

4.4 HAZARDS AND HUMAN HEALTH

This section provides information on safety hazards in the City of Madera General Plan Planning Area. The section also identifies the methods used in analyzing the General Plan's potential to create hazards to public health or the environment related to hazardous materials, substances, or waste and also identifies other potential hazards that may impact public safety. The reader is referred to Section 4.8, Geology and Soils, for information regarding impacts associated with geologic and seismic hazards, Section 4.9, Hydrology and Water Quality, for information regarding impacts associated with water quality and flooding, and Section 4.12, Public Services and Utilities, for impacts related to fire hazards.

4.4.1 EXISTING SETTING

HAZARDS AND CONTAMINATED SITES

Hazardous Materials Defined

A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, state, or local agency or if it has characteristics defined as hazardous by such an agency. A hazardous material is defined in Title 22 of the California Code of Regulations (CCR) as:

...A substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed (California Code of Regulations, Title 22, Section 66260.10).

Chemical and physical properties that cause a substance to be considered hazardous, including the properties of toxicity, ignitability, corrosivity, and reactivity, are defined in the CCR, Title 22, Section 66261.20 through 66261.24. Factors that influence the health effects of exposure to hazardous material include the dose to which the person is exposed, the frequency of exposure, the exposure pathway, and individual susceptibility.

Public health is potentially at risk whenever hazardous materials are or will be used. It is necessary to differentiate between the "hazard" of these materials and the acceptability of the "risk" they pose to human health and the environment. A hazard is any situation that has the potential to cause damage to human health and the environment. The risk to health and public safety is determined by the probability of exposure, in addition to the inherent toxicity of a material (California Department of Toxic Substances Control, 2009).

There are four types of potential hazards related to the proposed General Plan Update:

- Transport of hazardous materials
- Exposure to hazardous materials
- Airport operations hazards
- Interference with emergency response plans

Hazardous Materials Sites within the Planning Area

The State of California Hazardous Waste and Substances Site List (also known as the "Cortese List") is a planning document used by state and local agencies and developers to comply with

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the California Environmental Quality Act (CEQA) requirements in providing information about the location of hazardous materials sites. California 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. DTSC's Site Mitigation and Brownfields Reuse Program EnviroStor database provides DTSC's component of Cortese List data by identifying State Response and/or Federal Superfund and backlog sites listed under Health and Safety Code Section 25356. In addition, DTSC's Cortese List includes Certified with Operation and Maintenance sites. A search of the Cortese database was conducted in March 2009 for sites within the Planning Area. This search produced results for the following sites:

- 1 State Response Site (active)
- 2 Voluntary Cleanup Sites (active)
- 1 School Cleanup Site (active)
- 1 Evaluation Site (open)
- 2 Military Evaluation Sites (inactive)
- 6 School Investigation Sites (no further actions required)

In addition to EnviroStor, the CAL-SITES Abandoned Sites Information System (ASPIS) database, compiled by Cal-EPA, can also be used to identify and track potential hazardous waste sites. This database is regularly uploaded to the State's Geographic Environmental Information Management System (GEIMS) so that agencies and the general public can access information regarding a specific site. GEIMS, a data warehouse which tracks regulatory data regarding leaking underground fuel tanks (LUFTs), other contaminant release sites, water quality information, water use information, and infrastructure data, can be used to identify properties that are known or have had contaminant spills. GeoTracker, the interface to GEIMS, uses commercially available software to allow users to access data from GEIMS over the Internet. According to the GEIMS database, as of March 2009, there were 92 leaking underground fuel tanks (5 of which are still open), 6 land disposal sites (all of which are still open), and 12 other cleanup sites (7 of which are still open) within the Planning Area. See **Appendix D** for a listing of all the LUST sites in the Planning Area.

The National Priorities List (NPL) is maintained by the U.S. Environmental Protection Agency (EPA) and lists the most severe hazardous waste sites as identified by Superfund. Sites are put on the NPL after they have been scored using the Hazard Ranking System, as well as having been subjected to public comment. Any site on the NPL is eligible for cleanup using Superfund Trust money. The NPL is primarily an informational resource that identifies sites that may warrant cleanup. As of March 2009, there were no NPL sites in the Planning Area.

Landfills and other solid waste disposal facilities can also be sources of groundwater contamination. The California Integrated Waste Management Board (CIWMB) lists 13 such sites in Madera County, including landfills (open and closed) and other solid waste disposal facilities. Specific information on each of these sites is available through Solid Waste Information System (SWIS, maintained by the CIWMB). Several of the landfills are included in additional databases as well. None of these facilities were found to be in violation of CIWMB standards during site inspections.

