CHAPTER 13

HAZARDS & HAZARDOUS MATERIALS

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13.1 ENVIRONMENTAL SETTING

Regional Setting

The project site consists of two parcels (APN 043-060-052 and 043-060-053) located on the west side of Penryn Road, approximately one-half mile north of Interstate 80 (I-80) in the unincorporated Placer County community of Penryn, a rural area northwest of the Town of Loomis. The project site is situated on the easterly side of the Sacramento Valley near the interface of the Great Valley and Sierra Nevada geomorphic provinces of California. As discussed in **CHAPTER 10 GEOLOGY AND SOILS**, the site is underlain by Mesozoic dioritic rocks of the Penryn Pluton, a regional pluton that extends for several miles within the vicinity of Newcastle, Penryn and Loomis in Placer County. The Penryn community and surrounding region have historically supported agricultural uses, including orchards and livestock operations. Penryn also supports large-lot rural residential and limited commercial land uses.

Project Site Conditions

The project site and surrounding areas are shown in the aerial photograph in *Figure 3-2* in **CHAPTER 3 PROJECT DESCRIPTION**. In addition, photographs representing the existing conditions of the project site are shown in *Figures 5-1* and *6-1* in **CHAPTER 5 BIOLOGICAL RESOURCES** and **CHAPTER 6 VISUAL RESOURCES**. The project site is presently undeveloped and is characterized by generally level topography sloping gently to the south and west. Drainage swales traverse the central and eastern portions of the site, carrying drainage from north to south. Elevation onsite ranges from ±480 feet at the northwest corner to ±460 feet along the southern site boundary. Vegetation onsite consists primarily of oak woodland and annual grassland communities. Dense riparian scrub is associated with the eastern drainage swale. The site was previously planted with orchards; some untended remnant orchard trees remain onsite. As discussed below, soils on the project site are known to contain elevated levels of some agricultural contaminants. Several dirt roads and a South Placer Municipal Utility District sewer easement are present onsite. A small portion of fencing and landscaping associated with the property to the south encroach on the project site.

Environmental Site Assessments and Investigations

This section presents an overview of the hazardous materials associated with the proposed project site. Information has been summarized from the following documents prepared by Wallace-Kuhl & Associates (WKA) and provided as Appendix C to this Draft EIR: Phase I Environmental Site Assessments (2004a and 2004b), Phase II Environmental Site Investigation (2006a), Supplemental Site Investigation (2006b), Revised Draft Removal Action Workplan (RAW) (2008). These reports were prepared in accordance with applicable guidance from the California Department of Toxic Substances Control (DTSC).

Phase I Environmental Site Assessments (ESA) and supplemental soils sampling were conducted to evaluate the project site for evidence of potential soil or groundwater contamination. Historical review completed as part of the ESAs indicated that the property had supported fruit tree orchards from at least 1954 to 1970 and that persistent pesticide compounds were likely used to treat fruit trees. Soil samples collected from the project site contained

elevated concentrations of pesticides associated with past agricultural activities (WKA 2004a and 2004b). Details of the soil sampling results are discussed below.

The Phase I ESAs recommended additional site investigations. Accordingly, a Phase II Site Investigation was conducted to delineate the extent of contamination and provide a preliminary evaluation of potential risks to human health. The Phase II Investigation concluded that the contamination onsite, particularly arsenic, could pose a hazard to future site occupants on a long-term exposure basis. The Phase II recommended that a program to remediate chemicals of potential concern (COPC) be pursued in consultation with the DTSC (WKA 2006a).

In support of developing a remediation plan, WKA prepared a Supplemental Site Investigation (SSI) to further define contamination areas onsite (WKA 2006b). The SSI defined three areas, a total of ±7.11 acres, as the targets for remediation. The SSI was followed in 2008 by a Removal Action Workplan (RAW), also prepared by WKA, which provides a program to address removal of soil contaminants on the project site.

The Orchard at Penryn project applicant has entered into an oversight agreement with DTSC to implement the RAW as a voluntary cleanup action. As discussed below, the RAW describes and maps site contamination, provides a plan for the removal and disposal of contaminated soils, and defines goals for the cleanup action in terms of contaminant concentration levels. The RAW concluded that soil excavation and offsite disposal would be the preferred remedial action for the subject property. The environmental effects associated with implementation of the RAW are evaluated throughout this Draft EIR as a component of the proposed project.

