

NOISE & SAFETY ELEMENT

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A. PURPOSE

The Noise Element is one of the seven required elements of a general plan. “The purpose of the noise element is to limit the exposure of the community to excessive noise levels and that the noise element must be used to guide decisions concerning land use and the location of new roads and transit facilities since these are common sources of excessive noise levels” (Governor’s Office of Planning and Research, State of California General Plan Guidelines, October 2003, p. 87). State law specifically requires that the noise element show noise contours for highways and freeways, and primary arterials and major local streets, and “include implementation measures and possible solutions that address existing and foreseeable noise problems, if any” (Government Code Section 65302(f)).

The Safety Element is another of the seven required elements of a general plan. “The aim of the safety element is to reduce the potential risk of death, injuries, property damage, and economic and social dislocation resulting from fires, floods, earthquakes,

landslides, and other hazards. The safety element must identify hazards and hazard abatement provisions to guide local decisions related to zoning, subdivisions, and other entitlement permits” (Governor’s Office of Planning and Research, State of California General Plan Guidelines, October 2003, p. 90).

B. NOISE ELEMENT

1. Noise Environment

Trinidad is a small community with minimal traffic and noise pollution, and the intent of the residents is to maintain those characteristics. Appropriate standards for maximum short-term noise levels vary with the type of land use and time of day. Acceptable daytime levels in industrial and commercial areas are typically based on a combination of health and nuisance considerations and typically do not exceed 85 dBA. In residential areas, standards are typically set to avoid the perception of nuisance, such as noise levels that block normal conversation. Noise level above 66 dBA requires raised voices to be heard at a distance of three feet. Indoor noise levels between 50 and 60 dBA can disturb sleep.

Other than Highway 101, other factors that influence the noise levels in Trinidad are low flying coast guard helicopters, emergency sirens, and on-site construction. Between wind and waves, Trinidad also has some substantial natural contributors to ambient noise levels. Noise can also come from private residences, commercial areas, tourists, etc. Excess noise complaints can be made to the proper authorities. Implementation measures and possible solutions include, but are not limited to: restricted operating hours, protective building design, and installing sound barriers.

Existing Conditions

Traffic Noise

Traffic noise depends primarily on the speed of traffic and the percentage of truck traffic. The primary source of noise from automobiles is high-frequency tire noise, which increases with vehicle speed. In addition, trucks and older automobiles produce engine and exhaust noise, and trucks generate wind noise. Trinidad is primarily affected by Hwy 101, only a small portion of which runs through City limits. Differences in elevation can amplify or dampen noise levels; for example, noise from a thoroughfare in a trough or valley between residential areas will be reflected upward and focused while noise from an elevated thoroughfare may dissipate. On flat ground, a buffer (such as a sound wall or dense vegetation) will greatly reduce noise escaping to surrounding areas. Background studies for the Humboldt County General Plan update indicate that Hwy 101 noise in the Trinidad area is not an issue; the highest noise levels are through Arcata, Eureka and McKinleyville, which all have substantially higher Average Daily Traffic Counts (ADTs), generally at least double. According to personal communication with CalTrans personnel in January 2001, the Highway 101 intersection noise contour is far below the threshold that would necessitate a noise reduction project.

City streets do not have high levels of traffic, and cars are generally moving at speeds less than 30mph. Trucks do have to drive through town to make deliveries to the harbor area, utilizing Main, Trinity and Edwards Streets.

Aircraft Noise

The California Division of Aeronautics is in charge of enforcing airport noise regulations for all airports within the state. The noise standards require that no residences, schools, hospitals or places of worship be within a Noise Impact Area. The California Airport Noise Standards (California Code of Regulations, Title 21) Division 2.5, Chapter 6, Section 5012 of Title 21 establishes that 65 dBA CNEL is the acceptable level of aircraft noise for persons living near an airport. Airport noise studies are performed for the Arcata Airport Master Plan, and the most recent study indicates that airport noise is not an issue in Trinidad. Aircrafts do occasionally fly over Trinidad, but their impact is minimal.

Stationary Noise Sources

On May 16 and August 23, 2012, City of Trinidad staff took noise readings at specific locations to address noise-compatible land use regulations. Planning staff informally surveyed community members and City employees to determine stationary noise sources in town in order to determine the most appropriate points to take noise readings. The results (Table NO-1) indicate that Trinidad does not have many substantial noise sources. In addition to Hwy 101, the main sources of noise are equipment such as refrigeration units by the market, the gas station and the marine lab. Other substantial noise sources include tourists, wind and waves. Note that the following noise readings were taken on an unusually calm days for wind and waves, though the lack of excess noise in the readings makes the readings more accurate. The results and locations are also presented in Figure 16.

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Sensitive Receptors

Sensitive receptors are those that are most affected by noise. The California *General Plan Guidelines* lists schools, churches, convalescent homes, and sensitive wildlife habitat as sensitive receptors that should be identified in the General Plan. Residential areas in general are also noise receptors and must be considered in land use planning and noise generators. Other than residential areas, Trinidad has few sensitive receptors; these include Trinidad Elementary, and two churches, all of which are located near the central part of the town.

Table NO-1: Trinidad Noise Readings

City of Trinidad Noise Readings				
		Reading (dB)		
Station	Time	Average	Max	Notes
May 16, 2012				
corner of Frontage Rd & Westhaven Dr	4:59pm	66	73	
Murphy's Market (@ refrigeration units)	5:05pm	80		
Murphy's Market (50 ft south)	5:07pm	59		
View Ave, southwest (kitty-corner) of Murphy's Market	5:06pm	55		
Ocean Avenue (AT&T substation)	5:10pm	40		multiple bird species chattering
Lighthouse, located on Edwards St (1° collector)	5:15pm	48		wind calm; ocean flat
Marine Lab (at the pumps)	5:20pm	63		pumps humming
State Beach (parking lot)	5:24pm	60		light wind
Seascape Restaurant	5:27pm	53		low tide; no waves; wind <5
Chevron Station (refrigeration unit)	5:35pm	55	60	max included car noise
Chevron Station (50 ft from propane tank)	5:37pm	64		
Patricks Point Dr (recycling area)	5:43pm	60	70+	max occurred during recycling activities
August 23, 2012				
State Beach (parking lot)	6:22pm	65		high tide; ocean 5-10
Trinidad Head - NOAA station (southern)	6:44pm	67		no wind
Trinidad Head - NOAA station (southern) @ 15ft	6:45pm	48		no wind
Trinidad Head - NOAA station (northern)	6:51pm	43		no wind
Trinidad Head - cellular facility (@ gate)	6:47pm	45		no wind

