owl, Hawaiian duck, Hawaiian coot, common moorhen, Newell's shearwater and Hawaiian monk seal. Also, there are some wetlands on or near Bellows Air Force Station that are considered protected and sensitive habitats. Taking of endangered or threatened species is not associated with the Feasibility Study or potential remedies for Sites LF01 and DA101. Actions potentially taken during remedial activities (for example, capping) would be conducted in such a way as to minimize potential impacts on animals that may be present near the sites.

Notes:

ARAR status depends on the specific remedial alternatives evaluated. ARAR status will be reevaluated once the alternatives are determined.

- CFR = Code of Federal Regulations
- HAR = Hawaii Administrative Rules
- HRS = Hawaii Revised Statutes
- ROH = Revised Ordinances of Honolulu
- USC = United States Code

Table B-4
 Action-Specific ARARs
FS Report for Sites LF01 and DA101, MCTAB, Hawaii

Action	Standard, Requirement, Criterion, or Limitation	ARAR Status	Description	Comment
General Guidance				
Cleanup of Releases to the Environment	Hawaii State Contingency Plan, HAR 11-451-15 (Remedial Action Development and Selection)	To Be Considered	<p>Evaluation of remedial alternatives must consider achievement of risk levels between 10^{-4} and 10^{-6}, must be protective of public health and the environment, can use presumptive remedies, and must evaluate a removal treatment alternative for source control and a limited treatment alternative (for example, institutional controls). The evaluation must include an assessment of the three evaluation criteria: effectiveness, implementability, and cost. The public must be involved.</p> <p>A Response Action Memorandum will be prepared for public comment summarizing the site conditions, problems posed by the release, remedial alternatives analyzed, preferred alternative, and technical aspects of the selected remedy.</p>	<p>To Be Considered for both sites.</p> <p>Although the Feasibility Study for Sites LF01 and DA101 is under CERCLA, the State Contingency Plan has many of the same and similar requirements.</p>
Landfill Remediation Investigation and Feasibility Studies	Conducting Remedial Investigation/ Feasibility Studies for CERCLA Municipal Landfill Sites, EPA OSWER Directive 9355.3-11, February 1991	To Be Considered	Provides guidance on conducting FS at municipal landfills.	<p>To Be Considered for both sites.</p> <p>Document can be found at: http://www.epa.gov/superfund/resources/pr/esump/landfill.htm (accessed January 10, 2005)</p>

Table B-4
 Action-Specific ARARs
 FS Report for Sites LF01 and DA101, MCTAB, Hawaii

Action	Standard, Requirement, Criterion, or Limitation	ARAR Status	Description	Comment
Landfill Remediation Presumptive Remedies	Presumptive Remedy for CERCLA Municipal Landfill Sites, EPA OSWER Directive 9355.0-49FS, September 1993	To Be Considered	Establishes containment as the presumptive remedy for CERCLA municipal landfills.	To Be Considered for both sites. Document can be found at: http://www.epa.gov/superfund/resources/pr esump/landfill.htm (accessed January 10, 2005)
Landfill Remediation Using Landfill Caps	Presumptive Remedies: CERCLA Landfill Caps RI/FS Data Collection Guide, EPA OSWER Directive 9355.3-18FS, August 1995	To Be Considered	Discusses the data needed to design a landfill cap.	To Be Considered for both sites. Document can be found at: http://www.epa.gov/superfund/resources/pr esump/landfill.htm (accessed January 10, 2005)
Reuse of Landfills	Reuse of CERCLA Landfill and Containment Sites, EPA OSWER Directive 9375.3-05P, September 1999	To Be Considered	Addresses aspects of using presumptive remedies based on the site's future land use.	To Be Considered for both sites. Document can be found at: http://www.epa.gov/superfund/resources/pr esump/landfill.htm (accessed January 10, 2005)