The 2008 RAW was reviewed by the DTSC and revisions to the document were made consistent with comments received. Prior to being finalized, the RAW will be made available for a 30-day public comment period, notices will be published in a local newspaper, and fact sheets providing information will be sent to residents in the project vicinity. DTSC will accept public comments on the Draft RAW and will modify the RAW, as necessary, based on public input received. DTSC's decision of whether to approve the RAW will include consideration of the analysis in this Draft EIR.

Onsite Soil Contamination

The Phase II Investigation identified lead, arsenic, DDT, DDE, endrin, and methoxychlor as COPCs for the project site. More than 60 soil samples taken from the site were analyzed, which identified concentrations of these contaminants that are above typical background levels and the California Human Health Screening Levels (CHHSLs). Contamination in excess of the CHHSL or the background level is considered a potential human health risk. *Table 13.1* identifies the CHHSLs and the existing onsite levels for the COPCs for the project as reported in the Phase II Environmental Site Investigation (WKA 2006a). The naturally-occurring background level of arsenic is provided rather than the CHHSL because the background level exceeds the CHHSL. Lead concentrations in soil samples were generally below levels that indicate a significant health hazard, with one exception. In the one location where lead levels were above the acceptable level, concentrations of arsenic were also relatively high.

Table 13.1
Orchard at Penryn Chemicals of Potential Concern

Chemical	Background Level or CHHSL	Observed Onsite Concentration
Lead	CHHSL: 150 mg/kg	<2.5 to 230 mg/kg
Arsenic	Background: 1 to 4 mg/kg	1 to 68 mg/kg
DDT	CHHSL: 1.6 mg/kg	0.094 to 0.82 mg/kg
DDE	CHHSL: 1.6 mg/kg	0.077 to 1.9 mg/kg
DDD	CHHSL: 2.3 mg/kg	Not detected above reporting limits
Endrin	CHHSL: 21 mg/kg	0.085 to 0.17 mg/kg
Methoxychlor	CHHSL: 340 mg/kg	0.088 to 0.13 mg/kg

Source: WKA 2006a

As described in the RAW, the potential health effects of the soil contaminants identified onsite include the following:

- ***Lead.*** Exposure to lead can be through ingestion and inhalation. Lead is a reproductive and developmental toxin that targets the nervous system, affecting hearing, vision, and muscle control. It is toxic to lungs, kidneys, blood, and heart. Children exposed to lead may suffer irreversible learning deficits, mental retardation, cognitive dysfunction, weight loss, weakness, anemia, and delayed neurological and physical development.
- ***Arsenic.*** Exposure to arsenic can be through ingestion, absorption, and inhalation. Arsenic is a known carcinogen, and ingestion of arsenic has been linked to increased risk of cancer in the liver, bladder, kidneys, prostate, and lungs. Exposure can also lead to chronic pulmonary effects, weakness, weight loss, and mental abnormalities as well as skin, neurological, and vascular disorders.
- ***DDT, endrin, methoxychlor.*** Exposure to pesticides DDT, endrin, and methoxychlor is most likely through ingestion, absorption, and inhalation. DDT and its breakdown products DDD and DDE are possible carcinogens. Ingestion of DDT would be expected to affect the nervous system. In animal studies, oral exposure to DDT led to increased incidence of liver cancer. Exposure to endrin can cause death and sever central nervous system injury. There is not enough information on endrin to determine if it is a carcinogen. Exposure to methoxychlor in humans has not been studied, but animals exposed to this insecticide suffered tremors, convulsions, and seizures as well as harm to reproductive systems.

Removal Action Workplan

Based on the soil sampling completed through preparation of the ESAs and Site Investigations, the RAW identifies the need to remediate soil in ±7.11 acres of the project site in order to obtain certification from DTSC that known site conditions do not pose a human health hazard and authorize the site for "unrestricted land use." The areas of the project site where soil excavation is proposed are shown in *Figure 3-4* in **CHAPTER 3 PROJECT DESCRIPTION**.

The RAW identifies a cleanup goal of an overall post-mitigation site soil arsenic concentration of 8 mg/kg. Cleanup of soil containing arsenic concentrations above this level is anticipated to

also remediate conditions related to the other COPCs for the project site. The cleanup goal of organic pesticide concentrations is a Total Threshold Limit Concentration of 1.0 mg/kg, which would be applied cumulatively to all of the organic pesticides indentified as COPCs for the project site. The cleanup goal for lead concentrations is the CHHSL, which is 150 mg/kg.

