Project Title
Water Quality Control Policy for Low-Threat Underground Storage Tank Closure

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I. Introduction

The State Water Resources Control Board (State Water Board) is authorized to administer the petroleum Underground Storage Tank (UST) Cleanup Program, which was enacted by the Legislature in 1984 to protect human health, safety, and the environment. The State Water Board also implements the petroleum UST Cleanup Fund which was enacted by the Legislature in 1989 to assist UST owners and operators in meeting federal financial responsibility requirements and to provide reimbursement to those owners and operators for the high cost of cleaning up unauthorized releases of petroleum caused by leaking USTs (LUSTs).

Regulations and policies have created the framework for the investigation and cleanup of LUST cases, but do not address closure criteria for sites that pose a low threat to human health, safety, and the environment. Therefore, a proposed Low-Threat Underground Storage Tank Closure Policy (Policy) has been developed that establishes closure criteria for certain types of sites with unauthorized releases of petroleum from LUSTs that present a low threat to human health, safety, and the environment. In the absence of unique, site-specific conditions, cases that meet the criteria in the proposed Policy pose a low threat to human health, safety, or the environment and are appropriate for LUST case closure.

The proposed Policy has been developed by a group of nine individuals from a several different California UST stakeholder groups including two Regional Water Quality Control Boards (Regional Water Boards), a Local Oversight Program agency, a Water District, responsible party representatives from the Western States Petroleum Association and California Independent Oil Marketers Association, two participants from Non-Government Organizations, and a UST consultant.

II. Cleanup of LUST Sites in California

The construction and operation of USTs are permitted by local agencies pursuant to requirements in the Health and Safety Code and regulations adopted by the State Water Board in the California Code of Regulations, title 23. Newly constructed USTs have continuously monitored secondary containment, but older USTs were commonly constructed of single-walled steel. Unfortunately, these USTs were prone to corrosion and leaking into the soil and groundwater.

Leaks from USTs are regulated by local agencies, Regional Water Boards and the State Water Board. Cleanups must comply with applicable basin requirements and policies for water quality control. State Water Board Resolution 92-49, Policies and Procedures for Investigation and Cleanup and Abatement of Discharges under Water Code section 13304 is a state policy for water quality control and applies to petroleum UST cleanup cases.

There are nine Regional Water Boards and over 50 local agencies that oversee UST cleanup cases across the State. This can lead to inconsistencies in the interpretation of cleanup requirements and the cost and complexity of cleanups at similar sites in different jurisdictions.

III. Project Objectives

The purpose of the project is to establish consistent statewide closure criteria for low-threat LUST sites. The proposed Policy is consistent with existing statutes, regulations, State Water Board policies, and is intended to provide direction to responsible parties (RPs), their service providers, and regulatory agencies. The proposed Policy seeks to increase UST cleanup process efficiency. A benefit of improved efficiency is the preservation of limited resources for mitigation of releases posing a greater threat to human and environmental health.

IV. Project Description

The State Water Board proposes to adopt a low-threat UST case closure Policy (Appendix A). The proposed Policy is not intended to prematurely terminate work at sites, but rather to identify sites that pose a low threat, which meet state laws and existing State Water Board policies, and are ready for closure. The proposed Policy contains an exception for cases with site specific conditions that demonstrably increase the threat associated with residual petroleum constituents.

The proposed Policy identifies seven general criteria and three media-specific criteria. Sites must meet both the general site criteria and the media specific criteria to be closed under the proposed Policy. These criteria are listed below:

General Criteria

General criteria that must be satisfied by all candidate sites are listed as follows:

a. The unauthorized release is located within the service area of a public water system;
b. The unauthorized release consists only of petroleum;
c. The unauthorized (“primary”) release from the UST system has been stopped;
d. Free product has been removed to the maximum extent practicable;
e. A conceptual site model has been developed;
f. Secondary source removal has been addressed; and
g. Soil or groundwater has been tested for MTBE and results reported in accordance with Health and Safety Code section 25296.15.

Media Specific Criteria:

a. Groundwater – The releases of petroleum that occurred at many of the LUST sites in California have impacted groundwater. The policy specifies criteria that describe low-threat groundwater impacts. These include 5 different scenarios with differing

characteristics such as plume length, contaminant concentrations, and distance to wells. Requirements that apply to a particular site must be satisfied to meet the groundwater criterion.

b. Vapor Intrusion to Indoor Air – The vapor-intrusion criterion applies to petroleum release sites and impacted or potentially impacted adjacent parcels when existing buildings are occupied or are reasonably expected to be occupied or where buildings for human occupancy are reasonably expected to be constructed in the near future. The vapor-intrusion criterion includes four different scenarios with differing characteristics such as depth below ground surface, contaminant concentrations and characteristics, and oxygen concentrations. Requirements that apply to a particular site must be satisfied to meet the vapor-intrusion criterion.

c. Direct Contact and Outdoor Air Exposure – The proposed Policy describes conditions where direct contact with petroleum-contaminated soil or inhalation of petroleum volatized to outdoor air poses an insignificant threat to human health. A table showing acceptable maximum contaminant concentrations in soil and corresponding depths below ground surface is included in the proposed Policy.

Sites in the investigation and remediation phases of work will usually not be able to satisfy all of these criteria. This has the effect of limiting application of the proposed Policy to sites that are in the monitoring phase, essentially decreasing the duration of time spent monitoring a site.

Some regulatory agencies may already be implementing practices and procedures that conform to the closure criteria in the proposed Policy. For sites within these jurisdictions, implementation of the proposed Policy will have no effect. At sites regulated by agencies that are not currently implementing all of the criteria in the proposed Policy, implementation of the proposed Policy will cause changes in the timing of activities that normally occur in the corrective action process. However, these activities would occur at some point in the future when the site is closed under current practices. As a result, the effect of the proposed Policy is to change the timing of when the secondary environmental impacts associated with the closure of the site occur. Implementation of the proposed Policy, once adopted, could indirectly result in the following types of actions to occur sooner:

- Destruction of monitoring wells
- Removal of waste drums and debris
- Potential redevelopment of the site

In general, the proposed Policy will operate to end the environmental impacts associated with continued monitoring of site conditions such as waste disposal, greenhouse gas emissions due to traveling to and from the site, and traffic disruptions due to sampling wells located in the street. Adoption and implementation of the proposed Policy could, however, cause regulatory agencies to close cases with more petroleum left in place than with current practices. This would cause petroleum to remain in the subsurface subject to natural attenuation processes for a longer period of time.

V. Environmental Setting

UST Sites

Since 1984, over 43,500 leaking USTs have been identified. Of these, over 35,000 have been cleaned up and the regulatory case has been closed. This leaves roughly 8500 open cases still in the clean up process, yet to be closed.

These active cases span a broad range of release volume, volume of contaminated groundwater, threat to surface receptors, and other characteristics. Some cases have petroleum impacts limited to soil only, while others may have plumes of dissolved contaminants in groundwater that extend for hundreds or thousands of feet. Likewise, potential receptors that might be impacted by the release could be located close to the site or miles away. This diversity of release scenarios and distances to potential receptors combine to form a spectrum of risk posed by the leaking UST sites across California. Some sites pose a low threat to receptors and others pose a much higher threat.

The average age of the open cases is over 15 years. In addition to any active remediation which may have been undertaken, natural attenuation processes have been weathering and reducing the concentrations of contaminants over the period since the leak was stopped.

California

California contains a wide variety of bioregions, from desert environments below sea level, to coastal areas, to alpine areas of 14,000 feet or more in elevation. The diversity of geography colliding with temperature and moisture leads to a significant diversity of biological resources. California has the highest total number of species and the highest number of endemic species within its borders of any state. California also has the highest number of rare species (species typically listed under the federal Endangered Species Act (ESA) or the California ESA), and about one-third of those species are at risk, meaning these species have the potential for local or global extinction.

California is divided geographically into bioregions, which are classified by relatively large areas of land or water, which contain characteristic, geographically distinct assemblages of natural communities and species. The biodiversity of flora, fauna, and ecosystems that characterize a bioregion tend to be distinct from that of other bioregions. California is divided into 10 bioregions: Modoc, Klamath/North Coast, Sacramento Valley, Bay /Delta, Sierra, San Joaquin Valley, Central Coast, Mojave Desert, South Coast, and Colorado Desert (Figure 1).

Modoc Bioregion

This bioregion is also referred to as the Modoc Plateau and the Southern Cascade regions. The Modoc bioregion extends across California's northeast corner from Oregon to Nevada, and south to the southern border of Lassen County. The physical geography of the region includes flats, basins, valleys, lava flows, and mountains. High desert and forests are the dominant vegetation communities. Several major lakes (Goose, Eagle, and Tule) and Mount Lassen (10,450 feet in elevation) are dominant physical features. The bioregion shares many similarities with the Great

Basin region that forms much of its eastern boundary. The area's large lakes provide critical habitat for migratory birds.

Counties within this bioregion include all or portions of Plumas, Siskiyou, Butte, Tehama, Shasta, Lassen, and Modoc, which support relatively sparse population bases including the municipalities of Susanville and Alturas. This bioregion comprises the northern quarter of the Lahontan Hydrologic Region.