Known and Unknown Large Hazardous Material Issues in the Planning Area

Pesticides

Pesticides are also a major source of groundwater pollution that frequently contaminate drinking water and irrigation wells. Pesticide properties include both physical and chemical characteristics such as solubility, adsorption, volatility, and the potential for degradation. Pesticide chemicals that dissolve readily in water are highly soluble, thus making them available for transport with the water flow. Such pesticides have a tendency to leach from the soil into groundwater. However, many pesticides do not leach because they are adsorbed into soil particles or organic matter, even though they may have a relatively high solubility. Highly volatile chemicals are easily lost to the atmosphere and are less likely to leach into the groundwater, unless they are also highly soluble and collected in water systems. Degradation affects the potential for a pesticide to reach groundwater, and the persistence of the pesticide influences the potential for long-term contamination. The longer the compound lasts before it is broken down, the longer it is subject to the forces of leaching. However, many highly persistent pesticides (e.g., chlorinated hydrocarbons) have not been found in groundwater because of their low solubility and strong adsorption to soil particles. On the other hand, some pesticides of low persistence (e.g., aldicarb) have been found in groundwater. **Table 4.4-1** lists the persistency of certain pesticides in soils. Information on other pesticides can be found on pesticide labels or through EPA Fact Sheets and Health Advisories, Material Data Safety Sheets, and company literature. As with all contaminated sites, it is important to have a thorough understanding of site conditions and contaminant characteristics prior to assessing relative risk.

Soil properties that affect pesticide movement include texture, permeability, and organic matter content. Management practices, or the methods used to apply pesticides, are another factor determining leaching potential. Injection or incorporation into the soil, as in the case of nematicides, makes the pesticide most readily available for leaching. Most of the pesticides that have been detected in groundwater have been incorporated into the soil rather than sprayed onto growing crops. It is important to remember that pesticide and groundwater relationships are site-specific, and even minor changes in the soil-crop-environment-pesticide relationship can change the potential for groundwater contamination.

**TABLE 4.4-1
PESTICIDE PERSISTENCE IN SOIL**

Low Persistence (half-life < 30 days)	Moderate Persistence (half-life 30–100 days)	High Persistence (half-life > 100 days)
Aldicarb	Aldrin	Bromacil
Captan	Atrazine	Chlordane
Dalapon	Carbaryl	Lindane
Dicamba	Carbofuran	Paraquat
Malathion	Diazinon	Picloram
Methyl Parathion	Endrin	Trifluralin
Oxamyl	Fonofos	
2, 4-D	Glyphosate	
2, 4, 5-T	Heptachlor	
	Linuron	

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Low Persistence (half-life < 30 days)	Moderate Persistence (half-life 30–100 days)	High Persistence (half-life > 100 days)
	Parathion	
	Phorate	
	Simazine	
	Terbacil	
	TCA	

Source: U.S. Environmental Protection Agency, 2009.

Note: Half-life is the period over which the concentration of a specified chemical or drug takes to fall to half its original concentration.

Other Sources

Dry cleaning operations and historical operation of tanneries have led to soil and groundwater contamination by solvents, including perchloroethylene (PCE), tetrachloroethene (TCE), and chromium. The Central Valley Regional Water Quality Control Board (RWQCB) is currently the oversight agency for contaminated sites of this type in the Planning Area.

The former Oberti salt ponds may also be a source of soil and water contamination in the Planning Area. A groundwater extraction program was initiated around 1990 at the California Olive Grower's facility to remediate areas of groundwater impacted with high salinity brine waste that migrated from the Oberti salt disposal ponds associated with olive production. Central Valley RWQCB staff conducted an evaluation of the groundwater extraction program and determined in 2004 that the groundwater extraction program had been effective and could end, with ongoing monitoring to continue (RWQCB, 2004).

Transportation of Hazardous Materials

The transportation of hazardous materials within the Planning Area is subject to various federal, state, and local regulations. Title 13 of the California Code of Regulations designates specific roadways and transportation routes for explosives, poisonous inhalation hazards, and radioactive materials. The Planning Area does not contain any of these roadways or routes. When a hazardous material is transported into the Planning Area, the most direct route must be taken to or from the nearest state-designated transportation route. The following are descriptions of provisions included in the California Vehicle Code (CVC) and pertain to the transportation of hazardous-related materials.

- The Highway Patrol designates routes in California which are to be used for the transportation of explosives. (CVC 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. (CVC 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. (CVC 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. (CVC Section 31614(a))
- 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. (CVC Section 32100 and Section 32102(b))

Airport Operations Hazards

The Madera Municipal Airport is located in the northwestern portion of the General Plan Planning Area, within the incorporated boundaries of the city. The airport is currently operated by the City and, as such, the current General Plan and associated zoning and other requirements have been established by the City in order to be consistent with the requirements of the Airport Land Use Compatibility Plan (ALUCP). The ALUCP establishes certain land use restrictions and height requirements within the vicinity of the airport in order to minimize the effect of the airport on people and structures on the ground in the areas of noise, safety, and land use (see Regulatory Framework, below).