Contaminated soil is primarily located in the eastern portion of the project site. Soil covering the majority of the five-acre parcel adjacent to Penryn Road contains COPCs at unacceptable concentrations. Areas of contaminated soil on the western project site parcel are located in the southeastern portion of that parcel, including an area in the southern portion of the drainage swale; near that parcel's eastern boundary south of the rock outcropping in this area; in the central portion of the parcel near its northern boundary; and in the northeast corner of that parcel.

Site investigation activities included sampling surface water in the two drainage swales on the project site. Analysis of the four water samples did not yield reveal contamination associated with the COPCs identified for the project site. There are no groundwater wells on the project site. According to the Placer County Environmental Health Division, there are no reported elevated levels of the COPCs identified for the project site in groundwater samples collected from wells in the vicinity.

Surrounding Properties

In the Phase I ESAs, WKA reports that there is no obvious evidence of hazardous materials contamination on properties adjacent to the project site and none of the properties surrounding the project site are identified as agency-listed hazardous materials sites.

Large-lot rural residential land uses are adjacent to the site to the north, west, and east. Limited commercial uses are located to the east, and a church is located to the south. The church operates a children's daycare; another daycare is located several parcels north of the project site, near the intersection of Penryn Road and Taylor Road. Penryn Elementary School is approximately one mile northwest of the project site and Del Oro High School is approximately one mile southwest of the projects site. Other land uses in the project vicinity include a small retail/commercial shopping development (including a gas station) north of the eastbound I-80 exit ramp, which is southwest of the project site, and a gas station along Boyington Road. Both gas stations and I-80 are approximately 1,200 feet south of the project site.

13.2 REGULATORY SETTING

Federal Regulations

There are no federal regulations applicable to this analysis of the project's impacts related to hazards and hazardous materials other than the federal Resource Conservation and Recovery Act, which is administered and enforced by DTSC as discussed below.

State Regulations

DTSC regulates hazardous waste in California primarily under the authority of the federal Resource Conservation and Recovery Act and the California Health and Safety Code. The DTSC is responsible for permitting, inspection, compliance, and corrective action programs to

ensure that entities that generate, store, transport, treat, or dispose of potentially hazardous materials and waste comply with federal and State laws.

The State Water Resources Control Board (SWRCB) also regulates the handling, storage, and disposal of hazardous substances on construction projects. Permits and/or other action by the SWRCB may be required if contamination of water or soils occurs during construction of the proposed project.

Local Regulations

Placer County Codes and Regulations

The Placer County Environmental Health Division and the Placer County Fire Department (PCFD) have policies and guidelines concerning the handling, storage, and disposal of hazardous substances and flammable materials. Permits and requirements related to the handling, storage, and disposal of hazardous substances that may be applicable to the proposed project include the following:

- The Placer County Fire Department has requirements for the installation of temporary aboveground storage tanks used to store fuel and/or other flammable/combustible liquids during construction activities. These requirements include inspection of a vegetation break and identification of emergency shut-off valves and switches. If electrical connections are required to these facilities, permitting will be required through the Placer County Building Department.
- During construction of the proposed project, any potential hazardous environmental condition within the project site will require oversight by the appropriate governmental agency (including, but not limited to, the Placer County Environmental Health Division, DTSC, and the Regional Water Quality Control Board.

Placer County General Plan

The Placer County Department of Health Services, Division of Environmental Health is responsible for implementing regulations regarding the use and disposal of hazardous materials. The *Placer County General Plan* contains policies governing safety and hazardous materials within Placer County. The project's consistency with relevant General Plan policies is evaluated in Appendix B to this Draft EIR. The intent of the policies is summarized in the following General Plan goal:

Goal 8.G To minimize the loss of life, injury, serious illness, damage to property, and economic and social dislocations resulting from the use, transport, treatment, and disposal of hazardous materials and hazardous materials wastes.

Horseshoe Bar/Penryn Community Plan

The *Horseshoe Bar/Penryn Community Plan* provides 19 General Community Goals which are applicable to the entire Plan area. None of the General Community Goals are specifically relevant to the analysis of impacts related to hazards and hazardous materials. The following goals of the *Horseshoe Bar/Penryn Community Plan* Community Development and Natural Resources elements are applicable to this analysis of the proposed project's impacts related to hazards and hazardous materials:

Goal II.B.2.q Ensure that residents are reasonably protected from safety hazards.

