

Appendix G

Environmental Checklist Form

Project title: General Waste Discharge Requirements for *In Situ* Soil and Groundwater Remediation For Volatile Organic Compounds and/or Metal Impacted Sites Within the North Coast Region

Lead agency name and address: California Regional Water Quality Control Board
North Coast Region
5550 Skylane Boulevard, Suite A
Santa Rosa, California 95403

Contact person and phone number: Caryn Woodhouse (707) 576-2701
Christine Wright-Shacklett (707) 576-2686

Project location: North Coast Region

Project sponsor's name and address: North Coast Regional Water Quality Control Board
5550 Skylane Boulevard, Suite A
Santa Rosa, California 95403

Zoning: Various; remediation projects exist in all zones including residential, industrial, commercial, agricultural and recreational.

Description of project: See Initial Study Project Description

Surrounding land uses and setting (briefly describe the project's surroundings): Various

Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement): Site specific conditions and needs dictate other Federal, State and local agency regulatory requirements including but not limited to permits for land use, encroachment, building, drilling, remediation and/or air emissions.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a “Potentially Significant Impact” as indicated by the checklist on the following pages.

- | | | |
|---|---|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agricultural Resources | <input checked="" type="checkbox"/> Air Quality |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology/Soils |
| <input checked="" type="checkbox"/> Hazards & Hazardous Materials | <input checked="" type="checkbox"/> Hydrology/Water Quality | <input type="checkbox"/> Land Use/Planning |
| <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Noise | <input type="checkbox"/> Population/Housing |
| <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation | <input type="checkbox"/> Transportation/Traffic |
| <input type="checkbox"/> Utilities/Service Systems | <input type="checkbox"/> Mandatory Findings of Significance | |

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because of requirements within the General Order. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all the potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature

Date

EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
4. "Negative Declaration": Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, "Earlier Analyses," may be cross-referenced).
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
 - a. Earlier Analysis Used. Identify and state where they are available for review.
 - b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - c. Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
9. The explanation of each issue should identify:
 - a. the significance criteria or threshold, if any, used to evaluate each question;
and
 - b. the mitigation measure identified, if any, to reduce the impact to less than significance

1. AESTHETICS

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

The project site will not change the existing visual character or quality of the site and its surroundings because the injection of chemicals are subsurface and temporary. The injections are conducted during daylight hours, thus no new light source would be required. The proposed project would not result in any impacts to aesthetic resources, therefore no mitigation is required. (1, 2, 3)*

2. AGRICULTURAL RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, 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. Would the project:	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 and Monitoring Program of the California Resources Agency, to non-agricultural use?				X

* List of References

In determining whether impacts to agricultural resources are significant environmental effects, 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. Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X
c. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?				X

The sites where groundwater contamination exists are typically commercial and industrial properties which are not used for farming. If adjacent parcels are designated as farmlands, the injection of reducing agents to the subsurface would not alter such uses. The proposed project would not result in any impacts to agricultural resources; therefore, no mitigation is required. (1, 2, 3)

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:	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?				X
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?		X		
c. 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)?		X		

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:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d. Expose sensitive receptors to substantial pollutant concentrations?		X		
e. Create objectionable odors affecting a substantial number of people?		X		

Discussion: Coverage under General Waste Discharge Requirements for *In Situ* Soil and Groundwater Remediation Projects in the North Coast Region will be extended on projects throughout the Region in various air quality districts.

The *in situ* treatment process may require permits from the local air quality districts for the equipment mobilized to the site for the injections. The mobilization of drill rigs to inject the reducing agents may require a State Portable Equipment permit if the drill rig has a portable diesel engine over 50 h.p., and the diesel engine is not the same engine that drives the truck.

Nuisance Conditions: Projects to inject reducing agents have the potential to cause odors. Reducing agents, such as molasses, cheese whey, and others could potentially become a nuisance to an individual after prolonged exposure. The injection process is required to be in sealed containers and closed piping, and the injections are beneath the surface of the ground. Odors from the injection process will be minimal.

