

## 3.9 HAZARDS AND HAZARDOUS MATERIALS

This section evaluates potential health, safety, and environmental impacts related to hazards and hazardous materials that could result from implementation of the 2021 LRDP. It describes existing potential hazards and safety concerns within UC Santa Cruz, and the nature of potential impacts that would occur as a result of 2021 LRDP implementation.

Comments were received in response to the NOP (see Appendix B) that identified specific hazards and hazardous materials concerns regarding handling of hazardous materials on-campus, wildfire risk, emergency access, exposure to hazardous materials during construction, impacts to trees and vegetation during construction, and wastewater impacts. An evaluation of potential health risks related to airborne contaminants during construction is included in the analysis in Section 3.3, "Air Quality." For further information on trees and vegetation, please refer to Section 3.5, "Biological Resources." A discussion of wastewater treatment and disposal is included in Section 3.17, "Utilities and Service Systems." Wildfire risk is further discussed in Section 3.18, "Wildfire."

During the course of daily operations, UC Santa Cruz uses materials, some of which are considered hazardous. Such hazardous materials include chemical reagents, solvents, fuels, paints, cleansers, and pesticides that are used in activities such as laboratory research, building and grounds maintenance, vehicle maintenance, and fine arts. For the purpose of this document, the term "hazardous material" is used in reference to any material or waste with physical, chemical, or other characteristics that could pose a risk to human health or safety, or could result in degradation of the environment if released. Although chemicals are the most recognized type of hazardous materials, radioactive and biohazardous materials used in laboratory research are also considered in the following discussion.

### 3.9.1 Regulatory Setting

#### FEDERAL

##### Toxic Substances Control Act

The Toxic Substances Control Act regulates the manufacturing, inventory, and disposition of industrial chemicals, including hazardous materials. Pursuant to Title II of the Toxic Substances Control Act, the U.S. Environmental Protection Agency (EPA) adopted the Asbestos Model Accreditation Plan in 1994. The Model Accreditation Plan requires that all persons who inspect for asbestos-containing materials or design or conduct response actions with respect to friable asbestos obtain accreditation by completing a prescribed training course and passing an exam. Section 403 of the Toxic Substances Act establishes standards for lead-based paint hazards in paint, dust, and soil.

##### Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) was designed to protect human health and the environment, reduce or eliminate the generation of hazardous waste, and conserve energy and natural resources. EPA has authorized the California Department of Toxic Substances Control (DTSC) to enforce hazardous waste laws and regulations in California. Under RCRA, DTSC has the authority to implement permitting, inspection, compliance, and corrective action programs to ensure that people who manage hazardous waste follow state and federal requirements. Under the Certified Unified Program Agency (CUPA) program, which is described below, DTSC has in turn delegated enforcement authority to Santa Cruz County, which has direct oversight of hazardous waste management at UC Santa Cruz. Requirements place "cradle-to-grave" responsibility for hazardous waste disposal on the shoulders of hazardous waste generators. Generators must ensure that their wastes are disposed of properly, and legal requirements dictate the disposal requirements for many waste streams (e.g., banning many types of hazardous wastes from landfills).

##### Emergency Planning Community Right-to-Know Act

The Emergency Planning Community Right-to-Know Act (EPCRA) was passed in response to concerns regarding the environmental and safety hazards posed by the storage and handling of toxic chemicals. EPCRA establishes requirements regarding emergency planning and "community right-to-know" reporting on hazardous and toxic chemicals.

EPCRA requires states and local emergency planning groups to develop community emergency response plans for protection from a list of extremely hazardous substances (40 Code of Federal Regulations [CFR] 355 Appendix A). The community right-to-know provisions help increase the public's knowledge and access to information on chemicals at individual facilities, their uses, and releases into the environment. In California, EPCRA is implemented through the California Accidental Release Prevention Program. UC Santa Cruz submits the required information on use, storage, or release of hazardous substances on campus to the Santa Cruz County Environmental Health Services (EHS), the local certified CUPA.

### **Federal Insecticide, Fungicide, and Rodenticide Act**

Pesticides are regulated under the Federal Insecticide, Fungicide and Rodenticide Act by EPA. This includes labeling and registration of pesticides as to how they may be used. EPA delegates pesticide enforcement activities in California to the California Department of Pesticide Regulation (DPR), under Title 3 of the California Code of Regulations (CCR) and the California Food and Agriculture Code. The DPR registers pesticides for use in California, and licenses pesticide applicators and pilots, advisors, dealers, brokers, and businesses. In turn, the Santa Cruz County Agricultural Commissioner acts as the local enforcement authority for DPR. The County Agricultural Commissioner registers licensed pest control businesses; requires permits and advanced notification for buying or using California restricted-use pesticides; and requires the completion of pesticide use reports for pesticides applied in the county. In addition, the County Agricultural Commissioner investigates pesticide-related injury and illnesses, and oversees enforcement of worker training in pesticide management.

### **Hazardous Materials Transportation Act**

The United States Department of Transportation (USDOT) has developed regulations in Titles 10 and 49 of the CFR pertaining to the transport of hazardous substances and hazardous wastes. The Hazardous Materials Transportation Act is administered by the Research and Special Programs Administration of the USDOT. The act provides the USDOT with a broad mandate to regulate the transport of hazardous materials, with the purpose of adequately protecting the nation against risk to life and property that is inherent in the commercial transportation of hazardous materials. The USDOT regulations that govern the transport of hazardous materials are applicable to any person who transports, ships, causes to be transported or shipped, or who is involved in any way with the manufacture or testing of hazardous materials packaging or containers.

### **Federal Occupational Safety and Health Act**

The Occupational Safety and Health Act is intended to ensure that employers provide their workers with a work environment free from recognized hazards to safety and health, such as exposure to toxic chemicals, excessive noise levels, mechanical dangers, or unsanitary conditions. The U.S. Department of Labor regulates worker health and safety at the federal level. The federal Occupational Safety and Health Act (OSHA) authorizes states (including California) to establish their own safety and health programs with the federal OSHA approval.

To establish standards for workplace health and safety, this act also created the National Institute for Occupational Safety and Health as the research institution for OSHA. Workplace health and safety regulations apply to all UC Santa Cruz employees, including student employees and research assistants. These standards are adopted at the state level and enforced on the campus by California OSHA (Cal/OSHA) as described below under State laws and regulations.

### **Title 40 CFR Part 112, Oil Pollution Prevention**

The Spill Prevention Control and Countermeasure (SPCC) plan is required by Title 40, CFR Part 112. In California, owners and operators of aboveground storage tanks (ASTs) must comply with federal regulations pertaining to oil spill prevention and aboveground petroleum storage. The SPCC plan provides an analysis of the potential for release from ASTs and the measures that could be put into place to reduce the potential of release. Facilities subject to these regulations must complete an SPCC plan if they contain tanks with a capacity of 660 gallons or more, or if the total facility capacity exceeds 1,320 gallons. UC Santa Cruz maintains a current SPCC plan for on-campus facilities.

## Title 42 CFR Select Agent Regulation

Federal laws relative to biological safety are contained in Title 42 of the CFR. Title 42 CFR Part 73 implements provisions of the Public Health Security and Bioterrorism Preparedness Response Act, which requires the Secretary of Health and Human Services to regulate the possession of certain biological agents (“select agents”) harmful to humans. The regulation controls the access, use, and transfer of select agents to ensure that these are shipped only to institutions or individuals equipped to handle them appropriately and only to those who have legitimate reasons to use them. The Centers for Disease Control and Prevention (CDC) is responsible for implementing this regulation; a facility must register with the CDC if it possesses a select agent or agents.

## Atomic Energy Act

In the United States, the use of radioactive materials is, in general, regulated by the Nuclear Regulatory Commission under the Atomic Energy Act. The two major Nuclear Regulatory Commission rules that apply to the UC Santa Cruz campus from Title 10 of the CFR (Chapter I, Nuclear Regulatory Commission) are Part 19, Notices, Instructions and Reports to Workers, Inspections, and Part 20, Standards for Protection Against Radiation.

The following sections of the CFR also apply to the UC Santa Cruz Campus Radiation Safety Programs:

Title 10: Chapter I, Nuclear Regulatory Commission

Part 30, Rules of General Applicability to Domestic Licensing of Byproduct Material

Part 40, Domestic Licensing of Source Material

Part 55, Operator’s Licenses

Part 70, Domestic Licensing of Special Nuclear Materials

Title 49: Chapter I, Research and Special Programs Administration, Department of Transportation

## Federal Plant Pest Act

The federal agencies primarily responsible for regulating transgenic materials in the United States are the U.S. Department of Agriculture (USDA), EPA, and the Food and Drug Administration. Under the authority of the Federal Plant Pest Act, USDA Animal and Plant Health Inspection Service regulates importation, interstate movement, and environmental release of transgenic plants and organisms. The service licenses, through permits, the field testing of food crops before commercial release. UC Santa Cruz researchers who grow transgenic plants in field trials must obtain permits from the USDA.

## Centers for Disease Control and Prevention and National Institutes of Health Guidelines

The CDC and National Institutes of Health (NIH) have issued federal guidelines that address biological safety; because research at university campuses often involves federal funding, compliance with these guidelines becomes mandatory for most research. The CDC and the NIH have developed containment and handling guidelines for use in microbiological and biomedical laboratories. UC Santa Cruz has adopted these guidelines as standard practice. Work involving recombinant deoxyribonucleic acid (rDNA), infectious agents, Select Agents, biological toxins or other listed material must be authorized by the UC Santa Cruz Institutional Biosafety Committee.

The NIH Guidelines for Research Involving Recombinant DNA Molecules specifies practices for constructing and handling rDNA molecules and organisms and viruses containing rDNA molecules. These guidelines are applicable to all rDNA research conducted in the United States.

In addition to Biosafety Levels (BL) for biohazardous materials, the guidelines identify containment at four BLs for rDNA research involving plants (BL1-P through BL4-P) and small laboratory animals (BL1-N through BL4-N), and containment practices for plants, microorganisms, and animals. Recombinant DNA experiments at BL1 pose no significant hazard, BL2 experiments pose minimal hazard, and BLs 3 and 4 involve more hazardous agents. UC Santa Cruz laboratories conducting experiments involving BL2 and above must be authorized by the UC Santa Cruz Institutional Biosafety Committee.

## STATE

### California Building Code

The California Building Standards Code (CBC) (California Code of Regulations, Title 24) provides minimum standards for the design and construction of buildings and structures in California. Minimum standards are organized under Part 1 to 12 and include code standards for buildings, mechanical, plumbing, energy, historical buildings, fire safety, and green building standards. State law mandates that local government enforce these regulations, or local ordinances, with qualified reasonably necessary and generally more restrictive building standards than provided in the CBC. Title 24 is applicable to all occupancies, or structures, throughout California, whether or not the local government takes an affirmative action to adopt Title 24.

