6.7 HAZARDS

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INTRODUCTION

This section describes the potential adverse impacts on human health due to exposure to hazards that could result from the implementation of the Regional University Specific Plan (RUSP). Hazards evaluated include those associated with existing identified or suspected contaminated sites; hazards associated with potential exposure to hazardous materials used, generated, stored, or transported in or adjacent to the project site; potential hazards associated with exposure of people or structures to risk of loss, injury, or death involving wildland fires; potential hazards for people residing or working within the vicinity of a private airstrip; mosquito hazards associated with on-site natural water features and stormwater drainage basins; and potential hazards associated with the use of recycled water in public areas. Included in the discussion is a summary of applicable hazardous materials laws, regulations, and agencies responsible for their implementation. Potential hazards and associated impacts related to toxic air contaminant emissions are discussed in the Air Quality section of this EIR.

Sources of information to describe existing conditions and for the analysis include the Regional University Specific Plan Environmental Site Assessment, prepared by Wallace-Kuhl and Associates, and a variety of planning documents, agency and provider correspondence, consultation with county staff, and published technical information available through various websites. These sources are identified in the footnotes.

ENVIRONMENTAL SETTING

RUSP Project Site

The project site encompasses approximately 1,157.5 acres in unincorporated Placer County, west of the City of Roseville, and consists of predominately open agricultural land utilized for rice and dry land farming. Approximately 55 percent of the project site is in agricultural production. A Phase 1 Environmental Site Assessment (ESA) was prepared for the proposed project to identify known and potential hazards within the project site.[1] The Phase 1 ESA was prepared in accordance with American Society of Testing and Materials (ASTM) Standard E 1527-00 and included: field reconnaissance of the site and adjacent properties to look for evidence of surface and potential subsurface sources of contamination; a review of agency records and databases pertaining to hazardous materials; review of topographic maps and aerial photographs; interviews with individuals knowledgeable about historic and current uses of the property; and an evaluation of local and regional groundwater conditions.

Agricultural Chemicals

Current and past agricultural use of the project site has been for rice production, dry farming hay production, irrigated and dry land cattle grazing. The use of herbicides and pesticides is commonly associated with farming activities.

1 Wallace-Kuhl & Associates, *Consolidated Environmental Site Assessment, Regional University Specific Plan*, November 28, 2006.

Some agricultural chemicals have the potential to remain in near-surface soils, depending upon the concentrations and types used. During the past few decades, environmentally persistent chemicals such as dichloro-diphenyl-trichloroethane (DDT) and chlordane have been banned from use. Prior to such regulations, however, and especially during the 1940s and 1950s, DDT was the most commercially viable chemical available for use as a pesticide. Prior to the use of chlorinated pesticides, lead arsenate was commonly used in the region, both as pesticide and herbicide. Lead arsenate was commonly applied as both a pesticide and herbicide in orchards, and perhaps in other crops (such as vineyards). The use of lead arsenate is not known to have occurred on rice or row crops; however, no testing was performed to verify that it was not used on the project area. There is also the possibility that other arsenic-based compounds, including arsenic trioxide and copper acetoarsenate (Paris green) were used from the late 1880s to the 1950s. These inorganic compounds can be persistent in the environment and highly toxic to all forms of animal life. There are no known livestock processing, burial, or confined pen sites that would have contributed to persistent contamination.

Project site agricultural investigations made during the Phase 1 included interviews with employees of the Placer County Agricultural Commissioner's Office and the Sacramento County Agricultural Commissioner's Office. Placer County did not have records of any Notices of Violation, or Cease and Desist Orders on file; the County did have Restricted Use Permits associated with agricultural chemical activities from 2004 on the farmed lands; but no information was available on the fallow lands. Sacramento County Agricultural Commissioner's Office staff stated that rice is not a target for insects and pesticide use is generally not necessary. The most common problem associated with rice farming is weed control, which is the main reason for crop flooding. Noxious terrestrial weeds have difficulty taking root or growing while submerged because photosynthesis is inhibited by the absorption of certain light waves through water.[2]

The reported hay production and cattle grazing land uses were considered unlikely to have directly generated potential for residual impacts to soil and groundwater from fertilizers and feeds when used in normal amounts.

Petroleum Hydrocarbon Products

Use of petroleum products, fuels, and lubricants are commonly associated with farming activities and equipment. The Phase 1 ESA documented a number of areas where petroleum products are currently being stored or previously used.

The most apparent use or storage of petroleum products was observed in three 500-gallon aboveground storage tanks (ASTs). Two ASTs are used for fueling two groundwater well pump diesel engines, and the third is a portable AST currently parked for re-filling farm-equipment (e.g., tractors, trucks and generators). Also, located at the portable AST were one 2.5-gallon and three 5-gallon containers of oil and lubricants; however, no evidence of spills or leaks was reported.[3] Other evidence of petroleum products exists at and around the groundwater irrigation pumps, where oil and lubricants are used in the operation and maintenance of the motors. Inadvertent spills or leaks have occurred, and oil has stained the concrete foundations or leaked into the top few inches

2 Wallace-Kuhl & Associates, *Consolidated Environmental Site Assessment. Regional University Specific Plan*, November 28, 2006, pages 23-24.

3 Wallace-Kuhl & Associates, *Consolidated Environmental Site Assessment. Regional University Specific Plan*, November 28, 2006, pages 7-8.

of the surface soils; according to the Environmental Assessment, this is not considered a hazardous materials threat on the property.[4]

Other activities that could potentially generate or use petroleum products on the property were not observed during the Phase 1 ESA and include maintenance areas, chemical storage facilities, sumps, catch basins, and dry cleaning facilities.

A map search included the DOG Wildcat Map W6-1 and identified one abandoned well outside of the RUSP boundaries that was listed as a "plugged and abandoned dry hole" and was properly abandoned within the DOG guidelines.[5] While abandoned DOG wells can have an impact on a structure built on top of it and may need to be re-abandoned to current standards, the identified abandoned well would pose no problem to residents of the project because the well is off-site and never produced natural gas or oil. No surface evidence of the DOG well exists today. If structures were planned for construction on the well site, DOG recommends that old abandoned well sites be reviewed by one of their engineers to determine whether it needs to be re-abandoned prior to development.

The Phase 1 ESA reviewed the RWQCB's Tank Tracking System database for any possible subsurface hazardous materials contamination from leaking underground storage tanks. The Placer County EHD Master List of Facilities showed no County-registered underground storage tanks or ASTs within the project site. The Placer County EHD list reveals no facilities registered for the use and/or storage of hazardous materials located within one-half mile of the RUSP.

Summary

The Phase 1 ESA concluded that there is no evidence of significant hazardous materials contamination or Recognized Environmental Conditions (REC) at the project site.[6]

Off-Site Improvement Areas

Off-site infrastructure sites were evaluated for potential soil or groundwater contamination related to past and current uses.

Phillip Road Infrastructure Corridor

The Phillip Road infrastructure corridor is approximately 200 feet wide centered on the existing paved road, with drainage ditches on each side of the pavement. There is a barn on the southeast side of the corridor, a dog kennel on the south side of the corridor, and an inactive groundwater well located approximately 25 feet north of the road. Stained soil from an old diesel engine and AST for the well pump was observed next to the well. The Phase 1 ESA preparers noted the presence of miscellaneous debris scattered through the corridor. The Phase 1 ESA revealed no evidence of any Recognized Environmental Condition along the corridor. No further investigation or testing of soil or groundwater was recommended, based on the information compiled for the ESA. Sampling and

4 Wallace-Kuhl & Associates, *Consolidated Environmental Site Assessment. Regional University Specific Plan*, November 28, 2006, page 8.

5 Wallace-Kuhl & Associates, *Consolidated Environmental Site Assessment. Regional University Specific Plan*, November 28, 2006, page 36.