Air Exposures: No air exposures to volatile organic compounds (VOCs) will occur as long as the contaminated groundwater remains controlled to the treatment area. During previous pilot studies to dechlorinate VOCs, and the reduction of metals (e.g., hexavalent chromium), members of the public raised the potential issue of generating hydrogen sulfide. Extensive air monitoring was conducted which did not detect hydrogen sulfide in ambient air. Because hydrogen sulfide has not been generated during previous pilot studies, and during full scale interim remedial actions, it is highly unlikely that hydrogen sulfide will be generated during future injection processes. During the breakdown process of VOCs, parent compounds [tetrachloroethene (PCE) and trichloroethene (TCE)] breakdown to more toxic intermediary VOCs (i.e. vinyl chloride). Therefore, it is expected that vinyl chloride concentrations will increase in groundwater due to the dechlorination process. However, this is temporary and the dechlorination of vinyl chloride continues to breakdown to benign products (carbon dioxide and water). The VOC breakdown process is identified on Figure 1. Extensive past air monitoring for VOCs conducted at previous pilot studies and interim remedial actions did not detect these compounds in ambient air related to the injection of reducing agents. These

past injections and air monitoring programs were conducted in compliance with Waste Discharge Requirements issued by the Regional Water Board. The site specific Notice of Intent (NOI) must evaluate the potential impacts and include an air quality monitoring program including pre-treatment, during treatment and post treatment monitoring, and a contingency plan.

The other constituents that may be temporarily mobilized in groundwater are iron, manganese, arsenic, and/or antimony. These constituents are not volatile and therefore would not be present in ambient air. A site specific groundwater monitoring program will be prepared for each project and include monitoring wells in the injection areas, upgradient and downgradient of the injection areas. A site specific contingency plan is required to be submitted in the NOI and implemented if mobilized metals and/or VOCs are migrating outside of the treatment area and threaten sensitive receptors (domestic wells, preferential pathways, indoor air quality).

Mitigation Measures 3b, 3c, 3d and 3e

Sites using this treatment technology may have potential impacts regarding air quality and nuisance conditions, as described above. The site specific NOI must identify the potential impacts and include an air quality monitoring program including pre-treatment, during treatment and post treatment monitoring, and a contingency plan to address known and potential indoor air exposures in excess of human health standards and objectionable odors. A human health risk assessment may be required when there is a potential for indoor air intrusion to cause an excess cancer risk of 10^{-6} or a health hazard index of greater than 1. The contingency plan must prevent in-door air intrusion of the chemicals of concern. The project proponent shall comply with the monitoring and reporting program throughout the project and implement the contingency plan as needed. Less than significant impacts regarding air quality are a condition for providing coverage under General Waste Discharge Requirements Order No. R1-2009-0105.(1,2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14)

4. BIOLOGICAL RESOURCES

Would the project:	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 California Department of Fish and Game or U.S. Fish and Wildlife Service?				X

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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 California Department of Fish and Game or U.S. Fish and Wildlife Service?				X
c. 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?				X
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident migratory wildlife corridors, or impede the use of native wildlife nursery sites?				X
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X
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?				X

The proposed project would not result in any impact to biological resources. Therefore, no mitigation is required. However, the project proponent is required to acquire and comply with all necessary permits, which may include permits with the California Department of Fish and Game, and other applicable agencies including Federal, State and local agencies. Compliance with State and local agency regulatory requirements is a condition for the extension of coverage under General Waste Discharge Requirements Order No. R1-2009-0105. (1, 2, 3)

5. CULTURAL RESOURCES

Would the project:	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?			X	
b. Cause a substantial adverse change in the significance of an archaeological resources pursuant to §15064.5?			X	
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?			X	
d. Disturb any human remains, including those interred outside of formal cemeteries?			X	

Mitigation Measures

If historical, archaeological, or paleontological resources exist on a site specific basis, they would be identified during the early stages of an investigation, and would be described in the site specific remedial action plan (or plans), supported with documentation from the authorities. Areas that may be prohibited from remediation would be identified in the Notice of Intent. If cultural resources are discovered during remediation, work will stop to allow for proper notification of the authorities, and areas determined to have cultural resources will be excluded from remediation. If human remains are discovered during a site remediation project, the coroner's office will be contacted and the work stopped. (1, 2, 3)