Goal V.B.2.a.1 Minimize loss of life, injury, damage to property, and impacts to human health resulting from geologic hazards.

Goal V.B.2.a.2 Identify and protect important geologic and mineral resources in the Plan area.

Appendix B of this Draft EIR provides an evaluation of the project's consistency with Community Plan policies adopted for the purpose of avoiding or reducing impacts related to hazards and hazardous materials. Applicable policies are taken from all elements of the Community Plan, including policies related to Vector Control found in the Public Facilities and Services section of the Community Development Element.

Placer Mosquito Abatement District

The Placer Mosquito Abatement District was established to control the populations of mosquitoes in Placer County. The District was expanded in 2004 to incorporate the entire county into the District. The District is taking an aggressive and proactive approach to control the populations of mosquitoes in the County. Along with their abatement programs, the District confers with land owners who have potential mosquito habitat and suggests management alternatives through preparation and implementation of Pond Management Plans.

13.3 IMPACTS

Significance Criteria

The analysis in the Initial Study found the project would have no impact with respect to the following significance criteria:

- Create hazardous emissions or waste or use hazardous substances within one-quarter mile of an existing or proposed school;
- Expose residents to risks associated with public or private airport/airstrip; and
- Expose people or structures to risks involving wildland fires.

The analysis below evaluates the potential for the project to result in significant impacts associated with hazards and hazardous materials based on the following criteria:

- Be located on a site included in list of hazardous materials sites;
- Create significant hazard related to handling, transport, use or disposal of hazardous materials and potential release of hazardous materials; and
- Create or expose residents to potential health hazards.

Project Impacts

IMPACT 13.1: Located on a Site that Contains Hazardous Materials

SIGNIFICANCE BEFORE MITIGATION: ***SIGNIFICANT***

Mitigation Measures

Proposed: Mitigation Measure 13.1a

Significance with Proposed Mitigation: Less than Significant

Recommended: None

SIGNIFICANCE AFTER MITIGATION: ***LESS THAN SIGNIFICANT***

As discussed in Section 13.1, the soils onsite are known to contain hazardous materials. As stated in the RAW, DTSC determined that the project site contains "elevated residual pesticide concentrations in site soils exceeding levels protective of human health." Without remediation, this would be considered a significant impact. As stipulated in *Mitigation Measure 13.1a,* the project applicant proposes to excavate and dispose of the contaminated soil to achieve the cleanup standards established in the RAW. The RAW is designed to reduce site contaminants to concentrations that do not pose human health risk. The targeted cleanup levels are consistent with naturally-occurring background conditions and/or the CHHSLs for each contaminant.

The soil samples collected throughout the project site were used to determine the background (natural) level of soil constituents and identify contaminated soil. As discussed in Section 13.1 and presented in *Table 13.1*, the project site soils contain elevated concentrations of lead, arsenic, and organochlorine pesticides (OCPs – including DDT, DDE, endrin, and methoxychlor).

The RAW establishes a cleanup goal (intended concentration level) that would support DTSC's certification of the land for "unrestricted land use." The cleanup goal is primarily based on arsenic concentrations, based on the "likelihood that reduction of soil containing elevated arsenic concentrations would simultaneously reduce concentrations of the remaining COPCs" (WKA 2008). The established cleanup goals are as follows:

- Remove all soil with an arsenic concentration above 16 mg/kg and achieve an overall post-mitigation site soil arsenic concentration of 8.0 mg/kg;
- Remove impacted site soil with organic pesticide concentrations cumulatively exceeding the Total Threshold Limit Concentration of 1.0 mg/kg; and
- Remove impacted site soil with lead concentration exceeding 150 mg/kg.

The RAW considers three alternatives for achieving the cleanup goals. The soil excavation and offsite disposal alternative was selected as the preferred action based on considerations of reliability, time, and cost-effectiveness. This method "involves the use of readily available equipment and provides a permanent reduction of contaminant toxicity, mobility and volume, and consequently the highest degree of assurance for protection of human health and the environment" (WKA 2008).

The RAW delineates the specific areas where contaminated soil is located and recommends that the upper 18 inches of soil be excavated. In three locations where arsenic concentrations are particularly high, the RAW recommends excavating to a depth of two feet. The total volume of

excavated soil is anticipated to be ±11,600 cubic yards. This soil would be transported to an appropriate solid waste disposal site, as discussed in Impact 13.2 below.