6 Wallace-Kuhl & Associates, *Consolidated Environmental Site Assessment. Regional University Specific Plan*, November 28, 2006 page 39.

testing would be warranted, however, if visual or olfactory evidence of contamination is observed when soils are disturbed during construction.[7]

Watt Avenue Extension Site and Base Line Road Infrastructure Corridor

This area is primarily undeveloped, and portions are used for cattle grazing. There is a creek, dry pond, and a water supply well. Historic uses included dry farming. A portion of the area contained a small golf course, which was irrigated. There is a main residence and a modular home, a hay barn, livestock feed sheds, and several outbuildings in the southeastern part of the Watt Avenue Extension Site. No evidence of hazardous materials contamination was observed at the residence. In the vicinity of the modular home there was scattered debris, including empty fuel containers and drums and a 500-gallon AST when the site was inspected. Minimal soil staining was observed under the AST. No Recognized Environmental Conditions warranting further investigation were found at the Watt Avenue extension corridor.[8]

Results of a Phase 1 ESA for the Base Line Road Infrastructure corridor found no evidence of contamination along the roadway. The only area of concern is an approximately 100-foot-square area near the intersection of Fiddyment Road and Base Line Road that appears to be stained with motor oil and/or diesel, which would only affect the top few inches of soil. The stained soil may be outside the area that would be disturbed by project improvements, however. As with other locations in the study area where surface soil staining was observed, the Phase 1 ESA preparers recommended that the soil be removed and disposed of properly.[9]

Other Potential Hazards in the Project Vicinity

Electrical Transformers

PG&E operates and maintains the 230 kV transmission lines along the west side of the project site and 12 kV neighborhood distribution lines along Phillip Road. Along the transmission lines are several pole-mounted electrical transformers, some not labeled as Non-PCB- (Polychlorinated Biphenyls) containing transformers. No leakage was observed at or near the pole-mounted transformers during the Phase 1 ESA.[10] Mark Hays, a PG&E environmental coordinator, was interviewed about PG&E's operational protocol of Non-PCB-containing transformers. PG&E does not maintain an inventory of Non-PCB-containing electrical transformers. The U.S. banned PCB manufacturing in 1977, and PG&E instituted a policy against installation of PCB containing transformers in the early 1980s. However, the project site was developed and farmed prior to 1977; consequently, the transformers on-site could contain PCBs.[11]

7 Wallace-Kuhl & Associates, *Consolidated Environmental Site Assessment. Regional University Specific Plan*, November 28, 2006, page 39.
8 Wallace-Kuhl & Associates, *Consolidated Environmental Site Assessment. Regional University Specific Plan*, November 28, 2006, page 39.
9 Wallace-Kuhl & Associates, *Consolidated Environmental Site Assessment. Regional University Specific Plan*, November 28, 2006, page 38.
10 Wallace-Kuhl & Associates, *Consolidated Environmental Site Assessment. Regional University Specific Plan*, November 28, 2006, page 21.
11 Wallace-Kuhl & Associates, *Consolidated Environmental Site Assessment. Regional University Specific Plan*, November 28, 2006, page 22.

High-voltage transmission lines run east-west through the central part of the Watt Avenue extension site. The lines are owned by Sacramento Municipal Utility Company (SMUD), Western Area Power Administration (WAPA), and Pacific Gas and Electric (PG&E).

Electromagnetic Fields

Transmission power lines emit electromagnetic fields, or EMF. EMF is a term used to describe electric and magnetic fields that are created by electric voltage (electric fields) and by electric current (magnetic fields). Power frequency EMF is a natural consequence of electrical circuits and is present where electricity is used. This includes not only utility transmission lines, distribution lines, and substations, but also the building wiring in homes, offices, and schools, and in the appliances and machinery used in these locations.

Electric fields are present whenever voltage exists on a wire, and are not dependent on current. The magnitude of the electric field is primarily a function of the configuration and operating voltage of the line and decreases with the distance from the source (line). The electric field can be shielded (i.e., the strength can be reduced) by any conducting surface, such as trees, fences, walls, buildings, and most types of structures.

Magnetic fields are present whenever current flows in a conductor, and are not dependent on the voltage present on the conductor. The strength of these fields also decreases with distance from the source. However, unlike electric fields, most common materials have little shielding effect on magnetic fields. Magnetic field strengths do, however, diminish with distance.

Studies of the effects of EMF exposure have varied widely. Some epidemiological studies have reported that children living near power lines have higher than average rates of leukemia, brain cancer, and/or overall cancers. The correlations between EMF exposure and cancer rates have not been strong, and typically have not been related to dose levels. Other epidemiological studies have shown no correlation between living near power lines and cancer, including childhood leukemia. Very few studies have shown correlations between adult cancers and proximity to power lines.

While some epidemiological studies have shown correlations between exposure to EMF and cellular activity necessary to development of cancer, there is little laboratory evidence of a biomechanism affected by EMF. Of more than 60 laboratory studies that have been published, the reported effects of genotoxicity (injury to cells, which could result in cancer) are overwhelmingly negative, even when extremely high field strengths are used.

Several reviews of EMF studies have been conducted by government agencies, including the National Institute of Environmental Health Sciences of the National Institutes of Health (NIEHS) and the California Department of Health Services (DHS). In general, these reviews have concluded that there is limited evidence linking exposure to EMF and cancer. The International Agency for Research on Cancer (IARC) found that childhood leukemia was the only type of cancer for which there could be a link to EMF exposure, and that the evidence for that link was limited.

The California Department of Health Services convened a panel of three epidemiologists to review studies of the effects of EMFs on human health, including increased risks of various cancers, miscarriage, Lou Gehrig's Disease (ALS), and others. Each panel member reviewed existing literature and then rated his or her degree of certainty that EMF increased the personal risk of contracting the diseases under study. The panelists "strongly believed" that EMFs are not universal carcinogens and do not increase the risk of birth defects or low birth weight, but, to one degree or

another, were "…inclined to believe…" that EMFs can "…cause some degree of miscarriage…" Two of the panelists were "…close to the dividing line between believing or not believing" and one was "prone to believe" that EMFs cause some degree of increased risk of adult leukemia. The panel's findings were reviewed by the Electric and Magnetic Field Scientific Advisory Panel (SAP), which found that the conclusions of the panel "…were logically supported within a range of reasonable scientific discourse…" At the same time, there was consensus that different evaluators using the DHS guidelines could arrive at different confidence ratings (i.e., conclusions regarding the likelihood that EMF causes cancer or other diseases).[12]

EMFs associated with high-voltage power lines in the Plan Area would not present a hazard to project development because the corridor is not proposed for residential development. This issue is not further evaluated in the EIR.

Roseville Energy Park

The planned Roseville Energy Park is located on Phillip Road approximately one mile northwest of the project area. The planned Roseville Energy Park adjacent to Phillip Road would be a source of EMF with the installation of 60-kilovolt (kV) lines and switchyard.

According to the Final Staff Assessment prepared by the California Energy Commission (CEC), the Energy Park would use a variety of hazardous materials including hydrochloric acid to clean the Heat Recovery Steam Generators. This would occur once every four years so it does not pose a significant hazard. In addition, 2,000 gallons of sodium hypochlorite would be stored on-site. The amount stored on-site would be below the Reportable Quantity, as defined in the Cal-ARP regulations. According to the staff report, an aqueous solution of sodium hypochlorite would pose an insignificant risk to the general public. The Energy Park would also store small amounts of sodium hydroxide, which would not pose any hazard. Natural gas would be used in significant quantities and would be provided via a pipeline, but would not be stored on-site. Natural gas has the potential to cause fires or explode; however, it is unlikely because the pipeline would be designed, constructed, and operated in accordance with Title 49, Code of Federal Regulations, part 192 and the California Public Utility Commission's General Order 112-E. In addition, the Energy Park would use aqueous ammonia to control the emission of oxides of nitrogen (NO_x) from the combustion of natural gas in the facility. An accidental release of aqueous ammonia could be hazardous resulting in emissions of ammonia gas. However, as indicated in the staff report, due to the engineering controls to be implemented for the storage and transfer of the ammonia, any accidental release would not pose any threat to the general public.

To minimize any accidental releases or spills of any chemicals the Roseville Energy Park has been designed with engineered safety features such as catchment basins in the hazardous materials storage areas to contain any accidental releases or spills, physical separation of stored chemicals in separate containment areas, construction of an underground vault from the aqueous ammonia secondary containment basin, and protective shut off valves, alarms, and a fire protection system. In addition, the project would be constructed in compliance with specific conditions of certification to ensure all safety measures have been implemented and to protect the general public from any significant risk of exposure due to an accidental spill or release of a hazardous chemical.[13] The City of Roseville Fire Department is the Certified Unified Program Agency (CUPA) for City facilities and would be responsible for monitoring for regulation compliance. Depending upon the types and sizes

12 Placer County, *Placer Vineyards Specific Plan Revised DEIR*, March 2006, pages 4.12-10 to 4.12-12.

13 California Energy Commission, *Roseville Energy Park Application for Certification (03-AFC-1) Placer County, Final Staff Report*, November 2004, Section 4.4 (Hazardous Materials Management).

of above-ground storage tanks (ASTs), the Regional Water Quality Control Board could also have jurisdiction for AST spill prevention.

Pleasant Grove Wastewater Treatment Plant

The City of Roseville Pleasant Grove Wastewater Treatment Plant (PGWWTP) is located south of the eastern end of the Phillip Road Infrastructure Corridor Site, immediately south of the Roseville Energy Park. The plant provides tertiary-level treatment through the process of screening, grit removal, extended aeration, secondary clarification, filtration, chlorination and dechlorination. As with other facilities using hazardous materials, the use of wastewater-treatment chemicals at the PGWWTP is strictly regulated by State and local regulations. The City of Roseville Fire Department is responsible for routine hazardous materials inspections and incident response in case of an accidental release of hazardous materials. Further, operation of the plant would implement National Fire Protection Association 820 standards. Because no gaseous or liquid chlorine would be used for disinfection, the facility is not required to prepare a Risk Management Program under the California Accidental Release Program (CalARP) requirements (California Health and Safety Code Sections 25531–25543).