6. GEOLOGY AND SOILS

Would the project:	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: <ul style="list-style-type: none"> i. Rupture of a known earthquake fault, as delineated on 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 and Geology Special Publication 42. ii. Strong seismic ground shaking? Seismic-related ground failure, including liquefaction? iii. Landslides? 				X
b. Result in substantial soil erosion or the loss of topsoil?				X
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?				X
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks of life or property?				X
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water?				X

The proposed project would not result in any geologic or soil impacts. Therefore no mitigation is required. (1, 2, 3, 5)

7. HAZARDS AND HAZARDOUS MATERIALS

Would the project:	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?				X
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?			X	
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?			X	
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?			X	
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?				X
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?				X
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X
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?				X

The State Water Resources Control Board has generated a list pursuant to section 65962.5, known as the Cortese List. Under the CEQA Guidelines, California Code of Regulations, title 14, section 15300.2(e), the use of a categorical exemption is prohibited for sites listed on the Cortese List pursuant to Government Code section 65962.5. The Cortese List and accompanying CEQA provision are intended to prevent new development on former contaminated sites without adequate disclosures to the public and decision-making bodies. The project does not have the potential to create a significant hazard to the environment or public.

Mitigation Measures

Coverage under General Waste Discharge Requirements for *In Situ* Soil and Groundwater Remediation Projects in the North Coast Region will be provided on projects throughout the Region located in various land use settings and zoning classifications. The site specific contaminants and the site specific amendments for injection will also vary from site to site. Therefore, not all *in situ* remediation projects have the potential to result in the creation of a potential significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment, or be located within ¼ mile of an existing or proposed school. However, if the potential exists, mitigation measures are required that demonstrate proper amendment and chemical management, application and storage practices to prevent any significant impact from a discharge of the amendments, breakdown products or byproducts of the treatment process. Mitigation measures must also include the provision for safety features such as automatic system shutdown when chemicals are present in ambient air and provisions for proper operation and maintenance of equipment. The injection process is required to be in sealed containers and closed piping, and the injections are beneath the surface of the ground. A monitoring program and a contingency plan that prevents any significant impact from the potential release of the amendments, breakdown products, or byproducts of the treatment process are a condition for providing coverage under the General Waste Discharge Requirements Order No. R1-2009-0105. Compliance with all federal, state, and local agency permit requirements are also requirements of the Order. “Less than significant impacts with Mitigation Incorporated” are a condition for providing coverage under General Waste Discharge Requirements Order No. R1-2009-0105. (1, 2, 3, 4, 5)

Other mitigation measures due to potential air exposures are included in Item 3b, 3c, 3d, and 3e above.

8. HYDROLOGY AND WATER QUALITY

Would the project:	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?		X		
b. Substantially degrade 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)?				X
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?				X
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 surface runoff in a manner which would result in flooding on- or offsite?				X
e. Create or contribute runoff which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?				X
f. Otherwise substantially degrade water quality?				X

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
g. Place housing within a 100-year floodplain, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				X
h. Place within a 100-year flood hazard area structures which would impede or redirect flood flows?				X
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?				X
j. 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?				X
k. Inundation by seiche, tsunami, or mudflow?				X

In situ remediation projects include the injection of amendments into soil and/or groundwater, which stimulate or enhance biological and/or chemical reactions, including reduction processes. The addition of amendments may cause concentrations of constituents other than the pollutant(s) targeted by the remediation to occur above acceptable levels due to the change in soil and/or groundwater chemistry. Under General Water Discharge Requirements Order No. R1-2009-0105, the potential degradation to water quality as the result of the remediation project is permitted only in the treatment zone with the condition that it is of limited duration, does not impact human health or other sensitive receptors, and is mitigated before the remediation project is completed to include the return of background conditions. The net result is higher water quality conditions than what existed prior to the cleanup project.

