COUNTY OF SANTA CRUZ

PLANNING DEPARTMENT

701 OCEAN STREET - 4TH FLOOR, SANTA CRUZ, CA 95060
(831) 454-2580 FAX: (831) 454-2131 TDD/TTY: CALL 711

KATHLEEN MOLLOY, PLANNING DIRECTOR

March 6, 2019

Agenda Date: March 13, 2019
Agenda Item #7

Planning Commission
County of Santa Cruz
701 Ocean Street
Santa Cruz, CA 95060

Subject: Continued Public Hearing on Public Safety and Hazard Management General Plan, Local Coastal Program and County Code Amendments

Members of the Planning Commission:

This public hearing was continued from December 12, 2018 to allow time for the Planning Commission and staff to conduct an additional study session, consider public and agency input, and refine the proposed coastal bluff and beaches General Plan/Local Coastal Program policies to address public and agency comments. The proposed policies and related code amendments regarding coastal bluffs and beaches in the attachments to this staff report address public comments and can be found consistent with the Coastal Act. As a result of this process the refined policies achieve the objective to reduce risks to life, property, and public infrastructure from coastal hazards, and to minimize impacts on coastal resources from development. This staff report will focus on the proposed coastal bluff and beaches policies that are part of the larger package of proposed policy and code amendments. Beginning with a project timeline, the staff report includes the overall project description, then discusses the proposed coastal bluff and beaches policies and refines made as a result of the public process.

Timeline
2011: Planning Department obtained funding from the Department of Housing and Community Development (HCD) Community Development Block Grant (CDBG) Disaster Recovery Initiative (DRI) grant program to update the Safety Element of the General Plan as related to flooding, coastal bluffs and beaches, erosion, and fire.

2013: Climate Action Strategy adopted by the County addressing the two pillars of community response to climate change: 1) reduction of greenhouse gas emissions, and 2) adaptation to the environmental changes that are expected to occur including sea level rise and coastal flooding and erosion.

2014/2015: Environmental Review Initial Study published for public comment period on DRI project.

2015: Planning Commission public hearing on original package of proposed amendments (DRI project). While the project materials were complete from the grant standpoint, in consideration of public and agency comments received and the evolving regulatory context, the matter was withdrawn from further consideration by the Planning Department to allow additional work on a variety of hazard-related matters.

2015: California Coastal Commission (CCC) adopted Sea Level Rise Policy Guidance for local jurisdictions updating their Local Coastal Programs to address the hazard of future sea level rise.

2016: Housing Element Update. The initial amendment proposal also addressed a requirement in State planning law requiring update of flood and fire hazard policies in General Plan Safety Elements upon the next update of the Housing Element.

2016: Local Hazard Mitigation Plan update incorporating actions from the Climate Action Strategy. State planning law requires incorporation of climate change resiliency policies in the General Plan Safety Element upon an update of the Local Hazard Mitigation Plan (LHMP).

2018: CCC published draft Residential Adaptation Policy Guidance which provides model policy language incorporated by the County in many of the proposed Safety Element amendments addressing coastal bluffs and beaches.

June 2018: Environmental Review Initial Study on the updated Public Safety and Hazard Management General Plan, Local Coastal Program and County Code Amendments proposal published for public comment period.

October 10, 2018: Planning Commission public hearing. The staff report provides details on the project description, public and agency participation, and the environmental review process. The staff report also includes a discussion of the proposed amendments and response to comments received during the environmental review process. The public hearing was continued to October 24, 2018. The staff report, a briefing book, a one page summary of each of the key topics, and the PowerPoint presentation are available as links under Item 9 on the October 10, 2018 agenda on the Planning Commission page on Planning Department website at this link: http://www.sccoplanning.com/PlanningHome/ZoningDevelopment/AgendasHearings/PlanningCommission.aspx

October 24, 2018: Planning Commission continued public hearing to allow for additional public noticing. The public hearing was continued to December 12, 2018.

November 3, 27, and 29, 2018: Informational Meetings at Pajaro Dunes (1) and County building (2).

December 12, 2018: Planning Commission continued public hearing. Staff presented refinements to the coastal bluff and beaches policies and related code amendments in Section 6.4 of GP/LCP Chapter 6 Safety Element. The public hearing was continued to March 13, 2019

February 13, 2019: Planning Commission study session on Section 6.4 Coastal Bluff and Beaches policies.

Project Description

The project description for the components of the proposed project is presented below. Please refer to the October 10, 2018 staff for a complete discussion of the components of the project description, planning process, and detailed analysis of the policy development regarding coastal bluffs and beaches. Discussion of refinements related to coastal bluff and beaches policies follows this summary of the overall project description.

A. Update of GP/LCP Safety Element and Implementing Santa Cruz County Code (SCCC) Title 16 Environmental Resource Protection Regulations

Update and amendment of the Safety Element to meet current requirements of state law, including but not limited to addressing environmental factors such as climate change, sea level rise, coastal bluffs and beaches, shoreline protection measures, floodplain management consistent with FEMA requirements and best practices, and environmental justice for disadvantaged communities. Include a climate change section in the GP/LCP and incorporate by reference the Climate Action Strategy (CAS) and Local Hazard Mitigation Plan (LHMP), to meet certain state requirements for Safety Elements. Fire hazard amendments for consistency with state law, including wildland urban interface standards, access and development standards, and requirements for creation of defensible space around new and existing development. Erosion hazard amendments addressing land clearing and grading. Amendment of Conservation and Open Space Element to shift the Air Quality section into the Safety Element, to reflect the importance of air quality related to climate change and public health and safety. The following sections are proposed to be amended and renumbered: 6.1 Seismic Hazards, 6.2 Coastal Bluffs and Beaches, 6.3 Erosion, 6.4 Flood Hazards, 6.5 Fire Hazards, 6.11 Air Transportation, and 3.18 and 3.19 Air Travel.

Amending the SCCC regulations that implement the Safety Element, including Chapter 16.10 Geologic Hazards, shifting flood regulations from Chapter 16.10 Geologic Hazards to create new Chapter 16.13 Floodplain Management Regulations, Chapter 16.20 Grading Regulations, and Chapter 16.22 Erosion Control, in order to clarify permit procedures, to incorporate standards related to sea level rise especially for coastal bluffs and beaches and for flood hazard areas, to reduce the amount of land that can be cleared without a land clearing permit, and to implement policies of the updated Safety Element for other hazards such as landslides, earthquakes and liquefaction. The grading regulations are amended to incorporate by reference the site access standards consistent with the proposed amendments to the Fire Hazard section of the GP/LCP Safety Element.

Amending SCCC Chapter 16.01 “Regulations for Preserving and Enhancing the Environment” to rename to Procedures for Compliance with the California Environmental Quality Act (CEQA) and State CEQA Guidelines, and to update procedures for environmental review to ensure compliance with CEQA and State CEQA Guidelines.

B. Update GP/LCP Noise Element and Implementing SCCC Regulations

Update and amendment of the Noise Element policies to clarify and ensure consistency with State General Plan Guidelines, including shifting noise section from Safety Element and creating stand-alone Noise Element as a new Chapter 9 of the General Plan/Local Coastal Program.

New SCCC Chapter 13.15 Noise Planning to implement the policies of the Noise Element in the land use permitting process. Addresses land use planning, development permitting, airport noise, and enforcement. Existing provisions addressing offensive noise are maintained in SCCC Chapter 8.3 Noise. The proposed amendments would implement policies of the General Plan Noise Element and provide clear regulatory and enforcement standards.

C. Update Airport Land Use Compatibility Policies Consistent with State Handbook

Amendments to the GP/LCP Land Use Element to establish Airport Land Use Compatibility policies and relocate and update existing policies on airport area safety and private air strips from the Circulation Element to the Land Use Element, to ensure consistency with the California Airport Land Use Planning Handbook and other applicable state and federal regulations. The existing Air Transportation section is amended and shifted from Noise section of Safety Element to the Land Use Element.

Amendment of SCCC Chapter 13.12 to replace the current Airport Approach Zones regulations with a new Airport Combining Zone District, and Amendments to Zoning Map to rezone properties near Watsonville Municipal Airport to the Airport Combining Zone District, to implement Airport Land Use Compatibility policies.

Coastal Bluffs and Beaches Policies
Public input received in the form of numerous letters and emails, and public comments during public hearings has been considered by staff and the Planning Commission. All correspondence has been forwarded to Planning Commissioners with additional correspondence included in this staff report (Exhibit Z). The primary areas of concern expressed in public comments include the proposed 2040 timeline, the proposed deed language, requirements related to existing shoreline and coastal bluff armoring, damage repair, and mitigation fees.

Two recent letters of public correspondence are notable because they provide detailed questions and suggestions directly related to the proposed amendments. Prior to the February 13 study session representatives of the Pajaro Dunes community submitted detailed questions and suggestions and Planning Department staff provided written responses which are similar to the information provided in the memo to the Planning Commission for the February 13 study session. Both the letter and response are included in Exhibit Z. Also prior to the February 13 study session the Coastal Property Owners Association (CPOA) submitted a copy of the proposed coastal bluff and beaches policies, GP/LCP Chapter 6 Safety Element Section 6.4, with suggested edits shown in underline-strikethrough format in Exhibit Z. The Planning Department staff response is in the form of a revised proposed underline-strikethrough version of Section 6.4 based on the latest version of Section 6.4 that was presented at the December 12, 2018 public hearing and the February 13, 2019 study session (Exhibit X). A comparison of the CPOA document with Exhibit X shows that some suggestions are incorporated in the Safety Element and some are not. Most of the reasoning for either accepting CPOA-suggested changes or not is provided below with further explanation of refinements to the policies.

To begin to address the issues of concern, it is necessary to understand the threshold for the types of projects that would trigger application of the proposed policies.

Threshold for Coastal Development Permit
Pursuant to the Coastal Zone Regulations (SCCC 13.20) projects defined as development that are located at the top of a coastal bluff or on a beach require a Coastal Development Permit (CDP). The definition of development in SCCC 13.20 applies to the placement or erection of any structure and construction, reconstruction, demolition, or alteration in the size of any structure. The exemption from the requirement for a CDP for improvements to existing single family dwellings does not apply when the project is located at the top of a coastal bluff or on a beach. However, the requirement for a CDP does not necessarily mean the project would be subject to geologic review, including the deed restriction, evaluation of existing armoring, and mitigation

fees. The subset of projects that require a CDP and also require geologic review are those projects that meet the threshold of geologic review explained below.

Threshold for Geologic Review

The trigger or threshold for requiring geologic review is defined differently depending on whether the project is located on a coastal bluff, or a beach or dune in a flood hazard area. This does not mean that projects in these areas cannot exceed the 50% threshold, but it does mean there are different standards of review for projects above and below the threshold. The thresholds are found in definitions in the County Code. For projects on coastal bluffs the threshold is found in Santa Cruz County Code Chapter 16.10 Geologic Hazards Section 16.10.040 (Exhibit K). For projects located on beaches and dunes in flood hazard areas, the threshold is found in Santa Cruz County Code Chapter 16.13 Floodplain Regulations Section 16.13.160 (Exhibit L, 10/10/18 Staff Report).

For projects located on coastal bluffs, in nearly all cases, no geologic review, no deed restriction, no engineering report on armoring, and no mitigation fees are required if the scope of work does not involve 50% or more of the major structural components of the building including foundation, floor framing, wall framing, and roof framing. This is defined as development/development activities and includes multiple projects within any 5-year period. The following elements are not considered major structural components: exterior siding; nonstructural door and window replacement; roofing material; decks; chimneys; and interior elements including but not limited to interior walls and sheetrock, insulation, kitchen and bathroom fixtures, mechanical, electrical and plumbing fixtures. The extent of alterations to major structural components is calculated using guidelines adopted by resolution of the Board of Supervisors. The Planning Department website includes a page explaining the calculation at the following link: http://www.sccoplanning.com/PlanningHome/ZoningDevelopment/Non-ConformingRegulations/ModificationEvaluation/Overview.aspx#mod. The proposal includes lowering the threshold for projects located on coastal bluffs from the existing threshold of 65% (which is used for nonconforming uses and structures) to 50% consistent with Coastal Commission regulations and guidance.

Because the County participates in the National Flood Insurance Program (NFIP), the County is required to follow FEMA's rules including adopting FEMA's 50% valuation threshold. For projects located on the beach or dune in mapped FEMA flood hazard areas, in nearly all cases, no geologic review, no elevation of the structure above flood hazard levels, no deed restriction, no engineering report on armoring, and no mitigation fees are required if the cost of the project does not equal or exceed 50 percent of the market value of the structure (not including land value). This is defined as substantial improvement and includes multiple projects within any 5-year period. The existing value of the structure is usually established by an appraisal and the cost of improvements is usually established by a contractor's estimate. The threshold is not changing for projects located on a beach or dune, it is the same threshold ever since the County began participating in the NFIP in the 1980s.

Various refinements were made in the proposed policies and code to clarify when these policies apply. Those policies use the identifier, SCCC 16.10, after the term development to indicate the policy applies to development as defined in SCCC 16.10. This is to avoid confusion with the definition of development for purposes of the Coastal Zone Regulations (SCCC 13.20) and the need for a Coastal Development Permit (Exhibit X). Reference to the definitions in County Code is added in the introduction to the policies as Guiding Principles. In addition, staff refined the proposed policy on foundation replacement or foundation upgrade because this represents a

special type of project not defined as development/development activities or substantial improvement in SCCC Chapters 16.10 or 16.13, respectively. The policy recognizes this type of work is an opportunity to relocate structures if feasible to increase the coastal bluff or shoreline setback (Policy 6.4.28).

2040 Timeline

The County intends to update these policies by 2040. This date will not trigger the expiration of any previously issued permits or approvals or require any structures to be removed. When any updated policies are approved and in effect in the future, any permit applications submitted after that date would be subject to the updated policies. Future actions by the County will also be determined by conditions on the ground, not arbitrary timelines. However, monitoring, maintenance, and repair programs would have a term of twenty years. Extension beyond 20 years will require an application to amend the condition of approval of the Coastal Development Permit to extend the Monitoring, Maintenance, and Repair Program at which time the program shall be updated if necessary, as shoreline conditions change over time. Refinements to the proposed policies are intended to clarify this issue (Exhibit X).

Deed Recordation

One of the most important issues addressed in the public comments is the requirement for the deed recordation. First, the requirement to record a notice of geologic hazard on the property deed would apply to projects that are subject to geologic review. These are projects that meet or exceed the 50% rules described above. The recorded notice is specific to the permitted development and does not require the property owner to indemnify the County for challenges to policy or require property owners to waive rights to determine future use of their property. For existing homes and minor construction projects recording the notice is not required.

The County's interest is to ensure that property owners and future buyers are aware of the risks of building on property in hazardous coastal locations, that owners and potential buyers accept those risks, and that future potential costs associated with building in a hazardous location are internalized and do not become public costs.

The purpose of the requirement is to shift the risk of liability of development in hazardous areas from the public to the private party benefiting from the development. The public should not be responsible for risks undertaken to benefit private property owners in voluntarily developing within hazardous areas. Local governments can adopt policies requiring acceptance of risk, liability waiver, and indemnification, that ensure that existing and new property owners are aware of the limitations of the property. Such policies are not prohibited by State law.

The County already includes a general indemnification requirement specific to development approvals that already gets recorded on the property deed as a standard condition of approval of a development permit. In addition, County Code already requires prior to issuance of a building permit for a major home construction project recordation of a declaration of geologic hazards on the property deed. The language in the existing declaration of geologic hazard document is expanded in the new notice of geologic hazards to include acceptance of risk, liability waiver, and indemnification. The updated notice of geologic hazards is based on guidance from the California Coastal Commission and is already in use by the Commission statewide. It is considered to be consistent with modern practices and the County has already begun requiring recordation of the updated notice prior to issuance of building permits for major home construction projects throughout the County.

As a result of public comment, however, some refinements are made to the proposed policy language. The suggested deed language has been shortened to focus on acceptance of risk, liability release, and indemnification, and remove statements regarding actions or events that may or may not happen in the future (Exhibit X).

Armoring

Coastal bluff and shoreline armoring on an eroding shoreline protects existing development from the process of erosion. Allowing development/development activities or substantial improvement to rely on existing, properly maintained legally permitted armoring, while not relying on the construction of new armoring, can be found to be consistent with the Coastal Act. The armoring must, however, be properly maintained and ongoing impacts of armoring in a dynamic coastal environment must be addressed. That is why it is important to require ongoing monitoring maintenance and repair of existing armoring and to mitigate significant adverse impacts of armoring on coastal resources especially the recreational resources represented by sandy beaches and rocky shorelines. To the extent that existing armoring lacks an approved monitoring, maintenance, and repair program (MMRP) and existing and future impacts are unmitigated, the coastal development permit process for improvement of existing structures protected by the armoring can be used to achieve the twin goal of establishing MMRPs and mitigating impacts. Further refinements to the proposed policies are intended to focus on achieving these goals.

It should be noted that the 50% threshold of improvement, that triggers evaluation of existing armoring, MMRP, and mitigation of impacts, applies to residential and commercial structures, and does not apply to armoring structures. Any work to an armoring structure, even in the absence of any proposal to improve the structure protected by the armoring, is subject to geologic review, which is an existing requirement. For shoreline and coastal bluff armoring structures, if there is an approved MMRP authorizing certain maintenance and repair activities, the authorized work can occur without a coastal development permit, although a grading or building permit may be required. If the work exceeds the scope of maintenance and repair in an approved program, or if there is no approved MMRP, it would constitute development requiring a coastal development permit from the County or the Coastal Commission depending on the location of the armoring structure.

Refinements to the proposed policies simplify the requirement to evaluate existing armoring and requires the evaluation to focus on then-existing current conditions with respect to, maintenance, repair, and mitigation of impacts on sand supply and public access and recreation (Exhibit X).

Further refinements related to armoring are made to delete speculative statements related to feasibility of continuing to protect structures in the future, expected life of structures, future failure of existing armoring, and amortization (or phase-out) of existing structures and armoring. The proposed adaptation policies adequately address planning for future scenarios created by changing conditions on the ground on an eroding coastline (Exhibit X).

Damaged Structures

If a structure on a coastal bluff is damaged by coastal hazards (wave impact, for example), and the extent of damage repair needed would exceed the 50% threshold, the repaired structure must meet all then-existing LCP standards including minimum setback. If a structure on a coastal bluff is damaged by fire it can be reconstructed in kind. The proposed policy addressing

damaged structures on coastal bluffs is refined accordingly to simply allow repair in kind of fire-damaged structures (Exhibit X).

If a structure on a beach or dune in a mapped FEMA flood hazard area is damaged by any cause or origin (including fire) and the cost to repair the structure to the before -damaged condition equals or exceeds 50% of the market value of the structure before the damage occurred (substantial improvement), the structure would have to meet FEMA requirements. This is an existing requirement and requires elevation of the building, if necessary, such that the lowest floor of the repaired structure is above the flood hazard level. Because the County participates in the NFIP FEMA's rules apply including adopting FEMA's requirements for repair which are the same regardless of the cause or origin of the damage.

Mitigation Fees

Loss of sandy beach and rocky shoreline area as a result of the presence of shoreline and coastal bluff armoring can result in loss of beach and shoreline area that would otherwise be available as a recreational and scenic resource along the coast. Furthermore, shoreline and coastal bluff armoring is intended to prevent erosion of shoreline and coastal bluff area that would otherwise provide a source of beach quality sand. Therefore, in multiple ways, shoreline and coastal bluff armoring can have an adverse impact on local shoreline sand supply and recreational and scenic resources along the coast. For any given project mitigation of these impacts may involve project design features or other actions to directly mitigate the identified impacts related to the loss of sand and public recreational opportunity. However, if those options are not feasible, an additional option of payment of fees to the County in lieu of in-kind mitigation is needed. Fees paid to the County to mitigate sand loss and loss of public recreational opportunities would be calculated based on the cost of the lost sand and the cost to provide alternative public recreational opportunity proportional to the loss of public recreational opportunity caused by the project. Quantifying the impacts of sand loss and loss of beach and shoreline area and proportional mitigation involves a multi-part calculation addressing the loss of sand supply and loss of beach and shoreline area, specific to the proposed project and location.

For any given set of site conditions or project types, one or more parts of the calculations may be applicable, or none of the calculations may be applicable. The mitigation fees may not apply because the project has no significant impact, or they may partially apply based on the site conditions, or significant adverse impacts are otherwise mitigated as part of the project or through other in-kind actions. An example of armoring that may be subject to only the sand loss mitigation fee would be an upper bluff armoring structure with no footprint on the beach. Such armoring prevents the upper bluff form eroding but has not footprint at beach or shoreline level.

As stated in the proposed policy the sand loss mitigation fee is intended to mitigate for loss of beach quality sand which would otherwise have been deposited on the beach. This is the loss of sand from natural cliff erosion due to armoring. The methodology for calculating the fee is a complex calculation used by Coastal Commission staff and involves the length and height of the armoring along the coastal bluff, the erosion rate of the bluff, and the percent beach sand content of the bluff material. The result of this initial calculation is an average annual volume of sand multiplied by twenty years to calculate the volume of sand that would have ended up on the beach and in the local littoral sand supply system had the bluff been allowed to naturally erode for twenty years (sand loss). The fee would be calculated by multiplying the volume of sand loss by the current cost to purchase and deliver an equivalent amount of beach quality sand to the site.

As stated in the proposed policy the public recreation mitigation fee is to mitigate for public recreational impacts associated with actual loss of public recreational opportunities, including public access, caused by the armoring (encroachment). The approach to calculating this fee may involve the area occupied by the armoring which would result in much larger area calculations for a rip-rap revetment compared to a vertical concrete wall. Both have similar impacts on beach access and recreational opportunities but the relative size of the footprint of the different types of structures may not equate to proportional level of impact of the different types of armoring. Therefore, calculation of the public recreation mitigation fee is more difficult, and there are several ways to approach it. It may be that public access features are incorporated into a coastal bluff or shoreline armoring structure to mitigate its impact.

There can be loss of beach area on which the armoring is located. This is calculated by the square area of beach encroachment represented by the footprint of the armoring structure. There is also long-term loss of beach area if the back-beach location is fixed by the armoring structure. This is the area of beach or shoreline that would be created over time if the armoring were not present and the shoreline naturally eroded. It is calculated by determining the average annual erosion rate multiplied by the length of the armoring along the shoreline multiplied by twenty years to calculate the additional area.

There are multiple possible ways of determining a value for the combined area (encroachment). Similar to the sand loss calculation, the volume of sand needed to recreate the same area of sandy beach could be multiplied by the cost to purchase and deliver an equivalent amount of beach quality sand to the site. Determining the volume of sand needed to recreate beach area is difficult to accurately determine and will vary depending on the type of shoreline. Other methodologies used by the Coastal Commission involve assigning a value to the beach area based the value of a beach to the local economy. This represents a complex calculation based on economic modeling using many variables and assumptions and would result in excessively high fees. Another methodology involves assigning a value based on the value of real estate in the local area. However, this also results in excessively high fees because of the high value of coastal property.

An alternative that addresses the impact on a programmatic level is available, however, and is proposed by the County of Santa Cruz. Actual projected costs to provide public access and public recreational opportunities along the coast are available. The costs are in the County Parks Department Capital Improvement Program (CIP). The CIP is a five-year planning document that lists the funding needed to complete projects to create new parks and improvement existing parks, including coastal access and related park facilities. As projects are funded and completed, they drop of the list and additional needed projects are identified and added to the list on a five-year rolling timeline.

Out of the entire list of projects in the Parks Department CIP those projects can be selected that involve public access and recreational opportunities along the coast. The total funding needed to complete those select projects represents on a programmatic level the need over a five-year timeline for public access and recreation improvements along the coast. Data also exists to determine the overall length of armoring in the County. Dividing the five-year need for funding from the CIP by the overall length of existing armoring results in a cost per lineal foot. Multiplying the cost per lineal foot by the lineal feet of armoring on a given site therefore represents an objective calculation of a proportional contribution on a site by site basis to address needed improvements to public access and recreational opportunities along the

County's coastline. To translate this five-year funding need to a twenty-year timeframe consistent with the sand loss calculation requires multiplying the five-year need by four to determine the required mitigation fee.

This methodology is based on need as outlined in an established program (CIP) and data on existing armoring and is the recommended methodology for calculating the public recreation mitigation fee. It is consistent with the proposed policy because it provides an objective quantification of the value of beach and shoreline area in terms of the need for actual construction of public access and recreational improvements and relates this value to the nature and extent of the impact in terms of lineal feet of shoreline or coastal bluff armoring on an individual project site.

The calculation of the sand loss fee will vary widely due to different geologic conditions and armoring types along the cost. Fees have ranged from less than ten thousand dollars up to one hundred thousand dollars. Calculation of the encroachment fee for an armoring structure spanning a typical fifty-foot wide lot is simpler. Using the current estimate for the fee of one hundred fifty dollars per lineal foot results in a mitigation fee of thirty thousand dollars.

Other Changes
Based on public and agency input other changes are made to proposed policy and code language. Policy 6.3.8 which is a limitation on use of wood for private retaining walls, is deleted because it is inconsistent with the correct requirement that already exists in the building code. The building code only prohibits the use of wood for the support posts or poles in structural retaining walls. The changes to one page of the proposed Safety Element are included in Exhibit Y.

Refinements to the Safety Element Section 6.6 Flood Hazards are made to clarify that an assessment of flood hazards is required for all projects in flood hazard areas which is consistent with the same requirement in the SCCC Chapter 16.13 Floodplain Regulations. However, the requirements for a deed recordation and evaluation of existing armoring would still only be required if the scope of the project qualified as substantial improvement. Other refinements to the flood hazard policies are intended to clarify and simplify the elevation requirement in Policy 6.6.8 by deleting reference to maximum elevation. Policy 6.6.9 is refined to delete reference to specific freeboard requirements because freeboard is defined in the Floodplain Regulations. The refinements to the Section 6.6. Flood Hazard section are included in Exhibit Y.

A section is added to the Floodplain Regulations to add an exemption from the requirement for a floodplain permit for the activities of the Public Works Department to provide flood control maintenance along the Pajaro River and Salsipuedes Creek. The exact same exemption already exists in SCCC Chapter 16.20 Grading Regulations and SCCC Chapter 16.30 Riparian Corridor and Wetlands Protection and the Department of Public Works has asked to add it to the Floodplain Regulations which makes sense and is consistent with existing County Code. An addition, Section 16.13.330 is refined to clarify the notice of hazards is only required for substantially improved structures. The changes to two pages of the Floodplain Regulations are also included in Exhibit Y.

Finally, there is a replacement Figure 2-23 in the proposed Land Use Element amendments. The map of Safety Compatibility Zones has been updated by the City of Watsonville and the zones at the approach to Runway 9 on the western side of the airport have been expanded. The replacement Figure is also included in Exhibit Y.

RECOMMENDATION

It is therefore RECOMMENDED that the Planning Commission take the following actions:

1. Conduct a public hearing on the proposed amendments to the General Plan / Local Coastal Program and Santa Cruz County Code; and

2. Adopt the attached resolution (Exhibit A) recommending that the Board of Supervisors approve the CEQA Negative Declaration (Exhibit B, October 10, 2018 Planning Commission materials) and adopt the proposed General Plan / Local Coastal Program Amendments (Exhibits C through G, October 10, 2018 Planning Commission materials except revised Exhibit F attached to these March 13, 2019 Planning Commission materials) and adopt the proposed amendments to the Santa Cruz County Code (Exhibits H through N, October 10, 2018 Planning Commission materials except revised Exhibit K attached to these March 13, 2019 Planning Commission materials).