A 1,000-foot non-residential buffer around the PGWWTP was established as a risk reduction measure to address the potential of an accidental, but highly unlikely, release of treatment chemicals to the air. The closest project-occupied buildings to the PGWWTP would be more than one-half mile away. Although the buffer was originally intended to mitigate hazards associated with the use of chlorine gas, the PGWWTP now uses sodium hypochlorite at a concentration slightly greater than household bleach, which is less hazardous than chlorine gas.

The PGWWTP has also been designed so that all site drainage is kept on-site. Therefore, in an event a chemical were to be released on-site, it would be routed to the treatment plant's head works where it would enter the influent waste stream for treatment. Other products such as oil, lubricants, paints, solvents, and small amounts of laboratory chemicals for testing wastewater quality would also be used.[14]

Agricultural Spraying on Adjacent Farmland

Current and past land uses on lands adjacent to the project site have supported a variety of agricultural activities. In general, agricultural activities do not tend to cause persistent contamination of the soil or groundwater. The reported hay production and cattle grazing in the project site are considered unlikely to have directly generated potential for residual impacts to soil and groundwater from fertilizers and feeds when used in normal amounts. No substantial evidence of nitrates, a component of fertilizer, was detected in groundwater wells tested on the project site.[15]

During the 1940s and 1950s, DDT was the predominate chemical available for pesticide use. DDT, Chlordane and other similar agricultural chemicals have the potential to remain effective in surface soils; however, this depends upon the brands and concentrations used. In the past few decades, these environmentally persistent chemicals have been banned from use, and this suggests these

14 City of Roseville, *West Roseville Specific Plan Draft Environmental Impact Report* (SCH #2002082057), September 15, 2005, pages 4.9-7 through 4.9-9.

15 West Yost Associates, *Water Master Plan for the Regional University Specific Plan*, *Appendix B,* December 7, 2006.

chemicals would not be near the project site. In addition, no substantial evidence of pesticides was detected in groundwater wells tested on the project site.[16]

Transportation of Hazardous Materials Adjacent to the Project site

The City of Roseville Public Works Department Traffic Division has designated truck routes upon which hazardous materials may be transported by common carrier through the City to light industrial and industrial facilities. Currently, near the project area, hazardous materials can be transported on Base Line Road west of Foothills Boulevard. Current deliveries to the PGWWTP are via State Route 65 to Blue Oaks Boulevard south and Fiddyment Road to Phillip Road. Deliveries to the planned Roseville Energy Park on Phillip Road would follow the same route.

Private Airstrip

A private, un-paved airstrip used by small aircraft is located immediately south of the western (University) portion of the project site. The airstrip runs north/south and is approximately 2,700 feet east of Brewer Road.

Vectors and Nuisance Pests

A vector is any insect or animal capable of transmitting the causative agent of human disease or capable of producing human discomfort or injury including, but not limited to, mosquitoes, flies, other insects, ticks, mites, and rodents. Catch basins, slow-moving streams, standing water, and open flood-control / storm-drain channels can create a favorable condition or habitat for vectors such as mosquitoes, other aquatic organisms, and some rodents. The project site contains small stream channels, canals, and irrigation/tailwater ditches, which could provide some habitat for mosquito populations.

Vector Control

Placer County, including the RUSP area, is within the boundaries of the Placer Mosquito Abatement District. The District was formed in 1996 and became active in November 2000 upon securing a funding source for its operations. A benefit assessment was established for most of the District, including the Specific Plan area. This benefit assessment is based on the benefit received by they property owner. For example, a single family dwelling will contribute $13.52 per year for vector control services. The benefit assessment may be increased up to an additional 3% per year based on increases in the Consumer Price Index.

In July 2005, the Placer Mosquito Abatement District had 17 employees including eight technicians certified by the State of California Health Services in mosquito and vector identification and pesticide use. The District uses 14 trucks and vehicles, 1 boat, 3 ATVs, and various special sprayers and other equipment.

The District employs a number of practices in order to reduce mosquitoes and other vector populations and prevent the spread of the diseases they can carry. District technicians continuously conduct surveillance throughout the county to locate vector breeding grounds including creeks, wetlands, and vernal pools, as well as man-made features in agricultural, industrial, and residential

16 West Yost Associates, *Water Master Plan for the Regional University Specific Plan*, *Appendix B,* December 7, 2006.

areas. Additionally, individual property inspections are conducted upon request of the owner. Airplanes and individual sprayers are used to apply insecticides and larvicides to control adult populations and to prevent larva from hatching in these identified breeding grounds. Additionally, mosquito fish are available by the district at no fee for residents to place in decorative ponds, unused swimming pools, and animal troughs in order to eliminate mosquito larva. Research on adult mosquitoes is conducted using New Jersey Light Traps and sentinel chicken flocks. Public education is also an important tool used by the District to protect residents and reduce breeding grounds.

Placer County has 26 different species of mosquitoes, 17 of which are common throughout the county and 11 of which are less common or are located outside of the District. The primary diseases of concern that are carried and transmitted by mosquitoes are malaria and encephalitis. The county currently has four different encephalitis viruses including the West Nile Virus (WNV).

According to the Placer Mosquito Abatement District, WNV is a mosquito-borne virus commonly found in humans, birds, and other vertebrates in Africa, Eastern Europe, West Asia, and the Middle East. WNV was first identified in the United States in New York City in the late summer of 1999, while the first case of WNV in Placer County was identified in 2004. During 2005, 35 humans, 23 horses, 84 birds, 20 sentinel chickens, and 2 mosquito pools (collections of approximately 50 mosquitoes tested together for WNV) were found to be positive for the virus in Placer County. Most of the sentinel chickens that were found to be positive with the virus were located in or near Roseville, Loomis, and Auburn. The mosquito pools that tested positive for the virus are located where agricultural land and urban development meet in the Lincoln and Roseville areas. As of March 2006, there has been no WNV activity in the County.[17]

REGULATORY SETTING

The following discussion summarizes federal, State, and local regulatory authorities pertaining to hazardous materials[18] management and cleanup. In California, State agencies have obtained regulatory primacy with respect to hazardous materials management. Thus, the State has developed its own regulatory mechanism that employs federal oversight. For this reason, the Regulatory Setting section focuses primarily on State and local authorities, as they would have the most involvement in hazardous waste management for this project.

17 Placer County, *Placer Vineyards Specific Plan Revised DEIR*, March 2006, pages 4.12-12 to 4.12-13.

18 As used in this section, the term "hazardous materials" refers to both hazardous substances and hazardous wastes. Hazardous materials are defined in California Health and Safety Code Section 25501: A hazardous material is 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 waste, 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. Hazardous wastes are defined in California Health and Safety Code Section 25117: "Hazardous wastes" are wastes that, because of their quantity, concentration, or physical, chemical, or infectious characteristics, may either cause, or significantly contribute to an increase in mortality or an increase in serious illness, or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

Federal Regulations

The management of hazardous materials and hazardous wastes, as they relate to public safety and environmental protection in Placer County, occurs within the context of a complex interaction of federal, State, and local requirements. The primary federal agencies with responsibility for hazardous materials management include the U.S. Environmental Protection Agency (EPA), U.S. Department of Labor Occupational Safety and Health Administration (OSHA), and the U.S. Department of Transportation (DOT). Federal laws governing the transport, storage, and use of hazardous materials include the following:

- Resources Conservation and Recovery Act (RCRA) - hazardous waste management;
- Hazardous and Solid Waste Amendments Act (HSWA) - hazardous waste management;
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) - cleanup of contamination;
- Superfund Amendments and Reauthorization Act (SARA) - cleanup of contamination; and
- Emergency Planning and Community Right-to-Know (SARA Title III) – business inventories and emergency response planning.

Specific requirements for implementation of these statutes are codified in Title 40 of the Code of Federal Regulations (CFR). Title 40 of the CFR addresses emergency planning and notification, hazardous material management plans, soil and water pollution remediation and reporting, and community right-to-know reporting. Additional regulations that apply to workplace safety and transportation of hazardous materials are contained in CFR Titles 10, 29 and 49.

Uniform Building Code and Uniform Fire Code

Prior to issuance of building permits and during occupancy, the Placer County Permit Division and the County Development Review Committee would be responsible for reviewing plans for facilities proposing to use hazardous materials to ensure that applicable Uniform Building Code and Uniform Fire Code standards are included in project design. These standards address, among other elements, proper storage and secondary containment for hazardous materials and fire-safe construction and materials. Use of appropriate design features would help reduce the potential for accidental releases of hazardous materials that could affect occupants or require emergency response services.

