



**TGM for the Implementation of the Hawai'i State Contingency Plan  
Section 19.0  
SITE CLOSURES**

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**State of Hawai'i  
Department of Health  
Office of Hazard Evaluation and Emergency Response  
919 Ala Moana Boulevard, Room 206  
Honolulu, Hawai'i 96814**



# TGM for the Implementation of the Hawai'i State Contingency Plan

## Section 19

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## TGM for the Implementation of the Hawai'i State Contingency Plan Section 19 ACRONYMS AND ABBREVIATIONS

### SECTION 19 ACRONYMS AND ABBREVIATIONS

<b>CERCLA</b>	Comprehensive Environmental Response, Compensation & Liability Act (also known as the Federal Superfund Law)
<b>DoD</b>	United States Department of Defense
<b>EAL</b>	Environmental Action Level
<b>HAR</b>	Hawai'i Administrative Rules
<b>HDOH</b>	Hawai'i Department of Health
<b>HDPE</b>	High density polyethylene
<b>HEER Office</b>	Hazard Evaluation and Emergency Response Office
<b>HRS</b>	Hawai'i Revised Statutes
<b>LOC</b>	Letter of Completion
<b>LUCIP</b>	Land Use Controls Implementation Plan
<b>LUCs</b>	Land Use Controls
<b>NFA</b>	No Further Action
<b>RCRA</b>	Resource Conservation and Recovery Act
<b>SCP</b>	Hawai'i State Contingency Plan
<b>UECA</b>	Uniform Environmental Covenants Act (HRS, Chapter 508C)
<b>USEPA</b>	United States Environmental Protection Agency
<b>VRP</b>	HEER Office Voluntary Response Program



## TGM for the Implementation of the Hawai'i State Contingency Plan Section 19.0 SITE CLOSURES

### 19.0 SITE CLOSURES

Under the Hawai'i State Contingency Plan (SCP) [i.e., Hawai'i Administrative Rules (HAR), Title 11, Chapter 451 (HAR Chapter 11-451)] an unrestricted site closure is granted as a "No Further Action", once the Hazard Evaluation and Emergency Response Office (HEER Office) of the State of Hawai'i Department of Health (HDOH) decides that no further action is necessary for a specific release, suspected release, or upon the successful completion of a response action (either removal or remedial action). If contaminated media remains on site that necessitates land use restrictions, a "No Further Action with Restrictions" is granted. The HEER Office also may issue "No Action" determinations if sampling data indicate no evidence of a release, or the documented release is judged by the HEER Office as not warranting cleanup or restriction.

An unrestricted site closure approved under the Voluntary Response Program (VRP) is granted as a "Letter of Completion" (LOC). If contaminated media remains on site necessitating land use restrictions, a "Letter of Completion with Restrictions" is granted.

Note that a restriction is distinct from a *condition*. All LOCs have conditions, but they may not be "restrictions" (for example, a site with a LOC allowing unrestricted use will have a condition that requires the LOC be noted on the deed and sent to the County agency that issues building permits).

Thus, the available types of site closures include:

- No Action
- No Further Action
- No Further Action with Restrictions
- Letter of Completion (under VRP)
- Letter of Completion with Restrictions (under VRP)

The HEER Office may also issue a "No Further Active Remediation Letter;" however, this is not a type of site closure. No Further Active Remediation status is intended for contaminated sites where potentially significant environmental concerns remain, but active remediation (e.g., excavation, soil vapor extraction, etc.) is no longer practical. This status may be helpful to site owners, financial institutions, and potential purchasers to establish the "environmental liability" of a site with remaining contamination prior to formal site closure.

Within the various types of site closures a number of possible outcomes exist, ranging from clean closures with no land use restrictions to containment-based remedies addressing contaminated media left on site with monitoring requirements and stringent land use restrictions.

The type of site closure being sought must be selected prior to or during the response action selection stage. To ensure the restrictions and limitations that will result from the selected type of closure are feasible and/or acceptable to stakeholders, use systematic planning processes (see [Section 3](#)) to guide the site closure process, keeping long-term use of the site in mind.