Following excavation, project site soil samples would be collected and analyzed to confirm that residual contaminant concentrations are below the cleanup goals.

The draft RAW has been prepared in consultation with DTSC, and is subject to DTSC's final review and approval. Implementation of the approved RAW to DTSC's satisfaction will ensure that the site soils are no longer contaminated and this impact will be less than significant. The goal of RAW implementation is to obtain a certification letter from DTSC authorizing the site for "unrestricted land use." This certification will indicate that all necessary response actions have been completed in accordance with the approved RAW and that known site conditions do not pose a significant risk to residents.

IMPACT 13.2: Hazardous Materials Use, Transport, and Disposal

SIGNIFICANCE BEFORE MITIGATION: ***SIGNIFICANT***

Mitigation Measures

Proposed: Mitigation Measure 13.2a

Significance with Proposed Mitigation: Significant

Recommended: Mitigation Measure13.2b

SIGNIFICANCE AFTER MITIGATION: ***LESS THAN SIGNIFICANT***

RAW Implementation

During implementation of the RAW, the contaminated soil from the project site would be transported to a waste disposal site. A waste disposal site would be identified and approval for receipt of the excavated soil will be received before excavation activities begin. Based on the soil sampling and analysis conducted in preparation of the project site investigations and the RAW, it is expected that the excavated soil would be handled, transported, and disposed of as non-hazardous waste directed to a Class II Landfill. Concentrations of contaminants in the soil exceed human health screening levels but do not meet the definition of hazardous materials or waste.

Appendix G of the RAW presents a detailed transportation plan addressing transport of the soil excavated from the project site. Implementation of this transportation plan as part of the overall RAW implementation is stipulated in *Mitigation Measure 13.2a* to ensure that transport of the excavated soil does not result in a significant risk to human health and the environment. Between 20 and 40 truckloads of soil will be transported per day, and this phase of the project is expected to last approximately three weeks. The transportation plan includes the following components/requirements:

- During and at the end of site cleanup activities, all equipment and vehicles will be cleaned to the extent that no potentially contaminated soil will be inadvertently carried offsite in an uncontrolled manner. A truck decontamination area will be prepared near the site entrance. Any rinse water produced will be collected and retained in drums or other approved container for analysis and disposal.

- As soil is excavated, it will be stockpiled on plastic sheeting in designated areas and immediately covered with plastic sheeting secured with sandbags to prevent wind erosion or contact with direct precipitation.
- Excavated soil will be characterized to confirm disposal requirements (i.e., can the soil be disposed of as non-hazardous waste). After obtaining approval for receipt of the excavated soil from a designated disposal site, the stockpiled soil will be transported as a Class II waste under waste manifest protocol.
- Soil transport will be conducted by an approved, properly licensed and insured, trucking contractor. Personnel transporting wastes offsite will be trained in accordance with applicable federal regulations. Waste will be transported in Department of Transportation-approved shipping containers, which will be covered with a permanent fixed cover, tarpaulin, or other means to prevent fugitive dust. Each truck will be visually inspected for proper loading, covering/sealing, decontamination, placarding and manifesting prior to leaving the site.
- Records of all waste material hauled offsite will be maintained in the project files. Records will include date, time, weight/volume, trucking company, and vehicle used for each trip.

Project Construction

Construction of the proposed project would require the storage, use, and handling of hazardous materials. These materials could include gasoline and/or diesel fuels, lubricants, dry construction materials (e.g., plaster, cement, etc.), and certain herbicides, fertilizers, and insecticides. The use of these materials may also generate hazardous waste. Potential adverse impacts associated with use of these types of materials involve the exposure of construction workers, nearby residents, and/or the environment to hazardous materials from an accidental release during construction. *Mitigation Measure 13.2b* requires use of safe practices meeting state and local requirements for handling, storage, and disposal of hazardous materials. Implementation of this measure would reduce the potential impact to a less than significant level by minimizing the potential for release of these materials.

