

4.6 HAZARDS AND HAZARDOUS MATERIALS

This section addresses the potential presence of hazardous materials and conditions within the Project area and analyzes the potential risk of such materials in proximity to proposed development and human activities. Existing problems related to hazardous materials include potential water and soil contamination, health hazards from existing or historic land uses that utilize or generate these materials, and improper disposal of these materials. The reader is referred to Section 4.2, Air Quality, for information regarding air quality hazards, Section 4.5, Geology and Soils, for geologic and seismic hazards, and Section 4.7, Hydrology and Water Quality, for information regarding impacts associated with water quality and flooding. This section is based on several reports prepared for the Project site and surrounding area.

4.6.1 EXISTING SETTING

HAZARDOUS MATERIALS DEFINED

For the purposes of this EIR, "hazardous material" is defined as provided in California Health & Safety Code, Section 25501:

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 that 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 waste" is a subset of hazardous materials. For the purposes of this EIR, the definition of hazardous waste is essentially the same as that in the California Health & Safety Code, Section 25517, and in the California Code of Regulations (CCR), Title 22, Section 66261.2:

Hazardous wastes are wastes that, because of their quantity, concentration, 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.

CCR Title 22 categorizes hazardous waste into hazard classes according to specific characteristics of ignitability, corrosivity, reactivity, or toxicity. Hazardous waste with any of these characteristics is also known as a Resource Conservation and Recovery Act (RCRA) waste.

Hazardous materials can be categorized as hazardous non-radioactive chemical materials, radioactive materials, toxic materials, and biohazardous materials. The previous definitions are adequate for non-radioactive hazardous chemicals. Radioactive and biohazardous materials are further defined as follows:

- Radioactive materials contain atoms with unstable nuclei that spontaneously emit ionizing radiation to increase their stability.
- Radioactive wastes are radioactive materials that are discarded (including wastes in storage) or abandoned.

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- Toxic wastes are harmful or fatal when ingested or absorbed (e.g., containing mercury, lead). When toxic wastes are land disposed, contaminated liquid may leach from the waste and pollute groundwater.
- Biohazardous materials include materials containing certain infectious agents (microorganisms, bacteria, molds, parasites, and viruses) that cause or significantly contribute to increased human mortality or organisms capable of being communicated by invading and multiplying in body tissues.
- Medical wastes include both biohazardous wastes (byproducts of biohazardous materials) and sharps (devices capable of cutting or piercing, such as hypodermic needles, razor blades, and broken glass) resulting from the diagnosis, treatment, or immunization of human beings, or research pertaining to these activities.

PROJECT SETTING

The Project site encompasses approximately 40.89 acres with two existing medical office buildings and an associated parking lot in the northwest corner of the site. Aside from these structures, the site is undeveloped with vegetation that consists of grass and weeds. Site topography is relatively level with maximum vertical relief across the site that is approximately one to two feet. Site elevation is approximately 33 feet (MSL) based on the USFS Florin, California Quadrangle. Elk Grove Creek is located on the eastern border of the site, Laguna Boulevard and the existing medical office buildings are located to the north, Big Horn Boulevard is located on the western border, and Longleaf Drive is located on the southern boundary.

EXISTING HAZARDOUS MATERIALS CONDITIONS

Project Site

According to information provided by the State of California Hazardous Waste and Substances Site List (EnviroStor), the CAL-SITES (ASPIS) Database compiled by the California Environmental Protection Agency (Cal-EPA), and the County of Sacramento's Department of Environmental Health, the proposed Project site is not identified as a hazardous materials waste site. **Table 4.6-1** identifies hazardous materials sites within the Elk Grove General Plan Planning Area, as indicated by the above sources. This table identifies 43 hazardous materials sites within the City. A recent search of the EnviroStor Database (December 2007) identified that the nearest hazardous materials site to the proposed Project is Tosco #30970 located at 8475 Elk Grove Boulevard, Laguna 99 Cleaners at 8451 Elk Grove Boulevard, and Walt Davis Chevrolet at 9501 Stockton Boulevard. All three sites are located more than 1.5 miles from the Project site.

Hazards Setting

In typical medical and patient care uses, hazardous materials are commonly used during the course of patient care and facility maintenance operations. Clinical laboratories use potentially hazardous chemicals to analyze patient blood and urine samples. Radioactive materials are used to treat certain kinds of cancer. Various patient diagnosis and treatment activities involve potentially biohazardous materials (infectious agents). The use of hazardous materials often results in byproducts that must be handled and disposed of as hazardous wastes.

Hazardous Material Use and Storage

Patient care activities involve relatively small quantities of hazardous materials, primarily in clinical offices, cleaning and sterilizing processes, nuclear medicine, and pharmacies. Types of hazardous materials found in medical facilities include chemotherapy reagents and other pharmaceuticals; chemicals used to sterilize equipment; formaldehyde for specimen preservation; solvents, oxidizers, corrosives, and stains used in clinical laboratories; photographic processing chemicals used in some x-ray equipment; and certain biohazardous toxins used in treatment and processing, as well as several other materials typically used during normal hospital and medical facility operations. Facilities maintenance activities require various common hazardous materials, including cleaners (which may include solvents and corrosives, in addition to soaps and detergents), paint, pesticides and herbicides, fuels (e.g., diesel), and oils and lubricants.

The proposed Project would also use and store radioactive material. These materials are primarily used to treat certain types of cancer. Radioactive materials generally contain radioactive atoms; however, x-ray equipment (which may or may not involve any radioactive substances) is also regulated as radioactive material. When a radioactive atom emits radiation, it eventually becomes non-radioactive. The time it takes for a material to shed approximately one-half of its radioactivity is referred to as the material's half-life. Radioactive materials with half-lives greater than 90 days are considered long-lived radioactive materials, while those with half-lives less than 90 days are considered short-lived radioactive materials. Some long-lived radioactive materials that would be used at the proposed Project (such as those used in x-ray equipment) would be neither purchased nor disposed of routinely but essentially used as a sealed, stationary source of radiation. Both short-lived and long-lived radioactive materials would be used for patient treatment, primarily for the treatment of cancer. For example, Radiation Oncology uses various sources of Cesium 137 in cancer radiation therapy. Cesium 137 has a 30-year half-life and is difficult and expensive to dispose of. Most medical centers retain such long-lived radioactive material for patient treatment. Radioactive waste is held in a lead safe located within a "hot room" until it has decayed to background levels (naturally occurring radiation levels in the environment). A radiation safety officer would manage the waste and determine when it is no longer considered a radioactive hazard.

Heliport

A transport heliport is included in the proposed Project in order to accommodate air carrier operators providing scheduled or unscheduled service with large helicopters. A helicopter helipad is proposed at the eastern edge of the site between the proposed hospital building (Phase III) and the existing bike trail adjacent to Elk Grove Creek. The helicopter landing pad is proposed to be constructed at ground level and would encompass 6,400 square feet. Most modern medical helicopters are powered by turbine engines. Therefore, the proposed transport helicopter would most likely be fueled by Jet-A fuel. Jet-A fuel is a kerosene-based fuel used extensively in nearly all commercial and private jet engines and is listed as a "combustible liquid," as opposed to a "flammable liquid" (OSHA). Combustible liquids are defined as having flash points above 100 degrees Fahrenheit, while flammable liquids (such as gasoline) have flash points below 100 degrees Fahrenheit. Therefore, spilled or released Jet-A fuel is less likely to ignite than gasoline. Jet-A Fuel expels a minimal amount of vapors and therefore does not require the installation of vapor control equipment by the California Air Resources Board. As Jet-A fuel expels less fumes than other fuel types, the potential for flame or explosion from spilled fuel is greatly reduced.