# TGM for the Implementation of the Hawai'i State Contingency Plan

## Section 19.1

### SITE CLOSURE SCOPING

#### 19.1 SITE CLOSURE SCOPING

Site closure scoping is an important step that includes evaluating future land uses and determining site closure implications of the selected remedy. Site closure scoping can be part of the removal action work plan/removal action alternatives analysis (see [Section 14](#)), or the remedial alternatives analysis/response action memorandum (see [Section 16](#)).

##### 19.1.1 EVALUATION OF FUTURE LAND USE

Planning or knowledge regarding future land use is crucial to evaluating site closure decisions. Evaluating future land use typically involves reviewing available records, determining current land use, inspecting the site and surrounding area, and discussing future uses with local government officials, current and future property owners, and the community. Further information about evaluating future land use is available from the United States Environmental Protection Agency (USEPA, 2001d).

##### 19.1.2 REMEDY SELECTION AND SITE CLOSURE IMPLICATIONS

During the remedial alternatives analysis (for remedial response actions), remedies undergo a comparative analysis that focuses on the performance of each remedial alternative against three criteria: (1) Effectiveness, (2) Implementability, and (3) Cost (see [Section 16](#)). In addition, all potential remedial alternatives, except the required No Action alternative, must meet the threshold criterion of being protective of human health and the environment.

Considering the post-closure implications of each remedial option is essential to properly evaluating long-term effectiveness, implementability, and cost. Several issues must be considered to attain a site closure that is acceptable for the planned future site use and to the stakeholders involved.

Issues to consider during remedy selection and evaluation of post-closure implications include:

- Will the remedy restrict future land (or groundwater) use at the site?
- Will stakeholders concur with the land use restrictions?
- Will current and future property owners commit to implementing and maintaining the land use restrictions?
- What practices and safeguards will need to be implemented and maintained to ensure safe use of the property?
- Will the remedy compromise the architectural integrity of on-site structures?
- How will land use restrictions affect the property value? For example, will financial institutions be wary of loaning funds to prospective purchasers in future real estate transactions if contaminated soil and/or groundwater remains on site?
- What will be the long-term costs of institutional and engineering controls associated with managing contamination on site?
- What long-term effectiveness can be expected of the institutional and engineering controls? For example, will institutional controls (e.g., an environmental covenant) and engineering controls (e.g., a visible marker or boundary layer) be effective in preventing future site occupants from digging into contaminated soil or groundwater?
- What potential legal liabilities may be caused by managing contaminated soil or groundwater on site? Are landowners and other stakeholders willing to accept those liabilities?
- Will an exemption of liability for prospective purchasers granted for voluntary response actions (if the cleanup is completed under the VRP) increase the value of the property? Will an increase in value outweigh any additional costs associated with participating in the VRP?

#### Containment Remedies

Remedies that leave hazardous substances remaining on site as a permanent solution are known as containment remedies, because the hazardous substances are not removed or destroyed, but only contained. Containment remedies prevent hazardous substances from impacting public health or the environment only as long as they are maintained. Use of containment remedies will necessitate land use restrictions at the site.

If a containment remedy is being evaluated, the potential for it to fail over the long-term should be closely assessed. Several examples of potential remedy failures include:

- Failing to continue operation and maintenance of an active engineering control, such as an active vapor mitigation system.
- Failing to implement, maintain, and report on required monitoring.
- Failing to notify construction workers, tenants, etc. of use restrictions.
- Failing to prevent forbidden land uses, such as allowing residential use of land or soil cleaned up only to commercial/industrial Environmental Action Levels (EALs).
- Actively breaching a passive engineering control, such as digging through a protective soil layer, barrier, or visible marker into contaminated soil.
- Failing to incorporate protective systems designed to prevent exposure, such as constructing a new building on the site without the necessary vapor mitigation measures.
- Sale of the property without appropriate disclosures

Containment can be the least expensive remedy in terms of initial capital costs. However, when all of the associated costs are included (such as institutional control development, preparation and implementation of an Environmental Hazard Management Plan (EHMP), long-term monitoring costs, long-term operation of engineering controls, future incremental costs of managing contaminated materials, depreciation of land value, and maintenance costs), containment remedies typically have comparable costs to treatment remedies or removal actions. These long-term costs should be included in the Removal or Remedial Alternatives Analyses. The potential consequences of containment remedy selection include:

- Continued reporting
- Continued cost for monitoring and operation and maintenance
- May be ordered to take action under Hawai'i Revised Statutes (HRS), Chapter 128D (HRS 128D) (the state government)
- May be ordered to take action under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (the federal government)
- Vulnerable to third-party torts if people claim harm
- Continued listing on state cleanup site lists
- Continued visibility to the community as a cleanup site with existing contamination
- Site flagged by Phase I Environmental Site Assessments
- Site listed as a liability on corporate balance sheets under Sarbanes-Oxley reporting
- Site property value decreased
- Less attractive to developers due to environmental protections needed for construction
- Engineering controls make future construction more difficult (e.g., concrete caps)
- Residual contamination may subject future construction workers to exposure hazards

In summary, remedial options must be thoroughly evaluated to determine the post-closure implications of each. Selection of a site closure option acceptable to the stakeholders involved will expedite the process and avoid costly and unnecessary delays.



## TGM for the Implementation of the Hawai'i State Contingency Plan Section 19.2 UNRESTRICTED CLOSURES

### 19.2 UNRESTRICTED CLOSURES

If contaminated media is removed or treated to concentrations below the Tier 1 EALs or alternate action levels approved by the HEER Office, the site may be closed with unrestricted use (i.e., a No Action, a No Further Action, or a Letter of Completion).

#### 19.2.1 NO ACTION

The HEER Office may, at its discretion, elect to review and provide determinations on sites where a property owner or prospective purchaser suspected a release that was disconfirmed by appropriate sampling data. In such cases, a No Action letter may be granted by the HEER Office. Examples include Phase II sampling to investigate an identified "recognized environmental condition" and appropriate screening of former agricultural fields for pesticide contamination. In cases where representative sampling indicates that contaminant levels are present above natural background levels but below applicable EALs, the HEER Office may elect to issue a No Further Action letter rather than a No Action letter.

#### 19.2.2 NO FURTHER ACTION

An unrestricted site closure under the Hawai'i SCP (HAR Chapter 11-451) is granted as a No Further Action (NFA). Once the HEER Office decides that no further action is necessary for a specific release, suspected release, or upon the successful completion of a response action (either removal or remedial action), a NFA letter will be sent to the responsible party(s) and the property owner. If the response action has resulted in either (1) removal of impacted media or (2) treatment of impacted media to concentrations below EALs for a residential land use scenario and any ecological concerns, the site closure is referred to as a "clean closure" or an "unrestricted closure." No land use restrictions are necessary and the site can be used for all potential future land uses. No further reporting requirements are necessary to HDOH. If new information indicates that contamination is present at levels of concern, the HEER Office may re-open the site and require additional assessment and cleanup work (as necessary) to be performed.

#### 19.2.3 LETTER OF COMPLETION

An unrestricted site closure under the VRP (HRS 128D, Part II) is granted as a LOC. The purpose of the VRP is to minimize environmental liability and assure timely HEER Office oversight in a way that will encourage prospective developers, lenders, and purchasers to voluntarily clean up properties. The VRP facilitates the cleanup process and, in certain situations, provides relief from the strict liability provisions of the Federal CERCLA and Hawai'i Environmental Response Laws. The greatest benefit to a site closure under the VRP is exemption of future liability for prospective purchasers and developers for the specific hazardous substances, pollutants, contaminants, media, and land area addressed in the voluntary response action, as specified in the LOC. An existing landowner does not receive relief from the strict liability provisions by undertaking a VRP cleanup; these protections extend only to prospective purchasers, future owners, operators, and tenants.

Following receipt of an unrestricted LOC, the site can be used for all potential future land uses. No further reporting to the HDOH is required. The LOC is noted on the property deed and is sent to the county agency that issues building permits. The LOC "runs with the land" and applies to all future owners of the property.

