

## Section 8

# Health and Safety Element

### 8.1 Introduction

The Health and Safety Element policies address issues related to geologic and seismic risk, flooding, hazardous materials and noise. The element covers two state mandated general plan elements, safety and noise. The purpose of the element is to identify and appraise hazards in the community which will establish a basis for the goals, policies and implementing actions necessary to assure community safety. Other issues such as disaster preparedness, fire and crime prevention will be addressed in more detail in the Community Services and Facilities Element.

Information in the Health and Safety Element has been coordinated with the other elements of the City's General Plan, particularly the Land Use and Economic Development, Open Space and Environmental Protection, and Community Services and Facilities Elements. The extent of the hazard depends on local conditions, since most hazards are confined to a particular area or site. Various health and safety hazards should be considered in planning the location, design, intensity, density and type of land uses in a given area. Long-term costs to the City, such as maintenance, liability exposure and emergency services, are potentially greater where high hazards exist.

The noise portion of the Health and Safety Element is concerned with planning for land uses that are typically sensitive to noise impacts, including residential development, residential neighborhood quality of life, nursing homes, schools, wildlife sanctuaries, hospitals and treatment centers. Noise is generally defined as unwanted sound. Whether a sound is unwanted depends on when and where it occurs, what the listener is doing when it occurs, characteristics of the sound (loudness, pitch and duration, speech or music content, irregularity) and how intrusive it is above background sound levels. Examples of potential noise generators in residential neighborhoods include, among others, I-80, rail corridors, retail center operations and the location of play areas (such as school and park play areas). The Noise portion of this element will establish the basis for code enforcement and regulation through the proposed adoption of a noise ordinance to control nuisances such as off-hour truck unloading and trash pickup, barking dogs, loud music and vehicle noise.

### 8.2 Health and Safety Element Requirements

Safety issues have been required to be addressed as part of local general plans since 1971. The San Fernando earthquake of February, 1971, which claimed 64 lives and resulted in over \$500 million in property damage, and the devastating wild land fires in September and October of 1970, were largely responsible for prompting the Legislature to pass this requirement. The following citation is from Government Code Section 65302(1),

*“A safety element for the protection of the community from any unreasonable risks associated with the effects of seismically induced surface rupture, ground shaking, ground failure, tsunami, seiche, and dam failure; slope instability leading to mudslides and landslides, subsidence and other geologic hazards known to the legislative body; flooding; and wild land and urban fires. The safety element shall include mapping of known seismic and other geologic hazards. It shall also address evacuation routes, peak load water supply requirements, and minimum road widths and clearances around structures, as those items relate to*

*identified fire and geologic hazards.*

*To the extent that a county's safety element is sufficiently detailed and contains appropriate policies and programs for adoption by a City, a City may adopt that portion of the county's safety element that pertains to the City's planning area in satisfaction of the requirement imposed by this subdivision. Each county and City shall submit to the Division of Mines and Geology of the Department of Conservation one copy of the safety element and any technical studies used for developing the safety element."*

The Noise portion of the Health and Safety Element must identify and appraise existing noise levels in the community and provide guidance to policy makers, planners and developers for avoiding unwarranted noise increases in the future. The Noise Element provides a policy basis for the regulations prescribed in City ordinances and implemented through the City's Code Enforcement program. Specific concerns include: (1) establishment of noise compatible land uses; (2) regulation of new development to limit noise impacts on noise-sensitive uses; (3) minimization of transportation noise; and (4) enforcement of noise standards to protect the existing quality of life.

Accomplishing this task requires an evaluation of the noise sources in the community. The noise background report quantifies the community noise environment of the City of Pinole in terms of noise exposure contours of major roadways and railroads to assist in the development of appropriate policies to reduce noise impacts. These contours are the basis for the development of land use compatibility guidelines. Based on the analysis, noise policies are established for new land uses and potential solutions to existing problems are recommended. Future noise contours are shown on map GP-14, with specific contour distances included in Appendix B.

The Noise Element should be prepared according to guidelines established by the State Department of Health Services, Office of Noise Control. The excerpt below is from Section 65302(F) of the California Government Code.