Table B-4

Action-Specific ARARs

FS Report for Sites LF01 and DA101, MCTAB, Hawaii

Action	Standard, Requirement, Criterion, or Limitation	ARAR Status	Description	Comment
Military Landfill Remediation	Application of the CERCLA Municipal Landfill Presumptive Remedy to Military Landfills, EPA OSWER Directive 9355.0-067FS, December 1996	To Be Considered	Provides guidance on applying the containment presumptive remedy to military landfills.	To Be Considered for both sites. Document can be found at: http://www.epa.gov/superfund/resources/pr esump/landfill.htm (accessed January 10, 2005)
Presumptive Remedy for Metals-in-Soil Sites	Presumptive Remedy of Metals-in-Soil Sites, EPA OSWER Directive 9355.0-72FS, September 1999	To Be Considered	Identifies a presumptive remedy for sites contaminated with metals. Establishes preferred treatment technologies for metals-in-soil waste that is targeted for treatment, and containment for low-level risk waste requiring remediation.	To Be Considered for both sites. Document can be found at: http://www.epa.gov/superfund/resources/pr esump/landfill.htm (accessed January 10, 2005)
Site Preparation, Construction, and Excavation Activities				
Site Vegetation Clearing and Grading	Hawaii Noxious Weed Rules, HAR Title 4, Subtitle 6, Chapter 68	Applicable	Establishes criteria for designation, control, or eradication of noxious weeds.	Applicable to Alternatives 3 through 7, when site work involves movement/disposal of cleared vegetation. Potential remedies at Sites LF01 or DA101 may require vegetation clearing and disposal. Remedies should implement procedures to prevent additional spreading of noxious weed species.

Table B-4
 Action-Specific ARARs
FS Report for Sites LF01 and DA101, MCTAB, Hawaii

Action	Standard, Requirement, Criterion, or Limitation	ARAR Status	Description	Comment
Activities Causing Fugitive Dust Emissions	Hawaii Air Pollution Control, HAR 11-60.1	Applicable	<p>Construction of any unit that emits or controls air emissions may require a written authorization or a permit from the HDOH director.</p> <p>Requires permits for point sources and treatment systems; exemption from the requirement of authority to construct or permit to operate shall not relieve the person from fully complying with all applicable state and county laws or rules, or federal laws and regulations.</p>	<p>Applicable to Alternatives 3 through 7, if remedial actions result in air emissions. HAR 11-60.1 lists the processes that are exempt from this regulation.</p> <p>Permits not required under CERCLA actions but the Air Force must follow the substantive requirements.</p>
Activities Causing Stormwater Runoff	Hawaii Water Pollution Control, HAR 11-55, Appendix C	Applicable	The NPDES general permit covers discharged composed entirely of storm water runoff associated with construction activities, including clearing, grading, and excavation that result in the disturbance of one acre or more of total land area.	<p>Applicable to Alternatives 3 through 7, if construction activities disturb more than one acre of land.</p> <p>Permits not required under CERCLA actions but the Air Force must follow the substantive requirements.</p>
Grading, Excavation, Clearing, and Grubbing	ROH Chapter 14, Articles 13 through 16 (Required by HRS Title 12, Chapter 180C, Soil Erosion and Sediment Control)	Relevant and Appropriate	All grading, excavation, clearing, and grubbing activities need to be conducted in accordance with this regulation. One aspect of this is the erosion control plan.	Relevant and Appropriate for Alternatives 3 through 7. HRS 12-180C-1 specifically exempts federal lands from the definition of "land-disturbing activity."

Table B-4
 Action-Specific ARARs
FS Report for Sites LF01 and DA101, MCTAB, Hawaii

Action	Standard, Requirement, Criterion, or Limitation	ARAR Status	Description	Comment
Habitat Restoration	National Environmental Policy Act, 42 USC§4371 et seq., 40 CFR 1508.20, USFWS Mitigation Policy (46 CFR 7644 to 7663, 1981)	Applicable	Regulates activities that could affect habitat for federally protected species. Mitigation includes: <ul style="list-style-type: none"> – Avoiding the impact altogether by not taking a certain action or parts of an action – Minimizing impacts by limiting the degree or magnitude of the action and its implementation – Rectifying the impact by repairing, rehabilitating, or restoring the affected environment – Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action – Compensating for the impact by replacing or providing substitute resources or environments 	Applicable to Alternatives 3 through 7. Potential remedies at Sites LF01 and DA101 may affect habitat.
Waste Management				
Solid Waste				
Solid Waste Disposal	Solid Waste Disposal Act, 42 USC §6901 et. Seq., 40 CFR 241 Subtitle D	Applicable	Establishes procedures and minimum requirements for land disposal of solid waste.	Applicable to Alternatives 3, 4, 6, and 7, if solid wastes are stored or disposed offsite or off-island, all RCRA permitting regulations must be complied with.
	Hawaii Solid Waste Pollution Act, HRS 19-342H	Applicable	Regulates the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or constituent onto land, into water or groundwater, or into the air.	Applicable to Alternatives 3, 4, 6, and 7, if wastes are disposed of.