4.4.2 REGULATORY FRAMEWORK

FEDERAL

Hazards and Contaminated Sites

Environmental Protection Agency

The United States Environmental Protection Agency (EPA) provides leadership in the nation's environmental science, research, education, and assessment efforts. EPA works closely with other federal agencies, state and local governments, and Indian tribes to develop and enforce regulations under existing environmental laws. 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 for 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

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- Safe Drinking Water Act
- Toxic Substances Control Act

Table 4.4-2 lists federal, state, and local regulatory agencies that oversee hazardous materials handling and hazardous waste management, and the statutes and regulations that they administer.

**TABLE 4.4-2
REGULATORY AGENCIES FOR HAZARDOUS MATERIALS**

Federal Agencies	
Regulatory Agency	Authority
Department of Transportation (DOT)	Hazardous Materials Transportation 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 Toxic Substances Control Act (TSCA)
National Institute of Health	Guidelines for Carcinogens and Biohazards
Occupational Safety and Health Administration (OSHA)	Occupational Safety and Health Act and CFR 29
State Agencies	
Regulatory Agency	Authority
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	Air Resources Act
Office of Emergency Services	Hazardous Materials Release Response Plan/Inventory Law
Department of Fish and Game	Fish and Game Code
Department of Food and Agriculture	Food and Agriculture Code
State Fire Marshall	Uniform Fire Code, CCR Title 19
Regional/County Agencies	
Regulatory Agency	Authority
Air Pollution Control District	Air Resources Act

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 Aviation Regulation (FAR) 49 Code of Federal Regulations (CFR) Part 77 establishes standards and notification requirements for objects affecting navigable airspace. This notification serves as the basis for:

- Evaluating the effect of the 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.

The Federal Aviation Administration FAR 49 CFR Part 77 imaginary surfaces, which are used for airport design and planning purposes, are described as follows:

- Primary – Aligned (longitudinally) with each runway and extends 200 feet from each runway end.
- Approach – Longitudinally centered with the runway and extends beyond the primary surface.
- Horizontal – Horizontal plane 150 feet above the established airport elevation. Constructed by swinging arcs around the end of the primary surface.
- Conical – 20:1 slope surface extending beyond the horizontal surface.
- Transitional – Constructed to join approach and horizontal or approach and transitional surfaces.

The 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. All development projects under the proposed General Plan would be subject to review associated with Part 77, if obstruction into the navigable airspace is anticipated.

STATE

Hazards and Contaminated Sites

California Environmental Protection Agency

The California Environmental Protection Agency (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:

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- 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

Subsequent development under the proposed General Plan may be subject to one or more of the above laws.

Department of Toxic Substances Control

Within Cal-EPA, the Department of Toxic Substances Control (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 Department of Transportation, 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 Division of Aeronautics has first issued a permit allowing its construction.

Other Applicable State and Local Hazardous Materials Laws and Policies

Other applicable state and local hazardous materials laws and policies are provided in **Table 4.4-3**.

**TABLE 4.4-3
OTHER APPLICABLE HAZARDOUS MATERIAL REGULATIONS**

Regulation	Authority
Hazardous Substance Account Act of 1981	The Carpenter-Presley-Tanner Hazardous Substances Act or Hazardous Substance Account Act, also known as the California Superfund, establishes a program to provide for response authority and funding for accidental releases of hazardous substances and hazardous waste disposal sites that pose a threat to public health or the environment.
Toxic Injection Well Control Act of 1985	The Toxic Injection Well Control Act prohibits any injection of hazardous waste into the ground that would endanger the use of the particular groundwater that is designated as drinking water.