Sincerely,

DAVID CARLSON
Resource Planner

KATHLEEN MOLLOY
Planning Director

Exhibits:

Exhibit A: Resolution

Exhibit F: General Plan/Local Coastal Program Chapter 6 Public Safety Element Amendments

Exhibit K: Santa Cruz County Code Chapter 16.10 Geologic Hazards Amendments

Exhibit S: Santa Cruz County Code Chapter 16.10 Geologic Hazards underline strikethrough

Exhibit X: Section 6.4 Coastal Bluffs and Beaches underline strikethrough

Exhibit Y: Other Changes

Exhibit Z: Correspondence

cc: County Counsel

BEFORE THE PLANNING COMMISSION
OF THE COUNTY OF SANTA CRUZ, STATE OF CALIFORNIA

RESOLUTION NO. ____

On the motion of Commissioner
duly seconded by Commissioner
the following is adopted:

PLANNING COMMISSION RESOLUTION RECOMMENDING AMENDMENT OF THE SANTA CRUZ COUNTY GENERAL PLAN /LOCAL COASTAL PROGRAM LAND USE ELEMENT, CIRCULATION ELEMENT, CONSERVATION AND OPEN SPACE ELEMENT, PUBLIC SAFETY AND NOISE ELEMENT, AND AMENDMENTS OF COUNTY CODE AIRPORT APPROACH ZONES ORDINANCE, NOISE PLANNING ORDINANCE, REGULATIONS FOR PRESERVING AND ENHANCING THE ENVIRONMENT, GEOLOGIC HAZARDS ORDINANCE, FLOODPLAIN REGULATIONS, EROSION CONTROL ORDINANCE, AND GRADING REGULATIONS

WHEREAS, it is necessary to guide the future physical development of the County of Santa Cruz and address the historic, current and future land uses; and

WHEREAS, the Land Use Element of the General Plan / Local Coastal Program designates the proposed location, density, and intensity of land uses in the unincorporated area of the County; and

WHEREAS, it is necessary to protect the community from natural hazards, as well as from hazards produced from the built environment; and

WHEREAS, the Safety Element of the General Plan / Local Coastal Program provides 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 seismic and geologic hazards known to the legislative body; flooding; and wildland and urban fires; and

WHEREAS, it is necessary to protect the community from harmful noise sources; and

WHEREAS, the Noise Element of the General Plan / Local Coastal Program identifies and appraises noise problems in the community, and analyzes and quantifies, to the extent practicable as determined by the legislative body, current and projected noise levels for various sources; and

WHEREAS, one of the goals of the Land Use Element of the General Plan / Local Coastal Program is to require compatibility between the Watsonville Municipal Airport and future land uses in the unincorporated area of the County that surround the Airport; and

WHEREAS, the goal of the Safety Element is to protect human life, private property and the environment, and to minimize public expenses by preventing inappropriate use and development or location of public facilities and infrastructure in those areas which, by virtue of natural dynamic processes or proximity to other activities, present a potential threat to the public health, safety and general welfare; and

WHEREAS, the goal of the Noise Element is to protect the public and sensitive wildlife habitat

areas from harmful noise sources such as industrial facilities, automobiles, airplanes, motorcycles, construction noise, surface mining operations, chainsaws, off-road vehicles, loud music, and other noise sources; and

WHEREAS, the purpose of the Airport Combining Zone District is to implement policies of the General Plan / Local Coastal Program; and

WHEREAS, the purpose of the Geologic Hazards Ordinance, the Floodplain Regulations, the Erosion Control Ordinance, and the Grading Regulations are to implement policies of the General Plan / Local Coastal Program; and

WHEREAS, the purpose of the Noise Planning Ordinance is to implement policies of the General Plan / Local Coastal Program; and

WHEREAS, this project to amend portions of the General Plan / Local Coastal Program (GP/LCP) and the County Code that address airport land use compatibility was initiated to ensure consistency with the California Airport Land Use Planning Handbook published by the State of California Department of Transportation, Division of Aeronautics; and

WHEREAS, this project to amend portions of the General Plan / Local Coastal Program (GP/LCP) and the County Code that address public safety was initiated to increase the resilience of the community relative to the expected impacts of climate change in Santa Cruz County, and to implement several Priority Actions in the County's Local Hazard Mitigation Plan; and

WHEREAS, in 2011 the Planning Department obtained funding from the Department of Housing and Community Development Community Development Block Grant Disaster Recovery Initiative (DRI) grant program to implement recommendations of the Local Hazard Mitigation Plan related to flooding, coastal bluffs and beaches, erosion, and fire; and

WHEREAS, coastal communities are particularly vulnerable to impacts from sea level rise and hazards that result from increased extreme weather attributable to climate change, including coastal bluff erosion, increased coastal and riverine flooding, and increased fire hazard, as well as loss of biodiversity and environmental resources; and

WHEREAS, in 2013 the County adopted a Climate Action Strategy to address the two pillars of community response to climate change: reduction of greenhouse gas emissions and adaptation to the environmental changes that are expected to occur; and

WHEREAS, many of the General Plan / Local Coastal Program policies and code amendments in this package are being proposed in order to implement the adaptation portion of the Climate Action Strategy, minimize impacts from climate change, and increase resilience in unincorporated Santa Cruz County; and

WHEREAS, the proposed General Plan / Local Coastal Program Amendments are consistent with other parts of the adopted General Plan; and

WHEREAS, the proposed General Plan / Local Coastal Program Amendments are consistent with the California Coastal Act; and

WHEREAS, environmental review was completed for the proposed General Plan / Local Coastal Program and Ordinance Amendments and the determination was made that the proposed amendments would not have any significant environmental impacts, and a Negative Declaration was prepared in accordance with the California Environmental Quality Act, and was circulated for public review and comment; and

WHEREAS, at its regular meetings on October 10, 2018, October 24, 2018, December 12, 2018, February 13, 2019, and March 13, 2019 the Planning Commission conducted a duly noticed public hearing and considered the Negative Declaration, together with comments received during the public review, and the proposed General Plan / Local Coastal Program and Ordinance Amendments, and considered all evidence and testimony received at the public hearing;

NOW, THEREFORE, BE IT RESOLVED, that the Planning Commission recommends that the Board of Supervisors approve the CEQA Negative Declaration (Exhibit B, Exhibit B, October 10, 2018 Planning Commission materials) and adopt the proposed General Plan / Local Coastal Program Amendments (Exhibits C through G, October 10, 2018 Planning Commission materials except revised Exhibit F attached to March 13, 2019 Planning Commission materials), and adopt the proposed amendments to the Santa Cruz County Code (Exhibits H through N, October 10, 2018 Planning Commission materials except revised Exhibit K attached to March 13, 2019 Planning Commission materials).

PASSED AND ADOPTED by the Planning Commission of the County of Santa Cruz, State of California, this 13th day of March, 2019 by the following vote:

AYES: COMMISSIONERS
NOES: COMMISSIONERS
ABSENT: COMMISSIONERS
ABSTAIN: COMMISSIONERS

_____
Melanie Shaffer Freitas, Chairperson

ATTEST:

_____
Steve Guiney, Secretary

APPROVED AS TO FORM:

_____
COUNTY COUNSEL

This page intentionally left blank

Chapter 6

PUBLIC SAFETY ELEMENT

- **SEISMIC HAZARDS: EARTHQUAKES, TSUNAMI, LIQUEFACTION**
- **CLIMATE CHANGE: RESILIENCE AND ADAPTATION**
- **SLOPE STABILITY, LANDSLIDES AND OTHER ADVERSE SOIL CONDITIONS**
- **COASTAL BLUFFS AND BEACHES**
- **GRADING AND EROSION**
- **FLOOD HAZARDS**
- **WILDLAND AND URBAN FIRE HAZARDS**
- **AIR QUALITY**
- **HAZARDOUS AND TOXIC MATERIALS**
- **HAZARDOUS WASTE MANAGEMENT**
- **ELECTRIC AND MAGNETIC ENERGY, AND NEW ELECTRIC FACILITIES**
- **ENVIRONMENTAL JUSTICE**

Exhibit F

This page intentionally left blank

CONTENTS

Language identified with (LCP) is not restricted to the Coastal Zone; language which includes the (LCP) initials is part of the Local Coastal Program and applies countywide unless specifically stated that the policy, etc., is limited to the coastal zone.

Exhibit F

This page intentionally left blank

Exhibit F

AUTHORITY, REQUIREMENTS AND PURPOSE

The requirements for a Safety Element are established by State Planning law (Section 65302 g) as follows:

> "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; liquefaction; and other geologic hazards known to the legislative body; flooding; and wildland and urban fires. The safety element shall include mapping of known seismic and other geologic hazards. It shall also address evacuation routes, peakload water supply requirements, and minimum road widths and clearances around structures, as those items relate to identified fire and geologic hazards.

Safety Elements revised after January 2009 must reference or incorporate: FEMA flood maps, information about flood hazards available from the Army Corp of Engineers, dam failure maps from the Department of Water Resources, maps of levee protection zones, identification of areas subject to inundation in the event of failure of levees or floodwalls, historical data on flooding including areas vulnerable to flooding after wildfires and areas of repetitive loss due to floods, and identify existing and planned development in flood hazard zones. Goals, policies, objectives and feasible implementation measures related to protecting the community from unreasonable risks of flooding are required to be established, with an emphasis on avoiding risks to new development, maintaining the structural and operational integrity of essential public facilities during flooding, locating new essential public facilities outside of flood hazard zone, and establishing cooperative working relationships among public agencies with responsibility for flood protection.

Safety Elements revised after January 2014 must address the risk of fire for land classified as state responsibility areas, and land classified as very high fire hazard severity zones. The Element must reference or incorporate: fire hazard severity zone maps available from the State Department of Forestry and Fire Protection, historical data about wildfire hazard areas from the US Geological Survey and local records, identification of the general location of existing and planned uses of land within very high fire hazard severity zones and in state responsibility areas, and identification of local, state and federal agencies with responsibility for fire protection, including special districts and local offices of emergency services. As with flood hazards, goals, policies, objectives and feasible implementation measures for protecting the community from unreasonable risks of fire are required to be established, for the same factors identified in the preceding paragraph.

Safety Elements revised after January 2017 must address climate change and resiliency strategies, and must include a vulnerability assessment that identifies the risks that climate changes poses to the local jurisdiction and geographic areas at risk, and include information from other agencies to assist with developing the vulnerability assessment. A set of adaptation and resilience goals, policies, objectives, and feasible strategies and implementation measures to avoid or minimize climate change impacts must be included, especially for new land uses, essential public facilities, and public infrastructure. "Natural infrastructure" that may feasibly be used in adaptation projects to increase resiliency, such as existing or restored natural features and ecosystem processes, are to be identified. Floodplain and wetlands restoration or preservation, combining levees with restored natural systems to reduce flood risk, and urban tree planting to mitigate high heat days and reduce greenhouse gas effects are examples.

Adopted Local Hazard Mitigation Plans and adopted floodplain management ordinances that have been approved by FEMA can be attached or referenced in the General Plan to comply with certain Safety Element requirements. California Government Code Section 65302(g)(4)(D)(ii) allows local governments to summarize and incorporate by reference a climate adaptation plan or document to meet Safety Element requirements if the material substantially complies or is substantially equivalent. Santa Cruz County

approved a Climate Action Strategy in February 2013 and adopted an updated Local Hazard Mitigation Plan in June 2016, and these documents substantially comply with the State's new climate change requirements for Safety Elements. These documents are hereby incorporated by reference. A summary showing how the requirements are met is provided within the Climate Change: Resilience and Adaptation section.

In Santa Cruz County, the impacts of climate change and sea level rise are projected to accelerate hazards to coastal bluffs and beaches, and therefore this Safety Element establishes new and modified goals, policies, objectives and implementation measures for property located on coastal bluffs and for beaches and lagoons. Approaches differ for urbanized properties located within the Urban and Rural Services Lines, and the remaining rural and open space areas along the coast. Within the urban areas where development intensity is higher and existing coastal armoring is common, more extensive project analysis is required to address increased risks due to climate change, sea level rise, wave attack, and coastal flooding. In the more rural areas, however, parcels are larger, development intensity is lower, and the increased risks related to sea level rise can be adequately addressed with a lessor level of project analysis compared to projects in the urban area.

In 2016, the State of California also adopted requirements for General Plans to address environmental justice for disadvantaged communities. Disadvantaged communities are defined as low-income areas (at or below 80% of area median household income) that are disproportionately affected by environmental pollution and other hazards that can lead to negative health effects, exposure or environmental degradation. While the unincorporated area of Santa Cruz County does not contain communities that meet the technical definition, certain sub-area of unincorporated Santa Cruz County can at times be of similar status as a disadvantaged community, depending upon how the geographic limits are defined and upon economic circumstances of the area population as the economy and housing market changes. This Safety Element therefore incorporates environmental justice requirements and generally addresses these unique or compounded health risks for these certain sub-areas that may at times qualify as disadvantaged communities, including policies regarding promotion of civil engagement in public decision making, and prioritization of improvements and programs that address the needs of disadvantaged communities.

SUMMARY OF GREATEST SHORT-TERM RISKS TO 2050, AND INTERMEDIATE- TO LONG-TERM RISKS TO 2100

The Climate Action Strategy (CAS) Vulnerability Assessment concluded that over the next 30+ years to 2050, it is expected that the highest risks to the County of Santa Cruz will come from:

- Potential water shortages due to the combination of increasing temperatures, changes in precipitation patterns increasing climatic water deficit, increased saltwater intrusion, decreased groundwater recharge, and higher demand. This has a very high probability of occurrence and also significant (high) consequences.

- Rising water table beneath the Rio Del Mar Esplanade is already an issue. As sea level continues to rise, the present problems will be exacerbated. The consequence of a continuing water table rise on commercial and residential structures and infrastructure, including the wastewater pump station is high, and the likelihood of this taking place in the immediate future is high.

- Potential increase in future coastal storm frequency and/or intensity will increase cliff retreat rates as well as cause potential damage to oceanfront property or public infrastructure. The coastlines of northern California, Oregon and Washington have experienced increasingly intense winter storms and greater wave heights over the last 25 years, both of which may be leading to more severe winter erosion (Allan and Komar, 2000). The consequence of coastal bluff erosion is high due to the extent of high-value public and private improvements (infrastructure, structures, etc.)

- Flooding in Santa Cruz County has occurred in each of the primary drainages and will continue to occur in the future given certain sets of meteorological conditions. Previous occurrences are well documented for all primary drainages with the exception of Aptos Creek, which is not gauged. In addition, low-lying areas such as Rio Del Mar Esplanade/Flats will experience more frequent flooding and inundation from sea level rise and increased wave heights. As a result, the consequence would be high in terms of structural and economic loss, with the probability of such an event occurring also being high.

- Groundwater extraction rates from the Pajaro River Valley groundwater basin have exceeded sustainable pumping rates for decades, causing groundwater levels to drop significantly, resulting in areas of saltwater intrusion and rendering some coastal groundwater wells unsuitable for use. With the rise in sea level in the coming decades, saltwater intrusion will be exacerbated. The probability of saltwater intrusion is high due to the current groundwater overdraft situation in the Pajaro Valley, and the consequence of this occurring is high due to the economic effects of fallowing large expanses of farmland to reduce groundwater pumping. However, efforts are being developed to reduce groundwater pumping and to stop saltwater intrusion. The success of these efforts will be challenged by the additional effects of climate change.

- Many of the wells located within the boundaries of the Soquel Creek Water District are also threatened with saltwater intrusion. A reduction in groundwater pumping will likely be necessary to meet the protective and target water levels necessary to avoid saltwater intrusion into the wells.

- Heat waves in Santa Cruz County are likely to become more frequent in the future due to climate change; however, due to the marine climate, temperature increases would be moderate. As a result, the consequence would be low while the probability of such an event occurring is high.

- Climate change is expected to result in additional risk of increased fire frequency, size, and severity beyond the historic range of natural wildfire variability due to increasing length of the fire season, drier fuels, and decreasing forest health. These changes are being driven by alterations in temperature and precipitation regimes (generally, warmer and drier). As a result, the consequence would be high while the probability of such an event occurring is low.

The Local Hazard Mitigation Plan concluded that over the intermediate to long term (2050 to 2100), in addition to water shortages and a rise in the water table, it is expected that other climate change related events would increase to high and very high levels of risk within the County:

- Potential water shortages, as described for the period 2010-2050, shift from a high probability of occurrence to a very high probability of occurrence as climate change progresses.
- Even though many of the areas of highest vulnerability have already been armored with riprap or seawalls, coastal cliff erosion continues to take place. The value of property and infrastructure in this area is very high, and in the long-term, with a rising sea level and increased winter wave attack, this risk is expected to increase to a very high level.
- Rise in the water table beneath the Rio Del Mar Esplanade as described for the period 2010-2050 shifts from a high probability of occurrence to a very high probability of occurrence as sea level rise progresses.
- Shoreline inundation would affect a number of developed areas along the County shoreline, particularly at the maximum projected sea level values for 2050-2100. The potential for flooding of the Rio Del Mar Esplanade and Beach Drive, for example, has a very high probability of occurring with a high consequence if it were to happen. If winter precipitation increases in the longer-term future, although it is not clear from the models that have been run to date that this will occur, the probability will increase, raising the risk of flooding.
- Flooding, as described for the period 2010-2050, shifts from a high probability of occurrence to a very high probability of occurrence as climate change progresses.
- Salt water intrusion of groundwater as described for the period 2010-2050 would continue as sea level rise progresses. The probability of saltwater intrusion increases to very high, and the consequence is very high due to the economic effects of fallowing large expanses of farmland to reduce groundwater pumping. Efforts are underway to reduce groundwater pumping to stop saltwater intrusion; however, the success of these efforts will be challenged by the additional effects of climate change.
- Heat waves as described for the period 2010-2050 shift from a high probability of occurrence to a very high probability of occurrence as climate change progresses.
- Climate change is expected to continue to contribute to increased wildfires as described for the period 2010-2050 with the probability of occurrence shifting from low to moderate as climate change progresses.

SAFETY ELEMENT GOALS REGARDING HAZARDS AND CLIMATE CHANGE

The goals, objectives, policies and implementation measures of this Public Safety Element are derived from the necessity to protect the community from natural hazards, as well as from hazards produced from the built environment. Primary goals of the Safety Element include:

SE-1: To protect human life, private property and the environment.

SE-2: To minimize public expenses by preventing inappropriate use and development or location of public facilities and infrastructure in those areas which, by virtue of natural dynamic processes or proximity to other activities, present a potential threat to the public health, safety and general welfare.

Santa Cruz strives to be a disaster-resistant county that can avoid, mitigate, survive, recover from, and thrive after a disaster while maintaining its unique character and way of life. County government should be able to provide critical services in the immediate aftermath of a devastating event of any kind. The people, buildings and infrastructure of Santa Cruz should be resilient to disasters. A key County objective stated in the Local Hazard Mitigation Plan (LHMP) is to have basic government services and commercial functions resume quickly after a damaging earthquake or other significant event. The LHMP has four primary goals for reducing disaster risk in Santa Cruz, which are incorporated into this Safety Element:

SE-3: Avoid or reduce the potential for loss of life, injury and economic damage to Santa Cruz residents from earthquakes, wildfires, floods, drought, tsunami, coastal erosion, landslide and dam failure.

SE-4: Increase the ability of the County government to serve the community during and after hazard events.

SE-5: Protect Santa Cruz's unique character, scenic beauty and values from being compromised by hazard events.

SE-6: Encourage mitigation activities to increase the disaster resilience of institutions, private companies and systems essential to a functioning Santa Cruz.

The projected increases in levels of fire, flood, erosion and coastal bluff hazards due to climate change require adjustments in preparation and responses, including modified approaches to regulating properties on coastal bluffs and beaches, new flood and fire hazard reduction policies, and ensuring functionality of essential public facilities and infrastructure. Table 7.1 of the County's Climate Action Strategy presents a comprehensive series of strategies designed to respond to the following CAS climate adaptation goals, which are incorporated into this Safety Element:

SE-7: Protect the unique character, scenic beauty and culture in the natural and built environment from being compromised by climate change impacts.

SE-8: Support initiatives, legislation, and actions to respond to climate change.

SE-9: Encourage and support actions that reduce risks and vulnerabilities now, while recognizing the importance of identifying, making decisions about, and preparing for impacts and risks that may develop in the future.

SE-10: Support the reduction of risks from other environmental hazards, noting the strong interrelationships and benefits between reducing risk from climate change, non-climate change-related disasters, and most other environmental hazards.

SE-11: Build resilience into all programs, policies and infrastructure.

SE-12: Encourage climate change resilience planning and actions in private companies, institutions, and systems essential to a functioning County of Santa Cruz.

SE-13: Encourage community involvement and public-private partnerships to respond to potential climate impacts, particularly for those most vulnerable.

SE-14: Ensure that the County of Santa Cruz remains a safe, healthy and attractive place with a high quality of life for its residents, businesses and visitors.

This Safety Element incorporates these goals of the LHMP and CAS in order to recognize climate change projections and to support adaptation approaches that improve the resilience of essential facilities, public infrastructure, coastal natural resources, and human communities to the impacts of climate change and sea level rise; and to ensure informed acceptance of risk and liability releases by private property owners who elect to develop or make improvements in areas subject to hazards.

Additional goals (beyond the above goals contained in the LHMP and CAS) related to climate change, regarding geologic, flooding and wave run-up hazards along the shoreline and coastal bluffs, include the following:

SE-15: Seek funding for and encourage public, special district and private activities to prepare more specific plans for how various portions of the shoreline/coastal bluff that are located within the urban/rural services lines should transition in the future, to a feasible outcome that could exist in the near- to mid-term with a design that improves impacts on coastal resources while continuing to protect important coastal infrastructure, existing development ,and other visitor-serving built and natural environments.

SE-16: Ensure that public investments along the shoreline consider projections for sea level rise, and prioritize and design projects to avoid and minimize risks to the improvements, considering the desired expected life for such public improvements.

SE-17: Seek to internalize private costs of repair, replacement and/or abatement of structures on shorelines and coastal bluffs to private property owners, while also recognizing that in some locations public agencies, special districts and private property owners should work together to achieve mutually beneficial conditions in the near- to mid-term, while recognizing that the long-term may mean that improvements must be relocated or removed.

This Safety Element is divided into sections based on the particular hazards that exist in Santa Cruz County and related topics. Information and discussion about each of these hazards or topics is presented at the start of each section, followed by the relevant objectives, policies and implementation measures for the hazard or topic. The hazards and topics are presented in the following order:

1. Seismic and Soil Hazards: Earthquakes, Tsunami, Liquefaction
2. Climate Change: Resilience and Adaptation
3. Slope Stability, Landslides and Other Adverse Soil Conditions
4. Coastal Bluffs and Beaches
5. Grading and Erosion
6. Flood Hazards

7. Wildland and Urban Fire Hazards
8. Air Quality
9. Hazardous and Toxic Materials
10. Hazardous Waste Management
11. Electric and Magnetic Energy, and New Electrical Facilities
12. Environmental Justice

SEISMIC HAZARDS: EARTHQUAKES, TSUNAMI, LIQUEFACTION

EARTHQUAKES. An earthquake is a sudden release of energy in the earth's crust. Caused by movement along fault lines, earthquakes vary in size and severity. The focus of an earthquake is found at the first point of movement along the fault line, and the epicenter is the corresponding point above the focus at the earth's surface. Damage from earthquakes varies with the local geologic conditions, the quality of construction, the energy released by the earthquake, the distance from the earthquake's focus, and the type of faulting that generates the earthquake. Ground motion is the primary cause of damage and injury during earthquakes and can result in surface rupture, liquefaction, landslides, lateral spreading, differential settlement, tsunamis, building failure and broken utility lines, leading to fire and other collateral damage. Typically, areas underlain by thick, water-saturated, unconsolidated material will experience greater shaking motion than areas underlain by firm bedrock, but in some cases relief may intensify shaking along ridge tops. Fires and structural failure are the most hazardous results of ground shaking. Most earthquake-induced fires start because of ruptured power lines and gas or electrically powered stoves and equipment, while structural failure is generally the result of age and type of building construction. Fault rupture and earthquake related Ground Cracking could occur in several locations within the County of Santa Cruz. Several fault zones cross Santa Cruz County, and movement along these faults can cause fault-related surface deformation (e.g., surface fault rupture) where the fault reaches the surface of the ground. Both the County of Santa Cruz and the State of California have identified zones where the San Andreas and other active faults have and can cause fault-related surface deformation. Within these zones it is likely that movement along these faults will damage structures, roads, utilities, and other fixed facilities. In addition to these zones, other ground cracking was observed during the Loma Prieta earthquake and the San Francisco earthquake of 1906. Many of these ground cracks can be attributed to movement or consolidation of large and moderate sized landslides while other ground cracks were most likely related to ridge spreading. Although much of the ground cracking was found near the fault zones and in the Summit area of the county, other ground cracking was found on ridge tops throughout the County of Santa Cruz.

In geologic time, Santa Cruz County was very recently the epicenter of a very significant earthquake. At 5:04 PM on October 17, 1989, a magnitude 7.1 event rocked the Monterey Bay and San Francisco Bay regions. The initial quake lasted only 22 seconds, although in the two weeks that followed, more than 4,000 aftershocks were recorded, with 20 of these greater than magnitude 5 on the on the Richter Scale. The epicenter of the Loma Prieta earthquake was about 10 miles east-northeast of the City of Santa Cruz in the Aptos planning area on the San Andreas fault. In Santa Cruz County, 674 dwellings, 32 mobile homes and 310 businesses were destroyed in the earthquake. Replacement of un-reinforced masonry chimneys made up the majority of subsequent residential repairs, followed by foundation replacement on older wood frame houses which predated current building codes and lacked basic seismic safety features such as foundation bolts and sufficient structural bracing. Significant damage to streets, water systems, sewer systems and other public infrastructure was related to liquefaction and subsidence. Due to the County's susceptibility to earthquakes and other natural hazards, disaster response planning is an on-going process.

TSUNAMI. A tsunami is a series of waves generated by an impulsive disturbance in a large body of water such as an ocean or large lake. Tsunamis are produced when movement occurs on faults in the ocean floor, usually during very large earthquakes. Sudden vertical movement of the ocean or lake floor by a fault, landslide or similar movement displaces the overlying water, creating a wave that travels outward from the source. The waves can travel across oceans and maintain enough energy to damage distant shorelines. The most recent tsunami in Santa Cruz County occurred as a result of the magnitude 9.0 earthquake in Japan on March 11, 2011. In Japan nearly 16,000 deaths occurred as a result of the earthquake and tsunami, which generated a wave of water up to 113 feet in height travelling inland up to six miles, and which also caused meltdown of a nuclear energy plant. This 2011 tsunami hit the Santa Cruz Harbor with waves estimated to be several feet, combined with swift and chaotic currents causing approximately $20 million in damage. Santa Cruz County is at risk from both local and distant source tsunamis.

LIQUEFACTION. Liquefaction is the transformation of loose, water-saturated granular materials (such as sand or silt) from a solid to a liquid state. Liquefaction commonly, but not always, leads to ground failure such as subsidence. Liquefaction potential varies significantly and site-specific analysis is needed to accurately determine liquefaction potential in earthquake prone areas.

Objective 6.1-1 Seismic Hazards: Earthquakes

(LCP) To reduce the potential for loss of life, injury, and property damage resulting from earthquakes by: regulating the siting and design of development in seismic hazard areas; encouraging open space, agricultural or low density land use in the fault zones; and increasing public information and awareness of seismic hazards.

Objective 6.1-2 Seismic Hazards: Tsunami

(LCP) To reduce the potential for loss of life, injury, and property damage resulting from tsunamis by: providing signage and warning systems in tsunami hazard areas to increase public awareness of hazard and actions to take in event of tsunami, publicizing evacuation routes, and designing structures as feasible to withstand tsunamis or to minimize damage that may occur due to tsunamis.

Objective 6.1-3 Seismic Hazards: Liquefaction and Subsidence

(LCP) To reduce the potential for loss of life, injury, and property damage resulting from location of improvements in areas that contain soils subject to liquefaction and subsidence by: avoiding location of critical and essential facilities in areas subject to these conditions, and adopting building codes that, for areas where development is allowable, requires site-specific analysis and adequate mitigations to be incorporated into project designs.

Policies

6.1.1 Geologic Review for Development in Designated Fault Zones

(LCP) Require a review of geologic hazards for all discretionary development projects, including the creation of new lots, in designated fault zones. Fault zones designated for review include the Butano, Sargent, Zayante, and Corralitos complexes, as well as the State designated Seismic Review Zones. Required geologic reviews shall examine all potential seismic hazards, and may consist of a Geologic Hazards Assessment and/or a more complete geologic investigation report where required by the County. An assessment may be prepared by County staff under supervision of the County Geologist, or registered geologist at the applicant's choice and expense. Any Geologic Hazards Assessment or Geologic Investigation Report must be accepted by the County Geologist in order to use its findings and/or incorporate its mitigations into a proposed development project.

6.1.2 Geologic Reports for Development in Alquist-Priolo Zones

(LCP) Require a preliminary geologic report or full engineering geology report for development on parcels within Alquist-Priolo State-designated seismic review zones.

6.1.3 Engineering Geology Report for Public Facilities in Fault Zones

(LCP) Require a full engineering geology report by a registered geologist whenever a significant potential hazard is identified by a Geologic Hazards Assessment or Preliminary Geologic Report, and prior to the approval of any new public facility or critical structure within the designated fault zones.

6.1.4 Site Assessment or Investigation Regarding Liquefaction Hazard

(LCP) Require site-specific hazards assessment and/or investigation by a registered geologist and/or civil engineer of all development proposals in areas designated as having a moderate, high or very high liquefaction potential, and require mitigations identified by reports to be incorporated into project designs in order to meet building codes.

6.1.5 Location of New Development Away From Potentially Hazardous Areas

(LCP) Require the location and/or clustering of development away from potentially hazardous areas where feasible, in order to avoid or minimize exposure to hazards. Review, revise, and/or condition project development permits as warranted, based on the recommendations of the site's Hazard Assessment or other technical reports.

6.1.6 Siting of New Water Supply Reservoirs and Small Water Retention Facilities

(LCP) Require a full engineering geologic investigation prior to the construction of new water supply reservoirs, and if an unmitigable hazard exists, denythe proposed reservoir. Require smaller water retention facilities to be sited and engineered in a manner that will avoid or mitigate potential hazards that could arise from failure of the facilities, especially to habitable structures and public and private access roads.

6.1.7 Dam Safety Act

(LCP) New dams shall be constructed according to high seismic design standards of the Dam Safety Act and as specified by structural engineering studies. Smaller reservoirs will be reviewed for potential seismic hazards as a part of the environmental review and/or building/grading permit review processes.

6.1.8 Design Standards for New Public Facilities

(LCP) Require all new public facilities and critical structures to be designed to withstand the expected ground shaking during the design earthquake on the San Andreas Fault, as well as projected hazards due to climate change and sea level rise.

6.1.9 Recordation of Notice of Geologic Hazards, Acceptance of Risk, Liability Release, and Indemnification

(LCP) As a condition of development approval and/or prior to the issuance of a building/grading permit for development/development activities and new and substantially improved structures in geologic hazard areas, require the owner of a parcel in an area of potential geologic hazards to record on the property/title deed, with the County Recorder, a Notice of Geologic Hazards, Acceptance of Risk, Liability Release and Indemnification in a form approved by the County. The Notice shall include information about the nature of the hazard(s) as determined by the geologic and/or geotechnical investigation, provide that the current and all future owners and successors in interest accept the risks to people and property, and includes a release of liability of and waiver of claims against the County of Santa Cruz for any damages or injury in connection with the permitted development.

6.1.10 Siting, Design and Density Review of Proposed Development for Acceptable Risk Levels

(LCP) Approve the final density and design of a development or building/grading proposal, and location of proposed development on a site, only as consistent with the recommendations of the technical reports. Deny the location or design of the proposed development if it is found that the hazards on the site cannot be mitigated to within acceptable risk levels for the nature of the development, as established by industry standards and as evidenced by property owner willingness to record on title a Notice of Geologic Hazards, Acceptance of Risk, and Liability Release.

6.1.11 Setbacks from Faults

(LCP) Exclude from density calculations for land divisions, land within 50 feet of the edge of the area of fault induced offset and distortion of an active or potentially active fault trace. In addition, all new habitable structures on existing lots of record shall be set back a minimum of fifty (50) feet from the edge of the area of fault induced offset and distortion of an active or potentially active fault trace. This setback may be reduced to a minimum of twenty-five (25) feet based upon paleoseismic studies that include observation trenches. Reduction of the setback may only occur when both the consulting registered geologist preparing the study and the County Geologist observe the trench and concur that the reduction is appropriate. Critical structures and facilities shall be set back a minimum of one hundred (100) feet from the edge of the area of fault induced offset and distortion of an active or potentially active fault traces.

6.1.12 Minimum Parcel Size in Fault Zones

(LCP) Outside the Urban Services Line and Rural Services Line, require a minimum parcel of 20 gross acres for the creation of new parcels within state and County designated seismic review zones if proposed building sites lie within the fault zone. Require a minimum parcel of 10 gross acres for the creation of new parcels within the portions of the County designated seismic review zones that are not part of a State Alquist-Priolo Earthquake Fault Zone, and which lie outside the Urban and Rural Services Lines and Coastal Zone, if 25% or more of the parcel perimeter is bounded by parcels 1-acre or less in size. Inside the Urban Services Line and Rural Services Line, allow density consistent with the General Plan and LCP Land Use designation if all structures are to be set back at least 50 feet from fault traces and meet all other conditions of technical reports and of applicable provisions of the County Code.