Table B-4
 Action-Specific ARARs
 FS Report for Sites LF01 and DA101, MCTAB, Hawaii

Action	Standard, Requirement, Criterion, or Limitation	ARAR Status	Description	Comment
Solid Waste Disposal	Hawaii Solid Waste Management Control Standards, HAR 11-58.1	Applicable	Regulates the design, construction, installation, operation, and maintenance of solid waste disposal systems	Applicable to Alternatives 3, 4, 6, and 7, if wastes are disposed of.
Municipal Solid Waste Landfill Closure	Hawaii Solid Waste Management Control Standards, HAR 11-58.1-17	To Be Considered	<p>All municipal solid waste landfill units must install a final cover system designed to minimize infiltration and erosion. The cover system must have:</p> <ul style="list-style-type: none"> - Permeability less than or equal to the bottom liner or no greater than 1×10^{-5} cm/sec - A minimum 18-inch earthen infiltration layer - A minimum 6-inch earthen erosion layer capable of sustaining plant growth <p>An alternative cover system may be approved by the HDOH director.</p> <p>A notice regarding the presence of the landfill must be placed in the deed. The cover, leachate collection, groundwater monitoring, and gas monitoring systems must be maintained for 30 years.</p>	<p>To be considered for Alternatives 3, 4, 6, and 7.</p> <p>The substantive capping requirements for landfill will be consulted in the capping or covering of the sites, but will not necessarily govern all aspects of the final design. The ARARs and presumptive remedy guidance do not prohibit the use of a soil cover, as opposed to an engineered cap, as a mitigation measure to prevent human and ecological contact with surface and near-surface contaminants.</p>
Hazardous Waste				
General Hazardous Waste Management	Hawaii Hazardous Waste System: General, HAR11-260	Applicable	Established definitions and references, as well as procedures and criteria for rulemaking petitions, including variances and delistings.	Applicable to Alternatives 6 and 7, if hazardous wastes are generated.

Table B-4
 Action-Specific ARARs
FS Report for Sites LF01 and DA101, MCTAB, Hawaii

Action	Standard, Requirement, Criterion, or Limitation	ARAR Status	Description	Comment
Hazardous Waste Generation	Hawaii Hazardous Waste Act, HRS Title 19 Chapter 342J	Applicable	The hazardous waste must be managed in a manner that protects the health, safety, and welfare of the citizens of the state and protects and conserves the state's natural resources and environment. Requires permit to treat, store, and dispose of hazardous waste.	Applicable to Alternatives 6 and 7, if hazardous wastes are generated.
	Hawaii Identification and Listing of Hazardous Waste, HAR 11-261	Applicable	<p>Defines solid wastes that are subject to regulations as hazardous wastes under 40 CFR Parts 262-266, 268, and 270.</p> <p>Characterization of wastes generated during a study or a remedial action would be conducted to determine if such wastes are hazardous (for example, contaminated PPE, equipment, wastewater) or excluded under HAR 11-261-4. Determine if the waste is hazardous by testing using prescribed methods (that is, the waste is reactive, corrosive, ignitable, or toxic [the D waste codes]) or by applying generator knowledge based on information regarding material or processes used.</p> <p>Determine if the waste is listed hazardous waste under HAR 11-261 (that is, is F-,K-, P-, or U-listed waste).</p>	Applicable to Alternatives 6 and 7, if hazardous wastes are generated.
	Hawaii Standards Applicable to Generators of Hazardous Waste, HAR 11-262-20 through 23, 41, and 42	Applicable	A generator who transports, or offers for transportation, hazardous waste for offsite treatment, storage, or disposal must follow the applicable procedures for waste manifest, recording keeping, and reporting.	Applicable to Alternatives 6 and 7, if hazardous wastes are generated.

Table B-4
 Action-Specific ARARs
 FS Report for Sites LF01 and DA101, MCTAB, Hawaii