Noise and Land Use Compatibility Guidelines

The California *General Plan Guidelines* include guidelines for noise-compatible land use. The existing General Plan contains a table, Noise and Land Use Compatibility Guidelines, that is consistent with the current state guidelines. The following table addresses acceptable exterior/interior levels for stationary sources to assess impacts of new development or new sources of noise onto adjacent uses:

Table NO-2: Land Use Noise Compatibility Matrix

NOISE LEVEL PERFORMANCE STANDARDS FOR NEW PROJECTS AFFECTED BY OR INCLUDING STATIONARY SOURCES						
Land Use	Exterior			Interior		
Noise Level Description	7AM-7PM	7PM-10PM	10PM-7AM	7AM-7PM	7PM-10PM	10PM-7AM
Residences, Transient Lodging, Commercial, Nursing Homes						
Hourly L_{eq}	55 dB	50 dB	45 dB	45 dB	40 dB	40dB
Maximum	75 dB	75 dB	70 dB	65 dB	65 dB	60 dB
Auditoriums, Theaters, Libraries, Schools, Churches						
Hourly L_{eq}	55 dB	55 dB	50dB	40 dB	40 dB	40dB
Maximum	75 dB	75 dB	50dB	60 dB	60 dB	60dB

NOTE: L_{eq} = The energy equivalent level, defined as the average sound level over time on the basis of sound energy. dB-Decibel = A unit used to express the relative intensity of a sound as it is heard by the human ear.

2. Noise Element Policies

Goal NO-1: Regulate noise based on zoning and activity while protecting the quality of life of residents, visitors and wildlife of Trinidad

NO-1.1 Existing and potential incompatible noise levels in problem areas shall be reduced through operational or source controls where the City has responsibility for such controls. Land use planning, subdivision review, building code enforcement, and other administrative means shall be utilized as needed.

NO-1.2 New projects in the Mixed Use/downtown area, through site design and the use of the best available building technology, shall minimize the potential noise conflicts between commercial and residential uses.

NO-1.3 Noise created by new or proposed stationary noise sources or the expansion or alteration of an existing use shall be mitigated so as not to exceed noise level standards in Table NO-1 at adjacent land uses.

NO-1.4 The City shall identify and evaluate potential noise problem areas on a continuing basis.

NO-1.5 New development shall be designed and constructed to meet levels listed in chart.

Program NO-1.5.1 Consider applying noise standards to residential units in the Zoning Ordinance.

NO-1.6 The City shall lessen noise increases along the city's arterial and collector roads through project design of streets (including providing buffers to the extent feasible and screening), coordination of routing, and other traffic control measures if needed. (city of seal beach)

NO-1.7 Back-up generators are a pronounced source of noise. Generator noise shall be determined and included in the City Noise Ordinance.

NO-1.8 Noise from quarries and associated truck traffic shall also be included in the Noise Ordinance.

C. SAFETY ELEMENT

1. Safety Environment

California has a beautiful natural environment. Unfortunately, the spectacular natural features also present Californians with many potential natural hazards. Like much of the rest of the state, the Trinidad is susceptible to earthquakes, fires, landslides, and other natural disasters.

According to Government Code § 65302 (g), a Safety Element is for the protection of the community from any unreasonable risks associated with the effect of seismically-induced surface rupture, ground shaking, ground failure, tsunami, slope instability, subsidence, liquefaction and other seismic hazards, flooding, wildland and urban fires.

A report entitled “Environmental Conditions and Constraints” (Environmental Research Consultants) dated May 1976 identified such hazards and incorporated their analysis into the General Plan policies. Geologic conditions have not changed over the intervening years, though our knowledge about them has increased. For this General Plan update, two additional related reports were prepared: (1) Geologic and Seismic Characteristics of Trinidad (Kristen Martin, Streamline Planning Consultants, 2007); and (2) Soil Characteristics of the Trinidad Area, CA (Sam Polly, Streamline Planning Consultants, 2009) In addition, multiple, site specific geologic studies have been done since that time. There is no indication that more data is necessary. Changes to the existing General Plan consist primarily of including updated information (such as identification of the Alquist-Priolo Special Study Zone) or policies that improve the notification and restricts development to address these issues.

Earthquakes

A portion of the Trinidad area lies within a Special Study (Fault Rupture) Zone, as designated by the State Division of Mines and Geology under the Alquist-Priolo Act of 1972 (Fig. 9a). The zone encompasses about 60 acres, or 19% of the land within City limits. The purpose of the Zone is to ensure that local development patterns do not create seismic hazards; any new development of structures for human occupancy would be required to undergo a geologic study before a building permit would be issued. According to the Alquist-Priolo Act, no buildings may be constructed within 50 feet of any active fault in the zone. Trinidad is affected because there has been development within the boundary of the Alquist-Priolo zones. Much of the undeveloped land also falls in or near this zone. There are two fault zones within Trinidad shown on Fig. 17, the Trinidad head fault zone and the Anderson Ranch fault zone. The City has developed a list of parcels located in the Alquist-Priolo zone to use during the review of development proposals and/or become part of overlay zoning.

The current Uniform Building Code (UBC) released by the California Building Standards Commission put Trinidad in “zone 4,” which has the highest standards for earthquake safety. The UBC sets standards for the seismic design of all structures in volume 1, chapter 16, division 3, sections 1624 through 1634, including “zone 4” properties. The

City continues to utilize the most recent standards and version of the UBC for the building permit process.

Ground shaking

Ground shaking is not an earthquake itself but the land's response to the readjustment of the strain in the earth's crust. Earthquakes originating inside or outside a planning area may cause ground shaking within that area. The degree of hazard depends on the severity of the shaking and the susceptibility of the buildings to damage. The severity of the shaking and the susceptibility of the buildings to damage, in turn, depend on geologic materials and structural conditions. Therefore, local geologic conditions such as depth to bedrock and groundwater, as well as building height and the type and age of construction, all affect the degree of hazard.

The earthquake hazard maps are not forecasts of the ground shaking that will occur in specific earthquake scenarios. However, they can be used to generally identify those areas which are most and least susceptible to violent ground shaking. Series of maps at a scale of 1:24,000 show regulatory zones around surface traces of active faults in California and are produced under the authority of the Alquist-Priolo Earthquake Fault Zoning Act for planning and controlling construction in these zones. Other scenarios and information are available at Earthquake Shaking Potential for California (California Geological Survey) 2008 which shows the relative intensity of ground shaking and damage in California from anticipated future earthquakes. Trinidad has been mapped in a region that is near major, active faults and will on average experience stronger earthquake shaking more frequently than several other areas in California. This intense shaking can damage even strong, modern buildings.