Programs

a. Periodically update seismic design and soil hazards design_criteria and the Building and Grading regulations, with the advice of qualified professionals and consistent with State law, as information becomes available in order to support construction of safe structures in areas of seismic hazards, liquefaction hazards and other soil conditions subject to ground failure or cracking during seismic events. (Responsibility: Planning Department)

b. Continue to evaluate existing public facilities to determine whether they can maintain structural integrity during the design earthquake, and fund and carry out retrofits, retirements and/or replacements as may be needed to ensure public safety at public facilities during such earthquake events, with priority given to critical facilities. (Responsibility: Public Works, Board of Supervisors, California Department of Forestry)

c. Target the following structures to meet California Building Code seismic safety standards for existing buildings:
Critical facilities:
   - Essential facilities: buildings whose use is necessary during an emergency;
   - Buildings whose occupancy is involuntary;
   - High occupancy buildings.

(Responsibility: Planning Department, Public Works, Board of Supervisors, State of California)

d. Support seismic retrofit projects, including through priority permit processing and through special financing programs such as housing rehabilitation loans for qualified low income homeowners from State and local funding programs as may be available. (Responsibility: Planning Department, Santa Cruz County Housing Authority, Board of Supervisors)

e. Comprehensively map the Geologic Hazard Combining Zone District to include areas having a high, moderate or uncertain surface rupture potential, as well as known areas subject to high liquefaction hazards, and make the Geologic Hazards map(s) and related technical information available to the public on the county website. (Responsibility: Board of Supervisors, Planning Commission, Planning Department, Information Services Department/GIS)

f. Comprehensively map the Geologic Hazard Combining Zone District to include areas subject to high liquefaction hazard when precise technical information regarding the extent and activity of liquefiable materials is available. (Responsibility: Board of Supervisors, Planning Commission, Planning Department, Information Services Department/GIS)

g. Revise existing seismic and geologic hazard maps as new, reliable information becomes available. (Responsibility: Planning Department, Information Services Department/GIS)

h. Evaluate the probable response of community service agencies and emergency facilities to a damaging earthquake, and develop contingency plans for post-disaster emergency operations, including evacuation procedures. (Responsibility: County Office of Emergency Services, Human Services Department, Health Services Agency and Department of Public Works)

i. Develop public education programs to increase public awareness of seismic and geologic hazards, and to inform the public of proper procedures before, during and after an earthquake that can help to minimize injury and property loss. (Responsibility: Planning Department, County Office of Emergency Services)

CLIMATE CHANGE: RESILIENCE AND ADAPTATION

Santa Cruz County approved a Climate Action Strategy CAS) in February 2013, and adopted an updated Local Hazard Mitigation Plan (LHMP) in June 2016. Materials in those documents provide substantial compliance with California Government Code requirements to address climate change, including but not limited to a vulnerability assessment, and adaptation and resilience goals, policies, objectives, and feasible strategies and implementation measures to avoid or minimize climate change impacts, especially for new land uses, essential public facilities, and public infrastructure.

The CAS Executive Summary summarizes the content of the document, including material that meets requirements for Safety Elements, as presented below.

Californians are already experiencing impacts from climate change (California Natural Resources Agency, 2009), and a wide variety of impacts are likely to be felt with increasing magnitude as the concentration of greenhouse gases (GHGs) in the atmosphere continues to rise (City of Santa Cruz, 2011). The first portion of the County's Climate Action Strategy (CAS) reports the results of the GHG emissions inventory for Santa Cruz County, proposes targets for GHG reduction, and outlines strategies and implementing actions to achieve the targets. The second portion focuses on vulnerability assessment and strategies for adapting to the types of impacts that are likely to occur in Santa Cruz County. The CAS incorporates input from the local community and non- governmental agencies that are working to mitigate and respond to climate change.

GHG emissions inventories were prepared for County government operations and for community activities for 2005 and updated for 2009. Total emissions for government operations in 2009 were approximately 34,000 metric tons of CO2 equivalent (CO2e), a decrease of 12 percent from 2005. T otal emissions for community activities were approximately 1,030,000 metric tons in 2009, a decrease of more than 50 percent from 2005. The dramatic decrease in community emissions reflects the closure of the Davenport cement plant, which accounted for approximately 90 percent of the commercial/industrial emissions in 2005. The inventories indicate that 70 percent of the community emissions in 2009 were generated by the transportation sector. A separate, simplified inventory of GHG emissions from agricultural activity was prepared for 2011. Agricultural emissions other than electricity emissions were in the range of 17,000 metric tons of CO2e. This represents, at most, two percent of GHG emissions countywide (2009 data).

State legislation requires California to reduce GHG emissions to 1990 levels by 2020. Based on the 2005 community emissions inventory, 1990 emissions levels for Santa Cruz County were estimated. Santa Cruz County has already met the target for 2020 due to the closing of the Davenport cement plant. The State has also set a long-term reduction target for 2050, which is 80 percent below 1990 levels. The CAS incorporates the two state targets and sets an interim target for 2035. A "business as usual" estimate of future emissions is used to gauge the amount of effort required to meet the reduction targets.

GHG reduction strategies are proposed for the three sectors with the highest emissions: transportation, energy, and solid waste. The amount of emissions reductions that can be expected from each strategy is estimated. Calculations indicate that the emissions targets for 2035 and 2050 can be met, but that a sustained commitment to full implementation of the strategies will be required. The largest reduction will come from state and federal standards for fuel efficiency and vehicle emissions and from the California renewable energy portfolio standard (58 percent), followed by a cleaner energy supply from Community Choice Energy (CCE) if that type of regional energy authority is formed (22 percent), energy efficiency (9 percent), transportation and land use planning (5 percent), green business (3 percent), and electric vehicles (3 percent). The CAS finds that if a CCE is not feasible the gap may be closed with greater reductions from other strategies, including a method to provide incentives for local renewable power and

energy conservation similar to what a CCE would provide. However, a feasibility study was subsequently completed which has determined that it is feasible, and a collection of local governments are pursuing formation. Priority for implementation of GHG reduction efforts will be a function of the estimated potential for emissions reduction, cost to implement, and co-benefits of efforts.

A plan for monitoring the implementation of emissions reduction is included in the CAS, which includes identifying the group with responsibility for implementation, periodic reporting, and a recommendation for updating the GHG emissions inventories every five years.

A vulnerability assessment was prepared to identify the conditions that may occur in Santa Cruz County as a result of the various components of climate change (increasing temperature, rising sea level, and shifts in the precipitation regime) and the locations, infrastructure and economic sectors that are particularly vulnerable to negative impacts.

The assessment identifies the coastal areas that are most susceptible to increased flooding, storm surge, beach and coastal bluff erosion from winter storms. Winter storm damage may become more frequent than in the past as a result of heightened sea levels persisting longer as sea level rises (Cayan et al., 2008; Cloern et al., 2011), and precipitation that is concentrated in fewer months each year (Flint, L.E., and Flint, A.L., 2012). The analysis is based on 16–66 inches (42–167 cm.) of sea level rise by 2100, as forecast by the National Academy of Sciences (National Research Council, 2012). Inundation, rising groundwater, and increased saltwater intrusion into groundwater will also affect low-lying areas. The systems that will be most affected are residential coastal property, wastewater treatment infrastructure, coastal roads and bridges, beaches, coastal and wetland ecosystems, and water supply from coastal wells. The vulnerability assessment also identifies potential effects of precipitation changes and increased temperature of between 3.6–7.2 degrees Fahrenheit (2–4 degrees Celsius) (Flint, L.E., and Flint, A.L., 2012) on water supply, wildfire, biodiversity, and public health. Particular attention is given to the significant decrease in redwood habitat that may occur, especially if the current trend of decreasing coastal fog continues (Flint, L.E., and Flint, A.L., 2012).

Tourism and agriculture, two top revenue producing and job generating sectors of the local economy, are closely tied to the climate and are therefore vulnerable to climate change. Tourism relies on beaches, coastal attractions, redwoods, and vulnerable infrastructure for access to and around the coast. Agriculture will be affected by increases in temperature, changing pest patterns, changing fog dynamics, and increased potential for both flood and drought.

A risk analysis was performed to determine which impacts from climate change present the greatest risk to people and to the natural and built environments. In the short to intermediate term (2010–2050) water shortage was identified as the largest risk. In the intermediate to long term (2050–2100) rising water table, coastal bluff erosion, and increased flooding and landslides join water shortage as greatest risks.

Climate adaptation goals are established as a guide for evaluating adaptation strategies. Specific adaptation strategies include new actions as well as acknowledgement of existing plans and programs, which such as the adopted Local Hazard Mitigation Plan (LHMP), while not explicitly about climate change, address the salient issues. Some proposed strategies emphasize avoidance of hazards while others focus on future planning efforts and specific engineering solutions to protect existing development. However, all emphasize building connections among people and among organizations to accomplish the climate adaptation goals in a framework of partnership.

It is expected that the County's Climate Action Strategy will be modified periodically as scientific research progresses, new information becomes available and new ideas and priorities are brought forward as more people become involved in responding to climate change in Santa Cruz County. Such CAS updates will

not be considered to be formal amendments to the General Plan, but as updates to implementation materials, as consistent with key goals and objectives of the CAS and General Plan.

The June 2016 update of the Local Hazard Mitigation Plan (LHMP) includes a great deal of the information, assessments and mitigation strategies that required to be included in a General Plan Safety Element. The first two parts of the LHMP address the planning process used and present a Community Profile, including key transportation routes and critical infrastructure locations. The third part identifies the hazards, presents risk and vulnerability assessments, estimates hazard loss estimates for existing and planned development, and outlines mitigation goals, strategies and actions, for the following types of hazards: earthquakes and liquefaction, wildfires, floods and coastal storms, drought, tsunami, coastal erosion, dam failure, landslide, expansive soils, and climate change. The LHMP contains an extensive number of maps further illustrating hazard types, including maps of levee flood gates, fault rupture zones, liquefaction areas, earthquake intensities, critical fire hazard areas, recent fires, flood zones, repetitive loss properties, Pajaro River flood risk, water agency service areas, tsunami inundation areas, coastal erosion areas, Newell Creek dam inundation area, slides and earthflows, landslide hazard areas, and expansive soils.

The fourth part of the LHMP presents the Mitigation Strategy, and the fifth part addresses the plan maintenance process. It is expected that the County's LHMP will be updated every five years or as required by law. Such LHMP updates will not be considered to be formal amendments to the General Plan, but as updates to implementation materials, as consistent with key goals and objectives of the LHMP and General Plan.

Objective 6.2.1 Climate Change: Resilience and Adaptation

(LCP) Implement the Climate Action Strategy approved in February 2013, as well as the Local Hazard Mitigation Plan approved in June 2016, in order to increase resilience and adapt to the effects of climate change. Update the CAS and LHMP as new science and approaches are available. Updates to the CAS and LHMP shall not require amendment of the General Plan and Local Coastal Program as long as the updates are in substantial conformance with the goals of this Safety Element and those documents, and further improve hazard information, resiliency and adaptation strategies.

Objective 6.2.2 Local Hazard Mitigation Plan and Climate Action Strategy

(LCP) Comply with Government Code 65302(g)4 and incorporate by reference and implement the County's Local Hazard Mitigation Plan (LHMP) and updates approved by the Federal Emergency Management Agency (FEMA) and the Governor's Office of Emergency Services. The LHMP has been updated to address climate change adaptation consistent with the County's Climate Action Strategy (CAS) and updates. The LHMP identifies the risks that climate change poses to the County and the geographic areas at risk from climate change impacts. The LHMP creates a set of adaptation and resilience goals, policies, and objectives for the protection of the community. The LHMP creates a set of feasible implementation measures designed to minimize impacts of climate change, avoid at-risk areas, and utilize natural infrastructure where feasible to increase resiliency to climate change.

SLOPE STABILITY, LANDSLIDES AND OTHER ADVERSE SOIL CONDITIONS

LANDSLIDES. Landslides are the rapid downward movement of rock, earth, or artificial fill on a slope. Factors causing landsliding include the rock strength and orientation of elements on the slope, erosion, weathering, high rainfall, steepness of slopes, and human activities such as the removal of vegetation and inappropriate grading. Severe rainstorms in January 1982 caused multiple landslides throughout the Bay Area and especially in the Santa Cruz Mountains. One very large composite landslide along Love Creek, west of Loch Lomond Reservoir, killed ten people. This landslide was and continues to be an indicator of the potential severity of landslide activity and the need for observation and/or mitigation. Other landslides, including debris flows, destroyed homes killing several other people. In addition to damage to homes, widespread landslide damage occurred to roadways, driveways, and stream channels.

OTHER ADVERSE SOIL CONDITIONS. A variety of other adverse soil conditions result in a need for site-specific geotechnical/soils reports to ensure that appropriate specifications are incorporated into the design of proposed improvements. Expansive soils are generally clays or sedimentary rocks derived from clays, which experience volume changes as a result of moisture variation. The hazard that expansive soils create can be significant. Many of the expansive soils do not create large areas of destruction; however, they can disrupt supply lines (i.e. roads, power lines, railways, and bridges) and damage structures. The effects on structures can be dramatic if expansive soils supporting structures are allowed to become too wet or too dry. Lightly loaded one-story or two-story buildings, warehouses, residences, and pavements are especially vulnerable to damage because these structures are less able to suppress the differential heave of the swelling foundation soil than heavy, multistory structures. Patios, driveways and walkways may also crack and heave as the underlying expansive soils become wet and swell. Other adverse soil conditions can include but not be limited to areas of unconsolidated fill due to historic or improper grading, undermined slopes, roads or structures, and areas of low soil strength.

Objective 6.3 Slope Stability, Landslides and Other Adverse Soil Conditions

(LCP) To reduce life safety hazards and property damage caused by landslides, debris flow, adverse soil conditions, and other ground movements affecting land use activities in areas of unstable geologic formations, potentially unstable slopes and adverse soil conditions.

Policies

6.3.1 Geologic Hazards Assessments, Soils/Geotechnical Report or Geologic Report for Development On and Near Slopes

(LCP) Require a geologic hazards assessment, soils/geotechnical report or geologic report for proposed development, including grading and building permits, that is potentially affected by slope instability hazards that exist on or near the site, regardless of the slope gradient on which the development itself is proposed. Such assessment or reports may be prepared by County staff under supervision of the County Geologist, or by a registered geologist or civil engineer, as required by the County and at the applicant's choice and expense. Any Geologic Hazards Assessment, Soils/ Geotechnical Report or Geologic Report must be accepted by the County Geologist in order to use its findings and/or incorporate its mitigations into a proposed development, grading or building project.

6.3.2 Engineering Geology Report or Soils/Geotechnical Report

(LCP) Require an engineering geology report by a registered geologist and/or a soils/geotechnical engineering report prepared by a qualified professional when the hazard assessment identifies potentially unsafe geologic conditions in an area of proposed development.

6.3.3 Conditions and Design Specifications for Development, Building and Grading Permits

(LCP) Condition development permits and ensure design/mitigation specifications have been incorporated into building and grading plans based on the recommendations of the Hazard assessment and other technical reports.

6.3.4 Mitigation of Geologic Hazards and Density, Design and Location Considerations

(LCP) Deny the location of a proposed development or permit for a grading or building project if it is found that geologic hazards cannot be mitigated to within acceptable risk levels for the nature of the proposed project; and approve development proposals or permits only if the project's density, design, and location reflects consideration of the degree of hazard on the site, as determined by technical information.

6.3.5 Slope Considerations for Land Division Calculations

(LCP) Exclude land with slopes exceeding 30 percent in urban areas and 50 percent in rural areas and land with recent or active landslides from density calculations for land divisions.

6.3.6 Location of Structures and Drainage Considerations in Unstable Areas

(LCP) Require location and/or clustering of structures away from potentially unstable slopes whenever a feasible building site exists away from the unstable areas. Require drainage plans that direct runoff and drainage away from unstable slopes.

6.3.7 Location of Septic Leachfields

(LCP) Prohibit the location of septic leachfields in areas subject to landsliding, unless investigation by a registered geologist and soils engineer demonstrates that such placement will not adversely affect slope stability.

6.3.8 Recordation of Notice of Geologic Hazards, Acceptance of Risk, Liability Release and Indemnification

(LCP) As a condition of development approval and/or prior to the issuance of a building/grading permit for development/development activities and new and substantially improved structures in geologic and/or coastal hazard areas, require the owner of a parcel in an area of potential geologic hazards to record on property title/deed, with the County Recorder, a Notice of Geologic Hazards, Acceptance of Risk, Liability Release, and Indemnification in a form approved by the County. The Notice shall include information about the nature of the hazard(s) as determined by the geologic and/or geotechnical investigation, provides that the current and all future owners and successors in interest accept the risks to people and property, and includes a release of liability of and waiver of claims against the County of Santa Cruz for damages or injury in connection with the approved development.

Programs

a. Require property owners and public agencies to control or mitigate landslide conditions which threaten structures or roads, including improper or unauthorized drainage affecting county roads and/or drainage facilities through applicable Notice and Order and/or abatement processes. (Responsibility: Planning Department, Public Works Department)

b. Maintain and periodically update public information brochures and information available on the county website concerning landslide hazards and guidelines for hillside development, as new information becomes available. (Responsibility: Planning Department)

COASTAL BLUFFS AND BEACHES

Coastal communities are particularly vulnerable to impacts from sea level rise and hazards that result from extreme weather, including flooding and inundation, erosion, and wave impacts. State law and current scientific projections regarding climate change and sea level rise require that the County update policies related to coastal bluffs and beaches, and shoreline and coastal bluff armoring, to acknowledge and incorporate sea level rise into development standards that apply to proposed projects. Policies are needed to guide response to proposed changes on existing developed properties due to involuntary damage (fire), as well as proposed demolition/replacement projects or reconstructions that are pursued voluntarily by property owners.

Much of the Santa Cruz County coastline, particularly in the urbanized developed areas, has some level of armoring (walls, riprap, etc.). The primary type of coastal armoring in this area is riprap, but concrete, steel, wood, and gabion basket armoring also exist. East Cliff Drive is one of the four primary east-west transportation corridors in Santa Cruz County which include Highway One, Soquel Drive/Avenue, the Santa Cruz Branch Rail Line and East Cliff Drive/Portola Drive/Opal Cliffs Drive. A modern seawall has been constructed by the County of Santa Cruz in the Pleasure Point area along East Cliff Drive that should greatly reduce potential damage from coastal erosion to East Cliff Drive as well as the homes on the inland side of the road. This seawall is featured in the Coastal Commission's Sea Level Rise Guidance document as a model and desired approach for protecting public access and scenic and visual qualities when armoring is necessary and allowable.

It is not uncommon for East Cliff Drive, a key arterial road, to be closed or damaged where it crosses Schwann Lake, Corcoran Lagoon and Moran Lake during large winter storms. In flood hazard areas it is not appropriate to construct hard armoring structures that divert or block flood waters. Future sea level rise may require that bridges be built to cross the lagoon frontages, if the current road locations are to be maintained. Such bridges would be designed to maximize lagoon function.

Expectations about the "design life" of improvements are an important consideration when establishing policies related to coastal bluff development on an eroding coastline. County policies in the 1994 General Plan/Local Coastal Program required throughout the unincorporated area a geologic setback from the top of a coastal bluff of 25 feet or a setback sufficient to provide a stable building site over the assumed 100-year design life of the structure, whichever is greater. Updated County policies require evaluation of the setback considering not only historical shoreline and bluff retreat data, but also acceleration of shoreline and bluff retreat due to continued and accelerated sea level rise, and other climate impacts according to best available science. The level of uncertainty regarding the rate and amount of future sea level rise and future effects on coastal properties makes it difficult to predict when, where, and how much the coast will change in the future. Property owners will be required to acknowledge and accept the risk of building along the coast within a context of rising sea levels. In this way, it is expected that property owners and future buyers and financiers of property along the coast will be well aware of and prepare for such risks.

Although shoreline armoring may reduce or delay coastal erosion processes as long as it remains functioning, ultimately coastal erosion continues, periodic maintenance and repair is needed, and shoreline armoring devices may eventually fail. At some point in the future, which is not expected to occur within the 20-year term of this Safety Element (2020-2040) coastal erosion processes may overwhelm the capacity of shoreline and coastal bluff armoring, in terms of feasibility from both physical and cost considerations. Existing regulatory tools such as the Abatement of Dangerous Building Code can react to evolving conditions by requiring non-occupancy and/or removal of all or portions of a building or shoreline armoring device. While shoreline armoring remains in place, it modifies coastal erosion through the reduction of wave erosion energy, or reflection or refraction of wave energy. For example, focused erosion can occur at the ends of the armoring. More broadly, shoreline armoring has impacts on natural shoreline processes,

including ultimately a loss of beach and public recreational opportunities in many areas, and thus the use of armoring as a response to coastal hazards must be carefully examined in this context. While shoreline armoring can be helpful in protecting against coastal erosion, proper setbacks from the brow of bluffs, drainage control, and special construction are all necessary to protect structures, roadways, and utilities from damage for the duration of the expected design life of the improvements.

Different Contexts Within and Outside of Urban and Rural Services Lines (Urban / Non-Urban)
A fundamental land use policy of Santa Cruz County since adoption of the Measure J growth management framework in 1978 is to encourage new development to locate within existing developed urban areas, and to protect agricultural land and natural resources. Santa Cruz County has a long established Urban and Rural Services Line (USL/RSL) which defines an area of the county characterized by urban densities of development based on a pattern of existing supporting urban infrastructure. In contrast, areas along the coast that are not within the USL/RSL are characterized by low-intensity development, agriculture and open space. Along the coast the USL includes the communities of Live Oak, Soquel and Aptos/Seacliff/Rio del Mar. The RSL includes locations that reflect urban patterns of development within more rural contexts, including La Selva Beach, Place de Mer, Sand Dollar Beach, Canon Del Sol, Sunset Beach, and Pajaro Dunes.

The area of the County along the coast within the USL is essentially completely urbanized and dominated by single-family residential development on top of coastal bluffs and on beaches or back beach areas. The USL boundary at the west is the Santa Cruz Harbor coastal resource and City of Santa Cruz city limit. The boundary at the east extends to and includes the community of Seascape. This urbanized area along the coast includes the City of Capitola city limits, and the Capitola shoreline is currently protected with rip rap, and coastal bluff armoring within the key coastal visitor serving resource of Capitola Village. This urbanized area along the coast also contains critical public infrastructure such as roads, sewer, water supply, drainage, parking lots and train tracks. In many areas, such as along Opal Cliffs Drive, only one row of residential lots establishes a buffer between public roads and infrastructure and the coastal bluff and beach. Those existing roads and infrastructure improvements support public access to the coast, and support structures, businesses and economic activity related to visitor accommodations and tourism, a key job and business sector for Santa Cruz County. As the existing homes become threatened by coastal bluff erosion it will be important to consider how the homes can be protected while also preserving infrastructure and increasing public access to the coast.

Shoreline and coastal bluff armoring are common within the USL/RSL, currently protecting about one-half of the urbanized area along the coast. These urban areas are part of an historical pattern of development that has been present for decades along the County's coast, and most of this urban development occurred before the Coastal Act became effective in 1977. The currently existing types of shoreline and coastal bluff armoring include natural stone rip-rap, concrete or wood retaining walls, gabion baskets, and concrete rip-rap of various shapes and sizes. Some of these existing measures take up areas of the beach that otherwise would be available to the public (at least in the near- to mid-term before sea level rise may consume the shoreline in certain locations), some have more visual impacts than others, and some are better-maintained than others.

Shoreline and coastal bluff armoring are not common outside of the urbanized coastal areas of Santa Cruz County. Given the two distinctly different contexts that exist within the unincorporated area, the proposed coastal bluffs and beaches and armoring policies reflect a "hybrid approach", with "managed natural retreat" ("MNR") establishing the regulatory approach in the rural areas, and "conditional accommodation, acceptance of risk, and adaptation" ("AAA") establishing the regulatory approach in the urban areas.

Objective

The objective of the coastal bluffs and beaches policies is to recognize and minimize risks to life, property, and public infrastructure in coastal hazard areas; and to minimize adverse impacts on coastal resources from development in coastal hazard areas.

The Coastal Act requires that new development be sited and designed to be safe from hazards and to not have significant adverse effects on coastal resources. Coastal Act Section 30235 allows shoreline protective devices to protect existing structures in danger from erosion and when the protective device is designed to eliminate or mitigate adverse impacts on local shoreline sand supply. Coastal Act Section 30253 prohibits new development that would in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs. In the development of LCP policies, the Coastal Commission's Sea Level Rise Guidance Document recommends local governments use adaptation measures that best implement the statewide resource protection and hazard policies of the Coastal Act considering the diverse geography and conditions of different parts of the state.

Policies must be consistent with the Coastal Act. At times, Coastal Act policies may conflict, and it is difficult to balance achievement of competing interests. Notably, Section 30007.5 of the Coastal Act ("Legislative findings and declarations; resolution of policy conflicts") provides guidance for such balancing:

"The Legislature further finds and recognizes that conflicts may occur between one or more policies of the division. The Legislature therefore declares that in carrying out the provisions of this division such conflicts be resolved in a manner which on balance is the most protective of significant coastal resources. In this context, the Legislature declares that broader policies which, for example, serve to concentrate development in close proximity to urban and employment centers may be more protective, overall, than specific wildlife habitat and other similar resource policies."

Other key provisions of the Coastal Act which provide guidance for policy development include sections 30001(c) and (d) (regarding "Legislative findings and declarations; ecological balance"), which finds and declares:

(c) "*That to promote the public safety, health and welfare, and to protect public and private property, wildlife, marine fisheries, and other ocean resources, and the natural environment, it is necessary to protect the ecological balance of the coastal zone and prevent its deterioration and destruction."*

(d) *"That* ***existing developed areas, and future developments*** *that are carefully planned and developed consistent with the policies of this division, are essential for the economic and social well-being of the people of this state and especially to working persons employed within the coastal zone".* [emphasis added]

Section 30001.5 of the Coastal Act ("Legislative findings and declarations; goals") includes the following goals for the coastal zone, and includes both natural and man-made ("artificial" or developed) resources:

a. *Protect, maintain, and where feasible, enhance and restore the overall quality of … its natural and artificial resources.*
b. *Assure orderly, balanced utilization and conservation of coastal zone resources taking into account the social and economic needs of the people of the state.*
c. *Maximize public access to and along the coast and maximize public recreational opportunities in the coastal zone consistent with sound resource conservation principles and constitutionally protected rights of private property owners.*
d. *Assure priority for coastal-dependent and coastal-related development over other development on the coast.*

County of Santa Cruz Guiding Principles

Key information and guiding principles related to coastal bluffs and beaches, and shoreline and coastal bluff armoring, which have guided formation of policies, include the following considerations supporting a "hybrid approach". The approach reflects a strategy of "managed natural retreat" ("MNR") for rural, agricultural and open space areas; and of "conditional accommodation, acceptance of risk, and adaptation" ("AAA") for existing developed areas within the Urban and Rural Services Lines:

- At the time the Coastal Act was effective in 1977, the urbanized areas of Santa Cruz County were largely developed in a similar form as today, and as of 2017 approximately one-half of the properties within the urbanized area (within the Urban and Rural Services Lines) are protected by some form of shoreline and coastal bluff armoring.
- For these urbanized areas, which were predominately urbanized prior to approval of the Coastal Act, it is not considered reasonable or feasible to expect that existing legally permitted shoreline and coastal bluff armoring will be removed or cease to exist within the immediate or near future, even in the face of climate change and sea level rise. Such armoring should however be regularly monitored, properly maintained, and repaired when needed.
- Recognize that the Coastal Act explicitly allows shoreline and coastal bluff armoring to be installed to protect existing structures and public beaches in danger from erosion, and when designed to eliminate or mitigate adverse impacts on local shoreline sand supply. Existing structures include roadways used to access coastal resources, critical public facilities such as water and sewer lines, and visitor-serving assets such as vacation rentals and commercial areas, in addition to private homes and other private improvements.
- Recognize that existing approved shoreline and coastal bluff armoring is subject to requirements for monitoring, maintenance and repair. Recognize too that such armoring was approved to protect then-existing structures, and when the existing structure is redeveloped or replaced, that structure is subject to current policies and standards, including mitigating the ongoing impacts of the existing armoring
- Recognize that the Coastal Act also recognizes that new development would occur after adoption in 1977, and that approved developments can be considered essential for economic and social well-being. New development within the USL/RSL may be allowed to rely upon existing armoring, as determined appropriate through the coastal development permit process.
- Recognize that the Coastal Act and other land use laws require consideration of private property rights and ensure that policy and permitting decisions do not unduly expose the County of Santa Cruz to litigation.
- For projects located on coastal bluffs, the threshold for requiring geologic review, as well as requirements for deed restriction, evaluation of existing armoring, and mitigation of the impact of existing armoring, is established to be projects that meet or exceed the definition of development/development activities found in Santa Cruz County Code Chapter 16.10 Geologic Hazards. This definition establishes the threshold for application of certain policies. Those policies use the identifier, SCCC 16.10, after the term development to indicate the policy applies to development as defined in SCCC 16.10. This is to avoid confusion with the definition of development for purposes of the Coastal Zone Regulations (SCCC 13.20) and the need for a Coastal Development Permit.
- For projects located on beaches and dunes in flood hazard areas, the threshold for requiring geologic review, as well as requirements for deed restriction, evaluation and mitigation of the impact of

existing armoring, and elevation of the structure above the flood hazard level, is established to be projects that meet or exceed the definition of substantial improvement found in Santa Cruz County Code Chapter 16.13 Floodplain Regulations.