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Regulation	Authority
Business Plan Act (1985)	<p>The California Hazardous Materials Release Response Plans and Inventory Law, also known as the Business Plan Act, requires preparation of Hazardous Materials Business Plans and disclosure of hazardous material inventories. A Business Plan includes information such as an inventory of hazardous materials handled, storage location of hazardous materials, an emergency response plan, and provisions for employee training in safety and emergency response procedures. The State Office of Emergency Services (OES) has primary regulatory responsibility with delegation of authority to local jurisdictions. Local agencies include the various local fire protection districts and the Solid Waste & Hazardous Materials Division of Emergency Management Division (EMD).</p> <p>Under certain circumstances, a business must prepare a Risk Management and Prevention Plan to minimize offsite risks associated with acutely hazardous materials. This plan provides additional planning information that covers equipment and system safety, operating procedures, preventive maintenance, upset risk assessments, and safety auditing. Statewide, the Department of Toxic Substance Control (DTSC) has primary regulatory responsibility for management of hazardous materials, with delegation of authority to the local agencies mentioned above.</p>
California Hazardous Waste Control Act of 1986	<p>The California Hazardous Waste Control Act, also known as the Tanner Act (AB 2948), requires the preparation of a County Hazardous Waste Management Plan and the identification of potential areas for the siting of needed future hazardous waste facilities.</p>
Safe Drinking Water and Toxic Enforcement Act of 1986	<p>The Safe Drinking Water and Toxic Enforcement Act, also known as Proposition 65, prohibits the contamination of drinking water with chemicals known to cause cancer or reproductive toxicity. Many hazardous materials are included in this category. This law also requires the publication and annual updates of a list of these chemicals. The California Office of Environmental Health Hazard Assessment (OEHHA) last updated the list in March 4, 2005, and more than 600 chemicals have so far been listed (Office of Environmental Health Hazard Assessment, 2005).</p>
Assembly Bill 1809 (1986)	<p>Assembly Bill (AB) 1809 addresses hazardous waste generated by households. AB 1809 requires counties to identify a program for the safe management of household hazardous wastes, which should be separated from the solid waste stream. The law authorizes cities and counties to approve an increase in solid waste collection fees to offset the cost of establishing, publicizing, and maintaining a household hazardous waste inspection program. AB 1809 also requires the California Integrated Waste Management Board to develop a public information program.</p>
Assembly Bill 2185 (1987)	<p>AB 2185, also known as the Waters Bill, incorporated the provisions of Title III of the Superfund Amendments and Reauthorization Act into a state program. This law delegated implementation of emergency planning and</p>

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Regulation	Authority
	community-right-to-know programs to the OES, which has in turn authorized local government agencies to implement the program. Local Administering Agencies are required to prepare Area Plans for environmental emergency planning purposes and to identify and maintain resources for disasters and accidental releases.
Aboveground Petroleum Storage Act of 1990	The Aboveground Petroleum Storage Act establishes an inspection program for above ground storage tanks. In general, the Act requires owners or operators of aboveground petroleum storage tanks to file a storage statement and implement measures to prevent spills.
Medical Waste Management Act of 1991	Within the regulatory framework of the Medical Waste Management Act, the Medical Waste Management Program of the California Department of Health Services (DHS) ensures the proper handling and disposal of medical waste throughout California. DHS permits and inspects medical offsite treatment facilities, transfer stations, and medical waste transporters throughout the state. Locally, EMD enforces the provisions of this Act (California Department of Health Services, 2002).
Assembly Bill 2707 (1991)	AB 2707 requires cities and counties to prepare a Household Hazardous Waste Element, which would be included in their County Hazardous Waste Management Plan.
Senate Bill 1082 (1993)	Senate Bill (SB) 1082 required the establishment of a unified hazardous waste and hazardous materials management program. The result was the California Environmental Protection Agency (Cal-EPA) Unified Program, which consolidates, coordinates, and makes consistent the administration, permitting, inspections, enforcement, and fee functions of DTSC, the SWRCB, the RWQCB, OES, and the State Fire Marshal. The Unified Program is implemented at the local government level by the CUPA (California Environmental Protection Agency, 2005).
Assembly Bill 2886 of 2000	The bill authorizes the SWRCB to require a person who is submitting a report relating to a program administered by the board, to the board, a regional board, or a local agency, to submit the report in electronic format, as prescribed. This bill created the geotracker database.

Source: Napa County, BDR 2005

LOCAL

Madera County Airports Land Use Compatibility Plan

The Madera County Airport Land Use Commission prepared and adopted a combined Airport Land Use Compatibility Plan for both public-use airports located within the county. This document serves as the ALUCP for both the Chowchilla Municipal Airport and the Madera Municipal Airport. Chowchilla Municipal Airport is located in the community of Chowchilla, approximately 7.4 miles northwest of the General Plan Planning Area. Therefore, it is not a factor for the proposed project and is not discussed further. The Madera Municipal Airport is located in

the northwestern portion of the General Plan Planning Area, within the incorporated boundaries of the City of Madera.

ALUCPs, as mandated by the State PUC and the Caltrans Division of Aeronautics, are concerned with three major issue areas: noise, safety, and land use. The noise aspect of the ALUCP and its effect on the proposed General Plan Update are discussed in Section 4.7, Noise, of this EIR. The land use impacts of the ALUCP on the proposed Update are discussed in Section 4.1, Land Use, of this EIR.