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Hazardous Materials Sites within the City of Elk Grove

The State of California Hazardous Waste and Substances Site List (also known as the "Cortese List") is a planning document used by the state, local agencies, and developers to comply with the California Environmental Quality Act (CEQA) requirements for providing information about the location of hazardous materials sites. Government Code Section 65962.5 requires the California Environmental Protection Agency (Cal EPA) to annually update the Cortese List. The Department of Toxic Substances Control (DTSC) is responsible for preparing a portion of the information that comprises the Cortese List. Other state and local government agencies are required to provide additional hazardous material release information that is part of the complete list. The CAL-SITES Abandoned Site Program Information System (ASPIS) Database is compiled by Cal-EPA to identify and track potential hazardous waste sites. In addition to the Cortese List and CAL-SITES, the County of Sacramento's Department of Environmental Health also maintains lists of hazardous material sites, releases, and accident occurrences. GeoTracker is a geographic information system (GIS) that provides online access to environmental data and is the interface to the Geographic Environmental Information Management System (GEIMS), a data warehouse which tracks regulatory data about underground fuel tanks, fuel pipelines, and public drinking water supplies. Searches of the above resources and records identified 43 hazardous material sites in the vicinity of Elk Grove known to handle and store hazardous materials and are associated with a hazardous material related release or occurrence. The terms "release" or "occurrence" include any means by which a substance could harm the environment: by spilling, leaking, discharging, dumping, injecting, or escaping. **Table 4.6-1** displays the known hazardous material sites in Elk Grove with a description of the hazards provided. No known hazardous sites are associated with the Project site.

**TABLE 4.6-1
KNOWN HAZARDOUS MATERIAL RELEASE SITES IN THE CITY OF ELK GROVE**

Facility Name	Street Number and Name	Case Type	Status Active? Open/Closed
1) Arco #2123	8500 Elk Grove Blvd	Drinking Water Aquifer	Open
2) Arco #5696	9215 Elk Grove-Florin Road	Undetermined	Open
3) Arco #5696	9215 Elk Grove	Soil	Closed - 4/25/96
4) Arco #5752	10466 Grant Line Road	Soil	Closed
5) Baker Wells and Pumps	8460 Elk Grove Blvd	Soil	Closed – 3/19/96
6) Century Equipment	8821 Stockton Blvd	Undetermined	Closed – 7/26/00
7) Circle-K (former)	8949 Elk Grove Blvd	Soil	Closed – 6/3/97
8) Circle-K Ranch	2320 Lambert Road	Drinking Water Aquifer	Open
9) Citizens Communication	9260 E Stockton Blvd	Soil	Closed – 11/1/04
10) Conoco Asphalt Terminal	10090 Waterman Rd	Soil	Closed – 11/12/86
11) Crump Residence	9674 Kent St	Soil	Closed – 3/12/98
12) E & J Market (former SS)	8706 Stockton Blvd	Soil	Closed – 3/19/96
13) Elk Grove Exxon	9603 E Stockton Blvd	Undetermined	Yes

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Facility Name	Street Number and Name	Case Type	Status Active? Open/Closed
14) Elk Grove Milling Inc.	8320 Eschinger Road	Soil	Closed - 10/16/2000
15) Elk Grove Paint and Wallpaper	9097 Elk Grove Blvd	Drinking Water Aquifer	Open
16) Elk Grove Unified School District	8820/8800 Elk Grove Blvd	Soil	Closed – 7/18/96
17) Emerald Lakes Golf Center	10651 East Stockton Boulevard	Drinking Water Aquifer	Open
18) FAA Remote Repeater	Rodgers Road	Soil	Closed - 7/18/1996
19) Ferrell Gas	9765 Dino Drive	Undetermined	Open
20) Flying “V” SS (former)	10473 Stockton Blvd	Drinking Water Aquifer	Closed – 4/15/98
21) Former Elk Grove Ford Facility	9483/9499 East Stockton Boulevard	Soil	Closed - 12/7/2005
22) Georgia Pacific Resins	10399 Stockton Boulevard	Drinking Water Aquifer	Closed
23) Gil’s Garage	10413 Franklin Boulevard	Undetermined	Closed - 3/16/2000
24) Govan Property	10464 Franklin Boulevard	Soil	Closed - 3/19/1996
25) Harcrow Property	9251 Elk Grove Blvd	Soil	Closed - 11/28/1994
26) Horning Property	9020 Elk Grove Blvd	Undetermined	Closed – 11/22/05
27) John Taylor Fertilizers	4707 Twin Cities Rd	Drinking Water Aquifer	Open
28) Kingsford Production Co	10000 Waterman Rd	Soil	Closed – 1/17/96
29) Laguna 99 Cleaners	8451 Elk Grove Blvd	Drinking Water Aquifer	Open
30) Paul Ward’s Texaco (former)	10415 Wilton Road	Soil	Closed - 7/10/1997
31) RCCC-Sheriff’s Station	12500 Bruceville Road	Drinking Water Well	Closed - 6/24/1998
32) Residence	9800 Waterman	Soil/Drinking Water Aquifer	Closed – 4/25/03
33) Rooney Ranch	7303 Sloughhouse Road	Soil	Closed - 6/21/2000
34) Shell Service Station	8607 Elk Grove Blvd	Groundwater	Closed – 10-24-04
35) Shell Service Station	9100 Harbour Point Dr	Drinking Water Aquifer	Open
36) Shell SS	8901 Elk Grove Blvd	Other Groundwater (not used for drinking water)	Closed
37) Tosco #30970	8475 Elk Grove Blvd	Soil	Closed – 6/3/99
38) Transcon Lines	10401 Grant Line Rd	Soil	Open
39) Transcon Lines Facility	10401 Grant Line Rd	Undetermined	Open

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Facility Name	Street Number and Name	Case Type	Status Active? Open/Closed
40) Unocal #4829	8999 Elk Grove Blvd	Soil	Closed – 3/18/99
41) Walt Davis Chevy	9501 Stockton Blvd	Soil	Closed – 11/1/89
42) Wastewater Treatment Plant	8521 Laguna Station Road	Soil	Closed – 2/19-86
43) World Asphalt	10144 Waterman Rd	Undetermined	Open

Source: CalEPA, Geotracker, 2007

In addition to the sites listed in **Table 4.6-1**, the abandoned Sonada Nursery, which was located on the northern and southern sides of Bond Road and east of Bradshaw Road, used underground storage tanks (USTs) for its operations. Anderson Geotechnical Consulting conducted a Preliminary Site Assessment (PSA) for the Sonada site in October 1989. According to the PSA, a review of the file at the Sacramento County Health Department revealed that four USTs were installed in 1975. The 1,000-gallon fuel tank was removed in August 1988 with no sign of contamination being detected by the county inspector after removal of the tank. The Sonada property was not on the Cortese List, on the National Priority List (NPL), or in the CERCLIS database. Additionally, the Sonada site was not included on the Abandoned Site Program Information System, which is used by the DTSC to identify sites that may have been contaminated with hazardous materials.

TRANSPORTATION OF HAZARDOUS MATERIALS

The transportation of hazardous materials within the City of Elk Grove Planning Area is subject to various federal, state, and local regulations. The only roadway and transportation route approved for the transportation of explosives, poisonous inhalation hazards, and radioactive materials in the City of Elk Grove Planning Area is Interstate 5. According to the Elk Grove Police Department, it would not be possible to identify the roads that could be used for local delivery, since any delivery of swimming pool chlorine would be considered transportation of an inhalant hazard. It is likely that the majority of such deliveries would be to industrial areas concentrated along Grant Line Road and SR 99. The following provisions are included in the California Vehicle Code (CVC) and pertain to the transportation of hazardous related materials.