- Recognize that existing legally permitted structures and armoring will continue to exist pursuant to such permits. New requirements shall only be imposed as a result of a triggering event pursuant to these policies including but not limited to an application for a new permit that exceeds a defined scope of work, a violation of County Code, or the structure or armoring becomes unsafe.
- Strive to avoid placement of new rip rap that is typically associated with "emergency permits", in favor of early planning for construction of modern more-vertical armoring approaches in urbanized areas that would replace rip rap, in a manner that would lead to improved public access and improved visual resources during the planning horizon for the expected life of structures, when armoring is determined to be appropriate. Establish triggers for when property owners would be required to address imminent danger from coastal hazards.
- Recognize that roadways crossing the mid-County lagoons (Schwann, Corcoran, and Moran) are not candidates for seawall protection, and that future road designs for crossing the lagoons may require bridges if the roads are to continue in their current locations.
- Recognize that the dredging practices of the Santa Cruz Port District, especially dredging spoils disposal location, have impacts to the amount of sand transported downcoast during winter months and to the amount of downcoast erosion. Work with the Santa Cruz Port District to implement dredging disposal policies which minimize downcoast impact.
- Pursue a "managed natural retreat" strategy within rural, agricultural and open space areas, which reflects accommodation of natural processes and policies which do not favor shoreline and coastal bluff armoring, with new development placed beyond a 75 or 100-year geologic setback line.
- Pursue an "adaptation" strategy within urbanized areas that conditionally accommodates improvements to and replacements of structures on coastal bluffs, but that emphasizes the risks due to sea level rise and increased coastal hazards.
- Realize that adaptation will take place over decades, in light of past and existing conditions, private property rights, and uncertainty about future conditions; but prepare for the time that sea level rise and climate change will mean that development along the shoreline will need to be removed, and ensure that private property owners internalize the risk and ultimately bear the costs of adaptation and removal, if necessary based on conditions on the ground.
- Within urbanized areas, a primary goal is to establish a regulatory approach that will allow for replacement of existing armoring with modern measures that are considered near- to mid-term improvements. Strive to ensure that these measures are unified in appearance, remove rip rap as feasible to increase sandy beach areas, incorporate public access features as feasible, are colored and treated to better match natural materials, participate in programmatic mitigation approaches that fund priority investments in sand replenishment, public recreation and beach access, and provide funds for eventual removal of measures in the longer-term when repair and replacements are no longer feasible or appropriate.
- Recognize that the County will periodically update the Safety Element and applicable regulations in order to reflect evolving conditions and best available science. The planning horizon and timeframe of this current Safety Element is to the year 2040 when it is expected these policies will be updated. Applications submitted after the update is adopted would be subject to updated policies.
- Recognize that in the near- to mid-term, expenditures by private owners of coastal bluff properties for shoreline and coastal bluff armoring will allow time for the County of Santa Cruz to identify

funding for and carry out priority adaptation projects related to relocation of critical public infrastructure (which may also include roads and bridges) that must be undertaken in the future.

- Recognize that Shoreline Management Plans may be needed to plan for and implement sea level rise adaptation strategies in certain hazardous areas of the County. Shoreline Management Plans for areas within the USL/RSL could address potential effects of development, and shoreline armoring, and at-grade and elevated buildings, on beach areas, and could identify potential opportunities to improve public access to the coast, protection of coastal resources, and adaptation of public roads and infrastructure.
- In conjunction with approval of coastal development permits for a new home or major project involving an existing home located on a coastal bluff or on the shoreline, impose conditions of approval consistent with principles of nexus and proportionality, including:
    - Acceptance of risk associated with geologic and coastal hazards by owners.
    - Waiver of any claim of damage or liability against and indemnification of the County for any damages or injury in connection with the permitted development.
    - Ensure monitoring, maintenance and repair programs are implemented for existing shoreline and coastal bluff armoring.
    - Ensure property owners are aware of their responsibilities to respond to coastal hazards should the site or structure become unsafe.
    - Require property owners within the USL/RSL to recognize that should a future Shoreline Management Plan become effective, future activity that exceed "maintenance and repair" of existing shoreline and coastal bluff armoring may only be considered if determined to be consistent with the Shoreline Management Plan.
    - Require property owners to recognize that local jurisdictions have the power to require that unsafe/dangerous structures be vacated and/or abated/removed, under the California Building Code and Code for Abatement of Dangerous Buildings, when site conditions are such that hazards to life and public safety are no longer acceptable.
    - When otherwise allowable, require new or repaired or modification of existing shoreline armoring to be the least environmentally damaging alternative and ensure that all impacts are mitigated.
    - Require property owners to recognize that as sea level rises, the public trust boundary will in most cases migrate inland, resulting in currently private lands becoming public land that is held in the public trust for public trust purposes, including public access and recreation and other coastal-dependent uses.

Objective 6.4 Coastal Bluffs and Beaches

(LCP) To reduce and minimize risks to life, property, and public infrastructure from coastal hazards, including projected hazards due to sea level rise, wave run-up and coastal erosion, and to minimize impacts on coastal resources from development.

General Shoreline Policies

6.4.1 Shoreline Policy Framework and Time Horizon

(LCP) Recognize the diverse nature of the coastline and coastal development in the County and implement a policy hierarchy with general policies that apply to all projects, policies that apply

to shoreline type, policies that apply to project type, and policies that address ongoing adaptation to sea level rise along the County's coastline and in specific shoreline areas.

Recognizing that shoreline and blufftop areas are inherently dynamic and hazardous places to build, particularly with respect to sea level rise in the coming decades, while at the same time understanding that property owners and project applicants seek a level of assurance regarding County land use policies that apply to proposed projects, the shoreline and coastal bluff policies of this Safety Element shall be considered to be in effect until the year 2040, by which time the expectation is that shoreline management plans and an updated set of policies within a Safety Element Amendment will have been adopted. Projects proposed after adoption of any updated policies and regulations would be subject to the updated policies and regulations.

6.4.2 Site Development to Minimize Coastal Hazards and Protect Coastal Resources

(LCP) Require all development (SCCC 16.10) to be sited and designed to avoid, and where unavoidable to minimize, coastal hazards affecting the proposed development, and to not contribute to increased coastal hazards on adjacent properties, as determined by the geologic hazards assessment or through geologic and engineering investigations and reports, and within acceptable risk levels for the nature of the proposed development. Consider the effects of projected sea level rise in designing proposed improvements. Protect coastal resources (e.g. public access, beaches, and coastal habitats) from significant impacts through project design. Where impacts are unavoidable either deny the project or impose mitigation measures to reduce risks to acceptable levels and reduce impacts on coastal resources to less than significant levels.

6.4.3 Coastal Hazard Technical Reports to Use Best Available Science for Sea Level Rise Projections and Calculations of Geologic/Coastal Hazards Setbacks

(LCP) Recognize the scientific uncertainty by using within technical reports and project designs reasonably foreseeable projections of sea level rise (SLR) within the acceptable range established by the best available science and statewide guidance. The projection to be used in technical reports shall be based upon current best professional practices and best available science.

6.4.4 Identifying Planning Horizons

(LCP) The time horizon to use to evaluate projected future sea level rise is the expected design life of development. A residential or commercial structure has an expected design life of 75 years. A critical structure or facility has an expected design life of 100 years. The hazards analysis shall evaluate the site over 75 or 100 years. Using that evaluation, the structure would be set back or designed to avoid hazards over the planning horizon, if possible. However, in areas subject to future hazards, the expected design life of any particular development may be limited by site conditions. The expected life of development in the coastal zone is not an entitlement to maintain development in hazardous areas, but rather shall be used for sea level rise planning and structure siting purposes. The actual life of the development shall be as dictated by actual conditions on the ground at any time in the future.

6.4.5 Geologic Hazards Assessment and Technical Reports in Coastal Hazard Areas

(LCP) Require a geologic hazards assessment or full geologic, geotechnical, hydrologic, and/or other engineering report(s) for all development (SCCC 16.10), and foundation replacement or upgrade, within coastal hazards areas. Other technical reports may be required if significant potential hazards are identified by the hazards assessment. Reports must be prepared based on current best professional practices and best available science. Setback calculations shall consider historical shoreline and bluff retreat factors but must also consider projected acceleration of retreat due to sea level rise, wave run-up and other climate impacts according

to best available science which may include requirements for alternatives analysis under a range of future possible scenarios. Reports must be accepted by the County in order to use report findings as the basis for design of proposed structures or improvements.

6.4.6 Prohibit New Lots or Parcels in Coastal Hazard Areas

(LCP) Do not allow the creation of new lots or parcels in areas subject to coastal hazards, or within geologic setback areas necessary to ensure a building site for an expected 75 or 100-year lifetime, or where development would require the construction of public facilities or utility transmission lines within coastal hazard areas.

6.4.7 New Development in Hazardous Areas

(LCP) Allow new construction or placement of any habitable structure, including a manufactured home and including a non-residential structure occupied by property owners, employees and /or the public in areas subject to storm wave inundation or beach or bluff erosion on existing undeveloped lots of record, only under the following circumstances:

(a) A technical report(s), including a geologic hazards assessment, geologic, geotechnical, hydrologic, or other engineering report, demonstrates that the potential hazard can be adequately mitigated by providing a minimum 75 or 100-year geologic/coastal hazards setback calculated at the time of submittal of the development application without consideration of shoreline armoring.

(b) As an alternative to the 75 or 100-year hazard setback, the property owner may apply for a Geologic/Coastal Hazards Setback Exception to request that the geologic setback applicable to the site reflect a shorter expected lifespan for the development on condition that the property owner fully accepts the risk of same and agrees to removal of all development on the site (including any shoreline armoring) as may be required by triggers or other conditions identified in the Notice that is required and recorded pursuant to Policy 6.4.9.

(c) Mitigation of the potential hazard is not dependent on shoreline or coastal bluff armoring, except when within the USL/RSL provided such armoring is existing, legally established, and is required to be monitored, maintained, and repaired, and to mitigate its coastal resource impacts; and

(d) The owner records a Notice of Geologic/Coastal Hazards, Acceptance of Risk, and Liability Release on the property deed pursuant to Policy 6.4.9.

6.4.8 Density Calculations

(LCP) Exclude areas subject to coastal inundation, as defined by geologic hazard assessment or full geologic report, as well as bluff faces, sandy beach areas, and areas subject to the public trust from use for density calculations.

6.4.9 Required Recordation on Deed of Notice of Geologic/Coastal Hazard, Acceptance of Risk, Liability Release, and Indemnification as a Condition of Coastal Development Permit Approval

(LCP) As a condition of approval of Coastal Development Permits for development (SCCC 16.10) on sites subject to coastal hazards, require the applicant to record on title/deed to the property, prior to issuance of a building permit or grading permit, a Notice of Geologic/Coastal Hazard, Acceptance of Risk, Liability Release, and Indemnification. The Notice shall be in a form approved by the County of Santa Cruz, and shall include, but not be limited to, the following

acknowledgements and agreements, on behalf of the applicant and all successors and assigns, as applicable to the specific project:

Coastal Hazards. That the site is subject to coastal hazards including but not limited to episodic and long-term shoreline retreat and coastal erosion, high seas, ocean waves, storm surges, tsunami, tidal scour, coastal flooding, liquefaction and the interaction of same;
Assume and Accept Risks. To assume and accept the risks to the Applicant and the properties that are the subject of a Coastal Development Permit of injury and damage from such coastal and geologic hazards in connection with the permitted development;
Waive Liability. To unconditionally waive any claim of damage or liability against the County of Santa Cruz its officers, agents, and employees, for injury or damage in connection with the permitted development;
Indemnification. To indemnify and hold harmless the County its officers, agents, and employees, with respect to the County's approval of the development against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage in connection with the permitted development;
Property Owner Responsible. That any adverse effects to property caused by the permitted development shall be fully the responsibility of the property owner. That cost of abatement and/or future removal of structures shall be the responsibility of the property owner;
Flood Insurance. If the structure is built so that it does not comply with an effective BFE data as may be shown on future final Flood Insurance Rate Maps (FIRM), acknowledging that the structure may be subject to a higher flood insurance rating, likely resulting in higher-risk annual flood insurance premium if the property owner purchases flood insurance (voluntarily, or as required by mortgage lenders). If a program is created in the future that removes the subject location from being eligible for FEMA flood insurance, agree to abide with the terms of such a program.
Formation of GHAD or CSA. The property owner and / or any future heirs or assigns, by accepting a Coastal Development Permit, acknowledge that a Geologic Hazard Abatement District (GHAD) or County Service Area (CSA) may be formed in the future by the County (or other public agency) or a private entity to address geologic and coastal hazards along the shoreline and coastal bluff (or related unit thereof) and coastal resources that exist in the project area, and assessments may be proposed for the abatement of geologic hazards.
Public Funds. That public funds may not be available in the future to repair or continue to provide services to the site (e.g., maintenance of roadways or utilities);
Occupancy. That the occupancy of structures where sewage disposal or water systems are rendered inoperable may be prohibited;
Public Trust Lands. That the structure may eventually be located on public trust lands; and
Removal or Relocation. In accordance with County regulations and Orders of the Chief Building Official, County Geologist, or Civil Engineer, that all development on the site, including shoreline and coastal bluff armoring, will be required to be removed or relocated and the site restored at the owner's expense if it becomes unsafe, it is no longer located on private property, or if essential services to the site can no longer feasibly be maintained consistent with Policies 6.4.32 through 6.4.35 below.

6.4.10 (LCP) Exceptions Takings Analysis

Where full adherence to all LCP policies, including for setbacks and other hazard avoidance measures, would preclude a reasonable economic use of the property as a whole in such a way as to result in an unconstitutional taking of private property without just compensation, the County of Santa Cruz or Coastal Commission if on appeal, may allow some form of development that provides for the minimum economic use necessary to avoid an

unconstitutional taking of private property without just compensation. There is no taking that needs to be avoided if the proposed development constitutes a nuisance or is otherwise prohibited pursuant to other background principles of property law (e.g., public trust doctrine). In no case shall the coastal bluff setback be less than 25 feet except as specifically allowed by Policies 6.4.13 and 6.4.28. Continued use of an existing structure, including with any permissible repair and maintenance (which may be exempt from permitting requirements), may provide a reasonable economic use. If development is allowed pursuant to this policy, it must be consistent with all LCP policies to the maximum extent feasible. Approval of a lesser level of hazard reduction based upon accepting a lower than normal expected lifespan for the proposed improvements, may be based on conditions of approval to include requirements to remove improvements as life safety hazards become more imminent and upon notice of the County Building Official and County Geologist, and possible other limitations on future reconstruction or redevelopment of improvements.

Shoreline Policies by Shoreline Type

6.4.11 Geologic/Coastal Hazards Setbacks from Coastal Bluffs for New Development, Redevelopment and Reconstruction Within the Urban and Rural Services Lines

(LCP) All development (SCCC 16.10) on a coastal bluff site, and all nonhabitable structures for which a building permit is required, shall be set back a minimum of 25 feet from the top edge of the bluff on sites located within the Urban and Rural Services Lines (USL/RSL). A setback greater than 25 feet may be required based on conditions on and adjoining the site, based upon recommendations of required geologic, soil engineering and/or other technical reports, in order to provide a stable building site for the reasonably foreseeable future. Within the USL/RSL, the geologic/coastal hazards setback shall be sufficient to provide a stable building site for a 75 or 100-year assumed expected life of the improvements, calculated at the time of application for permits when the technical reports are submitted.

Within the Urban and Rural Services Lines, the calculation of the 75 or 100-year geologic/coastal setback, or alternate timeframe setback requested under an exception procedure, may take into consideration the effect of existing legally established shoreline or coastal bluff armoring. If the geologic setback relies on existing armoring, the applicants shall be required to re-evaluate such armoring consistent with Policy 6.4.25 regarding shoreline armoring, including that and such armoring is required to be monitored, maintained and repaired and to mitigate its coastal resource impacts. However, armoring installed under an emergency coastal permit shall not be factored into the setback calculation unless a regular Coastal Development Permit is issued, and all conditions of the permit are met. In addition, technical reports prepared for sites within the Urban and Rural Services Lines shall also include analysis based upon an alternative calculation of the 75 or 100-year setback that neglects any effect of existing armoring, in order to provide a measure of the effects of the existing armoring on the site conditions and provide information for decision making.

6.4.12 Geologic/Coastal Hazards Setbacks from Coastal Bluffs for New Development, Redevelopment and Reconstruction Outside of the Urban and Rural Services Lines

(LCP) All development (SCCC 16.10) on a coastal bluff site, and all nonhabitable structures for which a building permit is required, shall be set back a minimum of 25 feet from the top edge of the bluff on sites located outside of the Urban and Rural Services Lines (USL/RSL). A setback greater than 25 feet may be required based on conditions on and adjoining the site, based upon recommendations of required geologic, soil engineering and/or other technical reports, in order to provide a stable building site for the reasonably foreseeable future. Outside the USL/RSL,

the geologic/coastal hazards setback shall be sufficient to provide a stable building site for a 75 or 100-year setback, calculated at the time of application for permits when the technical reports are submitted.

Outside the Urban and Rural Services Lines, the calculation of the 75 or 100-year geologic/coastal hazards setback shall be based on existing site conditions and shall not take into consideration the effect of any existing or proposed shoreline or coastal bluff armoring.

6.4.13 (LCP) Modification, Reconstruction, or Replacement of Damaged Structures on Coastal Bluffs

If structures located on or at the top of a coastal bluff are damaged as a result of coastal hazards, including slope instability and seismically induced landslides, and where the loss involves 50 percent or more of Major Structural Components, allow repair if all applicable LCP policies and regulations can be met, including the minimum 25-foot and the applicable 75 or 100-year geologic/coastal setbacks, or alternate setback authorized by an approved setback exception that establishes a shorter-term expected design life for the structure

For structures involuntarily damaged by other than coastal hazards (fire, for example), where the loss involves 50 percent or more of the Major Structural Components, allow repair "in kind" but encourage relocation to increase the setback if feasible. Allow other than "in-kind" reconstruction, redevelopment or replacement of involuntarily damaged structures in accordance with all applicable LCP policies and regulations.

Exemption: Public beach facilities and replacements consistent with Coastal Act Policy 30610(g).

6.4.14 (LCP) Bluff Face Development

Structures, grading, and landform alteration on bluff faces are prohibited, except for the following: public access structures where no feasible alternative means of public access exists or shoreline or coastal bluff armoring if otherwise allowed by the LCP. Such structures shall be designed and constructed to be visually compatible with the surrounding area to the maximum extent feasible and to minimize effects on erosion of the bluff face.

6.4.15 (LCP) Flood Hazard Policies

As further addressed in Section 6.6 Flood Hazards, all structures shall be located outside of the flood hazard area, wherever possible, and to incorporate floodproofing measures as required by FEMA and local flood regulations in areas subject to flood hazards, provided such floodproofing measures are consistent with the shoreline armoring policies for development along coastal bluffs and the shoreline.

6.4.16 (LCP) Flood Hazard Mitigation

If it is infeasible for development to avoid flooding hazards, it shall be designed to minimize risks from flooding, including as influenced by sea level rise, over the anticipated life of the development to the maximum extent feasible and otherwise constructed using design techniques that will limit damage caused by floods. See Policies in Section 6.6 and the Floodplain Regulations)

6.4.17 (LCP) Reconstruction or Replacement of Damaged Structures due to Storm Wave Inundation

If structures located in areas subject to storm wave inundation are damaged as a result of any cause and the loss involves 50 percent or more of the value of the structure before the damage occurred (substantial damage), allow such repair (substantial improvement) only if all

applicable regulations and LCP policies can be met. Also see policies in Section 6.6 Flood Hazards.

Exceptions: Public beach facilities and replacements subject to Coastal Act Section 30610(g).

6.4.18 Pajaro Dunes

(LCP) Siting and design of new development and other development activities in the Pajaro Dunes Community shall take into account the extent of erosion of the primary frontal dune during the 100-year flood (or 1% annual chance flood). Development shall be elevated a sufficient amount to prevent impacts to coastal resources, assure structural stability of the development, and avoid coastal hazards over the expected lifespan of the development in accordance with the Flood Hazard policies in Section 6.6 and the Floodplain Regulations.

6.4.19 Rocky Shoreline Development

(LCP) Development atop rocky shoreline areas with no beach or limited beach shall not impact existing public access to the shoreline and shall incorporate conditions of approval as appropriate to increase public access to the shoreline.

6.4.20 Development Along Creeks and Rivers in the Coastal Zone

(LCP) Where creeks and rivers discharge to the coastal zone recognize the combined effects of riverine flooding and coastal storm flooding causing elevated flood levels relative to existing FEMA flood mapping. Require hydrologic analysis to determine risk and appropriate development restrictions and flood resistant designs in these areas.

6.4.21 Habitat Buffers

(LCP) Provide buffers from the edge of wetlands or other environmentally sensitive habitat areas including riparian habitat, in accordance with habitat protection policies. Development shall ensure that as sea level rises buffer areas shall also expand appropriately to allow for migration of wetlands and other shoreline habitats. Uses and development within buffer areas shall be limited to uses allowed under the County's policies and ordinances involving sensitive habitat and riparian corridor protection. All development, such as grading, buildings and other improvements, adjacent to or draining directly to a habitat area must be sited and designed so it does not disturb habitat values, impair functional capacity, or otherwise degrade the habitat area.

Shoreline Policies by Project Type

6.4.22 Publicly Owned Facilities

(LCP) Existing publicly-owned and quasi-public facilities that are coastal-dependent or visitor serving uses such as public access improvements and lifeguard facilities, that are located within 25 feet or within a calculated 75 or 100-year setback from the edge of the bluff, may be maintained, repaired, and/or replaced. Any repair or replacement shall be designed and sited to avoid the need for shoreline protection to the extent feasible.

6.4.23 Public Works Facilities

(LCP) Public works projects as defined in the Coastal Act shall be consistent with the Local Coastal Program.

6.4.24 Public Services in Coastal Hazard Areas

(LCP) Prohibit utility facilities and service transmission systems, including internet/broadband service, in coastal hazard areas, unless they are necessary to serve existing development or public facilities.

6.4.25 Structural Shoreline and Coastal Bluff Armoring

(LCP) (a) Limit shoreline and coastal bluff armoring to serve coastal dependent uses or to protect existing structures or public beaches from significant threats. The armoring shall be designed to eliminate or mitigate adverse impacts on local shoreline sand supply. Armoring may also be considered for vacant lots where both adjacent parcels are already similarly protected, or vacant lots which through lack of protection threaten adjacent or nearby developed lots; or those which protect public roads and infrastructure, and coastal recreation areas.

(b) Through the coastal development permit review process for projects involving development (SCCC 16.10), require evaluation of existing shoreline and coastal bluff armoring in accordance with this policy.

Project Review

(c) Require any application for shoreline and coastal bluff armoring to include a thorough analysis of all reasonable alternatives including, but not limited to, the following:

(1) Relocation or partial removal of the threatened structure

(2) Protection of the upper bluff and blufftop (including through planting appropriate native or non-invasive vegetation and removing invasive plant species, and better drainage controls) or the area immediately adjacent to the threatened structure

(3) Natural or "green" infrastructure (like vegetated beaches, dune systems, and wetlands)

(4) Engineered shoreline or coastal bluff armoring (such as beach nourishment, revetments, or vertical walls)

(5) Other engineered systems to buffer coastal areas

(6) Combinations or hybrids of the above

(7) Consistency with an approved shoreline management plan, if applicable

(d) Shoreline or coastal bluff armoring shall be designed as close as possible to the coastal bluff or structure requiring protection and must be designed to minimize adverse impacts. Design considerations include but are not limited to the following:

(1) Minimize the footprint of the armoring on the beach

(2) Provide for public recreational access

(3) Provide for future access for maintenance of the armoring

(4) Strive for a continuous lateral pedestrian access as physically feasible

(5) Minimize visual intrusion by using materials that blend with the color or natural materials in the area, contouring to match nearby landforms as much as possible, and using vegetation for screening

(6) Meet approved engineering standards and applicable County Code provisions for the site as determined through the coastal development, building, and grading permit process

(7) The design must be based on detailed technical studies to accurately define geologic, hydrologic and oceanographic conditions affecting the site

(8) Eliminate or mitigate adverse impacts on local shoreline sand supply

(9) All armoring structures shall incorporate permanent survey monuments for future use in establishing a survey monument network along the coast for use in monitoring seaward encroachment or slumping of armoring and erosion trends

(e) For development activities (SCCC 16.10) protected by existing shoreline and coastal bluff armoring, the coastal permit application shall include

(1) Re-assessment of the need for the armoring (see paragraph (l) below)

(2) A report on the need for any repair or maintenance of the device (see paragraph (k) below)

(3) Evaluation of the stability and condition of the armoring and recommendations for maintenance, repair, or modification, and potential for removal based on changed conditions

(4) A report on changed geologic and hydrologic site conditions including but not limited to changes relative to sea level rise

(5) If the existing armoring is addressed in an approved Geologic Hazard Abatement District Plan of Control or other joint maintenance agreement, consider the status of implementation of the Plan of Control or maintenance agreement requirements.

(6) Assessment of impacts to sand supply and public recreation.

(7) Recommendation to avoid or mitigate impacts to sand supply and public recreational resources.

(8) If approved, such development associated with existing shoreline or coastal bluff armoring shall meet all other applicable requirements of this policy, including with respect to the impact mitigation requirements

(f) For sites protected by existing rip rap, require that the applicant submit a report at the time of filing an application for a coastal development permit for development (SCCC 16.10), including an evaluation of the stability and condition of the armoring and recommendations for maintenance, repair, or modification, and potential for removal based on changed conditions. The report shall include a Recovery Plan for the maintenance and repair, or potential removal of all or a portion of the existing rip rap revetment, to recover migrated rip rap and to provide for least disturbance of the beach and shoreline while also functioning as necessary to protect the structures on and adjacent to the parcel. The Recovery Plan must incorporate Best Management Practices for maintenance and repair to address potential impacts to sensitive species and environmental resources, as well as Best Management Practices for construction during maintenance and repair activities.

Conditions of Approval

(g) Shoreline or coastal bluff armoring should be the least environmentally damaging feasible alternative to serve coastal-dependent uses or to protect a structure or a public beach in danger from erosion

(1) Hard armoring (such as seawalls and revetments, etc.) shall only be allowed if soft alternatives (such as managed retreat/relocation, beach nourishment, vegetative planting, and drainage control, etc.) are not feasible, or are not the least environmentally damaging feasible alternative

(2) Permit shoreline or coastal bluff armoring only if non-structural measures are infeasible from an engineering standpoint or not economically viable

(3) Hard armoring is limited as much as possible to avoid coastal resource impacts

(4) Alternatively, an approved Shoreline Management Plan may authorize hard armoring for identified sections of the coast.

(h) No shoreline or coastal bluff armoring shall be allowed for the sole purpose of protecting an accessory structure.

(i) All shoreline and coastal bluff armoring shall be sited and designed to eliminate or mitigate adverse impacts on coastal resource impacts to the maximum feasible extent. All unavoidable coastal resource impacts shall be appropriately mitigated. Any approved new, replacement, reconstructed or redeveloped shoreline protection structure must not result in unmitigated impacts to coastal resources including.

(1) Reduced or restricted public beach access

(2) Adverse effects on shoreline processes and sand supply

(3) Increased erosion or flooding on adjacent properties,

(4) Adverse effects on coastal visual or recreational resources, or harmful impacts on wildlife and fish habitats or archaeological or paleontological resources

(j) Mitigation Programs. Require mitigation of unavoidable adverse impacts on coastal resources, including payment of in lieu fees where in-kind options are not possible. The shoreline or coastal bluff armoring project shall include proportional mitigation for all unavoidable coastal resource impacts, including impacts on shoreline sand supply, sandy beaches, public recreational access, public views, natural landforms, and water quality. At a minimum, the effects of the armoring with respect to retention of sand generating materials, the loss of beach/sand due to its footprint, and passive erosion shall be evaluated. Proportional in-lieu fees may be used as a proxy for impact mitigation if in-kind options (such as developing new public access facilities) are not possible, and if such in-lieu fees are deposited in an interest-bearing account managed by the County and used only for mitigations offsetting unavoidable adverse impacts of the project. Required mitigation shall be determined based on reasonable calculation of unavoidable adverse impacts of a specific project on coastal resources, and may include the following:

(1) Sand Mitigation - to mitigate for loss of beach quality sand which would otherwise have been deposited on the beach the County may collect a fee proportional to the impact of the project on the deposit of beach quality sand which would have otherwise occurred to implement projects which mitigate for loss of beach quality sand due to shoreline or coastal bluff armoring. The methodology used to determine the appropriate mitigation fee will be as approved by the California Coastal Commission and which may be administratively amended from time to time by the Commission. The mitigation fee shall be deposited in an interest-bearing account designated by the Planning Director or County Parks Director.

(2) Public Recreation Mitigation - to mitigate for public recreational impacts associated with actual loss of public recreational opportunities, including access, caused by the armoring, the County shall identify mitigation that allows for objective quantification of the value of beach and shoreline area that is related in both nature and extent to the impact of the project. Project applicants have the option of proposing an in-kind public recreation/access project or payment of fees to the County in lieu of in-kind mitigation of impacts. At the County's discretion, these projects may be accepted if it can be demonstrated that they would provide a directly-related recreation and/or access benefit to the general public. Fees paid to the County to mitigate public recreational impacts shall be calculated based on the cost to provide alternative public recreational opportunity, proportional to the loss of public recreational opportunity caused by the project. Fees paid to the County for use of County-owned property, such as rights-of-way, for the project may be credited at the County's discretion towards mitigation of public recreational impacts associated with a project if committed to use for projects that provide alternative public recreational opportunity; however, fees paid for use of County-owned property are not limited to the amount of public recreational impacts. Fees for use of County-owned property may be established and amended by the County from time to time.

(k) No approval shall be given for any development activity involving shoreline or coastal bluff armoring that does not include a requirement for submittal and County acceptance of a Monitoring, Maintenance and Repair Program prior to finalization of the building/grading permit for the structure. The Program shall include, but is not limited to the following elements;

(1) Monitoring by a professional engineer or geologist familiar and experienced with coastal structures and processes.

(2) Report to the County upon completion of construction of the armoring and every five years or less thereafter, as determined by either the County Geologist or a qualified professional, for as long as the armoring remains authorized

(3) The report shall detail the condition of the structure and list any recommended maintenance and repair work

(4) The monitoring plan and periodic report shall address impacts to shoreline processes and beach width, public access, and availability of public trust lands for public use

(5) The monitoring, maintenance and repair program shall be recorded on the title/deed of the property

(6) The program shall allow for County removal or repair of shoreline or coastal bluff armoring, at the owner's expense, if its condition creates a public nuisance or if necessary, to protect the public health and safety

(7) The program shall include any other monitoring, maintenance, and repair activities the County determines necessary to avoid or mitigate impacts to coastal resources

(8) The term of the program shall be 20-years. Extension beyond 20 years will require an application to amend the condition of approval of the Coastal Development Permit to extend the Monitoring, Maintenance, and Repair Program at which time the program shall be updated if necessary, as shoreline conditions change over time.