Unstable Slopes/Landslides

According to the Slope Stability Geologic and Seismic Characteristics of Trinidad Background Report (Streamline Planning, 2007), much of the area along the sea cliffs and coastal streams is unstable or of questionable stability. These and other unstable areas have been designated as Open Space or Special Environment on the previous Land Use Map and have been similarly designated.

Figure 9a illustrates the conditions of slope stability within and around Trinidad. The City transferred this information to its data base and developed a list of parcels that fall in the "questionable stability and unstable zone" category. This has been used during review of development proposals and will become part of overlaying zoning. Review of development proposals by qualified professionals is required by Zoning Ordinance provisions.

Unstable areas that were once designated Resource Production are now Special Environment (SE). SE designations and zoning requirements control development and other activities on in areas affected by hazards or environmental sensitive areas.

Steep slopes and unstable geologic material create erosion and landslide hazards in some of the Trinidad area. Coastal bluffs are especially subject to these hazards due to

continuous wave erosion. Development should be located far enough from the edge of the bluffs so that structures are not in danger of being undercut by wave activity in the design life of the project. Development should also be restricted in areas dominated by the Franciscan Complex, as these clay-rich materials are susceptible to earth flows and debris flows.

The *Geologic & Seismic Characteristics of Trinidad, CA* (Streamline Planning Consultants, 2007), states that slope failures triggered by ground shaking are likely to occur in areas where the water table is high and steep slopes exist, such as along terrace margins and road cuts. Any of the landslide types described under “stability characteristics” can be caused or accelerated by seismic shaking. According to the Division of Mines & Geology “*Planning Scenario in Humboldt and Del Norte Counties for a Great Earthquake on the Cascadia Subduction Zone*” (1995), which does not provide a detailed damage assessment for Trinidad, most of Highway 101 in Humboldt County would be closed for at least three days under a great earthquake scenario. It is reasonable to assume that landslides would be responsible for closing the portion of highway that runs through Trinidad.

Surface Rupture

Surface rupture commonly occurs during earthquakes in California because the earthquakes originate near the earth’s surface. Ground on one side of the fault moves relative to ground on the other side, and any structures built across the fault trace will be deformed or destroyed. Displacement can be vertical, horizontal, or a combination of both. Displacement may vary from a few inches to several feet.

Erosion

As previously mentioned, the Franciscan bedrock that underlies Trinidad is composed of pieces of relatively resistant rock within a matrix of sheared, unstable material. Area geology is characterized by outcroppings of this material, especially at the coastline, and by the poorly consolidated alluvial deposits that cover the surfaces of the marine terraces. These different materials are subject to erosion and various types of slope failure.

Erosion of coastal bluffs is a concern because the coastline is continuously eaten away by ocean waves, particularly at high tide and during the winter storm season. In addition, sea level may be rising at an approximate rate of 1 mm per year, thus intensifying the effects of wave erosion (Streamline Planning Consultants, 2007). Evidence of past cliff retreat is seen in areas such as College Cove. This small bay was “carved” out of weak Franciscan matrix material, and according to aerial photographs, the shoreline retreated at a rate of 0.4 m per year between 1942 and 1974. Cliff retreat has also been documented as actively occurring at the Tsurai Village site located in the City of Trinidad in the Engineering Geologic Assessment of the Tsurai Village (LACO Associates, 2004).

Tsunamis and Seiches

Tsunamis (earthquake induced surges of ocean water) are a possible hazard in the Trinidad area. The Humboldt County coast is well known for frequent earthquakes due to the proximity of the Cascadia Subduction Zone. Areas less than 20 feet above Mean Lower Low Water*, except lands devoted to harbor improvements and public access facilities, have been designated as Open Space or Special Environment to reduce or prevent damage to from tsunamis. *Tides are most commonly *semi-diurnal* (two high waters and two low waters each day), and the two low waters on a given day are typically not the same height (the daily inequality), comprising the *higher low water* and the *lower low water*.*

Flood Hazards

The only flood hazard zone available is mapped by the County. This zone is located on Mill Creek on the eastern edge of the City boundary. The area extends about 1,640 feet up Mill Creek from its intersection with Highway 101 and 350 feet downstream from the intersection. FEMA did not map flood areas for Trinidad because its steep slopes render the risk of flooding is generally nonexistent. FEMA and the City of Trinidad have an agreement that flood insurance is unnecessary in this area, and thus Trinidad and its surrounding State beaches are not included on the National Flood Insurance Maps. Though no flood zones are mapped in Westhaven, some areas may have potential for flooding, but it would probably be more related to a storm drainage issue. For further information, flood zones can be viewed on County of Humboldt's web GIS portal (gis.co.humboldt.ca.us/).

Fire Hazards

Trinidad is susceptible to wildfires, urban fires, and wildland-urban interface fires where the two areas meet. The California Department of Forestry and Fire Protection (http://www.fire.ca.gov/fire_prevention/fhsz_maps/fhsz_maps_humboldt.php) has mapped areas of significant fire hazards, ranging from moderate to very high, and based on fuels, terrain, weather and other relevant factors. The eastern portion of the City of Trinidad—mostly along Westhaven Dr.—and the eastern rim of the Trinidad Planning Area boundary have a high fire rating. A vast majority of the rest of the Planning Area has a moderate fire rating (Fig. 18). An alternate fire rating map exists in the Humboldt County Master Fire Protection Plan, August 2006, which is being used as the basis for the Humboldt County General Plan, and those zones are also mapped in Figure 18.

The City of Trinidad is built out and natural conditions exist primarily on the edges and bluffs. Westhaven has extensive tree, brush and grass cover and this vegetation coverage—combined the influence of wind and steep slopes—contribute to the fire hazard probability, but the relative humidity of the area is a lessening factor. The majority of Open Space zones within the City limits are not mapped at all on CAL FIRE's fire hazard map, but a small section of the Open Space zone and the entirety of the Special Environment zone are mapped with a high fire risk on the County's fire plan maps.

The Pacific Ocean to the west and the street grid in Trinidad act as a fire break within City limits. Highway 101, Scenic Road, and Westhaven Road are the major roads that contribute to fuel breaks within the Planning Area. The major fire breaks tend to run north to south, but smaller, secondary roads and streets run west-east and have the ability to break fire paths.