### California Code of Regulations

The California Department of Industrial Relations regulates implementation of worker health and safety in California. The Department of Industrial Relations includes the Division of Occupational Safety and Health, which acts to protect workers from safety hazards through its Cal/OSHA program and provides consultative assistance to employers. California standards for workers dealing with hazardous materials are contained in Title 8 of the CCR and include practices for all industries (General Industrial Safety Orders), and specific practices for construction and other industries. Workers at hazardous waste sites (or working with hazardous wastes, as might be encountered during excavation of contaminated soil) must receive specialized training and medical supervision according to the Hazardous Waste Operations and Emergency Response regulations. Additional regulations have been developed for construction workers potentially exposed to lead and asbestos. Cal/OSHA enforcement units conduct on-site evaluations and issue notices of violation to enforce necessary improvements to health and safety practices.

Title 17 of the CCR provides information on the appropriate accreditation, certification, and work practices for lead-based paint and lead hazards. Division 4.5, Environmental Health Standards for the Management of Hazardous Waste, of Title 22 Social Security contains the DTSC's hazardous waste regulations. The regional water quality control board (RWQCB) regulations are contained in Title 27 of the CCR. Title 26 is a compilation of toxics regulations issued by State regulatory agencies that are also found in the original titles assigned to each agency.

### California Accidental Release Prevention Program

The California Accidental Release Prevention Program (CalARP) (CCR Title 19, Division 2, Chapter 4.5) covers certain businesses that store or handle more than a specified volume of regulated substances at their facilities. The CalARP program regulations became effective on January 1, 1997, and include the provisions of the federal Accidental Release Prevention program (Title 40, CFR Part 68), with certain additions specific to the state pursuant to Article 2, Chapter 6.95, of the Health and Safety Code. UC Santa Cruz does not store any regulated substance in a quantity that would be covered by CalARP (UC Santa Cruz 2005).

### California Department of Health Services Licensing

The Radiological Health Branch of the California Department of Health Services administers federal and state radiation safety laws that govern the storage, use, and transportation of radioactive materials and the disposal of radioactive waste, including the Radiation Control Law, Radiologic Technology Act, and Nuclear Medicine Technology Certification, through the implementing regulations contained in Title 17 of the CCR. To obtain a California radioactive material license, an applicant must complete a detailed application that requires a description of plans for decontamination and decommissioning, including identification of transfer or disposal procedures taken before decommissioning and any necessary surveys. To maintain a radioactive materials license, an institution must meet training and radiation safety requirements and be subject to routine inspections. UC Santa Cruz holds a license from the state of California that governs the use of radioactive materials in campus laboratories (UC Santa Cruz 2005).

### Storage Tank Regulations

The underground storage tank (UST) monitoring and response program is required under Chapter 6.7 of the California Health and Safety Code and Title 23 of the CCR. The program was developed to ensure that the facilities

meet regulatory requirements for monitoring, maintenance, and emergency response in operating USTs. The Santa Cruz County EHS is the local administering agency for this program. UC Santa Cruz operates two of USTs for storage of petroleum products. Both tanks are located on the main residential campus (UC Santa Cruz 2016a).

The Aboveground Petroleum Storage Act requires registration and spill prevention programs for ASTs that store petroleum. In some cases, ASTs for petroleum may be subject to groundwater monitoring programs that are implemented by the RWQCB and the State Water Resources Control Board (SWRCB).

### **California Health and Safety Code**

Chapter 6.95 of the California Health and Safety Code requires facilities that use, produce, store, or generate hazardous substances or have a change in business inventory to have a Hazardous Materials Management Plan (HMMP) or Business Plan. The plan must disclose the type, quantity, and storage location of materials. The law also requires a site-specific emergency response plan, employee training, and designation of emergency contact personnel.

As a state agency and large-quantity user of hazardous materials, UC Santa Cruz is required to submit an HMMP to the local administering agency, the Santa Cruz County EHS. The HMMP describes hazardous materials storage and handling practices and contains procedures for monitoring storage, performing regular inspections, detecting releases, and testing the detection systems on a regular basis. Compliance with the hazardous materials programs at UC Santa Cruz is verified through annual self-audits, with periodic random follow-up audits by the Santa Cruz County EHS.

### **Hazardous Waste Control Law**

DTSC regulates the generation, transportation, treatment, storage, and disposal of hazardous waste under the RCRA and the California Hazardous Waste Control Law. Both laws impose "cradle to grave" regulatory systems for handling hazardous waste in a manner that protects human health and the environment. The DTSC has delegated some of its authority under the Hazardous Waste Control Law to county health departments and other CUPAs, including the Santa Cruz County EHS.

### **Hazardous Waste and Substances Sites List**

The Hazardous Waste and Substances Sites List, also known as the Cortese List, is a planning document used by the State of California and its various local agencies to comply with the CEQA requirements to provide information about the location of hazardous materials release sites. The list includes hazardous waste and substance sites from DTSC's database, leaking underground storage tank (LUST) sites from SWRCB's database, solid waste disposal sites with waste constituents above hazardous waste levels outside of the waste management unit, Cease and Desist Orders and Cleanup and Abatement Orders concerning hazardous wastes, and hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code. California Government Code Section 65962.5 requires that the California Environmental Protection Agency (CalEPA) update the list annually. The list is maintained via DTSC's Brownfields and Environmental Restoration Program (Cleanup Program) and is accessible through the EnviroStor online database.

### **California Occupational Safety and Health Act**

In California, under the California Occupational Safety and Health Act, Cal/OSHA assumes primary responsibility for developing and enforcing standards for safe workplaces and work practices. For the federal OSHA program to be delegated to the state, Cal/OSHA standards must be at least as stringent as federal OSHA standards, and they are generally more stringent. Cal/OSHA hazardous materials regulations include requirements for safety training, availability of safety equipment, hazardous substance exposure warnings, and emergency action and fire prevention plan preparation. Cal/OSHA enforces hazard communication program regulations, which include identifying and labeling hazardous substances, providing employees with Material Safety Data Sheets, and describing employee-training programs. These regulations also require the campus to prepare emergency action plans, including escape and evacuation procedures. Title 8 also establishes general industry safety orders for bloodborne pathogens, sharps injury prevention, and disposal of infectious wastes. All laboratories that involve the handling of biohazardous materials must comply with Cal/OSHA standards. Cal/OSHA regulations apply to all UC Santa Cruz employees, including student employees and research assistants.

## **Asbestos and Lead Programs**

The removal and handling of asbestos-containing materials is governed primarily by EPA regulations under Title 40 of the CFR but is implemented by the Monterey Bay Air Resources District (MBARD). This program is described further in Section 3.3, "Air Quality." The federal OSHA also has a survey requirement under Title 29 CFR, which is implemented by Cal/OSHA under Title 8 CCR. These regulations require facilities to take all necessary precautions to protect employees and the public from exposure to asbestos.

The Cal/OSHA lead standard for construction activities is implemented under Title 8 of the CCR. The standard applies to any construction activity that may release lead dust or fumes, including, but not limited to, manual scraping, manual sanding, heat gun applications, power tool cleaning, rivet busting, abrasive blasting, welding, cutting, or torch burning of lead-based coatings. Unless otherwise determined by approved testing methods, all paints and other surface coatings are assumed to contain lead at prescribed concentrations, depending on the application date of the paint or coating.

## **Title 3 CCR, Food and Agriculture Code**

Under Divisions 6 and 7 of the Food and Agriculture Code, Title 3 CCR, the California Department of Pesticide Regulation is vested with primary responsibility to enforce pesticide laws in California. The County Agricultural Commissioners grant site-specific permits for use of restricted pesticides and conduct periodic on-site observations of application sites and field worker safety. University personnel engaged in official duties relating to agricultural use of pesticides are exempt from the need to obtain an agricultural pest control advisor license, but campus personnel handling or applying restricted pesticides or the supervising applicator must obtain a State Qualified Applicator Certificate.

## **Porter-Cologne Water Quality Act**

The Porter-Cologne Water Quality Control Act, codified in the California Water Code, authorizes SWRCB to implement programs to control pollution to the state waters. Pursuant to this law, the RWQCB establishes the waste discharge requirements that limit concentrations of certain chemicals and compounds in treated wastewater discharged from the campus. Wastewater produced on campus is conveyed via the campus sewer system, without treatment to the City of Santa Cruz wastewater system. The City provides municipal wastewater treatment services to UC Santa Cruz through the Santa Cruz Water Treatment Plant (UC Santa Cruz 2019).

# **UNIVERSITY OF CALIFORNIA**

## **UC Santa Cruz Environmental Health and Safety**

UC Santa Cruz implements several programs that pertain to reducing/controlling risks of exposure to hazards and hazardous materials. The Environmental Health and Safety department (EH&S) is charged with monitoring compliance with environmental, health and safety programs intended to minimize or prevent occupational injuries and illnesses in the workplace and to protect the quality of the surrounding environment. EH&S advises the campus community of responsibilities with respect to health, safety and environmental issues; recommends appropriate corrective actions; and helps implement new health and safety programs. EH&S also acts as liaison between UC Santa Cruz and various external agencies and regulatory bodies.

### **Use of Hazardous Materials at UC Santa Cruz**

The use of hazardous materials on campus generates hazardous byproducts that must eventually be handled and disposed of as hazardous wastes. UC Santa Cruz maintains an online chemical inventory system in compliance with state regulations. Principal Investigators and/or Departments are required to disclose hazardous material inventory records to EH&S if a hazardous chemical is used, handled, or stored in UC Santa Cruz facilities. Chemical inventory reports are submitted to the County of Santa Cruz.

EH&S develops specific policies and programs pertaining to laboratory and research safety, industrial hygiene, environmental management, radiation safety, hazardous materials management, information technology, ergonomics, biosafety and emergency management. To better manage hazards and reduce the potential risk, UC Santa Cruz has developed an on-line Laboratory Safety Manual (LSM) provides information regarding protection

from health hazards associated with the laboratory environment in accordance with applicable Cal/OSHA regulations, including the "Chemical Hygiene Plan" requirements specified in Title 8 of CCR Section 5191. The LSM serves as a resource for identifying and evaluating the nature of potential laboratory hazards, as well as determining appropriate hazard controls. The information in the LSM applies to all laboratories that use, store or handle potentially hazardous materials and all personnel who work in these facilities. EH&S also maintains the following manual and forms:

### **Injury and Illness Prevention Program**

UC Santa Cruz implements a template-driven Illness Prevention Program (IIPP) that is customized by each department to ensure a safe and healthful work environment for its employees. Each department is required to maintain and implement an IIPP in compliance with Labor Code Section 6402.7(a) and CCR Title 8 Section 3203. A master IIPP, outlining goals and specific modes of implementation, is maintained by the EH&S. However, primary responsibility for the program resides with Unit Heads and Department Supervisors; therefore, each department at UC Santa Cruz is required to maintain an IIPP. The IIPP for each department is the umbrella under which all employee health and safety programs are implemented, and all employees must be covered by an IIPP plan, but the level of organization at which the plan is administered can be variable. EH&S has responsibility for monitoring compliance with the UC Santa Cruz IIPP programs to minimize or prevent occupational injuries and illnesses, and to protect the quality of the workplace and surrounding environment (UC Santa Cruz 2020a).

