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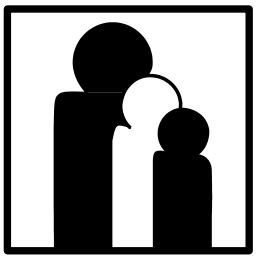
Santa Clara County General Plan

Social Well-Being

Countywide Issues and Policies



NOTE: The Social Well-Being Chapter of Part 2, Countywide Issues and Policies, of Book A of the Santa Clara County General Plan has been superseded in its entirety by the Health Element, Social and Emotional Health Section.

(Amended Aug. 25, 2015; File#: 10184-11GP).

Safety and Noise

Countywide Issues and Policies

(cont'd).

Safety and Noise

Countywide Issues and Policies

Introduction

Summary

This Chapter of the General Plan addresses a range of countywide public health and safety issues. While at first glance they may seem so diverse as to be unrelated, on closer examination it becomes clear that they all touch on aspects of natural and built environments which are critical to sustaining our quality of life. This chapter includes policies which are intended to minimize potential human or environmental injury and property damage.

The Safety Element of the General Plan is one of seven mandatory elements identified in State Government Codes addressed General Plan requirements. The Code directs local governments to evaluate the natural and built environment for potential hazards and, to the extent possible, assess and describe the risk factors of the most threatening of those hazards. Sections of this chapter are intended to satisfy those requirements.

The chapter includes the following sections:

- Hazardous Materials;
- Emergency Preparedness;
- Noise;
- Natural Hazards;
- Aviation Safety; and
- Wastewater Disposal.

[Amended Aug. 25, 2015; File #: 10184-11GP, Air Quality Section superseded by Health Element, Air Quality and Climate Change Section; Health and Safety Facilities Planning Section eliminated; chapter title changed from Health and Safety to Safety and Noise.]

Background

ESTABLISHING ACCEPTABLE LEVELS OF RISK

The General Plan guidelines point out that the safety element should contribute to land use policies and standards by relating the type and intensity of land use relative to estimated levels of risk, and to the availability of services and facilities to ensure safety.

Risk, by definition, implies assessing the probable outcome of development actions in relation to likely future events. Clearly, assessing "level of risk" implies a degree of imprecision given our incomplete knowledge of the future. Nonetheless, the guidelines recognize that this can be done in broad yet useful terms by comparing the likelihood of specific events to "unreasonable" levels of risk.

PERFECT SAFETY IS UNATTAINABLE

The concept of acceptable versus unreasonable risks recognizes that perfect safety is unattainable or so confining and costly as to be undesirable even if approached. Extremely unacceptable risks are relatively easy to determine, for example, buildings should not be placed on known active faults. Likewise, few would question the wisdom of standards of construction required to insure a high degree of safety in schools and hospitals.

The guidelines recognize that other risk situations which requires some local controls and regulation are less clearly definable. In some cases an exact and clear definition of acceptable risk is impossible. The solution in such cases must not only avoid unnecessary risk, but also must be economically and socially acceptable.

MINIMIZING PUBLIC COSTS

The County and cities are unable to guarantee that any development will not, at some point in the future, be adversely affected by the hazards identified in this chapter. Hazards, by their nature, defy precise prediction. The ideal would be to divert new development from areas with

high hazard potential and the policies of this chapter strive to achieve that objective. Problems arise however in areas where risk is more difficult to assess (i.e., residential development in areas far removed from fire and medical facilities) but there is enough evidence to raise doubts concerning the safety of residents or visitors under specific circumstances.

In some instances, where there is a significant factual question about whether a particular development has sufficiently mitigated risks from hazards to an "acceptable" level, the property owner may wish to proceed despite the existence of such a factual question. In such cases, it is important to consider potential costs to public agencies which may occur should disaster strike future residents or visitors of the project. The public costs of providing emergency services and disaster relief should be assessed and made a part of the decision making process.

RELATIONSHIP TO THE VISION STATEMENT

The Health and Safety Chapter policies address all the major themes and several goals of the Vision of the General Plan. By encouraging the development in the appropriate urban and rural locations, the policies strive to create Balanced Growth. The attention to minimizing risks for people and property addresses objectives for Livable Communities and Social Well-Being. The economic aspects of adequately planned waste management facilities, and accessible health services underscore community concerns for overall Economic Well-Being.

Overall Strategies

AVOIDING RISKS

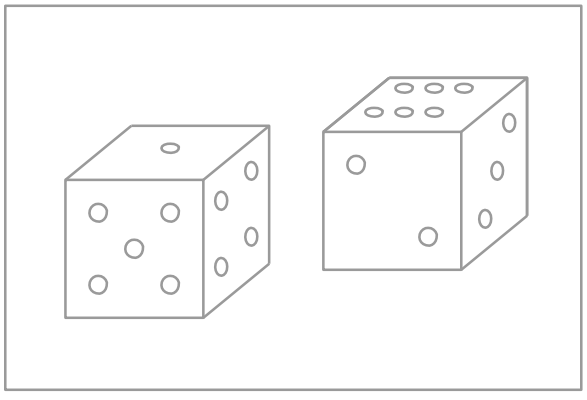
The strategies and policies in this chapter are intended to discourage development which will place occupants and visitors in unreasonable or avoidable high risk situations. Through these policies and the related Land Use policies, the County seeks to limit the range of land uses allowed in hazardous areas in order reduce the exposure of people and buildings to high risk.

The policies focus attention on and encourage cooperation in developing effective, economically feasible implementation procedures which do not unduly burden local businesses and individual households. The policies are also intended to minimize potential for undue financial burden on the County, city governments, other public agencies and, thus, the taxpayer by avoiding development which is likely to incur unusually high public service or disaster relief costs.

PREVENTION, MITIGATION, AND PREPAREDNESS

Although each section contains strategies which are unique to the issue, there are common qualities found in the policies of each section. These would include:

- Preventing exposure to dangerous conditions - Ideally we would be able to remove all danger to people and the environment. However, we do not live in an ideal world. First and foremost, the strategies encourage us minimize to the extent feasible the likelihood that harm will come to either people or the environment.
- Minimizing danger when exposure is unavoidable - Living in our complex, modern society entails certain risks. Where we have determined a certain level of risk is appropriate, we should use the appropriate measures to ensure that level is not exceeded.
- Being prepared for disaster - Despite our best efforts, disasters will nonetheless occur. We must prepare for these occasions in ways which will minimize death and injury, and ensure swift restoration of normalcy.



Hazardous Materials

Summary

This section of the Countywide Health & Safety Chapter provides an overview of countywide hazardous materials management responsibilities, with particular emphasis on those management issues which relate directly to the land use policies contained in the General Plan. Those seeking comprehensive and detailed information on specific local hazardous materials management plans and programs should contact the appropriate County or city office.

This chapter does not discuss the problems related to nuclear wastes, which come under federal regulation, or municipal solid waste, which is covered in the Santa Clara County Solid Waste Management Plan and is addressed in the Countywide Resource Conservation Chapter.

Toxic substances which contribute to the problems of air pollution include cadmium, beryllium, asbestos, lead and a variety of chemical substances which may be released from commercial and industrial processes as a result of improper storage, handling, disposal or transport, or as a result of natural disaster.

Background

The safe transportation, use, storage, and disposal of hazardous substances and wastes is vitally important to the continued well-being of all Santa Clara County residents, the local economy, and the natural environment. Protecting the public and the environment from exposure to dangerous substances while ensuring that hazardous materials controls are cost-effective for all users is a major challenge, but one which must be met.

HAZARDOUS MATERIALS MANAGEMENT LEGISLATION

During the past decade, Congress and the State legislature have adopted many measures which require specific actions by local governments in assessing and planning for the safe handling and disposal of hazardous materials. Among them are:

Federal
- Resource and Conservation and Recovery Act of 1965
- Comprehensive Environmental Response, Compensation, and Liability Act of 1980
- Emergency Planning and Community Rightto- Know Act of 1986
- Toxic Substances Control Act
- EPA Storm Water Discharge Program

State
- SB 1082 (Unified Hazardous Waste/Materials Management Regulatory Program)
- Sher Bill (AB1362 - Hazardous Materials Storage)
- Waters Bill (AB2185/2187 - Hazardous Materials Release Response Plans and Inventory)
- La Follette Bill (AB3777/1059 - Extremely Hazardous Substances)
- Toxic Gas Model Ordinance (AB1021)
- Cortese Bill (AB3750 - Hazardous Waste and/or Substance Site)
- Safe Drinking Water and Toxics Enforcement Act (Prop 65)
- Toxic Pits Cleanup Act
- State Superfund Act
- California Land Disposal Restriction Program (Modified 1985 and 1986
- Tanner Act (AB2948 - Hazardous Waste Management Plans)

This list is by no means exhaustive. Hazardous materials are regulated indirectly by some federal and state laws or programs addressing other issues.

It is important to note that Santa Clara County has long been a leader in the area of hazardous materials controls. In fact, the County and cities were early pioneers in the field with the Hazardous Materials Storage Ordinance, an act

which served as a model for federal and state legislation. Our local legislators, agency officials and business representatives have served and continue to lead hazardous materials control efforts at all levels of government.

WHAT IS A "HAZARDOUS" SUBSTANCE?

The Environmental Protection Agency has defined a "hazardous" substance as one "which, because of its quantity, concentration, or physiochemical or infectious properties, may either increase mortality or produce irreversible or incapacitating illness, or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of or otherwise managed." (Santa Clara County Hazardous Waste Management Plan)

As an indicator of the scale and diversity of hazardous materials use in Santa Clara County, an estimated 140,000 tons of hazardous waste was generated in 1986. Large industries generated just over 87,000 tons; smaller commercial, industrial, and institutional facilities (those with 10 or fewer employees) generated another 52,000 tons; and individual households produced an estimated 1,600 tons. The types and quantities of materials we use are a function of our lifestyles and the size and diversity of our local economy.

THE ROLE OF THE COUNTY AND CITIES

Most hazardous materials regulations originate with federal and state government. The County and cities do play a primary role in local enforcement of those regulations with one major exception. Although hazardous materials often present the greatest danger to the public and the environment while those materials are being transfered from one site to another the transportation of hazardous materials (e.g., its movement from point of origin to user to recycler or disposal site) is an enforcement responsibility assigned exclusively to the California State Highway Patrol and is beyond the control of local government. Regulation by the County and cities is limited to enforcing standards and procedures in the siting, construction and operation of businesses, farms and residences within their jurisdictions.

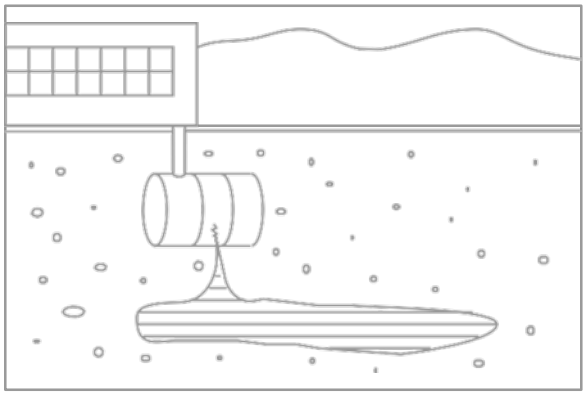
Despite this limitation, the County and cities can do much to protect both residents and the environment from exposure to hazardous materials by developing, adopting and implementing the hazardous materials plans and policies now required by law. They can further enhance the effectiveness of their efforts by working with other jurisdictions countywide to ensure coordinated, uniform enforcement.

The lack of coordination in enforcement and a fractured, complicated permit procurement process compromises the effectiveness of hazardous materials regulations and imposes unnecessary cost burdens to both local governments and businesses. Because they are so numerous and because so many agencies at every level of government are involved, implementation has lacked uniformity. The process a business which uses hazardous materials must follow to acquire the necessary permits to operate is legendary in its complexity. In addition, it is nearly impossible for a local business or farming interest, not to mention the local enforcement agencies, to stay current with all the regulations they are expected to know.

While the County and cities are not to blame for this situation, they can play a key role in its resolution. The County and cities have a major role to play in seeking revisions to federal and state laws which will permit a coordinated, less costly implementation of hazardous materials regulations.

EXISTING PROBLEMS WITH HAZARDOUS MATERIALS

Santa Clara County industries and agriculture are major users of hazardous materials. Even our households add to the demand for hazardous substances and contribute to the production of hazardous waste. Consequently, hazardous materials are moving around the County each day by railroad and highway. In addition, pipelines crisscross the county carrying flammable and explosive gases and petroleum products.



Despite the apparent beauty of Santa Clara County, our record for managing hazardous materials is less than exemplary. In the past, petroleum fuels and other toxic materials have spilled or seeped into the soil and underground aquifers, endangering public and private drinking water. There are currently 28 Superfund sites countywide.

The fact that most of our local hazardous materials regulations derive from federal and state legislation indicates that we are not alone among developed regions with large and complex local economies. It has taken some time for the drawbacks of our "clean", high-technology industries to become apparent. While these drawbacks are serious, they are not insurmountable. Clean alternatives have already been found to the many of the residual "toxics" from years past.