Future Residents

Following buildout of the proposed project, it is likely that project residents will store and use hazardous chemicals at their homes. Hazardous chemicals common to residential use include paints and cleaning solutions; swimming pool and landscape maintenance chemicals would be used by the Homeowner's Association. Household hazardous materials are accepted at the Household Hazardous Waste Facility located at the Western Regional Sanitary Landfill Materials Recovery Facility, approximately 15 miles driving distance from the project site. The risk related to use and storage of these materials is typical of any residential development and considered a less than significant impact of this project.

IMPACT 13.3: Creation of or Exposure to Health Hazards

SIGNIFICANCE BEFORE MITIGATION: ***SIGNIFICANT***

Mitigation Measures

Proposed: Mitigation Measure 13.3a

Significance with Proposed Mitigation: Potentially Significant

Recommended: Mitigation Measures 13.3b through 13.3d

SIGNIFICANCE AFTER MITIGATION: ***LESS THAN SIGNIFICANT***

Potential exposure to health hazards associated with the existing soil contamination would be a significant impact of the project if no soil remediation were conducted. As discussed in Impact 13.1 and stipulated in *Mitigation Measure 13.3a*, the project proposes to implement the RAW for the project site. Implementation of the approved RAW to DTSC's satisfaction will ensure that site soils are no longer contaminated and there would be a less than significant impact related to health hazards associated with soil contamination.

Mosquitoes can carry and transmit various human diseases. In 1999, the West Nile virus, a disease spread by infected mosquitoes, emerged as a threat to public health. The virus, which can infect people and livestock, has spread throughout much of North America, including California. The most serious manifestations of infection are encephalitis (inflammation of the brain) and death.

The project would have a potentially significant impact related to health hazards if the proposed detention pond and any other water quality devices provide mosquito breeding habitat. Siltation traps installed in conjunction with catch basins and other drainage devices can hold water for several days and provide mosquito breeding habitat. Implementation of *Mitigation Measures 13.3b* and *13.3c* requiring management of onsite water quality devices and facilities to minimize the potential for the project site to support mosquito populations would ensure that this impact remains less than significant.

13.4 MITIGATION MEASURES

Located on a Site that Contains Hazardous Materials

Proposed Mitigation

Mitigation Measure 13.1a: The project applicant shall obtain California Department of Toxic Substances Control (DTSC) approval of the final Removal Action Workplan (RAW) prior to Placer County's issuance of a grading permit authorizing commencement of site remediation activities. The project applicant shall implement the RAW and obtain certification from DTSC for unrestricted land use prior to Placer County's approval of Improvement Plans. The certification from DTSC may be in the form of a tentative No Further Action letter.

Recommended Mitigation

No additional mitigation measures are recommended.

Hazardous Materials Use, Transport, and Disposal

Proposed Mitigation

Mitigation Measure 13.2a: The project applicant shall obtain California Department of Toxic Substances Control approval of the final Removal Action Workplan (RAW) prior to issuance of a grading permit from Placer County. The project applicant shall implement the Transportation Plan included in Appendix G of the RAW.

Recommended Mitigation

Mitigation Measure 13.2b: Except during implementation of the Removal Action Workplan, the following Best Management Practices shall be implemented during all site preparation and construction activity within the project site to control pollutant sources associated with the handling and storage of construction materials and equipment, as well as with waste management and disposal.

A. Store construction raw materials (e.g., dry materials such as plaster and cement, pesticides and herbicides, paints, petroleum products, treated lumber) in designated areas that are located away from storm drain inlets, drainageways, and canals and are surrounded by earthen berms. Train the construction employees working on the site in proper materials handling practices to ensure that, to the maximum extent practicable, those materials that are spread throughout the site are covered with impervious tarps or stored inside buildings.

B. Whenever possible, wash out concrete trucks offsite in County designated areas. When the trucks are washed onsite, contain the wash water in a temporary pit adjacent to the construction activity where waste concrete can harden for later removal. Avoid washing fresh concrete from the trucks, unless the runoff is drained to a berm or level area, away from site waterways and storm drain inlets.

C. Collect non-hazardous waste construction materials (e.g., wood, paper, plastic, cleared trees and shrubs, building rubble, scrap metal, rubber, glass) and deposit in covered dumpsters at a designated waste storage area on the site. Store recyclable construction materials separately for recycling. Transport all solid waste and recyclable material to the Western Regional Sanitary Landfill and Materials Recovery Facility.

D. Store hazardous materials in portable metal sheds with secondary containment. The quantities of these materials stored on site shall reflect the quantities needed for site construction. Avoid over-application of fertilizers, herbicides, and pesticides. Do not mix hazardous waste with other waste produced onsite. Contract with a Certified Waste Collection contractor to collect hazardous wastes for disposal at an approved hazardous waste facility.