Figure 1: California Bioregions

Klamath/North Coast Bioregion

The Klamath/North Coast bioregion extends roughly one-quarter of the way down the 1,100-mile coast and east across the Coastal Ranges and into the Cascades. The region extends from the Oregon border to Point Arena and from the continental shelf to the Central Valley, including the looming Mount Shasta (14,160 feet tall) near the eastern boundary. The region is one of rugged relief, with severely sheared, faulted, and folded mountains forming parallel ridges and river valleys. It also has coastal terraces, lagoons, and populated floodplains, as well as off-shore islands, estuaries, and subtidal deep-water habitats. The California bioregional classification system does not include offshore and tidal areas. The marine portion of this bioregion is within two categories of California's marine and ocean classification system: Southern Oregonian Province and Central Ocean. Numerous rivers in this region offer spawning grounds for anadromous fish (e.g., salmon), including the Eel, Trinity, Klamath, Russian, Smith, Salmon, Scott, Mad, and Mattole Rivers. Large lakes include Clear Lake, Whiskeytown Lake, Clair Engle Lake, and the western part of Shasta Lake.

The region includes all or portions of 10 counties: Del Norte, most of Siskiyou, Humboldt, Trinity, Mendocino, Lake, and the northwestern portions of Shasta, Tehama, Colusa, and Glenn. The region's rugged and remote nature supports low population numbers. The largest cities in the region are Redding at the northern end of the Central Valley and Eureka in Arcata Bay. This bioregion encompasses all of the North Coast Hydrologic Region.

Sacramento Valley Bioregion

This bioregion makes up the northern portion of California's Great Valley, extending south roughly from Redding in the north to the northern edge of the Sacramento–San Joaquin River Delta (Delta) at the confluence of the Sacramento and American Rivers. The eastern boundary spans the northern third of the Sierra Nevada foothills. The landscape is relatively flat, consisting of basins, plains, terraces, alluvial fans, and scattered hills or buttes.

Counties incorporated in this populated bioregion are Sutter, most of Sacramento, and Yolo and portions of Butte, Colusa, Glenn, Placer, Shasta, Tehama, and Yuba. Sacramento is the bioregion's largest city with other large cities including Redding, Chico, Davis, West Sacramento, and Roseville, making it the fourth most populous of the 10 bioregions. This bioregion covers a fraction of the Central Valley Hydrologic Region.

Bay/Delta Bioregion

The Bay/Delta bioregion extends from the Pacific Ocean to the Sacramento Valley and San Joaquin Valley bioregions to the northeast and southeast, and a short stretch of the eastern boundary joins the Sierra bioregion at Amador and Calaveras Counties. The bioregion is bounded by the Klamath/North Coast bioregion on the north and the Central Coast bioregion to the south. The marine and ocean areas are categorized as the Oceanic bioregion and the northern portion of the Central Ocean bioregion. These bioregions include two-thirds of California's

coast, extending down to Point Conception north of Santa Barbara. The Bay/Delta bioregion is one of the most populous, encompassing the San Francisco Bay Area and the Delta.

The bioregion fans out from San Francisco Bay in a jagged semi-circle that takes in all or part of 12 counties: Marin, Contra Costa, Santa Clara, Alameda, Solano, San Mateo, San Francisco, Sonoma, Napa, San Joaquin, and parts of Sacramento and Yolo. Major cities include San Francisco, Santa Rosa, Oakland, Berkeley, Vallejo, Concord, and San Jose. Though of moderate size, the Bay/Delta bioregion is the second most populous bioregion. This bioregion contains portions of the San Francisco Bay and Central Valley Hydrologic Regions.

Sierra Bioregion

The Sierra bioregion is named for the Sierra Nevada mountain range that is approximately 380 miles long and extends from the Feather River in the north to Tejon Pass in the Tehachapi Mountains to the south. The bioregion extends along California's eastern boundary and is largely contiguous with Nevada. It is bounded on the west by the Sacramento Valley and San Joaquin bioregions. Included in the region are the headwaters of 24 river basins extending to the foothills on the west side and the base of the Sierra Nevada escarpment on the east side. These watersheds generate much of California’s water supply provided by runoff from the Sierra snowpack.

Eighteen counties, or their eastern portions, make up the Sierra bioregion: Alpine, Amador, Butte, Calaveras, El Dorado, Fresno, Inyo, Kern, Madera, Mariposa, Mono, Nevada, Placer, Plumas, Sierra, Tulare, Tuolumne, and Yuba. The larger cities include Truckee, Placerville, Quincy, Auburn, South Lake Tahoe, and Bishop. This bioregion encompasses portions of Lahontan, Central Valley, and Mojave Hydrologic Regions.

San Joaquin Valley Bioregion

The San Joaquin Valley bioregion is bordered by the Coast Ranges on the west and the southern two-thirds of the Sierra bioregion on the east. This bioregion is in the heart of California and is the state's top agricultural region, producing fruits and vegetables in its fertile soil.

Eight counties are found within the bioregion: Kings, most of Fresno, Kern, Merced, and Stanislaus and portions of Madera, San Luis Obispo, and Tulare. This growing bioregion, the third most populous, still contributes to the state's top 10 counties in farm production value. Large communities include Fresno, Merced, Modesto, and Bakersfield.

Central Coast Bioregion

The Central California Coast bioregion includes marine, freshwater, and terrestrial resources. The bioregion extends some 300 miles from just north of the city of Santa Cruz to just south of the city of Santa Barbara, and inland to the floor of the San Joaquin Valley. The edge of the continental shelf forms the western boundary; on the east the region borders the Central Valley bioregion. The marine and ocean areas are categorized as the Central Ocean bioregion and the Southern California Bight. These marine regions extend from Cape Mendocino in the north to Point Conception in the south.

The bioregion encompasses the counties of Santa Cruz, Monterey, San Benito, Santa Barbara, and portions of Los Angeles, San Luis Obispo, Fresno, Merced, Stanislaus, and Ventura. Large cities include Monterey, San Luis Obispo, and Santa Barbara. The bioregion also encompasses all of the Central Coast and Los Angeles Hydrographic Regions.

Mojave Desert Bioregion

The Mojave Desert is located in southern California, southern Nevada, northeastern Arizona, and southwestern Utah. In California, the bioregion comprises the southeastern portion of the state, roughly east of the Sierra bioregion to the Transverse Ranges in the west, where this region abuts the Colorado Desert near Twenty Nine Palms. The geography is defined by widely separated mountain ranges and broad desert plains, and ranges in elevation from 280 feet below sea level in Death Valley National Park to over 11,000 feet on Telescope Peak. Much of the region is at elevations between 2,000 and 3,000 feet.

Seven counties make up the Mojave bioregion: nearly all of San Bernardino, most of Inyo, the southeastern tips of Mono and Tulare, the eastern end of Kern, the northeastern desert area of Los Angeles, and a piece of northern-central Riverside County. The largest cities are Palmdale, Victorville, Ridgecrest, and Barstow. The Mojave Desert Bioregion is within the southern portion of the Lahontan Hydrographic Region.

Colorado Desert Bioregion

The Colorado Desert bioregion is the western extension of the Sonoran Desert found primarily in Arizona and Mexico. The region occupies the southeastern area of California to the border with Arizona and Mexico. It includes the Imperial Valley and Colorado River and abuts the South Coast bioregion within the Peninsular Ranges. Elevation varies from 230 feet below sea level at the Salton Sea to over 8,000 feet in the Peninsular Ranges, but averages around 1,000 feet. The landform is typified by alluvial fans, bajadas, playas, dunes, desert plains and steep sparsely vegetated mountains. Average precipitation is around 4 inches per year.

This sparsely populated bioregion encompasses all of Imperial County, the southeastern portion of Riverside County, the eastern end of San Bernardino County, and the eastern portion of San Diego County. Its most prominent cities are Palm Springs, Rancho Mirage, and El Centro. This bioregion is completely within the Colorado River Hydrographic Region.

South Coast Bioregion

This bioregion encompasses terrestrial and marine resources from Point Conception on the north to the border with Mexico. It extends from the outer edge of the continental shelf to the base of the Transverse and Peninsular Ranges. This bioregion is comprised of off-coast islands, narrow mountain ranges, broad fault blocks, alluvial lowlands, and coastal terraces. Elevation ranges from sea level to over 11,400 feet (San Gorgonio Mountain). The aquatic resources include subtidal and intertidal marine and deep water habitats. The California classification system does

not include offshore and tidal areas; however, this region is defined within the California ocean system as the Southern California Bight.

Counties included in this region are Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura. This region is highly populated and continues to grow at a high rate. This bioregion spans San Diego, Santa Ana and Los Angeles Hydrographic Regions.

VI. Environmental Impacts

The environmental factors checked below could be potentially affected by this project. See the checklist on the following pages for more details.

☑	Aesthetics	☐	Agriculture and Forestry Resources	☐	Air Quality
☑	Biological Resources	☐	Cultural Resources	☐	Geology/Soils
☑	Greenhouse Gas Emissions	☑	Hazards & Hazardous Materials ☐	☐	Hydrology/Water Quality
☐	Land Use/Planning	☐	Mineral Resources	☑	Noise
☐	Population/Housing	☐	Public Services	☐	Recreation
☑	Transportation/Traffic	☐	Utilities/Service Systems	☐	Mandatory Findings of Significance

1. AESTHETICS. Would the project:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☑
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☑
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☑	☐
d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	☐	☐	☐	☑

Discussion

a) Would the project have a substantial adverse effect on a scenic vista?