*"A noise element which shall identify and appraise noise problems in the community. The noise element shall recognize the guidelines established by the Office of Noise Control in the State Department of Health Services and shall analyze and quantify, to the extent practicable, as determined by the legislative body, current and projected noise levels for all of the following sources:*

- (1) Highway and freeways.*
- (2) Primary arterials and major local streets.*
- (3) Passenger and freight on-line railroad operations and ground rapid transit systems.*
- (4) Commercial, general aviation, heliport, helistop, and military airport operations, aircraft over flights, jet engine test stands, and all other ground facilities and maintenance functions related to airport operation.*
- (5) Local industrial plants, including, but not limited to, railroad classification yards.*

- (6) *Other ground stationary noise sources identified by local agencies as contributing to the community noise environment.*

*Noise contours shall be shown for all of these sources and stated in terms of community noise equivalent level (CNEL) or day-night average level (Ldn). The noise contours shall be prepared on the basis of noise monitoring or following generally accepted noise modeling techniques for the various sources identified in paragraphs (1) to (6), inclusive.*

*The noise contours shall be used as a guide for establishing a pattern of land uses in the land use element that minimizes the exposure of community residents to excessive noise.*

*The noise element shall include implementation measures and possible solutions that address existing and foreseeable noise problems, if any. The adopted noise element shall serve as a guideline for compliance with the state's noise insulation standards”*

### 8.3 Health and Safety Conditions

#### *Safety Issues*

The Pinole Planning Area is situated at the end of the northwesterly-trending East Bay Hills, next to San Pablo Bay. Pinole is dominated by moderate to steeply sloping hillsides, which extend northwestward to relatively flat-lying areas along San Pablo Bay. The geologic units mapped in the planning area include existing fill, landslide deposits, colluviums, younger alluvial fan deposits, bay mud, older alluvial fan deposits, and undifferentiated bedrock. Potential Geologic Hazards are shown on map GP-13.

The planning area is located approximately 1.5 miles to 3.9 miles northeast of the northwest-trending Hayward fault zone, which apparently steps eastward to the Rodgers Creek/Healdsburg fault zone underneath San Pablo Bay. The planning area is located about 18 to 20 miles northeast of the San Andreas Fault zone. The Green Valley-Concord fault trend is located approximately 12 miles east of the planning area. These fault zones are part of the San Andreas Fault system, which forms the boundary between the North American and Pacific plates and is the principal source of earthquakes in California.

The planning area is bisected by the Pinole fault, which may be the southeastern most, onshore continuation of the Rodgers Creek fault. The Pinole fault in the planning area branches northward, forming a “Y.” The trunk and eastern leg of the “Y” essentially follow the Pinole Creek drainage, and the western leg extends from Pinole Creek northwestward to the Bay margin just west of Wilson Point.

From a geologic and geotechnical standpoint, the primary concerns in the Pinole Planning Area are: (1) slope stability; (2) earthquake ground shaking; and (3) fault ground rupture. Below is a summary of safety concerns as identified in the Safety Background Report.

- (I) **Ground Subsidence and Settlement.** Widespread ground subsidence due to ground water withdrawal is not a significant potential hazard in the planning area.

The compaction and settlement of unconsolidated material due to loading should not present a potential hazard where foundations are properly designed and engineered.