Mitigation Measure 8

The remediation projects conducted under the proposed General Order will be subjected to all of the requirements and limitations of the General Order. The remediation projects are being conducted in response to a Regional Water Board staff directive, or an enforcement order issued by the Regional Water Board Executive Officer. Groundwater and soil impacted sites have existing degraded water quality conditions that pose a significant threat to the beneficial uses of water, human health or other sensitive receptors if left untreated. Through the *in situ* treatment process using reducing agents, chemicals in groundwater and soil are ultimately degraded to benign end products, thereby restoring the beneficial uses of water. Prior to providing coverage under the General Order, a complete NOI must be filed, including the mandatory items under Section A (Conditions of Eligibility), which include, an acceptable remedial action plan, corrective action plan, work plan, and/or work plan addendum that establishes the technical feasibility and effectiveness of the selected remedy, the proposed soil and groundwater amendments, a description of the amendments, background conditions, breakdown products, by-products, and the potential for constituents to temporarily degrade water quality. Also mandatory is an effective groundwater monitoring network and program, and a contingency plan to ensure the altered conditions are limited spatially to the treatment area and limited in duration. Background conditions, or at a minimum, water quality standards must be reached prior to project completion. (1, 2, 3, 4, 5)

9. LAND USE AND PLANNING

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Physically divide an established community?				X
b. Conflict with an 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?				X
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?				X

The proposed project would not result in any impacts to land use and planning.
Therefore no mitigation is required. (1, 2, 3)

10. MINERAL RESOURCES

Would the project:	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 value to the region and the residents of the state?				X
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?				X

The proposed project would not result in any impacts to mineral resources.
Therefore no mitigation is required. (1, 2, 3)

11. NOISE

Would the project result in:	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?				X
b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?				X
c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?				X
d. A substantially temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?			X	
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?				X

Would the project result in:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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?				X

Mitigation Measures

Coverage under General Waste Discharge Requirements for *In Situ* Soil and Groundwater Remediation Projects in the North Coast Region will be extended on projects throughout the Region located in various land use settings and zoning classifications, rural and urban settings. The site specific treatment method, amendments and delivery method will vary from site to site, and may include, in some cases, heavy equipment such as drill rigs, injection rigs, and pumps. Not all *in situ* remediation projects have the potential to result in the creation of excess noise. However, if the potential exists, noise suppression methods must be identified in the NOI. Projects located in urban areas may also be subject to local permits with noise standards and restrictions. "Less than significant impacts" are a condition for the providing coverage under General Waste Discharge Requirements Order No. R1-2009-0105. (1, 2, 3)

12. POPULATION AND HOUSING

Would the project:	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 (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				X
b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				X
c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				X

The proposed project would not result in any impacts to population or housing. Therefore no mitigation is required. (1, 2, 3)

13. PUBLIC SERVICES

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered government 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:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Fire protection?				X
Police protection?				X
Schools?				X
Parks?				X
Other public facilities?				X

The proposed project would not result in any impacts to public services. Therefore no mitigation is required. (1, 2, 3)

14. RECREATION

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Would the project increase the use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				X
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				X

The proposed project will not result in any recreation impacts. Therefore no mitigation is required. 1, 2, 3, 5)

15. TRANSPORTATION AND TRAFFIC

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Cause an increase in the traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?				X
b. Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?				X
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?				X
d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				X
e. Result in inadequate emergency access?				X
f. Result in inadequate parking capacity?				X
g. Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?				X

The proposed project would not result in any significant transportation or traffic impacts. Any increased traffic associated with drill rigs and supporting vehicles is considered to be minor and of limited duration. Therefore no mitigation is required. (1, 2, 3)

16. UTILITIES AND SERVICE SYSTEMS

Would the project:	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?				X
b. Require or result in construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X
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 effects?				X
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?				X
e. Result in a determination by the wastewater treatment provider which 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?				X
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?				X
g. Comply with federal, state, and local statutes and regulations related to solid waste?				X

The proposed project would not result in any impacts related to utilities or service systems. Therefore no mitigation is required. (1, 2, 3)