(l) Armoring Duration. The shoreline or coastal bluff armoring shall only be authorized until the time when the existing structure that is protected by such a device 1) is no longer present; or 2) no longer requires armoring. Permittees shall be required to submit a coastal permit application to remove the authorized shoreline or coastal bluff armoring within six months of a determination that the armoring is no longer authorized to protect the structure it was designed to protect because the structure is no longer present or no longer requires armoring.

(m) Maintenance and Repair Authorized. Approved shoreline or coastal bluff armoring may be maintained and repaired (with building or grading permits as needed) in accordance with conditions of approval of Coastal Development Permits authorizing the armoring; but exceeding authorized maintenance and repair will require updated technical reports and approval of an amendment of the coastal development permit.

Emergency Authorization

(n) In cases of emergency, an emergency shoreline protective device may be approved on a temporary basis only, and only under the condition that the device is required to be removed unless a regular coastal development permit is approved for retention of the structure. In such cases, a complete coastal development permit application shall be required to be submitted within 60 days following construction of the temporary emergency shoreline protective device, unless an alternate deadline is authorized by the Planning Director for good cause and good faith efforts continue toward submittal of the application. Any such temporary emergency shoreline protective device shall be sited and designed to be the minimum necessary to abate the identified emergency, and to be as consistent as possible with all LCP shoreline protective device standards, including in terms of avoiding coastal resource impacts to the maximum feasible extent. Mitigation for impacts will be required through the regular coastal development permit process, although mitigation commensurate with the duration of impacts caused by the emergency temporary device may also be required as determined by the County to be warranted. The County shall notify the Coastal Commission upon receipt of a request for an emergency shoreline protective device within the County's coastal permit jurisdiction.

6.4.26 Drainage and Landscape Plans

(LCP) Require drainage and landscape plans to consider potential hazards on and off site, to require removal of invasive plants and replacement with native bluff and/or other county-approved acceptable species in the area within 10 feet of the blufftop edge and below and be approved by the County Geologist prior to the approval of development in coastal hazard areas. Require that approved drainage and landscape development not contribute to offsite impacts and that the defined storm drain system or Best Management Practices be utilized where feasible. The applicant shall be responsible for the costs of repairing and/or restoring any off-site impacts caused by drainage and landscape work on the site.

6.4.27 Drainage and Improvements within 25 feet or applicable setback from coastal bluff.

(LCP) Drainage systems shall be designed to ensure that no drainage will flow over the coastal bluff. The drainage system (including water from landscaping and irrigation) shall not contribute to coastal bluff erosion. Furthermore, all drainage system components shall be maintained in good working order. All deck, stairs etc. within the 25-foot or applicable geologic/coastal setback are required to be structurally detached from other structures and not require a building permit.

6.4.28 Foundation Replacement and/or Upgrade

(LCP) Foundation replacement and/or foundation upgrades that meet the definition of development activity in Chapter 13.20 Coastal Regulations of the Santa Cruz County Code, shall meet the 25-foot minimum and the applicable 75 or 100-year geologic/coastal hazard setback requirements. An exception to those requirements is allowed for foundation replacement and/or upgrade for existing structures that are located partly or wholly within the setback if the Planning Director determines that:

(1) the structure will be relocated to maximize the setback from the coastal bluff or shoreline, and the property owner has agreed to record a Notice of Geologic/Coastal Hazards, Acceptance of Risk, Liability Release and Indemnification prior to issuance of the building and/or grading permit; OR

(2) the structure cannot be relocated to meet the setback due to inadequate parcel size, and the property owner has agreed to record a Notice of Geologic/Coastal Hazards, Acceptance of Risk, Liability Release and Indemnification prior to issuance of the building and/or grading permit.

6.4.29 Additions to Existing Structures Located on Coastal Bluff and Beaches

(LCP) Additions of any size to existing structures located on coastal bluff sites, including second story and cantilevered additions that extend the existing structure in a seaward direction, shall comply with the applicable geologic/coastal hazards setback requirements of Policies 6.2.11 and 6.2.12. Prohibit additions of any size to existing structures located on beaches or in the wave run-up zone, including second story and cantilevered additions, that extend the existing structure in a seaward direction.

6.4.30 Swimming Pools and Spas

(LCP) All new swimming pools, spas and similar in-ground and above-ground water recreation or fishpond types of features shall be located landward of the applicable geologic/coastal hazard setback. Any new water-containing features of this nature shall have double-wall construction with leak detection systems and drains to facilities and locations approved by the County.

6.4.31 Accessory Structures

(LCP) Coastal Development Permits are required for accessory structures in coastal hazard areas (including on blufftops and in the shoreline area), whether habitable or nonhabitable, and whether or not a building permit is required under Chapter 12.10 Building Regulations. CDPs authorizing accessory structures must include a condition of approval that requires the property owner and all successors in interest to remove the structure if the County Geologist, the Building Official or a licensed geotechnical engineer determines that the accessory structure is at risk of failure due to erosion, landslide or other form of bluff collapse or geologic/coastal hazard. In the event that portions of the development fall to the bluffs or ocean before they are removed/relocated, the landowner shall be required to remove all recoverable debris associated with the development from the bluffs and ocean and lawfully dispose of the material in an approved disposal site.

Ongoing Adaptation

6.4.32 Removal Conditions/Development Duration

(LCP) Coastal development permits for projects involving development (SCCC 16.10) on private property located in areas subject to coastal hazards shall be conditioned to require that it be removed, and the affected area restored if:

(a) any government agency has ordered that the structures are not to be occupied due to coastal hazards, or if any public agency requires the structures to be removed;
(b) essential services to the site can no longer feasibly be maintained (e.g., utilities, roads);
(c) the development is no longer located on private property due to the migration of the public trust boundary; or
(d) removal is required pursuant to an adopted Shoreline Management Plan.
Such condition shall be recorded on a deed restriction against the subject property. See Policy 6.4.9.

6.4.33 Abatement of Unsafe Site or Structure

(LCP) If coastal hazards result in an unsafe site or unsafe structure, dangerous conditions shall be abated in accordance with County regulations and Orders of the Chief Building Official. If all or any portion of improvements are deemed uninhabitable, the improvements shall be removed, and the affected area restored, unless an alternative response is approved by the County of Santa Cruz, and by the California Coastal Commission if the project is within the Coastal Commission's original jurisdiction. Alternative responses to coastal hazards may include (1) pursuit of a Coastal Development Permit consistent with County Code regulations in Chapter 13.20 (Coastal Zone Regulations) and Chapter 16.10 (Geologic Hazards); and/or (2) pursuit of an alternative consistent with an adopted shoreline management plan.

6.4.34 Bluff or Beach Erosion Trigger for Technical Report

(LCP) If the mean high tide line or the blufftop edge migrates to within 10 feet of a principal structure or to any other point where the site or structure is deemed unsafe by County regulations and/or the County Geologist, Civil Engineer, or Chief Building Official, the property owner shall retain a licensed geologist or civil engineer with experience in coastal processes and hazard response to prepare a geotechnical investigation and Coastal Hazards Report that addresses whether all or any portions of the residence and related development are threatened by coastal hazards, and that identifies actions that should be taken to ensure safe use and occupancy, which may include removal or relocation of all or portions of the threatened development and improvements, or other alternate responses. The property owner shall undertake activities to pursue an appropriate response in accordance with adopted and applicable County of Santa Cruz and California Coastal Commission regulations. The geotechnical investigation and Coastal Hazards Report shall be submitted to the Executive Director of the California Coastal Commission, and to the Planning Director, Chief Building Official and County Geologist of Santa Cruz County. If the residence or any portion of the residence is proposed to be removed, the Applicant shall submit a Removal and Restoration Plan.

6.4.35 Removal and Restoration

(LCP) If an appropriate government agency so orders, or as a result of the above-referenced geotechnical investigation and Coastal Hazards Report, it is determined that any portion of the approved development must be removed due to coastal hazards, or if removal is required pursuant to Policies 6.4.9 or 6.4.32 or 6.4 33, a Removal and Restoration Plan shall be submitted to the County for review and approval. No removal activities shall commence until the Removal and Restoration Plan and all other required plans and permits are approved. The plan shall specify that in the event that portions of the development fall to the bluffs or ocean before they are removed/relocated, the landowner will remove all recoverable debris associated with the development from the bluffs and ocean and lawfully dispose of the material in an approved disposal site. If it is determined that separate grading and coastal development permits are required in order to authorize the activities, the application shall be submitted as soon as immediately feasible, including all necessary supporting information to ensure it is complete. The Removal and Restoration Plan shall clearly describe the manner in which such

development is to be removed and the affected area restored so as to best protect coastal resources, and shall be implemented immediately upon County approval, or County approval of required permit applications, as may be required.

6.4.36 Repetitive Loss Properties

(LCP) Repetitive loss properties shall be subject to the requirements of Policy 6.4.13 and 6.4.17 regarding damage due to coastal bluff erosion and storm wave impacts and inundation. Repetitive Loss property is any habitable building for which two or more coastal hazard events within in any ten-year rolling period caused damage, the repair of which meets or exceeds either 1) the definition of development activities or 2) in the case of structures in the coastal flood hazard zone (Zone V) the definition of substantial damage. Multiple losses at the same location within 10 days of each other are counted as 1 loss. The loss history includes all ownership of the property within the 10-year rolling period.

6.4.37 Shoreline Management Plan(s)

(LCP) Seek funding to assist with more specific planning that would assess alternatives and identify preferred strategies for how various segments of the urbanized area shoreline/coastal bluffs could transition if more comprehensive modern approaches to shoreline protection were implemented by the County and/or private property owners through Geologic Hazard Abatement District(s) or County Service Area(s); rather than property-by-property measures. Consistent with Policy 6.4.1, the shoreline and coastal bluff policies of this Safety Element shall be considered to be in effect until the year 2040, by which time the expectation is that shoreline management plans and/or an updated set of policies within a Safety Element Amendment will have been adopted. Should a future Shoreline Management Plan(s) become effective, all future proposed development shall be found to be substantially consistent with the provisions of the approved management plan. Shoreline management plan(s) would identify appropriate adaptation options to implement if and when shoreline and coastal bluff armoring is no longer a feasible solution; identify triggers for when other adaptation options should be implemented; and identify priority areas for future adaptation responses.

Programs

(LCP) a. Relocate if feasible, essential public facilities such as sewer lines and sanitation pump stations to locations outside of coastal hazard areas when they are due for expansion or replacement or major upgrade. (Responsibility: Public Works)

(LCP) b. Develop and implement a program to correct existing erosion problems along coastal bluffs caused by public drainage facilities and monitor and enforce compliance of private drainage facilities with approved designs and applicable standards. (Responsibility: Public Works)

(LCP) c. Review existing public coastal protection structures to evaluate the presence of adverse impacts such as pollution problems, loss of recreational beach area, and fish kills and implement feasible corrective actions. (Responsibility: Public Works, Environmental Health, Planning Department)

(LCP) d. Support, encourage, and seek funding from FEMA and other appropriate agencies for the initiation of a review of all shoreline protective structures to evaluate their effectiveness and potential for becoming public hazards. Shoreline armoring can become public hazards, for example, if they are in such a state of disrepair that portions have fallen or are in imminent danger of falling onto beaches. Where it is determined that such structures are public hazards or where they provide ineffective protection due to inadequate maintenance, notify the property

owner and require the property owner to either maintain the structure to a reasonable level or remove and replace the structure. Consider County action to maintain or remove and replace the structure and recover costs by a lien against the property if the property owner does not act within one year of such notice. (Responsibility: Planning Department, Board of Supervisors)

(LCP) e. Notify private property owners in areas subject to coastal hazards they are responsible for costs of responding to property damage due to coastal erosion, coastal flooding, and wave run-up hazards, including but not limited to repair, replacement, relocation and/or removal of a portion or all of damaged structures. Encourage property owners to create a contingency fund to cover future costs to modify, relocate and/or remove development that may become threatened in the future by sea level rise and/or when removal triggers are met. Costs for removal and restoration may be based on estimates provided by a licensed building moving/demolition contractor for the amount of contingency funds necessary to remove the structure, including any seawall and restore the site. The amount of contingency funds should be reviewed every ten years and adjusted to account for changed site conditions, inflation and other conditions that effect the amount of future contingency funds needed. (Responsibility: Planning Department)

(LCP) f. Support, encourage, seek funding, and cooperate with the Coastal Conservancy, Coastal Commission, State Lands Commission, and the Army Corps of Engineers for the establishment and maintenance of a permanent survey monument monitoring network along the coast. Utilize existing monuments set by Caltrans, other public agencies, geologic consultants, and others to the greatest degree possible. Incorporate the use of these monuments into all future planning for shoreline protective structures. Provide geo-reference (latitude and longitude) for each monument and structure. (Responsibility: Planning Department, Public Works)

(LCP) g. Explore, with regional, state and federal agencies as appropriate, whether it is desirable or feasible to create a program that would exclude certain areas of the coast and/or certain types of projects, from being eligible for FEMA insurance or other programs that involve shifting costs of private property repair, replacement or abatement to public agencies or to insurance ratepayers in general.

(LCP) h. Consider the best available and most recent scientific information with respect to the effects of coastal hazards and long-range sea level rise when establishing sea level rise maps, scenarios, and assumptions for use in geologic, geotechnical, hydrologic and engineering investigations, including coastal hazards analyses. Support scientific studies that increase and refine the body of knowledge regarding potential sea level rise in the County, and possible responses to it.

(LCP) i. Research and identify a range of financing mechanisms to support the implementation of adaptation strategies, including through grant programs (e.g. State Coastal Conservancy Climate Ready grants, NOAA Coastal Resilience grants, FEMA/Cal OES Hazard Mitigation funding) and utilization of in-lieu fees collected as mitigation for shoreline armoring.

(LCP) j. Work with entities that plan or operate infrastructure, such as Public Works, Santa Cruz County Sanitation District, Water Districts, the Regional Transportation Commission, Caltrans and PG&E, to plan for potential realignment of public infrastructure impacted by sea level rise, with emphasis on critical accessways.

(LCP) k. Support efforts to develop and implement innovative design alternatives that reduce or eliminate flood damage, especially those which would qualify through FEMA as acceptable

alternatives to elevation under the National Flood Insurance Program (NFIP). Encourage homeowners to implement voluntary floodproofing measures in conjunction with development that is not required to be elevated.

(LCP) l. **Shoreline Management Plan** Pursue grant funding to enable creation of multiple Shoreline Management Plans for the shoreline areas within the Urban and Rural Services Lines, where such Plans would be structured around sections of the shoreline with similar existing conditions and potential hazards. Shoreline management plans would include the short- and long-term goals for the specified area, the management actions and policies necessary for reaching hazard reduction, environmental and public access goals, and necessary monitoring and maintenance to ensure effectiveness. The Plan would examine priorities for shoreline management, timelines, options, specific projects to be implemented, phasing and action triggers. As components of the management plans, assess seasonal and long-term shoreline changes and the potential for flooding or damage from erosion, sea level rise, waves, and storm surge. Plans would provide requirements for adapting existing development, public improvements, coastal access, recreational areas, and other coastal resources. Plans would assess the impact of existing and future development, and evaluate the feasibility of hazard avoidance, managed retreat, restoration of the sand supply and beach nourishment in appropriate areas. Plans would incorporate strategies necessary to manage and adapt to changes in wave, flooding, and erosion hazards due to sea level rise.

(LCP) m. The County would work with coastal property owners to seek funding for preparation of Shoreline Management Plans, which would identify specific objectives for defined subareas of the County's coastline. Subareas would be defined geographically where multiple adjacent properties would be managed toward the same objective, with policies that apply in the areas.

6.5 GRADING AND EROSION HAZARDS

Erosion is closely related to slope stability and this section of the Safety Element addresses the need for drainage and erosion control plans for certain grading and development projects. It also sets forth standards for the prevention of erosion and siltation on properties irrespective of whether permits are being sought for property improvements.

Thresholds for when discretionary grading permits, exception permits, winter grading permits (consistent with both the grading and erosion control regulations), and land clearing permits are required for development projects are also established in this section.

Land Clearing Permits are required for any land clearing of existing natural areas of one-quarter acre or more. The threshold for when this permit is required has been lowered in response to increasing erosion and damage to habitats that has resulted from increased intensity of certain special agricultural activities, including but not limited to cannabis cultivation.

Agricultural grading on less than twenty percent slopes, as well as vineyards and associated terracing (irregardless of slope), does not require a regular grading permit and is instead subject to agricultural grading regulations. However, defined "specialized agricultural activities" such as greenhouses, indoor growing, aquaculture and any cannabis cultivation activities involving more than 100 cubic yards is not considered agricultural grading and requires a regular grading permit, and grading on twenty percent slopes or more also requires a regular grading permit.

Objectives 6.5 Erosion

(LCP) To control erosion and siltation originating from existing conditions, grading activities, current land-use activities, from new developments, and new and existing cannabis activity and related development, to reduce damage to soil, water, and biotic resources.

Policies

6.5.1 Slope Restrictions

(LCP) Prohibit structures in discretionary projects on slopes in excess of 30 percent. A single-family dwelling on an existing lot of record may apply for an Exception Permit to be excepted from the prohibition where siting on greater slopes would result in less land disturbance, or siting on lesser slopes is infeasible.

6.5.2 Grading Projects to Comply with Codes and Engineer's Recommendations, and IncorporateMitigation Measures

(LCP) Grading permits involving less than 1,000 cubic yards of earth material on less than 20 percent slopes which are processed as ministerial building permits, must comply with the standards of applicable county codes and the recommendations of a soils or geotechnical report in order to be approved and issued. Discretionary grading permits above this threshold may be processed concurrently with a building permit, and are processed administratively. Discretionary grading permits for grading of 8,000 cubic yards or more, or for grading of 1,000 cubic yards or more if the grading area is visible to the public from a designated scenic public road or visible to the public within a designated scenic area, are subject to approval of the Planning Commission and conditions of approval may be imposed. Standards for exemptions from a requirement for a discretionary grading permit are established by the County Code Grading Regulations. Deny

any grading project where a potentially significant danger to soil or water resources has been identified and adequate mitigation measures cannot be undertaken.

6.5.3 Abatement of Grading and Drainage Problems

(LCP) Require, as a condition of development approval for new development on a site, or for grading subject to a requirement for a discretionary grading permit, that ~~of~~ any grading or drainage condition on the property which gives rise to existing or potential erosion problems be abated.

6.5.4 Erosion Control Measures and/or Erosion Control Plan Approval Required for Development

(LCP) Require that all grading permits processed as ministerial building permits include erosion control measures within the grading plan that meet county and professional standards. Require approval of an Erosion Control Plan in conjunction with a Winter Grading Permit for all proposed winter grading or other development that is subject to the Erosion Control regulations such as a Land Clearing Permit, as specified in the Erosion Control and Grading ordinances. Vegetation removal shall be minimized and limited to that amount indicated on the approved plans, but shall be consistent with fire safety requirements.

6.5.5 Installation of Erosion Control Measures

Require the installation of the required erosion control plan for winter grading activities subject to the Erosion Control ordinance, by either October 15, or the advent of significant rain, or project completion, whichever occurs first and depending upon the nature of the project and the time that grading will occur. Prior to October 15, require adequate erosion control measures to be implemented during grading activities to prevent erosion from early storms, and that the area of grading be free of loose and erodible soils upon completion of grading activities. For permitted discretionary grading and development activities, require protection of exposed soil from erosion between October 15 and April 15 and require vegetation and stabilization of disturbed areas prior to completion of the project. For agricultural activities, require that adequate measures are taken to prevent excessive sediment from leaving the property.

6.5.6 Earthmoving in Least Disturbed or Water Supply Watersheds

Prohibit earthmoving operations in areas of very high or high erosion hazard potential and in Least Disturbed or Water-Supply Watersheds between October 15 and April 15, unless preauthorized by the Planning Director through issuance of a Winter Grading Permit in compliance with the Grading and Erosion Control Ordinances. If such activities take place, measures to control erosion must be in place at the end of each day's work.

6.5.7 Reuse of Topsoil and Native Vegetation Upon Grading Completion

Require topsoil to be stockpiled and reapplied upon completion of grading to promote regrowth of vegetation, including revegetation to be established from seeds of native plant species and grasses that are retained within the topsoil and nearby undisturbed native plant species and grasses; native vegetation should be used in replanting disturbed areas to enhance long-term stability.

6.5.8 On-Site Sediment Containment

(LCP) Require containment of all sediment on the site during construction and require drainage improvements for the completed development that will provide runoff control to, at a minimum, not exceed pre-development levels in compliance with applicable standards, including onsite retention or detention where downstream drainage facilities have limited capacity. Runoff control systems or Best Management Practices shall be adequate to prevent

any significant increase in site runoff over pre-existing volumes and velocities and to maximize on-site collection of non-point source pollutants.

6.5.9 Site Design to Minimize Grading

(LCP) Require site design in all areas to minimize grading activities and reduce vegetation removal based on the following guidelines:

(a) Structures should be clustered;

(b) Access roads and driveways shall not cross slopes greater than 30 percent unless a Slope Exception Permit has been approved by the County in accordance with the Grading Ordinance and Policy 6.5.1 of the Safety Element; and cuts and fills should not exceed 10 feet unless they are wholly underneath the footprint and adequately retained;

(c) Foundation designs should minimize excavation or fill;

(d) Building and access envelopes should be designated on the basis of site inspection by the applicant's qualified soils professional and approved by County staff to avoid particularly erodable areas;

(e) Require all fill and sidecast material to be recompacted to engineered standards, reseeded, and mulched and/or covered with erosion control fabric.

6.5.10 Land Clearing Permit

(LCP) Require an administrative discretionary Land Clearing Permit and an erosion control plan for clearing one-quarter or more acres, except when clearing is for existing agricultural uses. Clearing grazing lands of existing native grasses or other existing vegetation, for the purpose of establishing more intensive agriculture such as row crops, wine grapes, greenhouses or cannabis cultivation, requires a Land Clearing Permit. Require that any erosion control and land clearing activities be consistent with all General Plan and LCP Land Use Plan policies and implementing regulations of the County Code.

6.5.11 Sensitive Habitat Considerations for Land Clearing Permits

(LCP) Require a Land Clearing Permit for any amount of land clearing in a sensitive habitat area and for clearing more than one quarter acre in Water Supply Watershed, Least Disturbed Watershed, very high and high erosion hazard areas no matter what the parcel size. Require that any land clearing be consistent with all General Plan and LCP Land Use policies and implementing regulations of the County Code.

6.5.12 Cannabis Industry: Avoid Excessive Grading

(LCP) In order to protect public health and safety and prevent negative environmental impacts from grading and land disturbance, avoid excessive grading and disturbance associated with cannabis activities. This includes grading for access roads and other site improvements such as pads, structures, terracing and other infrastructure, including grading which may be required to meet fire code or other standards. Carefully evaluate grading that would significantly alter topography, visual character of an area or coastal resources, and avoid or minimize such alteration. Consider or favor alternate locations that would require less disturbance. Deny licenses and land use permits where necessary to implement this policy.

6.5.13 Cannabis Industry: Site Restoration

(LCP) Ensure that sites used for cannabis activities are restored to pre-graded condition, as appropriate, when cannabis activities are relocated, activity has ceased, or a cannabis license is no longer valid.

6.5.14 Ensure Property Owners Comply with Regulations to Prevent Runoff, Erosion and Pollution

Ensure that all property owners, whether or not they are involved with pursuing or implementing development or grading/building permits, are aware of County Code Title 7 provisions prohibiting activities that generate water and other pollution, such as that produced by improper conditions that allow accelerated erosion to affect waterways and habitats.

6.5.15 Regular Grading Permits required for Specialized Agricultural Activities and Grading on Slopes of Twenty Percent or More

Agricultural grading on less than twenty percent slopes, as well as vineyards and associated terracing (irregardless of slope), does not require a regular grading permit and is instead subject to agricultural grading regulations. However, defined "specialized agricultural activities" such as greenhouses, indoor growing, aquaculture and any cannabis cultivation activities involving more than 100 cubic yards is not considered agricultural grading and requires a regular grading permit, and grading on twenty percent slopes or more for any crop other than vineyards also requires a regular grading permit.

Programs

(LCP) a. Establish an active erosion control education program for the general public, builders, and staff, in cooperation with the Resource Conservation District and the Soil Conservation Service. (Responsibility: Environmental Health, Public Works and Planning Department)

b. Enforce the comprehensive Erosion Control and Runoff and Pollution Control ordinances requiring control of existing erosion problems as well as the installation of erosion, sediment, and runoff control measures in new developments. (Responsibility: Environmental Health, Public Works and Planning Department)

(LCP) c. Pursue grants or other cost-sharing programs with outside and/or private or non-profit funding to assist property owners with control of existing problems that are too large to be effectively controlled by the owner. (Responsibility: Planning Department)

(LCP) d. Encourage use of Resource Conservation District programs to control existing erosion problems. (Responsibility: Planning Department)

FLOOD HAZARDS

Flooding and coastal storms present similar risks and are usually related types of hazards in the County of Santa Cruz. Coastal storms can cause increases in tidal elevations (called storm surge), wind speed, coastal erosion, and debris flows, as well as flooding. During a flood, excess water from rainfall or storm surge accumulates and overflows onto the banks, beaches, and adjacent floodplains. Floodplains are lowlands adjacent to rivers, lakes and oceans that are subject to recurring floods. Several factors determine the severity of floods, including rainfall intensity and duration, creek and storm drain system capacity, and the infiltration rate of the ground.

A flood occurs when a waterway receives a discharge greater than its conveyance capacity. Floods may result from intense rainfall, localized drainage problems, tsunamis or failure of flood control or water supply structures such as levees, dams or reservoirs. Floodwaters can carry large objects downstream with a force strong enough to destroy stationary structures such as homes and bridges, and can break utility lines. Floodwaters also saturate materials and earth resulting in the instability, collapse and destruction of structures as well as the loss of human life.

Floods usually occur in relation to precipitation. Flood severity is determined by the quantity and rate at which water enters the waterway, increasing volume and velocity of water flow. The rate of surface runoff, the major component to flood severity, is influenced by the topography of the region as well as the extent to which ground soil allows for infiltration in addition to the percent of impervious surfaces. It is important to note that a stream can crest long after the precipitation has stopped.

As storms arrive onto land from the Pacific and rise over the mountains and ridges that border the eastern boundaries of the County, the air associated with those storms cools and that cooling results in large amounts of precipitation. The topography provides fairly steep and well- defined watershed areas to funnel the falling rain into runoff tributaries. Periods of very heavy rainfall are common throughout fall and winter months and the two rivers in the County, along with several creeks and streams, can rise to flood stage in a short period of time. Settlement and habitation in the County, from the historic Ohlone Indian camps through the founding of the Santa Cruz Mission in 1791, and subsequent logging communities throughout the 1800's, tended to acknowledge the floodplain areas of the rivers and streams, building on the higher ground. However, as the population grew, particularly in the middle 1900's, low lying areas near virtually every waterway were encroached upon for housing, business, or agricultural development.

Climatologists point out that the period between 1920 and 1970, the years of most significant growth in Santa Cruz County, was a "dry cycle" for most of central California. Only one or two instances of serious winter weather in the 1950's highlighted the consequence of development in low-lying areas. Over time, land that had previously been avoided was developed for both commercial and residential use in the floodplains of the San Lorenzo and Pajaro Rivers, Soquel and Aptos Creeks, and along the beaches. As a consequence, substantial portions of the City of Santa Cruz and the City of Watsonville have been flooded, houses and businesses in the San Lorenzo Valley have been damaged or destroyed by floodwaters, and there have been losses along Soquel Creek, Aptos Creek, and in beach areas on multiple occasions over the past half-century.

Future projections of climate change impacts indicate that flood hazards will increase in coastal areas due to sea level rise, and in inland areas due to hydrologic changes in watersheds that may include more frequent and more intense rain events and consequent increases in flood hazards. Policies are update to provide additional flood protection to plan for future increases in flood hazards.

The policies of the Flood Hazards section require new development to be located outside of the flood hazard area, wherever possible, and to incorporate floodproofing measures as required by FEMA and local flood regulations in areas subject to flood hazards.

Objective 6.6 Flood Hazards

(LCP) To reasonably protect new, replacement, reconstructed, modified, and existing structures from flood hazards, including sea level rise and coastal wave run-up hazards, in order to minimize economic damages within the expected lifespans of such structures; and to address threats to public health and safety, prevent adverse impacts on floodplains, and maintain their beneficial function for flood water storage and transport and for biotic resource protection.

Policies

6.6.1 Geologic/Flood/Coastal Hazards Assessments and Reports, and Use of Best Available Science Required in Flood Hazard Areas and on Coastal Bluff Locations

(LCP) Require an assessment of geologic, coastal, and flood hazards for all development, and building/grading proposals within the County's flood hazard areas in order to identify flood hazards and development constraints. Recognize scientific uncertainty by using within technical reports and project designs a reasonably foreseeable projection of sea level rise within the acceptable range established by the best available science and statewide guidance. Any Hazards Assessment or Investigation Report must be accepted by the County Geologist in order to use its findings and/or incorporate its mitigations into a proposed development project.

6.6.2 Development Proposals Protected from Flood Hazard

(LCP) Approve only those grading applications and development proposals that are adequately protected from flood and coastal hazards and which do not add to flooding damage or potential within applicable regulatory or expected lifespans of structures. This may include the requirement for foundation design which minimizes displacement of flood waters, as well as other mitigation measures. Require all developments to be sited and designed to avoid or minimize flood hazards for the expected lifespans of principal structures associated with the development.

6.6.3 Development on or Adjacent to Coastal Bluffs and Beaches

(LCP) Allow development in areas immediately adjacent to coastal bluffs and beaches only if a geologist determines that wave action, storm swell and tsunami inundation are not a hazard to the proposed development or that such hazard can be adequately mitigated and conditioned to protect life/safety, and within the applicable regulatory or expected lifespans of structures. Such determination shall be made by the County Geologist, or a registered geologist may conduct this review at applicant's choice and expense.

6.6.4 Locate New Public Facilities Outside Flood Hazard Areas

(LCP) Require new utilities, critical facilities and non-essential public structures to be located outside the flood hazard areas, unless such facilities are necessary to serve existing uses, there is no other feasible location, and construction of these structures will not increase hazards to life or property within or adjacent to the flood hazard area.