HDOH may only order a prospective purchaser who receives a LOC to re-open the site if future information indicates that contamination is present at levels of concern (above Tier 1 EALs) for contaminants and media *not listed in the LOC and VRP Agreement*, or if a new release of contaminants and media listed in the LOC and VRP agreement occurs after the LOC is signed.



## TGM for the Implementation of the Hawai'i State Contingency Plan Section 19.3 CLOSURES WITH USE RESTRICTIONS

### 19.3 CLOSURES WITH USE RESTRICTIONS

If contaminated media is left on site necessitating institutional or engineering controls to prevent potential future exposures, the site is closed with restricted use (i.e., a No Further Action with Restrictions or a Letter of Completion with Restrictions). The potential environmental hazards posed by leaving contaminated media on site must be assessed and documented in an Environmental Hazard Evaluation (EHE) (see [Subsection 19.5](#)). The mechanism to manage the environmental hazards posed by contaminated media left on site is called an EHMP (see [Subsection 19.6](#)).

A typical example of a restricted use closure is a petroleum-release site where petroleum-impacted soil cannot be fully excavated from the site (e.g., petroleum-impacted soil cannot be removed without jeopardizing structural integrity of a building). In the example, soil gas samples would need to be collected from beneath the slab, and resulting data may indicate a potential environmental hazard from subsurface vapor intrusion into indoor air spaces. The site may be closed with restricted use, but engineering controls (e.g., an active vapor mitigation system); institutional controls (i.e., an environmental covenant to restrict land use) may be necessary to prevent future exposures. An EHE would be required to assess potential hazards posed by the remaining petroleum contaminated soil. An EHMP would be required to document and manage the residual contaminated soil, engineering controls, and institutional controls. The EHMP typically would be attached to the closure document and, if applicable, the environmental covenant (see [Subsection 19.8.1](#)).

Another example of a restricted use closure is a case where only a land use restriction is required, with no engineering controls. This may be commonly applied in situations where representative contaminant levels are above the soil or groundwater "residential use" EALs, but below applicable "commercial/industrial use" EALs at a site zoned for commercial or industrial use. In this case, the site closure restriction would allow only a commercial/industrial use of the property, until such time as additional site investigation or site remediation demonstrates contaminant levels are below EALs for residential or unrestricted use. As noted in the example above, an EHMP typically would be attached to the closure document and, if applicable, the environmental covenant, to help document and manage the institutional controls at the site (e.g., the land use restrictions).

#### 19.3.1 NO FURTHER ACTION WITH RESTRICTIONS

A restricted use closure under the Hawai'i SCP (HAR Chapter 11-451) is granted as a NFA with Restrictions. If the removal or remedial action has resulted in leaving contaminated media on site, the site closure is referred to as a "restricted use closure." An EHE must be prepared to document and assess environmental hazards posed by the remaining contaminated media. Institutional and/or engineering controls are necessary to prevent future exposures; therefore, future land uses are restricted. An EHMP is necessary to manage the residual contamination, engineering controls, and/or institutional controls.

#### 19.3.2 LETTER OF COMPLETION WITH RESTRICTIONS

A restricted use closure under the VRP (HRS 128D, Part II) is granted as a LOC with Restrictions. An EHE must be prepared to document and assess environmental hazards posed by the remaining contaminated media. Institutional and/or engineering controls are necessary to prevent future exposures; therefore, future land uses are restricted. An EHMP is necessary to manage the residual contamination, engineering controls, and/or institutional controls. Long-term (periodic) monitoring and reporting may be required to the HEER Office.

The LOC with Restrictions is noted on the property deed and is sent to the county agency that issues building permits. The restrictions on the LOC "run with the land" and apply to all future owners of the property.

HDOH may order a prospective purchaser receiving a LOC to re-open the site only if institutional or engineering controls that are part of the LOC are not being maintained, or contaminant concentrations are discovered at levels of concern (above Tier 1 EALs) for contaminants and media not listed in the LOC and VRP Agreement, or if a new release of contaminants and media listed in the LOC and VRP agreement occurs after the LOC is signed. HDOH cannot require prospective purchasers to perform additional work for contaminants and media covered in the VRP Agreement, as they have exemption from liability under HRS 128D, Part II.