For the time being, our continued economic well-being and the quality of life we enjoy are tied to the production and use of goods involving hazardous substances. The near term challenge will be to protect people and the environment from harm without unduly burdening local industry and agriculture. Local ordinances such as the Toxic Gas Ordinance and the Risk Management and Prevention Program have proven successful in this regard.

HAZARDOUS WASTE MANAGEMENT LEGISLATION

The 1984 amendments to the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) which created the Superfund, requires each state to provide assurance to the federal Environmental Protection Agency (EPA) that adequate capacity exists to handle the state's hazardous waste treatment/ disposal needs for the next 20 years. Should the state not provide adequate assurance, Superfund dollars for cleaning up contaminated sites could be withheld.

In response to this federal initiative, the State legislature passed AB 2948 (the "Tanner Bill") in September 1986, requiring the establishment of County Hazardous Waste Management Plans (CHWMP's). The function of CHWMP's is to promote the evaluation of local hazardous waste management issues and needs, and to make policy and program recommendations to better protect public health and safety and the environment while maintaining the economic viability of the state.

THE COUNTY HAZARDOUS WASTE MANAGEMENT PLAN

All of the cities in Santa Clara County joined the County in developing a CHWMP in order to create a comprehensive and coordinated countywide approach to hazardous waste management planning. This was accomplished by an eleven member committee consisting of representatives from the Board of Supervisors, several city councils, the semiconductor and manufacturing industries, public interest groups, environmental groups, and special districts. The Plan development process provided an opportunity for local, regional, and state agencies, as well as the general public, to participate.

The primary objective in developing the CHWMP is to protect the health, safety and economic well-being of both our citizens and the environment. The Plan maintains this objective while also recognizing the State-mandated responsibility to address the specific hazardous waste needs of local businesses and households. This is achieved through the CHWMP by:

- encouraging waste reduction and on-site treatment; and
- establishing a clear process for siting of appropriate, new hazardous waste facilities.

New and existing hazardous waste generators in the county will be encouraged and required to implement source reduction, on- and off-site

recycling, and on-site treatment to the maximum extent feasible in their use, handling, and disposal of hazardous materials and wastes.

A considerable reduction in the hazardous waste stream can be achieved through the use of existing technologies. Aggressive waste reduction efforts using new and evolving technologies will further reduce the need for future waste management capacity. Nevertheless, it is likely that we will need additional waste treatment and disposal facilities at some point. The CHWMP sets forth a planning process to anticipate and respond to those needs by:

- reducing hazardous waste generation;
- siting appropriate and economically feasible hazardous waste management facilities for waste streams which cannot be reduced; and
- signing intercounty agreements with other counties as a means of utilizing needed and available hazardous waste management capacity in other jurisdictions.

LOCAL REGULATION OF DEVELOPMENT

The County and cities are responsible for regulating land use and development within their jurisdictions. Through the jurisdiction's General Plan, Zoning and Health Codes, and other development controls, local government ensures that the public and the environment are shielded from dangerous material and activities. Where hazardous materials use must occur in proximity to other land uses, development standards can ensure that those materials are handled as safely as possible.

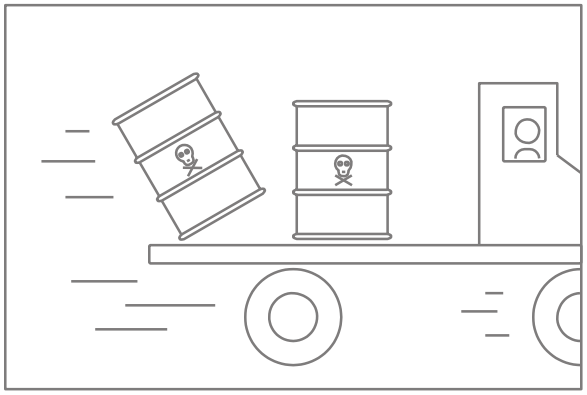
The Uniform Fire Code, the Uniform Building Code, and the Hazardous Materials Storage Ordinance include regulations pertaining to the safe use and storage of hazardous materials, and to the construction of structures which house activities involving hazardous materials. The General Plan policies and Land Use Map strive to separate, either geographically or structurally, hazardous activities from other uses.

As the county grows more urban in character, we will face new development issues with regard to hazardous materials. One issue now coming into focus is that of proximity between these materials and "non-industrial" uses (i.e., day care facilities, restaurants, etc.). Many of us laud the inclusion of convenience services in commercial and industrial developments. However, current regulations bar hazardous materials use or storage within a certain distance of such services. In planning for future mixed uses we must ensure that we are not unduly constraining the potential of our industrial areas. Achieving employment and economic objectives may call for new design and development standards to ensure both safe and convenient work environments.

The County and cities have used the hazardous materials plan development process as an opportunity to educate materials users and the general public about a range of related issues. This process can also serve as an incentive for local governments to establish working groups that include representatives of business, agriculture, and environmental organizations along with hazardous materials suppliers, and operators of hazardous materials treatment and disposal facilities. These groups are well-suited to assist local government in developing coordinated, cost-effective local hazardous materials regulations and policies which protect the public and the environment.

ENSURING THE ADEQUACY OF FACILITIES

Of particular significance to countywide land use planning is the state requirement that the CHWMP describe the process by which the County and cities will assess current and future facility needs and plan for adequate hazardous waste facility sites. The Hazardous Waste Management Plan adopted by Santa Clara



County includes a set of policies and criteria for siting hazardous waste management facilities through the year 2000.

The CHWMP is intended to compliment other local planning efforts through the adoption of consistent criteria for the approval or disapproval of proposals to site commercial off-site hazardous waste management facilities. The siting criteria address six areas of concern:

1. Protection of Residents of Santa Clara County
2. Assurance of the Structural Stability of the Facility
3. Protection of Water Quality and Resources
4. Protection of Air Quality
5. Protection of Environmentally Sensitive Areas
6. Protection of Social and Economic Goals

The siting criteria in the CHWMP serve an important function in the planning process and in evaluating specific facility proposals. While the criteria satisfy the need for an emphasis on public and environmental safety, the siting policies ensure that countywide facility siting needs and objectives are met. These siting criteria and policies will be used to determine appropriate facility design and performance standards, in addition to determining the acceptability of the selected site.

The CHWMP siting criteria apply to all countywide hazardous waste treatment siting decisions, including siting decisions within individual cities. The criteria are to be used whenever a land use decision is required to site and construct a new facility or expand an existing hazardous waste facility. The criteria are designed to identify the most appropriate locations in regards to public and environmental safety. This will aid facility developers in identifying appropriate locations and understanding the major issues of community concern.

The jurisdiction's General Plan and the CHWMP are intended to compliment one another and will be applied to a project simultaneously. Consequently, in addition to meeting the CHWMP siting criteria, additional conditions can be imposed on a proposed facility as circumstances dictate.

Strategies, Policies and Implementation

The policies and implementation recommendations in this section reflect the common strategies found throughout the Health and Safety Chapter. Those common strategies are: first, minimize to the extent feasible the likelihood that harm will come to the public or to the environment.; second, where it is necessary to incur risk, develop the appropriate procedures to ensure public and environmental safety. In addition, the policies also establish the presumption of consistency between the General Plan and the CHWMP.

Overall strategies relating to hazardous materials and wastes are to:

Strategy #1: Manage Hazardous Materials Safely and Efficiently

By adhering to adopted building and development standards (i.e., Uniform Fire Code, Uniform Building Code, Hazardous Materials Management Plan, etc.), the County and cities can ensure that new development is designed and maintained in a manner that will shield or distance people and the environment from dangerous materials and activities.

Strategy #2: Ensure the Adequacy of Local Hazardous Waste Treatment Facilities

Where the use of hazardous materials is deemed necessary and appropriate, the County and cities should enforce reliance upon safe and cost-effective procedures. Through adoption and enforcement of the County Hazardous Waste Management Plan and other mandated hazardous materials programs, the County and cities can also ensure the safety, availability and adequacy of local hazardous waste treatment and disposal facilities.

Strategy #1: Manage Hazardous Materials Safely and Efficiently

To be successful, a strategy to minimize risk must address several aspects regarding the administration of local programs. This must include assessing the effectiveness of procedures in protecting public and environmental health, in identifying opportunities for closer coordination of program implementation among local governments, identifying opportunities reduce time and cost to program users and administrators, and in ensuring safe, efficient use of existing treatment facilities and timely planning for future sites.

PROTECTING PUBLIC AND ENVIRONMENTAL HEALTH

In the case of land uses involving hazardous materials, County and city planning agencies can minimize public safety risks by ensuring that such materials are properly used and stored. These objectives can be achieved through local land use and development regulations. When evaluating local regulations, the County and cities should also assess their effectiveness in minimizing risk. Likewise, local governments should remain aware of progress made in the area of hazardous materials management and, where appropriate, incorporate new, more effective methods into their array of regulatory mechanisms.

COORDINATING IMPLEMENTATION AND SHARING RESOURCES

Federal and state regulation of hazardous materials expanded rapidly during the late 1980's. Coordinating the implementation of these regulations has proven to be a daunting and costly task for both business and government. Finding workable solutions to responsibly manage hazardous waste is a necessary step in sustaining the quality of life and economic health of the county.

The high degree of cooperation has made it possible to make great strides toward coordinating and streamlining the regulatory requirements imposed by federal and state government. Local governments, and business and community leaders continue to be state leaders in this area and deserve recognition for what has been accomplished. We should encourage all parties to continue working together to resolve the barriers which still remain to coordinated, effective implementation.

Despite progress toward coordinated effort, the County and cities are, nevertheless, individually responsible for enforcing certain regulations intended to protect public and environmental health. Federal and State mandates have spread planning, monitoring, and enforcement responsibilities among dozens of County and city agencies. This presents a serious challenge to the businesses, farmers and householders who must interact with these different agencies, not to mention the responsible agency. To ensure that hazardous materials regulations are effectively implemented, the County and cities must strive to further simplify and coordinate the work of these agencies countywide where ever possible.

IMPROVING THE REGULATORY SETTING

The complexity of hazardous materials management regulations and permitting procedures are well known to those who have had to navigate them. Given the federal and state origins of most of the laws governing hazardous materials, local government may be somewhat limited in its options for simplifying the regulatory setting. However, recent state legislation has been signed into law that is intended to address the complexity of the regulatory setting and help reduce costs of administration to both local governments and the private sector.

In 1993, Senate Bill 1082 became law, creating the Unified Hazardous Waste and Hazardous Materials Management Regulatory Program. Its intent is to establish a single agency within a local jurisdiction that is responsible for:

- consolidating the administration of six major hazardous waste and materials management programs;
- consolidating permitting and other grants of authority;
- developing a single inspection and enforcement program; and,

- instituting a unified fee system to replace most of the fee systems in place previously.

Spanning many regulatory agencies, this program will require a well-coordinated effort between local fire protection agencies and the County Department of Environmental Health, primarily. Discussions began in 1994 regarding implementation of the new law and are ongoing. If successful, over time local business and industry should experience an improved regulatory setting and possibly lower costs for compliance.

Finally, the County and cities have the ability to contribute substantially to a broad understanding of and support for hazardous materials management objectives and regulations by establishing a centralized information source on all local hazardous materials regulations and permitting requirements.

➔ ***Policies and Implementation***

C-HS 14
All feasible measures to safely and effectively manage hazardous materials and site hazardous materials treatment facilities should be used, including complying with all federal and state mandates.

C-HS 15
To achieve a more effective, efficient and economical regulatory environment, all feasible means to simplify and coordinate locallyimplemented hazardous materials management regulations should be considered.