- The Highway Patrol designates the routes in California which are to be used for the transportation of explosives. (Section 31616)
- The CVC applies when the explosives are transported as a delivery service for hire or in quantities in excess of 1,000 pounds. The transportation of explosives in quantities of 1,000 pounds or less, or other than on a public highway, is subject to the California Health and Safety Code. (Section 31601(a))
- It is illegal to transport explosives or inhalation hazards on any public highway not designated for that purpose, unless the use of the highway is required to permit delivery of, or the loading of, such materials. (Section 31602(b) and Section 32104(a))
- When transporting explosives through or into a city for which a route has not been designated by the Highway Patrol, drivers must follow routes as may be prescribed or established by local authorities. (Section 31614(a))

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- Inhalation hazards and poison gases are subject to additional safeguards. These materials are highly toxic, spread rapidly, and require rapid and widespread evacuation if there is loss of containment or a fire. The Highway Patrol designates through routes to be used for the transportation of inhalation hazards. It may also designate separate through routes for the transportation of inhalation hazards composed of any chemical rocket propellant. (Section 32100 and Section 32102(b))

In addition to area roadways, hazardous materials are routinely transported on existing railroad facilities that pass through both the existing city limits and the City of Elk Grove Planning Area. The Union Pacific Railroad (UPRR) is within the existing city limits, aligns diagonally north to south, and is located east of SR 99. The Central California Traction Railroad (CCTRR) aligns north to south near the eastern portion of the City of Elk Grove Planning Area and is also located within the existing city limits (City of Elk Grove, 2003). The UPRR tracks are located approximately 1.8 miles east of the Project site and the CCTRR tracks are approximately 2.9 miles west of the Project site.

Major Hazardous Material Handling Facilities in the City of Elk Grove

There are two major industrial facilities that potentially pose off-site safety hazards within the City: the Suburban Propane facility, which is located at 10450 Grant Line Road, and the Georgia Pacific Resins facility, which is located at 10399 East Stockton Boulevard. Both facilities are within the Elk Grove city limits. Existing land uses within a one-half mile radius of these facilities consist of light and heavy industrial, office, commercial, residential, and agricultural. Several studies have been conducted to determine the site-specific risks of these two facilities and evaluate the consequences that could be attributed to these facilities (City of Elk Grove General Plan EIR, 2003, page 4.4-6). These studies analyzed the hazard types, incidence scenarios, worst-case effects and the extent of those effects, specific conditions associated with worst-case effects, and approximate probabilities associated with each scenario. Off-site hazards to human health and property associated with potential incidents at Suburban Propane and Georgia Pacific facility identified in these reports include the following:

- **Vapor cloud explosion** from a release at Suburban Propane can generate an overpressure.¹ A 1.0 pound per square inch gauge (psig) overpressure is not high enough to cause a fatality directly. However, it is high enough to cause a person to be knocked to the ground and be injured. In addition, a 1.0 psig can damage structures.
- **Radiant heat** of 200 kilojoules per square meter (kJ/m²) can result in second-degree skin burns. This dose can result from exposing a person to 5 kilowatts per square meter (kW/m²) for 40 seconds or 10 kW/m² for 20 seconds.
- **Flash fire.** The lower flammable limit (LFL) defines the boundary of the flammable cloud. Persons outside the cloud are not harmed by the flash fire that heads back to the source if the cloud ignites. Persons inside the cloud can be burned or killed.
- **Shrapnel.** The danger to a person or property from shrapnel is one of being hit. The probabilities are extremely low in all cases since only a small number of shrapnel pieces are generated per failure.

¹ Overpressure is defined as a transient air pressure, such as the shock wave from an explosion, that is greater than the surrounding atmospheric pressure (thefreedictionary.com).

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- **Formaldehyde exposure.** The most serious hazard associated with the exposure to formaldehyde vapor evolving from a spill of formalin is prolonged exposure (up to 60 minutes) to concentration levels at or above 25 parts per million (ppm). This results in a toxic dose of 1,500 ppm-min (25 ppm x 60 minutes). However, exposure of this magnitude will not cause a person to experience or develop life-threatening health effects.

The Project site is located approximately 3.6 miles northwest of the Georgia Pacific Resins facility and 3.9 miles northwest of the Suburban Propane facility. This mileage represents a significant distance between the Project site and the two facilities. Therefore, the off-site hazards to human health and property associated with incident at the Suburban Propane and Georgia Pacific facilities identified above would not impact the proposed Project.

AIRPORT OPERATIONS HAZARDS

Airport operations are regulated by the Federal Aviation Administration (FAA) and the local Airport Land Use Commission (ALUC). The Sacramento Area Council of Governments (SACOG) acts as the ALUC for this area. The FAA provides leadership in planning and developing a safe and efficient national airport system to satisfy the needs of aviation interests of the United States, with due consideration for economics, environmental compatibility, local proprietary rights, and safeguarding the public investment. Federal Regulation 49 CFR Part 77 establishes standards and notification requirements for objects affecting navigable airspace. This notification serves as the basis for evaluating the effect of construction or alteration on operating procedures and determining the potential hazardous effect of the proposed construction on air navigation. Comprehensive Land Use Plans (CLUPs) regulate land use in three major areas: Safety Zones, Noise Zones, and Height Restrictions.

State Airport Land Use Commission law (Public Utilities Code Chapter 4, Article 3.5) requires a jurisdiction to either amend its general plan and other land use regulations to achieve consistency with airport CLUPs adopted by an ALUC, or to overrule any portion of a CLUP with which it does not agree. The overruling must be made after a public hearing and must be based on specific findings that the proposed actions are consistent with the purposes of the ALUC law.

Any project that requires an entitlement and falls within an airport noise or safety zone will be subject to Airport Land Use Policies. Some entitlements, such as setback variances, are unrelated to the density or intensity of the proposed use. Only where the intent of the ALUC policies is violated, such as a request for use densities greater than the zoning entitlement, would the ALUC policies be invoked to deny the project.

The Elk Grove Airport/Sunset Sky ranch, located at 9925 Grant Line Road, is approximately four miles southeast of the Project site. Airport-related hazards are generally associated with aircraft accidents, particularly during takeoffs and landings. Also, included are potential airport operation hazards associated with incompatible land uses, such as power transmission lines, wildlife hazards (e.g., bird strikes), or tall structures in the vicinity of an airport. The proposed Project is outside of the Sunset Sky ranch Airport Safety Zones and height restricting imaginary surfaces depicted in the Sunset Sky ranch Airport CLUP amended December 1992.

GEOTECHNICAL HAZARDS

The majority of the City of Elk Grove Planning Area is located on the San Joaquin soil type. The United States Department of Agriculture, Soil Conservation Service has classified these soils as moderately well drained and as moderately deep over a cemented hardpan. This base geologic condition does not lend to structural failures such as sinkholes. Since these soils are

located at shallow depths, they are conducive to urban development. Properly designed foundations, buildings, and roads can help to prevent potential damage caused by the high shrink-swell potential and low subsoil strength.

The Geotechnical Investigation conducted by Kleinfelder (2008) states that the site is underlain entirely by the Lower Member of the Riverbank Formation, which is a soil consisting of gravel, sand, and silt. The Geotechnical Investigation further identified near-surface, clay soils located across a majority of the site and extending to depths of approximately 2 to 4 feet below existing site grade which appear to have a low to moderate expansion potential. The underlying materials below 4 feet appear to have low expansion potential. This conclusion is consistent with the United States Department of Agriculture, Soil Survey of Sacramento County, California, which states that the site is located in an area with a moderate to severe shrink-swell potential. The reader is referred to Section 4.5, Geology and Soils, for a complete discussion on expansive soils.

4.6.2 REGULATORY FRAMEWORK

FEDERAL

Environmental Protection Agency

The EPA provides leadership in the nation's environmental science, research, education, and assessment efforts. The EPA works closely with other federal agencies, state and local governments, and Native Americans to develop and enforce regulations under existing environmental laws. The EPA is responsible for researching and setting national standards for a variety of environmental programs and delegates to states and tribes responsibility for issuing permits and monitoring and enforcing compliance.

Other Federal Agencies

Other federal agencies that regulate hazardous materials include the Occupational Safety and Health Administration (OSHA), the Department of Transportation (DOT), and the National Institute of Health (NIH). The following federal laws and guidelines govern hazardous materials.