No Impact. LUST sites are typically not located in scenic vista areas. Those that may be are already on disturbed sites and the proposed Policy will not cause any new adverse impacts.

b) Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. See response to item (a) above.

c) Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

Less Than Significant Impact. There may be short-term impacts to aesthetics due to the removal of monitoring wells or other types of equipment during site closure. An example would be if a LUST site was found to be eligible for closure, drilling equipment would be necessary to remove the monitoring well(s). The equipment would create (for a brief period) increased traffic to and from the site, noise from the equipment during removal, as well as an undesirable aesthetic due to the presence of the equipment; however, this activity would have occurred at some point in the future regardless of the proposed Policy and is short-term in duration. No overall negative impact to aesthetics would occur.

At many sites, the aesthetic quality of the site may be improved. The proposed Policy requires that all waste piles, drums, debris and other investigation or remediation derived material must be removed from the site prior to case closure. At many sites, these materials remain for several years and are only removed at the time of closure. Site closure can also spur redevelopment of a site into a use that is more appropriate for the neighborhood thereby improving the overall aesthetics of the immediate area.

d) Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

No Impact. Permanent sources of external lighting are not a feature of closing a leaking UST site. Thus, the proposed project would not create a new source of light and glare.

2. AGRICULTURAL AND FOREST RESOURCES. In determining whether impacts to agricultural resources are significant environmental impacts, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping & Monitoring Program of the California Resources Agency, to non-agricultural uses?	☐	☐	☐	☑
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☑
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)) or timberland (as defined by Public Resources Code section 4526)?	☐	☐	☐	☑
d) Result in the loss of forest land or conversion of forest land to non-forest use?	❒	❒	❒	☑
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	❒	❒	❒	☑

Discussion

a) Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use?

No Impact. The proposed Policy would have no impact on agricultural or forest resources. Farm tanks are exempt from California Code of Regulations, title 23 requirements and most USTs are located in urban areas. In addition, the proposed Policy is limited to sites that are located in an area served by a public water system, which excludes most agricultural and forest areas due to their rural location. To the extent that sites covered by the proposed Policy are located adjacent to agricultural areas, closure of the site could allow a return to agricultural use if that was a former use of the property.

b) Would the project conflict with existing zoning for agricultural use or a Williamson Act contract?

No Impact. See response to item (a) above.

c) Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)) or timberland (as defined by Public Resources Code section 4526)?

No Impact. See response to item (a) above.

d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. See response to item (a) above.

e) Would the project involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?

No Impact. See response to item (a) above.

3. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☑
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☐	☑
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☑
d) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	☐	☐	☐	☑

e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☑

Discussion

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

No Impact. The closure of leaking UST sites does not generate criteria pollutants specific to air quality. The proposed Policy would not affect applicable air quality plans.

At some sites, implementation of the proposed Policy may cause the regulatory agency to close a site earlier in the process than under current practice. Less active remediation at these sites could have a positive impact on air quality because most active remediation techniques (excavation, vapor extraction, groundwater extractions, etc.) are energy intensive and contribute to greenhouse gas emission. Also, the release of petroleum is effectively sequestered in the subsurface as it undergoes biodegradation, whereas it is quickly volatilized or burned when it is brought to the surface during active remediation activities.

b) Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

No Impact. See the response to item (a) above.

c) Would the project expose sensitive receptors to substantial pollutant concentrations?

No Impact. See the response to item (a) above.

d) Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

No Impact. See the response to item (a) above.

e) Would the project create objectionable odors affecting a substantial number of people?

No Impact. See the response to item (a) above.

4. BIOLOGICAL RESOURCES. Would the project:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the DFG or USFWS?	☐	☐	☑	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the DFG or USFWS?	☐	☐	☑	☐
c) Have a substantial adverse effect on federally-protected wetlands as defined by Section 404 of the federal Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, *etc.*) through direct removal, filling, hydrological interruption or other means?	☐	☐	☐	☑

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☑
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☑
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☑

Discussion

a) *Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?*

Less Than Significant Impact. The proposed Policy would not cause any significant habitat modifications or affect any sensitive species. Most LUST sites are located at developed facilities that do not support sensitive habitat. It is possible that a small number of LUST sites exist in or near sensitive habitats and that destruction of the monitoring wells could affect those habitats. However, since remedial activities at cleanup sites would have already disturbed any potential habitat areas, site closure activities are not expected to cause any new adverse impacts to sensitive species or habitats.

b) *Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?*

Less Than Significant Impact. See the response to item (a) above.

c) *Would the Project have a substantial adverse effect on federally protected wetlands as defined by section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

No Impact. LUST sites are not located within federally protected wetlands.

d) *Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*

No Impact. LUST sites are typically located within urban areas that are not used as migratory corridors for wildlife or native resident species. Although there may be UST sites near migratory corridors, the proposed Policy would not cause any disruption of those corridors other than destruction of monitoring wells. The significant disruption, if any, would have already occurred during investigation and remediation activities including monitoring well installation and source removal.

e) *Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

No Impact. The proposed Policy does not address the preservation of biological resources such as tree preservation, so no conflict is anticipated. The proposed Policy would not cause any disruption other than destruction of monitoring wells, which require local well destruction permits. The significant disruption, if any, would have already occurred during investigation and remediation activities including monitoring well installation and source removal.

f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact. The proposed Policy would not cause any significant habitat modifications or affect any sensitive species. Most LUST sites are located at developed facilities that do not support sensitive habitat. It is possible that a small number of LUST sites exist in or near sensitive habitats and that destruction of the monitoring wells could affect those habitats. Monitoring well destruction requires local permits, so any local requirements would be included in those permit requirements. However, since remedial activities at cleanup sites would have already disturbed any potential habitat areas, site closure activities are not expected to cause any new adverse impacts to sensitive species or habitats or conflict with any local, regional or State habitat conservation plans.

5. CULTURAL RESOURCES. Would the project:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☑
b) Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?	☐	☐	☐	☑
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☑
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☑

Discussion

a) Would the project cause a substantial adverse change in the significance of a historical resource as defined in section 15064.5?

No Impact. Although there may be UST sites near historical or culturally sensitive resources, the proposed Policy would not cause any disruption of those resources other than destruction of monitoring wells. The significant disruption, if any, would have already occurred during investigation and remediation activities including monitoring well installation and source removal.

At some sites, implementation of the proposed Policy may cause the regulatory agency to close a site earlier in the process than under current practice. Less active remediation at these sites could have a positive impact on cultural resources because most active remediation techniques (excavation, vapor extraction, groundwater extractions, etc.) are disruptive to the physical environment through the use of heavy equipment.

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to section 15064.5?

No Impact. See the response to item (a) above.

c) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

No Impact. See the response to item (a) above.

d) Would the project disturb any human remains, including those interred outside of formal cemeteries?

No Impact. See the response to item (a) above.

6. GEOLOGY and SOILS. Would the project:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☐	☑
i) Rupture of a known earthquake fault, as delineated in the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines & Geology Special Publication 42.	☐	☐	☐	☑
ii) Strong seismic ground shaking?	☐	☐	☐	☑
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☑
iv) Landslides?	☐	☐	☐	☑
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☑
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☐	☑
d) Be located on expansive soils, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☑
e) Have soils incapable of adequately supporting the use of septic tanks or alternate wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☑

Discussion

a) Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death?

No Impact. The proposed Policy would have no impact on the geologic or seismic integrity of the site. Any excavation and fill activities would have already occurred and destruction of the monitoring wells will have no negative impacts.

b) Would the project result in substantial soil erosion or the loss of topsoil?

No Impact. See the response to item (a) above.

c) Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

No Impact. See the response to item (a) above.

d) Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial risks to life or property?

No Impact. See the response to item (a) above.

e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

No Impact. See the response to item (a) above.

7. GREENHOUSE GAS EMISSIONS -- Would the project:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☑	☐
b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☑

Discussion

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less Than Significant Impact. The proposed Policy will not generate any greenhouse gases directly. Greenhouse gases emitted by diesel powered equipment during monitoring well destruction would be minor and of limited duration. Therefore, this impact would be less than significant.

b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

No Impact., The California Global Warming Solutions Act of 2006 (Stats. 2006, ch. 488) (AB 32), mandates that California reduce its greenhouse gas emissions to 1990 levels by 2020. The proposed Policy would not conflict with AB 32. Any future requirements for the reduction of greenhouse gas emissions from construction or transportation equipment would need to be complied with and the proposed Policy would not interfere with any future requirements related to greenhouse gas emissions.