## TGM for the Implementation of the Hawai'i State Contingency Plan Section 19.4 NO FURTHER ACTIVE REMEDIATION LETTER

### 19.4 NO FURTHER ACTIVE REMEDIATION LETTER

A No Further Active Remediation Letter is available for contaminated sites where potentially significant, environmental concerns remain but active remediation (e.g., excavation, soil vapor extraction, etc.) is no longer practical. This type of letter is often used when further excavation can jeopardize the structural integrity of buildings. If needed, a letter may be requested from the HEER Office indicating that No Further Active Remediation is required at such a site.

A No Further Active Remediation status is not considered a type of site closure. The case will remain "open" in the HEER Office site records. The letter is intended to clarify that all major cleanup actions have been completed at the site, but significant contamination remains and the site has moved into a status of long-term monitoring and management. This status may be helpful to site owners, financial institutions, and potential purchasers to establish the "environmental liability" of a site with remaining contamination prior to formal site closure. The No Further Active Remediation letter may also contain conditions of further work when (or if) the site is redeveloped. The need for on-going groundwater monitoring or soil gas monitoring may indicate a No Further Active Remediation Letter is not yet appropriate.

An EHE must be prepared to document and assess the remaining contamination. An EHMP must be prepared to manage the contamination, engineering controls, and/or institutional controls. The EHMP must include a description of conditions that must be met before the site can be formally closed with status of either No Further Action or a No Further Action with Restrictions.

Additional information regarding No Further Active Remediation letters is presented in HDOH guidance on Long-Term Management of Petroleum-Contaminated Soils and Groundwater ([HDOH, 2007c](#); included as [Appendix 19-A](#)). This document outlines procedures for long-term management of residual petroleum contamination where a full cleanup is not practicable. The guidance document includes discussion and figures providing decision trees to address long-term oversight of residual petroleum contamination.



## TGM for the Implementation of the Hawai'i State Contingency Plan Section 19.5 ENVIRONMENTAL HAZARD EVALUATION

### 19.5 ENVIRONMENTAL HAZARD EVALUATION (EHE)

*Environmental Hazard Evaluation* (EHE) is the link between site investigation activities and response actions. In addition, if contaminated media is left on site under a restricted use closure, the EHE is necessary to assess and document potential environmental hazards posed by the contamination. Results of the EHE are crucial in selecting the appropriate measures, such as engineering and/or institutional Controls, to prevent future exposures. [Section 13](#) presents a detailed discussion on the preparation of an EHE.



## TGM for the Implementation of the Hawai'i State Contingency Plan Section 19.6 ENVIRONMENTAL HAZARD MANAGEMENT PLAN

### 19.6 ENVIRONMENTAL HAZARD MANAGEMENT PLAN (EHMP)

If contaminated media is left on site under a restricted use closure, an *Environmental Hazard Management Plan (EHMP)* also must be prepared to manage environmental hazards identified in the EHE over the long-term. An EHMP presents all necessary information in a single, stand-alone document that identifies the nature and extent of remaining contamination, potential environmental concerns posed by the contamination, and appropriate measures to ensure that these concerns are adequately addressed. The EHMP is typically attached to the closure document, and if applicable, to the environmental covenant restricting site use.

In the EHMP, long-term environmental hazards must be clearly assessed and documented to ensure that in-place management of the remaining impacted media is viable and carried out properly. A discussion of the need for and management of institutional and/or engineering controls must be included. This could include restrictions on future use of the property, installation of vapor mitigation systems under buildings, capping of contaminated soil to prevent exposure or leaching, or long-term monitoring of groundwater, etc.