Each IIPP should contain the following elements:

- ▶ Statement of Purpose,
- ▶ Authority and Responsibility,
- ▶ Compliance with Safe Work Practices,
- ▶ Communicating Safety Issues,
- ▶ Identifying Workplace Hazards,
- ▶ Procedures for Correcting Unsafe or Unhealthy Conditions,
- ▶ Procedures for Investigating Injuries and Illness,
- ▶ Safety and Health Training, and
- ▶ Recordkeeping and Documentation.

### **Biological Safety Program**

The UC Santa Cruz Biological Safety Program is administered through the Institutional Biosafety Committee and the campus Bloodborne Pathogens Program. The Biological Safety Program oversees all research involving rDNA, human, animal, or plant pathogens, human blood, human cell lines, and other potentially infectious materials. No work with infectious biological agents or rDNA is permitted on the UC Santa Cruz campus prior to approval of a Biological Use Authorization. UC Santa Cruz has adopted the Centers for Disease Control and Prevention publication entitled, "Biosafety in Microbiological and Biomedical Laboratories," as the campus biosafety manual (CDC 2009). The Biological Use Authorization approval process by the Institutional Biosafety Committee is based on guidelines from the CDC and the NIH (UC Santa Cruz 2020b).

### **Laser Safety Committee**

The Laser Safety Committee is responsible for formulating policy related to the safe use of lasers. The Committee is also charged with monitoring UC Santa Cruz's compliance with regard to federal and state regulations for the safe use of laser radiation. The Laser Safety Officer (LSO) conducts periodic inspections of all laser laboratories to ensure compliance to ensure that the policies and guidelines established by the Laser Safety Committee are implemented. The LSO is also responsible for providing basic laser safety awareness training and maintaining resources to assist laser owners and operators (UC Santa Cruz 2016b).

### **Radiation Safety Program**

The Radiation Safety Program maintains the California Radioactive Materials License for UC Santa Cruz and oversees the safe use of ionizing radiation including radioactive materials and radiation producing machines. The program is designed to protect registered radiation users, staff, students, and the general public from radiation exposure, and ensure the safe receipt, handling, use and storage of radiation and radioactive material. The program assists users to maintain all radiation exposures As Low As Reasonably Achievable (ALARA), and to ensure operations are in compliance with applicable state and federal regulations (UC Santa Cruz 2017a).

### **Lab Safety Training**

Laboratory safety training is required at the time of initial work in a lab and when new hazards or processes are introduced. Training is required for Principal Investigators, UC Santa Cruz researchers, visiting researchers, and any other personnel working in the laboratory. Training must include physical and health hazards in the work area, along with applicable exposure control measures. In accordance with the UC Office of the President Lab Safety Training Policy, all researchers must complete approved comprehensive lab safety training every three years (UC Santa Cruz 2016c).

### **Laboratory Inspections**

EH&S and individual laboratories conduct periodic inspections. Principal Investigators and Laboratory Safety Representatives are responsible for initiating correction of potential hazards noted during both self-inspections and EH&S inspections. EH&S can provide corrective actions when needed. Laboratory inspections are conducted at the following intervals (UC Santa Cruz 2020c):

- ▶ Self-inspections are carried out on a quarterly basis.
- ▶ EH&S conducts annual inspections of all laboratory spaces.
- ▶ A "move out" inspection is conducted when a research group vacates a laboratory space.
- ▶ "Move-in" inspections are conducted when a Principal Investigator or research group moves into a new laboratory space.
- ▶ Laboratory inspection may also be conducted when a new substance, process, procedure, or piece of equipment with potential to be hazardous is introduced to the workplace.

### **Laboratory Hazard Assessment**

Workplace hazard and personal protective equipment (PPE) assessments are required for all locations where there is use or storage of hazardous materials, or where equipment may present a physical hazard. The Laboratory Hazard Assessment Tool (LHAT) provides a platform for Principal Investigators, or Responsible Person, to identify laboratory hazards and specify required PPE. In addition, LHAT facilitates PPE training and distribution. All faculty, students, staff, and visitors must wear appropriate PPE when in the laboratories.

### **Fume Hood Certification**

In accordance with Title 8 of CCR Section 5154.1, fume hoods are inspected annually. During this annual inspection EH&S measures fume hood face velocity (air intake), insures a visual indicator is in place, that all chemicals are at least six inches inside the face of the hood, that the hood is not overly cluttered with chemicals or equipment, and that all large items are elevated to allow air to flow beneath and around them. This minimizes air flow blockage.

### **Emergency Operations Plan**

The Emergency Operations Plan (UC Santa Cruz EOP) establishes policies, procedures and an organizational structure for the preparedness, response, recovery and mitigation of disasters and events impacting the main campus and its satellite facilities. The plan also provides guidance to departments, units and activities within UC Santa Cruz with a general concept of potential emergency assignments before, during, and following emergency situations. The UC Santa Cruz EOP adopts the Standardized Emergency Management System (SEMS), an emergency management organizational structure used by emergency response agencies statewide to coordinate response to multi-jurisdictional or multi-agency incidents. By incorporating SEMS, UC Santa Cruz implements the same emergency response organization structure and terminology as other city, county, and state agencies. SEMS incorporates:



- ▶ The Incident Command System (ICS), a field-level emergency response system based on management by objectives;
- ▶ Multi-Agency Coordination, affected agencies working together to coordinate allocations of resources and emergency response activities;
- ▶ Mutual Aid, a system for obtaining additional emergency resources from non-affected jurisdictions;
- ▶ Operational Area Concept, a system for coordinating damage information, resource requests and emergency response; and
- ▶ National Incident Management System (NIMS), a system for coordinating federal resources and response.

The ICS is a foundation part of the SEMS; it provides an organizational structure that can grow rapidly in response to the requirements of an emergency. The structure identifies employee roles, activates certain positions needed to manage a particular incident or level of emergency, promotes unity of command, and establishes a unified command when multiple jurisdictions or agencies have incident response responsibilities. The UC Santa Cruz EOP also outlines evacuation procedures for building emergencies (Stage 1) and campus-wide emergencies (Stage 2). The procedures and actions that students, faculty, and staff should take during an evacuation are communicated by residential staff assigned to a college, building emergency coordinator in academic/administrative buildings, public address announcement from public safety vehicles, and the CruzAlert system. CruzAlert is the UC Santa Cruz emergency notification system used to quickly communicate information to the campus community during emergency situations (UC Santa Cruz 2016d).

### UC Santa Cruz Campus Standards Handbook

The UC Santa Cruz Campus Standards Handbook outlines required products and mandatory design constraints for all construction on the campus (UC Santa Cruz 2017). Part 5 Division 2 of the UC Santa Cruz Campus Standards Handbook outlines standard specifications for working with asbestos and lead containing materials including protocols, monitoring, record keeping, and manifesting of the waste. Any variation from the standard specifications must be reviewed and approved by UC Santa Cruz EH&S. The standards specify that employees and contractors working for the campus must be notified of the presence of asbestos in buildings constructed before 1979. In the event a contractor encounters material reasonably believed to be asbestos, polychlorinated biphenyl (PCB), lead, or other hazardous substances that have not been rendered harmless, the UC Santa Cruz Campus Standards Handbook requires the contractor to immediately stop work in the area affected and report the condition to a UC Santa Cruz representative in writing. The work in the affected area can resume only in the absence of asbestos, PCB, lead, or other hazardous substances, or when such materials have been rendered harmless. In addition, all work which causes disturbance or dislocation of asbestos containing materials shall be done in strict accordance with all applicable Federal, State, and Local rules, regulations, standards, and codes. This includes the latest regulations of the U. S. Environmental Protection Agency, Monterey Bay Air Resources District, U. S. Occupational Safety and Health Administration (OSHA), State of California Department of Public Health (CDPH), and the California Department of Industrial Relations-Division of Industrial Safety and Health (CAL-OSHA).

### University of California Facilities Manual

The UC updated its Facilities Manual that applies to all campuses and contains the UC policies, procedures, and guidelines for its facilities. The Facilities Manual states that UC is the Authority Having Jurisdiction (AHJ) for matters of code regulations on projects on UC campuses (UCOP 2019). The Facilities Manual contains the following with regards to transportation:

- ▶ Volume 2: Planning, Chapter 3 Long Range Development Plans, 3.1.2. LRDP Elements
- ▶ *Circulation and Transportation*. The LRDP shows how people move to and through the site in the future. All forms of travel are considered: pedestrian, bicycle, mopeds, motorcycles, cars, service and delivery vehicles, emergency vehicles, and hazardous material transportation. The LRDP indicates which paths and roads are shared by one or more forms of travel and which are segregated. Parking for all vehicle types is addressed.

- ▶ Volume 6: Plant Operations & Maintenance, Chapter 5 Energy and Water Conservation and Management, 5.1.2. Operational Guidelines
- ▶ Suggest that personnel minimize individual automobile use through carpooling and use of public transportation.

## LOCAL

As noted in Section 3.0.1, "University of California Autonomy," UC Santa Cruz, a constitutionally created State entity, is not subject to municipal regulations of surrounding local governments for uses on property owned or controlled by UC Santa Cruz that are in furtherance of its educational purposes. However, UC Santa Cruz may consider, for coordination purposes, aspects of local plans and policies of the communities surrounding the campus when it is appropriate and feasible, but it is not bound by those plans and policies in its planning efforts.

### Santa Cruz County General Plan

The County of Santa Cruz General Plan contains the following policy that is related to hazards and hazardous materials in the county and that may be relevant to the 2021 LRDP:

- ▶ **Policy 6.7.4: Conformance to Federal, State, and Local Siting Standards.** Require all hazardous land disposal facilities to conform to the siting standards contained in state statutes as well as conform to General Plan and LCP Land Use Plan and Zoning ordinances of the County of Santa Cruz.