8. HAZARDS and HAZARDOUS MATERIALS. Would the project:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☑	☐

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☑	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼ mile of an existing or proposed school?	☐	☐	☑	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or to the environment?	☐	☐	☑	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or a public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☑
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☑
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☑
h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☑

Discussion

a) *Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*

Less Than Significant Impact. The proposed Policy requires that waste piles, drums, and debris be removed from the LUST site. Generally, LUST sites that meet the criteria of the proposed Policy are beyond active remediation and are currently in the monitoring phase. In most cases, the waste piles, drums and debris will have already been removed, but if not, there is a low risk of impacts to the public or the environment through the routine transport or disposal of any remaining hazardous materials at the site.

b) *Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment?*

Less Than Significant Impact. See the response to item (a) above. The proposed Policy authorizes closing LUST sites if certain criteria are met and does not permit any releases of hazardous materials into the environment. As part of the closure process, monitoring wells will be destroyed and waste drums and debris will be removed. These activities pose a low risk of releasing hazardous materials into the environment.

c) *Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?*

Less Than Significant Impact. The proposed Policy authorizes closing LUST sites if certain criteria are met and does not permit any releases of hazardous materials into the environment. Some of these sites could be located within one-quarter mile of an existing or proposed school. As part of the closure process, monitoring wells will be destroyed and waste drums and debris will be removed. These activities will not cause hazardous emissions. Hazardous materials may be handled during the debris-removal process, but the materials will be contained and will pose a low risk, if any, to the environment and surrounding community.

d) *Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

Less Than Significant Impact. All LUST sites are subject to the list of hazardous materials sites compiled pursuant to Government Code section 65962.5. However, closure of a site under the proposed Policy would not create a significant hazard to the public or the environment. Existing petroleum in the subsurface at these LUST sites are part of the baseline. The proposed Policy contains criteria that, when met, preclude significant exposure to hazardous materials remaining in the subsurface at the site. The proposed Policy does not permit any releases of hazardous materials into the environment. As part of the closure process, monitoring wells will be destroyed and waste drums and debris will be removed. These activities do not pose a significant hazard to the public or environment.

e) *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?*

No Impact. Although there may be USTs located within two miles of a public airport, destruction of monitoring wells and other site closure activities will not present a safety hazard for people residing or working in the area.

f) *For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?*

No Impact. Although there may be USTs located within the vicinity of a private airstrip, destruction of monitoring wells and other site closure activities will not present a safety hazard for people residing or working in the area.

g) *Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

No Impact. UST closure would take place on previously developed sites and would not interfere with emergency response plans or emergency evacuation plans. No impact would result.

h) *Would the project expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?*

No Impact. UST closures are not known to contribute to wildland fires, and therefore the exposure of people or structures to a significant risk of loss, injury, or death involving wildland fires is not a potential impact.

9. HYDROLOGY and WATER QUALITY. Would the project:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☑
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (*e.g.*, the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☑
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☐	☑
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☐	☑
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☑
f) Otherwise substantially degrade water quality?	☐	☐	☐	☑
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☑
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☑
i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☑
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☑

Discussion

a) Would the project violate any water quality standards or waste discharge requirements?

No Impact. Petroleum-impacted groundwater that exists at LUST sites is a part of the baseline condition. Natural attenuation processes degrade this petroleum and will restore water quality objectives (WQO) over time. The proposed Policy does not allow any discharge of petroleum and the proposed Policy would not violate any WQOs. Although the Policy would allow petroleum to be left in place above WQOs, State policies do not require sites to meet WQO at the time of closure. Natural attenuation processes will continue to occur in the subsurface and WQOs will be met within a reasonable period of time.

Implementation of the proposed Policy would require destruction of monitoring wells, but any environmental risks associated with destruction are minimal. Some percentage of monitoring wells act as conduits for contamination to flow to previously unaffected portions of an aquifer. At sites

with these wells, the hydrogeologic conditions and water quality will improve when the monitoring wells are destroyed.

b) *Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?*

No Impact. UST closure does not use groundwater supplies.

c) *Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial on- or off-site erosion or siltation?*

No Impact. UST closure does not substantially alter the existing drainage pattern of the site or area.

d) *Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in on- or off-site flooding?*

No Impact. See the response to item (c) above.

e) *Would the project create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?*

No Impact. See the response to item (c) above.

f) *Would the project otherwise substantially degrade water quality?*

No Impact. See the response to item (a) above.

g) *Would the project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?*

No Impact. UST closures do not involve housing.

h) *Would the project place within a 100-year flood hazard area structures that would impede or redirect flood flows?*

No Impact. Although there may be UST sites within one of the many 100-year flood plains in the State, implementation of the proposed Policy and destruction of monitoring wells will have no effect on flood flows, the risk of dam or levee failure, or any risk of loss, injury or death due to surface flow of water or other material.

i) *Would the project expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?*

No Impact. See the response to item (h) above.

j) *Would the project result in inundation by seiche, tsunami, or mudflow?*

No Impact. See the response to item (h) above.

10. LAND USE AND PLANNING. Would the project:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☑
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☑
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☑

Discussion

a) Would the project physically divide an established community?

No Impact. UST closures will occur at established sites and will not divide established communities.

b) Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact. The proposed Policy is not expected to conflict with local land use and zoning decisions, and similarly, conflicts with local habitat conservation plans or natural community conservation plans are not expected.

c) Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?

No Impact. See the response to item (b) above.

11. MINERAL RESOURCES. Would the project:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the State?	☐	☐	☐	☑
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☑

Discussion

a) Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

No Impact. UST closure occurs on established sites and will not result in the loss of availability of mineral resources.

b) Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

No Impact. See the response to item (a) above.

12. NOISE. Would the project result in:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☑	☐
b) Exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels?	☐	☐	☑	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☑
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☑	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing in or working in the project area to excessive noise levels?	☐	☐	☐	☑
f) For a project within the vicinity of a private airstrip, would the project expose people residing in or working in the project area to excessive noise levels?	☐	☐	☐	☑

Discussion

a) Would the project cause exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or in applicable standards of other agencies?

Less Than Significant Impact. There would be increased noise for a short period during monitoring well destruction. Noise levels from equipment used for well destruction are not expected to exceed established standards.

b) Would the project cause exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant Impact. See the response to item (a) above.

c) Would the project cause a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

No Impact. Any increase in ambient noise levels would be temporary.

d) Would the project a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Less Than Significant Impact. See the response to item (a) above.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. UST closure would not involve any activities that could expose people residing or working near an airport to excessive noise levels. No impact would result.

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. See the response to item (e) above.

13. POPULATION AND HOUSING. Would the project:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area either directly (*e.g.*, by proposing new homes and businesses) or indirectly (*e.g.*, through extension of roads or other infrastructure)?	☐	☐	☐	☑
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑

Discussion

a) Would the project induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No Impact. The project will have no impact on housing or population. LUST sites are generally small in acreage and the redevelopment of a site into residential housing would not significantly affect the surrounding community. Any redevelopment would need to comply with existing zoning and general plan requirements.

b) Would the project displace substantial numbers of existing homes, necessitating the construction of replacement housing elsewhere?

No Impact. See the response to item (a) above.

c) Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

No Impact. See the response to item (a) above.

14. PUBLIC SERVICES. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service rations, response times or other performance objectives for any of the public services:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Fire protection?	☐	☐	☐	☑
b) Police protection?	☐	☐	☐	☑
c) Schools?	☐	☐	☐	☑
d) Parks?	☐	☐	☐	☑
e) Other public facilities?	☐	☐	☐	☑

Discussion

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services?

No Impact. The project would not cause an increase in the need for additional public services. Even if redevelopment of the site occurred, the needed services would be similar to those that were provided when the UST was in operation at the facility.

15. RECREATION. Would the project:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☑
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	☑

Discussion

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

No Impact. The project would not cause an increase in the use of parks, cause physical deterioration or the need for expansion of facilities. LUST sites are generally small in acreage and the redevelopment of a site into residential housing would not significantly affect the surrounding communities' use of, or need for, recreational facilities.

b) Would the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

No Impact. See the response to item (a) above.

16. TRANSPORTATION / TRAFFIC. Would the project:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exceed the capacity of the existing circulation system, based on an applicable measure of effectiveness (as designated in a general plan policy, ordinance, etc.), taking into account all relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☐	☑
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☑
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☑
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☑	☐
e) Result in inadequate emergency access?	☐	☐	☑	☐
f) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	☑

Discussion

a) Would the project exceed the capacity of the existing circulation system, based on an applicable measure of effectiveness (as designated in a general plan, policy, ordinance, etc.), taking into account all relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

No Impact. The proposed Policy would not cause an exceedence of existing circulation systems. Traffic associated with LUST closures is minimal.

b) Would the project conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

No Impact. See the response to item (a) above.

c) Would the project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

No Impact. LUST closures would have no impact on air traffic patterns.

d) Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less Than Significant Impact. There may be short-term disruption of traffic during well destruction activities if monitoring wells are located in streets. Traffic conditions might actually improve, because wells in streets have to monitored periodically and traffic must be disrupted each time this monitoring occurs.

e) Would the project result in inadequate emergency access?

Less Than Significant Impact. See the response to item (d) above.

f) Would the project conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?

No Impact. See the response to item (a) above.

17. UTILITIES AND SERVICE SYSTEMS. Would the project:

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☑
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental impacts?	☐	☐	☐	☑
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental impacts?	☐	☐	☐	☑
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☑
e) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☑
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☑
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☑

Discussion

No Impact. Compliance with the proposed Policy will not require development of new utilities or services. Those services being utilized during site cleanup will be discontinued upon site closure.