For the 9.9 square miles of the Trinidad Planning Area, there are two volunteer fire departments—one in Trinidad proper and the other in Westhaven. CalFire is also stationed on Patrick Point Drive and they respond to emergencies like wildland and structure fires, floods, earthquakes, hazardous material spills, and medical aids. Mutual aid agreements exist between all of the stations, continuing the agreement from the 1980s generated from a fire in Trinidad State Park that threatened residences along Underwood Drive.

Structural Fires demand immediate response from a combination of onsite and Fire Department resources in order to minimize injury and damage. Fire suppression devices such as extinguishers and sprinklers are important for initial response, reduce fire insurance premiums, and satisfy operations requirements for certain types of businesses. These devices are encouraged in new and renovated non-residential buildings and in all residential structures with more than four units, even when not required by fire and building code. Buildings near forested areas should consider using materials such as non-flammable perimeter vegetation and roofing material to prevent exposure to wild land fires. The City and Trinidad Volunteer Fire Department should continue to take an active role in reviewing new development for compliance with fire safety standards.

The City will continue to incorporate requirements to ensure that driveways, turn-arounds and other access ways have sufficient state-standard width, vertical clearance, and turn-around space for fire-fighting vehicles (osfm.fire.ca.gov/). Roadways should have an all-weather surface. Road grades should not exceed the Fire Department's maximum slope standards for emergency access. The City should maintain fire hydrant space so that no residential structure is more than 500 feet from a hydrant and no commercial structure is more than 300 feet from a hydrant. Each hydrant should have adequate fittings and be capable of providing adequate water flows to meet Fire Department standards. All buildings should have adequate lighting, street numbering, and access to ensure rapid response.

The City's water supply is provided via Luffenholtz Creek and stored in two 150,000 gallon redwood tanks as part of the filtration process. Based on the *Evaluation of Luffenholtz Creek Diversion Capacity – Trinidad Water System & Proposed Moss Minor Subdivision Project* by LACO Associates in 2009, the available creek flows in Luffenholtz Creek exceed the average and maximum day demands of the Trinidad water system. The evaluation also reported that the City also uses less than 75% of the water available during dry weather flows, implying that there is an adequate supply or storage of water for fire suppression needs. Turbidity is an issue, however. Trinidad's water treatment plant cannot process raw water during periods of elevated turbidity.

Prolonged elevated turbidity can impact the City's water supply and water reserves for emergency fire suppression (*Trinidad-Westhaven Integrated Coastal Watershed Management Plan (ICWMP)*, City of Trinidad, May 2008). The City is currently working on developing plans and obtaining funding to improve the existing water system to address the concerns noted above, particularly because turbidity standards have increased. Future water supply needs are already assessed for development in the City, especially because it is built out, but proposed subdivision projects in the Planning Area require a water supply assessment.

Westhaven has its own water supply. The Westhaven Community Service District (WCSD) is the second largest water supplier in the Trinidad Planning Area and obtains its water from local springs and a groundwater well (City of Trinidad, *Trinidad-Westhaven Integrated Coastal Watershed Management Plan (ICWMP)* (May 2008)) Water is stored in a 100,000 potable water storage tank used to supply the entire water system. The Westhaven Fire Department draws water from that supply and thus far, the water supply has been more than adequate for fire suppression needs to date.

Hazardous Materials

State of California legislation AB294B (Tanner) and Government Code Section 41500 et seq. requires that cities adhere to countywide hazardous waste management plans and apply local implementation of applicable actions of the County plan in the General Plan.

There are several sources of hazardous materials that can affect Trinidad. Fuel oil spills are a constant threat from towing, parking and operation of fleet vehicles, visitor/resident/patron parking and delivery vehicles. Business and household hazardous waste has a tendency to accumulate in and around residential areas in the form of cleaners, solvents, lubricants, paints, and adhesives. Machinery/appliance leaks from businesses or construction sites can potentially be uncontained. If these materials are not properly disposed of or recycled they present a serious threat to the health and well-being of the residents and the environment.

The State Water Resources Control Board (State Water Board), under its Resolution No. 74-28, designated certain Areas of Special Biological Significance (ASBS) in the adoption of water quality control plans for the control of wastes discharged to ocean waters. Areas to the north and south of Trinidad Head were designated as ASBS because of the fluctuating presence of bull kelp beds, *Nereocystis luetkeana*. Since 1983, the California Ocean Plan has prohibited the discharge of both point and nonpoint source waste to ASBS. The Trinidad Pier was constructed in 1946 and its Douglas-fir piles were treated with creosote and the decking was pressure treated. Creosote is composed of a mixture of chemicals that are potentially toxic to fish, other marine organisms and humans. Since construction, the pier has deteriorated, leaching chemicals into the water. However, the pier location is not listed on the current Hazardous Waste and Substance Site List at the Department of Health and Human Service, Agency for Toxic Substances & Disease Registry, or by the California Department of Toxic and Substance Control, Hazardous Waste and Substance Site List. The pier is also currently being rebuilt (2012) and will combat chemical leaching by

being constructed of cast-in-steel-shell (CISS) concrete piles and pre-cast concrete decking, respectively.

Air Quality

Emissions of pollutants from motor vehicles, industrial uses, and other sources can be injurious to people's health. Policies and programs to protect the City's air quality are included in the Circulation element.

2. Disaster Preparedness

California State Law requires that all cities and counties adopt a Comprehensive Emergency Plan. The purpose of this plan is to outline policies and procedures with respect to significant events occurring within or threatening the community which would require the deployment of extraordinary resources for the protection of life and property.

The City has an adopted *City Emergency Plan*. The purpose of this plan is to ensure that the City will be prepared to respond effectively in the event of emergencies to save lives, restore and protect property, repair and restore essential public services, and provide for the storage and distribution of medical, food, water, shelter sites, and other vital supplies to maintain the continuity of government.

State Highway 101 to the north and south, Westhaven Drive to the east and south, and Patrick's Point Drive to the north are considered evacuation routes from the planning area in the event of a major disaster. Due to the slippage potential on Scenic Drive, this road is considered only as a last resort. Stagecoach Road is not recommended for designation due to its narrow width. Trinity Street, Edwards Street, and Main Street are essential to through-City evacuation. These routes should be kept passable in major emergencies recognizing that the type and location of the disaster will determine which routes will be most needed and available for use. There are no evacuation route signs, but in the event of an emergency, Trinidad's small size makes for an obvious flow of traffic out of town.