In the area of safety, the ALUCP establishes both safety areas, incorporated into Compatibility Zones surrounding the airport, and height limits, established according to Federal Aviation Regulations Part 77. Compatibility Zones described in the ALUCP are placed such that effects to land uses and safety concerns due to aircraft overflights, landing, and takeoffs are minimized. Primary control of hazards within these zones concerns the limiting of certain land uses that would result in a concentration of large numbers of people on the ground (or certain sensitive persons such as children or the infirm) and through the prevention of the development/operation of uses that constitute a hazard to flight. Uses that pose a hazard to flight include any uses that would generate dust, steam, or smoke; glare or bright lights; result in electrical or radio interference with landing instrumentation or communications; and any use that would attract large quantities of birds.

Height restrictions established in the vicinity of the airport were formulated according to the requirements of FAR Part 77, which establishes a series of "imaginary surfaces" surrounding the airport. Any structure that would rise above these surfaces is considered a possible hazard to aircraft, and certain procedures must be undertaken with the ALUC and the FAA in order to address possible changes in air navigation and approach/departure guidelines and procedures.

4.4.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

Based on criteria derived from Appendix G in the CEQA Guidelines, the proposed General Plan would result in a significant impact to the environment or to human health and safety if 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 that is included on a list of hazardous materials sites compiled by Government Code Section 65962.5 and, as a result, 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.

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- 6) For a project in 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.

The reader is referred to Section 4.5, Transportation and Circulation, regarding potential safety hazards with railroad operations and Section 4.12, Public Services and Utilities, regarding fire hazards.

METHODOLOGY

This section analyzes the impacts associated with the implementation of the proposed General Plan, including the risk of upset due to potential hazardous substances, such as hazardous materials and/or hazardous waste within the Planning Area, and other hazards to public safety. This evaluation of the General Plan's potential to create hazards to the public health or the environment related to hazardous substances is based on database research, field review of the Planning Area, review of the Madera County General Plan, and consultation with applicable local, state, and federal agencies.

PROJECT IMPACTS AND MITIGATION MEASURES

Routine Transport of Hazardous Materials

Impact 4.4.1 Implementation of the General Plan could include the transport, use, and/or disposal of hazardous materials on Planning Area roadways, which could result in exposure of such materials to the public either through routine use or due to accidental release. Implementation of proposed General Plan policies and action items would result in a **less than significant** impact.

Within the Planning Area, Avenue 12 and Highways 99 and 145 may be used by vehicles carrying hazardous or toxic substances. There are no approved transportation routes in the Planning Area for the transportation of explosives. 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 or the loading of such materials (California Vehicle Code Sections 31602(b), 32104(a)). The California Highway Patrol (CHP) also designates through routes to be used for the transportation of inhalation hazards and may designate separate through routes for the transportation of inhalation hazards composed of any chemical rocket propellant (California Vehicle Code, Section 32100 and Section 32102(b)).

The transportation of hazardous materials on area roadways is regulated by the California Highway Patrol, U.S. Department of Transportation (Hazardous Materials Transportation Act), and Caltrans. Use of these materials is regulated by the DTSC (22 Cal. Code of Regulations Section 66001, et seq.) and is intended to provide an acceptable level of protection to the public from accidental releases. The use, storage, and transport of hazardous materials by developers, contractors, business owners, and others are required to be in compliance with local, state, and federal regulations during project construction and operation. Facilities that use hazardous materials are required to obtain permits and comply with appropriate regulatory agency standards and regulations designed to avoid hazardous material releases. All existing and future development in the unincorporated city would be required to comply with federal, state, and local regulations regarding the handling and transportation of hazardous materials. Therefore this impact would be **less than significant**.

Proposed General Plan Policies and Action Items that Provide Mitigation

The following proposed General Plan policies address the use and handling of hazardous materials and associated land uses involving hazardous materials:

Policy HS-15: The City will coordinate with the California Highway Patrol, the Madera County Department of Environmental Health Services, the Madera County Sheriff's Department, and all other appropriate local, state and federal agencies in hazardous materials route planning, notifications and incident response, to ensure appropriate first response to hazardous material incidents.

Policy HS-17: The City shall seek to avoid and minimize exposure of sensitive land uses to potentially hazardous emissions along truck routes and rail lines which may be used by surface vehicles and rail cars carrying hazardous or toxic substances. These truck routes include Avenue 12 and Highways 99 and 145. Rail corridors include the two primary lines running north-south through Madera, as well as the spur line which serves the industrial area in the southwest portion of the City.

Implementation of the policies described above, as well as adherence to all federal, state, and local regulations regarding the transportation of hazardous materials, would reduce the potential for public safety impacts associated with the routine transportation of hazardous materials on Planning Area roadways to an acceptable level and to a **less than significant** level.

Mitigation Measures

None required.