Implementation Recommendations

C-HS(i) 6
Comply with all federal- and state-mandated hazardous materials planning and regulatory measures. (Implementors: County and Cities)

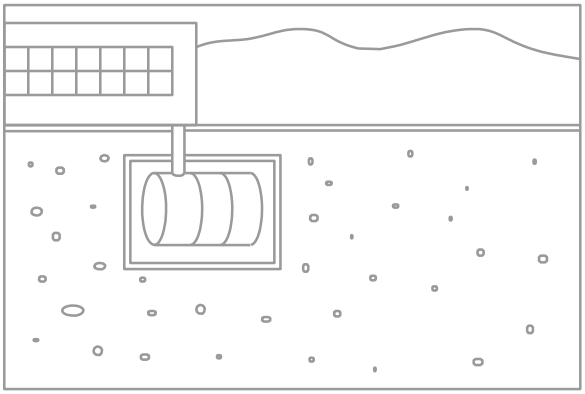
C-HS(i) 7
Publish a directory of hazardous waste management regulatory responsibilities and implementing agencies countywide.
(Implementors: County and Cities)

C-HS(i) 8
Establish and maintain a publicly-accessible electronic bulletin board whereby users and interested citizens may access current information pertaining to hazardous materials regulations and related permitting and inspection requirements.
(Implementors: County, Cities, and User Groups)

C-HS(i) 9
Join with local business, agricultural, and environmental organizations for the purpose of seeking revisions to federal and state hazardous materials regulations which will result in more effective, efficient and economical implementation.
(Implementors: County, Cities, and User Groups)

C-HS(i) 10
Assess all local hazardous materials regulations and procedures to determine how they might be carried out more effectively and with a reduction in time and cost to all users, including local government agencies.
(Implementors: County and Cities, User Groups)

C-HS(i) 11
Establish a working group of business, agricultural, environmental and government agencies for the purpose of assessing current hazardous materials use, storage and disposal requirements, and developing feasible strategies to improve effectiveness, efficiency and economy in their countywide implementation.
(Implementors: County, Cities, Business, Agriculture, and Environmental Organizations)



Strategy #2:
Ensure Adequacy of Local Waste Treatment Facilities

NEED FOR TREATMENT AND DISPOSAL FACILITIES

Throughout California, the difficulty of siting new hazardous waste management facilities has been a constraint to the development of an effective state-wide hazardous waste management system. This difficulty has been due primarily to public opposition and the ability of local governments to reject facility proposals for reasons other than technical safety. The irony in this situation is that we have continued to generate hazardous wastes; existing facilities are approaching capacity and waste is being stored in what were intended to be only transitional facilities.

ENSURING ADEQUATE TREATMENT AND DISPOSAL FACILITIES

Reducing the amount of hazardous waste is the preferred method for managing waste generated in Santa Clara County. However, successfully implementing source reduction will not preclude the eventual need for new off-site hazardous waste management facilities due to the county's large and varied waste streams. Identifying environmentally suitable locations in the county for future off-site hazardous waste management facilities is an important and necessary activity.

Failure to develop necessary new hazardous waste management facilities increases the likelihood that a public health or environmental disaster may occur. The lack of adequate facilities also compromises economic development. Manufacturers will not be inclined to move to or expand in areas where they perceive it will be a costly and protracted struggle to dispose of waste.

Finally, a fundamental tenet of the Tanner legislation is that each county take responsibility for managing the wastes generated by local businesses and industries. Consequently, a primary function of the Tanner legislation and local hazardous waste management plans is to ensure that there is an adequate supply of potential sites to accommodate needed hazardous waste management facilities. Furthermore, the Tanner legislation and local hazardous waste management plans ensure there is an equitable siting and public review process whereby waste management facilities may obtain the necessary local land use approvals for proprosals that conform with the CHWMP, local general plans, and applicable ordinances.

Given those objectives, state law requires that local discretionary land use actions be consistent with the CHWMP and that they not unnecessarily limit the availability of potential sites identified by the CHWMP facilities siting map and criteria. The importance of this requirement should not be underestimated. For the CHWMP to be effective, the jurisdictions which have jointly adopted it must ensure not only that it is properly implemented, but they must also ensure that individual local land use decisions do not have the cumulative effect of ultimately undermining the CHWMP.

Policies and Implementation

C-HS 15.1
Proposals to establish hazardous waste management facilities in Santa Clara County that are subject to the authority of the Countywide Hazardous Waste Managment Plan (CHWMP) shall comply with all substantive and procedural provisions of that plan and with all applicable state and federal laws concerning the establishment and safe operation of such facilities.

C-HS 15.2
The cities and County of Santa Clara shall ensure that all relevant discretionary land use and development decisions:

a. are consistent with the intent and provisions of the Countywide Hazardous Waste Management Plan (CHWMP), especially the facilities siting map and criteria, which identify potentially suitable areas for siting needed waste management facilities; and,
b. do not unnecessarily limit the availability of sites suitable for potential hazardous waste management facilities, as identified in the CHWMP facilities siting criteria and map.

[Amended Dec. 5, 1995; File #: 3644-95GP]

C-HS 16
To ensure criteria effectiveness and the adequacy of local facilities, periodically review and evaluate the facilities siting criteria of the Santa Clara County Hazardous Waste Management Plan.

Implementation Recommendations

C-HS(i) 12
Review and evaluate the County Hazardous Waste Management Plan siting criteria every three years to correspond with the triennial update of the State Plan.
(Implementors: County, Cities, User Groups, and Interested Citizens)

C-HS(i) 13
Continue implementing and improving the countywide Household Hazardous Waste Management Program.
(Implementors: County, Cities, and Citizens)

Emergency Preparedness

Summary

Despite our best efforts, natural and humancaused disasters occur periodically, sometimes causing widespread damage and destruction, as well as loss of life. Although we can't prevent such disasters from occurring in every case, we can help reduce damage and loss of life by minimizing development in hazardous areas and by adhering to development standards that reduce potential risks. Risk reduction is addressed in several of the preceding sections of the Health and Safety Chapter. In addition to risk reduction, we can prepare ourselves for the inevitable.

This section of the Health and Safety Chapter focuses on the efforts that should be taken to prepare in advance for natural and human-caused disasters. Its two basic strategies are:

Strategy #1: Plan for Immediate Disaster Response; and
Strategy #2: Plan for Post-Disaster Recovery

Toward that end, the policies and recommendations in this section encourage the County and cities to take actions which will protect the public and environment and will aid in the restoration of law and order in the event of natural or human-caused disaster.

Planning for emergencies already occurs at the county level, in each city, and in many individual agencies with "hazard-specific" responsibilities (i.e., wildfire management, hazardous materials incidents, etc.). This section is not intended to supplant any of those plans, but merely to identify the linkage between them and the General Plan, and to encourage continued efforts. Those interested in the full text of those individual plans should contact the implementing agency in County government or in their community.

Background

THE NEED TO BE PREPARED

■ Disasters Happen

Although we try to minimize human exposure to safety risks through our land use planning policies and development standards, natural and human-caused disasters do occur, including floods, wildfires, earthquakes, plane crashes, as well as others. Since we must acknowledge that disasters will inevitably occur from time to time, we must also accept the necessity of planning for them. Through emergency planning we can minimize the potential for loss of life and damage to property, and facilitate the rebuilding process when major damage occurs to private and public buildings and community infrastructure.

■ Immediate Response and Longer Term Recovery

To be truly comprehensive, emergency preparedness should take into account two separate, but overlapping phases: emergency response during or immediately following the disaster, and post-disaster recovery.

During major disasters, such as wild fires, earthquakes, or floods, our resources will be turned toward saving lives, minimizing damage to property and the environment, and containing the scope of destruction to the greatest degree possible. Once the flames are out, or the waters have receded, we must be able to effectively target our resources toward reuniting families, getting medical attention to survivors, and reconstructing our communities.

■ Elements of Local Emergency Preparedness Planning

To be effective, emergency preparedness efforts should take into account a number of basic considerations. Foremost should be saving lives and minimizing injuries by ensuring the availability of prompt medical treatment. Next would be containing the disaster and protecting property from further damage. Once the disaster has subsided or been contained, immediate steps must be taken to restore law and order and to provide essential services. Finally, the needs of survivors and the larger community must be answered so that life may return to a normal state.

■ Local Emergency Preparedness Planning Responsibilities

A number of local, state, and federal agencies have responsibilities for emergency preparedness planning. The County and cities each have mandated responsibilities to prepare individual emergency plans and cooperate with one another in developing a countywide emergency response plan. Thus, the County and each city bear both individual and collective responsibilities in planning for disasters.

EMERGENCY SERVICES PLANNING

■ State Planning Mandates

State Government Code Section 8607, as modified by SB1841 (Petris Bill), requires the California Office of Emergency Services to develop and implement "a standardized emergency management system for use by all emergency response agencies." The state, in turn, has directed all county and city governments to prepare emergency plans and agreements to provide mutual aid in the event of disaster. The State also created a strong incentive to participate in such planning activities by requiring that local governments must do so in order to qualify for any funding of response-related costs following declared disasters.

Santa Clara County established the Office of Emergency Services (OES) in the early 1950s, partly in response to federal and state mandates to do local emergency planning. The OES was vested with the responsibility for coordinating all public and private support agencies in the event of extraordinary emergency situations associated with natural and human-caused disasters. These agencies include law enforcement, fire and rescue, health, public works, transportation, welfare, and communications countywide.

Several cities also maintain a comparable agency with a similar mission. All have cooperated with the County in jointly developing the Santa Clara County Emergency Plan.

■ The Santa Clara County Emergency Plan

The County Office of Emergency Services (OES) is the agency responsible for preparation of the Santa Clara County Emergency Plan and all supporting documentation. The most recent edition of the Emergency Plan was adopted in May 1989, shortly before the Loma Prieta Earthquake.

The Plan's format and contents generally follow those of the state's Model Multi-Hazard Functional Plan established by the Governor's Office of Emergency Services. One objective of the state model was to consolidate all the local hazard-specific plans (flood, earthquake, hazardous materials, etc.) prepared by several different agencies throughout the county into one coherent, consistent document. The state is currently in the process of developing a similar document, the California Emergency Plan, which will include all local area plans as part of an overall state emergency response management plan.

Specific priorities for the Plan are:
- Save human lives
- Protect property
- Provide for the needs of survivors
- Provide public information
- Preserve government
- Restore essential services

The Emergency Plan is an "all-hazard" plan, designed on the premise that all kinds of emergencies share common response needs (i.e., fire suppression, law enforcement, medical attention). As such, it is structured to identify the range and degrees of probable emergency situations, the full range of emergency services which may be needed under a multitude of scenario, and the timing and coordination of emergency service delivery. In fact, the overriding goal of the plan is to identify and organize all County and city service agencies so that they may be applied effectively where and when they are needed.

The Plan also describes the circumstances which justify activation of its procedures. The County may proclaim an emergency only when a disaster or a possible disaster threatens the safety of persons or property anywhere within the county. Justifiable causes include:
- Air pollution
- Riot
- Fire
- Epidemic
- Flood
- Storm
- Earthquake
- War
- Other conditions (except a labor controversy)

LOCAL EMERGENCY RESPONSE ROLES

Responsibility for providing emergency response during or immediately following a disaster initially lie with individual jurisdictions. When a disaster is of a magnitude that is beyond the response capabilities of an individual jurisdiction, a countywide response is triggered.

As defined in the Emergency Plan, emergency response can start small and grow as need arises (fully activated, the statewide emergency management system consists of all jurisdictions throughout the state). The County will work with the cities to coordinate emergency operations within Santa Clara County; the County and the State will coordinate support for the cities.

Each city has its own emergency management system which varies from jurisdiction to jurisdiction. Most will have their own fire and police departments with the exception of Cupertino, Los Gatos, Monte Sereno, and Saratoga, all of which contract with the County Sheriff's Department and/or the County's Central Fire District for some or all of these services. Some cities also contract for emergency medical services (paramedics and ambulances) and communications dispatch.

Most city governments in Santa Clara County do not provide such emergency functions as public health, mental health, or coroner. Since County resources will be stretched very thin in a major disaster, the cities should plan to provide these services to some degree until help arrives.

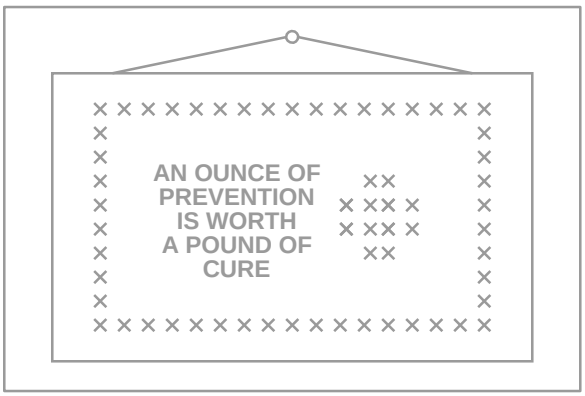
EMERGENCY PREPAREDNESS AND LAND USE

Every disaster can teach us valuable lessons about building construction, land use, and the adequacy of emergency response. Unfortunately, many of these lessons are soon forgotten, and there is a tendency to return to less stringent standards and land use practices as memories of the disaster fade. That's one reason the Federal Disaster Relief Act of 1974 requires safe land use and construction practices as a condition of receiving federal disaster aid.

There are several ways in which the General Plan may serve to reduce the threat of natural or human-caused disasters. Land use policies can keep population low in areas prone to landslides, floods, or wild fires. It can include policies which call for building standards which address earthquake safety concerns. Its policies can direct government agencies to carry out community and agency education programs, alerting citizens and staff as to what to do in the event of an emergency.

The Area Plan contains "threat summaries" for cities under contract to the County and for the other cities in the county as well. Threat summaries include maps of critical risk and areas designated as containing significant amounts of hazardous material in each of the cities. Land use planning and decision making should take these risk areas into consideration when site and construction standards are determined for uses on or adjacent to such areas.

Few industries involved with significant amounts of hazardous materials are located in the unincorporated areas of the county. It is by design that most industrial and other forms of large or complex development are placed within the cities where urban services are available. Industrial facilities in isolated areas usually have the means to take care of any potential problems on their site.