State Regulations

Hazardous Materials Management

The California Environmental Protection Agency (Cal/EPA) has established regulations governing the use of hazardous materials in the State. Within Cal/EPA, the Department of Toxic Substance Control (DTSC) has primary hazardous materials regulatory responsibility, but can delegate enforcement responsibilities to local jurisdictions that enter into agreements with DTSC, for the generation, transport, and disposal of hazardous materials under the authority of the Hazardous Waste Control Law (HWCL). State regulations applicable to hazardous materials are contained primarily in Title 22 of the California Code of Regulations (CCR). Title 26 of the CCR is a compilation of those chapters or titles of the CCR that are applicable to hazardous materials management. Cal/OSHA standards are presented in Title 8 of the CCR, these are more stringent

than federal OSHA regulations and address workplace regulations involving the use, storage, and disposal of hazardous materials.

Also within the "umbrella" of Cal/EPA, the California Integrated Waste Management Board (CIWMB) is responsible for protecting the public's health and safety and the environment through management of the solid waste generated in California. The CIWMB works in partnership with local government, industry, and the public to reduce waste disposal and ensure environmentally safe landfills. Solid waste management provisions are outlined in the Public Resources Code, Division 30.

California Vehicle Code Section 31303 regulates the transport of hazardous materials. The California Highway Patrol (CHP) and the California Department of Transportation (Caltrans) are the enforcement agencies for hazardous materials transportation regulations. Hazardous materials and waste transporters are responsible for complying with all applicable packaging, labeling, and shipping regulations.

The California Department of Industrial Relations, Division of Occupational Safety and Health Administration (Cal/OSHA) assumes primary responsibility for developing and enforcing work place safety regulations within the State.

The California Office of Emergency Services (Cal/OES) is the State office responsible for establishing emergency response and spill notification plans related to hazardous materials accidents. In addition, Cal/OES regulates businesses by requiring specific businesses to prepare an inventory of hazardous materials, and to prepare risk management plans through the California Accidental Release Prevention Program (Title 19 of the CCR).

The State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards (RWQCB) regulate surface and groundwater quality according to the provisions of State and federal legislation, including the Porter-Cologne Water Quality Act, the Toxic Pits Cleanup Act, the Underground Tank Law, and the Clean Water Act. The project site is located within the jurisdiction of the Central Valley RWQCB (Region 5). The RWQCB can delegate responsibilities, such as underground tank permitting and monitoring, to local jurisdictions, such as Placer County. RWQCB regulations are contained in Title 27 of the California Code of Regulations (CCR). Additional standards for investigation are set forth in Title 40 of the CCR.

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

In January 1996, Cal/EPA adopted regulations implementing a "Unified Hazardous Waste and Hazardous Materials Management Regulatory Program" (Unified Program). The program is implemented at the local level by a local agency – the Certified Unified Program Agency (CUPA). The intent of the jurisdictional CUPA program is to consolidate and make consistent the reporting requirements, permit format, inspection criteria, enforcement standards and fees for the following six hazardous materials programs: Hazardous Waste Generator and Onsite Hazardous Waste Treatment, Aboveground Storage Tanks - Spill Prevention Control and Countermeasure Plan (SPCC), Underground Storage Tanks, Hazardous Material Release Response Plans and Inventories, California Accidental Release Prevention Program, and Uniform Fire Code Hazardous Material Plans and Inventories.

In May 1997, the Division of Environmental Health Services (EHS) was approved by Cal/EPA as the CUPA for Placer County. EHS administers the six hazardous materials programs. EHS also

administers the Underground Storage Tank program in Placer County by performing regular inspections of existing facilities, granting permits for new facilities, checking construction plans, performing site mitigation and necessary enforcement actions. The City of Roseville Fire Department has been approved as the CUPA for the City of Roseville.

The California Health and Safety Code provides minimum Statewide standards and regulations for the management of hazardous wastes to protect against potential hazards to public health or the environment.

School Siting

The project has designated a portion of the site for future use as a school. The California Education Code (Section 17210 et seq.) outlines the requirements of siting school facilities near or on known or suspected hazardous materials sites, or near facilities that emit hazardous air emissions, handle hazardous or acutely hazardous materials, substances, or waste. The Education Code also has requirements addressing school siting near electrical transmission lines.

Contaminated Sites

Although Phase 1 ESAs have already been prepared for the study area, and no Recognized Environmental Conditions were identified, the Education Code does require that prior to commencing the acquisition of property for a new school site, an environmental site investigation be completed to determine the health and safety risks (if any) associated with a site. Recent legislation and changes to the Education Code identify DTSC's role in the assessment, investigation, and cleanup of proposed school sites. All proposed school sites that will receive State funding for acquisition and/or construction must go through a comprehensive investigation and cleanup process under DTSC oversight. DTSC is required to be involved in the environmental review process to ensure that selected properties are free of contamination, or if the property is contaminated, that it is cleaned up to a level that is protective of students and faculty who will occupy the new school. All proposed school sites must be suitable for residential land use, which is DTSC's most protective standard for children.

Prior to acquiring a school site or engaging in a construction project, school districts must contract for the preparation of a Phase I Environmental Site Assessment (ESA), which must be reviewed by DTSC according to established timelines. The Phase I ESA, which must be prepared by a qualified professional, can be used to support a conclusion that no recognized environmental conditions are present, or a Preliminary Endangerment Assessment (PEA) is necessary. Although the methodology for conducting Phase I ESAs is the ASTM Industry Standard E 1527-00, DTSC has developed an interim draft advisory that supplements the ASTM E 1527-00 standard that more specifically addresses school sites.[19]

If the Phase I concludes, or DTSC determines, that a PEA is required, the school district can either proceed with the PEA or drop the school site from further consideration. If the district chooses to proceed with a PEA, it will be required to enter into an Environmental Oversight Agreement with DTSC to oversee preparation of the PEA, which must be submitted to DTSC for review and approval. If the approved PEA concludes the property would not pose a threat, DTSC will issue a "No Further Action" determination and will not require additional investigation or cleanup. If the PEA

19 California Environmental Protection Agency, Department of Toxic Substances Control, "Phase I Environmental Site Assessment Advisory: School Property Evaluations, Revised September 5, 2001," September 5, 2001.

concludes the property is contaminated, the district must clean up the site, or it can choose not to proceed with development of the school project. When all necessary cleanup activities are completed according to DTSC-approved plans, DTSC will certify the site cleanup is complete.[20]

If a previous Phase I ESA has been conducted for the proposed school site and is more than 180 days old, DTSC recommends an addendum be prepared to verify the site conditions or describe changes in site conditions.[21]

In conjunction with the Phase I and PEA process, DTSC has also developed specific sampling guidance for schools proposed on land historically used for agriculture where pesticides have been routinely applied ("Interim Guidance for Sampling Agricultural Fields for School Sites," August 2002). DTSC recommends that school districts and their hazardous materials consultant coordinate with DTSC to determine the applicability of the Interim Guidance to a specific location and the need for testing.[22]

Location Relative to Source of Hazardous Emissions

In addition to an evaluation of potential site contamination issues, Public Resources Code Sections 21151.4, 21151.8, and 21151.2 require that no EIR be approved for a project involving the construction or alteration of a facility that might reasonably be anticipated to result in hazardous air emissions within one-quarter mile of a school unless the lead agency has consulted with the school district having jurisdiction regarding the potential impact of the project on the school, or the school has been given written notification of the project not less than 30 days prior to approval of the EIR. Section 6.3, Air Quality, includes additional information about hazardous emissions.

Location Relative to Electrical Transmission Sources

The California Department of Education, School Facilities Planning Division has developed specific guidelines that address the location of schools relative to electrical transmission lines. Any part of a school site must be a minimum of 100 feet from the edge of an easement for a 50 to 133 kV line, 150 feet from the edge of an easement for a 220 to 230 kV line, or 350 feet from the edge of an easement for a 500 to 550 kV line.[23]

Use of Recycled Water

Recycled water refers to wastewater treatment plant effluent that has received treatment that meets the State requirements for direct non-potable use (e.g., irrigation of landscaping, industrial cooling purposes). These treatment requirements are set forth in Section 60301 et seq. of Title 22 of the CCR. Section 60301.230 specifies the following requirements for recycled water that would be produced by the PGWWTP:

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20 California Environmental Protection Agency, Department of Toxic Substances Control, School Property Evaluation and Cleanup Division, *Fact Sheet: New Environmental Requirements for Proposed Schoolsites (Assembly Bill 387 and Senate Bill 162),* April 2001.

21 California Environmental Protection Agency, Department of Toxic Substances Control, "Phase I Environmental Site Assessment Advisory: School Property Evaluations, Revised September 5, 2001," September 5, 2001.

22 California Environmental Protection Agency, Department of Toxic Substances Control, "Interim Guidance for Sampling Agricultural Fields for School Sites," 2nd revision, August 26, 2002.

23 California Department of Education, School Facilities Planning Division, Resources for School Facilities Planning. 2000, page 6.