- Federal Water Pollution Control
- Clean Air Act
- Occupational Safety and Health Act
- Federal Insecticide, Fungicide, and Rodenticide Act
- Comprehensive Environmental Response, Compensation, and Liability Act
- Guidelines for Carcinogens and Biohazards
- Superfund Amendments and Reauthorization Act Title III
- Resource Conservation and Recovery Act
- Safe Drinking Water Act
- Toxic Substances Control Act

Table 4.6-2 lists federal, state, and local regulatory agencies that oversee hazardous materials handling and hazardous waste management and the statutes and regulations that they administer.

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TABLE 4.6-2
SUMMARY OF HAZARDOUS MATERIALS REGULATORY AUTHORITY

Regulatory Agency	Authority
Federal Agencies	
Department of Transportation (DOT)	Hazardous Materials Transport Act - Code of Federal Regulations (CFR) 49
Environmental Protection Agency (EPA)	Federal Water Pollution Control Act Clean Air Act Resource Conservation and Recovery Act (RCRA) Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Superfund Amendments and Reauthorization Act (SARA) Federal Insecticide, Fungicide and Rodenticide Act
Occupational Safety and Health Administration (OSHA)	Occupational Safety and Health Act and CFR 29
State Agencies	
Department of Toxic Substances Control (DTSC)	California Code of Regulations
Department of Industrial Relations (CAL-OSHA)	California Occupational Safety and Health Act, CCR Title 8
State Water Resources Control Board and Regional Water Quality Control Board	Porter-Cologne Water Quality Act Underground Storage Tank Law
Health and Welfare Agency	Safe Drinking Water and Toxic Enforcement Act
Air Resources Board and Air Pollution Control District	Air Resources Act
Office of Emergency Services	Hazardous Materials Release Response Plans/Inventory Law
Department of Food and Agriculture	Food and Agriculture Code
State Fire Marshall	Uniform Fire Code, CR Title 19

Source: Elk Grove General Plan Draft EIR, 2003

Prior to August 1992, the principal agency at the federal level regulating the generation, transport, and disposal of hazardous waste was the EPA under the authority of the Resource Conservation and Recovery Act (RCRA). As of August 1, 1992, however, the California Department of Toxic Substance Control (DTSC) was authorized to implement the state's hazardous waste management program for the EPA. The federal EPA continues to regulate hazardous substances under the Comprehensive Response Compensation and Liability Act (CERCLA).

Federal Aviation Administration

The mission of the Federal Aviation Administration (FAA) organization is to provide leadership in planning and developing a safe and efficient national airport system to satisfy the needs of aviation interests of the United States, with due consideration for economics, environmental compatibility, local proprietary rights, and safeguarding the public investment. Federal Regulation 49 CFR Part 77 establishes standards and notification requirements for objects affecting navigable airspace. This notification serves as the basis for:

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- Evaluating the effect of the proposed construction or alteration on operating procedures,
- Determining the potential hazardous effect of the proposed construction on air navigation,
- Identifying mitigating measures to enhance safe air navigation, and
- Charting of new objects.

FAA FAR Part 77 includes the establishment of imaginary surfaces around public use airports and runways, which establish heights above which a structure may pose a risk to aircraft in flight. These imaginary surfaces are generally described as follows:

- Primary – Aligned (longitudinally) with each runway and extending 200 feet from each runway end.
- Approach – Longitudinally centered with the runway and extending beyond the primary surface, rising at an angle commensurate with approaching aircraft.
- Horizontal – Horizontal plane 150 feet above the established airport elevation. Constructed by swinging arcs around the end of the primary surface at either 5,000 feet or 10,000 feet from the runway according to the approach types used at that airport.
- Conical – 20:1 slope surface extending beyond the horizontal surface out an additional 4,000 horizontal feet from the horizontal surface.
- Transitional – Constructed to join approach and horizontal or approach and transitional surfaces.

FAR Part 77 notification allows the FAA to identify potential aeronautical hazards in advance, thus preventing or minimizing the adverse impacts to the safe and efficient use of navigable airspace. The regulations identify three-dimensional imaginary surfaces on and around airports through which no object should penetrate. While development of the proposed Project is subject to the requirements of FAR Part 77, the Project site is located well outside the imaginary surfaces of the airport, as shown on the Elk Grove Airport/Sunset Sky ranch CLUP.

Federal Aviation Regulation (FAR) Part 77 (Objects Affecting Navigable Airspace) considers the potential hazards generated by obstructions to the navigable airspace. Section 77.23 (Standards for Determining Obstructions) specifies, "An existing object, including a mobile object, is, and a future object would be, an obstruction to air navigation if it is of greater height than...the surface of a takeoff and landing area of an airport or any imaginary surface established under §77.25, §77.28, or §77.29." Section 77.29 (Airport Imaginary Surfaces for Heliports) establishes this "imaginary surface" as (a) a primary surface defined as the designated takeoff and landing area of a heliport; (b) an approach surface that begins at each end of the primary surface and extends outward and upward for 4,000 feet, extending at a 8:1, and (c) a transitional surface that extends outward and upward from the primary surface and from the approach surfaces at a slope of two to one for a distance of 250 feet. An object that would be constructed or altered within the imaginary surface of the heliport would be potentially subject to the FAA requirements for public noticing and aeronautical studies.

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State and Federal Heliport Regulations

The California Department of Transportation (Caltrans) Division of Aeronautics regulates the location and operation of heliports in the State. Caltrans' policies are based on the State Aeronautical Act, Public Utilities Code Sections 21001 et seq. In accordance with the State Aeronautics Act, the California Code of Regulations Title 21, Sections 3525 through 3560 (Airports and Heliports) specifies regulations pertaining to heliports in the state. Section 3530 (Permit Requirements) states that a permit is required to operate a heliport, unless otherwise exempted. Section 3533 (Exemptions) specifies that a heliport used for emergency medical services (EMS) landing sites, which are defined as sites that are used for no more than six landings per month with patients on the helicopter and used only for emergency medical purposes, are exempt from permitting requirements. The intent of the EMS landing site designation is to allow small medical facilities to accept an occasional emergency patient or transfer a patient to a higher care level hospital. Hospital helicopters intended for regular medical helicopter operations should have a state permit.

Unless a heliport is deemed exempt from state permit requirements, it is required to adhere to the heliport design standards specified in 21 CCR 3550 to 3554. These design standards are based on the FAA Advisory Circular (AC) No. 150/5390-2B, *Heliport Design*, which provides recommendations for heliport design and describes acceptable requirements to develop a heliport. The FAA has also issued AC No. 91-32B, *Safety In and Around Helicopters*, which provides safety guidelines aimed at avoiding hazards and reducing the risk of helicopter-related accidents.

STATE

Medical Waste Management Act

The Medical Waste Management Act (MWMA), Sections 117600-118360 of the California Health and Safety Code (HSC), considers any person whose act or process produces medical waste to be a medical waste generator in California (e.g., a facility or business that generates and/or stores medical waste on-site). According to Section 117690 of the MWMA, medical waste is defined as waste that is generated or produced as a result of certain actions, including the diagnosis, treatment, or immunizations of human beings; research pertaining to the diagnosis, treatment, or immunizations of human beings; the production or testing of biologicals;² and removal of a regulated waste from a trauma scene or by a trauma scene waste management practitioner. Medical wastes are categorized by the MWMA as either biohazardous waste or sharps waste. The types of facilities that generate medical waste include medical and dental offices, clinics, hospitals, surgery centers, laboratories, research laboratories, education and research facilities, and trauma scene waste management practitioners.

In accordance with HSC Section 117935 and 117960, small or large quantity generators who are required to register with an enforcement agency pursuant to HSC Section 117930 or 1174950, respectively, shall file a Medical Waste Management Plan with the City of Elk Grove.

For a facility that generates medical waste, a typical inspection focuses on five areas:

² "Biologicals" refer to medicinal preparations composed of living organisms and their products, including, but not limited to, serums, vaccines, antigens, and anti-toxins.