Response procedures and responsibilities in emergency situations are organized similarly at both the city and county levels. Such cooperation is not only encouraged by state and federal law, but greatly enhances the effectiveness of countywide risk management. In emergency situations, the Director of Emergency Services directs the operating departments of city or county governments, collects and disburses resources, and coordinates communications and decision making. To the extent feasible, the County, the cities and special districts should continue to search for opportunities to make local and countywide emergency response measures more effective.

Strategies, Policies and Implementation

The policies and implementation measures below are intended to help prepare us for the inevitable natural and human-caused disasters. While we can't prevent such disasters from occurring in every case, we can take steps to reduce damage and loss of life and reduce potential risks. Through emergency preparedness we can plan to quickly and effectively respond to disasters when they occur.

The policies focus and elaborate on two basic strategies:

Strategy #1: Plan for Immediate Disaster Response
Strategy #2: Plan for Post-Disaster Recovery

The policies below encourage the County and cities to take actions now which will protect public and environmental safety later and will aid in the swift restoration of law and order when disaster strikes. The recommendations are aimed at identifying specific actions which will enhance emergency planning activities and

ensuring that local governments, businesses, and the public are as prepared as possible for likely emergencies. Developing, adopting and maintaining federal and state mandated emergency response plans and procedures is fundamental to these objectives. However, we should all continue to work together to identify any additional steps that may increase our safety and minimize risks.

Strategy #1:
Plan for Immediate Disaster Response

Through wise land use and development practices, people and the environment can be protected from a wide range of natural or human-caused disasters. Prudent actions in advance of these occurrences can substantially reduce the level of chaos, death and damage which might ordinarily be expected. Such actions can also minimize the period of time following a disaster before we can return to normal life.

To be successful, our efforts must involve every segment of the community; government, business, and the public. We must all know what to do when a disaster strikes.

Policies and Implementation

C-HS 17
Local governments should comply with all federal and state regulations regarding emergency planning and preparedness.

C-HS 18
Local government, business, and community organizations should cooperate in preparing the most effective emergency response plans and procedures feasible.

C-HS 19
The County and cities should comply with federal and state hazardous materials regulations and planning activities, including, the Countywide Hazardous Waste Management Plan, the Hazardous Materials Area Plan, and the Operations Section of the County Emergency Plan regarding a hazardous materials incident.

C-HS 20
All proposals to site a hazardous waste facility shall be compatible with neighboring land uses and be consistent with the permitting jurisdiction's General Plan and the Countywide Hazardous Waste Management Plan.

Implementation Recommendations

C-HS(i) 14
Develop, adopt, and maintain all federal and state mandated emergency plans and procedures.
(Implementors: County, cities and special districts)

C-HS(i) 15
Periodically carryout community and agency education programs, familiarizing citizens and staff as to what to do in the event of an emergency.
(Implementors: County, cities and special districts)

C-HS(i) 16
Ensure that critical emergency services normally provided by an outside agency will be available in each jurisdiction as needed (i.e., public health, mental health, coroner).
(Implementors: County, cities and special districts)

C-HS(i) 17
Work with local hazardous materials users to devise the most effective and economical means to implement hazardous materials management procedures.
(Implementors: County, cities and special districts)

C-HS(i) 18
Maintain accurate and up to date threat summaries for every jurisdiction. (Implementors: County, cities and special districts)

C-HS(i) 19
Work with local businesses and farmers to ensure that the appropriate emergency response procedures are understood and that emergency equipment is available. (Implementors: County, cities and special districts)

Strategy #2: Plan for Post-Disaster Recovery

Critical to emergency preparedness is having a plan to pull ourselves together after disaster strikes. This entails giving considerable though now to what we'll need to help ourselves get back to a normal state. All segments of the community should cooperate to ensure that, when disaster occurs, recovery is as swift as possible.

Local governments have an obligation to maintain law and order, and to quickly restore essential public services. Initially, this may have to be accomplished amid widespread destruction, damaged public infrastructure, and without any assistance from outside the county. Private industry, too, must think through the same scenario; what will be needed to resume doing business under extraordinary conditions.

Policies and Implementation

C-HS 21
Local emergency planning agencies should work to ensure continuity of government and a swift restoration of public and commercial services.

C-HS 22
Ensure that critical emergency services and equipment normally provided by outside agencies will be available in each jurisdiction to the extent possible (i.e., public health, mental health, coroner, fire supression, etc.).

C-HS 23
Local governments and hazardous materials users should work jointly to identify the most effective and economically feasible measures to prevent hazardous materials incidents and ensure the swift post-incident recovery of all effected.

Implementation Recommendations

C-HS(i) 20
Develop recovery procedures to ensure continuity of government and swift restoration of public services, including:
a. duplication and safe storage of critical public maps and other records;
b. development of alternative agency procedures which expedite public services; and
c. establishment of agreements between private and public agencies to maximize service delivery resources to the community.

(Implementors: County, cities, special districts, community service and business organizations)

C-HS(i) 21
Develop and maintain a detailed, computerized countywide GIS accessible to all emergency services personnel. (Implementors: County, cities, community service organizations and special districts)

C-HS(i) 22
Work with business organizations to assist them in developing post-disaster recovery plans. (Implementors: County, cities, business organizations)

Noise

Summary

All citizens are entitled to a peaceful and quiet environment, free from unnecessary and annoying levels of noise. Noise has been shown to interfere with speech, sleep and mental concentration, induce stress and headaches, and disrupt overall efficiency and enjoyment of life. It is, therefore, in the public interest that the County and the cities evaluate techniques and develop policies which provide for an environment free from noise which may be hazardous to public health and well-being.

Santa Clara County and the cities should strive to ensure an environment for all residents that is free from noise that jeopardizes public health and well-being. Toward that end, the strategies focus on three areas:

- Preventing or Mitigating Unwanted Noise
- Providing Adequate Sound Buffers
- Minimizing Exposure to Airport Noise

Background

Noise is unwanted sound. The impacts of noise can be annoying and physically harmful. Exposure to intense noise may lead to irreversible hearing damage, and may induce other health problems due to stress. The effects of noise build up over time, so it is necessary to deal not only with the intensity of sound but also the duration of exposure which people have to the sound.

ACHIEVING NOISE COMPATIBILITY

The ideal is complete separation of noise sensitive uses from noise generating sources. This approach is most effective in large scale, mixed use or planned developments. Given that all types of land uses must coexist within the county's urban areas, the planning challenge is in achieving adequate noise compatibility.

For Santa Clara County, an important part of planning for a healthy and safe environment is the avoidance of unnecessary transportation-related noises. Within areas identified as being impacted by noise, it will be necessary to design projects to be compatible with the specific types of noise impacting the site.

FUTURE NOISE CHALLENGES

Noise reduction techniques can be designed and built into new construction. We will need to use these techniques and to develop new ones for addressing noise as the county matures into a community with a more urban character.

State law mandates that each community's general plan be consistent with local ALUC Plans. The most effective way to ensure consistency is to defer to ALUC policies and standards for development on or adjacent to county airports. The strategies encourage the County and cities to do so.

NOISE SOURCES – POINT AND LINE

Noise sources are divided into two categories: point sources and line sources. Point sources emanate from a single point, whether stationary or moving. Line sources emanate from a steady stream of sound. As one moves away from a sound source, the sound level gradually decreases or attenuates. Aside from distance, a sound may be attenuated by objects which shield a potential receiver from unwanted sound.

Measuring Noise

Three common measures of sound form the basis of County standards discussed in this section: Day-Night Average Sound Level (DNL), Community Noise Equivalent Level (CNEL), and A-weighted Sound Level (dB).

The level of sound that impacts a property varies greatly during the day. As an example, the sound near an airport may be relatively quiet when no airplane is taking off or landing, but will be extremely loud as a plane takes off. In order to deal with these variations, several noise indices have been developed which measure how loud each sound is, how long it lasts, and how often the sound occurs. The indices express all the sound occurring during the day as a single average level, which if it occurred all day would convey the same sound energy to the site.

The sound indices most commonly used to describe environmental noise are the Day-Night Average Sound Level (DNL) and the Community Noise Equivalent Level (CNEL). When calculating the 24-hour average of sound in an area, these two indices respond to the community's preference for a quieter environment in the evening and nighttime hours by assigning penalties to noises which occur during those specified hours prior to calculating the average. Both indices place a 10 dB penalty on all noises occurring from 10:00 p.m. to 7:00 a.m. The CNEL calculation varies in that it also places a 5 dB penalty on noise events during evening hours (7:00 p.m. to 10:00 p.m.). The two systems yield generally similar results and are used interchangeably.

In this General Plan, noise standards are expressed as DNL levels, as recommended by the Environmental Protection Agency (EPA) for community noise planning. Santa Clara County's Airport Land Use Commission expresses its standards in terms of CNEL values, as is commonly practiced in California.

Sound is measured in decibels (dB) using a special meter. The decibel scale of sound is logarithmic. Each increase of 10 dB means that the acoustical energy is multiplied by 10 - a sound of 70 dB is 10 times as intensive as one of 60 dB. However, the relative loudness of sound as perceived by the human ear does not closely match the actual relative amounts of sound energy. For example, while 70 dB is physically 10 times as intensive as 60 dB, listeners tend to judge it as only twice as loud.

In 1974, the County conducted a survey to determine the impact of noise. It was found that the major areas affected by noise are those associated with transportation: streets, freeways, rail lines, and airports. The County has previously identified areas experiencing noise levels of 55 dB DNL or greater as "noise impact areas". Noise impact areas exist in connection with all of the identified sources.

In general, the lands not affected by transportation had readings in the 40 to 55 DNL range, with remote parks having readings in the very low range below 40 DNL. In rural areas, general noise levels are low but specific noises are often extremely annoying (i.e., blasting from quarries, shooting ranges, power boats, and off-road vehicles may disturb the serenity of an area without significantly affecting the day-long average readings of the DNL scale.)

Noises generated by transportation are by far the most significant and persistent countywide. The affected areas along freeways and near airports have been mapped by the State of California, by the County Transportation Agency, and by the ALUC. In addition, the County noise survey indicated a pattern of noise impact along several county highways.

(Maps delineating Noise Contours along significant county transportation corridors are available at the Santa Clara County Planning Office.)

STANDARDS FOR LAND USE COMPATIBILITY WITH NOISE

Two tables, the "Noise Compatibility Standards for Land Use in Santa Clara County" and the "Satisfactory Interior Noise Levels," were developed to set the levels of noise which are compatible with the performance and enjoyment of different classes of land use. The standards include both exterior and interior levels of sound.

Standards such as these should be used in the review of subdivisions, building sites, architectural and site approval permits, use permits, and zone changes in areas subject to noise impacts. Each of these standards is intended to protect the people on site from noise

coming from outside sources, and to prevent new projects from generating adverse noise levels on adjacent properties.

The Noise Compatibility Standards for exterior noise specify three classifications of compatibility between ambient noise levels at the site and various land uses: satisfactory, cautionary, and critical (see Figure). These standards serve as a preliminary analysis of potential noise incompatibility and serve to protect the proposed development from existing noise sources.

Noise studies and possible attenuation procedures will also be imposed on the project if the project itself is considered a source of incompatible noise for a nearby land use.

The noise compatibility levels are defined as follows:

- Satisfactory noise levels are those which pose no serious threat to the proposed land use. The ambient noise level at the site is compatible with the land use category of the proposed project and will not create annoyance and/or activity interference. Standard construction techniques will be adequate.
- Cautionary noise levels are those which could potentially pose a threat to the proposed land use. The ambient noise level is great enough to require study on the compatibility of the proposed project. Normal building methods may not be adequate to protect the use.
- Critical noise levels are those which probably pose a threat to the proposed land use. The ambient noise level is severe. The situation requires rigorous analysis of the compatibility of the proposed project with the ambient noise level at the site. This analysis should include both exterior and interior impacts. Simple solutions to noise attenuation may not be adequate and uses should be allowed only if they have been designed for noise reduction by a professional who is competent in sound reduction.

The standards for interior noise levels express the level above which the functioning of the allowed use would be impaired (see Figure). Noise within commercial and industrial structures is additionally regulated by the state and federal governments to protect employees from harmful noise exposure. Within residences, the occupants may impose much higher noise levels on themselves (loud stereos, etc.) so long as they do not affect their neighbors. The point of the interiors standards is to assure that people are not normally subjected to annoying or damaging noise which they can not control.