Action	Standard, Requirement, Criterion, or Limitation	ARAR Status	Description	Comment
Hazardous Waste Accumulation	Hawaii Standards Applicable to Generators of Hazardous Waste, HAR 11-262-34	Applicable	These requirements are applicable to hazardous waste that is held temporarily onsite before offsite disposal. Very specific requirements are discussed in the regulations, including labeling, management, training, and others. Consult the regulations for specific information.	Applicable to Alternatives 6 and 7, if hazardous wastes are generated and accumulated onsite for longer than 90 days. The hazardous waste accumulation would be subject to RCRA requirements for storage facilities.
Container Storage	Hawaii Standards for Owners and Operators of Hazardous Waste Treatment, Storage and Disposal Facilities, HAR 11-264-171 through 175, 179; HAR 11-264-175 (a) and (b) Hawaii Standards Applicable to Generators of Hazardous Waste, HAR 11-262-34(c)(1)	Applicable	Containers of RCRA hazardous waste must: <ul style="list-style-type: none"> - Be maintained in good condition - Be compatible with hazardous waste to be stored - Be closed during storage except to add or remove waste - Have adequate secondary containment when stored onsite - Be marked with "hazardous waste" or other words identifying contents Place containers on a sloped, crack-free base, and protect from contact with accumulated liquid. Provide a containment system with a capacity of 10 percent of the volume of containers with liquids. Remove spilled or leaked waste in a timely manner to prevent overflow of the containment system.	Applicable to Alternatives 6 and 7, if hazardous wastes are generated and stored temporarily in containers at the site before offsite disposal.
Container Management	Hawaii Standards Applicable to Generators of Hazardous Waste, HAR 11-262-30 through 34	Applicable	Before transportation, containers would be packaged, labeled, marked, and placarded in accordance with RCRA and Department of Transportation requirements.	Applicable to Alternatives 4 and 5, if containers that are used to hold hazardous wastes are sent offsite for disposal.

Table B-4
 Action-Specific ARARs
FS Report for Sites LF01 and DA101, MCTAB, Hawaii

Action	Standard, Requirement, Criterion, or Limitation	ARAR Status	Description	Comment
Staging Piles	RCRA, 40 CFR 264.554	Relevant and Appropriate	During corrective action, remediation waste can be placed in piles without triggering LDRs or MTRs. Must not operate for more than 2 years and must be designated by appropriate agencies.	<p>Relevant and appropriate for Alternatives to Alternatives 6 and 7.</p> <p>This provision would allow for temporary storage of remediation wastes characterized as hazardous before and/or after treatment.</p> <p>The provision is found in the federal regulations, but has not yet been adopted by Hawaii.</p>
Waste Pile	Hawaii Standards for Owners and Operators of Hazardous Waste Treatment, Storage and Disposal Facilities HAR 11-264-251	Applicable	Hazardous waste that is put into piles is subject to LDRs. A double liner with leachate collection system is required, although a single liner may be used with HDOH approval.	Relevant and appropriate to Alternatives 6 and 7, if remedial action involves soil excavation and non-containerized solid nonflammable hazardous soil is stockpiled onsite before treatment or offsite disposal.
Transportation of Hazardous Materials	Hawaii Standards Applicable to Transporters of Hazardous Waste, HAR 11-263-20 through 22	Applicable	<p>Set up standards that apply to persons transporting hazardous waste within the United States if transportation requires a manifest under 40 CFR Part 262.</p> <p>Transporter of hazardous waste must comply with the Manifest System and Record Keeping.</p>	Applicable to Alternatives 6 and 7, if hazardous wastes are sent offsite for disposal.

Table B-4
 Action-Specific ARARs
 FS Report for Sites LF01 and DA101, MCTAB, Hawaii

Action	Standard, Requirement, Criterion, or Limitation	ARAR Status	Description	Comment
	Hazardous Materials Transportation Act, 49 CFR 171-177	Applicable	Established standards for packaging, labeling, and transporting hazardous materials (which include hazardous wastes).	Applicable to Alternatives 6 and 7, if hazardous materials are encountered and transported offsite. The substantive and procedural portions of requirements would be ARARs for hazardous wastes transported offsite.
Hazardous Waste LDR	Hawaii LDRs, HAR 11-268	Applicable	<p>Identifies hazardous wastes that are restricted from land disposal. Defines those circumstances under which prohibited waste may continue to be disposed of to land.</p> <p>Hazardous waste may be land disposed of only if it meets the requirements in the table "Universal Treatment Standards" before land disposal.</p>	<p>Applicable to Alternatives 6 and 7, if remedial action involves soil excavation and the excavated soil and waste characterized as hazardous waste is placed on land (for example, accumulation of soil before disposal).</p> <p>Note that the federal rules allow a 10x the waste LDR concentration for land disposal of soils under 40 CFR 268.49 or a soil treatability variance according to 40 CFR 268.44 (h)(3) and (4). These provisions have not been adopted by Hawaii.</p>
Treatment in Miscellaneous Units	Hawaii Standards for Owners and Operators of Hazardous Waste Treatment, Storage and Disposal Facilities HAR 11-264-601	Applicable	These regulations include design, operation, maintenance, and closure requirements for miscellaneous treatment units and units that use chemical, physical, or biological treatment methods to treat hazardous waste.	Relevant and appropriate to units that treat waste <i>ex situ</i> , such as Alternatives 6 and 7.