- (2) **Fault Ground Rupture.** Recent studies suggest that fault ground rupture is a concern along the Pinole fault and warrant establishing a Fault Studies Zone along the fault (Harlan, Tait Associates). Fault studies would be required for certain projects within the Zone to investigate the potential for fault ground rupture.
- (3) **Greatest Potential Secondary Seismic Effects.** Large earthquakes along faults within the Bay Area, most probably as a result of a major earthquake on the Hayward or San Andreas faults located to the west, are likely in the foreseeable future. Severe earthquake ground shaking throughout the planning area is considered likely. The secondary effects of ground shaking in general will be greatest in areas underlain by Bay Mud, unengineered fill, and in marginally stable hillside areas. There is a high potential for seismically-induced land sliding within steep and intermediate hillside areas.
- (4) **Moderate to Low Potential Secondary Seismic Effects.** Large earthquakes will have a moderate potential for localized lurch cracking and liquefaction, in flatland and valley floor areas. Deposits subject to liquefaction are potentially present in cohesion less deposits of active/recently active stream channels, and Bay Mud. There is an unknown potential for seiche (earthquake-caused waves in lakes) and earthquake-related dam failure at stock ponds. There is a very low potential for significant effects from a tsunami (or earthquake-caused sea wave).
- (5) **Erosion.** In the undeveloped hillside areas, there is a high potential for erosion associated with dirt roads and heavily used trails, and with any unprotected channels and stream banks of the major streams traversing the flatland area.
- (6) **Slope Stability.** Slope stability is primarily a concern in hillside areas, and is generally greater in areas of steeper slopes: There is a high potential for slope stability problems in areas of: (a) steep slopes; (b) previous land sliding or soil creep; (c) unengineered grading and uncontrolled drainage on slopes; and (d) deep colluvial deposits. There is a high potential for debris flows within colluvial-filled swales to affect development located at the mouths of swales.
- (7) **Foundation Conditions.** Foundation conditions are generally good in the planning area. The chief concerns are: (1) areas of weak bedrock, particularly those susceptible to slaking (breakdown upon exposure to air or water) or expansion; (2) areas of expansive soils; (3) areas underlain by deposits of Bay Mud; and (4) areas underlain by colluvial and landslide deposits.
- (8) **Flooding.** Except for very localized flooding and standing water, which may occur during brief, intense storms when runoff exceeds storm sewer capacity, creek flows along Pinole Creek would probably be contained within the existing creek bank during a 100-year storm.

*Noise Issues*

The method commonly used to quantify environmental sounds is called the A-weighted sound level (dBA). Typical A-levels measured in the environment and in industry are shown below for different types of noise.

**Typical Sound Levels Measured in the Environment and Industry**

	140		
	130		
Civil Defense Siren (100')	120		Pain Threshold
Jet Takeoff (200')	110		
Riveting Machine	100	Rock Music Band Piledriver (50')	Very Loud
Diesel Bus (15')	90	Ambulance Siren (100')	
BART Train Passby (10')	80	Boiler Room Printing Press Plant Freeway (100')	
Pneumatic Drill (50')	70	Garbage Disposal in Home (3')	Moderately Loud
Freight Cars (100')	60	Inside Sports Car	
Vacuum Cleaner (10')	50	Data Processing Center Department Store	
Speech (1')	40	Private Business Office Light Traffic (100')	
Auto Traffic Near Freeway	30		Quiet
	20	Typical Minimum Nighttime Level - Residential Areas	
Soft Whisper (5')	10	Recording Studio	
Rustling Leaves	0	Mosquito (3')	Threshold of Hearing

(100') = Distance in feet between source and listener  
Source: Illingworth & Rocklin, 1991.

In determining the daily level of environmental noise, it is important to account for the difference in response of people to daytime and nighttime noises. During the nighttime, exterior

background noises are generally lower than the daytime levels. However, most household noise also decreases at night and exterior noise becomes very noticeable. Further, most people sleep at night and are very sensitive to noise intrusion.

To account for human sensitivity to nighttime noise levels, a descriptor, Ldn (day/night average sound level), was developed. The Ldn divides the 24-hour day into the daytime of 7:00 AM to 10:00 PM and the nighttime of 10:00 PM to 7:00 AM. The nighttime noise level is weighted 10 dBA higher than the daytime noise level. The Community Noise Equivalent Level (CNEL) is another 24-hour average which includes both an evening and nighttime weighting.

The levels associated with environmental noise, in almost every case, produce effects only in the first two categories. Workers in industrial plants can experience noise in the last category. Unfortunately, there is as yet no completely satisfactory way to measure the subjective effects of noise, or of the corresponding reactions of annoyance and dissatisfaction. This is primarily because of the wide variation in individual thresholds of annoyance, and habituation to noise over differing individual past experiences with noise.

Thus, an important way of determining a person's subjective reaction to a new noise is the comparison of the existing environment to which one has adapted; the so-called "ambient." In general~ the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by the hearers.

With regard to increases in A-weighted noise level, knowledge of the following relationships will be helpful in understanding this element.

- (1) Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived.
- (2) Outside of the laboratory, a 3 dBA change is considered a just-perceivable difference.
- (3) A change in level of at least 5 dBA is required before any noticeable change in community response would be expected.
- (4) A 10 dBA change is subjectively heard as approximately a doubling in loudness, and would almost certainly cause an adverse change in community response.