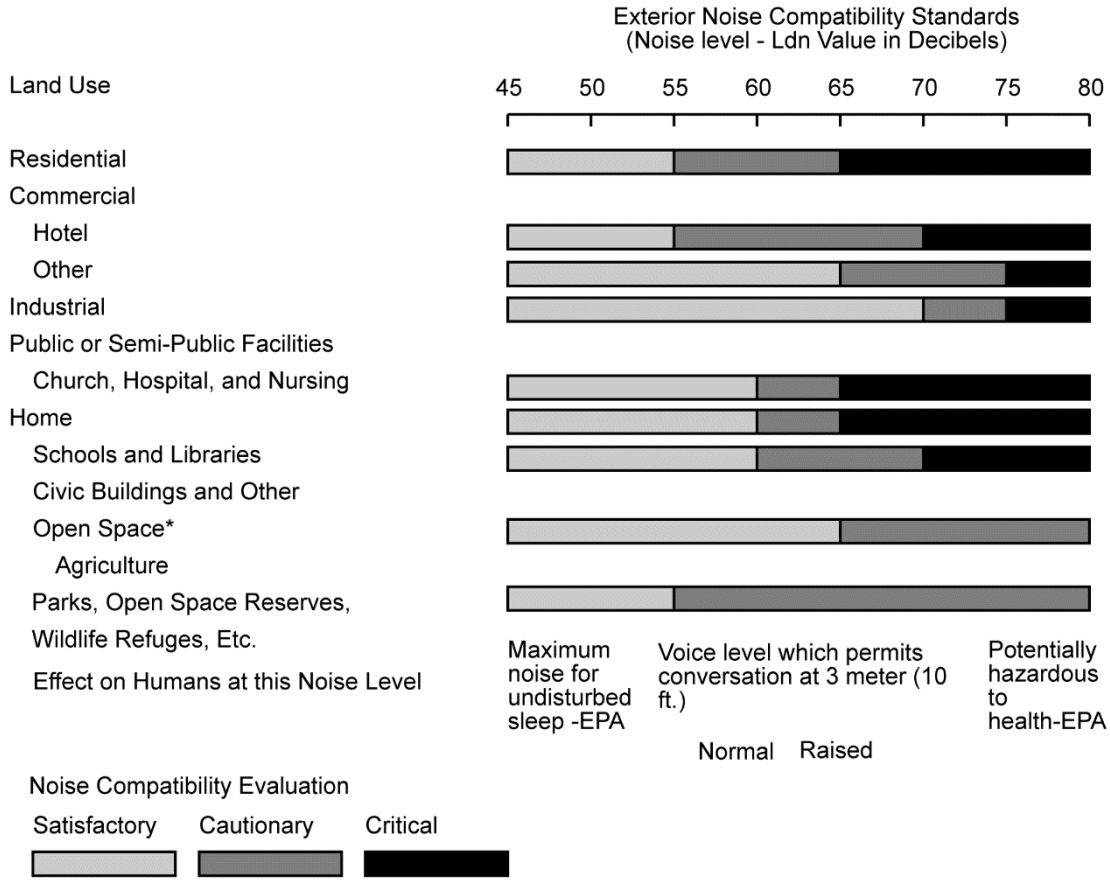
The Noise Compatibility Standards indicate that most land uses are satisfactory in noise environments of less than 55 DNL. Above 55 DNL, land uses require closer attention. The Standards indicate that noise above 65 DNL impacts residences, meaning that homes should either not be permitted or should be specially designed in such areas.

In order to use the Standards, it is necessary to define the areas of the county which are affected by noise levels of 55 DNL or higher. Within urban service areas, noise levels have been inventoried in the noise elements of the cities' general plans and the County recognizes this city data for decisions regarding all lands within urban services, incorporated and unincorporated. Within urban service areas, lands shall be considered to be impacted by noises which are within 1,000 feet of a freeway or expressway, land within the 65 CNEL area of an airport, and land near roadways where city comments on projects indicate a noise impact to exist.

ALUC PLAN AND LAND USE REGULATIONS

Ensuring compatibility between aircraft noise and various types of land uses is one of the primary functions of the Airport Land Use Commission (ALUC). The ALUC's Land Use Plan for Areas Surrounding Santa Clara County Airports (ALUC Plan) includes a detailed discussion of the types of noise generated by aircraft, how the noise environment around airports is measured, how noise compatibility standards were established, and the steps being taken to control airport noise.

Noise Compatibility Standards for Land Use in Santa Clara County



* For open space use, there are no critical noise levels listed. Homes in agricultural areas are not subject to the "Residential" standards. Public buildings in parks and open space areas shall meet noise standards as listed under "Public of Semi-Public facilities. " For open space use, theximum level of noise which a new land use may impose on neighboring open space shall be the upper limit of the "Satisfactory Noise Level."

Several types of noise are common in the vicinity of airports. Noise generated during take-off and landing operations is most commonly the focus of neighborhood concerns, but other types of aircraft-generated noise can be a problem. Planes in flight, engine "run-up", the low frequency "rumble" of jet aircraft, or helicopter noise can be intrusive to some individuals.

The Community Noise Equivalent Level (CNEL) contours have been mapped and are used to evaluate the compatibility of various types of land uses within the noise environment surrounding the airport. These contours are also called noise zones and illustrate the reduction in acoustical energy which can be expected to occur as sound travels away from the airport.

There are however, limitations to using just the CNEL values in this case. CNEL measures noise over a 24 hour period, placing a 5 dB penalty on noises occurring from 7:00 p.m. to 10:00 p.m. and a 10 dB penalty on all noises occurring from 10:00 p.m. to 7:00 a.m. Single events may be 40 or 50 dB higher than the overall average of sounds in a given area and therefore constitute a nuisance even though the CNEL is acceptable.

The majority of complaints originating from outside of the designated noise impact areas surrounding our airports are related to single

events, rather than the overall operation of the airport. Similarly, people living further from the airport than those within the 60-65 CNEL contour may hear a lower level of sound from aircraft operations, but be more irritated by it because the sound lasts longer at their location. Weather conditions can also change where sound travels.

For this reason, Single Event Noise Exposure Levels (SENEL) may also be calculated for airports such as San Jose International Airport. The combination of the average noise environment as shown by the CNEL and the single event levels gives a better understanding of the noise environment that will be encountered by a proposed land use and, thus, provides a better basis for decision making.

SOURCES OF AIRPORT NOISE

There are five airports in Santa Clara County. Three are designed for general aviation uses (Palo Alto, Reid-Hillview, and South County), one is an international airport (San Jose), and one is a Federal Airport, with a military tenant (Moffett Field).

Santa Clara County manages and operates three general aviation airports. Palo Alto Airport occupies 102 acres near San Francisco Bay in the northwestern part of the county. The airport is classified by the FAA as a Basic Utility II (B1) airport, meaning that it can service about 75% of the single-engine and small twin-engine airplanes used for personal and business purposes. A Basic Utility II airport can also serve some small business and air taxi-type twin-engine airplanes.

Recommended Maximum Interior Noise Levels For Intermittent Noise

Use		dBA
Residential		45
Commercial		
	Hotel-Motel	45
	Executive Offices, Conference Rooms	55
	Staff Offices	60
	Restaurant, Markets, Retail Stores	60
	Sales, Secretarial	65
	Sports Arena, Bowling Alley, etc.	75
Industrial		
	Offices (same as above)	55-60
	Laboratory	60
	Machine shop, Assembly and others	75
	Mineral Extraction	75
Public or Semi-Public Facility	Concert Hall & Legitimate Theater	30
	Auditorium, Movie Theater & Church	45
	Hospital, Nursing Home & Firehouse (sleeping quarters)	45
	School Classroom	50
	Library	50
	Other Public Buildings	55

Reid-Hillview Airport, located on the east side of the City of San Jose, is near the center of the County. It too, is classed as a Basic Utility II (B1) facility and occupies 179 acres.

The San Martin Airport is in San Martin, an unincorporated area between the cities of Gilroy and Morgan Hill. San Martin Airport is also a Basic Utility II (B1) airports and occupies 179 acres.

In addition to airports, heliports contribute to ambient noise levels in many areas of the county. Heliports may be operated for private businesses and individuals, and emergency uses.

Noise at heliports is primarily produced by helicopters on takeoff or landing, in over flights, and in warm-up or cool-down procedures. Noise levels produced by individual helicopter operations may be predicted using the Federal Aviation Administration's "Helicopter Noise Exposure Curves for Use in Environmental Impact Assessment" (Report No. FAA-EE-82-16), or by computer models developed by the FAA for airports (e.g., the Integrated Noise Model, or INM) and for heliports (e.g., the Heliport Noise Model, or HNM).

The noise levels associated with operations at a given heliport will depend upon flight tracks, the helicopter types used, the number of operations, and the time of day during which operations occur. Each of these aspects of heliport operation must be defined to assess the potential noise impacts upon noise-sensitive land uses.

Strategies, Policies, and Implementation

Santa Clara County and the cities should strive to ensure an environment for all residents that is free from noise that jeopardizes their health and well-being. The County and most cities already have noise ordinances in place. Many also have regulations dealing with noise from sources not subject to land use permits (i.e., barking dogs, electronic amplifiers, etc.) All of these ordinances should be enforced to the greatest extent feasible.

The State has researched the impacts of differing noise levels on a variety of land uses, as have the Federal government and local jurisdictions. Based on those studies, certain maximum standards for interior living spaces have been incorporated into State law. Standards for multifamily units are also incorporated into the Uniform Building Code (UBC). The UBC standards have been adopted by the County and all the cities.

Strategy #1: Prevent or Minimize Noise Conflicts

The ideal is a complete separation of noise sensitive uses from noise generating sources. Given that all types of land uses must coexist within the county's urban areas, the planning challenge is in achieving adequate noise compatibility. Land use planning and development review must carefully evaluate the noise producing potential of new development. Where that potential exceeds acceptable limits, steps must be taken to minimize impacts on both existing and projected surrounding uses.

Policies and Implementation

C-HS 24
Environments for all residents of Santa Clara County free from noises that jeopardize their health and well-being should be provided through measures which promote noise and land use compatibility.

C-HS 25
Noise impacts from public and private projects should be mitigated.

Implementation Recommendations

C-HS(i) 23
Project design review should assess noise impacts on surrounding land uses. (Implementors: County and cities)

C-HS(i) 24
Where necessary, construct sound walls or other noise mitigations.
(Implementors: County, cities, and public agencies.)

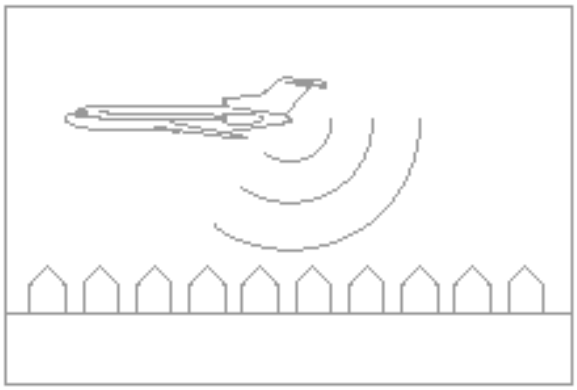
C-HS(i) 25
Prohibit construction in areas which exceed applicable interior and exterior standards, unless suitable mitigation measures can be implemented.
(Implementors: County and cities)

C-HS(i) 26
Require project-specific noise studies to assess actual and protected dB noise contours for proposed land uses likely to generate significant noise.
(Implementors: County and cities)

C-HS(i) 27
Take noise compatibility impacts into account in developing local land use plans. (Implementors: County and cities)

Strategy #2: Provide Adequate Sound Buffers

Another approach to noise compatibility is providing noise buffers between noise sources and new projects. There are many noise reduction techniques which can be built into new development. This approach is most effective in large scale, mixed use or planned developments. Such techniques include locating noise sensitive buildings away from noise sources and using the natural topography and intervening buildings to shield noise sensitive uses. There are a number of techniques to minimize interior noise, including site planning, architectural design and construction standards, and noise barriers.



Within areas identified as being impacted by noise, it will be necessary to design projects to be compatible with the specific types of noise on the site. The best basis for this design is to plan to make the project compatible with the loudest individual noise sources that might affect the site. In the case of airports, such noise is the loudest aircraft that normally uses the airport. (The ALUC Plan has defined this sound level for each airport.) In the case of roads, the level under state law is the maximum noise set for trucks.

Policies and Implementation

C-HS 26
New development in areas of noise impact (areas subject to sound levels of 55 DNL or greater) should be approved, denied, or conditioned so as to achieve a satisfactory noise level for those who will use or occupy the facility (as defined in "Noise Compatibility Standards for Land Use" and "Maximum Interior Noise Levels For Intermittent Noise").

Implementation Recommendations

C-HS(i) 28
Incorporate acoustic site planning into the design of new development, particularly large scale, mixed use, or master planned development, through measures which may include: a. separation of noise sensitive buildings from noise generating sources; b. use of natural topography and intervening structure to shield noise sensitive land uses; and c. adequate sound proofing within the receiving structure.
(Implementors: County, cities, architects and developers)

Strategy #3: Minimize Exposure to Airport Noise

With regard to airports, the ALUC is charged with providing guidance to local jurisdictions to insure that land uses established in the vicinity of airports are compatible with the noise environment. The primary vehicle for this guidance is the ALUC Plan. In determining appropriate uses for areas adjacent to county airports, ALUC has given serious consideration to noise, particularly noise which might interfere with speech or sleep, and those noises which might lead to excessive stress.