Release and Exposure to Hazardous Materials

Impact 4.4.2 Implementation of the proposed General Plan Update could result in the release of hazardous materials into the environment under reasonably foreseeable upset or accident conditions. This is considered a **less than significant** impact.

Hazardous materials used during construction and operational activities throughout the Planning Area may expose nearby residents and local schools to toxic emissions. Electrical transformers and industrial products containing polychlorinated biphenyls (PCBs) and heavy metals, as well as persistent residual chemicals including pesticides, herbicides, and fertilizers, have the potential to pose a health and safety risk via accidental release or misuse in the Planning Area (the reader is referred to Section 4.9, Hydrology and Water Quality, regarding water quality and pesticide, herbicide, and fertilizer concerns). The potential for exposure to toxic air contaminants is addressed in Section 4.6, Air Quality.

Land uses or development associated with the General Plan for the proposed residential and non-residential uses would involve the storage, use, and transport of hazardous materials (e.g., gasoline fuels, demolition materials, asphalt, lubricants, toxic solvents, pesticides, and herbicides) during construction, demolition, and landscaping activities and operations. In addition, certain commercial uses, including water treatment plants, swimming pool facilities, gas stations, and dry cleaners that store and use hazardous materials, could pose a potential hazard to the environment.

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The Cortese List, prepared pursuant to Government Code Section 65962.5 by the California Department of Toxic Substances Control, lists 13 sites in the Planning Area. Also, the Regional Water Quality Control Board has listed several leaking underground storage tank sites in the Planning Area (see **Appendix D**). If underground storage tanks (USTs) are discovered during any phase of a project, removal is required prior to additional site preparation or development activities (California State Water Resources Control Board Underground Storage Tank Program and California Health and Safety Code Section 25281, et seq.). All UST removal and remediation efforts must comply with the Madera County Department of Environmental Health standards. If discovered, the tanks would require removal prior to any development activities. If subsurface contamination occurred as a result of tank leakage or overfilling, the contamination would require assessment and remediation in compliance with Madera County Department of Environmental Health regulations.

As discussed under Impact 4.4.1, the transportation of hazardous materials on area roadways is regulated by the CHP, U.S. Department of Transportation (Hazardous Materials Transportation Act), and Caltrans, and use of these materials is regulated by the DTSC (22 Cal. Code of Regulations Section 66001, et seq.). The use, storage, and transport of hazardous materials by developers, contractors, business owners, and others are required to be in compliance with local, state, and federal regulations during project construction and operation. Facilities that use hazardous materials are required to obtain permits and comply with appropriate regulatory agency standards designed to avoid hazardous waste releases. All existing and future projects in the General Plan Planning Area would be required to comply with federal, state, and local regulations regarding the handling, transportation, disposal, and cleanup of hazardous materials.

Proposed General Plan Policies and Action Items that Provide Mitigation

The proposed General Plan contains goals, policies, and action items that are intended to protect public health from exposure to hazardous materials within the Planning Area. The following list contains those policies that include specific, enforceable requirements and/or restrictions and corresponding performance standards that address the impact:

- Policy HS-10: The City will regulate the storage of hazardous and waste materials consistent with state and federal law. The City shall not permit above ground tanks without considering the potential hazards that would result from the release of stored liquids caused by possible rupture or collapse, and may request applicants to have an emergency response plan.*
- Policy HS-11: The City will work with responsible agencies to ensure that all industrial facilities are constructed and operated in accordance with the most current safety and environmental protection standards.*
- Policy HS-14: Industries which store and process significant quantities of hazardous or toxic materials shall provide a buffer zone between the installation that houses such substances and the property boundaries of the facility sufficient to protect the public in the event of the release or leak of the materials.*
- Policy HS-16: The City will work with other responsible agencies on efforts to clean up or contain identified soil or water contamination in the city limits. This policy will extend to the former Oberti salt ponds and other related facilities at such time as they are annexed to the city.*

Policy HS-18: The City shall require written confirmation from applicable local, regional, state, and federal agencies that known contaminated sites have been deemed remediated to a level appropriate for land uses proposed prior to the City approving site development or provide an approved remediation plan that demonstrates how contamination will be remediated prior to site occupancy. This documentation shall specify the extent of development allowed on the remediated site as well as any special conditions and/or restrictions on future land uses.

Implementation of the above proposed General Plan policies would require that hazardous materials and wastes are handled consistent with state and federal laws associated with public and worker safety, remediation, adequate buffers and boundaries are provided to protect the public from industries that utilize hazardous materials, ensure that reasonably foreseeable hazards are adequately addressed, and address and coordinate cleanup efforts of contaminated sites. Thus implementation of these provisions would reduce this impact to **less than significant**.

Mitigation Measures

None required.