The major noise sources in the City of Pinole are vehicular and rail traffic. The level of vehicular noise generally varies with the volume of traffic, the number of trucks or buses, the speed of traffic, and the distance from the roadway. Noise generated by vehicular traffic in Pinole is greatest along Interstate 80 and San Pablo Avenue. There are two rail lines through the city, the Atchison-Topeka and Santa Fe (AT&SF) and Southern Pacific. Noise conditions are summarized below:

- (1) **Traffic Noise.** The existing and future Ldn along each of the major streets in the City of Pinole was calculated using a noise prediction model based on the Federal Highway Administration Research Document FHWA RD77-108. The California Vehicle Noise Emission Levels (CALVENO) information developed by CalTrans were used in the model. Inputs to the model consist of the average daily traffic volume (ADT), the number of automobiles, medium trucks, and heavy trucks, and the speed of the vehicles. Existing (1992) and future (2010) noise levels along roadways in the City of Pinole are calculated

by the model and are shown in the Noise Background Report. The results of the computer model were adjusted to account for the noise levels recorded at the long-term measurements.

- (2) **Train Noise.** Using a train noise prediction model developed by Wyle Laboratories (future projections of train activity along each track were not available), and calibrated for the noise emission levels measured along the two railroads, the noise exposure was calculated along each railroad. The inputs used in the model, and the contour distances to 60-, 65-, 70-, and 75-Ldn are shown in the Noise Background Report. The noise levels along each railroad represent both existing and future noise exposure since no projections were available.
- (3) **Other Noise Sources.** Other potentially significant noise sources in the City of Pinole would be associated with industrial land uses. Industrial noise sources (auto repair, wrecking yards, equipment lots, etc.) are generally significant only in industrial areas. However, there are locations where undeveloped lands, or current noise sensitive areas abut industrial activities. Areas that could potentially result in noise and land use conflicts should be studied in detail before future development takes place.

Maps at a scale of 1-inch equals 600 feet were drawn showing the build out (2010) Ldn noise contours for roadways and railroads in the City of Pinole. Future noise levels along roadways are based on the West County Traffic Study. The distances to the different noise contours for each roadway are shown in tabular form. Noise contour distances for the railroads are also shown. The noise contour map is on file with the Community Development Department of the City of Pinole, and has been reproduced at a smaller scale in the General Plan (see map GP-14).

## 8.4 Health and Safety Goals

- HS1 **COMMUNITY HEALTH AND SAFETY.** Minimize the potential for loss of life, injury, damage to property, economic and social dislocation and unusual public expense due to natural and manmade hazards.
- HS2 **PROTECTION FROM NATURAL AND MAN-MADE HAZARDS.** Protect the community from the risk of flood damage and minimize hazards of soil erosion, weak and expansive soils, potentially hazardous soils materials, other hazardous materials, geologic instability and seismic activity.
- HS3 **PREPARE FOR EMERGENCY SITUATIONS.** Ensure government agencies, citizens and businesses are prepared for an effective response and recovery in the event of emergencies or disasters.
- HS4 **NEW DEVELOPMENT NOISE STANDARDS.** Ensure all new development complies with the noise standards established in the Pinole Health and Safety Element and prevent all new noise sources from increasing the existing noise level above acceptable standards.
- HS5 **REDUCE EXISTING OBJECTIONABLE NOISE SOURCES.** Eliminate or reduce noise from existing objectionable noise sources.

## 8.5 Health and Safety Policies

**HS1 COMMUNITY HEALTH AND SAFETY. MINIMIZE THE POTENTIAL FOR LOSS OF LIFE, INJURY, DAMAGE TO PROPERTY, ECONOMIC AND SOCIAL DISLOCATION AND UNUSUAL PUBLIC EXPENSE DUE TO NATURAL AND MAN-MADE HAZARDS.**

**HS1.1 Location of Future Development.** Permit development only in those areas where potential danger to the health, safety, and welfare of the residents of the community can be adequately mitigated.

Primary Implement Programs  
HSIP-2 Geologic, Flooding and Other Hazard Maps  
HSIP-3 Geotechnical Review Procedures

**HS1.2 Development Review.** Require appropriate studies to assess identified hazards and assure that impacts are adequately mitigated.