Trinidad's street pattern is adequate for emergency vehicle access. Most streets and alleys can accommodate large emergency vehicles and have done so to date. Streets such as Pacific and Azalea are being updated in 2012 to accommodate emergency vehicles.

Since serious flooding to the north (Big Lagoon, Klamath River) and south (Little and Mad Rivers) of the planning area can effectively cut off vehicle access, large vacant lands should be designated for points of refuge or as emergency helicopter landing areas. Further, the City should coordinate its disaster preparedness planning with surrounding jurisdictions for mutual assistance.

Training in the Standardized Emergency Management System (SEMS) implementation, is necessary to receive reimbursement from the State of California for disaster response related costs. This training includes instruction about the Incident Command System (ICS), which is used to manage emergency incidents or non-emergency events.

The applications for the incident command system (ICS) include:

- Fires, hazardous materials (HAZMAT), and multi-casualty incidents.
- Multi-jurisdiction and multi-agency disasters.
- Wide area search and rescue missions.
- Pest eradication programs.
- Oil spill response and recovery incidents.
- Single and multi-agency law enforcement actions.
- Air, rail, water, and ground transportation accidents.
- Planned events (celebrities, parades, concerts).
- Private sector emergency management programs.
- State or local major natural hazards management.

Adequate shelter and continued operation of essential services, including communications, medical treatment, water delivery, fire and police services, and key transportation facilities are vital for responding to emergencies. These facilities and services need to be located and designed to withstand disaster impacts and have backup systems, such as emergency generators and water storage (including private and open water sources), that allow for their continuous operation during emergencies. These critical facilities should not be located in areas with high physical hazards. Critical facilities should be designed to be functional at peak capacity, following a magnitude 7.7 earthquake.

The Humboldt County Sherriff's Office is contracted with the City of Trinidad for police response. A possible constraint to police response may lie in adequate staffing to meet the response needs of both the existing and future population. Police response can be and is assessed at contract renewal dates.

Tsunami signs have been approved by the City for installation. Other safety hazards in the home and unpreparedness for an earthquake or other disasters can all be reduced by providing information to the general public. Hazard reduction information is particularly effective when presented in the schools. Public safety officials should continue to work with school administrators to ensure that this important information is reaching students and that frequent fire drills are conducted to illustrate appropriate disaster response at school.

3. Safety Element Policies

Hazards & Safety Policies

GOAL SAF-1: Reduce and minimize impacts of development on bluff tops and shoreline features and other areas that can contribute to hazardous conditions.

SAF-1.1 New development shall: (a) Minimize risks to life and property in areas of high geologic, flood, and fire hazard; and (b) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction

of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.

SAF-1.2: All ocean-front and bluff top development shall be sized, sited and designed to minimize risk from wave run-up, flooding, and beach and bluff erosion hazards, and avoid the need for a shoreline protective structure at any time during the life of the development.

SAF-1.3 Limit development on the bluff face and within the bluff retreat setback because of the fragility of this environment and the potential for resultant increase in bluff and beach erosion due to poorly-sited development.

SAF-1.4 Require that development in areas with identified slope stability constraints to be subject to supervision and certified by a geologist, geotechnical engineer, or engineering geologist to eliminate or minimize hazards.

SAF-1.5 Land divisions, including subdivisions, lot splits, lot line adjustments, and conditional certificates of compliance which create new shoreline or bluff top lots, shall not be permitted unless the subdivision can be shown to create lots which can be developed without requiring a current or future bluff or shoreline protection structure. No new lots shall be created that could require shoreline protection or bluff stabilization structures at any time.

SAF-1.6 Minimize, to the maximum feasible extent, alterations to cliffs, bluff tops, faces or bases, and other natural land forms in the Coastal Zone. Permit alteration in landforms only if erosion/runoff is controlled and either there exists no other feasible environmentally superior alternative or such alterations re-establish natural landforms and drainage patterns that have been eliminated by previous development activities.

SAF-1.7 Coastal bluff management considerations address vegetation management, scenic vistas, trail maintenance, and unauthorized activities such as 'piped discharges' of stormwater runoff, disposal of grass and yard wastes over the bank, carving into bluff faces and trespassing on sensitive areas. Public education, combined with ordinance provisions, is the best method for addressing these concerns.

SAF-1.8 City and County Zoning Ordinances should require a use permit for timber harvesting (as defined in the Forest Practices Act) within or nearby unstable lands or lands of questionable stability.

Goal SAF-2: Reduce the risk of loss of life, personal injury, and damage to property resulting from seismic hazards.

SAF-2.1 The City shall utilize its Alquist-Priolo (Fault Rupture) Study Zone to identify parcels that must comply with the provisions of the State Alquist-Priolo Act and comply with conditions of project approval to mitigate for potential seismic hazards for structures.

Program SAF-2.1.3 Monitor and review existing critical, high priority buildings to ensure structural compliance with seismic safety standards.

Program SAF-2.1.4 Provide information to the public on protection or damage reduction from earthquakes.

SAF-2.2 Continue to comply with State law regarding reinforcing unreinforced masonry structures.

SAF-2.3 Require professional inspections of site development during construction on those sites specified in soils, geologic, and geotechnical studies as being prone to moderate or high levels of seismic hazard.

Program SAF-2.2.1 Require monitoring, repair, stabilization, or avoidance of active or potentially active landslides, areas of soil creep, or areas with possible debris flow as a condition of project approval.

SAF-2.4 Structures, septic tank systems, access roads, and driveways shall not be located on unstable lands, as defined by the Soils Limitations Map (Fig. 9). Structures, septic tank systems and driveways should only be permitted on lands of questionable stability (or when outside the City within 100 feet upslope of unstable lands or lands of questionable stability) if analysis by a registered geologist, or civil engineer with soils expertise indicates that the proposed development will not significantly increase erosion, slope instability or sewage system failure.

SAF-2.5 Volunteer Fire Department personnel, the California Department of Forestry, and the City and County Building Inspectors should warn property owners to inspect flues and chimneys for damage after moderate and large earthquakes prior to their use. Occupied structures that appear to have been seriously damaged should be inspected and evacuation required if they are found unsafe and until such time that the problem has been remedied.

SAF-2.6 Minimize development in areas subject to tsunamis.

SAF-2.7 Except for existing harbor and public access facilities and shoreline protection structures, no new permanent structures shall be located less than 20 feet above Mean Lower Low Water.

SAF-2.8 Review development proposals to ensure that new development is not in an area subject to tsunami damage and if such development is otherwise allowable that it is designed to withstand tsunami damage.

Program SAF-2.8.1 Identify and map potential tsunami inundation zones for land use planning.