The EHMP must include the following at a minimum (also see [Section 18.5.16](#)):

- Brief summary of the site background and history of contaminant releases
- Identification of the Chemicals of Potential Concern
- Clear depiction of the extent and magnitude of remaining contamination in soil, groundwater and/or soil gas, presented on easily readable, to-scale maps with a north arrow
- Identification and discussion of all potential environmental hazards
- Requirements for long-term monitoring of contaminants in soil, groundwater, and/or soil gas
- Discussion of engineering and/or institutional controls needed to address identified environmental hazards to eliminate exposure pathways
- Guidance on proper handling, reuse and disposal of contaminated soil and/or groundwater that is encountered during future site activities
- Specific description of construction worker protections and notifications required
- Use restrictions to protect occupants, residents, guests, etc.
- Measures for repair or replacement of engineering controls that are disturbed or breached during future site activities
- Any other information required to adequately mitigate and manage remaining environmental concerns at the site

A brief Fact Sheet that summarizes key elements of the EHMP in simple, non-technical terms is required for large, complex sites where significant public review is anticipated.



# TGM for the Implementation of the Hawai'i State Contingency Plan

## Section 19.7

### INSTITUTIONAL AND ENGINEERING CONTROLS

#### 19.7 INSTITUTIONAL AND ENGINEERING CONTROLS

Appropriate measures must be used to mitigate the environmental hazards posed by contaminated media left on site in restricted use closures. These measures are defined as institutional controls and engineering controls. *Institutional controls* are methods intended to prevent exposure to contaminated media by legal or procedural means (for example, environmental covenants), as opposed to *engineering controls*, which are methods of exposure prevention by physical means (for example, an active vapor mitigation system to prevent subsurface vapor intrusion into indoor air spaces).

Institutional controls alone are generally not sufficient to mitigate environmental hazards, with the exception of commercial or industrial zoned sites where representative sampling has demonstrated contaminant levels are above residential or unrestricted use EALs, but below applicable commercial/industrial use EALs. Engineering controls require institutional controls for their long-term management. Consequently, in most cases, institutional and engineering controls must be used together to adequately manage remaining environmental hazards at restricted use closure sites.

#### 19.7.1 INSTITUTIONAL CONTROLS

Institutional controls are legal or administrative measures that prevent exposure by influencing human behavior through laws, rules, permits, requirements, contracts, warnings, and advisories. Institutional controls help to minimize the potential for human exposure to contaminated media by controlling activities that may affect exposure. Institutional controls also restrict land use and on-site activity that might interfere with the containment of contaminated media left on site. Examples of institutional control measures include:

- Prohibition on excavation of soil
- Prohibition on use of groundwater
- Prohibition on residential or other sensitive land use

HDOH's primary legal instrument for establishing institutional and/or engineering controls at a site is the site closure document. HDOH may, at its discretion, require an *environmental covenant* to provide additional long-term protection for sites with significant and persistent contamination (see [Subsection 19.8.1](#)).

#### 19.7.2 ENGINEERING CONTROLS

*Engineering controls* are tangible measures that prevent exposure by physically preventing humans (or wildlife) from coming into contact with contaminated media left on site at restricted use closure sites. Institutional controls are required to ensure that engineering controls are properly managed. Examples of engineering controls include:

#### Soil Contamination

- Capping systems – contaminated soil is covered with a cap to reduce surface-water infiltration and leaching, control gas and odor emissions, improve aesthetics, provide a stable surface over the contaminated soil, and prevent human exposure from direct contact. Caps can range from a simple native soil cover to single layer caps (e.g., asphalt/concrete and soil/bentonite/clay) to multi-layer cover systems (e.g., Resource Conservation and Recovery Act [RCRA] caps) to buildings or structures.

Consideration must be given to the type, magnitude, and extent of contaminated soil when selecting the appropriate cap. A cap for soils contaminated with highly toxic and persistent contaminants should be highly durable and long lasting, such as a multi-layer cover system.

Soil caps may be appropriate at certain sites where future development/construction is highly unlikely and institutional controls are used to restrict such land use. The soil cap thickness is determined considering site-specific factors but must be adequate to reduce or eliminate the environmental hazard(s). A visible marker, such as orange construction fencing, is generally used to mark the top of the contaminated soil layer. Soil caps are typically used for non-volatile contaminants where leaching is not a concern.

If a structure is used as a cap, the permanence of the proposed building must be considered. For example, a high-rise structure designed and built for the long-term would be an appropriate "building cap" for significantly contaminated soils.

The shorter life span of less durable structures must be taken into account when assessing long-term effectiveness of the cap.