Primary Implement Programs  
HSIP-2 Geologic, flooding and Other Hazard Map  
HSIP-3 Geotechnical Review Procedures  
HSIP-5 Pipeline Safety Ordinance

**HS2 PROTECTION FROM NATURAL AND MAN-MADE HAZARDS. PROTECT THE COMMUNITY FROM THE RISK OF FLOOD DAMAGE AND MINIMIZE HAZARDS OF SOIL EROSION, WEAK AND EXPANSIVE SOILS, POTENTIALLY HAZARDOUS SOILS MATERIALS, OTHER HAZARDOUS MATERIALS, GEOLOGIC INSTABILITY AND SEISMIC ACTIVITY.**

**HS2.1 Geotechnical Review.** Require geotechnical studies for development proposals; such studies should determine the actual extent of geotechnical hazards, optimum location for structures, the advisability of special structural requirements, and the feasibility and desirability of a proposed facility in a specified location.

Primary Implement Programs  
HSIP-2 Geologic, Flooding and Other Hazard Maps  
HSIP-3 Geotechnical Review Procedures

**HS2.2 Soils and Geologic Review.** Require soils and geologic review development proposals in accordance with City procedures to assess potential seismic hazards, liquefaction, land sliding, mud sliding, erosion, sedimentation and settlement in order to determine if these hazards can be adequately mitigated.

Primary Implement Programs  
HSIP-2 Geologic. Flooding and Other Hazard Maps  
HSIP-3 Geotechnical Review Procedures

HS2.3 **Minimize Geological Hazards.** Require all geologic hazards be adequately addressed and mitigated through project development. Development proposed within areas of potential geological hazards shall not be endangered by, nor contribute to, the hazardous conditions on the site or on adjoining properties.

Primary Implement Programs  
HSIP-2 Geologic, flooding and Other Hazard Maps  
HSIP-3 Geotechnical Review Procedures

HS2.4 **Seismic Safety.** Assure existing and new structures are designed to protect people and property from seismic hazards.

Primary Implement Programs  
HSIP-1 Building Code Update  
HSIP-10 Unreinforced Masonry Buildings

HS2.5 **Potential Hazardous Soils Conditions.** Evaluate new development on sites which may have involved hazardous materials prior to development approvals.

Primary Implement Programs  
HSIP-2 Geologic, Flooding and Other Hazard Maps  
HSIP-3 Geotechnical Review Procedures  
HSIP-12 Hazardous Soils

HS2.6 **Hazardous Materials Storage and Disposal.** Require proper storage and disposal of hazardous materials to prevent leakage, potential explosions, fires, or the escape of harmful gases, and to prevent individually innocuous materials from combining to form hazardous substances, especially at the time of disposal.

Primary Implement Programs  
HSIP-3 Geotechnical Review Procedures  
HSIP-4 Hazardous Waste Management  
HSIP-5 Pipeline Safety Ordinance  
HSIP-11 Hazardous Materials Storage Tanks

HS2.7 **Hazardous Waste Management.** Support measures to responsibly manage hazardous waste to protect public health, safety and the environment, and support state and federal safety legislation to strengthen requirements for hazardous materials transport.

Primary Implement Programs  
HSIP-4 Hazardous Waste Management

HS2.8 **Flood Hazards.** Assure existing and new structures are designed to protect people and property from the threat of potential flooding. New development shall be designed to provide protection from potential impacts of flooding during the “1% chance” or “100-year” flood.

Primary Implement Programs  
HSIP-2 Geologic, Flooding and Other Hazard Maps

HS2.9 **Rise in Sea Level.** Coordinate with local, regional, state, and federal agencies regarding potential rise in sea level.

Primary Implement Programs  
HSIP-2 Geologic, flooding and Other Hazard Maps

HS2.10 **Erosion.** Provide appropriate control measures in conjunction with proposed development in areas susceptible to erosion.

Primary Implement Programs  
HSIP-2 Geologic, Flooding and Other Hazard Maps  
HSIF-3 Geotechnical Review Procedures  
OSIP-1 Habitat Protection Ordinance  
OSIP-2 Riparian and Stream Restoration Programs

**HS3 PREPARE FOR EMERGENCY SITUATIONS. ENSURE GOVERNMENT AGENCIES, CITIZENS AND BUSINESSES ARE PREPARED FOR AN EFFECTIVE RESPONSE AND RECOVERY IN THE EVENT OF EMERGENCIES OR DISASTERS.**

HS3.1 **Emergency Response.** Continue to provide essential emergency public services during natural catastrophes.