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- Site inspection - A walk-through of the facility to observe the areas where medical waste is generated and managed, the management of any hazardous waste generated at the facility, management standards, and the Current Unified Facility Permit.
- Employee Training Program Documentation - An inspection of the facility's written records for compliance with training in hazardous waste management.
- Medical Waste Management Plan or equivalent - Review of the document that identifies the wastes generated at the facility and how they are managed.
- Disposal Documentation - Review of documentation for disposal of medical wastes, uniform hazardous waste manifests, and receipts documenting proper disposal of hazardous waste.
- Onsite treatment documentation - For facilities that treat medical waste onsite, review records, including the following: written operating procedure; annual thermometer calibration; monthly spore testing; autoclave logs with records of time, pressure, temperature, type, and quantity of the wastes treated; and an Onsite Treatment Permit for large quantity generators that treat medical wastes onsite.

The MWMA considers trauma waste as medical waste. Individuals and companies in the business of cleaning trauma scenes are required to register with the State of California Medical Waste Management Program. Registered Trauma Scene Waste Practitioners are legally responsible for the handling of medical waste that is generated as a result of a trauma scene.

California Environmental Protection Agency

The Cal-EPA and the State Water Resources Control Board establish rules governing the use of hazardous materials and the management of hazardous waste. Applicable state and local laws include the following:

- Public Safety/Fire Regulations/Building Codes
- Hazardous Waste Control Law
- Hazardous Substances Information and Training Act
- Air Toxics Hot Spots and Emissions Inventory Law
- Underground Storage of Hazardous Substances Act
- Porter-Cologne Water Quality Control Act

Department of Toxic Substances Control

Within Cal-EPA, DTSC has primary regulatory responsibility, with delegation of enforcement to local jurisdictions that enter into agreements with the state agency, for the management of hazardous materials and the generation, transport and disposal of hazardous waste under the authority of the Hazardous Waste Control Law (HWCL).

California Highway Patrol

A valid Hazardous Materials Transportation License, issued by the California Highway Patrol (CHP), is required by the laws and regulations of the State of California Vehicle Code Section 3200.5 for transportation of either:

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- Hazardous materials shipments for which the display of placards is required by state regulations; or
- Hazardous materials shipments of more than 500 pounds, which would require placards if shipping in greater amounts in the same manner.

Additional requirements on the transportation of explosives, inhalation hazards, and radioactive materials are enforced by CHP under the authority of the State Vehicle Code. Transportation of explosives generally requires consistency with additional rules and regulations for routing, safe stopping distances, and inspection stops (Title 14, California Code of Regulations, Chapter 6, Article 1, Sections 1150–1152.10). Inhalation hazards face similarly more restrictive rules and regulations (Title 13, California Code of Regulations, Chapter 6, Article 2.5, Sections 1157–1157.8). Radioactive materials are strictly restricted to specific safe routes for transportation of such materials.

California Division of Aeronautics

The California Division of Aeronautics fosters and promotes the development of a safe, efficient, dependable, and environmentally compatible air transportation system. The Division issues permits for and annually inspects hospital heliports and public use airports, makes recommendations regarding proposed school sites within two miles of an airport runway, and authorizes helicopter landing sites at or near schools. Aviation system planning provides for the integration of aviation into transportation system planning on a regional, statewide, and national basis. The Division of Aeronautics administers noise regulation and land use planning laws that foster compatible land use around airports and encourages environmental mitigation measures to lessen noise, air pollution, and other impacts caused by aviation. The division prohibits the construction of any structure that would penetrate an imaginary surface, unless the state Division of Aeronautics has first issued a permit allowing its construction.

Developed by the Division of Aeronautics, the California Airport Land Use Planning Handbook guides land use planning within the vicinity of public use airports in the state. When an EIR is prepared for a project within two miles of a public use airport, Public Resources Code Section 21096(a) requires that the California Airport Land Use Planning Handbook be utilized to guide the analysis.

LOCAL

Comprehensive Land Use Plans

According to the requirements of the California Division of Aeronautics, Airport Comprehensive Land Use Plans (CLUPs) are prepared by the local ALUC. SACOG, representing Sacramento, Sutter, Yolo, and Yuba counties, serves as the ALUC for airports in Sacramento County. SACOG serves as an advisory agency to local government on matters of inter-jurisdictional concern and has developed a comprehensive planning program in the areas of transportation, air quality, and airport land use. CLUPs are prepared by the ALUC under the authority of the Airport Land Use Commission Law, Chapter 4, Article 3.5 of the California Public Utilities Code. The purpose of the ALUC is to protect public health, safety, and welfare through the adoption of land use standards, prevent the encroachment of incompatible land uses around public use airports, ensure that no structures affect navigable airspace, and preserve the utility of these airports in the future. A CLUP has been prepared and adopted by the ALUC for the Elk Grove Airport/Sunset Sky ranch, providing key guidance for land use and development within the vicinity of the airport in the areas of noise, safety, and height restrictions.

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Elk Grove Community Services District Fire Department

The Elk Grove Community Services District (EGCSD) Fire Department Master Plan includes a management and response plan in addition to identification of service level goals. The plan examines future growth in the service area boundaries and identifies manpower, facilities, and equipment needed to meet established goals. The EGCSD Fire Department relies on a Fire Development Fee program to fund departmental needs.

City of Elk Grove General Plan

The General Plan identifies specific policies regarding hazardous materials and risk of upset. See **Table 4.6-3** below for applicable policies and an evaluation of the consistency of the proposed Project with those policies. While this DEIR analyzes the Project's consistency with the General Plan pursuant to CEQA Guidelines 15125(d), the final authority for interpretation of these policy statements, and determination of the Project's General Plan consistency, rests with the Elk Grove Planning Commission.

**TABLE 4.6-3
PROJECT CONSISTENCY WITH THE GENERAL PLAN HAZARDOUS MATERIALS AND RISK OF UPSET POLICIES**

General Plan Policies	Consistency with General Plan	Analysis
<p>Policy SA-1: The City will seek to maintain acceptable levels of risk of injury, death, and property damage resulting from reasonably foreseeable safety hazards in Elk Grove.</p>	Yes	The proposed Project does not incorporate land uses that would use or store considerable amounts of hazardous materials such as fuels, oils, solvents, and other materials on-site that would pose a risk to users of the site or surrounding properties.
<p>Policy SA-2: In considering the potential impact of hazardous facilities on the public and/or adjacent or nearby properties, the City shall consider the hazards posed by reasonably foreseeable events. Evaluation of such hazards shall address the potential for events at facilities to create hazardous physical effects at offsite locations that could result in death, significant injury, or significant property damage. The potential hazardous physical effects of an event need not be considered if the occurrence of an event is not reasonably foreseeable as defined in Policy SA-3. Absent substantial evidence to the contrary, a "hazardous physical effect" from an event shall be a level of exposure to a hazardous physical effect in excess of the levels identified in Policy SA-4.</p>	Yes	The proposed Project is not in the vicinity of either Suburban Propane or Georgia Pacific, both of which have been identified in the General Plan EIR as major hazardous material handling facilities in the City of Elk Grove. Furthermore, the proposed Project is located more than 1.5 miles from the three nearest hazardous material sites: Tosco #30970, located at 8475 Elk Grove Boulevard; Laguna 99 Cleaners, located at 8451 Elk Grove Boulevard; and Walt Davis Chevrolet, located at 9501 Stockton Boulevard.
<p>Policy SA-3: For the purpose of implementing Policy SA-2, the City considers an event to be "reasonably foreseeable" when the probability of the event occurring is greater than one in one million per year.</p>	Yes	According to the Elk Grove General Plan EIR, 2003, there are three offsite hazards associated with the Suburban Propane facility following a successful intentional act which have a probability greater than one chance in 1,000,000 a year: simultaneous catastrophic failure of four 60,000-gallon propane tanks; catastrophic failure of one 33,000-gallon propane railcar; and major