"Disinfected tertiary recycled water" means a filtered and subsequently disinfected wastewater that meets the following criteria:

(a) The filtered wastewater has been disinfected by either:

(1) A chlorine disinfection process following filtration that provides a CT (the product of total chlorine residual and modal contact time measured at the same point) value of not less than 450 milligram-minutes per liter at all times with a modal contact time of at least 90 minutes, based on peak dry weather design flow; or

(2) A disinfection process that, when combined with the filtration process, has been demonstrated to inactivate and/or remove 99.999 percent of the plaque-forming units of F-specific bacteriophage MS2, or polio virus in the wastewater. A virus that is at least as resistant to disinfection as polio virus may be used for purposes of the demonstration.

(b) The median concentration of total coliform bacteria measured in the disinfected effluent does not exceed a most probable number (MPN) of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed and the number of total coliform bacteria does not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30 day period. No sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters.

Water meeting these standards (referred to as "tertiary-2.2 criteria") may be used for unrestricted use, which includes (but is not limited to) body contact for recreation (swimming), irrigation of food crops, and irrigation of parks, playgrounds, and schoolyards. The State Department of Health Services (DHS) considers a properly filtered and disinfected water meeting the tertiary-2.2 standard to be essentially pathogen-free and adequately protective of public health.[24]

Prior to using the recycled water for irrigation, the City would be required to prepare an Engineering Report in accordance with Title 22 of the California Code of Regulations, which would be submitted to and reviewed by DHS.

DHS regulations also require that recycled water must be conveyed in a totally separate distribution system from the potable water supply. Areas where recycled water will be used for irrigation must be maintained by professional landscape maintenance contractors. Placer County would be responsible for implementing a cross-connection program to ensure that future potable services are not accidentally connected to the recycled water system and a public information program (including signage) to notify the public of the use and location of non-potable water application. Section 60301 of the regulations establishes specific use area requirements that address proximity of application areas to domestic supply wells and runoff control.

Local Regulations

Placer County is responsible for enforcing many State regulations governing hazardous materials management, including waste generation, minimization, and storage, and underground storage tanks.

The Placer County Department of Health and Medical Services, Environmental Health Division administers CUPA elements in the unincorporated areas of the County and all cities in Placer

24 Jeff Stone, California Department of Health Services, "San Diego Unified School District Unrestricted Landscape Irrigation," letter to San Diego City Schools, June 24, 1999 (document available on DTSC website).

County, with the exception of the City of Roseville. The Placer County Office of Emergency Services (PCOES) provides emergency planning and response services in conjunction with the City of Roseville Fire Department.

A Hazardous Waste Management Plan (HWMP) was developed in 1988 and adopted in 1989 by Placer County in response to the Tanner Act (AB 2948). The HWMP includes information on current and projected hazardous waste generation in the County, including household hazardous waste; an inventory of contaminated sites and hazardous waste treatment, storage, and disposal (TSD) facilities; and administrative policies and implementation measures. Placer County has determined the amount of waste generated does not justify the need for a TSD facility within the County. As such, hazardous wastes generated by the project would require disposal at TSD facilities outside the County until demand for these facilities exceeds their capacity or until on-site treatment of hazardous waste becomes more cost effective than off-site disposal.[25]

Placer County General Plan

The following goals and policies from the Placer County General Plan are applicable to the proposed project.

Land Use

Policies

1.B.4. The County shall ensure that residential land uses are separated and buffered from such major facilities as landfills, airports, and sewage treatment plants.

The Placer County General Plan has minimum buffer zone width standards for public facilities, including airports, which is summarized in the table below.

MINIMUM PUBLIC FACILITY BUFFER ZONE WIDTH

Type of Public Facility	Minimum Buffer Zone Width (feet) by Land Use Designation			
	Residential	Commercial	Industrial	Recreation
Airport[1]	2,000	1,000[2]	0	0-500[3]

Notes:
1. See also comprehensive land use plan (CLUPs) for airports.
2. Buffer required for non-airport related commercial uses only.
3. No separation necessary for expansive, low-population outdoor recreation facilities such as golf courses; 500 feet for places of public assembly, outside of aircraft overflight areas.

Hazardous Materials

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

Policies

8.G.1. The County shall ensure that the use and disposal of hazardous materials in the County complies with local, state, and federal safety standards.

25 Placer County, *General Plan Update, Draft General Plan Background Report, Volume II*. September 25, 1992.

8.G.2. The County shall discourage the development of residences or schools near known hazardous waste disposal or handling facilities.

8.G.3. The County shall review all proposed development projects that manufacture, use, or transport hazardous materials for compliance with the County's Hazardous Waste Management Plan (CHWMP). Policy Document Health and Safety 135

8.G.4. The County shall ensure that the mining and processing of toxic metals in the County is conducted in compliance with applicable environmental protection standards and minimizes impacts on adjacent lands and the surrounding natural environment.

8.G.5. The County shall strictly regulate the storage of hazardous materials and wastes.

8.G.6. The County shall require secondary containment and periodic examination for all storage of toxic materials.

8.G.7. The County shall ensure that industrial facilities are constructed and operated in accordance with current safety and environmental protection standards.

8.G.8. The County shall require that new industries that store and process hazardous materials provide a buffer zone between the installation and the property boundaries sufficient to protect public safety. The adequacy of the buffer zone shall be determined by the County.

8.G.9. The County shall require that applications for discretionary development projects that will generate hazardous wastes or utilize hazardous materials include detailed information on hazardous waste reduction, recycling, and storage.

8.G.10. The County shall require that any business that handles a hazardous material prepare a plan for emergency response to a release or threatened release of a hazardous material.

8.G.11. The County shall encourage the State Department of Health Services and the California Highway Patrol to review permits for radioactive materials on a regular basis and to promulgate and enforce public safety standards for the use of these materials, including the placarding of transport vehicles.

8.G.12. The County shall identify sites that are in appropriate for hazardous material storage, maintenance, use, and disposal facilities due to potential impacts on adjacent land uses and the surrounding natural environment.

8.G.13. The County shall work with local fire protection and other agencies to ensure an adequate Countywide response capability to hazardous materials emergencies.

Fire Hazards

Goal 8.C To minimize the risk of loss of life, injury, and damage to property and watershed resources resulting from unwanted fires.

Policies

8.C.1. The County shall ensure that development in high-fire-hazard areas is designed and constructed in a manner that minimizes the risk from fire hazards and meets all applicable state and County fire standards.

8.C.2. The County shall require that discretionary permits for new development in fire hazard areas be conditioned to include requirements for fire-resistant vegetation, cleared fire breaks, or a longterm comprehensive fuel management program. Fire hazard reduction

measures shall be incorporated into the design of development projects in fire hazard areas.

8.C.3. The County shall require that new development meets state, County, and local fire district standards for fire protection.

8.C.4. The County shall refer development proposals in the unincorporated County to the appropriate local fire agencies for review for compliance with fire safety standards. If dual responsibility exists, then both agencies shall review and comment relative to their area of responsibility. If standards are different or conflicting, the more stringent standards shall be applied.

8.C.5. The County shall ensure that existing and new buildings of public assembly incorporate adequate fire protection measures to reduce the potential loss of life and property in accordance with state and local codes and ordinances.

8.C.6. The County shall encourage fire protection agencies to continue education programs in schools, service clubs, organized groups, industry, utility companies, government agencies, press, radio, and television in order to increase public awareness of fire hazards within the County.

8.C.7. The County shall work with local fire protection agencies, the California Department of Forestry and Fire Protection, and the U.S. Forest Service to promote the maintenance of existing fuel breaks and emergency access routes for effective fire suppression.

8.C.8. The County shall encourage and promote installation and maintenance of smoke detectors in existing residences and commercial facilities that were constructed prior to the requirement for their installation.

8.C.9. The County shall work with local fire agencies to develop high-visibility fire prevention programs, including those offering voluntary home inspections and promoting awareness of home fire prevention measures.

8.C.10. The County shall continue to implement state fire safety standards through enforcement of the applicable standards contained in the Placer County Land Development Manual.

8.C.11. The County shall continue to work cooperatively with the California Department of Forestry and Fire Protection and local fire protection agencies in managing wildland fire hazards.

8.C.12. The County shall support annexations and consolidations of fire districts and services to improve service delivery to the public.

Placer County Code

The following standards applicable to agricultural and private use airstrips can be found in Chapter 17 of the Placer County Code. These standards are in addition to all applicable standards and requirements of the FAA and Caltrans Division of Aeronautics.

17.56.040 Airfields and heliports

C. Location Criteria

1. Agricultural or Personal Use Facility. Agricultural or personal use facilities shall be located only within an agricultural or open space zone, no closer than two thousand five hundred (2,500) feet to any urban area shown on the Placer County zoning maps.