Program SAF-2.8.2 Review and update tsunami preparation response policies/practices to reflect current inundation maps and design standards, and submit these updated policies to the Coastal Commission for certification.

Program SAF-2.8.3 Allow the necessary testing to ensure the tsunami siren and other public hazard warning technology is properly functioning.

Program SAF-2.8.4 Develop a local response plan and/or participate in any regional effort to develop and implement workable response plans for distribution of information on tsunami alerts, watches, and warnings, to appropriate emergency responders and City personnel.

Program SAF-2.8.5 Develop and implement a tsunami educational program for residents, visitors, and people who work in the susceptible areas.

Goal SF-3 Reduce the risks from flooding.

SAF-3.1 Ensure adequate standards for development in the 100-year floodplain.

Program SAF-3.1.1 Maintain and update as necessary the zoning and building code standards and restrictions for development in identified floodplains and areas subject to inundation by a 100-year flood.

Program SAF-3.1.2 Ensure all development in flood prone areas meet Federal, State, and local requirements.

SAF-3.2 Continue to maintain effective storm water flood drainage systems and regulate construction to minimize flood hazards.

Program SF-3.2.1 Create a Storm Drain Master Plan.

SAF-3.3 Require, as determined by City staff, analysis of the cumulative effects of development upon runoff, discharge into natural watercourses, and increased volumes and velocities in watercourses and their impacts on downstream properties. Include clear and comprehensive mitigation measures as part of project approvals to ensure that new development does not cause downstream flooding of other properties.

Goal SAF-5 Reduce fire hazards.

SAF-4.1 To ensure urban fire safety, the City shall enforce the Uniform Building and Uniform Fire Codes (UBC & UFC) currently in effect.

SAF-4.2 Upgrades to the City's water supply system shall consider needs from future abatement purposes. Other sources of water, including open-water areas, should

be identified for fire-fighting personnel. Fire hydrant spacing and other safety features shall be considered in review of new development projects.

SAF-4.3 Review all development proposals for fire risk and require mitigation measures to reduce the probability of fire.

SAF-4.4 Continue to implement an effective and environmentally-sound vegetation management and weed abatement program.

Goal SAF-5 Protect life and property from adverse effects of the transportation, storage, treatment, and disposal of hazardous materials.

SAF-5.1 Manage activities within the City that transport, use, store, or dispose of hazardous materials in a responsible manner which protects public health and safety.

SAF-5.2 Promote the availability of safe and legal options for the management of hazardous wastes generated by businesses, households and construction sites within the City.

SAF-5.3 Promote community education and understanding of sound management practices for the storage, handling, use, and disposal of hazardous household materials.

SAF-5.4 Enforce the requirement that industrial facilities and construction sites have adequate Hazardous Materials Handling and Spill Response Plans to ensure that the goals of pollutant control are consistent with the City's public safety needs and the General Plan's water quality objectives.

Emergency Preparedness & Services Policies

Goal SAF-6 Ensure emergency preparedness.

SAF-6.1 Maintain an updated Emergency Plan.

SAF-6.2 New and renovated structures, as well as streets, driveways, and alleyways, shall be designed to provide adequate entry and exit by emergency vehicles and personnel. This includes visible street numbering, emergency vehicle turn-arounds, accessible building entry points and stairways, lighting, and interior evacuation routes.

Program SAF-6.2.1: Establish an emergency evacuation route system that assesses and indicates street identification, street widths, and grade standards for the evacuation route system for all hazards.

SAF-6.3 Work with Green Diamond Resource Company, or the current owner of the timberland to the east of the City, to provide access to residents to logging roads as an alternative route to Hwy 101 in the case of an emergency that compromises Hwy 101. (CIRC-1.9)

Goal SAF-7 Maintain effective police services.

SAF-7.1 Consider the impacts on the level of police services of large development proposals in the environmental review and planning process. (City planning suggestion)

SAF-7.2 Utilize shared resources to provide/improve police response. (ft bragg)

Program SAF-7.2.1: Periodically review police needs in the City.

Goal SF-8 Maintain an effective medical emergency response system.

SAF-8.1 Ensure that residents are provided the shortest response time available for emergency medical response.

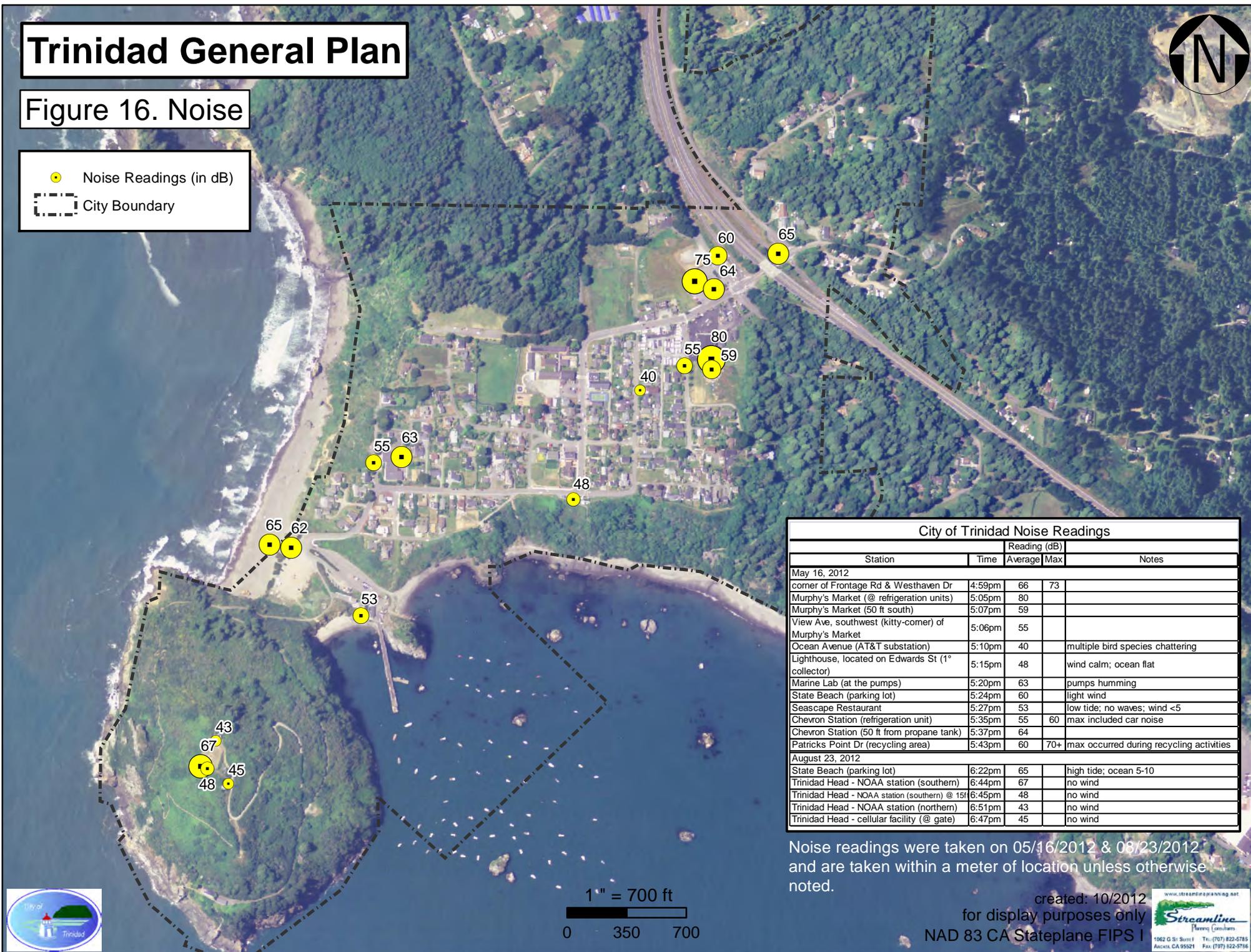
Program SAF-8.1.1 Periodically review the emergency medical response system.