E. Dispose of waste oil and other equipment maintenance waste in compliance with federal, State and local laws, regulations and ordinances.

Creation of or Exposure to Health Hazards

Proposed Mitigation

Mitigation Measure 13.3a: The project applicant shall implement *Mitigation Measure 13.1a*, which requires obtaining DTSC approval of the final RAW prior to issuance of a grading permit from Placer County, implementing the RAW, and obtaining certification from DTSC for unrestricted land use prior to issuance of a building permit from Placer County.

Recommended Mitigation

Mitigation Measure 13.3b: In constructing the stormwater detention basin and installing stormwater conveyance infrastructure, the project applicant shall implement the following Best Management Practices or other similar and equally effective practices in accordance with the recommendations of the *Best Management Practices for Mosquito Control in California* handbook (California Department of Public Health and Mosquito and Vector Control Association of California 2010).

A. Consider mosquito production during the design, construction, and maintenance of stormwater infrastructure.

B. All underground drain pipes should be laid to grade to avoid low areas that may hold water for longer than 96 hours

C. Provide proper grades along conveyance structures to ensure that water flows freely.

D. Design and maintain systems to fully discharge captured water in 96 hours or less.

E. Avoid the use of loose rock rip-rap that may hold standing water; use concrete or liners in shallow areas to discourage plant growth where vegetation is not necessary.

F. Design containment basins with adequate slopes to drain fully. The design slope should take into consideration buildup of sediment between maintenance periods

G. Design accessible shorelines to allow for periodic maintenance and/or control of emergent and shoreline vegetation, and routine monitoring and control of mosquitoes.

H. Whenever possible, design deep zones in excess of four feet to limit the spread of invasive emergent vegetation such as cattails. The edges below the water surface should be as steep as practicable and uniform to discourage dense plant growth that may provide immature mosquitoes with refuge from predators and increased nutrient availability.

I. Whenever possible, provide a means for easy dewatering if needed.

Mitigation Measure 13.3c: The applicant shall prepare a Mosquito Control Plan for administration by the Homeowners Association and/or Property Manager/Owner. This plan will describe various methods of managing the stormwater detention basin, stormwater conveyance infrastructure, and landscape irrigation system to

reduce mosquito breeding. The management plan shall be reviewed and approved by the Placer Mosquito and Vector Control District prior to Improvement Plan approval. The management plan shall include the following Best Management Practices or other similar and equally effective practices in accordance with the recommendations of the *Best Management Practices for Mosquito Control in California* handbook (California Department of Public Health and Mosquito and Vector Control Association of California 2010).

A. Avoid over-irrigating to prevent excess pooling and runoff.

B. Routinely inspect, maintain, and repair irrigation system components; check and repair leaky outdoor faucets.

C. Manage sprinkler and irrigation systems to minimize runoff entering stormwater infrastructure.

D. Avoid intentionally running water into stormwater systems by not washing sidewalks and driveways; prohibit washing cars on streets or driveways.

E. Inspect facilities weekly during warm weather for the presence of standing water or immature mosquitoes.

F. Remove emergent vegetation and debris from gutters and channels that accumulate water.

G. Keep inlets free of accumulations of sediment, trash, and debris to prevent standing water from backing up on roadways and gutters.

H. Maintain accessible shorelines to allow for periodic maintenance and/or control of emergent and shoreline vegetation, and routine monitoring and control of mosquitoes. Emergent plant density should be routinely managed so mosquito predators can move throughout the vegetated areas and are not excluded from pond edges.

I. If applicable, maintain deep zones in excess of four feet to limit the spread of invasive emergent vegetation such as cattails.

J. Manage the spread and density of floating and submerged vegetation that

K. encourages mosquito production (i.e., water hyacinth, water primrose, parrot's

L. feather, duckweed, and filamentous algal mats

Mitigation Measure 13.3d: If siltation devices are installed with catch basins and other road drainage features, the developer and/or Homeowners Association and/or Property Manager/Owner shall provide periodic treatment, inspection, and vegetation removal when proscribed by the Placer Mosquito and Vector Control District to prevent development of mosquito habitat. Evidence of treatment shall be provided to the Placer Mosquito and Vector Control District upon request.

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