IMPACTS AND MITIGATION MEASURES

Methods of Analysis

Historic and Current Hazardous Materials Use

For purposes of this analysis, the typical use of hazardous materials and their effects were qualitatively assessed through review and evaluation of available documents that identified potential contaminants and hazardous materials users within the project vicinity. Specifically, Phase 1 ESAs for the project site and off-site improvement areas were reviewed to qualitatively assess the potential for hazardous materials to be encountered in soil or groundwater during site preparation. Operational characteristics of the PGWWTP and planned Roseville Energy Park were obtained from public documents to qualitatively determine the potential for hazardous emissions from these facilities to affect project occupants. Sources of information are referenced in the footnotes throughout this section.

The potential for airborne releases of toxic air contaminants or odors from adjacent industrial facilities are discussed in Section 4.4, Air Quality.

The proposed project includes a school site. However, the site is not within one-quarter mile of any facility, including the University campus, that would emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste. This impact is not further evaluated in the EIR.

Electromagnetic Fields

One source of EMF is high-voltage power lines that pass through the Watt Avenue extension site. No development, other than roadway improvements, are proposed for this corridor. The planned Roseville Energy Park adjacent to Phillip Road would be a source of EMF with the installation of 60-kV lines and switchyard. That project incorporates field strength-reducing measures currently required by the CPUC. Other than utility installations along Phillip Road, no other project-related development is proposed in the vicinity of the Roseville Energy Park. Therefore, there would be no public hazard associated with EMF, and this topic is not further evaluated.

Standards of Significance

Under criteria based on State CEQA Guidelines, for the purposes of this EIR, impacts would be considered significant if the proposed project 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;
- Create a significant hazard to the public or the environment due to past uses on the project site;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan;

- Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands;
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment; or
- For a project located within an airport land use plan, or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area.

Project-Specific Impacts and Mitigation Measures

6.7-1 Construction of the proposed project could involve the use, storage, and transportation of hazardous materials, which could be a safety hazard for people living and working within the Plan Area.

Hazardous materials would be used in varying amounts during construction activities associated with implementation of the proposed project. Construction and maintenance activities would use hazardous materials, such as fuels (gasoline and diesel); oils and lubricants; paints and paint thinners; glues; cleaners (which could include solvents and corrosives in addition to soaps and detergents); and pesticides and herbicides. The RWQCB requires a Spill Prevention Countermeasure and Control (SPCC) plan in the case of a project with larger quantities of petroleum products.

The types and amounts of hazardous materials used during construction activities associated with implementation of the proposed project would vary according to the nature of the activity; therefore, the specific hazardous materials and amounts that would be on site or transported cannot be determined at this time. This impact is considered *potentially significant*.

Mitigation Measure

Implementation of the following mitigation measure would reduce this impact to ***less than significant***.

6.7-1 a) *Comply with all federal, State, and local laws and regulations pertaining to the use, storage, and transportation of hazardous materials during project construction.*

b) *All reserve fuel supplies and hazardous materials must be stored within the confines of a designated construction area.*

c) *Equipment refueling and maintenance must take place only within the staging area.*

d) *Construction vehicles shall be inspected daily for leaks.*

6.7-2 Operation of the University campus and commercial land uses in the Plan Area could involve the use, storage, and transportation of hazardous materials, which could be a safety hazard for people living and working within the Plan Area.

Nearly all of the potential land uses in the proposed project would involve some level of use or storage of hazardous materials. In each case, the potential hazards would depend on the types of materials used, where the materials would be used, how they would be used, and who would use them. Households and certain businesses, such as office-based businesses, would use relatively small quantities of hazardous materials when compared to certain other businesses, such as those engaged in research and development or light manufacturing. Manufacturing, research and development businesses that handle larger quantities of hazardous materials would often use a wider variety of materials, which could include less common materials and acutely hazardous materials. However, businesses that handle larger quantities of hazardous materials and acutely hazardous materials would also be subject to more regulation and oversight than businesses that handle smaller quantities of more common materials. In addition, employees of businesses that handle large quantities of hazardous materials would also typically receive special training (often required by law under OSHA) to help them understand these potential hazards.

Residential and Commercial Hazardous Material Use

Hazardous materials would be handled and stored routinely by households and most businesses within the project area. Typical household hazardous materials would include oils (e.g., motor oil and hydraulic oil), fuels (e.g., gasoline and diesel), paints (both latex and oil-based), solvents (e.g., degreasers, paint thinners, and aerosol propellants), acids and bases (e.g., automobile battery fluids, swimming pool chemicals, and many cleaners), disinfectants, metals (e.g., mercury in thermometers, batteries, and photography chemicals), and pesticides and herbicides.

Commercial businesses would use materials similar to households, and some (e.g., gas stations, dry cleaners, and photoprocessors) would use hazardous materials in larger quantities specifically related to their business activities. For example, supermarkets and gas stations stock hazardous materials for sale to consumers; service stations handle fuel, motor oil, antifreeze, and other fluids; and supermarkets handle automotive fluids, cleaners, pesticides, and batteries. In addition, dry cleaners handle perchloroethylene and photoprocessors handle fixer and developer chemicals.

Although individual households and many businesses use relatively small volumes of hazardous materials, the total volume of the hazardous materials managed by all of the households and businesses in the project area could be substantial, which would increase the opportunities for accidents and improper use, storage, and disposal. However, because many hazardous materials are consumed through their use (e.g., fuel, paint, aerosols), the quantity of hazardous materials handled is generally believed to be substantially greater than the volume of hazardous waste generated. In any case, the Placer County Facility Services has a household hazardous waste collection program that safely collects, transports, and disposes of residual hazardous wastes.

Commercial products are labeled to inform users of potential risks and to instruct users in appropriate handling procedures. Although households are relatively less regulated than businesses, the risks posed by hazardous materials use at project-related residences would be similar to those in similar residential areas already developed in the City of Roseville, adjacent residential areas and western Placer County. Home use of common household hazardous materials is typically considered to pose an acceptable level of risk.

University Campus

Laboratory-based research and development conducted at the proposed University could involve a broad spectrum of activities requiring the use of laboratory bench space, laboratory support space (e.g., tissue culture rooms, media preparation areas, cold rooms, glassware wash areas, and dark rooms), and other ancillary facilities (offices and work stations, storage areas, libraries, and meeting rooms). Typical laboratories contain workbenches, sinks, storage areas, fume hoods, biosafety cabinets, and a wide variety of instruments and equipment. Each instrument is generally associated with one or more basic techniques. Like the appliances in a typical household kitchen, the instruments range in size from as small as a blender to as large as a commercial restaurant refrigerator. The equipment housed in a laboratory depends on the technologies employed and the materials handled. Many laboratories also include space for computers that control instruments or are used to store and analyze data. Most of the work in laboratories is performed at room temperature or body temperature under normal atmospheric pressure. Other types of laboratories could use a greater range (lower and higher) of temperatures and pressures. Standard laboratory techniques include measuring weights and volumes, gently heating and cooling materials, and shaking and stirring solutions. Research and development laboratories typically use relatively small quantities of hazardous materials at any one time.

The quantities of hazardous materials that would be used, stored, and disposed of on the proposed University site cannot be quantified precisely because the specific future University uses are unknown. Even if the uses were known, institutions cannot reasonably be expected to predict in advance every possible chemical or combination of chemicals they could conceivably use. However, compliance with applicable laws and regulations pertaining to the use, storage, and disposal of hazardous materials is assumed. As required by the County's subsequent conformity review process, the applicant for the university would be required to prepare a Campus Master Plan. The County could determine at that time, based on the type and configuration of uses within the Campus portion of the project area, that additional environmental review would be required for any issue associated with the Campus, including but not limited to the generation or handling of hazardous materials.

The proposed project would involve the use of varying amounts and types of hazardous materials in the day-to-day activities and operations of the residential, commercial, and University uses. This would be a *potentially significant impact*.

Mitigation Measure

Implementation of the following mitigation measure would reduce this impact to ***less than significant***.

6.7-2 *The proposed project shall comply with all federal, State, and local laws and regulations pertaining to the use, storage, and transportation of hazardous materials within the University, residential, and commercial land uses.*

6.7-3 In the future, the project site could be included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 or could pose a risk from other hazardous releases and, therefore, may pose a significant hazard to the public or the environment.

The project site and off-site improvement areas are not listed on the list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. As described in the Environmental Setting, Phase 1 ESAs prepared for all locations within the study area indicated there is no obvious evidence of any hazardous materials contamination on or near the project site that would present a substantial risk to the public or the environment as a result of project development. The Phase 1 ESAs did note, however, that stained soil typically associated with old spills, leaking equipment, or improper disposal of petroleum products are present at some locations, along with various kinds of metal and wood debris. The Phase 1 ESAs recommended the debris and stained soils be removed and properly disposed of prior to site development.

As the debris and stained soil is removed, it is possible that soil contamination of a larger extent than identified in the Phase 1 ESA may be discovered. It is also possible that undiscovered contamination from past uses on the site could be encountered during construction. Unless properly identified and managed, the removal of contaminated soil could present a hazard to construction workers and may be inadvertently spread, which could result in more environmental contamination. This is considered a *potentially significant impact*.