State law mandates that each community's general plan be consistent with local ALUC Plans. The most effective way to ensure consistency is to defer to ALUC policies and standards for development on or adjacent to airports.

Policies and Implementation

C-HS 27
Land uses approved by the County and the cities shall be consistent with the adopted policies of the Santa Clara County Airport Land Use Commission Comprehensive Land Use Plans for specific airports.

Implementation Recommendations

C-HS(i) 29
Adhere to the adopted policies and standards in the Santa Clara County Airport Land Use Commission Comprehensive Land Use Plans for specific airports, when making decisions regarding land use adjacent to airports. (Implementors: County and cities)

Natural Hazards

Summary

Santa Clara County is subject to a number of significant natural hazards, including geologic and seismic hazards, extreme fire hazards, and flood hazards. To varying extents, the urban and rural environments are both impacted by the risks imposed by such phenomena. Amidst the challenges of increasing population and economic development, the primary objective of local governments where natural hazards are concerned is the protection of public safety and general welfare through the following major strategy and policy directions:

Strategy #1: Inventory Hazards and Monitor Changing Conditions
Strategy #2: Minimize the Resident Population Within High Hazard Areas
Strategy #3: Design, Locate and Regulate Development to avoid or Withstand Hazards
Strategy #4: Reduce the Magnitude of the Hazard, If Feasible
Strategy #5: Provide Public Information Regarding Natural Hazards

Background

NATURAL HAZARDS AND THE ROLE OF LOCAL GOVERNMENTS

■ Types of Public Safety Issues Addressed in General Plans

Protection of public safety is one of the principal, if not foremost, responsibilities of local government. The major types of natural hazards addressed in this section of the Countywide Health & Safety chapter include those which affect physical growth and development:

- geologic and seismic hazards;
- fire hazards; and
- flood hazards.

The following sections describe briefly the major aspects of each type of natural hazard listed above.

■ Geologic and Seismic Hazards

The most significant types of geologic hazards, or hazards of land instability, that affect the built environment are as follows:

- landslides, including rockslides and mudslides;
- expansive clays;
- peat and other highly organic soils;
- Bay muds and saturated soils;
- soil creep; and
- uncontrolled solid waste disposal sites.

These phenomena have the potential to cause major damage to building foundations, roads, and utilities. Structural failures resulting from the stresses placed upon buildings may jeopardize both life and property. Soil creep, a less familiar form of land instability, describes the tendency of expansive soils to move slowly down hillsides at unequal rates depending on moisture content, depth to bedrock and other factors. This and the other more familiar geologic phenomena are described more fully in the Rural Unincorporated Area part of the Plan.

In addition, hazards due to seismic activity, or earthquake, include:

- ground shaking;
- ground failure;
- ground displacement along faults;
- water movements due to earthquakes; and
- inundation due to dam failure.

In many cases, seismic activity which itself is insufficient to directly cause damage may trigger the occurrence of other geologic hazards, especially landslides. Structures and utilities located in areas of saturated or unconsolidated soils are also far more susceptible of damage from earthquake than otherwise. Severe earthquakes of course have the potential to damage or destroy even the most well-designed and constructed buildings, but the existence of many homes and buildings made of unreinforced masonry, structures not anchored to foundations, and structures which do not conform to current codes present the possibility of major damage even in the case of a moderately strong earthquake such as Loma Prieta, in 1989.

■ Fire Hazards

Much of the mountainous areas of Santa Clara County are considered "high fire hazard areas," due to a variety of factors, including:

- climatic factors, such as rainfall and wind patterns;
- the amount of naturally-occurring "fuel" for fires, such as brush, dead trees, and grasses that ignite easily and burn hotly; and
- inaccessibility and lack of available water supplies for fire suppression.

The most recent event to demonstrate the awesome destructive potential of wildfire in high hazard areas was the Oakland Hills fire of 1991. In addition to the many fatalities, over 3,000 homes were destroyed by fires of such a magnitude they were beyond the the control of local fire-fighting capabilities. Several areas of Santa Clara County are also similarly situated, including the Lexington Hills residential area above Lexington Reservoir. Although property values may not compare with the Oakland Hills area, the fire hazard potential is similar there and in other hillside communities of Santa Clara County.

■ Flood Hazards

A variety of flood hazards pose a threat to public safety and property, such as:

- stormwater flooding;
- tidal flooding along the Bay; and
- inundation due to dam failure.

Tidal flooding may occur due to levee failure, and its severity may be increased in areas that have subsided due to overdrafting of groundwater basins. More importantly, stormwater flooding has been a long and continuing problem for much of the County ever since permanent settlement of the valley floor began. Much of the valley floor is flood prone

(approximately 60 out of 300 square miles), and despite extensive, sustained efforts to provide adequate flood control, nearly 300 of the County's 700 miles of streams, creeks and rivers are still incapable of carrying flows from a 1% flood. (A 1% flood is so named because it has a 1% chance of occurring each year, or once on average in 100 years. Major floods have struck recently in 1952, 1955, 1982 and 1986, among other years. The last 1% flood occurred in the Uvas Creek watershed in 1986, flooding parts of Gilroy).

In addition, the amount of urban development in flood prone areas over the last 20-30 years has also dramatically increased the estimates of potential property damage from major flooding, while the increase in the amount of impervious surfaces from development increases total stormwater runoff. For example, according to recent reports by the Santa Clara Valley Water District, two areas most threatened by flooding are the Guadalupe River area in downtown San Jose and along the San Francisquito Creek in Palo Alto. Flood waters do not have to resemble torrential flows to produce great economic losses. The damage to utilities, roads, building foundations, crops and other properties can be devastating from even a foot of standing water.

Inundation due to dam failure, on the other hand, may occur suddenly, such as in the event of an earthquake, releasing thousands of acrefeet of water with the force to create major life and property losses in the area immediately downstream from the dam. Flooding of a similar nature may also occur due to overtopping of the dam structure during periods of intense precipitation. Redesign and construction to prevent overtopping, as well as enlargened spillways, are currently in progress for several dams maintained by the Santa Clara Valley Water District (SCVWD).

Maps of flood hazards updated pursuant to AB 162 are included by reference in this chapter. See the Health and Safety Chapter of Book B for additional detail and map information [pp. P-22.1-22.2].

MAJOR PUBLIC POLICY OBJECTIVES REGARDING NATURAL HAZARDS

■ Protecting Public Safety and Property

Chief among public policy objectives is of course the protection of life and property from natural hazards. Primary examples include building codes intended to increase the ability of structures to withstand earthquakes; flood control projects; and public safety agencies' capability to respond adequately to hazards when they occur.

■ Minimizing Fiscal Impacts

Of secondary importance but major significance is fiscal impact reduction. In times of fiscal strain, local governments are placed under even greater burdens by the costs of responding to major fires, floods, or earthquake-induced damages. Therefore it is important that land use policies help minimize the potential fiscal impacts of natural hazards, which are of several types:

• ongoing maintenance and repair costs, such as the costs of maintaining roads that are located in areas repeatedly impacted by landslides; • emergency response costs, such as rescue operations, fire suppression activities, equipment costs, and staff overtime costs; and • post-emergency or disaster costs, such as building inspection operations, rebuilding public infrastructure, and loss of governmental revenue from reduced sales and property tax.

CHALLENGES TO ENSURING PUBLIC SAFETY

Santa Clara County continues to grow in population and in economic development. Property values, as in much of urban California, are comparatively high, and accordingly, so are the costs to individuals, insurance providers, and local governments of property damage due to natural hazards. A major challenge for the future will be to accommodate growth in such a way that minimizes the threats posed by the many significant natural hazards to which Santa Clara County is subject.

Another challenge is public perception of the threats posed by natural hazards. Immediately following an occurrence of flood or earthquake, public awareness and concern is very high, but tends to diminish over time until the next occurrence. In addition, the irregularity and undpredictability of many phenomena increase the public's complacency. Given the financial costs of being adequately prepared for natural hazards and responding to them, lack of public awareness and support for projects to increase safety, such as bridge and highway improvements, flood control projects, and land use policy, can be a major impediment to ensuring public safety.

In the final analysis, some threats are unavoidable, such as earthquakes. However, that doesn't mean that it is acceptable to allow structures to be built on fault traces, or that buildings and overpasses shouldn't be designed to withstand earthquakes to the maximum extent possible. To the contrary, it becomes even more important to develop strategies and policies which avoid and minimize unnecessary risks and which better prepare Santa Clara County for those which are unavoidable.

Strategies, Policies and Implementation

On a countywide basis, the following set of strategies should be employed to protect the public from natural hazards:

Strategy #1: Inventory Hazards and Monitor Changing Conditions
Strategy #2: Minimize the Resident Population Within High Hazard Areas
Strategy #3: Design, Locate and Regulate Development to Avoid or Withstand Hazards
Strategy #4: Reduce the Magnitude of the Hazard, If Feasible
Strategy #5: Provide Public Information Regarding Natural Hazards

➔ ***Policies and Implementation***

C-HS 28
Countywide strategies for reducing the threat of natural hazards to life and property should include:

a. Inventory hazards and monitor changing conditions.
b. Minimize the resident population within high hazard areas.
c. Design, locate and regulate development to avoid or withstand hazards.
d. Reduce the magnitude of the hazard, if feasible.
e. Provide public information regarding natural hazards.

Strategy #1: Inventory Hazards and Monitor Changing Conditions

Adequate documentation of natural hazard areas such as flood plains, landslide areas, fault traces, and high fire hazard areas is essential for purposes of determining the appropriate densities for general areas and for determining placement of structures such as schools, landfills, and hazardous materials storage facilities.

As new landslide areas and faults are discovered, or as other conditions change, inventories used by local jurisdictions should be updated to provide an adequate basis for decision-making.

➔ ***Policies and Implementation***

C-HS 29
Inventories and mapping of natural hazards should be adequately maintained for use in planning and decision-making.

Strategy #2: Minimize the Resident Population Within High Hazard Areas

The various types of natural hazards addressed in this section are encountered throughout Santa Clara County and must be accounted for in all jurisdictions' land use planning. In addition to the steepness of slopes characteristic of many mountainous areas of the County, these phenomena render much of the non-valley lands unsuitable for urban development. Many valley areas of South County, including Coyote Valley, the San Martin area, and much of Gilroy, are also very vulnerable to flood hazards, as well. To the maximum extent possible, allowable uses and densities in such areas should reflect the constraints imposed by natural hazards, minimizing the resident population within high hazard areas.

The current joint urban service area policies of Santa Clara County incorporate these principles by generally excluding from cities' USAs lands unsuited for urban development. Only areas which can be reasonably served by public safety agencies and urban infrastructure should be considered suitable for development. High hazard areas not only pose greater risks to life and private property, but also impose higher initial urban infrastructure costs for roads, sewers and other utilities.

Furthermore, the costs of maintaining and repairing infrastructure in areas of steep slopes, geologic instability, and other hazards are significantly increased compared to valley lands. Limited accessibility of hillside areas, which radically increases emergency response times, together with landslide and other hazard potential, make development in such areas extremely inefficient to provide urban services. For those reasons, existing USA boundaries are generally not extended to areas above 15% average slope.

Outside cities' USAs, the County's development policies allow for uses and densities which minimize the resident population within high hazard areas and help minimize the risk of natural hazards to those who do reside there.

Policies and Implementation

C-HS 30
Local jurisdictions' urban development and land use policies should minimize the resident population within areas subject to high natural hazards in order to reduce
a. the overall risk to life and property; and
b. the cost to the general public of providing urban services and infrastructure to urban development.

C-HS 31
Cities should not expand Urban Service Areas into undeveloped areas of significant hazards.

C-HS 32
Areas of significant natural hazards shall be designated in the County's General Plan as Resource Conservation Areas with low development densities in order to minimize public exposure to avoidable risks.

Implementation Recommendations

C-HS(i) 30
Continued adherence to joint urban development policies and exclusion of areas unsuited for urban development from cities' Urban Service Areas.

C-HS(i) 31
Outside cities' USAs, maintain current County policies which allow only for low density and low intensity land uses in areas of significant natural hazards.

Strategy #3: Design, Locate and Regulate Development to Avoid or Withstand Hazards

Development which does occur in areas subject to natural hazards must be designed, constructed, and maintained to reduce the threat of hazards to occupants as well as to the community. Given that some development will inevitably occur in hazard prone areas, it is critical that public policy advance the following principles, or objectives:

1. *Development by individuals and by public agencies should not be allowed to impose increased risks upon neighboring properties and the community at large.*

   The two following examples illustrate the potential dangers involved. Building in flood ways and flood plains without adequate planning has potential to both increase flows downstream during flooding, and should structures or parts of structures be carried downstream by floodwaters, the potential to damage other structures is significantly increased. Secondly, placement of septic system leachfields and drainage systems for upland developments may increase saturation of soils downhill, increasing landslide potential for neighboring properties. To the maximum extent possible, such problems should be minimized through controls upon development, both private and public.