6.6.5 New Parcels in Flood Hazard Areas

(LCP) Allow the creation of new parcels, including those created by minor land division or subdivision, in the flood hazard areas only under the following circumstances:

(a) A full hydrologic report and any other appropriate technical report(s) must demonstrate that each proposed parcel contains at least one building site, including as applicable a septic system and leach field site, which is not subject to flood hazard within the expected lifespan of the development, and that public utilities and facilities such as sewer, gas, electrical and water systems can be located and constructed to minimize flood damage and not cause a health hazard.
(b) The final recorded map shall indicate the limits and elevations of the flood hazard area as certified by a registered professional engineer or surveyor.
(c) Adequate drainage to reduce exposure to flood hazards must be provided.
(d) Preliminary land division proposals shall identify all flood hazard areas and the elevation of the base flood. (Revised by Res. 81-99)

6.6.6 Density Calculations

(LCP) In all areas exclude the portion of the property designated within the flood hazard area from density calculations. Require clustering of allowable units to minimize flood hazards, as warranted and feasible given the location of the development.

6.6.7 New Construction to be Outside Flood Hazard Areas

(LCP) Restrict new construction to the area outside the flood hazard areas, if a buildable portion of the parcel exists outside such areas.

6.6.8 Elevation of Residential Structures

(LCP) Require elevation of the habitable portions of residential structures above the base flood elevation where constructed within a flood hazard area. Require floodproofing or elevation of non-residential structures. Required that foundations do not cause floodwater displacement except where necessary for floodproofing.

6.6.9 Require Freeboard

(LCP) Freeboard is a factor of safety measured in feet above a base flood elevation or height for purposes of floodplain management. Freeboard is required to compensate for the many unknown factors that could contribute to flood heights or elevations greater than the height or elevation calculated for a selected size flood and floodway conditions, such as wave action, bridges, climate change, sea level rise, and the hydrological effect of urbanization of the watershed. For all structures located on parcels that are partially or wholly in Coastal A and V Zones, freeboard above the wave run-up elevation shall be based on a reasonably foreseeable projection of sea level rise within the acceptable range established by the best available science and statewide guidance. For habitable structures located in flood hazard areas outside of Coastal A and V Zones, freeboard, above the base flood elevation shall be determined by the Planning Director.

6.6.10 Septic Systems, and Leach Fields

(LCP) Septic systems and leach fields to serve previously undeveloped parcels shall not be located within the flood hazard area. The capacity of existing systems in the flood hazard area shall not be increased. Septic systems shall be located and designed to avoid impairment or contamination in accordance with County Sewage Disposal Regulations.

6.6.11 Fill Placement

(LCP) Allow grading within the 100-year floodplain only if there is no net increase in fill, or if it can be demonstrated through analysis by a qualified engineer's report that is reviewed and accepted by the County, and by FEMA if applicable, that the grading will not have cumulative adverse impacts on or off site. No fill is allowed in the floodway.

6.6.12 Flood Control Structures

(LCP) Allow flood control structures only to protect existing development (including agricultural operations) where no other alternative is feasible and where such protection is necessary for public safety. The structures must be designed or must incorporate mitigations/conditions of approval to ensure that they do not adversely affect sand supply, increase erosion or flooding on adjacent properties, or restrict stream flows below minimum levels necessary for the maintenance of fish and wildlife habitats.

6.6.13 Required Recordation on Deed of Notice of Geologic/Coastal Hazard, Acceptance of Risk, Liability Release, and Indemnification Prior to Permit Approval

(LCP) Prior to issuance of a building or grading permit for substantial improvement on sites subject to flood hazards, require the applicant to record on title/deed to the property a Notice of Geologic/Coastal Hazard, Acceptance of Risk, and Liability Release. The Notice shall be in a form approved by the County of Santa Cruz, and shall include, but not be limited to, the following acknowledgements and agreements, as applicable to the specific project:

Coastal Hazards (if applicable). That the site is subject to coastal hazards including but not limited to episodic and long-term shoreline retreat and coastal erosion, high seas, ocean waves, storm surge, tsunami, tidal scour, coastal flooding, liquefaction and the interaction of same;
Assume and Accept Risks. To assume and accept the risks to the Applicant and the properties that are the subject of a building or grading permit of injury and damage from such geologic/flood/coastal hazards in connection with the permitted development;
Waive Liability. To unconditionally waive any claim of damage or liability against the County of Santa Cruz and its officers, agents, and employees for injury or damage in connection with the permitted development;
Indemnification. To indemnify and hold harmless the County and its officers, agents, and employees with respect to the County's approval of the development against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage in connection with the permitted development;
Property Owner Responsible. That any adverse effects to property caused by the permitted development shall be fully the responsibility of the property owner. That cost of abatement and/or future removal of structures shall be the responsibility of the property owner;
Flood Insurance. If the structure is built so that it does not comply with an effective BFE data as may be shown on future final Flood Insurance Rate Maps (FIRM), acknowledging that the structure may be subject to a higher flood insurance rating, likely resulting in higher-risk annual flood insurance premium if the property owner purchases flood insurance (voluntarily, or as required by mortgage lenders). If a program is created in the future that removes the subject location from being eligible for FEMA flood insurance, agree not to protest and to abide with the terms of such a program.
Formation of GHAD or CSA. The property owner and / or any future heirs or assigns, by accepting this permit, acknowledge that a Geologic Hazard Abatement District (GHAD) or County Service Area (CSA) may be formed in the future by the County or other private entity to address geologic/flood/coastal hazards, and assessments may be proposed for the abatement of geologic hazards.
Public Funds. That public funds may not be available in the future to repair or continue to provide services to the site (e.g., maintenance of roadways or utilities);
Occupancy. That the occupancy of structures where sewage disposal or water systems are rendered inoperable may be prohibited;
Public Trust Lands. That the structure may eventually be located on public trust lands; and

Removal or Relocation. In accordance with County regulations and Orders of the Chief Building Official, County Geologist, or Civil Engineer, that all development on the site, including shoreline and coastal bluff armoring, may be required to be removed or relocated and the site restored at the owner's expense if it becomes unsafe, it is no longer located on private property, or if essential services to the site can no longer feasibly be maintained consistent with Policies 6.4.32 through 6.4.35.

Programs

a. Continue the Floodplain Management Program in accordance with the Federal Flood Insurance Program. (Responsibility: Planning Department)

b. Revise County floodplain maps as updated adopted FEMA Maps are published. (Responsibility: Planning Department, FEMA)

c. Comprehensively map the Geologic Hazards Combining District in order to place all existing regulations into one concise and consistent ordinance and to notify future buyers of the policies as they pertain to affected parcels. (Responsibility: Planning Commission, Planning Department)

d. Maintain culverts and drainage facilities on County roads and seek to eliminate log-jams and other obstructions from stream courses. (Responsibility: Public Works, Environmental Health Department).

e. Continue to provide information to property owners located in flood hazard areas and coastal high hazard areas to encourage participation in the Federal Flood Insurance Program. (Responsibility: Planning Department).

f. Maintain the Automated Local Evaluation in Real Time (ALERT) Systems along the San Lorenzo River, Soquel Creek, Pajaro River, and Corralitos Creek. Implement a floodplain warning system for Aptos Creek and Valencia Creek. The Pajaro River Basin continues to be monitored by the National Weather Service. (Responsibility: ~~Planning~~ Public Works Department, County Office of Emergency Services)

g. Maintain detailed tsunami evacuation plans for coastal areas subject to the tsunami hazard. (Responsibility: County Office of Emergency Services)

(LCP) h. Consider incorporating more detailed information on tsunami inundation levels into the existing flood hazard program when this information is available. Existing development regulations would then apply to areas subject to this hazard. (Responsibility: County Office of Emergency Services, Planning)

i. Prepare and adopt an emergency warning system and detailed evacuation plans for areas subject to inundation in the event of failure of the Newell Creek Dam. (Responsibility: County Office of Emergency Services)

j. Work with relevant state and federal agencies to continue to monitor potential rise in sea level due to climate change and refine regulations and develop long term programs to address the impacts. (Responsibility: Planning Department, Board of Supervisors)

k. Continue to work with the Joint Powers Authority to relocate the Santa Cruz County Emergency Operations Center from the basement of the County Government Center, where it is vulnerable to flooding. (Responsibility: Board of Supervisors, Office of Emergency Services, County Administrative Office

WILDLAND AND URBAN FIRE HAZARDS

Introduction

A wildland fire may be defined as any unwanted fire involving outdoor vegetation. This may be perceived as only occurring in forests, rangelands or agricultural fields, but it might also occur in vacant lots, highway medians, parks, golf courses and rural residential areas. The term Wildland Urban Interface (WUI) describes many of these areas. The nature of wildland fire has changed with incidents in the WUI. The potential for both life and property losses in the WUI is exponentially higher than non-populated wildlands. In addition, human influence has greatly increased the number and variety of potential sources of ignition. Wildland fires are influenced by three factors: fuel, weather and topography. Wildfire spread depends on the type of fuel involved (grass, brush and trees). Weather influences wildland fire behavior with factors such as wind, relative humidity, temperature, fuel moisture and possibly lightning. Several of these factors can modify the rate the fire will burn. Topography is the biggest influence on fire severity. While normal weather conditions in the Santa Cruz Mountains can be categorized as cold and damp with extensive marine influence (fog), several times each year conditions are created where fuel moisture levels have been measured below 5% with temperatures above 90o, and north winds greater than 45 mph.

Large areas of the County have been mapped as Critical Wildfire Hazard Areas due to accumulations of wildfire prone vegetation, steep and dry slopes and the presence of structures vulnerable to wildland fires. These areas are generally situated in the steeper higher elevations of the county. Most of these areas are along the border of Santa Clara County or in the Coastal ridges between Highway 9 and Highway 1. While the map of Critical Fire Hazard Areas remains relevant for areas of increased wildfire risk, it should be noted that wildland fires may occur anywhere within the County.

The potential magnitude or severity of future fires could be predicted from experience gained from the recent fires of 2008/2009. In those fires, spotting exceeding 1 mile, torching of conifers, flame lengths exceeding 100', area ignition and sheeting were all observed. In 2008, over 75 structures were destroyed on 3 fires alone. Similar fuels (Manzanita/Knobcone, Eucalyptus, chaparral, and mixed conifer forestland), topography and weather conditions are expected to be encountered in future fires creating a repeat of extreme fire behavior exhibited in recent large local fires.

Santa Cruz County is ranked 9th among 413 western state counties for percentage of homes along the WUI and 14th in California for fire risk. During the preparation of the countywide Community Wildfire Protection Plan (CWPP), numerous assets at risk were identified. These include thousands of residences, several schools including a State University, several youth camps, and numerous commercial facilities. There are 5 local public water systems with extensive infrastructure situated within high hazard areas. Three state highways and 3 major power transmission Rights of Way cross through vulnerable areas. Due to topography and limited access, both the protection plus potential reconstruction of these assets will be hampered.

The impact of wildfire on a community is far-reaching. The most significant impacts would be loss of life, environmental damage and loss of property. Air quality is also a major issue, which can force the closure of schools and businesses as well as limit human activity. Damage to infrastructure such as culverts, roads and bridges can be difficult to locate and repair in a timely manner. During the rainy season, burned-over areas are subject to mudslides and debris torrents which can be exacerbated by infrastructure damage. Sedimentation due to winter rains can destroy fish habitats, which can have a catastrophic effect on the eco-system.

A fire threat will always exist in the WUI. There will always be flammable vegetation, structures and human activities creating a situation where it is not "if" but "when" the next large fire occurs in the county.

This Wildland and Urban Fire Hazards section addresses natural fire hazards as well as fire hazards from human activity and increased hazard levels projected to occur as a result of climate change. In compliance with State law, this section establishes road standards and development requirements for fire prevention and response.

Fire History

Prior to about 1950 information on wildfire in Santa Cruz County was limited to verbal history and newspaper accounts. After the Division of Forestry began gathering data in the 1950's, significant wildfires in Santa Cruz and adjacent counties were documented in the early 1960's and again in the 1980's (Lexington fire). The devastating wildfires that occurred in Santa Cruz County in 2008 (Summit, Martin and Trabing fires) and 2009 (Lockheed and Loma fires) burned a combined area of nearly 14,000 acres and numerous homes and structures. What makes wildfire different today as compared to the early part of the the last century is the number of people living in the rural area, or the Wildland Urban Interface (WUI). According to the United States Census, the population of Santa Cruz County has increased by nearly 200,000 people since the middle of the last century, from 66,534 in 1950 to 262,340 in 2010. Much of the increase occurred in urban areas, but rural areas have experienced significant population increases, as well. This has caused the fire agencies to change approaches to fire hazards from focusing primarily on the fire to dealing with increasing demands for protecting roads, structures, and people. Because there are not enough firefighters or fire apparatus to protect each and every home during a wildfire, the community and government must take greater responsibility for preventative measures to make homes, neighborhoods, and the community more defensible from wildfire. (Source: San Mateo - Santa Cruz Unit Strategic Fire Plan)

Fire Plans

The San Mateo - Santa Cruz Unit Strategic Fire Plan identifies and prioritizes pre-fire and post-fire management strategies and tactics meant to reduce losses within the Unit. There is a history of collaborative efforts between fire agencies and communities including Las Cumbres, Olive Springs and Bonny Doon. Efforts such as these have resulted in numerous fuel reduction projects and community education. More recently, the Unit has seen an unprecedented level of pre-fire "grass roots" organization, including the formation of the Soquel, South Skyline, and Bonny Doon Fire Safe Councils. Also, with the assistance of the Resource Conservation District (RCD) through a grant from the United States Fish and Wildlife Service, a Community Wildfire Protection Plan (CWPP) was developed with input from stakeholders throughout Santa Cruz County. In 2010, the Board of Supervisors for Santa Cruz County adopted the 2010 San Mateo County – Santa Cruz County CWPP. The Unit Strategic Fire Plan is meant to work in collaboration with the CWPP.

The CWPP attempts to identify fire hazards, as seen across the landscape, and provide strategies to mitigate wildfire risk and restore healthier, more resilient ecosystems while protecting life and property. A CWPP also serves as a tool for the accrual of grant funding to aid in the implementation of wildfire prevention projects. The CWPP is a guidance document that recommends both general and specific projects in priority fuel reduction areas, and provides recommendations to reduce the ignitability of structures. Local projects are subject to appropriate permitting and environmental review processes. The CWPP was developed collaboratively by CAL FIRE, Resource Conservation District of Santa Cruz and San Mateo Counties, the United State Fish and Wildlife Service, other agencies, and members of the community.

The San Mateo – Santa Cruz Unit Strategic Fire Plan and the CWPP address areas with inadequate access and evacuation routes and identify risk to life and property from wildland fire and provide information on firefighter safety, community evacuation and recommended actions by first responders. The plans also Address post-fire responsibilities for natural resource recovery, including watershed protection reforestation, and ecosystem restoration.

State and Local Responsibility Areas

Wildland fire protection in California is the responsibility of the State, local government, or the federal government depending on location. The State Responsibility Area (SRA) is the area of the state where financial responsibility for the prevention and suppression of wildfires is primarily the responsibility of the state. Of course, the partnership of private property owners is essential for implementing fire prevention strategies. In general, SRA includes forest-covered lands, whether of commercial value or not, or brush or grass-covered lands. SRA does not include lands within city boundaries or in federal ownership. Fire protection in SRA is typically provided by CAL FIRE. However, in Santa Cruz County, autonomous fire protection districts provide fire protection in large parts of the SRA. Local responsibility areas (LRA) include incorporated cities and other urbanized areas, and cultivated agriculture lands. Local responsibility area fire protection is typically provided by city fire departments, fire protection districts, and by CAL FIRE under contract to local government.

CAL FIRE is the County Fire Department for the unincorporated areas of Santa Cruz County that are not included in an autonomous fire protection district. In addition, the County contracts with CAL FIRE to provide fire protection for Pajaro Dunes, and to provide administrative and staffing needs for the Pajaro Valley Fire Protection District.

Because the majority of wildland fires occur in the SRA, there is potential for many different agencies in the county to be affected. In many cases, fires occur in Mutual Threat Zones (MTZ's) or in areas near adjoining jurisdictions and also in the LRAs. It is through mutual relationships with local government agencies where initial attack resources become larger and more effective. The following Santa Cruz County local government agencies are typically available and involved in suppressing wildland fires:

Aptos/La Selva Fire Protection District
Scotts Valley Fire Protection District
Boulder Creek Fire Protection District
Central Fire Protection District of Santa Cruz County
Felton Fire Protection District
Santa Cruz City Fire Department
Watsonville Fire Department
Zayante Fire Protection District
Ben Lomond Fire Protection District
Branciforte Fire Protection District
Pajaro Valley Fire Protection District

A person who owns, leases, controls, operates, or maintains a building or structure in, upon, or adjoining SRAs are required by Public Resource Code (PRC) 4291 to maintain defensible space around structures on their property. Defensible space means the area adjacent to a structure or dwelling where wildfire prevention or protection practices are implemented to provide defense from an approaching wildfire or to minimize the spread of a structure fire to wildlands or surrounding areas. Responsibility for maintaining defensible space is limited to 100 feet from structure(s) or to the property line, whichever is closer. Defensible space inspections are completed by inspectors from CAL FIRE, engine companies, and fire protection districts (Central and Aptos/La Selva). Educational materials are distributed to residents during inspections, through direct mailing, and at public events including a brief pamphlet focusing on defensible space and a document called "Living With Fire in Santa Cruz County".

The Santa Cruz County Code requires new projects and construction to meet fire safety standards consistent with State law (PRC 4290). Chapter 7.92 of the County Code establishes requirements for fuel modification and emergency water supply, as well as minimum fire safe driveway and road standards. New structures built in Santa Cruz County must also comply with fire safety building regulations. These building codes

require the use of ignition-resistant building materials in higher risk areas and establish design standards to improve the ability of a building to survive a wildfire.

CAL FIRE has mapped areas of very high fire hazard within LRA and SRA. Mapping of the areas, referred to as Very High Fire Hazard Severity Zones (VHFHSZ), is based on relevant factors such as fuels, terrain, and weather. The Fire Code of Santa Cruz County (County Code Chapter 7.92) includes provisions to improve the ignition resistance of buildings, especially from firebrands. The updated fire hazard severity zones will be used by the Building Official to determine appropriate construction materials for new buildings in the Wildland-Urban Interface. In addition, pursuant to State law, the updated zones will also be used by property owners to comply with natural hazards disclosure requirements at time of the property sale, and with the 100 foot defensible space clearance requirements. The County's GIS mapping information system has been updated to incorporate the FHSZ maps for Santa Cruz County. These maps complement the existing General Plan Resources and Constraints maps designating Critical Fire Hazard Areas.

Objective 6.7 Fire Hazards

To protect the public from the hazards of fire through citizen awareness, prevention measures for mitigating the risks of fire, responsible fire protection planning, and built-in systems for fire detection and suppression.

Policies

6.7.1 Defensible Space

In the State Responsibility Area and Very High Fire Hazard Severity Zones within the Local Responsibility Area maintain defensible space around structures in compliance with State law, County Fire Code, and local fire district ordinances. The amount of fuel modification necessary shall take into account the flammability of the structure as affected by building material, building standards, location, and type of vegetation. Fuels shall be maintained in a condition so that a wildfire burning under average weather conditions would be unlikely to ignite the structure. This does not apply to single specimens of trees or other vegetation that are well-pruned and maintained so as to effectively manage fuels and not form a means of rapidly transmitting fire from other nearby vegetation to a structure or from a structure to other nearby vegetation. The intensity of fuels management may vary in the vicinity of the structure, with the most intense management being immediately around the structure. Consistent with fuels management objectives, steps should be taken to minimize erosion. For the purposes of this policy, "fuel" means any combustible material, including petroleum-based products and wildland fuels.

6.7.2 Defensible Space in Environmental Resource Areas

Fuel reduction activities that remove or dispose of vegetation are required to comply with all federal, state or local environmental protection laws, including, but not limited to, laws protecting threatened and endangered species, sensitive habitats, water quality, air quality, and cultural/archeological resources, and must obtain any and all required permits.

6.7.3 Exception in Sensitive Habitat for Defensible Space

Establishment and maintenance of defensible space in order to comply with state law may qualify for an exception to the Sensitive Habitat Protection Ordinance if the following findings can be made: 1) That adequate measures will be taken to ensure consistency with the purpose of Chapter 16.32 to minimize the disturbance of sensitive habitats; and 2) It can be

demonstrated by biotic assessment, biotic report, or other technical information that the exception is necessary to protect public health, safety, and welfare.

6.7.4 Access Standards

Require all new structures, including additions and Accessory Dwelling Units of more than 500 new square feet (not including Conversion ADUs), added to single-family dwellings on existing parcels of record, to provide and maintain an adequate driveway or road for fire protection in conformance with the adopted standards of State law, County Fire Code, and local fire district ordinances.

6.7.5 Exceptions to Access Road Standards

Exceptions to these standards and requirements that apply to all new structures (except Conversion Accessory Dwelling Units or ADUs 500 square feet or less), including additions or ADUs of more than new 500 square feet to single-family dwellings on existing parcels of record, may be granted at the discretion of the fire code official for single-family dwellings on existing parcels of record as follows:

(a) When the existing access road is acceptable to the Fire Department having jurisdiction.

(b) In addition, any of the following mitigation methods may be required prior to issuance of a building permit and/or as a condition of discretionary development approval:

  (1) Participation in an existing or formation of a new road maintenance group or association.

  (2) Completion of certain road improvements such as fill pot holes, resurface access road, provide turnouts, cut back brush, etc. are made, as determined by the fire officials, and provided that the fire department determines that adequate fire protection can still be provided.

  (3) Provision of approved fire protection systems as determined by the fire code official.

(c) The level of road improvement required shall bear a reasonable relationship to the magnitude of development proposed.

6.7.6 Conditions and Requirements_for Approval of Discretionary Development Permits and/or Ministerial Building Permits

Impose requirements on new development through the building permit review process, and/or condition approval of all discretionary development permits for new structures and additions, including for additions of 500 square feet or less, and to new single-family dwellings on existing parcels of record, to meet and maintain at all times fire protection standards in conformance with the adopted standards of State law, County Fire Code, and local fire district ordinances.

6.7.7 Fire Protection Standards for Land Divisions Outside the Urban Services Line

Require all new minor land divisions and subdivisions outside the Urban Services Line to meet the following fire protection standards:

(a) If a proposed building site is located on a dead-end access road and is more than one-half mile from the nearest intersection with a through road, then secondary access must be provided. (See section 6.8.8, Standards for Dead-End Roads). If building site is located within a 5 minute response time from the fire department and within 500 feet of a county maintained road, then secondary access will not be required. Secondary access is defined as a 12 foot wide all-weather surface roadway with a recorded right of access and maintenance agreement. The secondary access may be provided with a gate or other barrier on the approval of the fire code official. If these conditions cannot be met, development may take place only at the lowest density allowed for the area by the General Plan and LCP Land Use Plan.

(b) All primary and secondary roads shall meet the requirements of this section and shall be maintained through a County Service Area or a joint road maintenance agreement with all property owners of record.
(c) Location within the response time of 20 minutes from the fire station which is responsible for serving the parcel. Response time is defined as the length of time between the dispatch of ground fire vehicles from the fire station to their arrival at the location of the proposed structure(s). In areas exceeding 20 minutes response time, development may take place only at the lowest density allowed by the General Plan and LCP Land Use Plan.
(d) Locate the building site outside any designated Critical Fire Hazard Area and Very High Fire Hazard Severity Zone (VHFHSZ). If building sites cannot be located outside a Critical Fire Hazard Area and VHFHSZ, the following criteria shall be met:
    (1) If the building site is served by a through access road or by secondary access, development may be approved only at the lowest density allowed by the General Plan and LCP Land Use Plan.
    (2) If the parcel is on a dead-end access road and cannot develop secondary access, development may consist of only one single-family residence on the existing parcel of record; all land divisions must be denied.

(e) The project can meet the vegetation modification requirements called for by the fire code official, based upon an on-site inspection, including appropriate erosion control facilities. The homeowner must maintain this vegetation modification in order to assure long-term protection. Land clearing of one-quarter acre or more, or other vegetation modification within a Sensitive Habitat Area, shall be in conformance with the Erosion Control Ordinance and/or Sensitive Habitats Ordinance of the Santa Cruz County Code, including obtaining a Land Clearing Permit and/or Biotic Permit if required, and state timberland conversion regulations if applicable.
(f) The project can meet and maintain the standards established by the fire code official for water supply and/or water storage for fire-fighting purposes.

6.7.8 Standards for New Dead End Roads

Prohibit newly constructed dead-end roads without secondary access serving more than one parcel in new minor land divisions or subdivisions which exceed the following distances from an adequate through road unless approved by the applicable fire protection agency, the Department of Public Works, and by the Planning Commission; in no case shall a new dead-end road exceed ½ mile in length.

Urban & Suburban General Plan and LCP Land Use Plan designation	500’
Rural General Plan and LCP Land Use Plan designation	1000’
Mountain General Plan and LCP Land Use Plan designation	1500’

The standard for new subdivisions of 5 or more lots shall not exceed 500’ from a through road unless acceptable to and recommended by the applicable fire protection agencies and the Department of Public Works, and approved by the Planning Commission.

6.7.9 Maintenance for Private Roads

Require the creation or expansion of County Service Areas (to provide road maintenance), road maintenance agreements or associations (deemed adequate to provide appropriate road maintenance) for all new private roads, and for land divisions in rural areas served by private roads.

6.7.10 (LCP) Certification of Adequate Fire Protection Prior to Permit Approval

Require all land divisions, multi-unit residential complexes, commercial and industrial complexes, public facilities and critical utilities to obtain certification from the appropriate fire protection agency that adequate fire protection is available, prior to permit approval.

6.7.11 Public Facilities Within Critical Fire Hazard Areas

(LCP) Discourage location of public facilities and critical utilities in Critical Fire Hazard Areas and Very High Fire Hazard Severity Zones. When unavoidable, special precautions shall be taken to ensure the safety and uninterrupted operation of these facilities.

6.7.12 Consistency With Adopted Codes Required for New Development

(LCP) Require all new development to be consistent with the California Fire Code, California Building Code, and other adopted County and local fire agency ordinances.

6.7.13 Land Divisions Access Requirements

(LCP)

(a) Require all private roads used for either primary or secondary access to be maintained through road maintenance agreements and/or associations or through a County Service Area.

(b) Prohibit land divisions where any new building site is located more than ½ mile from a through road unless secondary access is provided.

(c) In the North Coast and Bonny Doon planning areas, prohibit new land divisions where any new building site is located more than ½ mile from a publicly maintained road even where secondary access is provided.

6.7.14 Fire Protection Standards for Land Divisions Inside the Urban Services Line

Require all new land divisions within the Urban Services Line to be consistent with the California Fire Code, California Building Code, and other adopted County and local fire agency ordinances.

6.7.15 Local Ordinances

Adopt and have certified by the Board of Forestry and Fire Protection local ordinances which meet or exceed the minimum statewide standards in the SRA Fire Safe Regulations.

Programs

a. Encourage fire protection agencies to enter into first alarm response and initiate contractual agreements in order to assure that the fire unit nearest the fire will respond on first alarm to a fire emergency. (Responsibility: County Fire Marshal, Board of Supervisors, local fire protection agencies)

b. Newly constructed or approved public and private roads and streets must be identified by a name or number through a consistent countywide system, which provides for sequenced or patterned numbers and/or non-duplicating naming within the County. All signs shall be mounted and oriented in a uniform manner. This program does not require any entity to rename or renumber existing roads or streets, unless a threshold established by the County Code has been exceeded. A roadway providing access only to a single commercial or industrial occupancy shall not require naming or numbering. (Responsibility: Planning Department, County Fire Marshal)

c. Define levels of fire protection services using criteria relating to distance from fire stations, density of development and magnitude of fire risk. (Responsibility: Board of Supervisors, local fire protection agencies)

d. Develop fuel break standards for new development to separate communities or clusters of structures from native vegetation. (Responsibility: County Fire Marshal, Board of Supervisors, State Department of Forestry, and local fire protection agencies)

e. Develop an overall fuel break plan in Critical Fire Hazard Areas and implement the plan in conjunction with CAL FIRE and fire protection agencies. (Responsibility: CAL FIRE, County Fire Marshal, local fire protection agencies, Office of Emergency Services)

f. Provide, to the maximum extent feasible, two emergency access routes for all communities, with at least one developed to County standards. (Responsibility: Board of Supervisors, Planning Department, Public Works)

g. Upgrade water distribution systems where deficient to ensure adequate peak load water supply requirements for fire protection within the service areas of recognized water purveyors. Priority shall be given to areas within the Urban Services Line. (Responsibility: Water Purveyors, County Fire Department, local fire protection agencies, County Office of Emergency Services)

h. Give priority to areas within the Urban Services Line when planning expansion of fire protection facilities and equipment. (Responsibility: fire protection agencies, Board of Supervisors)

i. - Maintain a joint communications center. (Responsibility: Board of Supervisors, Communications Director, County Fire Department, California Department of Forestry and Fire Protection, local fire protection agencies, County Office of Emergency Services)

j. Periodically review the "Santa Cruz County Master Fire Plan" and the "Santa Cruz County Community Wildfire Protection Plan", and update the plans as necessary. (Responsibility: CAL FIRE, Resource Conservation District, County Fire Marshal, local fire protection agencies, County Office of Emergency Services)

k. Encourage CAL FIRE to provide land and air fire-fighting facilities and equipment adequate to meet estimated peak fire demands. (Responsibility: Board of Supervisors, County Fire Marshal)

l. Encourage fire protection agencies to establish educational fire prevention programs in order to have the public recognize its responsibility in preventing fires. (Responsibility: County Fire Marshal, local fire protection agencies, County Office of Emergency Services)

m. Review and update on a periodic basis the countywide Emergency Management Plan. Include the appropriate County agencies in all phases of disaster contingency planning. (Responsibility: Board of Supervisors, Office of Emergency Services)

(LCP) n. Update the Critical Fire Hazard Map and fire hazard severity zone maps as new site-specific information becomes available which more precisely defines these areas. (Responsibility: Planning Department, County Fire Department, CAL FIRE, local fire protection agencies)

n. Identify fire hazard severity zones within the Urban Services Line and rural areas with topography, hazardous fuels, structures, density similar to those found in the Oakland Hills fire of 1991. (Responsibility: County Fire Marshal, local fire protection agencies)

(LCP) p. In cooperation with fire protection agencies, develop coordinated action programs to reduce the hazard to existing development in critical fire hazard areas and fire hazard severity zones such as the following:

(1) Assessment districts to finance road improvements and secondary access; water storage, distribution and hydrant facilities; purchase of pumper trucks and/or vegetation clearance and fuel break construction.
(2) Fire hazard inspection and code enforcement.
(3) Public education programs on fire prevention.