### Santa Cruz County Environmental Health Services

The CalEPA designates specific local agencies as a CUPA. The Santa Cruz County EHS is the designated CUPA for the County, and is responsible for implementing a unified hazardous materials regulatory program throughout Santa Cruz County. Compliance is verified through annual routine inspections of all regulated facilities and investigation of citizen-based complaints or inquiries regarding improper handling and/or disposal of hazardous materials or hazardous wastes. The Santa Cruz County EHS is responsible for implementing the following programs:

- ▶ hazardous materials management plans,
- ▶ hazardous waste generator and tiered permitting,
- ▶ underground storage tanks (UST),
- ▶ California accidental release prevention (Cal ARP), and
- ▶ aboveground petroleum storage tanks.

Implementation of these programs involves:

- ▶ permitting and inspection of regulated facilities,
- ▶ providing educational guidance and notice of changing requirements stipulated in state or federal laws and regulations,
- ▶ investigations of complaints regarding spills or unauthorized releases, and
- ▶ administrative enforcement actions levied against facilities that have violated applicable laws and regulations.

### County Office of Emergency Services

The Operational Area Emergency Management Plan (EMP) outlines the County's planned response to emergency situations associated with large-scale emergency incidents within or affecting Santa Cruz County. In addition, EMP outlines the emergency management organizational structure for the Santa Cruz County Operational Area. The EMP is reviewed, updated, republished, and redistributed every four years. The County Office of Emergency Services (County OES) is responsible for maintaining records of EMP revisions (County of Santa Cruz 2015a).

## Santa Cruz County Local Hazard Mitigation Plan

The Santa Cruz County Local Hazard Mitigation Plan (County LHMP) represents the County's commitment to reduce risks from natural and other hazards, and serves as a guide for decision-makers to commit resources to reducing the effects of potential hazards in the County. The County LHMP serves as a basis for the State Office of Emergency Services (OES) to provide technical assistance and to prioritize project funding. The following primary goals are identified in the County LHMP to reduce disaster risk in Santa Cruz (County of Santa Cruz 2015b):

- ▶ Avoid or reduce the potential for loss of life, injury and economic damage to Santa Cruz residents from earthquakes, wildfires, floods, drought, tsunami, coastal erosion, landslide and dam failure.
- ▶ Increase the ability of the County government to serve the community during and after hazard events.
- ▶ Protect Santa Cruz's unique character, scenic beauty and values from being compromised by hazard events.
- ▶ Encourage mitigation activities to increase the disaster resilience of institutions, private companies and systems essential to a functioning Santa Cruz.

## City of Santa Cruz General Plan

The City of Santa Cruz General Plan contains the following policies that are related to hazards and hazardous materials in the city and that may be relevant to the 2021 LRDP:

- ▶ **Policy HZ 1.1:** Ensure emergency preparedness.
  - Action HZ 1.1.1 Annually update the Emergency Operations Plan.
  - Action HZ 1.1.3 Ensure that new development design, circulation, and access allows for maintaining minimum emergency response times.
- ▶ **Policy HZ 4.1:** Regulate hazardous wastes with respect to potential leakage, explosions, fires, escape of harmful gases, or formation of new hazardous substances.
  - Action HZ 4.1.4 Reduce the use of toxic materials in the community and prevent their disposal into the air, water, or soil.
- ▶ **Policy HZ 4.2:** Ensure proper handling and disposal of hazardous waste.
  - Action HZ 4.2.1 Maintain the Hazardous Household Wastes facility for Santa Cruz residents to dispose hazardous materials safely and legally.
- ▶ **Policy HZ 4.4:** Reduce the risk of exposure to hazardous materials from sites being developed or redeveloped.

## City of Santa Cruz Emergency Operations Plan

Updated annually in accordance with Policy HZ 1.1 of the City's General Plan, the City's Emergency Operations Plan (City of Santa Cruz EOP) describes the roles and operations of the departments and personnel of the City of Santa Cruz during a major emergency. The City of Santa Cruz EOP sets forth standard operating procedures for managing public emergencies resulting from floods, storms, earthquakes, tsunami, fires, hazardous material incidents and other natural or manmade disasters. Similar to the UC Santa Cruz EOP, the City of Santa Cruz EOP incorporates the ICS response system to assign employees with reasonable expertise and training to a function critical to emergency management during the course of emergencies without loss of precious time (City of Santa Cruz 2018).

## City of Santa Cruz Local Hazard Mitigation Plan

Chapter 5 of the City's Local Hazard Mitigation Plan (2012 Update) identifies fire hazard areas within the City of Santa Cruz and identifies several wildfire mitigation actions, including cooperative fire protection agreements, reduction of fire risk through vegetation management and appropriate code enforcement, promotion of built-in fire extinguishing and warning systems, and fire prevention programs in schools and other institutions. The City and UC Santa Cruz currently maintain a cooperative agreement to collaboratively avoid/minimize the threat from wildland/urban interface fires.

## 3.9.2 Environmental Setting

### DEFINITIONS

The term *hazardous material* is defined in different ways for different regulatory programs. This EIR uses the definition given in California Health and Safety Code Section 25501(n) and (o), which defines hazardous material as:

any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. "Hazardous materials" include, but are not limited to, hazardous substances, hazardous wastes, and any material which a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

By convention, most hazardous materials are thought to be hazardous chemicals, but certain radioactive materials and biohazardous materials, as defined here, are also hazardous. This EIR considers hazardous materials to include hazardous chemicals, radioactive materials, and biohazardous materials that are used on campus.

A **biohazardous material** is a material that harbors a biological agent capable of causing diseases in humans, animals, or plants. Biohazardous materials include infectious agents, microbiological specimens, and cultures of microorganisms capable of causing disease; microbiological specimens or cultures included in NIH/ CDC Risk Group 2, 3, or 4; recombinant organisms containing DNA from infectious agents; human blood, body fluids, or unfixed tissue; laboratory waste contaminated with biohazards; animal parts, tissues or fluids suspected of containing an agent infectious to humans, whether deliberately introduced or naturally occurring; and discarded materials suspected of contamination with infectious agents.

An **infectious agent** is any microorganism, bacteria, mold, parasite, or virus that normally causes or significantly contributes to increased human mortality (California Health and Safety Code Section 117675). Infectious agents have also been defined as any material that contains an organism capable of being communicated by invading and multiplying in body tissues (40 CFR 259.10).

**Select agents and toxins** are agents and toxins listed by the Secretary of the U.S. Department of Health and Human Services as having the potential to pose a severe threat to public health and safety, in accordance with Section 351A(a)(1) of the Public Health Service Act.

A **hazardous waste**, for the purposes of this EIR, is any hazardous material that is to be abandoned, discarded, or recycled.

**Radioactive waste** is any waste that emits radiation in excess of normal background levels. Radioactive waste mixed with hazardous chemical waste is known as *mixed waste*. *Biological waste* refers to biohazardous waste mixed with radioactive waste.

**Biohazardous waste** is any liquid or solid waste generated through the handling of specimens from humans or animals that may contain infectious agents. Cultures of infectious agents, human anatomical remains, and animal carcasses that may be infectious are also considered biohazardous waste.

**Sharps waste** includes devices capable of cutting or piercing, such as hypodermic needles, razor blades, and broken glass (California Health and Safety Code Section 117755).

**Medical waste** is a general term that includes both biohazardous and sharps waste (California Health and Safety Code Section 117690). Medical waste mixed with hazardous chemical waste is also referred to as *mixed waste*. Medical waste includes *pathology waste*, recognizable human anatomical parts and fixed human surgery specimens and tissues, and *chemotherapy waste*, waste such as gloves, towels, empty bags, and intravenous tubing that contains or is contaminated with chemotherapeutic agents.

Some scientific materials do not meet the standard criteria for hazardous materials, but their presence and use on campus is a matter of concern to the surrounding community. These include laboratory research animals, transgenic materials, and non-ionizing radiation.

**Transgenic** materials include microorganisms, plants, and animals that have been genetically engineered or modified. Recombinant DNA techniques create new genetic combinations by changing, adding, or subtracting DNA genes, but this methodology does not necessarily mean that new organisms are created. Much research is performed using tissue cultures or benign bacteria grown under laboratory-controlled conditions. With the exception of transgenic bacteria that could be infectious (considered biohazardous waste), transgenic materials generally do not pose a threat to public health or the environment.

**Non-ionizing radiation (NIR)** is radiative energy that is not created by radioactive materials and does not impart ionizing energy in a biological medium such as the body. Many devices throughout the modern world act either directly or indirectly as sources of NIR. Many sources of NIR are present on the UC Santa Cruz campus in research applications or in ancillary equipment. These sources include lasers, large magnets, microwave generators, and radio-frequency radiation. In general, NIR tends to be less hazardous to humans than ionizing radiation. However, depending on the wavelength/frequency and the irradiance (or power density) value, NIR sources may present a human health hazard.

## POTENTIAL CONTAMINATION

### Documented Sites of Contaminations in the LRDP Area

There are no documented sites of contamination on the main residential campus.

Westside Research Park, constructed in 1981, operated as a silicon wafer manufacturing plant until 2001. The property had several previous owners, including Synertek, Inc., AT&T, Silicon Systems Inc., and Texas Instruments (TI). Prior to development, the property was occupied by the Antonelli Brother's horticulture nursery. In 1985, arsenic, cadmium, copper and lead were detected in soil samples, and cadmium and copper were detected in groundwater samples. A Phase I and Phase II Environmental Site Assessment (ESA) prepared by Geosystem, Inc. (EGI) in 2001 concluded that chemicals used by TI had not impacted soil and groundwater. However, arsenic was detected in one sample. Upon further investigation it was concluded that the presence of arsenic was a localized anomaly. The presence of nitrate in groundwater samples was attributed to past agricultural activities. TI vacated the property in 2001. A 2002 Phase I and Phase II ESA noted that hazardous materials utilized in manufacturing activities were removed from the site and no spills had occurred during removal of hazardous materials. Manufacturing equipment remained on-site. Anderson Environmental Management (AEM) conducted a Site Hazard Assessment and Investigation for review of the hazardous materials and hazardous waste materials on-site and associated storage locations, secondary containment, delivery, exhaust and abatement systems. AEM corrected and decontaminated an acid wastewater leak, surface mercury contamination on a supply fan, and solvent accumulation in a solvent duct, leaks in corroded ducts, exhaust fans, and drain system. In 2003, AEM prepared a Facility Closure Plan to inform the Santa Cruz EHS regarding the on-site closure activities and to document implementation of proper safety, health procedures, and protocols (Ninyo and Moore 2004). AEM initiated on-site remediation activities in 2004, which included removal of contaminated soil; chemical sweep to capture, consolidate, and dispose of or recycle general chemicals and supplies; the decontamination, decommissioning, and removal of manufacture equipment; and the decontamination of individual rooms. Santa Cruz County EHS approved the site closure report in 2004, and the site is considered closed (UC Santa Cruz 2005). According to the DTSC EnviroStor database, the site is considered inactive (EnviroStor ID No. 71003553), but submittal of a Preliminary Endangerment Assessment (PEA) to DTSC is considered necessary in order for DTSC to mark the site as closed (DTSC 2020a; 2020c). The PEA process is used to determine whether there has been a release of a hazardous substance that presents a risk to human health or the environment, and the PEA may serve as a Phase I ESA (DTSC 2020). The inactive determination listed in the DTSC EnviroStor database is based on documents prepared in 1994 and 1997. However, as noted previously, AEM initiated on-site remediation activities and the site closure report for the Westside Research Park was approved by the Santa Cruz County EHS in 2004. As of the writing of this EIR, UC Santa Cruz EH&S is in the process of updating the DTSC's records to reflect existing conditions at Westside Research Park.