18. MANDATORY FINDINGS OF SIGNIFICANCE.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	☑
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)	☐	☐	☐	☑
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☑

Discussion

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?

No Impact. The majority of LUSTs that would be covered under the proposed Policy are located in urban areas that have been previously disturbed by prior activities (operation of the UST facility and cleanup of the unauthorized release of petroleum). Neither fish and wildlife, nor historic or prehistoric resources would be impacted by the proposed Policy.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

No Impact. Existing petroleum-impacted LUST sites is the baseline condition and the proposed Policy does not authorize additional releases to the environment. The proposed Policy authorizes closing LUST sites if certain criteria are met. If closure is appropriate under the proposed Policy, monitoring wells will be destroyed and any remaining waste piles or debris will be removed from the site. There will not be any cumulative impacts from the destruction of monitoring wells and removal of waste piles because the impacts are small, the impacts don't occur at the same time, and the sites are typically separated by great distances.

c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?

No Impact. The proposed Policy will not cause substantial adverse effects on human beings, either directly or indirectly.

ATTACHMENT A

Proposed Low-Threat UST Closure Policy

Proposed Low-Threat UST Closure Policy
7-14-11

Preamble

The State Water Resources Control Board (State Water Board) administers the petroleum UST (Underground Storage Tank) Cleanup Program, which was enacted by the Legislature in 1984 to protect health, safety and the environment. The State Water Board also administers the petroleum UST Cleanup Fund (Fund), which was enacted by the Legislature in 1989 to assist UST owners and operators in meeting federal financial responsibility requirements and to provide reimbursement to those owners and operators for the high cost of cleaning up unauthorized releases caused by leaking USTs.

The State Water Board believes it is in the best interest of the people of the State that unauthorized releases be prevented and cleaned up to the extent practicable in a manner that protects human health, safety and the environment. The State Water Board also recognizes that the technical and economic resources available for environmental restoration are limited, and that the highest priority for these resources must be the protection of human health and environmental receptors. Program experience has demonstrated the ability of remedial technologies to mitigate a substantial fraction of a petroleum contaminant mass with the investment of a reasonable level of effort. Experience has also shown that residual contaminant mass usually remains after the investment of reasonable effort, and that this mass is difficult to completely remove regardless of the level of additional effort and resources invested.

It has been well-documented in the literature and through experience at individual UST release sites that petroleum fuels naturally attenuate in the environment through adsorption, dispersion, dilution, volatilization, and biological degradation. This natural attenuation slows and limits the migration of dissolved petroleum plumes in groundwater. The biodegradation of petroleum, in particular, distinguishes petroleum products from other hazardous substances commonly found at commercial and industrial sites.

The characteristics of UST releases and the California UST Program have been studied extensively, with individual works including:

a. Lawrence Livermore National Laboratory report (1995)
b. SB1764 Committee report (1996)
c. UST Cleanup Program Task Force report (2010)
d. Cleanup Fund Task Force report (2010)
e. Cleanup Fund audit (2010)

In general, these studies have recommended establishing “low-threat case closure criteria” to maximize the benefits to the people of the State of California through judicious application of available resources.

The purpose of this policy is the establishment of low-threat petroleum site closure criteria. The policy is consistent with existing statutes, regulations, State Board precedential decisions and resolutions, and is intended to provide clear direction to responsible parties, their service

providers, and regulatory agencies. The policy seeks to increase UST cleanup process efficiency. A benefit of improved efficiency is the preservation of limited resources for mitigation of releases posing a greater threat to human and environmental health.

This policy is based in part upon the knowledge and experience gained from the last 25 years of investigating and remediating unauthorized releases of petroleum from USTs. While this policy does not specifically address other petroleum release scenarios such as pipelines or above ground storage tanks, if a particular site with a different release scenario exhibits attributes similar to those which this policy addresses, the criteria for closure evaluation of these non-UST sites should be similar to those in this policy.

This policy is a state policy for water quality control and applies to all sites governed by Health and Safety Code section 25296.10. The term "regulatory agencies" in this policy means the State Water Board, regional water boards and local agencies authorized to implement Health and Safety Code section 25296.10.

Definitions: Unless expressly provided in this policy, the terms in this policy shall have the same definitions provided in Chapter 6.7 of Division 20 of the Health and Safety Code and Chapter 16 of Division 3 of Title 23 of the California Code of Regulations.

Criteria for Low-Threat Case Closure

In the absence of site-specific conditions that demonstrably increase the risk associated with residual petroleum constituents, cases that meet the general and media-specific criteria described in this policy do not pose a threat to human health, safety or the environment and are appropriate for UST case closure pursuant to Health and Safety Code section 25296.10. Cases that meet the criteria in this policy do not require further corrective action and shall be issued a uniform closure letter consistent with Health and Safety Code section 25296.10. Periodically, or at the request of the responsible party or party conducting the corrective action, the regulatory agency shall conduct a review to determine whether the site meets the criteria contained in this policy.

It is important to emphasize that the criteria described in this policy do not attempt to describe the conditions at all low-threat sites in the State. Regulatory agencies should issue a closure letter for a case that does not meet these criteria if the site is determined to be low-threat based upon a site specific analysis.

This policy recognizes that some petroleum-release sites may possess unique attributes and that some site specific conditions may make the application of policy criteria inappropriate. It is impossible to completely capture those sets of attributes that may render a site ineligible for closure based on this low-threat policy. This policy relies on the regulatory agency's use of the conceptual site model to identify the special attributes that would require specific attention prior to the application of low-threat criteria. In these cases, it is the regulatory agency's responsibility to identify the conditions that make closure under the policy inappropriate.

General Criteria

General criteria that must be satisfied by all candidate sites are listed as follows:

a. The unauthorized release is located within the service area of a public water system;
b. The unauthorized release consists only of petroleum;
c. The unauthorized ("primary") release from the UST system has been stopped;
d. Free product has been removed to the maximum extent practicable;
e. A conceptual site model has been developed;
f. Secondary source removal has been addressed and
g. Soil or groundwater has been tested for MTBE and results reported in accordance with Health and Safety Code section 25296.15.

a. The unauthorized release is located within the service area of a public water system

This policy is protective of existing water supply wells. New water supply wells are unlikely to be installed in the shallow groundwater near former UST release sites. However, it is difficult to predict, on a statewide basis, where new wells will be installed, particularly in rural areas that are undergoing new development. This policy is limited to areas with available public drinking water supplies to reduce the likelihood that new wells in developing areas will be inadvertently impacted by residual petroleum in groundwater. Case closure outside of areas with a public water supply should be evaluated based upon this policy and a site specific evaluation of developing water supplies in the area.

b. The unauthorized release consists only of petroleum

For the purposes of this policy, petroleum is defined as crude oil, or any fraction thereof, which is liquid at standard conditions of temperature and pressure, which means 60 degrees Fahrenheit and 14.7 pounds per square inch absolute, including the following substances: motor fuels, jet fuels, distillate fuel oils, residual fuel oils, lubricants, petroleum solvents and used oils, including any additives and blending agents such as oxygenates contained in the formulation of the substances.

c. The unauthorized release has been stopped

The tank, pipe, or other appurtenant structure that released petroleum into the environment (i.e. the primary source) has been removed, repaired or replaced. It is not the intent of this policy to allow sites with ongoing leaks from the UST system to qualify for low-threat closure.

d. Free product has been removed to the Maximum Extent Practicable

At petroleum unauthorized release sites where investigations indicate the presence of free product, free product shall be removed to the maximum extent practicable. In meeting the requirements of this section:

(a) Free product shall be removed in a manner that minimizes the spread of the unauthorized release into previously uncontaminated zones by using recovery and disposal techniques appropriate to the hydrogeologic conditions at the site, and that properly treats, discharges or disposes of recovery byproducts in compliance with applicable laws; (b) Abatement of free product migration shall be used as a minimum objective for the design of any free product removal system; (c) Flammable products shall be stored for disposal in a safe and competent manner to prevent fires or explosions.

e. A conceptual site model has been developed

The Conceptual Site Model (CSM) is a fundamental element of a comprehensive site investigation. The CSM establishes the source and attributes of the unauthorized release, describes all affected media (including soil, groundwater, and soil vapor as appropriate), describes local geology, hydrogeology and other physical site characteristics that affect contaminant environmental transport and fate, and identifies all confirmed and potential contaminant receptors (including water supply wells, surface water bodies, structures and their inhabitants, etc.). The CSM is relied upon by practitioners as a guide for investigative design and data collection. Petroleum release sites in California occur in a wide variety of hydrogeologic settings. As a result, contaminant fate and transport and mechanisms by which receptors may be impacted by contaminants vary greatly from location to location. Therefore the CSM is dynamic and unique to each individual release site. All relevant site characteristics identified by the CSM should be assessed such that the nature, extent and mobility of the release have been established to determine conformance with applicable criteria in this policy.

f. Secondary source removal has been addressed

"Secondary source" is defined as petroleum-impacted soil or groundwater located at or immediately beneath the point of release from the primary source. Unless site attributes prevent secondary source removal (e.g. physical or infrastructural constraints exist whose removal or relocation would be technically or economically infeasible), petroleum-release sites are required to undergo secondary source removal to the extent practicable as described herein. "To the extent practicable" means implementing a cost-effective corrective action which removes or destroys-in-place the most readily recoverable fraction of source-area mass. It is expected that most secondary mass removal efforts will be completed in one year or less. Following removal/destruction of the secondary source, additional removal and/or active remedial actions shall not be required by regulatory agencies unless (1) necessary to abate a demonstrated threat to human health or (2) the groundwater plume does not meet the definition of low threat as described in this policy.

g. Soil and groundwater have been tested for MTBE and results reported in accordance with Health and Safety Code section 25296.15

Health and Safety Code section 25296.15 prohibits closing a UST case unless the soil, groundwater, or both, as applicable have been tested for MTBE and the results of that testing are known to the regional water board. The exception to this requirement is where a regulatory agency determines that the UST that leaked has only contained diesel or jet fuel. Before closing a UST case pursuant to this policy, the requirements of section 25296.15, if applicable, shall be satisfied.