(Responsibility: Planning Department, County Fire Marshal, local fire protection agencies, Board of Supervisors)

q. Amend and update the Santa Cruz County General Plan Safety Element Wildland and Urban Fire Hazards section as needed, to reflect fire code amendments. (Responsibility: Board of Supervisors, County Fire Marshal, local fire protection agencies, Planning Department)

r. Encourage fire protection agencies to maintain ongoing emergency service trainings

AIR QUALITY

This new section of the Safety Element shifts and amends policies from the Conservation and Open Space Element of the county's 1994 General Plan. This section also overlaps with many policies and programs found in the Circulation Element. Location of the Air Quality section within the Public Safety Element reflects importance of air quality and greenhouse gas emissions as related to climate change, as well as public health and safety impacts on the population caused by air pollution.

Atmospheric pollution is determined by the amount of pollutant emitted and the atmosphere's ability to transport and dilute it. In Santa Cruz County, coastal mountains exert strong influence on atmospheric circulation, creating a breezy coastal environment with generally good ambient air quality. However, in the San Lorenzo Valley and certain small inland valley areas, air quality can be poor at times due to wood smoke generated by fireplaces used for heating and other purposes. Also, localized sources can cause odors or create dust or other air quality problems. Fuels and solvents used for vehicles, space and water heating, industrial processes, and commercial uses; and incineration processes, fires, and pesticides are typical pollutant sources. Autos are the largest source of pollutants.

Air Quality Management Plans (AQMPs) are developed for regions throughout the state to meet the air quality requirements and standards for specific pollutants, including ozone, nitrogen oxide and dioxide, sulfur dioxide, carbon monoxide, and suspended particles, as outlined in the federal and State Clean Air Acts. The North Central Coast Air Basin (Monterey, Santa Cruz, and San Benito counties) has been designated as a moderate, transitional non-attainment area because it exceeds air quality standards for ozone and inhaled particulate matter. The region's AQMP prescribes methods for attaining ozone and particulate matter standards and for maintaining air quality in the region.

Attainment of air quality standards is achieved through measures to control emissions from stationary sources (factories, commercial activities, etc.) and mobile sources (cars and trucks). The County of Santa Cruz offers low-cost permits for change-outs of woodstoves and fireplaces from wood-burning to gas. Transportation control measures (TCMs) and land use programs also contribute to improving air quality. In addition to attaining air quality standards for ozone and particulate matter, the Monterey Bay Unified Air Pollution Control District, the County, and regional and local agencies are concerned with reducing stratospheric ozone depletion and regulating the emission of chlorofluorocarbons (CFCs), carbon dioxide, and other "greenhouse gases" (GHGs).

GOAL: Take actions consistent with the region's air quality management plan, and focus special attention on assisting with efforts to reduce wood smoke pollution in San Lorenzo Valley

Objective 6.8-1 To improve the air quality of Santa Cruz County by meeting or exceeding state and federal ambient air quality standards, protect County residents from the health hazards of air pollution, protect agriculture from air pollution induced crop losses and prevent degradation of the scenic character of the area.

Objective 6.8-2: Address localized air quality issues, including indoor air quality.

Objective 6.8-3: Implement incentive programs to assist homeowners with replacement of wood-burning fireplaces and woodstoves with gas-fired appliances.

Policies

6.8.1 New Development

Require future development projects to implement applicable Monterey Bay Unified Air Pollution Control District (MBUAPCD) control measures and/ or air quality mitigations in the design of new projects as set forth in the District's "CEQA Guidelines." Cf. M3.3.4.

6.8.2 Non-Attainment Pollutants

Prohibit any net increase in emissions of non-attainment pollutants or their precursors above the thresholds established by the MBUAPCD from new or modified stationary sources.

6.8.3 Air Quality Mitigations

Require land use projects generating high levels of air pollutants (i.e., manufacturing facilities, hazardous waste handling operations) to incorporate air quality mitigations in their design.

6.8.4(a)Offshore Oil Development

Prohibit development, construction, or installation of any onshore facility necessary for or intended to support offshore oil or gas exploration and development unless a General Plan and Local Coastal Program amendment is approved by the voters of the County which allows such development. (See policies in sections 5.3 and 5.4.) *Revised by Res. 142-2014*

6.8.4(b)Onshore Oil and Gas Development

Prohibit development, construction, installation, or use of any facility necessary for or intended to support oil or gas exploration or development from any surface location within the unincorporated area of the County of Santa Cruz, whether the subsurface portion(s) of such facility is within or outside the unincorporated area of the County of Santa Cruz, and prohibit development, construction, installation or use of any facility necessary for or intended to support oil or gas exploration or development from surface locations outside the unincorporated area of the County of Santa Cruz which may begin, pass through or terminate below the surface of land located within the unincorporated area of the County of Santa Cruz. This prohibition applies to facilities directly involved in oil and gas exploration, production, and refinement such as wells, pipelines and pumps. *Revised by Res. 142-2014*

6.8.5 Sensitive Land Uses

Locate air pollution-sensitive land uses away from major sources of air pollution or require mitigation measures to protect residential and sensitive land uses from freeways, arterials, point source polluters, and hazardous material locations.

6.8.6 Plan for Transit Use

Encourage commercial development and higher density residential development to be located in designated centers or other areas that can be easily served by transit.

6.8.7 Alternatives to the Automobile

Emphasize transit, bicycles and pedestrian modes of transportation rather than automobiles, as well as telecommuting and alternative work schedules.

6.8.8 Encouraging Landscaping

Maintain vegetated and forested areas, and encourage cultivation of street trees and yard trees for their contributions to improved air quality.

5.18.9 Greenhouse Gas Reduction

Support and implement local actions and County, State and federal plans and legislation promoting the reduced emission of carbon dioxide and other greenhouse gases, and actions to achieve reduction goals and standards.

Exhibit F

6.8.10 Elimination of Ozone Depleting Chemicals

Support and implement local actions to achieve the most rapid possible international, national, state, and local elimination of the emission of ozone-depleting chemicals.

Programs

a. Implement the Urban Forestry Master Plan to increase the urban tree canopy. (Responsibility: Board of Supervisors, County Departments)

b. Support air quality monitoring, air pollution control strategies, and enforcement by the Monterey Bay Unified Air Pollution Control District. (Responsibility: Board of Supervisors)

c. Control aerial spraying of pesticides and fertilizers, to the degree possible, to prevent contamination of areas adjacent to sprayed areas. (Responsibility: Agricultural Commissioner)

d. Ensure that agricultural burning practices are in accordance with state and regional laws and permit open burning of debris only in instances where other disposal methods are not feasible. (Responsibility: State Department of Forestry, Regional Air Quality Control District, Agricultural Commissioner)

e. Encourage public education programs promoting reduced emissions from transportation-generated pollutants and area-wide sources, and encourage lesser polluting transportation alternatives through the construction of bikeways and the provision of public transit. (Responsibility: Board of Supervisors, Santa Cruz Metropolitan Transit District, Transportation Commission)

f. Ensure that forestry and agricultural wastes are chipped rather than burned where feasible and permissible considering disease control and other land use compatibility factors. (Responsibility: State Department of Forestry, Regional Air Quality Control District, Agricultural Commissioner)

g. Closely monitor industrial processes and require them to utilize the best available procedures to protect air quality. (Responsibility: Planning Commission, Regional Air Quality Control District)

h. Update and implement a Trip Reduction Ordinance. (Responsibility: Planning Department, Planning Commission, Board of Supervisors)

i. Replace County-owned and encourage replacement of privately-owned fire extinguishers with models that do not use ozone depleting compounds. (Responsibility: General Services, Board of Supervisors)

j. Encourage and support tree planting programs by governmental agencies, private business, individuals and non-profit organizations with a goal of planting at least one tree in Santa Cruz County each year for every person born in the County during such year. (Responsibility: County Administrative Office, Board of Supervisors)

k. Investigate methods for developing a carbon dioxide budget for the County that limits carbon dioxide emissions.

l. Implement chlorofluorocarbon (CFC) recycling and elimination regulations.

m. Strive to eliminate the use of polystyrene foam (PSF) packaging products throughout the county.

n. Permit major indirect sources of air pollution only if they provide transportation measures to reduce their impacts to a less-than-significant level, consistent with applicable MBUAPCD recommended mitigation and control measures as set forth in the District's "CEQA Guidelines." Cf. LU1.2.

o. Implement and enforce a Smoking Pollution Control Ordinance.

HAZARDOUS AND TOXIC MATERIALS

Santa Cruz County government has played a leadership role in helping to minimize toxic hazards to the citizens and residents of Santa Cruz County. In 1984, the Board of Supervisors adopted as a statement of basic policy that it should be a statewide goal completely to eliminate the toxic contamination of any portion of the State's environment, including the land, water, and air resources of the State.

In June 1990, by adopting Measure C, the people of Santa Cruz County made a specific finding that "the introduction of toxic chemicals into all parts of the environment, in increasing quantities, has led to the pollution of the ocean, and of fresh water supplies, and to the presence of toxic chemicals in the tissues of virtually every living thing, placing the future of life on this planet in jeopardy." Measure C requires Santa Cruz County government to attempt to eliminate the use of toxic materials within Santa Cruz County where possible, and requires the reduction, recycling, and reuse of such materials, to the greatest extent possible, where complete elimination of their use is not feasible.

This section of the General Plan and LCP Land Use Plan states the basic objectives of Santa Cruz County with respect to hazardous and toxic materials, and also includes provisions relating to hazardous waste management. The provisions relating to hazardous waste management are a summary of the facilities siting provisions of the Santa Cruz County Hazardous Waste Management Plan (CHWMP), required by State law. Additional background information and more detailed policies, programs, and technical data are included in the County's Hazardous Waste Management Plan.

Objective 6.9 Hazardous and Toxic Materials

To eliminate, to the greatest degree possible, the use of hazardous and toxic materials, and where it is not feasible completely to eliminate the use of such materials, then to maximize the reduction in the use of such materials, so as to ensure that such materials will not contaminate any portion of the County's environment, including the land, water, and air resources of the County.

Policies

6.9.1 Hazardous Materials Ordinance

Maintain the County's Hazardous Materials ordinance, placing on users of hazardous and toxic materials the obligation to eliminate or minimize the use of such materials whenever possible, and in all cases to minimize the release, emission, or discharge of hazardous materials to the environment, and properly to handle all hazardous materials and to disclose their whereabouts. Further, maintain the County's ordinance relating to ozone-depleting compounds. Ensure that any amendment of existing ordinance provisions is based on a finding that the amendments will provide protection to the environment and the community against toxic hazards that is equal to or stronger than the existing provisions.

6.9.2 County Use of Toxic/Hazardous Materials

Eliminate wherever possible, and minimize where elimination is not feasible, the use of hazardous and toxic materials in the operations and programs of County government.

6.9.3 Maintenance of Standards for Use and Control

Ensure that Santa Cruz County maintains standards for the use and control of hazardous materials which are at least equal in their protection for the environment and the community to measures imposed by other local governments within Santa Cruz County, and in adjoining counties.

Programs

a. Enact an ordinance regulating the storage, transportation, and use of toxic gases, with standards at least as protective as those found in comparable ordinances adopted by local governments within Santa Clara County. (Responsibility: Environmental Health, Planning Department, County Office of Emergency Services, Board of Supervisors)

b. Implement, where funding can be made available, programs to provide assistance to businesses, farmers, and homeowners, to assist them in eliminating and reducing the use of toxic materials. (Responsibility: Environmental Health, Planning Department, Agricultural Commissioner, County Administrative Office)

c. Continue County programs facilitating the safe disposal of household hazardous wastes. (Responsibility: Public Works)

HAZARDOUS WASTE MANAGEMENT

The Hazardous Waste Management section is a summary of the facilities siting provisions of the Santa Cruz County Hazardous Waste Management Plan (CHWMP), required by state law. Additional background information and more detailed policies, programs and technical data are included in the CHWMP. The intent of this section is to restate the substantive provision, relating to hazardous waste management facilities siting of the CHWMP. If any portion of this section appears to conflict with the County Hazardous Waste Management Plan, the County Hazardous Waste Management Plan shall prevail.

Objective 6.10 Hazardous Waste Management

To ensure that hazardous waste management facilities will be safely sited to protect public health and the environment, and to ensure the general management of hazardous waste occurs in accordance with the implementation policies specified in the Santa Cruz County Hazardous Waste Management Plan, and any applicable state and federal regulations.

ALL FACILITIES WHICH COLLECT, HANDLE, TRANSPORT, TREAT, STORE OR DISPOSE OF HAZARDOUS WASTE

Policies

6.10.1 Managing the County's Fair Share of Hazardous Waste

Any proposed facility shall be consistent with the fair share principle, and with any inter-jurisdictional agreements on hazardous waste management entered into by Santa Cruz County.

6.10.2 Sizing Facilities

Facilities shall be designed and sized primarily to meet the hazardous waste management needs of this County, or to meet any broader future commitments made as part of an inter-jurisdictional agreement, or upon a determination of the local body that the project meets local planning criteria and serves public needs.

6.10.3 Location of Facilities

Require any proposed hazardous waste management facility to be located only in those general areas identified in the Hazardous Waste Management Plan.

6.10.4 Conformance to Federal, State and Local Siting Standards

Require all hazardous waste land disposal facilities to conform to the siting standards contained in state statues as well as conform to the General Plan and LCP Land Use Plan and Zoning ordinances of the County of Santa Cruz.

6.10.5 Floodplains and Sensitive Habitats

Prohibit any facility to be located within a floodplain or area which could adversely impact any sensitive habitat.

6.10.6 Depth to Groundwater

Require a minimum 20-foot distance between any hazardous waste facility and the highest anticipated elevation of the underlying groundwater. Proposed sites must be evaluated for consistency with this criteria by a registered geologist before permitting.

6.10.7 Mineral Resources Areas

Allow facilities to be sited only where they will not preclude extraction of minerals necessary to sustain the economy of the state.

6.10.8 Non-Attainment Air Areas (Federal Clean Air Act)

Allow facilities to be sited within federally designated Non-Attainment Air Areas only under the following conditions:

(a) A risk assessment must be completed and shall consider physical and chemical characteristics of the specific types of wastes that will be handled and design features of the facility. The assessment must show that emissions will not significantly contribute to non-attainment of standards;
(b) The emissions generated must be mitigated; and
(c) The emissions generated from such facilities shall not be greater than those associated with the transportation of hazardous waste outside of the non-attainment area.

6.10.9 Prime Agricultural Land

Demonstrate an overriding public service need before approving the siting of hazardous waste management facilities in commercial agricultural lands.

6.10.10 Distance From Residences

(a) Require a Risk Assessment for the siting of a hazardous waste management facility and a 500 foot minimum buffer zone from the nearest urban and suburban density residentially zoned areas. The risk assessment shall consider the physical and chemical characteristics of the specific type of waste(s) that will be handled and any design feature necessary for the facility.
(b) Require any facility handling ignitable, volatile or reactive wastes to be sited a minimum of 2000 feet from the nearest residence unless the developer can show that the public is sufficiently safeguarded in the event of an accident.

6.10.11 Distance from Immobile Populations

(a) Require a Risk Assessment for the siting of a hazardous waste management facility and a 500 foot minimum buffer zone from an immobile population, which includes places where large numbers of people may gather and also includes schools, hospitals, convalescent homes, prisons, facilities for the mentally ill, or similar places. The risk assessment shall consider the physical and chemical characteristics of the specific type of waste(s) that will be handled and any design feature necessary for the facility.
(b) Require any facility handling ignitable, volatile or reactive wastes proposed to be sited within one mile of an immobile population, to prepare, at the developer's expense, a study detailing the maximum credible accident from a facility's operation.

6.10.12 Emergency Response/Safe Transportation Routes

Locate facilities of any type so as to minimize distances to major transportation services. Locate all facilities in areas where the fire departments are trained to respond to hazardous materials accidents. Road networks leading to major transportation routes should not pass through residential neighborhoods, should minimize residential frontages in other areas, and shall be demonstrated to be safe with regard to road design and construction, weight allowances, accident rates, excess traffic, etc.

6.10.13 Public Services

Limit all facility types to sites where public water and sewer and emergency facilities are available, except for existing landfill sites.

TRANSFER STATIONS FOR HOUSEHOLD AND SMALL QUANTITY BUSINESS GENERATORS

Existing and projected hazardous waste generation rates identified in the Santa Cruz County Hazardous Waste Management Plan indicate a need only for local collection and temporary storage (transfer) facilities to receive hazardous waste from household and small quantity (business) generators. Any and all such facilities sited in the unincorporated area of Santa Cruz County shall be subject to the following siting policies.

Policies

6.10.14 Require Environmental Review
Require proposed facilities to comply with the California Environmental Quality Act prior to approval of any permit or commitment of funding for construction of the facility.. At a minimum, projects shall be reviewed for their susceptibility to natural hazards, including seismic and slope stability; and reviewed for their impacts to natural resources including groundwater and Water Supply Watersheds. Consider approval of such facilities only when a risk assessment is performed which indicates that the risks can be made acceptable through proper engineering and appropriate conditions are included as part of the design and construction of the facility.

6.10.15 Permeable Stratas and Soils
Require all above-ground facilities to have engineered structural design features, common to other types of industrial facilities, including spill containment and monitoring devices.

6.10.16 PSD Area (Prevention of Significant Deterioration Areas)
Permit these facilities to be sited in PSD Areas, as defined in the Hazardous Waste Management Plan, only if they are necessary to handle potentially hazardous wastes generated by visitors or residents in recreational or cultural facility areas which are in the PSD zone. PSD areas meet the ambient air standards of the Clean Air Act, and thus should be prevented from significant deterioration.

6.10.17 Proximity to Waste Generators
Locate household hazardous waste collection facilities close to residential and/or commercial zoned areas to encourage their use.

6.10.18 Recreational, Historic, Cultural and Scenic Areas
Allow household hazardous waste management facilities to be located in areas of recreational, historic, cultural or scenic resources only to the extent that they are necessary to handle hazardous wastes generated by visitors, workers or residents in these areas.

TREATMENT /STORAGE DISPOSAL FACILITIES FOR INDUSTRIAL GENERATORS

Existing and projected hazardous waste generation rates identified in the Santa Cruz County Hazardous Waste Management Plan do not indicate a need for local treatment, storage or disposal facilities for industrial generators within Santa Cruz County. The existing and projected needs for treatment, storage and disposal of hazardous wastes can continue to be met by out-of-County facilities. Therefore no industrial treatment, storage or disposal facility will be allowed within Santa Cruz County, unless at some future time a need can be demonstrated as determined by the Board of Supervisors. Upon such determination, then the following siting policies shall apply.

Policies

6.10.19 Seismic Hazards
Prohibit facilities of any type to be built in zones of potential surface rupture faulting, areas of high liquefaction potential, and areas most susceptible to landslides (slopes greater than 15%).

6.10.20 Slope Stability
Prohibit facilities of any type to be built in zones of slope instability. These areas include slopes greater than 30% and areas subject to liquefaction and subsidence due to natural and man-made causes.

6.10.21 Groundwater Resources
Prohibit facilities of any type to be built in areas which are known or suspected to be a sole source aquifer or principal aquifer recharge area for a region.

6.10.22 Water Supply Watersheds
Prohibit facilities of any type to be built in areas which are known or suspected to be a Water Supply Watershed area.

6.10.23 Permeable Stratums and Soils
Exclude these facilities unless they are immediately underlain by geologic materials with a permeability of not more than 1 x 10 to the seventh power cm/second, and thick enough to prevent vertical movement of fluid to groundwater.

6.10.24 Prevention of Significant Deterioration (PSD) Areas
Consider and, if appropriate, conditionally approve, facilities in PSD areas, unless an analysis shows that air emissions cannot be adequately mitigated. These are areas which meet the ambient air standards of the Clean Air Act, and thus should be prevented from significant deterioration.

6.10.25 Coastal Zone (LCP)
Prohibit hazardous waste treatment/storage/disposal facilities of any type to be built in the areas of the Coastal Zone.

6.10.26 Recreational, Cultural or Scenic Areas
Prohibit industrial hazardous waste management facilities in areas of historic preservation and other cultural or scenic areas, as defined by the Santa Cruz County General Plan and LCP Land Use Plan.

6.10.27 Proximity to Waste Generators
Locate industrial hazardous waste collection facilities close to Large Quantity Generator (LOG) sources to minimize the risk of transportation.

Programs

a. Update the County Hazardous Waste Management Plan a minimum of every three years for compliance with State and federal regulations. (Responsibility: Environmental Health, Planning Department, Board of Supervisors)

b. Identify the types of treatment, storage and disposal facilities needed in Santa Cruz County, identify general areas where such facilities can be located, and, where appropriate, develop agreements with other counties to handle hazardous wastes produced in Santa Cruz County.

(Responsibility: Environmental Health, Planning Department, Public Works, Board of Supervisors)

ELECTRIC AND MAGNETIC FIELD EXPOSURE HAZARDS

A number of studies have examined the potential for risk to human health that may exist due to long term exposure to electric or magnetic fields found adjacent to electric powerlines. Some of these studies have found a potential for risk to human health. Siting of sensitive land uses (such as schools) and housing next to powerlines may, therefore, have an environmental health impact on users of the sensitive land uses and the residents of such housing.

ELECTRIC AND MAGNETIC FIELDS

In Santa Cruz County electric power is transferred from power generating stations to substations by means of 115,000-volt transmission lines. Substations are used to "step down" the electricity's voltage to facilitate the transfer from transmission to distribution lines. Distribution lines bring electricity from substations into neighborhoods. In Santa Cruz County, distribution lines operate at voltages from 4,000 to 21,000 volts. A magnetic field measured in units of milligauss, and an electric field, measured in volts per meter, found in the vicinity of these powerlines, and commonly called together the electromagnetic field, are a consequence of the delivery of the electric power. These fields fall off rapidly in strength with increased distance from the powerlines.

The strength of a magnetic field at a given site depends on several factors such as how many conductors are carrying the electric current, their spacing, and height above the ground. The magnetic field will also be proportional to the value of electric current being carried, which varies with electric power demand by time of day, day of week, season of the year, and changes over the years due to growth. Furthermore, the magnetic field also varies with height, so that the magnetic field in a second story bedroom could be substantially larger than the magnetic field found three feet off the ground in a first story living room. This is a consequence of getting closer to the current carrying conductors with increase in structure height or even change in ground height. The value of the magnetic field is essentially independent of the powerline voltage.

In contrast to the magnetic field, the electric field from powerline does not depend on the current being carried, but it dependent on the voltage of the line. The higher the line voltage the higher will be the electric field magnitude around the line. The value of the electric field will also be drastically modified by objects in the field. For example, the presence of housing, trees, shrubs, and people will markedly change the electric field value at a given location.

Measurements of the existing electric and magnetic fields across a given site, and at a given time, are easily made and may be available at no cost from local utilities. Estimates of the fields expected can also be obtained from existing computer programs, but would be based on assuming ideal conditions, such as parallel lines with no sag and level ground.

A typical 115,000-volt transmission powerline would have a magnetic field of 25 to 40 milligauss directly under the powerline at a height of three feet. The magnetic field would decrease with distance from the powerline and would drop off to a level of 1.5 milligauss at a distance of about 150 feet from the powerline, at the same three foot height. The same 115,000-volt transmission powerline might have an electric field of 1,000 volts per meter directly under the powerline and the electric field would drop to 50 volts per meter at a distance of somewhere between 100 and 200 feet from the powerline. Any objects in the vicinity of the powerline would drastically change these electric field values.

Numerous studies have suggested a potential for adverse health effects due to long term exposure to electric and magnetic fields, such as found near powerlines. The siting of housing, or other habitable structures,

such as schools, near powerlines will increase the electric and magnetic field exposure to future residents above the background levels and may thus increase the risk of disease.

LIMITING ELECTRIC AND MAGNETIC FIELD EXPOSURE

Due to the potential for adverse health effects a practice of "prudent avoidance" is recommended. Prudent avoidance means limiting exposures that can be avoided with relatively small investments of money or effort and generally includes increasing the distance and decreasing the time of exposure between people and sources of electric and magnetic fields.

There are no national standards or regulations specifically for powerline magnetic fields. Some local attempts at regulation have, however, been made to date. California has not established any limitations for siting homes near powerlines, although some guidelines are currently being used for school sites near transmission powerlines. The School Facilities Planning Division requires that no new schools be sited 100 feet from the edge of the right-of-way of 100,000-to-110,000-volt lines; 150 feet from 220,000-to-230,000- volt lines; and 250 feet from 345,000-volt lines.

There are generally three approaches to mitigating adverse impacts from electric and magnetic fields. The first typically involves site planning techniques to set habitable structures back from sources of electric and magnetic fields and thereby avoid hazardous doses. The second is to use engineering solutions, such as reconfiguring the powerlines, to mitigate electric and magnetic fields. The third, more difficult (and costly) approach involves placing powerlines underground and removing constraints to site development by significantly diminishing the magnetic field strength or completely eliminating the electric field, thus reducing the potential health hazard.

1. **Site Planning**
   With a transmission or distribution powerline crossing a subdivision site, the subdivision could be designed to set habitable buildings back from the powerlines, in a manner consistent with the current state of scientific knowledge.

2. **Undergrounding the Powerline**
   It is possible substantially to reduce the electric and magnetic fields by undergrounding the powerlines in a metallic pipe. The electric field would be esentially eliminated by the shielding of the metallic pipe and the magnetic field could be considerably reduced because the conductors are placed closer together causing the magnetic fields from the individual conductors to partially cancel each other.

3. **Reconfiguring the Powerlines**
   The number of conductors in a transmission or distribution powerline can be increased and their current fed (phased) in ways to achieve significant cancellation of the electric and magnetic fields near the ground. The techniques to considerably lower the fringing electric and magnetic fields around powerlines are known at this time. In addition there is considerable research effort underway in this area.

Objective 6.11a Electric and Magnetic Energy

To protect the public from potential health hazards associated with electric and magnetic fields based on the then current state of scientific knowledge through appropriate limitations on the use and development of land near electric transmission and distribution powerlines and substations which could create health hazards.

Objective 6.11b New Electrical Facilities

The planning, siting, and construction of future electrical facilities should minimize electric and magnetic fields near sensitive areas (for example schools, hospitals, playgrounds), residential uses, existing areas of high electric and magnetic exposure, and areas of future development.

Policies

6.11.1 Prudent Avoidance

In regard to exposure of electric and magnetic fields, the policy of the County of Santa Cruz is one of "prudent avoidance." Prudent avoidance assumes that exposure to electric and magnetic fields may present a health risk. The policies in this section shall apply to residential land divisions or other new discretionary development and other sensitive land uses, not including development of one single-family dwelling on an existing lot of record.

6.11.2 Measuring Ambient Magnetic Fields

Require the measurement of the ambient magnetic fields for all residential land divisions or other new discretionary development (not including development of one single-family dwelling on an existing lot of record) where such property is within 150 feet of 21 kv or greater transmission or distribution powerlines of the electric power delivery system. The measurements should delineate the area on the site where the magnetic field is above the level at which potential health effects may exist, based on the then current state of scientific knowledge.

6.11.3 Development Mitigation Measures

Utilize the following techniques to minimize exposure to potentially hazardous electric and magnetic fields from electric powerlines.

(a) Site Planning – Locate and/or cluster habitable building envelopes away from the potentially hazardous electric and magnetic fields consistent with the current state of scientific knowledge.

(b) Underground the Powerline – Reduce the electric and magnetic fields by undergrounding powerlines in a metallic pipe or other appropriate insulator.

(c) Reconfigure the Powerline – Reconfigure lines and conductors in transmission or distribution lines to achieve significant cancellation of the electric and magnetic fields near the ground.

6.11.4 New Transmission and Distribution Facilities

The siting of new transmission and distribution powerlines and substations shall minimize electric and magnetic fields near existing sensitive areas, residential uses, existing areas of high electric and magnetic field exposure, and areas of future development. Public exposure to electric and magnetic fields shall not be increased where practical alternatives exist.

Programs

a. Work with PG&E and other relevant private and public organizations to maintain EMF informational handouts and reference lists for public education. (Responsibility: Public Works Department, Environmental Health)

b. Identify those areas where a potential hazard from exposure to electric and magnetic fields exist by mapping the location of the transmission lines, distribution lines, and substations in the County. (Responsibility: Public Works Department, Environmental Health, Information Service-GIS)

ENVIRONMENTAL JUSTICE

In 2016, the State of California also adopted requirements for General Plans to address environmental justice for disadvantaged communities. Disadvantaged communities are defined as low-income areas (at or below 80% of area median household income) that are disproportionately affected by environmental pollution and other hazards that can lead to negative health effects, exposure or environmental degradation. While the unincorporated area of Santa Cruz County contains a small agricultural area near Watsonville that meets the meets the technical definition of disadvantaged community, certain sub-areas of unincorporated Santa Cruz County can at times be of similar status as a disadvantaged community, depending upon how the geographic limits are defined and upon economic circumstances of the area population as the economy and housing market changes. This Safety Element therefore incorporates environmental justice requirements and generally addresses these unique or compounded health risks for these certain sub-areas that may at times qualify as disadvantaged communities, including policies regarding promotion of civil engagement in public decision making, and prioritization of improvements and programs that address the needs of disadvantaged communities.

In Santa Cruz, the community areas and environmental hazards that may at times qualify as disadvantaged communities affected by pollution or hazards include:

1. Areas of San Lorenzo Valley affected by woodsmoke from heavy use of fireplaces and woodstoves in homes;

2. Areas in San Lorenzo Valley that are affected by the lack of sewer infrastructure and existence of older and possibly failing septic systems;

3. Areas in Davenport that are subject to high water and sewer treatment rates due to the nature of infrastructure and small number of users;

4. Areas in Soquel and Live Oak that are subject to moratoriums due to inadequate and/or undersized stormwater and sanitation infrastructure; and

5. Areas within the Soquel Creek Water District that are served by a groundwater basin that is in overdraft and households subject to high costs to connect to and be served by the system.