SAF-8.2 The City shall maintain a mutual aid agreement with CalFire to ensure rapid response to wildland fires within the Trinidad Planning Area.

Trinidad General Plan

Figure 16. Noise

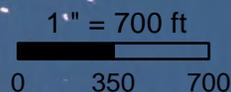
-  Noise Readings (in dB)
-  City Boundary



City of Trinidad Noise Readings				
Station	Time	Reading (dB)		Notes
		Average	Max	
May 16, 2012				
corner of Frontage Rd & Westhaven Dr	4:59pm	66	73	
Murphy's Market (@ refrigeration units)	5:05pm	80		
Murphy's Market (50 ft south)	5:07pm	59		
View Ave, southwest (kitty-corner) of Murphy's Market	5:06pm	55		
Ocean Avenue (AT&T substation)	5:10pm	40		multiple bird species chattering
Lighthouse, located on Edwards St (1° collector)	5:15pm	48		wind calm; ocean flat
Marine Lab (at the pumps)	5:20pm	63		pumps humming
State Beach (parking lot)	5:24pm	60		light wind
Seascape Restaurant	5:27pm	53		low tide; no waves; wind <5
Chevron Station (refrigeration unit)	5:35pm	55	60	max included car noise
Chevron Station (50 ft from propane tank)	5:37pm	64		
Patricks Point Dr (recycling area)	5:43pm	60	70+	max occurred during recycling activities
August 23, 2012				
State Beach (parking lot)	6:22pm	65		high tide; ocean 5-10
Trinidad Head - NOAA station (southern)	6:44pm	67		no wind
Trinidad Head - NOAA station (southern) @ 15'	6:45pm	48		no wind
Trinidad Head - NOAA station (northern)	6:51pm	43		no wind
Trinidad Head - cellular facility (@ gate)	6:47pm	45		no wind

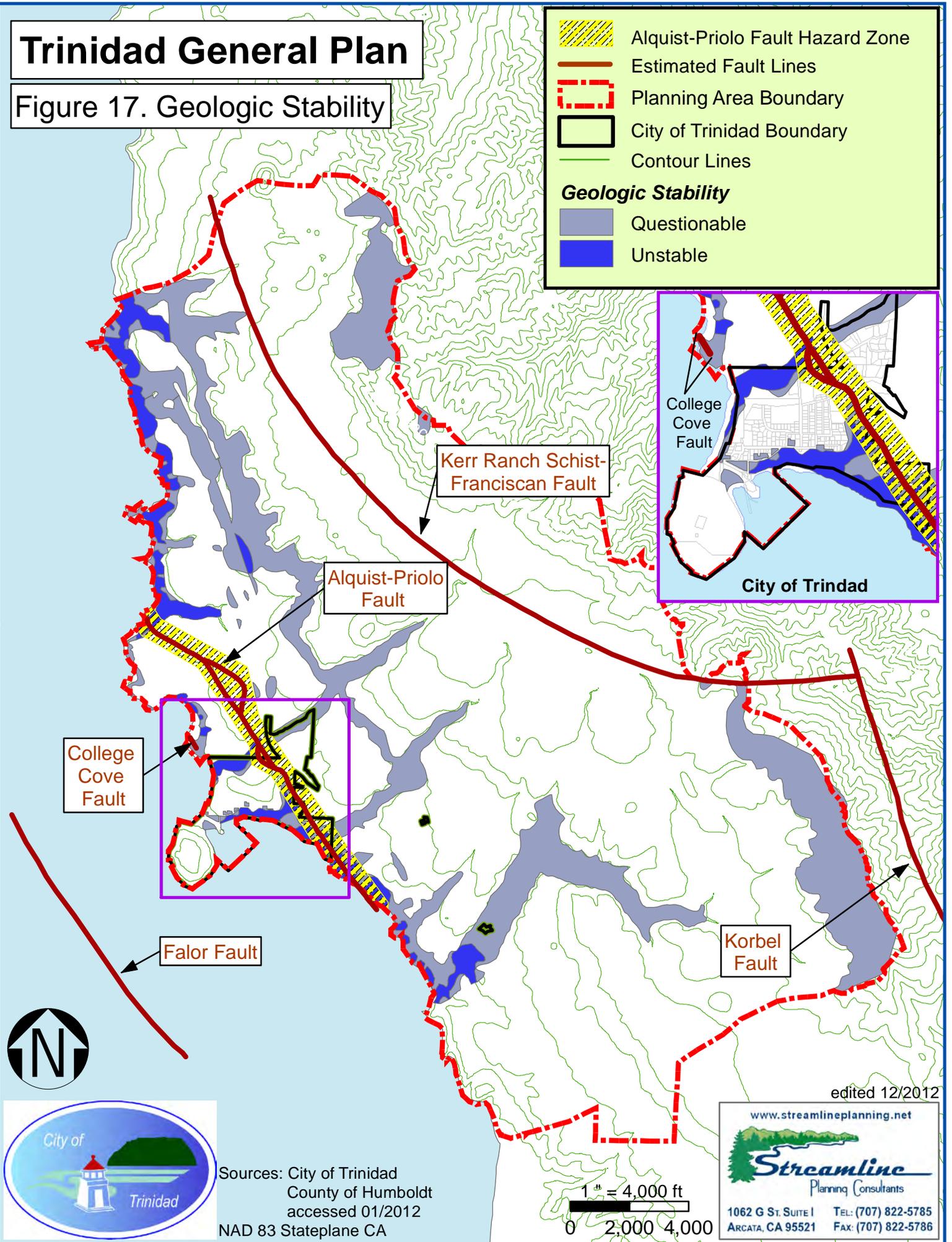
Noise readings were taken on 05/16/2012 & 08/23/2012 and are taken within a meter of location unless otherwise noted.