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General Plan Policies	Consistency with General Plan	Analysis
		<p>failure of both 12,000,000-gallon refrigerated storage tanks. The offsite hazards associated with these events would be largely contained in the surrounding industrial area and would not be expected to impact existing or planned areas, including the Project site that would contain large population areas set forth under the proposed General Plan.</p> <p>The probability of a release from either the Suburban Propane facility or the Georgia Pacific Resins facility ranges from one chance in 2,100,000 to one chance in 31,800,000 for an intentional act. The probability grows even more unlikely for an accidental incident, ranging from one chance in 2,800,000 to one chance in 104,000,000. As a result, the potential for exposure of uses on the Project site to hazardous physical effects from identified hazards is statistically very low.</p> <p>The proposed Project does not propose uses that would store or use large amounts of hazardous materials. Furthermore, nearby uses will not be subject to hazards resulting from the proposed Project.</p>
<p>Policy SA-4: The Maximum Acceptable Exposure standards shown in Table SA-A shall be used in determining the appropriateness of either:</p> <ol style="list-style-type: none"> (1) Placing a use near an existing hazardous facility which could expose the new use to hazardous physical effects, or (2) Siting a hazardous facility that could expose other nearby uses to hazardous physical effects. <p>Absent substantial evidence to the contrary, the placement of land uses which do not meet the Maximum Acceptable Exposure standards shall be considered to result in a significant, adverse impact for the purposes of CEQA analysis.</p>	Yes	The proposed Project is within acceptable levels of exposure criteria shown in Table SA-A. Refer to the analysis under Policy SA-3, above.
<p>Policy SA-8: Storage of hazardous materials and waste shall be strictly regulated, consistent with state and federal law.</p>	Yes	Hospitals and associated medical office buildings are not associated with use or storage of significant quantities of hazardous materials. Those commercial uses associated with the Project would be regulated to comply with state and federal law.

4.6.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

The State CEQA Guidelines (Appendix G) states that a project will be expected to result in a significant hazards and hazardous materials impact if implementation of the project would:

- 1) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- 2) 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;
- 3) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- 4) 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;
- 5) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, result in a safety hazard for people residing or working in the project area;
- 6) For a project within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area;
- 7) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- 8) 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.

For purposes of this EIR, an aviation hazards impact is considered significant if the project would:

- 1) Result in a safety hazard for people residing or working in the project area; or
- 2) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.

METHODOLOGY

The analysis of impacts of potential hazards associated with hazardous materials and risk of upset is based on field review of the Project site, consultation with City staff, review of the Sunset Sky ranch Airport CLUP, the Kleinfelder Geotechnical Investigation Report, the Elk Grove General Plan Draft Environmental Impact Report and the Elk Grove General Plan.

The discussion of impacts associated with the Suburban Propane facility and Georgia Pacific Resins facility was taken from the Human Health/Risk of Upset section of the City of Elk Grove General Plan Draft Environmental Impact Report (City of Elk Grove, 2003), which includes an

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analysis of Suburban Propane Hazards Analysis Studies and Evaluation of Accident Probabilities (Quest, 2003), a Screening-Level Hazard Analysis (Dames and Moore, 1992), a second Screening-Level Hazard for Propane Emergency Release (Dames and Moore, 1998), a “worst-case” scenario for possible predictable occurrences at the Suburban Propane facility (Jacobus, 1999), a Quantitative Risk Analysis for both the Suburban Propane and Georgia Pacific Resins facilities (Quest, 2000), and the Suburban Propane Hazard Assessment, Joint Fire and Law Hazard Assessment Work Group for Suburban Propane Facility (Dunbar and Jukes, 1999).

The initial study prepared determined that the proposed Sutter Elk Grove Master Plan Project:

- Would not involve hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school,
- Is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5,
- Is not located within an airport land use plan or in the vicinity of a private airstrip so interference with the operations of such facilities would not occur,
- Would not impair implementation of or physically interfere with an emergency response plan, and
- Is not located in an area at risk for wildland fire.

As a result, these issues will not be discussed further in this analysis.

PROJECT IMPACTS AND MITIGATION MEASURES

Potential Hazard Through the Routine Transport, Use or Disposal of Hazardous Materials

Impact 4.6.1 The proposed Project would include the limited transportation, handling, and use of hazardous materials that may result in adverse environmental impacts. This is considered a **less than significant** impact.

The proposed Project would permit the development of medical offices, surgery centers, and a hospital with urgent care centers, medical laboratories, and research facilities and would include the use of hazardous materials in both the construction and operational phases of the development. During the construction phase and site preparation, construction equipment and other activities would involve the transport and use of hazardous materials (e.g., fuel, asphalt, concrete). During the operations of the proposed Project, facilities would potentially use and/or generate hazardous medical materials. The Sutter Elk Grove Master Plan Project hazardous waste program would include (1) chemical waste, (2) chemotherapeutic waste, (3) radioactive waste, and (4) biohazardous waste, sharps, and other physical hazards. Given that any facility or business that generates or stores medical waste onsite is considered to be a medical waste generator in California, these facilities would be required to comply with the regulations set forth in the MWMA.

Chemical waste would be collected from the generating uses of the Project for special off-site disposal by a licensed contractor. The contractor lab packs the chemicals, completes a waste manifest, and removes the packaged waste for disposal at the appropriate disposal facility. Chemotherapeutic residual waste would be handled as part of the Regulated Medical Waste

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stream,³ with additional labeling to assure appropriate incineration as final destruction. Larger than residual volumes of chemotherapeutic waste (liquids) would be handled as chemical waste, if not recyclable. Radioactive materials would be handled subject to a Nuclear Regulatory Commission (NRC) License, and their safety is managed by the Radiation Safety Officer. Materials are handled in accordance with the requirements of the facility license. Radioactive waste is held in a "hot room" until decayed to background radiation levels, then disposed of as a hazardous material following all state and federal regulations. A radiation safety officer would manage the storage, use, or disposal of radioactive waste and would determine when it is no longer considered a radioactive hazard.

As a medical waste generator, the proposed Project would be required to register with the Sacramento County Department of Environmental Management. The MWMA requires that a medical waste generator: maintain a current "Unified Program Facility Permit," issued by the County Department of Environmental Management, train employees in appropriate hazardous waste management, maintain a Medical Waste Management Plan, and keep documentation that demonstrates the proper disposal of medical wastes. Medical waste generators would be subject to on-site inspections by the County Department of Environmental Health. In addition, medical waste generators that treat medical waste on the Project site would be required to obtain a completed on-site treatment permit, obtained by submission of an application and the appropriate fees to the California Department of Public Health, Medical Waste Management Program. On-site treatment of medical waste reduces the potential for public exposure during transportation of the waste.

A medical waste management plan is designed to identify, separate, collect, and control potentially biohazardous materials including sharps (needles, etc.). Medical waste that includes blood and body fluids that are gathered on towels, garments, and other cloth materials would be treated and sterilized using a Sanipack System. Once treated and sterilized, the product will be treated as solid waste and disposed of at the Kiefer Road Landfill. Various sharp objects (needles, etc.) will be picked up by a licensed contractor and disposed off-site at an appropriate facility. Various body parts and organs would be referred to a certified pathology laboratory for analysis and proper disposal. The proposed Project would maintain facilities where waste could be temporarily held until transported by a licensed contractor or treated. Medical staff would be trained to handle materials in the regulated medical wastes program. Labeled and specialized containers will be used to collect and transport these wastes, and all waste removal will be manifested. Regulated medical waste, including sharps, will be picked up by housekeeping in patient care areas and transported to the handling room in dedicated carts. The waste would then be packaged for disposal and held for a licensed waste contractor pickup.

Due to the nature of hospital operations, the majority of hazardous materials would be associated with the proposed hospital operations under Phase III of the Project. Compliance with the regulations established in the MWMA program would ensure that the medical waste and other hazardous materials that would be generated from the proposed Project would not create a significant hazard through the routine transport, use, or disposal of hazardous materials, nor would a significant hazard to the public or to the environment through the reasonably foreseeable upset and accidental conditions involving the likely release of hazardous materials into the environment occur. Further, the hazardous materials used during the construction phase

³ Regulated medical waste (RMW), also known as "biohazardous" waste or "infectious medical" waste, is the portion of the waste stream generated by healthcare facilities that may be contaminated by blood, body fluids, or other potentially infectious materials (Practice Greenhealth).