- On-site Encapsulation/Repository – for potentially mobile contaminants, soil is consolidated and encapsulated into a lined subsurface on-site cell or vault. Such systems are designed to eliminate or reduce surface-water infiltration and leaching, control gas and odor emissions, improve aesthetics, and prevent human and ecological exposure from direct contact. On-site repositories range from High Density Polyethylene (HDPE) liner encapsulation to subsurface concrete vaults. For non-mobile contaminants, unlined borrow pits may be adequate for on-site management.

### **Groundwater Contamination**

- Hydraulic Containment – measures are used to control the hydraulic gradient to minimize the spread of a groundwater plume. One example is the use of pumping wells to actively prevent the plume from spreading and reaching drinking water wells, surface water, or uncontaminated aquifers, etc. Another example is a slurry wall in which low permeability materials, such as grout, are injected into the subsurface to contain a groundwater plume. Institutional controls are necessary to restrict groundwater use.
- Alternative Water Source – an alternative water source can be provided to an area where groundwater is contaminated and not suitable for ingestion. Institutional controls are necessary to restrict groundwater use.

### **Sediment Contamination**

- Capping systems - contaminated sediments are covered with a cap to eliminate erosion and dissolution into the water body, improve aesthetics, provide a stable surface over the contaminated sediment, and prevent human and ecological exposure from direct contact. An example is lining a streambed containing contaminated sediments with an impermeable material, such as HDPE liner, and then stabilizing the liner with highly durable materials, such as riprap and concrete.
- Dredging - An ongoing dredging program can be used as an engineering control of contaminated sediments, as well.

### **Soil Vapor Contamination**

- Vapor barriers – impermeable materials are placed beneath a proposed building site to prevent subsurface vapor intrusion into indoor air spaces. Active vapor removal systems should be considered for sites with significant soil gas issues in which a gas collection system is placed beneath the barrier and connected to a suction fan, which may be vented above the roof of the building, or connected to a vapor treatment system such as a thermal oxidizer or granular activated carbon.



## TGM for the Implementation of the Hawai'i State Contingency Plan Section 19.8 LEGAL INSTRUMENTS FOR RESTRICTED USE CLOSURES

### 19.8 LEGAL INSTRUMENTS FOR RESTRICTED USE CLOSURES

The primary legal instrument for establishing engineering and/or institutional controls at a site is the HDOH closure determination. Environmental covenants and land use restrictions listed in a LOC with Restrictions and noted on the property deed for sites in the VRP are another legal instrument for establishing institutional controls. At Department of Defense (DoD) Installation Restoration sites, Land Use Controls (LUCs) are implemented through a Land Use Controls Implementation Plan (LUCIP).

#### 19.8.1 UNIFORM ENVIRONMENTAL COVENANTS ACT (UECA) ENVIRONMENTAL COVENANT

The Uniform Environmental Covenants Act (UECA) is a Uniform Law that was approved by the Uniform Law Commission (also known as National Conference of Commissioners on Uniform State Laws) in 2003. The State of Hawai'i adopted the UECA as Senate Bill 1167 in 2006 [Hawai'i Revised Statutes (HRS), Chapter 508C (HRS 508C)]. The act is codified as HRS Chapter 508C. UECA establishes requirements for a new valid real estate document called an *environmental covenant* to control the future use of sites with contaminated media left on site when real estate is transferred from one person to another.

An environmental covenant is a legal device that restricts activities for sites where contaminated media is left on site. In such cases, institutional controls are needed to restrict land use to supplement the remedy and ensure safe land use. A UECA environmental covenant is based upon traditional property law principles and must be recorded in the local land records, thereby binding successive owners of the property. The State of Hawai'i has clear rights to enforce the land use restrictions under UECA covenants, ensuring with greater certainty the protection of human health and the environment throughout the life of the land use restriction and through real estate transactions or legal actions.

HDOH, at its discretion, may require UECA covenants. In general, these covenants are required for risk-based closures with extensive or highly persistent contamination. They may also be required where there are foreseeable future use changes that could expose sensitive populations.

An example UECA environmental covenant is provided in [Section 18.6.5](#).