2. *No individual should be exposed unnecessarily to increased risk due to inadequate assessment or development review by a public agency.*

   For example, although the original occupant of a dwelling in a high hazard area may fully accept the risks and costs of having built there, future residents must generally rely on local government agencies having done everything possible to ensure the safety of the structure and property.

Other examples include stringent engineering standards for dwellings in areas of soil instability, mandatory sprinkler systems and fire retardent materials for new development in extreme fire hazard areas to compensate for limited accessibility, and maintaining vegetation clearances around structures in fire hazard areas to further minimize risks of fire spreading easily from surrounding vegetation. These examples demonstrate the variety of means available to achieve public safety while still accommodating a certain amount of development in areas of natural hazards.

Policies and Implementation

C-HS 33
Development in areas of natural hazards should be designed, located, and otherwise regulated to reduce associated risks, by regulating the type, density, and placement of development where it will not:
a. be directly jeopardized by hazards;
b. increase hazard potential; and
c. increase risks to neighboring properties.

Strategy #4: Reduce the Magnitude of the Hazard, If Feasible

In some cases, it may be possible to reduce the magnitude of the hazard through measures not specific to individual developments. Perhaps the most prominent example is flood control engineering. As urbanization has increased over much of the Santa Clara Valley, particularly north of the Coyote narrows, flood control projects such as deepening waterways and straightening channels have been employed to increase the capacity of local drainage systems and reduce the potential risk from flooding. Levees along the baylands are used to protect low-lying lands adjacent to the Bay. The Santa Clara Valley Water District (SCVWD) is the principal governmental entity responsible for planning, developing, and maintaining the county's system of flood control improvements.

Two major concerns of the SCVWD involve:

- the amount of ongoing hillside development in Santa Clara County, which impacts flood control capability downstream in urban areas, and
- the overall amount of development in rural unincorporated areas lacking adequate drainage facilities, which has potential to overwhelm the capacity of planned flood control improvements both in the area and downstream.

Flood control improvements are predicated upon a given or projected amount of development in both urban or rural areas, and if development exceeds projections, flood control capacity is rendered inadequate. Costs to the general public are increased if additional improvements are necessitated.

A major disadvantage, however, of flood control engineering has been the elimination of riparian habitat and vegetation. More emphasis is now being given to the concepts of combining flood control and riparian restoration, while also providing for recreation and beautification. One example of a flood control technique which incorporates these concepts is the "modified flood plain." Parts of the Guadalupe River Corridor project incorporate this technique to combine flood control, linear parks, access to the waterway, and retainment of riparian vegetation to the greatest extent possible.

Other types of measures not specifically related to individual development projects that are intended to reduce the risks of natural hazards include controlled burning of undeveloped areas and dam reinforcement. Controlled burning reduces the amount of fuel available to wildfires, but it is becoming impractical in Santa Clara County due to the amount of scattered rural development. However, dam reinforcement is important to both an assured water supply and to protect the safety of populations and property downstream of the water impoundments.

➔ ***Policies and Implementation***

C-HS 34
Flood control measures should be considered part of an overall community improvement program and advance the following goals, in addition to flood control:

a. resource conservation;
b. preservation of riparian vegetation and habitat;
c. recreation; and
d. scenic preservation of the county's streams and creeks.

Implementation Recommendations

C-HS(i) 32
Continue efforts by, and joint planning with, the Santa Clara Valley Water District to design and construct flood control improvements that achieve a desirable balance of resource conservation, flood control and recreational objectives.

Strategy #5:
Provide Public Information Regarding Natural Hazards

As a public service of vital importance, local governments and public safety agencies should strive to maintain public awareness of the threat of natural hazards. This service may be accomplished through information publications, emergency preparedness events, involvement of local media, and through the system of public education. Many of the activities which best protect the public must be the responsibility of individuals, such preparing ones' home in the event of major earthquake; however, it is also important that the general public understand and support the need for infrastructure improvements, emergency response capability, and land use planning, measures which have either have significant financial costs or impose restrictions upon the use of private property in order to help ensure public safety and welfare.

➔	***Policies and Implementation***

C-HS 35
Information about the prevalence and threats of natural hazards shall be provided to the public to maintain general awareness and support for governmental actions needed to improve public safety.

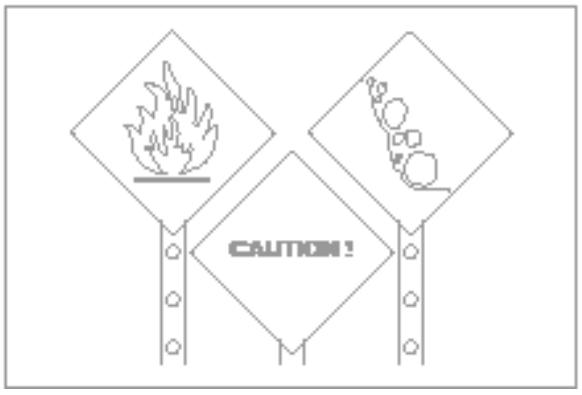
Implementation Recommendations

C-HS(i) 33
Dissemination of publications informing the public of the need for preparedness.

C-HS(i) 34
Programs in local media and public education system to heighten awareness.

C-HS(i) 35
Publicity for public safety agency responsibilities and programs such as emergency response drills.

NOTE: For more detailed policies and implementation recommendations applicable to Rural Unincorporated Areas, refer the Rural Unincorporated Area Issues & Policies portion of the General Plan.



Aviation Safety

Summary

Aviation for both commercial and general civilian purposes is important to the economy and general public of Santa Clara County. In accordance with fundamental goals and principles of Comprehensive Land Use Plans for the county's airports, the County's General Plan outlines the following general approaches to provide the maximum safety to aircraft and populations in the vicinity of airports:

Strategy #1: Limit Population Densities and Land Uses within Designated Safety Zones
Strategy #2: Regulate Structures and Objects Hazardous or Distracting to Air Navigation

Local jurisdictions' general plans and development proposals must be consistent with ALUC Comprehensive Land Use Plans and recommendations unless specifically overridden by a two-thirds vote of the legislative body.

Background

AIRPORTS IN SANTA CLARA COUNTY

There are five airports in Santa Clara County:
- San Jose International Airport, the only major commercial facility;
- Moffett Field Federal Airport; and
- three civilian airports for general aviation, Palo Alto, Reid-Hillview in east San Jose, and San Martin Airport (formerly South County Airport).

(See Map)

Each is important to the economy of Santa Clara County and to the general population, whether it functions as a major commercial hub, or provides primarily for recreational aviation.

Although aviation is a relatively safe mode of travel, especially commercial aviation, accidents do occur, threatening the safety of travelers and the population on the ground. However, aviation accidents tend to occur in predictable patterns, which makes it possible to afford a greater measure of safety to the general public through protective land use planning.

MAJOR TYPES OF AVIATION HAZARDS

Most aviation accidents are the result of adverse meteorological conditions, pilot error, and/ or mechanical failures. The principal types of accidents occur for the most part:

- on approach and landing;
- upon takeoff and immediately thereafter; and
- in a pattern clustered along the center line of the runway, whether in takeoff or landing.

Accidents in mid-air during other phases of air travel are far less common.

THE ROLE OF THE AIRPORT LAND USE COMMISSION (ALUC) PLAN

Airport Land Use Commissions, or the ALUCs, were established by state legislation in 1970 for all counties having airports served by an airline with scheduled service or airports used by the general public. One of the main responsibilities of the ALUC is to minimize the risks to the general public from aviation hazards through land use planning and development review for areas included in "airport influence boundaries."

The General Plan Land Use elements for all jurisdictions with airports must be consistent with the adopted ALUC Plans for land use surrounding airports. The principal approaches to increase aviation safety employed by ALUC plans involve:

- limiting population densities and types of land uses in designated safety zones extending from each end of a runway; and
- regulating the height of structures or objects which could pose hazards to air navigation, especially those in the direct flight path of aircraft.

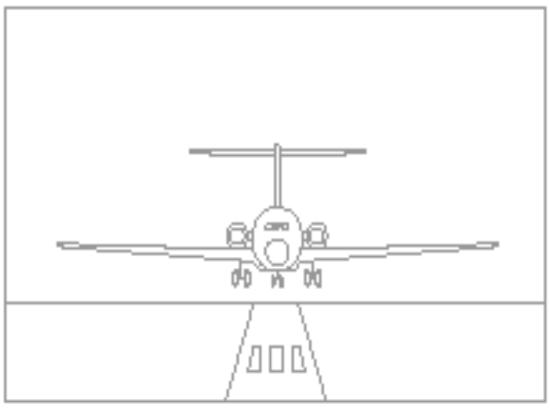
Other regulatory authority of the ALUC involves minimizing potential distractions to pilots, such as sources of light or glare, and limitations on above-ground storage of hazardous materials.

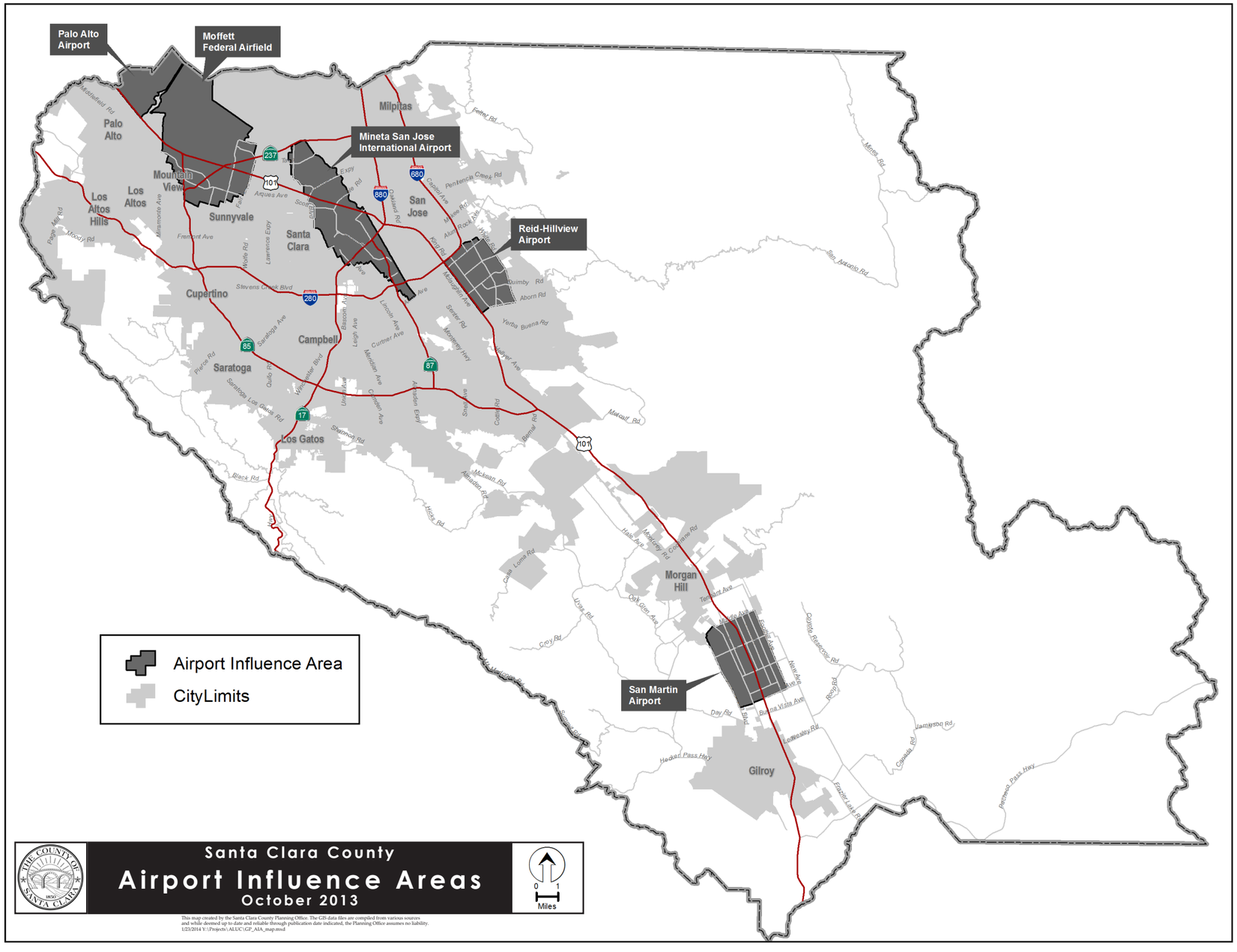
Although the ALUC reviews land use and development of each affected jurisdiction within the "influence boundaries" for conformity with ALUC policies, recommendations to the jurisdictions have only advisory authority. If a jurisdiction wishes to "override" the decision of the ALUC, it may do so only with a two-thirds vote of its legislative body.