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Trinidad General Plan

Figure 17. Geologic Stability



Trinidad General Plan

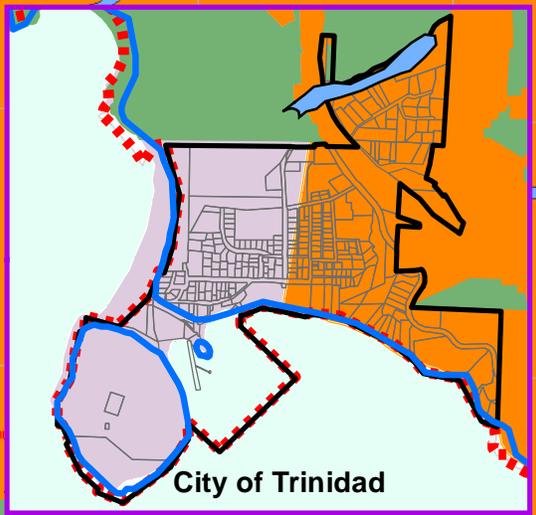
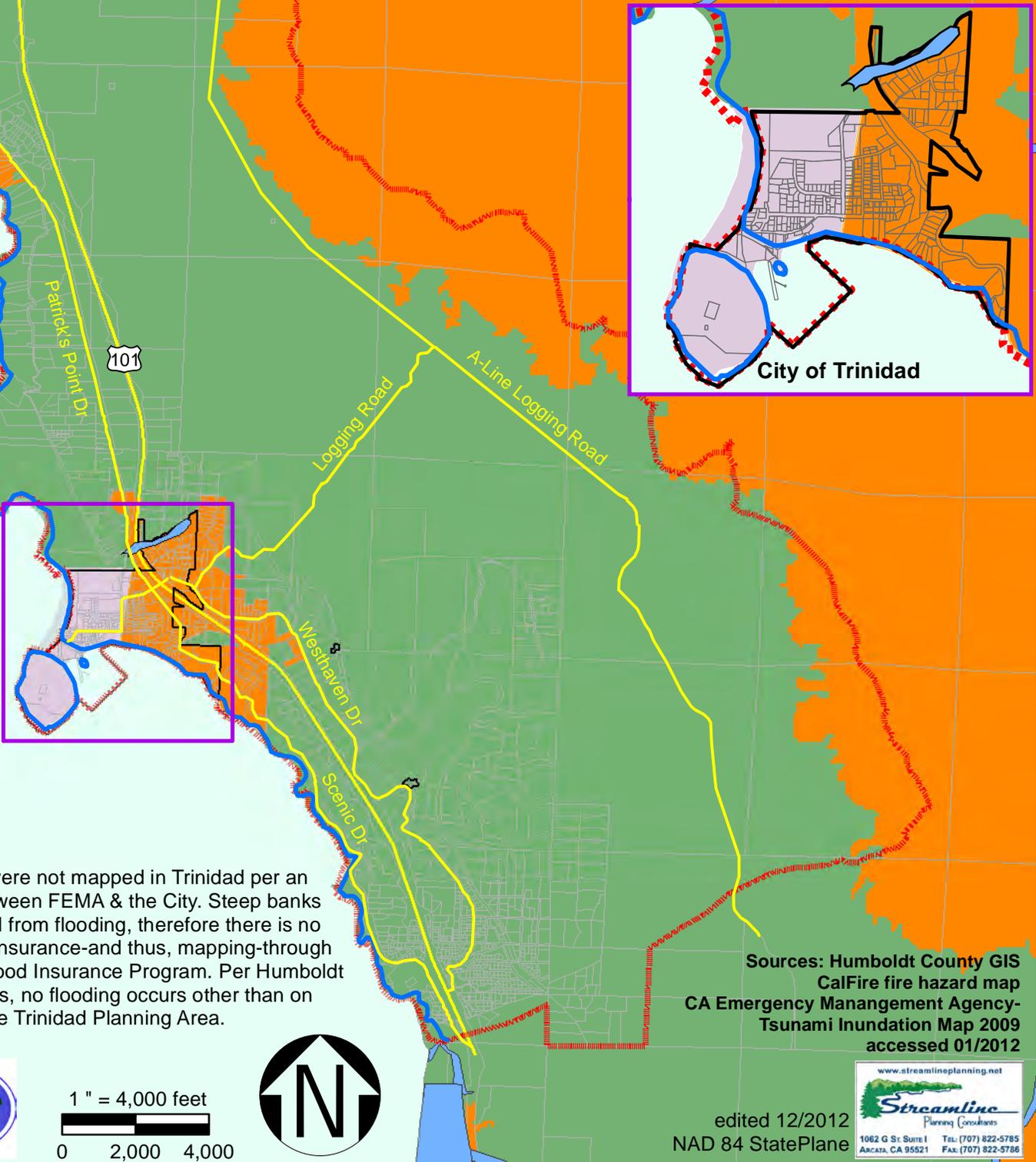
Figure 18. Hazards Map

-  Evacuation Routes
-  Tsunami Inundation Line
-  Flood zone*

fire hazard class

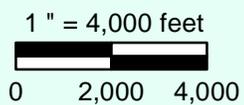
-  very high
-  high
-  moderate
-  low

-  City Boundary
-  Planning Area Boundary



*Flood zones were not mapped in Trinidad per an agreement between FEMA & the City. Steep banks protect Trinidad from flooding, therefore there is no need for flood insurance-and thus, mapping-through the National Flood Insurance Program. Per Humboldt County GIS files, no flooding occurs other than on Mill Creek in the Trinidad Planning Area.

Sources: Humboldt County GIS
 CalFire fire hazard map
 CA Emergency Management Agency-
 Tsunami Inundation Map 2009
 accessed 01/2012



edited 12/2012
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