Airport Operations

Impact 4.4.3 Implementation of the proposed General Plan could locate development near Madera Airport. This impact is considered **less than significant**.

Airports establish planning boundaries for height, noise, and safety around each airport as well as policies that determine the compatibility of new land uses proposed within each planning area boundary. Airport operation hazards are generally associated with aircraft accidents, particularly during takeoffs and landings due to incompatible land uses, power transmission lines, wildlife hazards (e.g., bird strikes), and tall structures that penetrate the imaginary surfaces surrounding an airport. As shown in **Figure 3.0-7**, there is development proposed within the ALUCP of the Madera Airport, including two villages adjacent to the airport. State Airport Land Use Commission (ALUC) law requires a jurisdiction to amend its General Plan and other land use regulations to achieve consistency with airport ALUCPs adopted by the ALUC. Additionally, the Federal Aviation Regulations, Part 77 defines a series of imaginary surfaces surrounding all public use airports. Any proposed object or structure that would penetrate any of these imaginary surfaces as they apply to the affected airport facilities is considered by the Federal Aviation Administration to be an obstruction to air navigation. An obstruction to air navigation may not be a hazard to air navigation; however, the FAA presumes it to be a hazard and treats it as such until an FAA aeronautical study determines that it does not have a substantial adverse effect on the safe use of the navigable airspace by aircraft.

The Madera County Airport Land Use Commission (ALUC) prepared and adopted a combined Airport Land Use Compatibility Plan for both public-use airports located within the county. This document serves as the ALUCP for both the Chowchilla Municipal Airport and the Madera Municipal Airport. The ALUCP establishes the planning area boundaries of Madera Municipal Airport and provides the land use guidelines on which compatible uses are determined. The ALUC reviews and determines of compatibility of individual development proposals (as specified in the ALUCP), general plan amendments, and other land use plans and regulations around the airport. Federal Aviation Regulations, which involve the Caltrans Division of Aeronautics, mandate height restrictions for buildings within imaginary surfaces surrounding airports (FAR,

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Part 77). Buildings within the Madera Municipal Airport safety zone would be required to adhere to both Federal Aviation Administration regulations and the local ALUCP. The reader is referred to Section 4.1, Land Use, for additional discussion regarding Madera Municipal Airport and the ALUCP.

Proposed General Plan Policies and Action Items that Provide Mitigation

The proposed General Plan contains the following policies that are intended to avoid airport conflicts within the Planning Area.

Policy HS-31: The City shall consider the compatibility criteria in the Airport Land Use Compatibility Plan for the Madera Airport and the Madera Municipal Airport Master Plan in the review of potential land uses or projects.

Policy HS-32: The City shall ensure that new development near the Madera Airport is designed to protect public safety from airport operations consistent with recommendations and requirements of the Airport Land Use Commission, the Federal Aviation Administration, and other responsible agencies.

Policy LU-35: VILLAGE D: SPECIFIC POLICIES

The following policies are intended to identify some of the unique issues for this area which will need to be addressed, and to guide development, as the area transitions to urban use.

- All future development in this Village shall conform to the Building Blocks principles as described in this General Plan.*
- In conjunction with village and neighborhood planning, a mechanism shall be established which creates a permanent agricultural buffer where the westerly edge of the Village abuts the Growth Boundary.*

This buffer shall average at least 400 in depth, with a minimum depth of 250, and must run continuously along westerly edge of the Village.

No habitable structures are to be located within this buffer, although passive recreational opportunities (such as trails and community gardens) may be allowed. Alternative methods and designs to establish the buffer may be proposed, and including placing the buffer on either side of the growth boundary. Physical maintenance of the buffer shall be provided consistent with the design and function of the space.

- The Village core area shall provide for an integrated mix of uses, including park and open space uses, along the river.*
- Future development along the Fresno River should be designed to take advantage of the river frontage, including orienting development to front the river where not otherwise prohibited by site conditions.*
- Village and neighborhood planning shall provide for the alignment of the designated arterial which runs through the Village east and west*

(Cleveland Avenue), to bend to the south to provide circulation to the proposed village core located along the Fresno River.

- *All development proposals within Village D shall comply with the provisions of the Airport Land Use Master Plan. The establishment of land use designations at the village and neighborhood levels, as well as the layouts of individual projects, shall reflect the allowable uses and densities in the Airport Land Use Master Plan.*

Adherence to federal regulations and Comprehensive Land Use Plan regulations and implementation of the above policies would ensure that new development is designed to provide for public safety from airport operations. Thus, this impact is **less than significant**.

Mitigation Measures

None required.

Interference with an Adopted Emergency Response or Evacuation Plan

Impact 4.4.4 Proposed land uses and/or changes in land use patterns that would occur as a result of implementation of the proposed Madera General Plan Update would not interfere with adopted emergency response or evacuation plans. This is considered a **less than significant** impact.