Media-Specific Criteria

Releases from USTs can impact human health and the environment through contact with any or all of the following contaminated media: groundwater, surface water, soil, and soil vapor. Although this contact can occur through ingestion, dermal contact, or inhalation of the various media, the most common drivers of health risk are ingestion of groundwater from drinking water wells, inhalation of vapors accumulated in buildings, contact with near surface contaminated soil, and inhalation of vapors in the outdoor environment. To simplify implementation, these media and pathways have been evaluated and the most common exposure scenarios have been combined into three media-specific criteria:

1. Groundwater
2. Vapor Intrusion to Indoor Air
3. Direct Contact and Outdoor Air Exposure

Candidate sites must satisfy all three of these media-specific criteria as described below.

1. Groundwater

This policy describes criteria on which to base a determination that risks to existing and anticipated future beneficial uses of groundwater have been mitigated or are de minimus, including cases that have not affected groundwater.

State Water Board Resolution 92-49, *Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304* is a state policy for water quality control and applies to petroleum UST cases. Resolution 92-49 directs that water affected by an unauthorized release attain either background water quality or the best water quality that is reasonable if background water quality cannot be restored. Any alternative level of water quality less stringent than background must be consistent with the maximum benefit to the people of the state, not unreasonably affect current and anticipated beneficial use of affected water, and not result in water quality less than that prescribed in the water quality control plan for the basin within which the site is located. Resolution No. 92-49 does not require that the requisite level of water quality be met at the time of case closure; it specifies compliance with cleanup goals and objectives within a reasonable time frame.

Water quality control plans (Basin Plans) generally establish "background" water quality as a restorative endpoint. This policy recognizes the regulatory authority of the Basin Plans but underscores the flexibility contained in Resolution 92-49.

It is a fundamental tenet of this low-threat closure policy that if the closure criteria described in this policy are satisfied at a release site, water quality objectives will be attained through natural attenuation within a reasonable time, prior to the need for use of any affected groundwater.

If groundwater with a designated beneficial use is affected by an unauthorized release, to satisfy the media-specific criteria for groundwater, the contaminant plume that exceeds water quality objectives must be stable or decreasing in areal extent, and meet all of the additional characteristics of one of the five classes of sites listed below. A plume that is "stable or decreasing" is a contaminant mass that has expanded to its maximum extent: the distance from the release where attenuation exceeds migration.

(1) a. The contaminant plume that exceeds water quality objectives is less than 100 feet in length.
b. There is no free product.
c. The nearest existing water supply well and/or surface water body is greater than 250 feet from the defined plume boundary.

(2) a. The contaminant plume that exceeds water quality objectives is less than 250 feet in length.
b. The nearest existing water supply well and /or surface water body is greater than 1000 feet from the defined plume boundary.
c. The dissolved concentration of benzene is less than 3000 μg/l and the dissolved concentration of MTBE is less than 1000 μg/l.

(3) a. The contaminant plume that exceeds water quality objectives is less than 250 feet in length.
b. Free product may be present below the site but does not extend off-site.
c. The plume has been stable or decreasing for a minimum of five years.
d. The nearest existing water supply well and/or surface water body is greater than 1000 feet from the defined plume boundary.
e. The property owner is willing to accept a deed restriction if the regulatory agency requires a deed restriction as a condition of closure.

(4) a. The contaminant plume that exceeds water quality objectives is less than 1000 feet in length.
b. The nearest existing water supply well and/or surface water body is greater than 1000 feet from the defined plume boundary.
c. The dissolved concentration of benzene is less than 1000 μg/l and the dissolved concentration of MTBE is less than 1000 μg/l.

(5) a. An analysis of site specific conditions determines that the site under current and reasonably anticipated near-term future scenarios poses a low threat to human health and safety and to the environment and water quality objectives will be achieved within a reasonable time frame.

Sites with Releases That Have Not Affected Groundwater
Sites with soil that does not contain sufficient mobile constituents (leachate, vapors, or LNAPL) to cause groundwater to exceed the groundwater criteria in this policy shall be considered low-threat sites for the groundwater medium. Provided the general criteria and criteria for other media are also met, those sites are eligible for case closure.

For older releases, the absence of current groundwater impact is often a good indication that residual concentrations present in the soil are not a source for groundwater pollution.

2. Petroleum Vapor Intrusion to Indoor Air

Exposure to petroleum vapors migrating from soil or groundwater to indoor air may pose unacceptable human health risks. This policy describes conditions, including bioattenuation zones, which if met will assure that exposure to petroleum vapors in indoor air will not pose unacceptable health risks. In many petroleum release cases, potential human exposures to vapors are mitigated by bioattenuation processes as vapors migrate toward the ground surface. For the purposes of this section, the term "bioattenuation zone" means an area of soil with conditions that support biodegradation of petroleum hydrocarbon vapors.

The low-threat vapor-intrusion criteria described below apply to release sites and impacted or potentially impacted adjacent parcels when: (1) existing buildings are occupied or may be reasonably expected to be occupied in the future, or (2) buildings for human occupancy are reasonably expected to be constructed in the near future. Appendices 1 through 4 (attached) illustrate four potential exposure scenarios and describe characteristics and screening criteria associated with each scenario. Petroleum release sites shall satisfy the media-specific screening criteria for petroleum vapor intrusion to indoor air and be considered low-threat for the vapor-intrusion-to-indoor-air pathway if:

a. Site-specific conditions at the release site satisfy all of the characteristics and screening criteria of scenarios 1 through 3 as applicable, *or* all of the characteristics and screening criteria of scenario 4 as applicable; or

b. A site-specific risk assessment for the vapor intrusion pathway is conducted and demonstrates that human health is protected to the satisfaction of the regulatory agency.

Exception: Exposures to petroleum vapors associated with historical fuel system releases are comparatively insignificant relative to exposures from small surface spills and fugitive vapor releases that typically occur at active fueling facilities. Therefore, satisfaction of the media-specific criteria for petroleum vapor intrusion to indoor air is not required at active commercial petroleum fueling facilities, except in cases where release characteristics can be reasonably believed to pose an unacceptable health risk.

3. Direct Contact and Outdoor Air Exposure

This policy describes conditions where direct contact with contaminated soil or inhalation of contaminants volatized to outdoor air poses an insignificant threat to human health. Release sites where human exposure may occur satisfy the media-specific criteria for direct contact and outdoor air exposure and shall be considered low-threat if they meet any of the following:

a. Maximum concentrations of petroleum constituents in soil are less than or equal to those listed in Table 1 for the specified depth below ground surface;

b. Maximum concentrations of petroleum constituents in soil are less than levels that a site specific risk assessment demonstrates will have no significant risk of adversely affecting human health; or

c. As a result of controlling exposure through the use of mitigation measures or through the use of institutional or engineering controls, the regulatory agency determines that the concentrations of petroleum constituents in soil will have no significant risk of adversely affecting human health.

Table 1
Concentrations of Petroleum Constituents In Soil That Will Have No Significant Risk Of Adversely Affecting Human Health

Depth (feet)	Benzene (mg/kg)	Naphthalene (mg/kg)	PAH* (mg/kg)
0 to 5	2.3	13	0.038
5 to 10	100	1500	7.5

*Notes: Based on the seven carcinogenic PAHs as benzo(a)pyrene toxicity equivalent [BaPe]. The PAH screening level is only applicable where soil was affected by either waste oil and/or Bunker C fuel.

Low-Threat Case Closure

Cases that meet the general and media-specific criteria established in this policy satisfy the case-closure requirements of Health and Safety Code section 25296.10, including the requirement in State Water Board Resolution 92-49 that requires that cleanup goals and objectives be met within a reasonable time frame. If the site has been determined by the regulatory agency to meet the criteria in this policy, the regulatory agency shall notify responsible parties that they are eligible for case closure and that the following items, if applicable, shall be completed prior to the issuance of a uniform closure letter specified in Health and Safety Code section 25296.10. After completion of these items, the regulatory agency shall issue a uniform closure letter within 30 days.

a. Notification Requirements – Public water supply agencies with jurisdiction over the water impacted by the petroleum release, permitting agencies with authority over the land affected by the petroleum release, owners of the property, and the owners and occupants of all adjacent parcels and all parcels that are impacted by the unauthorized release shall be notified of the proposed case closure and provided a 30 day period to comment. The regulatory agency shall consider any comments received when determining if the case should be closed or if site specific conditions warrant otherwise.

b. Monitoring Well Destruction – All wells and borings installed for the purpose of investigating, remediating, or monitoring the unauthorized release shall be properly destroyed prior to case closure unless a property owner certifies that they will keep and maintain the wells or borings in accordance with applicable local or state requirements.