Primary Implement Programs  
See Community Services and Facilities Element Programs

HS3.2 **Disaster Preparedness Planning.** Undertake disaster preparedness planning in cooperation with other public agencies and appropriate public-interest organizations.

Primary Implement Programs  
See Community Services and Facilities Element Programs

HS3.3 **Hazard Awareness.** Publicize disaster plans and promote resident awareness and caution regarding hazards, including soil instability, earthquakes, flooding, and fire.

Primary Implement Programs  
See Community Services and Facilities Element Programs

HS3.4 **Access for Emergency Vehicles.** Provide adequate access for emergency vehicles and equipment.

Primary Implement Programs

See Community Services and Facilities Element Programs  
 C1P-26 Emergency Vehicle Access

**HS3.5 Public Facilities.** Locate and design emergency buildings and vital utilities, communication systems and other public facilities so that they remain operational during and after an emergency or disaster.

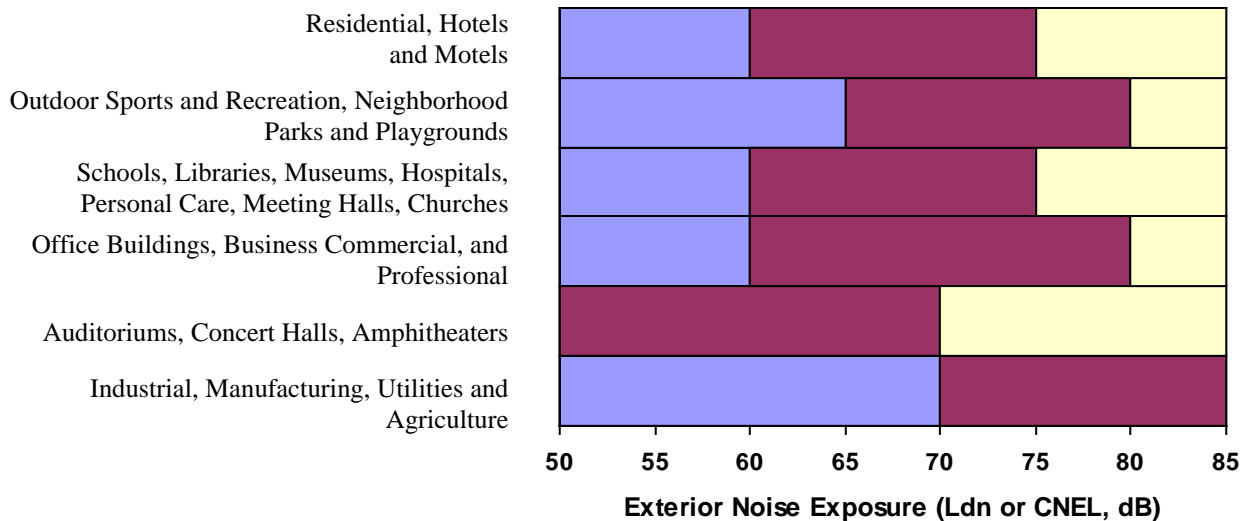
Primary Implement Programs  
 HSIP-2 Geologic, Flooding and Other Hazard Map  
 HSIP-3 Geotechnical Review Procedures

**HS4 NEW DEVELOPMENT NOISE STANDARDS.** ENSURE ALL NEW DEVELOPMENT COMPLIES WITH THE NOISE STANDARDS ESTABLISHED IN THE PINOLE HEALTH AND SAFETY ELEMENT AND PREVENT ALL NEW NOISE SOURCES FROM INCREASING THE EXISTING NOISE LEVEL ABOVE ACCEPTABLE STANDARDS.

**HS4.1 Noise Levels in New Residential Projects.** New residential development projects shall meet acceptable exterior noise level standards. The normally acceptable noise standards for new land uses are established in Land Use Compatibility for Community Exterior Noise Environments (as shown below), which shall be modified by Policies HS4.2, HS4.3, HS4.4, HS4.5, HS4.6, HS4.7 and HS4.B, below.