## Sites of Contamination within 1 Mile of the LRDP Area

Table 3.9-1 presents a list of documented sites located within 1 mile of the LRDP area.

**Table 3.9-1 Documented Sites of Contamination within 1 Mile of UC Santa Cruz LRDP Area**

| Site                           | Address                             | Nearest UC Santa Cruz Property | Type                       | Status                        |
|--------------------------------|-------------------------------------|--------------------------------|----------------------------|-------------------------------|
| Pogonip Farm                   | 333 Golf Club Drive                 | Main residential Campus        | DTSC Evaluation            | Active                        |
| California Radiographics Inc.  | 375 Coral Street                    | Main residential Campus        | DTSC Non-operating         | Completed; Case Closed (2018) |
| Bayside Oil Inc.               | 210 Encinal Street                  | Main residential Campus        | DTSC Operating Permit      | Operating                     |
| El Rio Mobile Home Park        | 2120 North Pacific Avenue           | Main residential Campus        | DTSC Voluntary Cleanup     | No Further Action             |
| PG&E                           | North Pacific Avenue & River Street | Main residential Campus        | DTSC Voluntary Cleanup     | Active                        |
| Salz Leathers Inc.             | 1040 River Street                   | Main residential Campus        | DTSC Voluntary Cleanup     | Certified                     |
| Plantronics Inc.               | 345 Encinal Street                  | Main residential Campus        | SWRCB Cleanup Program Site | Open Verification Monitoring  |
| Almar cleaners                 | 857 Almar Avenue                    | Westside Research Park         | SWRCB Cleanup Program Site | Open Verification Monitoring  |
| Granite Construction Company   | 1280 Shaffer Road                   | Westside Research Park         | SWRCB Cleanup Program Site | Completed; Case Closed (2006) |
| Santa Cruz Industries          | 411 Swift Street                    | Westside Research Park         | SWRCB Cleanup Program Site | Open Remediation              |
| Tobey's Rasp Service           | 2203 Mission Street                 | Westside Research Park         | SWRCB Cleanup Program Site | Completed; Case Closed (2013) |
| Residential Property           | 502 Spring Street                   | Main residential Campus        | SWRCB LUST Cleanup Site    | Open Site Assessment          |
| Gas & Shop                     | 2003 Mission Street                 | Westside Research Park         | SWRCB LUST Cleanup Site    | Completed; Case Closed (1997) |
| E.V. Moceo Company             | 1206 Fair Avenue                    | Westside Research Park         | SWRCB LUST Cleanup Site    | Completed; Case Closed (2015) |
| Elyxir Distributing            | 2521 Mission Street                 | Westside Research Park         | SWRCB LUST Cleanup Site    | Completed; Case Closed (1998) |
| Lipton Inc.                    | 2200 Delaware Avenue                | Westside Research Park         | SWRCB LUST Cleanup Site    | Completed Case Closed (1997)  |
| Mission Linen Service          | 601 Swift Street                    | Westside Research Park         | SWRCB LUST Cleanup Site    | Completed; Case Closed (2001) |
| Rotten Robbie                  | 1906 Mission Street                 | Westside Research Park         | SWRCB LUST Cleanup Site    | Completed; Case Closed (1991) |
| Rudolph Property               | 2429 Mission Street                 | Westside Research Park         | SWRCB LUST Cleanup Site    | Open Remediation              |
| S.C. Artichoke & Sprout Grower | 402 Ingalls Street                  | Westside Research Park         | SWRCB LUST Cleanup Site    | Completed; Case Closed (1993) |
| Ultramar Beacon No. 3734       | 2202 Mission Street                 | Westside Research Park         | SWRCB LUST Cleanup Site    | Completed; Case Closed (2013) |

Sources: DTSC 2020d; SWRCB 2020b.

## USE OF HAZARDOUS MATERIALS AT UC SANTA CRUZ

A variety of hazardous materials are used on campus during the course of daily operations. Hazardous chemicals used on campus include: chemical solvents, and reagents that are used in campus laboratories; pesticides, fungicides, and herbicides used by agricultural programs and in landscape maintenance; relatively small amounts of solvents, paints, and acids used by fine arts programs; gasoline and diesel fuels, oils and lubricants, antifreeze, cleaning solvents and corrosives, paints and paint thinners, and refrigerants used in vehicle and building maintenance. In addition, lab chemicals, radioactive materials, biohazardous materials, and laboratory animals are used in teaching and research activities.

On-campus research facilities use small activities of radioactive materials, including Carbon-14, Carbon monoxide-57, Hydrogen-3, Iodine-125, Phosphorus-32 and -33, and Sulfur-35. Small quantities of Uranium-238 are also used during on-campus research. The Radiation Safety Program oversees the safe use of ionizing radiation, including radioactive materials and radiation producing machines, assists users within maintaining all radiation exposures at ALARA, and ensures operations are in compliance with applicable state and federal regulations (UC Santa Cruz 2017a).

UC Santa Cruz holds several biological use authorizations (BUA) due to the use of hazardous materials during on-campus research. Biohazardous materials can include rDNA, human, animal (including research animals), or plant pathogens, human blood, human cell lines, and other potentially infectious materials. The Biological Safety Program oversees all research involving biohazardous materials. In addition, EH&S inspects campus medical waste generators on an annual basis.

UC Santa Cruz completed a new EH&S facility on Heller Drive in the north-central area of campus and anticipates that the facility will be fully operational in December 2020. The EH&S facility will process and temporarily hold waste generated by teaching, research, and campus maintenance activities. Two interim regulated waste facilities will be consolidated on one site and will increase UC Santa Cruz's ability to manage surplus chemicals and waste, reduce waste-handling costs, and improve safety.

## EXISTING BUILDINGS AND SITE CONDITIONS

Hazardous materials are commonly found in building materials that may be affected during demolition and renovation activities associated with redevelopment. Prior to 1978, lead compounds were commonly used in interior and exterior paints. Prior to the 1980s, building materials often contained asbestos fibers, which were used to provide strength and fire resistance. In addition, other common items present in buildings, such as electrical transformers, fluorescent lighting, electrical switches, heating/cooling equipment, and thermostats, can contain hazardous materials that may pose a health risk if not handled and disposed of properly. Among these hazardous materials are PCBs, which were used in hundreds of industrial and commercial applications because of their non-flammability, chemical stability, high boiling point, and electrical insulating properties. Equipment within UC Santa Cruz that might contain PCBs includes electrical equipment and thermal insulation material (e.g., fiberglass, felt, foam, or cork). Older, pole-mounted electrical transformers can also contain PCBs.

### Underground Storage Tanks

The County of Santa Cruz EHS, as the certified CUPA, confirmed closure of two USTs on the main residential campus. The first was closed-in-place in 1989, the second in 2002. The County of Santa Cruz EHS issued a letter to UC Santa Cruz in 1989 and 2002, indicating that no further assessment was needed (SWRCB 2020a).

### Asbestos

Asbestos, a naturally-occurring fibrous material, was used as a fireproofing and insulating agent in building construction before such uses were largely banned by EPA in the 1970s. Because it was widely used prior to the discovery of its health effects, asbestos is found in a variety of building materials, including sprayed-on acoustic ceiling texture, floor tiles, and pipe insulation.

Asbestos exposure is a human respiratory hazard when it becomes friable (i.e., easily crumbled) because inhalation of airborne fibers is the primary mode of asbestos entry into the body. Asbestos-related health problems include lung

cancer and asbestosis. Asbestos-containing building materials are considered hazardous by Cal/OSHA when bulk samples contain more than 0.1 percent asbestos by weight. These materials must be handled by a qualified contractor.

Many facilities at UC Santa Cruz contain asbestos due to its presence in the building materials used during construction. EH&S maintains a database with detailed information related to historical asbestos building material surveys. The health risk posed by asbestos to UC Santa Cruz students and employees is very low due to the implementation of the campus' Asbestos Management Program. This program involves removal of damaged, friable asbestos, in-place management of undamaged asbestos-containing materials, and removal of existing asbestos containing materials during construction and renovation projects (UC Santa Cruz 2020d).

## **Lead**

Lead can be found in old water pipes, solder, paint, and in soils around structures painted with lead-based paints. Lead accumulates in blood, soft tissues, and bones. Lead-based paints are likely present on the buildings constructed prior to the late 1970s, when the quantity of lead in paints became regulated. Potentially hazardous exposures to lead can occur when lead-based paint is improperly removed from surfaces by dry scraping, sanding, or open-flame burning. Lead-based paints and coatings used on the exterior of buildings may have also flaked or oxidized and deposited into the surrounding soils.

UC Santa Cruz has not conducted a campus-wide survey of lead paint on campus. However, the Lead Compliance Plan establishes a program for the proper management of construction and maintenance activities involving lead. The overall purpose is to minimize potential negative impacts to the environment, and ensure adherence to the various regulatory issues concerning lead in UC Santa Cruz facilities. The policies apply to all employees and contractors during construction work activities in which lead-containing materials are present in the work environment (UC Santa Cruz 2009).

## **Mercury and Polychlorinated Biphenyls**

Mercury and PCBs were historically used in electrical equipment. Spent fluorescent light tubes, thermostats, and other electrical equipment may contain heavy metals, including mercury. Mercury evaporates slowly when exposed to air, and vapors can cause kidney and liver damage. PCBs were historically used in insulators, capacitors, and transformers. Fluorescent light ballasts manufactured before 1978 may contain PCBs. PCBs are highly persistent in the environment, and exposure can cause serious liver, dermal, and reproductive system damage. Disposal of materials containing these contaminants is now heavily regulated, but there is potential that contamination within the plan area occurred as a result of accidental spills and historical practices before more stringent regulations were adopted. PCB-containing fluorescent light ballasts are removed and replaced as they burn out. Equipment containing PCBs is disposed of as hazardous waste.