Table B-4
 Action-Specific ARARs
FS Report for Sites LF01 and DA101, MCTAB, Hawaii

Action	Standard, Requirement, Criterion, or Limitation	ARAR Status	Description	Comment
Hazardous Waste Closure and Post-closure Care	Hawaii Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities, HAR 11-264-258(a) (Waste Pile Closure)	Relevant and Appropriate	At closure, owner shall remove or decontaminate all waste residues, contaminated containment system components, contaminated subsoils, structures, and equipment contaminated with waste and leachate, and manage them as hazardous waste.	Relevant and appropriate to Alternatives 6 and 7, if remedial action involves excavation of hazardous soil and the non-containerized hazardous soil may be stockpiled onsite before treatment or offsite disposal.
Hazardous Waste Closure and Post-closure Care	HAR 11-264-115 (Certification of Closure)	Relevant and Appropriate	Within 60 days of the completion of final closure, the owner or operator must submit to the HDOH director, by registered mail, a certification that the hazardous waste management unit or facility, as applicable, has been closed in accordance with the specifications in the approved closure plan.	Relevant and appropriate for Alternatives 6 and 7 if waste-pile closure is applied.
	HAR 11-264-117 (Post-closure care)	Relevant and Appropriate	Post-closure care lasts for 30 years unless otherwise decided by the HDOH director.	Relevant and appropriate for Alternatives 6 and 7 if waste-pile closure is applied.
	HAR 11-264-118 (Post-closure Plan)	Relevant and Appropriate	A written post-closure care plan should describe: <ul style="list-style-type: none"> - Planned monitoring activities and the frequency at which they will be performed - Planned maintenance activities and frequencies to ensure the integrity of the final cover/cap and the function of the monitoring equipment - The name, address, and phone number of the person or office responsible for the landfill 	Relevant and appropriate for Alternatives 6 and 7 if waste-pile closure is applied.

Table B-4
 Action-Specific ARARs
FS Report for Sites LF01 and DA101, MCTAB, Hawaii

Action	Standard, Requirement, Criterion, or Limitation	ARAR Status	Description	Comment
	HAR 11-264-119 (a) and (b) (Post-closure Notice)	Relevant and Appropriate	<p>Within 60 days of final closure, the county zoning authority and HDOH must be notified of the type, location, and quantity of hazardous waste disposed of at the facility. For hazardous waste disposed of before January 12, 1981, the owner/operator must identify the type, location, and quantity of hazardous waste to the best of its knowledge and ability.</p> <p>A notice must be placed in the deed that the land has been used to manage hazardous wastes, the land use is restricted under Subchapter G regulations, and the notifications mentioned in HAR 11-264-119(a) have been made. A certification that this information has been submitted must be made to HDOH.</p>	Relevant and appropriate for Alternatives 6 and 7 if waste-pile closure is applied.
	HAR 11-264-120 (Certification of Completion of Post-closure Care)	Relevant and Appropriate	The owner/operator must submit a certification to the HDOH director that post-closure care has been completed in accordance with the plan within 60 days after completion of post-closure care.	Relevant and appropriate for Alternatives 6 and 7 if waste-pile closure is applied.
General Facility/Operational Requirements				
Any condition that may have an adverse effect on public health	Hawaii Sanitation Regulations, HAR 11-11	Applicable	Provides minimum standards of sanitation so that public health and human welfare will be protected and safety hazards will be minimized	Will apply to Alternatives 2 through 7.

Table B-4

Action-Specific ARARs

FS Report for Sites LF01 and DA101, MCTAB, Hawaii

Action	Standard, Requirement, Criterion, or Limitation	ARAR Status	Description	Comment
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Notes:

ARAR status depends on the specific remedial alternatives evaluated. ARAR status will be reevaluated once the alternatives are determined.

- ARAR = applicable or relevant and appropriate requirement
- AW = Airlift Wing
- CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act
- CFR = Code of Federal Regulations
- DOT = Department of Transportation
- EPA = U.S. Environmental Protection Agency
- FR = Federal Register
- HAR = Hawaii Administrative Rules
- HDOH = Hawaii Department of Health
- HRS = Hawaii Revised Statutes
- LDR = land disposal restriction
- MTR = minimum technology requirements for hazardous waste land disposal units
- NPDES = National Pollutant Discharge Elimination System
- OSWER = Office of Solid Waste and Emergency Response
- RCRA = Resource Conservation and Recovery Act
- ROH = Revised Ordinances of Honolulu
- USC = United States Code