Strategies, Policies, and Implementation

As outlined in the ALUC Comprehensive Land Use Plans, the general approaches to minimizing aviation hazards include the following strategies:

Strategy #1: Limit Population Densities and Land Uses within Designated Safety Zones
Strategy #2: Regulate Structures and Objects Hazardous or Distracting to Air Navigation





Santa Clara County
Airport Land Use Commission

PUC Section 21675 requires the Airport Land Use Commission (ALUC) to formulate and maintain a comprehensive land use plan (CLUP) for the area surrounding each public-use airport within Santa Clara County. A CLUP may also be developed for a military airport at the discretion of the ALUC. The CLUPs provide policies for safety, height and noise for land uses surrounding Santa Clara County airports. The County has four public-use airports, San Jose International, Palo Alto Airport, Reid-Hillview Airport and South County Airport, and one federally owned airport used by the Department of the Navy, Moffett Federal Airfield. Moffett Federal Airfield is defined as an Air Carrier Airport for the purposes of a CLUP due to the type of aircraft that use this airport.

The California State Aeronautics Act {Public Utilities Code: Division 9, Part 1, Chapter 4, Article 3.5, Section 21670 et seq} places the responsibility for implementing and enforcing Comprehensive Land Use Plans (CLUP's) on the local governmental agencies responsible for land use planning within each airport's Airport Influence Area (AIA). Once the ALUC has adopted or revised a CLUP, and transmitted that CLUP to an affected local agency, the local agency is mandated to incorporate the CLUP's provisions into its General and/or Specific Plan(s) within 180 days {Government Code 65302.3(b)}. Implicitly, the local agency is then encouraged to adopt zoning ordinance(s) that implement the policies of their General/Specific Plan(s).

Effective January 2013, the ALUC has adopted airport – specific CLUPs for all airports / airfield in Santa Clara County. The County has included the relevant policies of the CLUP's by reference into the Health and Safety chapters of the General Plan. South County Airport and Moffett Field are located in unincorporated land.

➔	***Policies and Implementation***

C-HS 36
General strategies for airport safety in Santa Clara County include the following:
a. Limit population densities and land uses within designated safety zones.
b. Regulate structures and objects which could be hazardous or distracting to air navigation.

➧	***Strategy #1:*** ***Limit Population Densities and Land Use Within Designated Safety Zones***

Limiting the number of people exposed to typical aviation accidents is the primary objective of the first strategy. The larger the zone designated for limited population and land uses the greater the degree of protection. In fact, ALUC-established safety zones extend beyond the areas required by FAA regulations, not only to protect aircraft on approach and departure, but to provide maximum protection to ground populations.

Low density land uses, such as agricultural lands, parks, storage areas, parking lots, singlestory warehousing, and similar uses are those generally allowed the highest risk safety zones.

➔	***Policies and Implementation***

C-HS 37
Land use plans and development proposals within the "influence boundaries" of affected jurisdictions should be consistent with ALUC land use plans for airport safety.

➧	***Strategy #2:*** ***Regulate Structures and Objects Hazardous or Distracting to Air Navigation***

Ensuring that aircraft have a safe space in which to operate in and that persons occupying nearby structures are equally protected are the primary objectives of the second strategy. To that end, height restrictions are imposed in areas surrounding airports affected by takeoff and landing. These restrictions provide an extra margin of safety and minimize potential distractions to pilots. The ALUC-established restrictions are based on FAA regulations, referred to as the FAA FAR Part 77 Surfaces, which are included in each of the airport-specific CLUPs.

Other types of land uses that may be regulated are those which could result in significant distraction or confusion of pilots. These include land uses that may create reflections, glare, dust or steam, hazardous lighting, electrical interference, attract large flocks of birds, or other visibility-reducing or distracting phenomena.

➔	***Policies and Implementation***

C-HS 38
Local jurisdictions should comply with ALUC height restrictions and other regulations intended to ensure operational safety of aircraft and the safety of those occupying nearby buildings.

C-HS 39
Land uses, structures, and objects which could distract, confuse, or otherwise contribute to pilot error should not be allowed within the vicinity of airport operations.

Waste Water Disposal

Summary

The water resources of Santa Clara County constitute a special wealth giving county residents a measure of independence in supplying our basic water needs. In this regard, the long-term viability of the county's watersheds and the aquifers which lie under the Santa Clara, Coyote, and Llagas Valleys are critical to the social, environmental and economic well-being of Santa Clara County residents. Adequately protecting the quality of our groundwater as the county grows will be a complex and on-going task.

Several chapters in the General Plan include development policies intended to protect those watersheds and aquifers. The strategies in this section focus on maintaining a safe and clean supply of water by preventing its contamination with wastewater from a wide range of users.

Strategy #1: Prevent Waste Water Contamination of Groundwater Supplies
Strategy #2: Monitor Groundwater Quality

A SHARED RESPONSIBILITY

Maintaining the integrity of local groundwater systems, including the watersheds, aquifers and groundwater basins, is a shared responsibility between the County, the cities, the SCVWD, and water purveyors countywide.

GROUNDWATER PROTECTION IN UNINCORPORATED AREAS

The integrity of groundwater systems is a countywide concern. The County identifies the protection of groundwater aquifers as major issue in rural, unincorporated area development. Interested readers should refer to the Health and Safety Chapter: Rural Area Issues and Policies for a broader discussion of County strategies to protect groundwater in the rural, unincorporated areas.

Background

Santa Clara County is a major urban center set in, generally, a semi-arid region. Securing and storing enough water to meet our needs has historically been a major challenge to the county and will continue to be in future.

Although we are able to meet much of our water needs through local supplies, the county has long since passed the point where it could meet all its water needs locally. Maintaining the integrity of the county's groundwater supply is fundamental to ensuring a reliable and adequate supply of safe drinking water.

AQUIFERS—A VITAL PART OF WATER STORAGE AND CONVEYANCE

About half of all the water used in Santa Clara County originates elsewhere in the state, in northern and eastern California rivers. The other half of the county's water supply comes from wells that pump it up from deep under the ground.

This water is found in aquifers, which are gravel and sand formations found between large deposits of clay. Water gets into the deep aquifers after it percolates down through the soil and upper aquifers. This entire area is called the groundwater basin.

Even though a large portion of our water originates outside the county, most of it is delivered via the underground aquifers. After being pumped into the county through pipelines, most of the water is emptied into local reservoirs from which it is gradually released into area waterways and percolation ponds. From there it seeps down into the aquifer to be raised at pumping stations throughout the county by local water service agencies. The aquifers are more than natural "storage tanks," they are also natural "pipelines" and critical to distributing water countywide.

GROUNDWATER INTEGRITY

The integrity of our groundwater system and the water it carries to us can be compromised in several ways. First, overdrafting or pumping more water up from the aquifers than is being recharged can lead to land surface subsidence. This happens after great amounts of water are removed from the water-bearing strata. The layers of clay which separate the water-bearing strata compress tiny particles together that were held apart by the water. Once land compresses it can never be restored and the water-retention capacity of the aquifer is lost.

The second means by which groundwater integrity can be compromised is through direct pollution. When hazardous materials, toxic chemicals and farm wastes are spilled, either on the ground or from leaking underground tanks, the substance can seep down into the aquifer. This has occurred in the past and can still occur through accidental spillage. The County and cities have implemented policies and management programs to guard against the likelihood that such spills will occur. All local jurisdictions are prepared to institute emergency response procedures to contain and cleanup spills should they occur.

Finally, groundwater systems can be impacted when development served by on-site wastewater treatment systems results in the introduction of more pollutants to the ground than the natural cleansing quality of soil can remove before wastewater reaches the aquifer.

The first avenue, overdrafting and subsidence, are addressed in the Resource Conservation Chapter of the General Plan. Hazardous materials regulation is in the Hazardous Materials Section of this Chapter. The last, wastewater pollution, is the focus this section.

WASTEWATER MANAGEMENT ADEQUATE TO NEED

Wastewater disposal within most of the urban areas of the county is handled through sewers which lead to municipal wastewater treatment facilities, while in the rural areas wastewater disposal is primarily accomplished with on-site wastewater treatment systems (i.e., systems which rely on gravity and natural cleansing action by soil). Each of these systems raise different planning issues and challenges.

Most of the sewer plants serving the urban portions of the county have been upgraded and expanded during the past decade in response to new state and federal water quality requirements. Most existing facilities were initially constructed in years past when there was comparably more funding available for such costly public works projects. Today, the sources of those funds have either been eliminated or greatly reduced at all levels of government. Funding the expansion and maintenance of wastewater management systems is likely to remain a major challenge for the foreseeable future.

Strategies, Policies, and Implementation

If implemented, the strategies and policies below are aimed at maintaining the long-term integrity of the county's aquifers and groundwater supply. First, by focusing urban development in areas served by sophisticated centralized wastewater treatment facilities and by limiting the amount of development served by on-site wastewater treatment systems elsewhere, the policies seek to keep contaminants from ever entering the groundwater basins.

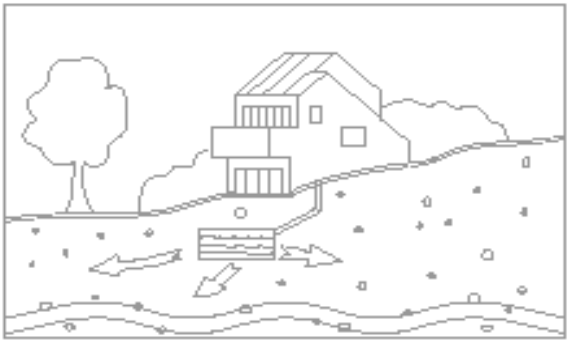
Secondly, through ongoing countywide monitoring programs, contaminants and their sources can be identified early on and steps taken to eliminate or minimize their impact on water quality.

Strategy #1: Prevent Waste Water Contamination of Groundwater Supplies

This strategy encourages the County and cities to do their utmost to prevent wastewater contamination of groundwater supplies. In the urban areas, this will be achieved principally through the maintenance of existing and future wastewater treatment facilities.

As the county grows, the County and cities must cooperate in planning for future facility expansion adequate to accommodate that growth or regulate growth to levels which can be adequately served by existing facilities. Expansion programs will likely require a search for resources to finance these costly public works projects. Success in such an endeavor would clearly be enhanced through joint effort.

In the rural areas, this strategy implies limitations on urban development in areas not served by municipal wastewater treatment facilities and limits on other development to ensure that onsite wastewater treatment systems serving those areas do not exceed the capacity of the natural cleansing mechanism of the soil to capture contaminants before they reach our water supply. This effort will be greatly enhanced by adherence to the highest on-site wastewater treatment system construction and maintenance standards.



Policies and Implementation

C-HS 42
The long-term viability and safety of underground aquifers and groundwater systems countywide shall be protected to highest degree feasible.

C-HS 43
Urban land uses should be in cities and served by centralized wastewater treatment systems.

C-HS 44
All new on-site wastewater treatment systems should be located only in areas where:
a. there is reasonable assurance that they will function well over a long period;
b. they can be designed to have a minimum negative impact on the environment; and
c. they will not contaminate wells, groundwater or surface water.

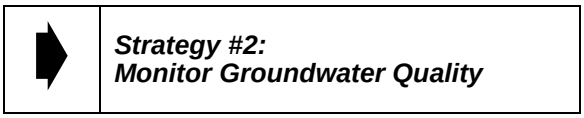
C-HS 45
On-site wastewater treatment systems should not be allowed in areas where soil characteristics impede their operation (e.g., areas of high groundwater conditions, areas with saturated soils, areas with limited depth to bedrock, etc.).

C-HS 46
Hazardous materials, whether commercial, industrial, agricultural, or residential in character, should not be disposed of in any wastewater or on-site wastewater treatment system.

Implementation Recommendations

C-HS(i) 42
Develop and implement standards for land subdivision and development which must rely on using on-site wastewater treatment systems so as to minimize negative environmental impacts and maximize the useful life of such systems. (Implementors: County and cities.)

C-HS(i) 43
Prevent overdevelopment requiring on-site wastewater treatment systems in areas where groundwater quality has been so impacted as to pose a discernible threat to the long term integrity and safety of underground water supplies.
(Impl.: County & cities.)



On-going programs to monitor groundwater quality will enhance the likelihood that contaminants will be identified before they enter the aquifers. It will also enable local governments to identify the source of those contaminants and take steps to mitigate them.

Monitoring long-term groundwater quality will enable the County and cities to implement programs to protect and enhance water quality in areas threatened by pollution. Understanding the source or cause of water contamination may also enable local officials to design effective remediation methods to restore groundwater sources which have been compromised.

C-HS 47
Groundwater quality should be monitored to ensure the long-term integrity of countywide water resources.

Implementation Recommendations

C-HS(i) 44
Monitor the groundwater quality throughout the county to insure the long-term integrity of the aquifers and the safety of water supplies to all users.
(Implementors: County and Cities.)

C-HS(i) 45
Maintain low cost laboratory access for well water testing.
(Implementors: County and Cities.)