## **AIRPORT HAZARDS**

There are no public airports or private airstrips within 2 miles of UC Santa Cruz. The nearest airport is the Watsonville Municipal Airport approximately 15 miles southwest of the main residential campus (AirNav 2020).

## **NEARBY SCHOOLS**

Existing sensitive receptors within 0.25 mile of the main residential campus include Santa Cruz Waldorf School and Westlake Elementary School. The Pacific Collegiate School is located approximately 0.25 mile from the Westside Research Park. Childcare centers located within 0.25 mile of the main residential campus include the Neighborhood childcare center and Campus Kids Connection Inc. There is one childcare center on the main residential campus located at the Family Student Housing complex on the west side of campus.



## EMERGENCY RESPONSE

The City of Santa Cruz Fire Department (SCFD), which is responsible for campus fire safety, responds to all campus emergencies. SCFD provides hazardous materials incident response and works in conjunction with UC Santa Cruz EH&S in responding to reports of hazardous materials spills and accidents, and enforcing hazardous materials regulations. The SCFD Chief is appointed by the California State Fire Marshal's (CSFM) to serve as the Designated Campus Fire Marshal (DCFM) and delegated the authority to act as the State Fire Marshal. The DCFM is designated as the authority having jurisdiction in the interpretation and application of fire protection codes and regulations and authorized to enforce applicable fire and life-safety codes, laws and regulations on campus, and UC Santa Cruz-administered facilities. The DCFM is authorized to suspend unsafe operations or activities and has the responsibility for ensuring compliance with all fire protection requirements including but not limited to:

- ▶ the storage, handling, and use of explosive, flammable, combustible, toxic, corrosive, and other hazardous materials;
- ▶ the maintenance of exits, fire resistive construction and assemblies, fire alarm systems, and fire extinguishing systems and equipment;
- ▶ the prevention and elimination of fire and life-safety and panic hazards;
- ▶ the review and approval of all campus construction and alteration plans and specifications including fire protection and alarm systems, buildings, structures and utilities;
- ▶ the inspection of all campus construction projects prior to use or occupancy; and
- ▶ the issuance of "stop orders" when construction work is done contrary to the provisions of the building or fire protection codes, standards, or regulations.

The SCFD Chief is also responsible for managing the on-campus SCFD to ensure the expeditious control of fires and rescue emergencies at the campus and cooperate with other jurisdictions, as appropriate.

Santa Cruz County Hazardous Materials Interagency Team (SCHMIT) responds to major hazardous materials incidents county-wide, including UC Santa Cruz, and is staffed by hazardous materials technicians from several area fire departments. SCHMIT includes 30 hazardous materials technicians and specialists that rotate coverage 24 hours per day.

### 3.9.3 Environmental Impacts and Mitigation Measures

#### SIGNIFICANCE CRITERIA

Based on Appendix G of the State CEQA Guidelines, the 2021 LRDP would result in a significant impact related to hazards and hazardous materials if it would:

- ▶ create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- ▶ 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;
- ▶ emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- ▶ 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, create a significant hazard to the public or the environment;
- ▶ 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, result in a safety hazard or excessive noise for people residing or working in the project area;

- ▶ impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- ▶ expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

## ANALYSIS METHODOLOGY

The impacts of campus development under the 2021 LRDP are evaluated based on a review of documents and publicly available information about hazardous and potentially hazardous conditions on or near the plan area. This includes SWRCB and DTSC hazardous materials database information. Existing conditions, as described above, are the conditions within the plan area and on properties within approximately 1 mile of the UC Santa Cruz at the time the NOP for this EIR was issued (2020), based on information readily available through public-access databases.

## ISSUES NOT EVALUATED FURTHER

### Airport Hazards

There are no airports located within 2 miles of the LRDP area. As a result, implementation of the 2021 LRDP would not result in new or relocated residential land uses, other types of noise-sensitive receptors, or new places of permanent employment where residents or workers could be exposed to a safety hazard or excessive aircraft noise. This issue is not discussed further.

### Wildfire

Impacts associated with exposing people or structures, either directly or indirectly, to wildland fires are evaluated in Section 3.18, "Wildfire."

## IMPACTS AND MITIGATION MEASURES

### Impact 3.9-1: Create a Significant Hazard Through the Routine Transport, Use, or Disposal of Hazardous Materials

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Construction and operation of development under the 2021 LRDP would involve the transport, use, and disposal of hazardous materials to and from the UC Santa Cruz campus. With adherence to existing regulations and compliance with safety standards, the impact from hazardous materials transport, use and disposal would be **less than significant**.

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#### Hazardous Materials Use during Construction

Construction activities would temporarily increase the regional transport, use, storage, and disposal of hazardous materials and petroleum products (such as diesel fuel, lubricants, paints and solvents, and cement products containing strong basic or acidic chemicals) that are commonly used at construction sites. Hazardous waste generated during construction may consist of welding materials, fuel and lubricant containers, paint and solvent containers, and cement products containing strong basic or acidic chemicals. SWRCB Construction General Permit (2009-0009 DWQ) requires spill prevention and containment plans to avoid spills and releases of hazardous materials and wastes into the environment. Inspections would be conducted to verify consistent implementation of general construction permit conditions and best management practices (BMPs) to avoid and minimize the potential for spills and releases, and of the immediate cleanup and response thereto. BMPs include, for example, the designation of special storage areas and labeling, containment berms, coverage from rain, and concrete washout areas. The transportation of hazardous materials could result in accidental spills, leaks, toxic releases, fire, or explosion. The USDOT Office of Hazardous Materials Safety prescribes strict regulations for the safe transportation of hazardous materials, as described in Title 49 of the CFR. These standard accident and hazardous materials recovery training and procedures are enforced by the state and followed by private state-licensed, certified, and bonded transportation companies and contractors. Compliance with SWRCB Construction General Permit regulations and USDOT

regulations minimize the potential risk of a spill or accidental release of hazardous materials through routine transport, use, or disposal during construction.

### **Hazardous Materials Use during Operation**

Implementation of the 2021 LRDP would result in construction of Academic and Support facilities. These facilities could result in the transport, use, and disposal of potentially hazardous materials.

People could be exposed to hazardous chemicals through inhalation, skin absorption (contact), ingestion, and injection (cuts). UC Santa Cruz policies and procedures address the procurement, handling, and disposal of carcinogenic, controlled, volatile, flammable, and explosive substances. UC Santa Cruz EH&S is charged with implementing measures, directly and through campus departments, designed to ensure compliance with applicable laws and regulations.

Facilities constructed under the 2021 LRDP would continue to comply with all hazardous materials standards for UC Santa Cruz. To minimize exposure to chemicals in the air, researchers and other workers would continue to take standard procedural precautions, such as working under fume hoods, when using chemicals likely to present exposure hazards. Fume hoods and other engineering controls would be required to meet Cal/OSHA requirements and fume hoods are inspected annually in compliance with Title 8 CCR Section 5154.1. Proper use of the fume hoods and other engineering controls would keep indoor laboratory air toxics concentrations below the suggested guidelines of the American Conference of Governmental Industrial Hygienist Threshold Limit Values and the legal limits of the OSHA Permissible Exposure Levels.

To prevent exposure through skin contact, campus policies and procedures require that protective clothing, such as laboratory coats, gloves, and safety glasses, be worn while handling hazardous materials and wastes. Proper washing after handling chemicals is also required. Also, in accordance with state laws and campus policy, eating, drinking, applying cosmetics, and chewing gum or tobacco are not allowed in laboratories using radioactive, carcinogenic, or biohazardous materials; these restrictions are imposed to prevent the potential ingestion of chemicals.

Further, all individuals who handle hazardous materials are appropriately trained and are provided with Safety Data Sheets, which provide chemical safety information about precautions for protecting against known hazards associated with the material and often include useful information on chemical, physical, and toxicological properties, along with suggestions for storing, transporting, and disposing of chemicals (UC Santa Cruz 2017b). Staff and students who work around hazardous materials are required to wear appropriate protective equipment and to use fume hoods for procedures where exposure to fumes or vapors is a concern. Safety equipment is routinely available in all areas where hazardous materials are used. EH&S inspections and required training enforce compliance with these procedures.

The Campus has implemented programs and controls to detect inadvertent release of hazardous material to the sanitary sewer or landfill (UC Santa Cruz 2020f). Pouring hazardous wastes down drains and disposing of hazardous materials with ordinary solid waste are prohibited by law.

As required by CalEPA and Santa Cruz County EHS as CUPA, UC Santa Cruz EOP describes training and procedures to follow in the event of an accidental release of hazardous materials. The SCFD responds to all reported hazardous materials releases in conjunction with EH&S. The DCFM is responsible for ensuring compliance with the proper storage, handling, and use of explosive, flammable, combustible, toxic, corrosive, and other hazardous materials.

Safety Services maintains an online chemical inventory system accessible to authorized users, which is used to submit annual chemical inventory reports to the County of Santa Cruz, fulfilling the Community Right-to-Know and Business Plan requirements. In addition, department IIPP, laboratory-specific Chemical Hygiene Plans, and department laboratory safety training have been developed and are implemented. EH&S and individual laboratories conduct periodic inspections, and Principal Investigators and Laboratory Safety Representatives are responsible for initiating correction of potential hazards noted during both self-inspections and EH&S inspections. Compliance with these regulations minimizes the potential for accidental release of hazardous materials during operation.

### Hazardous Materials Transport

The USDOT Office of Hazardous Materials Safety prescribes strict regulations for the transportation of hazardous materials, as described in Title 49 CFR. Transportation along public roadways within or near the campus is also subject to all hazardous materials transportation regulations established by the USDOT and California Highway Patrol pursuant to the California Vehicle Code. UC Santa Cruz requires that all hazardous materials to be shipped on public roads be packaged in compliance with all applicable regulations. Compliance with these regulations minimizes the potential for accidental release of hazardous materials being transported to or from campus.

UC Santa Cruz Hazardous Waste Storage and Disposal guidelines require that hazardous waste be packaged and labeled properly, which includes placing them in appropriate sealed containers, segregating incompatible materials, and identifying all components with approximate concentrations. Flammable wastes (mostly solvents), corrosives (acids and bases), and oxidizers are shipped off site for recycling, treatment, or disposal (UC Santa Cruz 2020e). Hazardous wastes are picked up from users by EH&S staff, who check the wastes for appropriate packaging, or by licensed hazardous waste haulers. Compliance with all applicable federal and state laws, as well as campus programs, practices, and procedures related to the transportation of hazardous materials would continue under the 2021 LRDP, minimizing the potential for a release and providing for prompt and effective cleanup if an accidental release occurs.