#### 19.8.2 VOLUNTARY RESPONSE PROGRAM (VRP) LETTER OF COMPLETION (LOC)

Site closure under the VRP (HRS 128D, Part II) is granted as a LOC. Under HRS 128D, Part II, a LOC is noted on the property deed and is sent to the county agency that issues building permits. The benefits and restrictions of the LOC "run with the land" and apply to all future owners of the property. Also see [Subsections 19.2.3](#) and [19.3.2](#).

#### 19.8.3 DOD LAND USE CONTROLS IMPLEMENTATION PLANS (LUCIPS)

Under DoD guidance ([DoD, 2001](#)), LUCs may be placed on DoD real property because of environmental restoration concerns. The Installation must then develop an implementation plan for the LUCs. A LUCIP is a DoD internal management tool that explains how LUCs will be established and identifies the individual(s) responsible for their maintenance and management. The LUCIP is incorporated in the DoD Installation Master Plan (DoD, 2001). DoD guidance (DoD, 2001) mandates that if a property subject to LUCs is transferred from federal ownership, the LUCs must be incorporated into the property transfer documents. Specifically, necessary language for the LUCs must be drafted, such as deed restrictions or restrictive covenants ([DoD, 2001](#)).

During the time the federal government owns a property subject to LUCs, the HDOH has agreed that DoD LUCIPs will be sufficient to comply with the UECA ([HDOH, 2007b](#)). In other words, as long as the DoD LUCs are clearly identified and observed pursuant to DoD policy (through the use of a LUCIP), the HDOH does not require that DoD place UECA covenants on federally owned property. For Installation Restoration sites, the DoD must, however, provide the HDOH with information including (1) the site location, (2) the specific LUCs at the site, and (3) other reasonably available information regarding the site requested by the HDOH. The site will then be included in the HDOH registry of sites with land use restrictions. This provision is not currently required for active installations ([HDOH, 2007b](#)).

If a property that is subject to LUCs is transferred from federal ownership, the DoD must execute a restrictive covenant regarding the LUCs in a form acceptable to the HDOH. The restrictive covenant must be recorded on the title of the property.

#### **19.8.4 PROPERTY TRANSFERS AND SITE CLOSURES WITH USE RESTRICTIONS**

All sites closed with restrictions require ongoing participation from the property owner to maintain safe use of the property, and prevent remedy failure. Therefore, HDOH strongly recommends that residual contamination and required institutional and/or engineering controls be freely disclosed to potential purchasers prior to property transfer.



## TGM for the Implementation of the Hawai'i State Contingency Plan Section 19 REFERENCES

### SECTION 19 REFERENCES

Citation references for this TGM Section denoted with an "a", "b", "c", etc... after the year of publication may not appear in sequence as these refer to the order placed in the [Master References](#) List for the entire TGM.

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**DoD, 2001.** Department of Defense. Policy on Land Use Controls Associated with Environmental Restoration Activities. Website URL: [http://portal.navfac.navy.mil/portal/page/portal/navfac/navfac\\_ww\\_pp/navfac\\_nfesc\\_pp/environmental/erb/gpr/dod-luc-1-17-01.pdf](http://portal.navfac.navy.mil/portal/page/portal/navfac/navfac_ww_pp/navfac_nfesc_pp/environmental/erb/gpr/dod-luc-1-17-01.pdf). [Local Copy](#) (1.1mb). January 17, 2001.

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**USEPA, 2001d.** United States Environmental Protection Agency. Reuse Assessments: A Tool to Implement the Superfund Land Use Directive. Office of Solid Waste and Emergency Response (OSWER) Memorandum 9355.7-06P. Website URL: <http://www.cluin.org/download/toolkit/thirdednew/reuseassesstool.pdf>. [Local Copy](#) (87kb). June 4, 2001.





# TGM for the Implementation of the Hawai'i State Contingency Plan

## Section 19

### APPENDICES

#### SECTION 19 APPENDICES

19-A Long-Term Management of Petroleum-Contaminated Soil and Groundwater.



**APPENDIX 19-A  
Long-Term Management of Petroleum-Contaminated Soil and  
Groundwater**

[\(see PDF file\)](#)