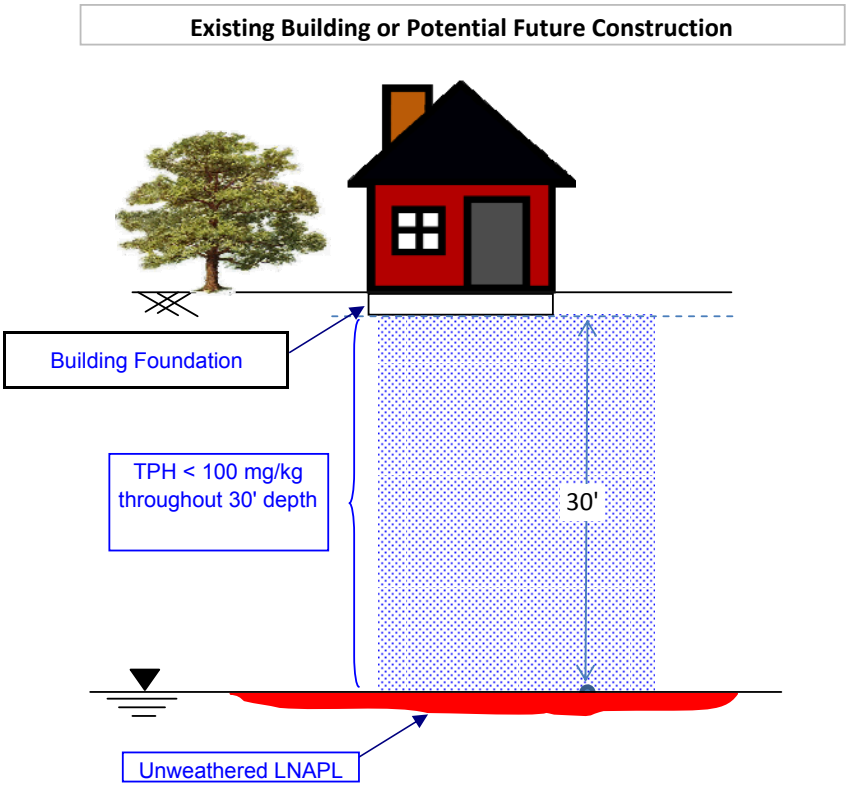
c. Waste Removal – All waste piles, drums, debris and other investigation or remediation derived materials shall be removed from the site and properly managed in accordance with regulatory agency requirements.

Closing Comments

This concludes the Low-Threat UST Closure Policy. This policy is based on existing statutes, regulations and State Water Board resolutions. This policy clarifies aspects of prior guidance and establishes criteria to be used by technical practitioners and all regulatory agencies in California.

Appendix 1
Scenario 1: Unweathered* LNAPL in Groundwater

Required Characteristics of the Bioattenuation Zone



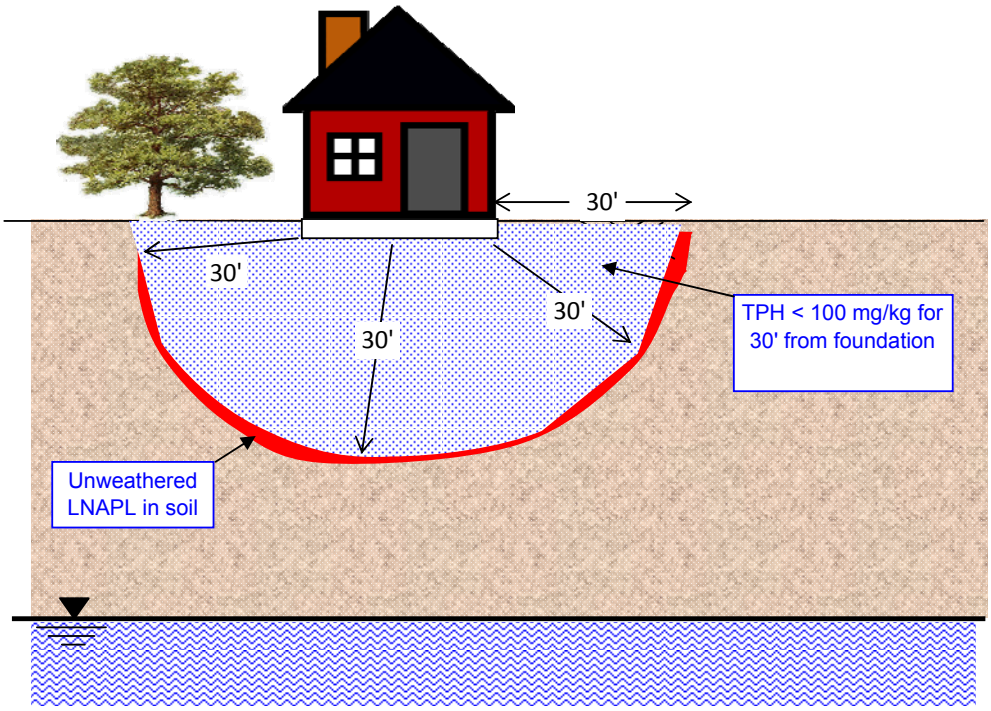
Required Characteristics of the Bioattenuation Zone:
1. The bioattenuation zone shall be a continuous zone that provides a separation of at least 30 feet vertically between the LNAPL in groundwater and the foundation of existing or potential buildings; and
2. Total TPH (TPH-g and TPH-d combined) are less than 100 mg/kg throughout the entire depth of the bioattenuation zone.

*As used in this context, unweathered LNAPL is generally understood to mean petroleum product that has not been subjected to significant volitalization or solubilization, and therefore has not lost a significant portion of its volatile or soluble constituents (e.g., comparable to recently dispensed fuel).

Appendix 2
Scenario 2: Unweathered* LNAPL in Soil

Required Characteristics of the Bioattenuation Zone

Existing Building or Potential Future Construction

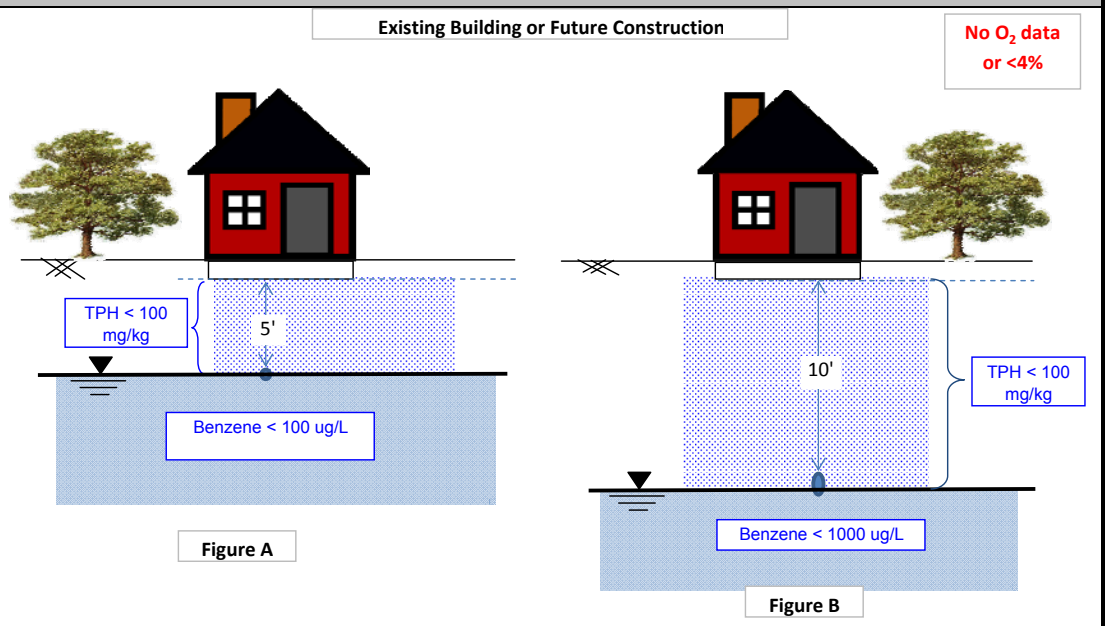


Required Characteristics of the Bioattenuation Zone:
1. The bioattenuation zone shall be a continuous zone that provides a separation of at least 30 feet both laterally and vertically between the LNAPL in soil and the foundation of existing or potential buildings, and
2. Total TPH (TPH-g and TPH-d combined) are less than 100 mg/kg throughout the entire depth of the bioattenuation zone.

*As used in this context, unweathered LNAPL is generally understood to mean petroleum product that has not been subjected to significant volitalization or solubilization, and therefore has not lost a significant portion of its volatile or soluble constituents (e.g., comparable to recently dispensed fuel).