The proposed General Plan Update would not alter the City's overall land use pattern or land use designations to such an extent that would conflict with the City's emergency response and/or evacuation plans. The City does plan to change from the previous practice of rapid outward expansion to a more densely developed city that uses more compact land use patterns to encourage walking, bicycling, and transit use; preserve agricultural and other open space uses; and reduce infrastructure costs.

An efficient roadway and circulation system is vital for the evacuation of residents and the mobility of fire suppression, emergency response, and law enforcement vehicles. Implementation of the General Plan will add additional traffic and residences requiring evacuation in case of an emergency. Implementation of the proposed roadway system under the proposed General Plan Update would provide for a "modified grid" roadway system, particularly for new development, and encourage pedestrian circulation access around the city and at the neighborhood level through the design of roadways and pedestrian facilities. Implementation of the proposed roadway system within the General Plan Update would improve city roadway connectivity, allowing for better emergency vehicle access to residences as well as evacuation routes for area residents (see **Figure 3.0-5**).

Proposed General Plan Policies and Action Items that Provide Mitigation

The proposed General Plan contains the following action item and policy that provide policy direction on emergency response and evacuation:

Action HS-8.1: Adopt an All Hazards (natural and manmade) Disaster Plan. The Plan should be sufficiently broad in scope to include the designation of evacuation routes, staging areas, shelters, PODs (points of distribution), and protocols for coordinating all local government and volunteer agencies in assisting local

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residents in the event of a major earthquake, large-scale fire or explosion, or hazardous chemical spill or release of hazardous airborne gas.

Policy HS-34: The City shall continue to maintain and update emergency service plans, including the Madera City Fire Department Emergency Operations Plan and the Hazardous Material Spills Emergency Response Plan.

As identified above, the proposed General Plan Update's circulation system would improve access throughout the City of Madera and Planning Area, while the above policy and action item would continue to maintain and update emergency response and evacuation plans. Thus, the proposed General Plan Update would not conflict with adopted emergency response or evacuation plans. This impact is **less than significant**.

Mitigation Measure

None required.

4.4.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

CUMULATIVE SETTING

The cumulative setting for hazards and human health risks associated with the General Plan includes the City of Madera as well as the unincorporated portions of the Planning Area. Hazardous material, human health, and safety impacts as described in CEQA Appendix G are generally site-specific and not cumulative by nature. The potential cumulative impacts due to the increased use of hazardous materials resulting from proposed development under the General Plan under buildout conditions include, but are not limited to, air quality, noise, water quality, flooding, and fire, as well as exposure to multiple contaminants. The cumulative impacts associated with affected resources, such as air and water, are analyzed in the applicable technical sections of this EIR.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Hazards and Health Impacts

Impact 4.4.5 Implementation of the proposed General Plan would not contribute to any regional cumulative hazards. This is considered a **less than cumulatively considerable** impact.

Development associated with the proposed General Plan Update and future development in the proposed annexation areas could result in increased hazard related impacts; however, these impacts would be specific to individual sites in the Planning Area and are not tied to any regional (beyond the Planning Area) hazard or contamination issues (the reader is referred to Section 4.6, Air Quality, regarding regional public health issues associated with air pollutants and toxic air contaminants). Proposed General Plan policy provisions and mitigation measures identified under Impacts 4.4.1 through 4.4.4 would assist in reducing the impacts. Federal, state, and local regulations would determine appropriate land uses within the vicinity of the airport in the Planning Area. Anticipated development projects (e.g., residential, commercial, park, and recreational land uses) that would occur under the proposed General Plan Update would also include, but not be limited to, public and utility extension projects, roadway widenings and extensions, intersection improvements, water system distribution improvements, and trail

extensions. These proposed land use activities would not significantly increase human health or safety risks.

Proposed General Plan Policies and Action Items that Provide Mitigation

The proposed General Plan Update contains several policies and action items that address potential hazard impacts associated with implementation of the proposed General Plan Update. The reader is referred Impacts 4.4.1 through 4.4.4 for the list of policies and action items that contain specific, enforceable requirements and/or restrictions and corresponding performance standards that assist in reducing this impact.

Mitigation measure MM 4.4.2 would ensure that contaminated sites are remediated prior to development and occupancy.

As identified under Impacts 4.4.1 through 4.4.4, implementation of the proposed General Plan Update policy provisions as well as mitigation measure MM 4.4.2 would ensure that all project-related hazard impacts are mitigated. Since none of these impacts are related to regional (beyond the Planning Area) hazard or contamination issue, the proposed General Plan Update's hazard impact would be **less than cumulatively considerable**.

Mitigation Measures

None required.

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