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of the Project must comply with federal, state, and local regulations regarding the handling and transportation of such materials, thereby reducing the potential for accidental release of those materials to the environment. Therefore, Project impact would be **less than significant**.

Mitigation Measures

None required.

Hazardous Materials Storage

Impact 4.6.2 The proposed Project would include the storage of hazardous materials at the Project site, which could increase the potential risk of human and environmental exposure. This is a **less than significant** impact.

The proposed Project would include the storage of hazardous materials. It is important to point out that storage of materials by itself does not constitute an immediate hazard, but this storage does place more hazardous materials in a given location than existed before, increasing the potential effect if an upset event occurred in the future. Therefore, controls pursuant to established regulatory requirements would be implemented to address additional hazards created by an increase in use and storage of hazardous materials. Development and implementation of a Hazardous Materials and Waste Management Plan, also referenced as the Hazardous Materials Business Plan (HMBP), is required by California Health and Safety Code, Chapter 6.95. This plan must be updated if any of the following occurs:

- There is a 100 percent or greater increase in the quantity of a previously disclosed material;
- The facility begins handling a material not previously disclosed above the Hazardous Materials Business Plan reporting quantities, established as part of the initial plan;
- The facility changes addresses;
- Ownership of the facility changes; or
- There is a change of business name.

Sutter Medical would update its Hazardous Materials and Waste Management Plan as necessary pursuant to regulatory requirements. These controls will minimize the potential for exposure and adverse health and safety effects related to accidental release of stored hazardous materials. Therefore, the proposed Project would not involve the storage of materials in a manner that poses any substantial hazards to people or the environment. Compliance with established regulatory requirements would reduce the impact and potential risk of human and environmental exposure from the storage of hazardous materials to **less than significant**.

Mitigation Measures

None required.

Physical Safety Hazards

Impact 4.6.3 The proposed Sutter Elk Grove Master Plan Project would increase the number of individuals exposed to physical safety hazards. This is considered a **less than significant** impact.

Potential physical safety hazards would exist following approval of the proposed Project as construction is undertaken during any of the Project phases. These hazards would include typical hazards of site preparation and building construction including electrical shock hazards from high voltage equipment, safety risks posed by compressed gas cylinders (including those filled with inert gases), and other normal construction hazards. Operation of the proposed Project could pose additional physical safety hazards associated with chemicals, compounds, and materials used in operation of the medical facilities, such as radiation hazards related to the use of x-ray equipment (regulated as radioactive material), exposure to magnetic fields, intense light or lasers, potential for accidental exposure to biohazards and communicable disease, and other typical issues occurring at health care facilities and primary care hospitals such as those proposed.

Upon approval of the proposed Project, construction activities would be implemented in accordance with the California Division of Occupational Safety and Health Administration requirements and the National Institute for Occupational Safety and Health guidance to ensure worker safety. Appropriate site security, such as postings, fencing, or other barriers of sufficient height and structural integrity to prevent entry, would be installed, based upon the degree of control required to prevent unauthorized pedestrian/vehicular entry into work areas. Although more individuals would be exposed to physical safety hazards with the proposed Project, compliance with occupational safety regulatory requirements would minimize the potential risks that physical hazards could pose to workers, patients and visitors.

Although more individuals would be exposed to physical safety hazards with the Project, compliance with occupational safety regulatory requirements and other existing programs, policies, and regulations would minimize the potential risks that physical hazards could pose to people, ensuring that the proposed Project would have a **less than significant** impact.

Mitigation Measures

None required.

Aviation Hazards

Impact 4.6.4 The helicopter flights associated with implementation of the proposed Project could result in the potential for an accidental helicopter crash or result in a change in air traffic patterns causing adverse effects to public health. This is considered to be a **potentially significant** impact.

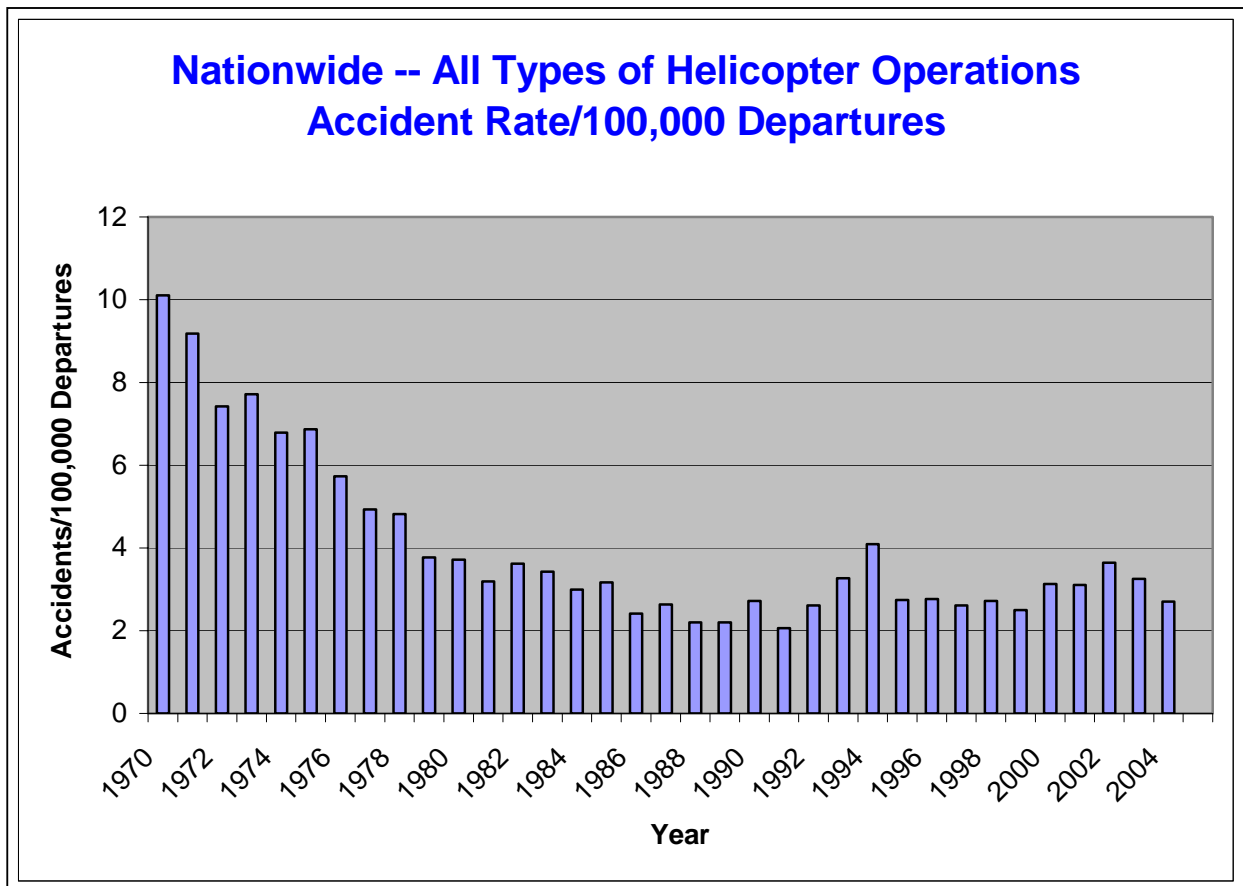
The proposed Project includes the construction and operation of a heliport on the Project site for the purpose of patient transfer and other air medical operations. Operation of helicopters for hospital/medical use poses certain hazards to people on the ground as medical helicopters are flown in close proximity to the ground and in some cases in close proximity to structures and other obstructions.