17. MANDATORY FINDINGS OF SIGNIFICANCE

Mandatory Findings of Significance	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?				X
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 the past projects, the effects of other current projects, and the effects of probable future projects)				X
c. Does the project have environmental effects which will cause substantially adverse effects on human beings, either directly or indirectly?			X	

Adoption of General Waste Discharge Requirements for *in situ* treatment processes would: a) simplify the application process, b) prevent regulatory delays, c) expedite soil and groundwater remediation activities, d) reduce time needed for Regional Water Board staff to prepare and the Regional Water Board to adopt WDRs for common remedial activities in the North Coast Region, e) enable the extension of coverage for sites with groundwater impacts from multiple contaminant types, and f) provide a comparable level of water quality protection to individual, site-specific WDRs. Projects covered by this General Order will accelerate the cleanup of groundwater and are expected to have direct positive long-term effects to water quality and the environment.

LIST OF REFERENCES

1. Regional Water Board staff evaluation of impacts based on past experience with *in situ* remediation projects in the North Coast Region
 - *In situ Reduction of Hexavalent Chromium, former Ecodyne site, Windsor, California, January 2007*
 - *In situ Groundwater Treatment to Dechlorinate Volatile Organic Compounds, former Remco Hydraulics Facility, Willits, California, January 2009*
 - *In situ Pilot Study to Dechlorinate Volatile Organic Compounds at the former Southern Pacific, 99 Frances Site, Santa Rosa, California, 2006*
 - *In situ Reduction of Hexavalent Chromium at the Coast Wood Preserving Facility, Ukiah, California, 2000*
 - *In Situ Pilot Study to Dechlorinate Volatile Organic Compounds, former Golden Technology site, Santa Rosa, California, 2007*
 - *In situ Pilot Studies to Reduce Hexavalent Chromium and Remediate Volatile Organic Compounds at the former Remco Hydraulics Facility, Willits, California, July 2000*
 - *Interim Remedial Action to Reduce Hexavalent Chromium, former Remco Hydraulics Facility, Willits, California*
2. Draft General Waste Discharge Requirements Order No. R1-2009-0105
3. Existing General Waste Discharge Requirement Orders, North Coast Regional Water Quality Control Board:
 - R1-92-66 General waste discharge requirements for soil bioremediation and/or aeration activities
 - R1-2000-51 Addition of oxygen releasing compounds to groundwater
 - R1-2004-0020 Addition of hydrogen peroxide acid and iron catalyst to groundwater
 - R1-2004-0021 *In situ* bioremediation of petroleum hydrocarbons by the addition of nutrients, microorganisms, and/or an oxygen source to groundwater and/or soil
 - R1-2006-0107 General waste discharge requirements for addition of chemical oxidants to soils and/or groundwater
4. Central Valley Regional Water Board, General Order for *In Situ* Groundwater Remediation at Sites with Volatile Organic Compounds, Nitrogen Compounds, Perchlorate, Pesticides, Semi-Volatile Compounds, Hexavalent Chromium and/or Petroleum Hydrocarbons
5. Water Quality Control Plan for the North Coast Region

6. California Department of Toxic Substances Control. 2005a. Interim Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air. December 15, 2004, revision dated February 7, 2005.
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<http://www.handpmg.com/lustline48-faq-part-3.htm>
12. Hartman, B. 2006. How to Collect Reliable Soil-Gas Data for Risk-Based Applications - Specifically Vapor Intrusion. Part 4 - Updates on Soil-Gas Collection and Analytical Procedures. LUSTline Bulletin 53, September. Available at: <http://www.handpmg.com/lustline53-soil-gas-part-4.htm>
13. U.S. Environmental Protection Agency. 2000. Risk Characterization Handbook, Office of Science Policy, Office of Research and Development, EPA 100-B-00-002, December 2000.
14. California Department of Toxic Substances Control. Human Health Risk Assessment Note 3 (2009) - DTSC Recommended Methodology for Use of U.S. EPA Regional Screening Levels (RSLs) in Human Health Risk Assessment Process at Department of Defense Sites and Facilities, May 2009.