### Radioactive Materials Use during Operation

The Radiation Safety Program oversees the safe use of ionizing radiation, including radioactive materials and radiation producing machines. The program assists users to maintain all radiation exposures ALARA, and to ensure operations are in compliance with applicable state and federal regulations. Given that adequate procedures are in place to limit exposure to radiation from radioactive materials and radiation-producing machines, the potential of the 2021 LRDP to expose campus occupants to substantial health or safety risks is low. UC Santa Cruz projects implemented under the 2021 LRDP would comply with these controls, which would minimize the risk of exposure to radioactive materials.

### Biohazardous Materials Use during Operation

The CDC "Biosafety in Microbiological and Biomedical Laboratories," adopted by UC Santa Cruz as the campus biosafety manual, provides guidance on minimizing skin penetration incidents and other exposure to biohazardous materials. The Campus has taken the following measures specifically addressing hazards associated with biohazardous materials: providing biohazard and medical waste guidelines, routine inspections by EH&S, providing biosafety information on the EH&S website, and the Bloodborne Pathogens Program (UC Santa Cruz 2016e and UC Santa Cruz 2020g).

The majority of biohazardous waste generated at UC Santa Cruz is transported for disposal or treatment by a California registered hazardous waste hauler; the remainder is treated on campus. The waste is treated by autoclaving, which renders the waste nonhazardous by applying steam pressure. Once treated, the waste is disposed of as nonhazardous waste through the general campus waste stream. Biohazardous wastes that also contain hazardous chemical or radioactive waste are categorized and handled as hazardous or radioactive wastes. Generated wastes are segregated, handled, labeled, stored, and transported to minimize direct or indirect exposure of personnel. Some campus activities also produce biohazardous waste that cannot be autoclaved, such as animal carcasses. Wastes of this kind are double-bagged, refrigerated, and picked up by an outside contractor for incineration. EH&S guides and assists with the disposal of medical waste and performs regular inspections of campus medical waste generator and treatment sites (UC Santa Cruz 2020g). Compliance with UC Santa Cruz guidelines for waste treatment and disposal would minimize the risk of exposure to biohazardous materials.

Adherence to existing regulations and compliance with the safety procedures mandated by applicable federal and state laws and regulations and UC Santa Cruz programs and policies would minimize the risks resulting from the routine transportation, use, storage, or disposal of hazardous materials or hazardous wastes associated with construction and operation of campus development under the 2021 LRDP to a **less-than-significant** level.

### **Mitigation Measures**

No mitigation is required.

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## Impact 3.9-2: Result in the Release of Hazardous Materials from a Site of Known or Potential Contamination

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Due to the proximity of documented contamination sites and proximity of public roadways, there is potential for contamination to be encountered during construction. Because the LRDP plan area could contain undocumented contamination that has not been characterized or remediated, this would be a **potentially significant** impact.

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### Known Sites of Contamination

As noted above in Section 3.9.2, hazardous materials databases maintained by state and federal agencies were reviewed. According to the DTSC EnviroStor database, Westside Research Park is considered an inactive site but a PEA is required. In 2004, on-site remediation activities included the removal of contaminated soil; a chemical sweep to capture, consolidate, and dispose of or recycle general chemicals and supplies; the decontamination, decommissioning, and removal of manufacture equipment; and the decontamination of individual rooms. Santa Cruz County EHS approved the site closure report for Westside Research Park in 2004, and the site is considered closed. As of the writing of this EIR, UC Santa Cruz EH&S is in the process of updating the DTSC's records to reflect existing conditions at Westside Research Park, and based on available data, UC Santa Cruz anticipates that the PEA will conclude that there are no contaminated soils on site in areas that could be disturbed during construction. In addition, there are sites known to contain hazardous materials within 1 mile of UC Santa Cruz (see Table 3.9-1). Proposed land use changes and potential development under the 2021 LRDP would occur only in the plan area, UC Santa Cruz does not propose to develop outside of the main residential campus boundary. Therefore, implementation of the 2021 LRDP would not disrupt known hazardous materials sites located within 1 mile of UC Santa Cruz. Activities involving the assessment, cleanup, and monitoring of these sites would continue regardless of approval of the 2021 LRDP.

### Common Road Contaminants

In general, properties located adjacent to roadways may contain elevated concentrations of lead in exposed surface soils, which could pose a health hazard to construction workers and users of the properties. Lead is a state-recognized carcinogen and reproductive toxicant. Exposure of construction workers or future site occupants to lead in soil could result in adverse health effects, depending on the duration and extent of exposure. Substantial quantities of aerially-deposited lead are understood to be generally confined to within 30 feet of a roadway. Other potential contaminants, including herbicides associated with weed abatement and contaminated ballast rock, are generally confined to the immediate transportation right-of-way. Any disturbance of ballast rock and soils in established transportation corridors could result in the release of potentially hazardous materials.

### Undocumented Contamination Sites

Grading and excavation activities may also expose construction workers and the public to hazardous substances present in the soil or groundwater that are not anticipated based on information about existing site conditions. If any previously unknown contamination is encountered during grading or excavation, the removal activities required could pose health and safety risks. Adverse impacts could result if construction activities inadvertently disperse contaminated material into the environment. For example, if contaminated soil was present and uncovered, runoff could transport the soil downstream and contaminate other locations. Potential hazards to human health include ignition of flammable liquids or vapors, inhalation of toxic vapors in confined spaces such as trenches, and skin contact with contaminated soil or water.

### Demolition Hazards

In addition, demolition of existing structures could result in exposure of construction personnel and the public to hazardous substances. Construction workers and nearby employees and/or residents could potentially be exposed to airborne lead-based paint dust, asbestos fibers, and/or other contaminants because of demolition activities associated with redevelopment.

Existing structures are believed to contain hazardous materials, including asbestos, lead, and heavy metals - primarily because the use of these materials was not heavily restricted when the buildings were constructed. Demolition of

structures could result in inadvertent release or improper disposal of debris containing potentially hazardous materials; however, federal, state, and local regulations have been developed to address potential impacts related to the handling and disposal of hazardous materials during demolition. Potential impacts would be minimized through adherence to regulatory standards that prescribe specific methods of material characterization and handling.

To ensure the safety of outside contractors working on UC Santa Cruz property, it is the responsibility of the UC Santa Cruz project manager to provide contractors with a record of hazardous substances used by UC Santa Cruz, precautions and protective measures that can be taken to lessen the possibility of exposure, and a list of UC Santa Cruz contacts should an exposure occur. Where contamination is identified or suspected, UC Santa Cruz Design Guide Sections 02 41 13, "Selective Site Demolition," and 02 41 19, "Selective Structure Demolition," requires the Contractor to immediately stop work in the affected area and report the condition to UC Santa Cruz in writing. Work in the affected area can resume upon written agreement between UC Santa Cruz and the Contractor, if in fact the material is asbestos, PCB, lead, or other hazardous substances in compliance with federal and state regulations, or when such materials have been rendered harmless.

Asbestos and lead abatement must be performed and monitored by contractors with appropriate certifications from the State Department of Health Services. In addition, Cal/OSHA has regulations concerning the use of hazardous materials, including requirements for safety training, availability of safety equipment, hazardous materials exposure warnings, and emergency action and fire prevention plan preparation. Cal/OSHA enforces the hazard communication program regulations, which include provisions for identifying and labeling hazardous materials, describing the hazards of chemicals, and documenting employee-training programs. All demolition that could result in the release of lead and/or asbestos must be conducted according to Cal/OSHA standards. Contractors are also required to stop work and inform UC Santa Cruz if they encounter material believed to be asbestos, PCBs, lead, or other hazardous materials. Specific actions required by law include the following.

- ▶ **Asbestos.** Prior to demolition, all structures would be tested for the presence of asbestos-containing materials. Any asbestos would be removed and disposed of by an accredited contractor in compliance with federal, state, and local regulations (including the Toxic Substances Control Act and the National Emission Standard for Hazardous Air Pollutants). Compliance with these regulations would result in the safe handling and disposal of asbestos-containing materials.
- ▶ **Lead-based paint or other coatings.** A survey for indicators of lead-based coatings would be conducted before demolition to further characterize the presence of lead at the project site. For the purposes of compliance with Cal/OSHA regulations, all coated surfaces would be assumed to potentially contain lead. There is also a potential for soil contamination because of deposition of deteriorated (i.e., flaked, peeled, chipped) lead-based paint adjacent to structures where lead-based exterior paints were used. Loose or peeling paint may be classified as a hazardous waste if concentrations exceed total threshold limits. Cal/OSHA regulations require air monitoring, special work practices, and respiratory protection during demolition where even small amounts of lead have been detected.
- ▶ **Heavy metals and PCBs.** Spent fluorescent light bulbs and ballasts, thermostats, and other electrical equipment may contain heavy metals, such as mercury, or PCBs. If concentrations of these materials exceed regulatory standards, they would be handled as hazardous waste in accordance with hazardous waste regulations. Fluorescent light ballasts containing PCBs are disposed of by UC Santa Cruz.
- ▶ **Laboratory Contamination.** Prior to any demolition or renovation work in a laboratory, all hazardous materials must be removed and the user is instructed to survey the laboratory for contamination. EH&S conducts laboratory inspections when a research group vacates a space. For areas exposed to radiation, it is the responsibility of the Radiation Principal Investigator to ensure that decontamination is carried out properly and instruct personnel in decontamination procedures. EH&S Radiation Safety provides assistance in cases of gross or personal contamination.

UC Santa Cruz Campus Standards Handbook specify that employees and contractors working for the campus must be notified of the presence of asbestos in buildings constructed before 1979. Contractors who disturb or potentially disturb asbestos or lead are required to comply with all federal, state, and local regulations regarding hazardous materials.

Due to the proximity of documented contamination sites, proximity of public roadways, and the potential for undocumented contaminated sites to occur on-campus, there is potential for contamination to be encountered during construction of projects under the 2021 LRDP. Disturbance of contaminated materials could inadvertently expose construction workers and other receptors nearby to contamination. This would be a potentially significant impact.

## Mitigation Measures

### Mitigation Measure 3.9-2a: Conduct Preliminary Site Investigation

During project planning, EH&S shall be consulted in order to identify if any past contamination, USTs, ASTs, or other contamination could potentially occur in areas to be disturbed for project construction. EH&S will consider the cases on file at the County of Santa Cruz EHS and information on historical uses in the area to be impacted such as old maps and photos. If EH&S determines that there is no or minimal potential for contamination to occur on site, no additional mitigation is necessary. If it is determined that contamination has the potential to exist on a project site, Mitigation Measure 3.9-2b shall be implemented.