Primary Implement Programs  
 HSIP-6 Use of Noise Standards

**Land Use Compatibility for Community Noise Environments**





HSIP-6 Primary Implement Programs  
Use of Noise Standards

HS4.5 **Impacts of Train Noise.** If the noise source is a railroad, then the outdoor noise exposure criterion should be 70 Ldn for future development, recognizing that train noise is characterized by relatively few loud events.

HSIP-6 Primary Implement Programs  
Use of Noise Standards

HS4.6 **New Commercial, Industrial and Office Noise Standards.** Appropriate interior noise levels in commercial, industrial, and office buildings are a function of the use of space and shall be evaluated on a case-by-case basis. Interior noise levels in offices generally should be maintained at 45 Leq (hourly average) or less.

HSIP-6 Primary Implement Programs  
Use of Noise Standards

HS4.7 **Areas Below Desired Noise Standards.** These guidelines are not intended to be applied reciprocally. In other words, if an area currently is below the desired noise standards, an increase in noise up to the maximum should not necessarily be allowed. The impact of a proposed project on an existing land use should be evaluated in terms of the increase in existing noise levels and potential for adverse community impact, regardless of the compatibility guidelines.

HSIP-6 Primary Implement Programs  
Use of Noise Standards

HS4.8 **Non-Transportation Related Noise Sources.** For non-transportation related noise sources, noise levels outdoors should not exceed the limits in the table below. Interior noise levels shall be 15 decibels lower than those shown in the table.

HSIP-6 Primary Implement Programs  
Use of Noise Standards  
HSIP-8 State Noise Insulation Standards

HS4.9 **Noise Environment in Existing Residential Areas.** Protect the noise environment in existing residential areas. In general, the City will require the evaluation of mitigation measures for projects under the following circumstances:

- a. The project would cause the Ldn to increase 3 dB(A) or more.
- b. Any increase would result in an Ldn greater than 60 dB(A).
- c. The Ldn already exceeds 60 dB(A).

- d. The project has the potential to generate significant adverse community response.

HSIP-6                      Primary Implement Programs  
                                    Use of Noise Standards

HS4 10                      **Mitigating the Effects of Noise on Adjacent Properties.** Require proposals to reduce noise impacts on adjacent properties through the following and other means, as appropriate:

- a. Screen and control noise sources such as parking, outdoor activities and mechanical equipment.
- b. Increase setbacks for noise sources from adjacent dwellings.
- c. Wherever possible do not remove fences, walls or landscaping that serve as noise buffers, although design, safety and other impacts must be addressed.
- d. Use soundproofing materials and double glazed windows.
- e. Control hours of operation, including deliveries and trash pickup to minimize noise impacts.

HSIP-6                      Primary Implement Programs  
                                    Use of Noise Standards

**GOAL HS5    REDUCE EXISTING OBJECTIONABLE NOISE SOURCES. ELIMINATE OR REDUCE NOISE FROM EXISTING OR OBJECTIONABLE NOISE SOURCES.**

HS5.1                      **Commercial or Industrial Source Noise.** Noise created by commercial or industrial sources associated with new projects or developments shall be controlled so as not to exceed the noise level standards set forth in the table below (Maximum Allowable Noise Exposure for Stationary Noise Sources), as measured at any affected residential land use.

HSIP-6                      Primary Implement Programs  
                                    Use of Noise Standards  
HSIP-7                      Noise Ordinance

HS5.2                      **New Noise Reducing Technologies.** Support and employ new noise reducing technologies in the development and maintenance of local and regional infrastructure.

	Primary Implement Programs
HSIP-6	Use of Noise Standards
HSIP-8	State Noise Insulation Standards

**Maximum Allowable Noise Exposure for Stationary Noise Sources (1)**

	<b>Daytime (5) (7Am to 10PM)</b>	<b>Nighttime (2,5) (10PM to 7AM)</b>
Hourly Leq, DB (3)	55	45
Maximum Level, dB (3)	70	65
Maximum Level, dB - Impulsive Noise (4)	65	60