Any aircraft accident is commonly the result of several factors occurring as a sequence of events or conditions that when combined result in an incident or accident occurring. Because

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the great variation in conditions and variables contributing to any one accident, it is difficult to predict the likelihood of an accident occurring in the future given statistical data of past performance. However, statistical analysis of past accidents can give an overall picture of whether safety in general is improving or worsening over time. **Figure 4.6-1** depicts the general trend in helicopter accident rates per 100,000 departures on a nationwide basis for the last 35 years, as reported by Helicopter Association International (2005) (data applies to accidents throughout the whole helicopter flight, not just during the departure phase of flight). While some slight variation in recorded data is evident, the overall trend indicates that helicopter accidents are decreasing in frequency over time. As shown in the figure, helicopter accidents have decreased from a high of about 10 accidents per 100,000 departures at the start of the period to below 4 (below 3 in several years) during the past 15 years. The national rate in 2003, the base year for this report, was 3.25 accidents per 100,000 departures (in 2004, the rate decreased to 2.70, a 16.9 percent drop). Overall, the data suggests that helicopter safety has increased at a significant rate since 1970.

It is important to understand that **Figure 4.6-1** represents a nationwide database and covers all types of civil (non-military) helicopter operations. Several factors would tend to suggest that the potential accident probability associated with the proposed heliport would be expected to be lower than that shown on **Figure 4.6-1**. For example, weather should be less of a factor at the



Source: Helicopter Association International (2005)

Figure 4.6-1: Nationwide Helicopter Accident Rate

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Project site than in some parts of the country that are subject to much more rain, snow, ice, unfavorable winds, and other factors that contribute to accident rates.

The proposed Project would only support air operations for medical emergencies. When compared to other typical helicopter operations, air medical flights are generally less hazardous than many other types of common helicopter operations, such as flight instruction, aerial application (crop dusting), external load transport, aerial observation (such as power line patrol), and personal use. Industry statistics indicate that air medical operations accounted for only about 4.4 percent of all civil helicopter accidents during the 10-year period between 1995 and 2004 (Helicopter Association International, 2005). A classification of accidents resulting from different types of civil helicopter flights during that 10-year period is shown in **Table 4.6-4**. As shown in the table, air medical accidents exhibit accident rates well below many other flight operations.

TABLE 4.6-4
NATIONWIDE HELICOPTER ACCIDENTS BY USE, 1995-2004

Use	Percentage (%)
Personal	21.2
Instructional	16.7
Undefined	10.4
Public Use	10.1
Aerial Application	9.7
External Load	6.5
Air Taxi (Charter)	5.9
Business	5.2
Air Medical	4.4
Aerial Observation	4.1
Sightseeing	1.8
Commercial Air Tour	1.7
Utilities	1.7
Electronic New Gathering	0.6
Executive / Corporate	0.3
Total	100.0

Source: Helicopter Association International, 2005

As with many air medical helicopter operators, Sutter Medical maintains high flight crew hiring standards. Air crews operating for Sutter Medical are required by the FAA to hold Commercial Pilot certification, which includes specific requirements for knowledge, aptitude, health, and experience. These factors combine to suggest that the potential accident rate at the proposed Sutter Elk Grove Master Plan Project would be lower than the overall national rate. The final design of the heliport and surrounding structures and other potential flight safety hazards has not been determined. Likewise, approach and departure procedures for the heliport have not been established. Combined with the great number of factors involved in heliport and flight safety that may affect the safety of the sight, the potential for a significant impact remains.

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Mitigation Measure

MM 4.6.4

Prior to the issuance of State Aeronautics Act, California Code of Regulations Title 21, Section 3530 Permit, the Project applicant shall prepare a plan establishing an approach and departure path in order to provide sufficient airspace clear of hazards to allow safe approaches to and departure from the proposed heliport. While individual flights could deviate from these established flight paths due to wind conditions or other factors, they would represent the planned flight path and final approach and takeoff standards for helicopter flights.

These flight paths shall be designed to avoid obstacles, such as tall buildings, trees, and utility lines, and to consider predominant wind direction. The proposed approach and departure paths will be reviewed for their technical conformance with state and federal standards by the California Department of Transportation Division of Aviation as part of the permitting process.

Timing/Implementation: *Prior to issuance of Section 3530 permits*

Enforcement/Monitoring: *California Department of Transportation Division of Aviation and City of Elk Grove Development Services Department, Planning*

Implementation of the above mitigation measure in combination with requirements for the granting of a Section 3530 Permit by the State Division of Aeronautics would ensure that impacts from aviation-related hazards of the proposed Project are minimized, resulting in a **less than significant** impact.

4.6.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

CUMULATIVE SETTING

The cumulative setting for hazards associated with the Sutter Elk Grove Master Plan Project includes proposed, planned, approved, or reasonably foreseeable projects in the City of Elk Grove and the adjacent portion of the City of Sacramento and unincorporated Sacramento County as identified in **Table 4.0-1**. Hazardous materials and human health impacts are by their nature generally site-specific and geographically limited. Cumulative impacts associated with hazardous materials and human health risks from increased development include, but are not limited to, impacts to transportation, air quality, hydrology and water quality, and biological resources.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Exposure to Hazards Associated with Facilities Utilizing Hazardous Materials

Impact 4.6.5

Cumulative hazardous materials used and hazardous materials waste generated by the proposed Project, in addition to other materials used and generated in the vicinity, would not contribute to cumulative human and environmental health and safety issues. Therefore, the proposed Project would have a **less than significant cumulative** impact.

4.6 HAZARDS AND HAZARDOUS MATERIALS

The health and safety hazards posed by most hazardous materials are typically local in nature. They generally do not combine in any cumulative sense with the hazards of other projects. Possible exceptions, however, include potential transportation of hazardous materials and waste disposal.

Hazardous materials are transported on virtually all public roads, particularly since all motor vehicles contain hazardous materials (e.g., fuel) in addition to any hazardous cargo that may be on board. The majority of hazardous materials would be associated with the proposed hospital operations under Phase III of the Project. The hazardous materials used during the construction phase of the Project must comply with federal, state, and local regulations regarding the handling and transportation of such materials, thereby reducing the potential for accidental release of those materials to the environment. Compliance with the regulations established in the MWMA program would ensure that the medical waste and other hazardous materials that would be generated from the proposed Project would not create a significant hazard through the routine transport, use, or disposal of hazardous materials, nor would a significant hazard to the public or to the environment through the reasonably foreseeable upset and accidental conditions involving the likely release of hazardous materials into the environment occur. The cumulative effects of transporting hazardous materials would continue to be addressed by existing regulatory requirements of the California Highway Patrol. Packaging requirements for hazardous materials and wastes established by the California Department of Transportation, United States Postal Service, and the Environmental Protection Agency minimize the potential consequences of possible accidents during transport. Furthermore, the vehicle accident rate in California is relatively low compared to other states and not all accidents release hazardous materials. For these reasons, the cumulative impact of potential transportation-related accidents would not be substantial.

As cumulative development occurs in the Elk Grove region as well as the state, more hazardous wastes will be generated. Sutter Elk Grove Master Plan project-related hazardous waste generation would contribute to cumulative increases in hazardous waste generation (although most of the radioactive waste produced would decay on site). The incremental environmental effects of expected increases in hazardous waste generation and off-site hazardous waste recycling, treatment, and disposal would also contribute to cumulative effects. Hazardous waste disposal affects the environment by releasing contaminants to land, air and/or water. Cumulative increases in waste generation could also contribute to the potential for some wastes to be mismanaged at any point in the disposal process in a manner that poses potential hazards to people or to animal and plant populations.

However, regulations regarding the routine handling and transportation of hazardous waste minimize the potential for an accidental release of these wastes. Compliance with the regulations established in the MWMA program would ensure that the medical waste and other hazardous materials that would be generated from the proposed Project would not create a significant hazard through the routine transport, use, or disposal of hazardous materials, nor would a significant hazard to the public or to the environment through the reasonably foreseeable upset and accidental conditions involving the likely release of hazardous materials into the environment occur. Therefore, the Project's contribution to cumulative exposure to hazards associated with facilities utilizing hazardous materials would be a **less than significant cumulative** impact.

Mitigation Measures

None required.

4.6 HAZARDS AND HAZARDOUS MATERIALS

REFERENCES

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