### Mitigation Measure 3.9-2b: Conduct Site-Specific Investigation and Prepare Work Plan

Where initial investigations indicate the potential for contamination, UC Santa Cruz shall conduct soil sampling within the boundaries of the project site prior to initiation of grading or other groundwork. This investigation will follow the American Society for Testing and Materials standards for preparation of a Phase II ESA and/or other appropriate testing guidelines. If the results indicate that contamination exists at levels above regulatory action standards, then the site will be remediated in accordance with recommendations made by applicable regulatory agencies, including County of Santa Cruz EHS, RWQCB, and DTSC. The agencies involved shall depend on the type and extent of contamination.

Based on the results and recommendations of the investigation described above, UC Santa Cruz shall prepare a work plan that identifies any necessary remediation activities, including excavation and removal of on-site contaminated soils, and redistribution of clean fill material within the project site. The work plan shall include measures that ensure the safe transport, use, and disposal of contaminated soil removed from the project site.

### Mitigation Measure 3.9-2c: Prepare and Implement Hazardous Materials Contingency Plan

Prior to initiation of grading or other ground disturbance, UC Santa Cruz shall provide a hazardous materials contingency plan to EH&S and County of Santa Cruz EHS, as appropriate. The plan will describe the necessary actions that would be taken if evidence of contaminated soil or groundwater is encountered during construction. The contingency plan shall identify conditions that could indicate potential hazardous materials contamination, including soil discoloration, petroleum or chemical odors, and presence of underground storage tanks or buried building material.

If at any time during the course of construction, evidence of soil and/or groundwater contamination with hazardous material is encountered, UC Santa Cruz shall immediately halt construction and contact EH&S and County of Santa Cruz EHS. Work shall not be resumed until the discovery has been assessed/treated appropriately (through such mechanisms as soil or groundwater sampling and remediation if potentially hazardous materials are detected above threshold levels) to the satisfaction of County of Santa Cruz EHS, RWQCB, and DTSC (as applicable).

The hazardous materials contingency plan, and obligations to abide by and implement the plan, shall be incorporated into the construction and contract specifications of the project.

### Mitigation Measure 3.9-d: Require Minimization of Hazards during Demolition

Prior to demolition of existing structures, in order to minimize potential for accidental release of hazardous materials during demolition, UC Santa Cruz shall complete the following:

- ▶ Locate and dispose of potentially hazardous materials in compliance with all applicable federal, state, and local laws. This shall include: 1) identify locations that could contain hazardous residues; 2) remove plumbing fixtures known to contain, or potentially containing, hazardous materials; 3) determine the waste classification of the debris; 4) package contaminated items and wastes; and 5) identify disposal site(s) permitted to accept such wastes.

- ▶ Provide written documentation to the appropriate County department and MBARD that asbestos testing and abatement consistent with MBARD Rule 424, as appropriate, has occurred in compliance with applicable federal, state, and local laws.
- ▶ Provide written documentation to the appropriate County department and MABRD that lead-based paint testing and abatement, as appropriate, has been completed in accordance with applicable state and local laws and regulations. Abatement shall include the removal of lead contaminated soil (considered soil with lead concentrations greater than 400 parts per million in areas where children are likely to be present). If lead-contaminated soil is to be removed, UC Santa Cruz shall submit a soil management plan to County of Santa Cruz EHS.

**Significance after Mitigation**

With implementation of Mitigation Measure 3.9-2a the potential for on-site contamination would be confirmed before site-specific investigation is initiated. Mitigation Measures 3.9-2b would confirm on-site soil conditions before development and any identified contamination would be appropriately remediated. Mitigation Measure 3.9-2c would establish a contingency plan that would describe the necessary actions that would be taken if evidence of contaminated soil or groundwater is encountered during construction, including cessation of work until the potential contamination is characterized and properly contained or remediated. Mitigation Measure 3.9-2d would minimize the potential for release of potentially hazardous construction materials during demolition by requiring that asbestos-containing building materials, lead-based paint, and other hazardous substances in building components are identified, removed, packaged, and disposed of in accordance with applicable state laws and regulations. This would minimize the risk of an accidental release of hazardous substances during project construction that could adversely affect human health or the environment. Following implementation of these mitigation measures, implementation of projects under the 2021 LRDP would result in a **less-than-significant** impact related to potential release of hazardous materials from a site of known or potential contamination.

**Impact 3.9-3: Result in Handling of Hazardous or Acutely Hazardous Materials within 0.25 Mile of an Existing School**

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Although hazardous materials and waste could be handled within 0.25 mile of an existing or proposed school as a result of implementation of the 2021 LRDP, the handling, storage, and disposal of hazardous materials would be subject to campus safety programs and procedures. This impact would be **less than significant**.

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Existing sensitive receptors within 0.25 mile of the main residential campus include Santa Cruz Waldorf School and Westlake Elementary School. The Pacific Collegiate School is located approximately 0.25 mile from the Westside Research Park. Childcare centers located within 0.25 mile of the main residential campus include the Neighborhood childcare center and Campus Kids Connection Inc. There is one childcare center on the main residential campus located at the Family Student Housing complex on the west side of campus. No new schools are proposed 0.25 mile of UC Santa Cruz.

Hazardous materials would continue to be handled within 0.25 mile of an existing school as a result of 2021 LRDP implementation, and overall quantities of hazardous materials used within the LRDP area may increase in the future. However, these materials would not exist in quantities sufficient to pose a risk to occupants of the nearby schools or campus community and would be restricted to use for academic research purposes and building and grounds maintenance. As explained above, under Impact 3.9-1, hazardous materials in laboratories are typically handled in small quantities. The potential consequences of accidental releases would be limited to a single building and in most cases are limited to the individual laboratory where the spill occurred, and people outside the buildings would not be exposed. Furthermore, handling, storage, and disposal of hazardous materials associated with the 2021 LRDP would be subject to campus safety programs, discussed above in Section 3.9.1. Therefore, the potential risk of upset or release of hazardous materials that could affect an existing or proposed school is considered minimal. The impact to those attending nearby existing schools would be **less than significant**.

**Mitigation Measures**

No mitigation is required.



### Impact 3.9-4: Impair Implementation of, or Physically Interfere with, an Adopted Emergency Response Plan or Emergency Evacuation Plan

Implementation of the 2021 LRDP would not interfere with an adopted emergency response or evacuation plan, but construction activities for projects under the 2021 LRDP could result in short-term, temporary impacts to street traffic because of roadway improvements and potential extension of construction activities into the right-of-way. This could result in a reduction in the number of lanes or temporary closure of certain street segments. Any such impacts would be limited to the construction period and would affect only adjacent streets or intersection. This would be a **potentially significant** impact.

Implementation of the 2021 LRDP would result in circulation and transportation infrastructure improvements intended to enhance alternative transportation opportunities and increase connectivity within the UC Santa Cruz and to the city. Several new roads would be added to the transportation network in order to provide better cross-campus transit service, create safer bicycle and pedestrian environments, and fill gaps in the existing roadway system. Existing and proposed roadways would remain accessible to emergency vehicles under the 2021 LRDP, no permanent road closures are proposed. Any roadway extensions and new streets would be designed and constructed to include bicycle, pedestrian and transit facilities, where feasible, and in a manner consistent with the UC Facilities Manual, which notes that the UC system, as a whole and inclusive of UC Santa Cruz, complies with the Title 24 California Building Standards Code, Parts 1-12 and all amendments. UC Santa Cruz would also comply with applicable federal and state regulations related to roadway and transportation facility design, and with local regulations where campus roadways connect to city and county facilities. As discussed in Section 3.16, "Transportation," while adequate emergency access within the LRDP area is already provided, the proposed roadway extensions and new streets would provide improved network connections that could improve emergency vehicle access throughout the LRDP area.

The UC Santa Cruz EOP outlines evacuation procedures for building emergencies (Stage 1) and campus-wide emergencies (Stage 2). The SCFD responds to all campus emergencies and provides hazardous materials incident response and works in conjunction with UC Santa Cruz EH&S. In addition, SCHMIT responds to major hazardous materials incidents county-wide, including UC Santa Cruz.

Implementation of the 2021 LRDP could interfere with the campus' EOP through construction-related road closures. UC Santa Cruz requires contractors to notify the designated UC representatives at least two weeks prior to any proposed roadway closure. In addition, when paths, lanes, or roadways are blocked, UC Santa Cruz requires detour signs to be installed that clearly designate an alternate route. UC Santa Cruz office of Physical Planning, Development, and Operations requires that maintenance and project managers notify the UC Police Department (UCPD) and SCFD of road closures and alternative routes. However, notification requirements do not ensure that adequate emergency services are available.

Implementation of the 2021 LRDP could result in short-term, temporary impacts to emergency vehicle access and evacuation because of roadway improvements and potential extension of construction activities into the right-of-way. This could result in a reduction in the number of lanes or temporary closure of certain street segments. While such impact would be limited to the construction period and would affect only adjacent streets or intersection, the impact would be **potentially significant**.

### Mitigation Measures

#### Mitigation Measure 3.9-4: Prepare and Implement Site-Specific Construction Traffic Management Plans

UC Santa Cruz shall prepare and implement site-specific construction traffic management plans for any construction effort that would require work within existing roadways. To the extent feasible, the campus shall maintain at least one unobstructed lane in both directions on campus roadways during construction activities. At any time only a single lane is available due to construction-related road closures, the campus shall provide a temporary traffic signal, signal carriers (i.e., flag persons), or other appropriate traffic controls to allow travel in both directions. If construction activities require the complete closure of a roadway, the campus shall provide appropriate signage indicating alternative routes. If simultaneous construction activities occur close to one another, UC Santa Cruz shall require that simultaneous road closures not

occur within 1,000 feet of each other. To ensure adequate access for emergency vehicles when construction projects would result in temporary lane or roadway closures, the campus shall inform emergency services, including the UCPD and SCFD of the closures and alternative travel routes. During National Weather Service Red Flag Warnings and Fire Weather Watches, the UCPD and SCFD shall be consulted to determine if any changes to road closures are necessary while these fire hazard conditions are in effect.

**Significance after Mitigation**

Preparation and implementation of a construction traffic management plan, as required by Mitigation Measure 3.9-4, would adequately address any potential conflicts with emergency access or evacuation routes during construction by communicating proposed lane and road closures to first responders and allowing first responders to plan accordingly to ensure that emergency response times and maintain adequate emergency access. As a result, with mitigation this would be a **less-than-significant** impact.