Mitigation Measure

Implementation of the following mitigation measure would reduce impacts to a ***less-than-significant level***. This mitigation would ensure any known hazards due to past use of the site are cleaned up prior to site preparation and that if any evidence of soil contamination or other hazards are discovered during construction that appropriate controls are implemented to ensure the risk to people and the environment from hazardous materials or wastes are minimized.

6.7-3 a) *The applicant shall ensure the recommendations for removing all debris and stained soils identified in the existing Phase 1 ESAs prepared for the project site and off-site improvement areas [Wallace-Kuhl Associates, Consolidated Environmental Site Assessment Regional University Specific Plan, November 28, 2006] and any supplements or amendments thereto, are implemented prior to site preparation.*

b) *If, during site preparation, visual or olfactory evidence of contamination is observed when soils are disturbed during construction, the applicant shall ensure the location is investigated and remediated to meet State and County regulations and any required remediation shall be completed prior to resuming construction.*

c) *The applicant shall ensure Grading Notes include standard County provisions for the management of previously unidentified hazardous materials contamination or debris that may be encountered during construction.*

d) *Prior to submittal of a small lot tentative subdivision map or plans for residential or other sensitive development, properties not previously evaluated with a current Phase I Environmental Site Assessment may be required to complete a Phase I Environmental Site Assessment, as determined by Environmental Health Services. A Phase I Environmental Site Assessment shall be conducted by a qualified professional. If past commercial agricultural uses are disclosed that could have resulted in persistent contamination, such as rice fields, soil sampling shall be conducted within former commercial agriculture areas. In these instances, prior to setting conditions for subdivision development, soil investigation shall be conducted according to guidelines developed by the California Department of Toxic Substances*

Control (DTSC) and contained in the DTSC August 2002 "Interim Guidance for Sampling Agricultural Fields for School Sites", or equivalent protocol. Sampling and site investigation shall be conducted by a California registered environmental professional, performed with oversight from Placer County Environmental Health Services, and with applicable permits.

As a result of soil investigation, a limited and confined area of contamination may be identified and found to be suitable for simple removal. If this is the case, remediation will be required to meet State and County regulations and be completed prior to recordation of the final small lot subdivision map or equivalent final Placer County approval for residential projects.

As a result of soil investigation, unconfined and/or widespread residual concentrations of agricultural chemicals may be identified at levels where they individually or in combination meet or exceed US EPA, CalEPA Preliminary Remediation Goals, or equivalent screening levels, thereby indicating the need for risk assessment. Any indicated risk assessment shall be completed prior to improvement plans or equivalent approval. Risk assessments shall include a DTSC Preliminary Endangerment Assessment or no further action determination, or equivalent.

Any remedial action indicated by a risk assessment shall be completed and certified prior to recordation of the small lot tentative subdivision final map or equivalent final Placer County approval. Remediation shall include a DTSC Remedial Action Workplan, or equivalent, and can include a range of activities, including restrictions on use, soil excavation and disposal off-site, or encapsulation in appropriate areas away from sensitive receptors in the Specific Plan area.

6.7-4 Recycled water from the PGWWTP could be used to irrigate publicly accessible areas such as landscaped parks and roadway medians.

Recycled water from the PGWWTP would be conveyed to the project and used for irrigation in parks and for irrigation of landscaping in other places accessed by the public. Individuals using or maintaining the parks and landscaped facilities in areas accessible to the public would come in contact with the water when these features are actively irrigated, from water adhering to grass and other landscaping, or through any remaining water that has not yet infiltrated into the subsurface. Ponding would be minimized by controlling the rates and frequency of application.

The PGWWTP has been designed and operated to produce effluent that meets or exceeds standards consistent with "Disinfected Tertiary Recycled Water" as defined by Title 22 of the California Code of Regulations (Division 4, Chapter 3, Section 60301.230). Water meeting these standards (referred to as "tertiary-2.2 criteria") may be used for unrestricted use, which includes (but is not limited to) body-contact for recreation (swimming), irrigation of food crops, and irrigation of parks, playgrounds, and schoolyards. The DHS considers a properly filtered and disinfected water meeting the tertiary-2.2 standard to be essentially pathogen-free and adequately protective of public health. As the recycled water provider, the City is responsible for ensuring the application sites comply with the siting and use requirements established in Section 60310 of the CCR. The cross-connection requirements would ensure that the recycled water distribution infrastructure in the project site does not enter the potable water distribution system.

Because there is no evidence that use of tertiary-2.2 recycled water would result in any conditions that would unduly expose future project occupants to unmitigated risks, this is considered a ***less-than-significant impact***.

Mitigation Measure

None required.

6.7-5 The project could include development where wildlands are adjacent to urbanized areas, which could present a safety hazard.

Wildland fires can be initiated by natural phenomena, such as lightning, or from extremely dry and hot conditions. However, wildland fires can also be started by human activities, such as smoking, use of flammable fuels, automobiles, and malfunctioning electrical equipment.

The proposed project would construct residences on a large portion of the existing grassland areas, thus reducing on-site natural fuel for fires. However, the areas surrounding the Specific Plan area would remain dry grasslands until those areas are developed. Because the area is located in a potential fire zone and there would be an increase in the population in this area, people and structures could be exposed to a significant risk of loss, injury, or death as a result of wildland fires. This would be a *potentially significant impact*.

Mitigation Measure

Implementation of the following mitigation measures would reduce this impact to ***less than significant***.

6.7-5 a) *The proposed project shall comply with all federal, State, and local laws and regulations pertaining to wildland fires.*

b) *Prior to construction, the County shall review project plans for conformance with the UBC and UFC to reduce risk of fires originating within the County.*

c) *During construction activities, the applicant shall consult with the Placer County Fire Department in order to implement fire prevention measures at sites adjacent to natural areas.*

d) *Construct a fire station as required by Mitigation Measure 6.10-7(a).*

e) *A minimum 10-foot firebreak, which shall be maintained until such time that adjacent properties are developed, shall be required in all areas with wood fences that are adjacent to wild areas.*

6.7-6 The proposed project could be located near a private airstrip and could create a safety hazard for people residing or working within the Plan Area.

A private, non-paved airstrip is located immediately south of the western (University) portion of the project site, approximately 2,700 feet east of Brewer Road. The airstrip runs north/south with the north end of the airstrip located directly adjacent to the RUSP property. The Placer County General Plan includes Public Facility Buffer Zones, which are intended to separate residential, commercial,

and other land uses continuously or frequently occupied by people from areas designated Public Facility, where nuisances and safety hazards, such as the operation of aircraft, would be incompatible with other land uses. The Placer County General Plan identifies the following minimum buffer zone widths between designated land uses and airports:

- Residential — 2,000 feet
- Commercial — 1,000 feet
- Industrial — 0 feet
- Recreation — 0 –500 feet.[26]

Although the private airstrip adjacent to the project site is not designated as a public facility, the operation of the airstrip entails the same or similar potential incompatibilities with proposed project land uses and is treated as a public facility for the purposes of this analysis.

To comply with the General Plan, the Regional University Specific Plan includes a 2,000 foot buffer, measured from the end of the airstrip, for any residential use or structure, occupied office, classroom, administration building, athletic facilities, such as recreation center, stadium, gymnasium, performing arts center, maintenance building or other occupied university building. No buffer is required for maintenance buildings, corporation yards, or expansive, low-population outdoor recreation facilities, such as athletic fields, open space, parks, or parking lots. The buffer would remain in place until such time as the County determines the private airstrip is no longer a legally permissible use on the property or the property owner voluntarily relinquishes any right of use that would result in any overflight of the University portion of the RUSP. With the 2,000-foot buffer, residents or occupants of the Plan Area would not subject to potential hazards from any flights from the airstrip. Because the Specific Plan specifies that no University buildings, residential buildings, recreational facilities, athletic facilities, or other occupied uses would be developed within aviation facility buffer zones without first obtaining County certification that the aviation facilities have been permanently removed from operation, there would be ***no impact*** related to hazards associated with operation of the airstrip.

Mitigation Measure

None required.

6.7-7 The development of the Plan Area could physically interfere with an adopted emergency response plan or emergency evacuation plan.

The proposed project would convert agricultural land to urban uses. Ingress and egress, including new roads and streets within and surrounding the project area would be constructed to Placer County Land Development standards. However, roadway improvements would not result in any changes to existing emergency access, nor would it prevent the implementation of future emergency plans. Such improvements (e.g., Watt Avenue extension) would, in fact, provide additional access, which would be considered a benefit of the proposed project. Therefore, implementation of the project would not interfere with an adopted emergency response plan or emergency evacuation plan, and impacts would be ***less than significant****.*

26 No separation necessary for expansive, low-population outdoor recreation facilities such as golf courses; 500 feet for places of public assembly, outside of aircraft overflight areas.

Mitigation Measure

None required.

6.7-8 The proposed project could include stormwater basins and open channels that could provide breeding opportunities for mosquitoes.