Appendix 3
Scenario 3 - Dissolved Phase Benzene Concentrations Only in Groundwater
(Low concentration groundwater scenarios with or without O_2 measurements)

Defining the Bioattenuation Zone Without Oxygen Measurements or Oxygen <4%

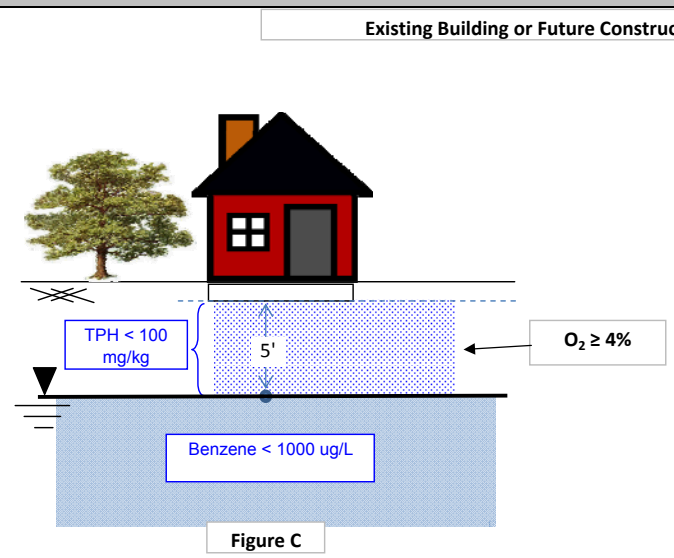


Required Characteristics of Bioattenuation Zone For Sites Without Oxygen Measurements

Figure A: 1) Where benzene concentrations are less than 100 ug/L, the bioattenuation zone:
a) Shall be a continuous zone that provides a separation of at least 5 feet vertically between the dissolved phase Benzene and the foundation of existing or potential buildings; and
b) Contain Total TPH (TPH-g and TPH-d combined) less than 100 mg/kg throughout the entire depth of the bioattenuation zone.

Figure B: 1) Where benzene concentrations are greater than 100 ug/L but less than 1000 ug/L, the bioattenuation zone:
a) Shall be a continuous zone that provides a separation of at least 10 feet vertically between the dissolved phase Benzene and the foundation of existing or potential buildings; and
b) Contain Total TPH (TPH-g and TPH-d combined) less than 100 mg/kg throughout the entire depth of the bioattenuation zone

Defining the Bioattenuation Zone With Oxygen ≥ 4%

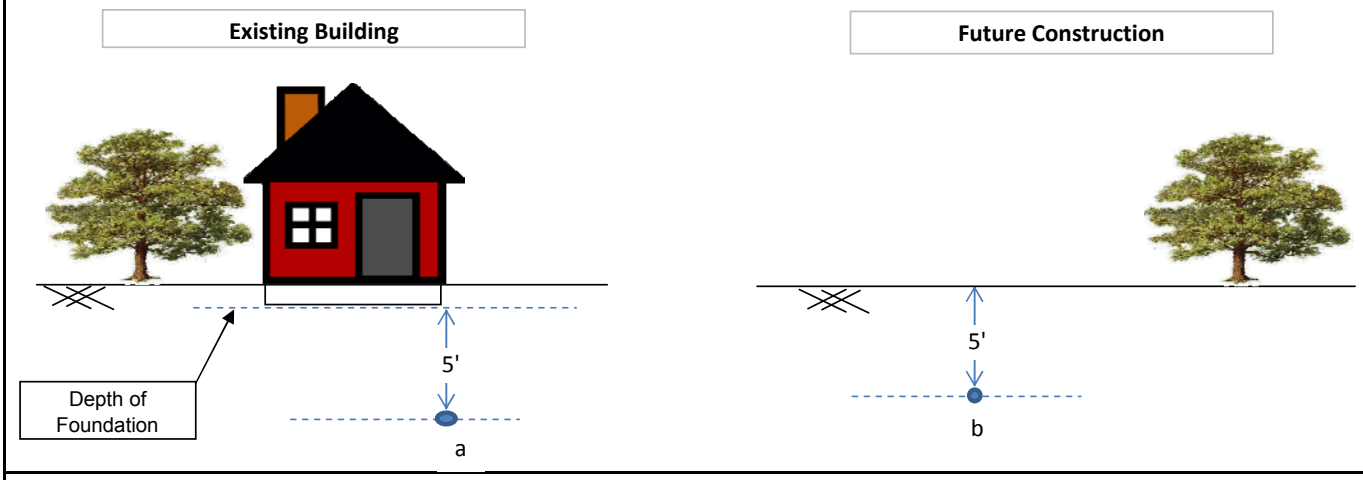


Required Characteristics of Bioattenuation Zone For Sites With Oxygen ≥ 4%

Where benzene concentrations are less than 1000 ug/L, the bioattenuation zone:
1. Shall be a continuous zone that provides a separation of least 5 feet vertically between the dissolved phase Benzene and the foundation of existing or potential buildings; and
2. Contain Total TPH (TPH-g and TPH-d combined) less than 100 mg/kg throughout the entire depth of the bioattenuation zone.

Appendix 4
Scenario 4 - Direct Measurement of Soil Gas Concentrations

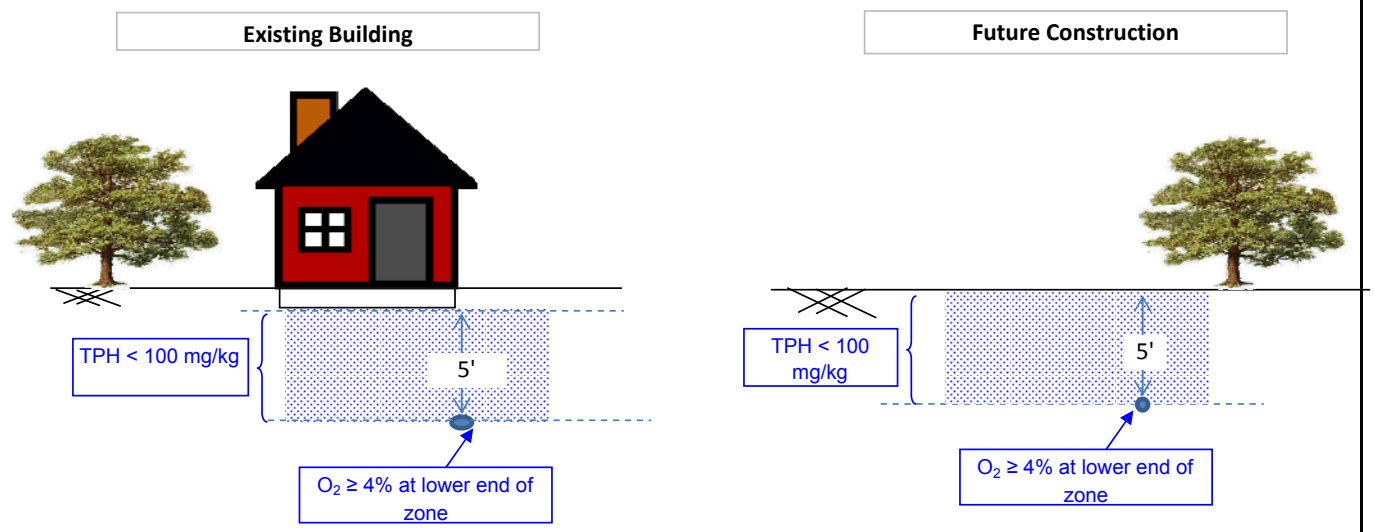
Soil Gas Sampling Locations – No Bioattenuation Zone



Description of Soil Gas Sample Locations

a - beneath or adjacent to building (soil gas sample shall be collected at least 5' deeper than the bottom of the building foundation)
b - for future construction scenarios (soil gas sample shall be collected at least 5' below the ground surface)

Soil Gas Sampling Locations – with Bioattenuation Zone



Required Characteristics of Bioattenuation Zone

Required data includes: petroleum concentrations in soil and soil gas, and oxygen concentrations.

Measured concentrations of soil gases must be less than the screening values indicated in the table below for the applicable scenarios.

Soil Gas Screening Levels (ug/m^3)

	With Bioattenuation Zone*		No Bioattenuation Zone	
	Residential	Commercial	Residential	Commercial
Constituent	Soil Gas Concentration (µg/m^3)		Soil Gas Concentration (µg/m^3)	
Benzene	< 85,000	< 280,000	< 85	< 280
Naphthalene	< 93,000	< 310,000	< 93	< 310

Notes:

*In order to use the screening levels with the bioattenuation zone, there must be:

1) 5 feet of soil between the soil vapor measurement and the building (or future building),
2) TPH (TPHg + TPHd) is less than 100 ppm (measured in at least two depths within the 5 foot zone), and
3) oxygen ≥ 4% measured at the ***bottom*** of the 5 foot bioattenuation zone.

A 1000-fold bioattenuation of petroleum vapors is assumed for the bioattenuation zone.

For the no bioattenuation zone, the screening criteria are the same as the California Human Health Screening Levels (CHHSLs).