- (1) As determined at the property line of the receiving land use. When determining effectiveness of noise mitigation measures, the standards may be applied on the receptor side of noise barriers or other property line noise mitigation measures.
- (2) Applies only where the receiving land use operates or is occupied during nighttime hours.
- (3) Sound level measurements shall be made with “slow” meter response.
- (4) Sound level measurements shall be made with “fast” meter response.
- (5) Allowable levels shall be raised to the ambient noise levels where the ambient levels exceed the allowable levels. Allowable levels shall be reduced 5 dB if the ambient hourly Leq is at least 10 dB lower than the allowable level

**8.6 Health and Safety Programs**

- HSIP-1 **Building Code Update.** Update the Building and other codes as necessary to address earthquake, fire and other hazards and support programs for the identification, abatement or mitigation of existing hazardous structures.
- HSIP-2 **Geologic, Flooding and Other Hazard Maps.** Maintain detailed hazard maps for use in development review.
- HSIP-3 **Geotechnical Review Procedures.** Update City guidelines establishing geotechnical review procedures, including but not limited to, the content of geologic feasibility reports and design level geotechnical reports, and the credentials of the authors of such reports. Considerations include:
  - a. Establish a Fault Studies Zone along the Pinole fault, within which investigations into the potential for fault ground rupture would be required for certain projects, such as hospitals or fire stations.

- b. Establish procedures addressing the type(s) of investigation, minimum report guidelines, minimum standards, technical review of reports submitted to the City, and enforcement of recommendations contained in the reports and City policy.
- c. Define types of projects and areas within the planning area which trigger report requirements for engineering geologic and/or geotechnical (soil and foundation engineering) reports to address these concerns.
- d. Require engineering geologic reports: (a) for certain projects within a Fault Studies Zone; and (b) for certain projects in hillside and flatland areas and within 50 feet of creek banks.
- e. Require geotechnical reports for: (a) additions imposing significant new loads on existing foundations; (b) projects involving significant grading, particularly where located on a slope (e.g. swimming pools, basements); (c) repair of foundation distress; (d) landslide repairs; and (e) repair of distressed retaining walls over 4 feet in height.
- f. Require the engineering geologist of record (where one is required on the project) to be an engineering geologist certified by the State of California.
- g. Require the geotechnical consultant of record to be a registered civil engineer who holds a valid authorization to use the title “soil engineer” as provided in Section 6736.1 of the State of California Business and Professions Code.
- h. Continually revise the existing database to indicate those sites with geologic/geotechnical reports on file.

HSIP-4     **Hazardous Waste Management.** Work with Contra Costa County, other cities in the county and other jurisdictions on implementing measures of the County Hazardous Waste Management Plan and the City of Pinole Household Hazardous Waste Element.

HSIP-5     **Pipeline Safety Ordinance.** Investigate alternatives and consider adopting an ordinance to assure pipeline safety when construction occurs. New developments should underground all gas, electric and communication lines, screen facilities (i.e. transformers) and provide underground connections when feasible, to improve public safety and the City’s appearance.

HSIP-6     **Use of Noise Standards.** Review development proposals to assure consistency with noise standards. The City will use the Future Noise Contours map (available at the Pinole Community Development Department) to determine if additional noise studies are needed for proposed development.

HSIP-7     **Noise Ordinance.** Adopt a noise ordinance to regulate noise generating activities.

- HSIF-8      **State Noise Insulation Standards.** Use the adopted Health and Safety Element as a guideline for compliance with the State’s noise insulation standards by providing noise contour information around all major sources in support of the sound transmission control standards (Chapter 2-35, Part 2, Title 24, California Administrative Code).
- HSIP-9      **Transportation of Hazardous Materials.** Work with Contra Costa County, other cities in the county and other jurisdictions in establishing standards for the transportation of hazardous wastes through West County and the City.
- HSIP-10     **Unreinforced Masonry Buildings.** Implement actions to address safety issues related to Unreinforced Masonry Buildings (URMB) in coordination with Historic Preservation policies and programs.
- HSIP-1 1    **Hazardous Materials Storage Tanks.** A comprehensive investigation of hazardous materials storage tanks should be undertaken for specific sites when development is proposed. The potential hazard of any tanks or former tank sites found should then be evaluated using California EPA and local regulatory guidelines, and remediated.
- HSIP-12     **Hazardous Soils.** Sites within Pinole which are contaminated with hazardous substances should be cleaned through decontamination of soils and filtration of ground water.