The project site contains small stream channels, canals, and irrigation/tailwater ditches, which could provide some habitat for mosquito populations. The proposed stormwater drainage system would consist of a combination of open space drainageways, retention and detention facilities, and an approximately 20-acre stormwater basin constructed west of Brewer Road. Standing water provides breeding opportunities for mosquitoes, provided temperatures are high enough, there are available nutrients, and if the water were present long enough for mosquitoes to complete their four life stages (egg, larval, pupal, and adult).

Mosquitoes are common in the region. Mosquitoes (vectors) can carry diseases that afflict humans, and they also transmit several diseases and parasites that can affect dogs and horses. These include dog heartworm, West Nile virus, Eastern equine encephalitis, malaria, dengue, and yellow fever, among others. Development of the project would increase the number of people who could be exposed to mosquito populations that could increase through the creation of additional water features, as described above.

As described in the Stormwater Management Plan prepared for the proposed project, the basins would be designed so that standing water would not accumulate within the basins, and complete discharge of the basin treatment volumes would occur within 72-hours of the completion of storm drain discharges. However, if not managed properly, the wetland, park, and open space corridor areas within the Plan Area could have the potential to become locations for mosquito breeding, thus exposing people to diseases transmitted by mosquitoes. This is considered a *potentially significant impact*.

Mitigation Measure

The following mitigation measures and the existing benefit assessment would reduce impacts related to vector control to a ***less-than-significant level***.

6.7-8 a) *During construction, all grading shall be performed in a manner to prevent the occurrence of standing water or other areas suitable for breeding of mosquitoes and other vectors.*

b) *The Placer Mosquito Abatement District shall be granted access to perform vector control in all common areas including drainage, open space corridor and park areas in perpetuity. Such access shall be a condition of approval of all tentative maps approved within the Plan Area.*

c) *Prior to grading, the applicant shall prepare a Preserve Management Plan which shall include information on compatible mosquito and vector control methods that are appropriate for the various habitat types within the natural open space areas.*

Cumulative Impacts and Mitigation Measures

The cumulative context for hazardous materials use and other hazards evaluated in this section is south Placer County.

6.7-9 Cumulative development, including the proposed project, could expose people and the environment to hazards and hazardous materials through reasonable foreseeable upset and accident conditions.

The project, in conjunction with cumulative development in south Placer County, would include areas designated for commercial and research uses. Cumulative development would also include construction and continued operation or development of new light-industrial uses and/or public/quasi-public facilities (e.g., PGWWTP and the Roseville Energy Park). These types of development would increase the use of hazardous materials within the area, resulting in potential health and safety effects related to hazardous materials use. For the most part, potential impacts associated with project development would be confined to the University and commercial areas. Hazardous materials incidents would typically be site-specific and would involve accidental spills or inadvertent releases. Associated health and safety risks would generally be limited to those individuals using the materials or to persons in the immediate vicinity of the materials. Thus, the project's contribution to increased use of hazardous materials, and associated exposure risks, would not be cumulatively considerable. Airborne toxic air contaminant emissions from commercial and University sources are addressed in the cumulative analysis for air quality. Implementation of Mitigation Measures 6.7-1(a) through (d) and 6.7-2 would ensure cumulative impacts related to hazardous materials use would be ***less than significant***.

Mitigation Measure

None required.

6.7-10 Cumulative development, including the proposed project, could expose people to hazards associated with soil or groundwater contamination.

For any projects in south Placer County that would involve development or redevelopment of an existing site in which soil or groundwater contamination may have occurred, the potential exists for release of hazardous materials during construction and/or remediation of those sites. There is also potential for existing wells, if not properly destroyed, to allow surface contamination to reach groundwater. Placer County Environmental Health Services has oversight of these wells and any abandoned wells must be properly destroyed under permit from Environmental Health Services. In addition, the California Department of Water Resources Bulletin 74-90, Section 23, contains standards for the abandonment of water wells no longer in use; those standards would apply to all development in the County, including the proposed project. For individuals not involved in construction activities, the greatest potential source of exposure to contaminants would be airborne emissions, primarily through construction-generated dust. Other potential pathways, such as direct contact with contaminated soils or groundwater, would not pose as great a risk to the public because such exposure scenarios would typically be confined to the construction zones. Moreover, an individual who is near the construction zone of one source would not likely be exposed to maximum levels off-site from another source. Therefore, the cumulative impact would be ***less than significant***.

Mitigation Measure

None required.

6.7-11 The proposed project, in combination with other development in south Placer County, could increase the use of recycled water for irrigation in publicly accessible areas.

As development continues in south Placer County, it is anticipated that new areas accessible to the public (e.g., parks, recreation fields, landscape medians) would continue to be irrigated with recycled water from the wastewater treatments plants (e.g., PGWWTP) as part of the overall water supply strategy for the area. Recycled water used for areas accessible to the public must be treated to adopted standards and applied in accordance with adopted regulations. Development of the project, in combination with development in south Placer County and potential future projects in the region would increase the number of people who could use areas irrigated with recycled water. Recycled water used for irrigation in the Plan Area would be obtained from the same sources, and all treatment methods would continue to comply with adopted standards established by laws and regulations. Although new areas would be irrigated, there would be no direct correlation between the use of recycled water and the number of people working, residing, or visiting areas irrigated with recycled water. Therefore, the project's contribution to impacts associated with the use of recycled water would not be cumulatively considerable. This would be a ***less-than-significant cumulative impact***.

Mitigation Measure

None required.

6.7-12 Cumulative development, including the proposed project, could result in a cumulative increase in the number of people and structures that could be exposed to wildland fire hazards.

Development in south Placer County, including the proposed project, would result in an increase in the number of people and structures that could be exposed to wildland fires where urban land interfaces with rural land. Placer County General Plan policies 8.C.1 through 8.C.10 have been established to provide a safe environment for residents in the County, decrease the risk from fires (including wildland fires), and to provide a level of service sufficient for emergency response times. The County enforces the CBC and UFC through the issuance of building permits and conditions of approval. As stated in Section 6.10, Public Services, the County ensures that fire and emergency services are at levels that can provide sufficient services to reduce the risk of loss, injury, or death from wildland fires. Therefore, the cumulative impact would be ***less than significant***.

Mitigation Measure

None required.

6.7-13 Cumulative development, including the proposed project, could result in a cumulative increase in the number of people and structures that could be exposed to aircraft hazards.

There are several permitted airports, airstrips, and helicopter facilities in the greater Sacramento metropolitan area, which includes south Placer County. With few exceptions, each facility must be

permitted by Caltrans Division of Aeronautics, which enforces and monitors compliance with federal aviation regulations. Any new facility must secure all required land use approvals. Approach and departure paths are established for each facility, and the use of airspace over the greater Sacramento region is governed by federal and State regulations.

Development of the proposed project, in combination with cumulative development, would increase the number of people in the region who could be exposed to aircraft crash hazards on the ground. However, the frequency, location, and severity of aircraft accidents (which are extremely rare) at any one location would be site-specific and would be limited to the immediate vicinity. Therefore, the cumulative impact would be considered a ***less than significant***.

Mitigation Measure

None required.

6.7-14 Cumulative development, including the proposed project, could temporarily affect local roadway emergency access routes during construction activities, but there could be no long-term or permanent changes in emergency routes or access.

Construction-related activities and developments within south Placer County that alter, close, or in other ways affect traffic on area roadways could interfere with emergency response access or response times or affect evacuation routes by lane narrowings to accommodate underground utility installations or roadway improvements (e.g., road widenings). If project restrictions coincide with other closures from adjacent projects, emergency response access or response times could be adversely affected. However, the County requires all project applicants to prepare and implement a Construction Traffic Management Plan for projects that would obstruct vehicle traffic. This would allow the County to manage affected roadways so that effects would not be cumulatively considerable. As noted in Impact 6.7-8, the proposed extension of Watt Avenue would provide new access to the area, which would be considered a benefit of the proposed project. The impact is considered a ***less-than-significant cumulative impact***.

Mitigation Measure

None required.

6.7-15 The proposed project, in combination with other development in south Placer County, could result in an increase in the extent of new or improved stormwater basins that could temporarily store water. The basins could provide breeding opportunities for mosquitoes. Cumulative development could also increase the number of people who could be exposed to mosquito hazards.

Mosquitoes are common in the region. Development of the project, in combination with development in south Placer County and potential future projects in the region would result in the construction of additional stormwater drainage improvements, such as detention or retention basins or improvements to natural waterways to temporarily store stormwater runoff. New areas would be developed in south Placer County, resulting in an increase in the population who could be exposed to mosquito hazards. As discussed in Impact 6.7-9, health and safety risks associated with mosquito breeding would be reduced with the implementation of Mitigation Measures 6.7-9(a) through (c). Further, mosquito abatement services are currently performed routinely by the Placer

Mosquito Abatement District, which would protect the population. This would be ***less-than-significant cumulative impact***.

Mitigation Measure

None required.