6. Area within the Freedom area of the County affected by high costs to maintain and upgrade sewer infrastructure.

Objective 6.12.1 Environmental Justice

Address unique or compounded health risks for areas that may be considered disadvantaged communities affected by pollution or hazards, through developing plans to address the pollution or hazards, and providing funding as feasible through the Capital Improvement Plan and County Budget processes and through seeking funding from federal, state, regional or local grant programs.

Policies

6.12.1 Civil Engagement

Promote civil engagement within disadvantaged communities in public decision making.

6.12.2 Woodburning Fireplaces and Stove

In recognition of the broad public health benefits that result from decreased burning of wood and wood pellets to heat homes, reduce or waive permit fees for change-outs of woodburning fireplaces and stoves to gas-fired appliances.

6.12.3 Cement Plan Re-Use

Support a re-use of the cement plant site in Davenport that will modernize and improve water and sewage treatment, and will lower costs to community residents and businesses.

6.12.4 Septic Systems

Support modern septic treatment approaches in the San Lorenzo Valley in order to phase out underperforming septic systems and improve water quality and the environment.

6.12.5 Groundwater Management

Support efforts of the Soquel Creek Water District to identify a water source that will prevent further overdraft of the aquifer and lead to recharge and recovery of the aquifer.

6.12.6 Drainage and Sanitation Facilities

Update Stormwater Drainage and Sanitation Facilities Master Plans in order to ensure availability of infrastructure to serve planned development in the Soquel and Live Oak areas.

6.12.7 Local Income Surveys

Perform local income surveys to determine if an area is considered a disadvantaged community in order to qualify for grant opportunities from state and federal sources.

6.12.8 Disadvantaged Communities

Prioritize improvements and programs that address the needs of disadvantaged communities.

This page intentionally left blank.

Chapter 16.10
GEOLOGIC HAZARDS

Sections:

Prior legislation: Ords. 4048 and 4149.

16.10.010 Purpose.

The purposes of this chapter are:

(A) Policy Implementation. To implement the policies of the State of California Alquist-Priolo Earthquake Fault Zoning Act, the Santa Cruz County General Plan, and the Land Use Plan of the Local Coastal Program; and

(B) Public Health and Safety. To minimize injury, loss of life, and damage to public and private property caused by the natural physical hazards of earthquakes, floods, landslides, and coastal processes; and

(C) Development Standards. To set forth standards for development and building activities that will reduce public costs by preventing inappropriate land uses and development in areas where natural dynamic processes present a potential threat to the public health, safety, welfare, and property; and

(D) Notice of Hazards. To assure that potential buyers are notified of property located in an area of geologic hazard, and to assure that those who occupy areas of geologic hazard assume responsibility for their actions. [Ord. 4518-C § 2, 1999; Ord. 3598 § 1, 1984; Ord. 3340 § 1, 1982].

16.10.020 Scope.

This chapter sets forth regulations and review procedures for development and construction activities including grading, septic systems installation, development permits, changes of use as specified in SCCC 16.10.040(f), building permits, minor land divisions, and subdivisions throughout the County. These regulations and procedures shall be administered through a system of geologic hazard assessment, technical review, development and building permits. [Ord. 4518-C § 2, 1999; Ord. 3808 § 1, 1986; Ord. 3635 § 1, 1985; Ord. 3598 § 1, 1984; Ord. 3340 § 1, 1982].

16.10.022 Statutory authorization.

The State of California has in Government Code Sections 65302, 65560, and 65800 conferred upon local government units the authority to adopt regulations designed to promote public health, safety, and general welfare of its citizenry through the adoption of the geologic hazard regulations of this Chapter. [Ord. 4518-C § 2, 1999].

16.10.030 Amendment procedure.

Any revision to this chapter which applies to the Coastal Zone shall be reviewed by the Executive Director of the California Coastal Commission to determine whether it constitutes an amendment to the Local Coastal Program. When an ordinance revision constitutes an amendment to the Local Coastal Program, such revision shall be processed pursuant to the hearing and notification provisions of Chapter 13.03 SCCC and shall be subject to approval by the California Coastal Commission. [Ord. 4518-C § 2, 1999; Ord. 3598 § 1, 1984; Ord. 3340 § 1, 1982].

16.10.035 Conflict with existing regulations.

This chapter is not intended to repeal, nullify, or impair any existing easements, covenants, or deed restrictions. If this chapter and any other ordinance, easement, covenant, or deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail. [Ord. 4518-C § 2, 1999].

16.10.037 Severability.

This chapter and the various parts hereof are hereby declared to be severable. Should any section of this chapter be declared by the courts to be unconstitutional or invalid, such decision shall not affect the validity of the chapter as a whole, or any portion thereof other than the section so declared to be unconstitutional or invalid. [Ord. 4518-C § 2, 1999].

16.10.040 Definitions.

For the purposes of this chapter, the following definitions apply:

(1) “Active fault” means a fault that has had surface displacement within Holocene time (about the last 11,000 years).

(2) “Active landslide” means a landslide that is presently moving or has recently moved as indicated by distinct topographic slide features such as sharp, barren scarps, cracks, or tipped (jackstrawed) trees.

(3) “Addition” means improvement to an existing structure that increases its area, measured in square feet. The use of breeze ways, corridors, or other non-integral connections between structures shall not cause separate buildings or structures to be considered additions to an existing structure.

(4) “Adjacent/contiguous parcel” means a parcel touching the subject parcel and not separated from the subject parcel by a road, street or other property.

(5) “Beach erosion” means temporary or permanent reduction, transport or removal of beach sand by littoral drift, tidal actions, storms or tsunamis.

(6) “Coastal bluff” means a bank or cliff along the coast subject to coastal erosion processes, including historic wave erosion. “Coastal bluff” refers to the top edge, face, and base of the subject bluff.

(7) “Bluff line or edge” means the upper termination of a bluff, cliff, or seacliff. In cases where the top edge of the cliff is rounded away from the face of the cliff as a result of erosional processes related to the presence of the steep cliff face, the bluff line or edge shall be defined as that point nearest the cliff beyond which the downward gradient of the surface increases more or less continuously until it reaches the general gradient of the cliff. In a case where there is a steplike feature at the top of the cliff face, the landward edge of the topmost riser shall be taken to be the cliff edge. The termini of the bluff line, or edge along the seaward face of the bluff, shall be defined as a point reached by bisecting the angle formed by a line coinciding with the general trend of the bluff line along the seaward face of the bluff, and a line coinciding with the general trend of the bluff line along the inland facing portion of the bluff. Five hundred feet shall be the minimum length of bluff line or edge to be used in making these determinations.

(8) “Coastal dependent uses” means any development or use which would not function or operate unless sited on or adjacent to the ocean.

(9) “Coastal erosion processes” means natural forces that cause the breakdown and transportation of earth or rock materials on or along beaches and bluffs. These forces include, but are not limited to, landsliding, surface runoff, wave action and tsunamis.

(10) “Coastal hazard areas” means areas which are subject to physical hazards as a result of coastal processes such as landsliding, erosion of a coastal bluff, and inundation or erosion of a beach by wave action.

(11) “County geologist” means a County employee who is a California licensed Professional Geologist who has been authorized by the Planning Director to assist in the administration of this chapter, or a California licensed Professional Geologist under contract by the County who has been authorized by the Planning Director to assist in the administration of this chapter.

(12) “County geologic advisor” means an individual who is a California licensed Professional Geologist who may be employed by the County to provide geologic services.

(13) “Critical structures and facilities” means structures and facilities which are subject to specified seismic safety standards because of their immediate and vital public need or because of the severe hazard presented by their structural failure. These structures include hospitals and medical facilities, fire and police stations, disaster relief and emergency operating centers, large dams and public utilities, public transportation and communications facilities, buildings with involuntary occupancy such as schools, jails, and convalescent homes, and high occupancy structures such as theaters, churches, office buildings, factories, and stores.

(14) Development/Development Activities. For the purposes of this chapter, any project that includes activity in any of the following categories is considered to be development or development activity. This chapter does not supersede SCCC 13.20.040 for purposes of determining whether a certain activity or project is considered development that requires a coastal development permit; some activities and projects will require coastal development permits although they do not fall under the following specific definition:

> (a) The construction or placement of any habitable structure, including a manufactured home and including a non-residential structure occupied by property owners, employees and/or the public;

(b) Modification, reconstruction or replacement of 50 percent of the major structural components—consisting of the foundation, floor framing, exterior wall framing, and roof framing—of an existing habitable structure within any consecutive five-year period, or modification, reconstruction or replacement of 50 percent of the major structural components of an existing critical structure or facility, as defined by this chapter, within any consecutive five-year period, whether the work is done at one time or as the sum of multiple projects. For the purpose of this Chapter, the following are not considered major structural components: exterior siding; nonstructural door and window replacement; roofing material; decks; chimneys; and interior elements including but not limited to interior walls and sheetrock, insulation, kitchen and bathroom fixtures, mechanical, electrical and plumbing fixtures. The extent of alterations to major structural components will be calculated in accordance with administrative guidelines adopted by resolution of the Board of Supervisors;

(c) The addition of habitable square footage to any structure, where the addition increases the habitable square footage by more than 50 percent or 500 square feet, whichever is greater, over the existing habitable space within a consecutive five-year period. This allows a total increase of up to 50 percent of the original habitable space of a structure, whether the additions are constructed at one time or as the sum of multiple additions over a consecutive five-year period;

(d) An addition of any size to a structure that is located on or adjacent to a coastal bluff, on a dune, or in the coastal hazard area, that extends the existing structure in a seaward direction;

(e) A division of land or the creation of one or more new building sites, except where a land division is accomplished by the acquisition of such land by a public agency for public recreational use;

(f) Any change of use from nonhabitable to habitable, according to the definition of "habitable" found in this section, or a change of use from any noncritical structure to a critical structure;

(g) Any repair, alteration, reconstruction, replacement or addition affecting any structure that meets either of the following criteria:

(i) Posted "Limited Entry" or "Unsafe to Occupy" due to geologic hazards, or

(ii) Located on a site associated with slope stability concerns, such as sites affected by existing or potential debris flows;

(iii) Defined as a critical structure or facility;

(h) Grading activities of any scale in the 100-year floodplain or the coastal hazard area, and any grading activity which requires a permit pursuant to Chapter 16.20 SCCC;

(i) Construction of roads, utilities, or other facilities;

(j) Retaining walls which require a building permit, retaining walls that function as a part of a landslide repair whether or not a building permit is required, shoreline and coastal bluff protection structures, sea walls, rip-rap erosion protection or retaining structures, and gabion baskets;

(k) Installation of a septic system;

(l) Any human-made change to developed or undeveloped real estate in the special flood hazard area, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation, drilling operations, or storage of equipment or materials. This is in addition to any activity listed in subsections (14)(a) through (k) of this section;

(m) Any other project that is defined as development under SCCC 13.20.040, and that will increase the number of people exposed to geologic hazards, or that is located within a mapped geologic hazard area, or that may create or exacerbate an existing geologic hazard, shall be determined by the Planning Director to constitute development for the purposes of geologic review.

(15) "Development envelope" means a designation on a site plan, parcel map or grading plan indicating where buildings, access roads and septic systems, and other development are to be located.

(16) "Fault zones" are areas delineated by the State Geologist, pursuant to the Alquist-Priolo Earthquake Fault Zoning Act (Public Resources Code Section 2621 et seq.) which encompasses the traces of active faults; as well as a zone or zones of fracture designated in the General Plan or Local Coastal Program Land Use constraints maps, or other maps and source materials authorized by the Planning Director.

(17) "Fault trace" is that line formed by the intersection of a fault and the earth' surface and is the representation of a fault as depicted on a map, including maps of earthquake fault zones.

(18) "Fill" means the deposition of earth or any other substance or material by artificial means for any purpose, or the condition resulting from a fill taking place.

(19) "Flood insurance rate map (FIRM)" means the map adopted by the Board of Supervisors and used for insurance purposes on which the Federal Insurance Administration has delineated the special flood hazard areas, base flood elevations and the risk premium zones applicable to the community. The FIRM became effective on April 15, 1986, for insurance purposes.

(20) "Geologic hazard" means a threat to life, property, or public safety caused by geologic or hydrologic processes such as flooding, wave inundation, landsliding, erosion, surface fault ground rupture, ground cracking, and secondary seismic effects including liquefaction, landsliding, tsunami and ground shaking.

(21) "Geologic hazards assessment" means a summary of the possible geologic hazards present at a site conducted by the County Geologist or a California licensed Professional Geologist.

(22) "Geologic report, full" means a complete geologic investigation conducted by a professional geologist hired by the applicant and completed in accordance with the County geologic report guidelines.

(23) "Geotechnical investigation / report" means a report prepared by a Professional Engineer, hired by the applicant, and completed in accordance with the requirements of this Chapter and County soils (geotechnical) report guidelines. This term is synonymous with the term "soils investigation" or "soils report."

(24) "Grading" means excavating or filling land, or a combination thereof.

(25) "Habitable" means, for the purposes of this chapter, any structure or portion of a structure, whether or not enclosed, that is usable for living purposes, which include working, sleeping, eating, recreation, or any combination thereof. The purpose and use of the space, as described above, defines the habitable nature of the space. The term "habitable" also includes any space that is heated or cooled, humidified or dehumidified for the provision of human comfort, and/or is insulated and/or finished in plasterboard, and/or contains plumbing other than hose bibs.

(26) "Hardship" means, for the purposes of administering SCCC 16.10.100, the exceptional hardship that would result from failure to grant the requested exception. The specific hardship must be exceptional, unusual, and peculiar to the property involved. Economic or financial hardship alone is not exceptional. Inconvenience, aesthetic considerations, personal preferences, or the disapproval of neighbors also cannot qualify as exceptional hardship, as these problems can be resolved through means other than granting an

exception, even if those alternative means are more expensive, require a property owner to build elsewhere, or put the parcel to a different use than originally intended or proposed.

(27) "High and very high liquefaction potential areas" means areas that are prone to liquefaction caused by ground shaking during a major earthquake. These areas are designated on maps which are on file with the Planning Department.

(28) "Hydrologic investigation" means a report prepared by a professional geologist or civil engineer with expertise in hydrology which analyzes surface hydrology and/or groundwater conditions.

(29) "Littoral drift" means the movement of beach sand parallel to the coast due to wave action and currents.

(30) "Liquefaction" means the process whereby saturated, loose, granular materials are transformed by ground shaking during a major earthquake from a stable state into a fluid-like state.

(31) "Multiple-residential structure" means a single structure containing four or more individual residential units.

(32) "Natural disaster" means any situation in which the force or forces of nature causing destruction are beyond the control of people.

(33) "Nonessential public structures" means public structures which are not integral in providing such vital public services as fire and police protection, sewer, water, power and telephone services.

(34) "Planning Director" means the Planning Director of the County of Santa Cruz or his or her designee.

(35) "Professional Engineer" means an engineer who is licensed by the State of California to practice engineering.

(36) "Professional Geologist" means a geologist who is licensed by the State of California to practice geology.

(37) "Public facilities" means any structure owned and/or operated by the government directly or by a private corporation under a government franchise for the use or benefit of the community.

(38) "Recent" means a geologic feature (fault or landslide) which shows evidence of movement or activity within Holocene time (about the last 11,000 years).

(39) "Shoreline or coastal bluff armoring armoring" means any structure or material, including but not limited to riprap or a seawall, placed in an area where coastal processes operate.

(40) "Soils investigation / report" means a report prepared by a Professional Engineer, hired by the applicant, and completed in accordance with the County soils report guidelines. This term is synonymous with the term "geotechnical investigation."

(41) Special Flood Hazard Area (SFHA). The land in a flood plain subject to a 1 percent or greater annual chance of flooding in any given year. Special flood hazard areas are in general shown on a FIRM as Zones A, AO, A1-A30, AE, A99, AH, V1-V30, VE and V, but can also be determined by the Floodplain Administrator to occur where not shown on the FIRM. Also known as the flood hazard area, FHA, area of special flood hazard, or area of the 1% annual chance flood.

(42) "Structure" means anything constructed or erected which requires a location on the ground, including, but not limited to, a building, manufactured home, gas or liquid storage tank, or facility such as a road, retaining wall, pipe, flume, conduit, siphon, aqueduct, telephone line, electrical power transmission or distribution line.

(43) "Subsurface geologic investigation" means a geologic report prepared by a professional geologist that provides information on subsurface materials through trenching, test pits, borings or other methods acceptable to the County Geologist.

16.10.050 Requirements for geologic and geotechnical assessment.

(A) All development is required to comply with the provisions of this Chapter.

(B) Hazard Assessment Required. A geologic hazards assessment shall be required for all development activities, and foundation replacements or upgrades, in the following designated areas: fault zones, sites with suspected instability, and coastal hazard areas, except as specified in subsections (D) (E) and (F) of this section, where a full geologic report will be prepared according to the County guidelines for engineering geologic reports. The County Geologist may waive the requirement for a hazard assessment based upon a determination that there is adequate information on file. A geologic hazards assessment shall also be required for development located in other areas of geologic hazard, as identified by the County Geologist or designee, using available technical resources, from environmental review, or from other field review.

(C) Geotechnical (Soils) Report Required. A geotechnical report shall be required when determined to be necessary by civil engineering staff, the County geologist, or the California Building Code (CBC).

(D) Geologic Report Required. A full geologic report shall be required for the following:

(1) For all proposed land divisions and critical structures and facilities in the areas defined as earthquake fault zones on the State Alquist-Priolo Earthquake Fault Zoning Act maps;

(2) Whenever a significant potential hazard is identified by a geologic hazards assessment;

(3) For all new reservoirs to serve major water supplies;

(4) Prior to the construction of any critical structure or facility in designated fault zones; and

(5) When a property has been identified as "Unsafe to Occupy" due to adverse geologic conditions, no discretionary approval or building permit (except approvals and permits that are necessary solely to mitigate the geologic hazard) shall be issued prior to the review and approval of geologic reports and the completion of mitigation measures, as necessary.

(6) For all new water tanks in excess of 10,000 gallons which are located in an area of geologic hazards as identified by the County Geologist;

(E) Potential Liquefaction Area. A site-specific soil investigation (with input from a Professional Geologist, when required by civil engineering staff or the County Geologist) shall be required for all development applications for more than four residential units, in areas of high or very high liquefaction potential, or when required by the California Building Code. Development applications for four units or less, one story structures and nonresidential projects shall be reviewed for liquefaction hazard through environmental review and/or geologic hazards assessment. When a significant hazard may exist, a site-specific soils investigation shall be required.

(F) Additional Report Requirements. Additional information (including but not limited to full geologic, subsurface geologic, hydrologic, geotechnical or other engineering investigations and reports) shall be required when a hazard or foundation constraint requiring further investigation is identified. [Ord. 4518-C § 2, 1999; Ord. 3598 § 1, 1984; Ord. 3340 § 1, 1982].

16.10.060 Assessment and report preparation and review.

(A) Timing of Geologic Review. Any required geologic, soil, or other technical report shall be completed, reviewed and accepted pursuant to the provisions of this section before any public hearing is scheduled and before any discretionary, development application or building permit is approved or issued.

The County Geologist may agree to defer the date for completion, review, or acceptance of any technical report where the technical information is (1) unlikely to significantly affect the size or location of the project, and (2) the project is not in the area of the Coastal Zone where decisions are appealable to the Coastal Commission. In no event shall such be deferred until after the approval or issuance of a building permit.

(1) An application for a geologic hazards assessment shall include a plot plan showing the property boundaries and location of proposed development activities. Any other information deemed necessary by the County Geologist (including but not limited to topographic map, building elevations or grading plans) shall be submitted upon request.

(2) An application for a geologic hazards assessment or a technical report review constitutes a grant of permission for the Planning Director, or agents, to enter the property for the purposes of responding to the application.

(B) Geologic Hazards Assessment Preparation. The geologic hazards assessment shall be prepared by County staff. Alternately, the assessment may be conducted by a private Professional Geologist at the applicant's choice and expense. Such privately prepared assessments shall, however, be subject to review and acceptance as specified in this section. Application for review of a geologic hazards assessment is not an application for a development permit.

(C) Report Acceptance. All geologic, soils, engineering, and hydrologic reports or investigations submitted to the County as a part of any development application must be found by the County to conform to State and County report guidelines and requirements. The Planning Director may require an inspection in the field of all exploratory trenches, test pits, and borings excavated for a technical report.

(D) Geologic Hazard Assessment and Report Expiration. A geologic hazards assessment and all recommendations and requirements given therein shall remain valid for three years from the date of completion. Geotechnical and geologic reports shall remain valid and all recommendations therein shall remain in effect for three years from the date of completion of the report unless a shorter period is specified in the report by the preparer. An exception to the three-year period of validity is where a change in site conditions, development proposal, technical information or County policy significantly affects the technical data, analysis, conclusions or requirements of the assessment or report; in which case the Planning Director may require a new or revised assessment or report.

(E) Change or Cancellation of Professional in Responsible Charge. When the professional in responsible charge of a report accepted by the County is changed or is no longer involved in the project, notice shall be given by the professional and the property owner to the County within 7 days of such change or cancellation. [Ord. 4518-C § 2, 1999; Ord. 3598 § 1, 1984; Ord. 3340 § 1, 1982].

16.10.070 Permit conditions.

The recommendations of the geologic hazards assessment, full geologic report, and/or the recommendations of other technical reports (if reviewed and accepted by the Planning Director), shall be incorporated into the project plans or included as permit conditions of any permit or approvals subsequently issued for the development. In addition, the requirements described below for specific geologic hazards shall become standard conditions for development, building and land division permits and approvals. No development, building and land division permits or approvals shall be issued, and no final maps or parcel maps shall be recorded, unless such activity is in compliance with the requirements of this section.

(A) General. If a project is not subject to geologic review because the structure is nonhabitable and is not otherwise considered to be development under this chapter, a declaration of restrictions for the nonhabitable structure shall be recorded on the property deed that includes an acknowledgment that any

change of use to a habitable use, or physical conversion to habitable space, shall be subject to the provisions of this chapter.

(B) Notice and Acknowledgement of Hazards. The developer and/or subdivider of a parcel or parcels in an area of geologic hazards shall be required, as a condition of development approval and building permit approval, to record a Notice of Geologic/Coastal Hazards, Acceptance of Risk, Liability Release, and Indemnification with the County Recorder. The Notice shall be in a form approved by the County of Santa Cruz and shall include a description of the hazards on the parcel, and the level of geologic and/or geotechnical investigation conducted, and shall include acknowledgements and agreements, as applicable to the specific project.

(C) Fault Zones.

(1) Location. Development shall be located away from potentially hazardous areas as identified by the geologic hazards assessment or full geologic report.

(2) Setbacks. Habitable structures shall be set back a minimum of 50 feet from the edge of the area of fault induced offset and distortion of active and potentially active fault traces. This setback may be reduced to a minimum of 25 feet from the edge of this zone, based upon paleoseismic studies that include observation trenches. Reductions of the required setback may only occur when both the consulting Professional Geologist preparing the study and the County Geologist observe the trench and concur that the reduction is appropriate. Critical structures and facilities shall be set back a minimum of 100 feet from the edge of the area of fault induced offset and distortion of active and potentially active fault traces.

(3) Other Conditions. Other permit conditions, including but not limited to project redesign, elimination of building sites, and the delineation of development envelopes, building setbacks and foundation requirements, shall be required as deemed necessary by the Planning Director.

(D) Groundshaking.

(1) New Dams. Dams shall be constructed according to high seismic design standards of the Dam Safety Act and as specified by structural engineering studies.

(2) Public Facilities and Critical Structures and Facilities. All new public facilities and critical structures shall be designed to withstand the expected groundshaking during the design earthquake on the San Andreas fault or San Gregorio fault.

(3) Other Conditions. Other permit conditions including but not limited to structural and foundation requirements shall be required as deemed necessary by the Planning Director.

(E) Liquefaction Potential.

(1) Permit Conditions. Permit conditions including, but not limited to, project redesign, elimination of building sites, delineation of development envelopes and drainage and foundation requirements shall be required as deemed necessary by the Planning Director.

(F) Slope Stability.

(1) Location. All development activities shall be located away from potentially unstable areas as identified through the geologic hazards assessment, full engineering geologic report, soils(geotechnical) report or other environmental or technical assessment.

(2) Creation of New Parcels. Allow the creation of new parcels in areas with potential slope instability as identified through a geologic hazards assessment, full geologic report, soils (geotechnical) report or other environmental or technical assessment only under the following circumstances:

(a) New building sites, roadways, and driveways shall not be permitted on or across slopes exceeding 30 percent grade.

(b) A full engineering geologic report and any other appropriate technical report shall demonstrate that each proposed parcel contains at least one building site and access which are not subject to significant slope instability hazards, and that public utilities and facilities such as sewer, gas, electrical and water systems can be located and constructed to minimize potential for landslide damage and not cause a health or safety hazard.

(c) New building sites shall not be permitted which would require the construction of engineered protective structures such as retaining walls, diversion walls, debris walls or slough walls, or foundations designed to mitigate potential slope instability problems such as debris flows, slumps or other types of landslides.

(3) Drainage. Drainage plans designed to direct runoff away from unstable areas (as identified from the geologic hazards assessment or other technical report) shall be required. New drainage improvements shall not adversely affect slope stability and not increase the danger that any other property or public improvements will be impacted by potentially unstable slopes or landsliding. Drainage plans shall be completed by a Professional Engineer and reviewed by both the Professional Geologist (if required by the County Geologist) and other Professional Engineers as part of the design team. Such plans shall be reviewed and accepted by the County Geologist.

(4) Leach Fields. Septic leach fields shall not be permitted in areas subject to landsliding as identified through the geologic hazards assessment, environmental assessment, or full geologic report.

(5) Road and Driveway Reconstruction. Where washouts or landslides have occurred on public or private roads and driveways, road and driveway reconstruction shall meet the conditions of appropriate geologic, soils (geotechnical) and/or engineering reports and shall have adequate geologic, soils, and other engineering supervision and permits as required by the County Code.

(6) New Road and Driveway Construction. New roads and driveways shall be located away from potentially unstable areas as identified through the geologic hazards assessment, full engineering geologic report, soils(geotechnical) report or other environmental or technical assessment.

(7) Other Conditions. Other permit conditions including but not limited to project redesign, building site elimination and the development of building and septic system envelopes, building setbacks and foundation and drainage requirements shall be required as deemed necessary by the Planning Director.

(G) Floodplains. The provisions of Chapter 16.13 Flood Hazards shall apply to all development, as defined in that Chapter, that is wholly within, partially within, or in contact with any flood hazard area, or other areas as identified by the Floodplain Administrator, including but not limited to the subdivision of land; filling, grading, and other site improvements and utility installations; construction, alteration, remodeling, enlargement, replacement, repair, relocation or demolition of any building or structure; placement, installation, or replacement of manufactured homes; installation or replacement of tanks; placement of temporary structures and temporary storage; installation of swimming pools; and miscellaneous and utility structures.

(H) Coastal Bluffs and Beaches.

(1) Criteria in Areas Subject to Coastal Bluff Erosion. Projects in areas subject to coastal bluff erosion shall meet the following criteria:

(a) All development activities, including those which are cantilevered, and non-habitable structures for which a building permit is required, shall be set back a minimum

of 25 feet from the top edge of the bluff. A setback greater than 25 feet may be required based on conditions on and adjoining the site. The setback shall be sufficient to provide a stable building site over the expected design life of the structure, as determined through geologic, geotechnical, hydrologic, or other engineering reports. A new or redeveloped residential or commercial structure has an expected design life of 75 years. A critical structure or facility has an expected design life of 100 years.

(b) The determination of the minimum setback shall be based on the existing site conditions and shall not take into consideration the effect of any proposed protection measures, such as shoreline or coastal bluff armoring structures, retaining walls, or deep piers.

(c) Within the Urban and Rural Services Lines, the calculation of the 75 or 100-year geologic/coastal setback, or reduced setback requested under an exception procedure, may take into consideration the effect of a legally established shoreline or coastal bluff armoring. However, armoring installed under an emergency coastal permit shall not be factored into the setback calculation unless a regular Coastal Development Permit is issued, and all conditions of the permit are met. In addition, technical reports prepared for sites within the Urban and Rural Services Lines shall also include analysis based upon an alternative calculation of the 75 or 100-year setback that neglects any effect of an existing shoreline or coastal bluff armoring, in order to provide a measure of the effects of the existing protection measure on the site conditions.

(d) Outside the Urban and Rural Services Lines the calculation of the 75 or 100-year geologic/coastal hazards setback shall not take into consideration the effect of any existing or proposed shoreline or coastal bluff armoring.

(e) Foundation replacement and/or foundation upgrades that meet the definition of development activity in Chapter 13.20 Coastal Regulations shall meet the 25-foot minimum or the 75 or 100-year geologic/coastal hazard setback requirements. An exception to the setback requirement may be granted for existing structures that are wholly or partially within the setback if the property owner agrees to record a Notice of Geologic/Coastal Hazard prior to issuance of the building permit, and if the Planning Director determines that:

(i) The structure will be relocated to maximize the setback from the coastal bluff or shoreline; or

(ii) The structure cannot be relocated to meet the setback because of inadequate parcel size.

(f) Additions, including second story and cantilevered additions, which extend the existing structure in a seaward direction, shall comply with the minimum 25-foot and 75 or 100-year setback.

(g) Acceptance of drainage and landscape plans for the site by the County Geologist. Drainage plans shall be prepared by a Professional Engineer and reviewed by both the project Professional Geologist and other Professional Engineer when part of the design team.

(h) Service transmission lines and utility facilities are prohibited unless they are necessary to serve existing development or public facilities.

(i) New swimming pools, spas and similar in-ground and above-ground water recreation or fishpond types of features shall be located landward of the applicable geologic/coastal hazard setback. Any new water-containing features of this nature shall

have double-wall construction with leak detection systems and drains to facilities and locations approved by the County.

(j) Accessory structures must include a condition of approval that requires the property owner and all successors in interest to remove the structure if the County Geologist, the Building Official or a Professional Engineer determines that the accessory structure is at risk of failure due to erosion, landslide or other form of bluff collapse or geologic/coastal hazard. In the event that portions of the development fall to the bluffs or ocean before they are removed/relocated, the landowner will remove all recoverable debris associated with the development from the bluffs and ocean and lawfully dispose of the material in an approved disposal site.

(k) All other required local, State and Federal permits shall be obtained.

(2) Exemption.

(a) Any project which does not specifically require a building permit pursuant to Section 12.10.315 (exempted work) of the County Code is exempt from subsection (H)(1) of this section, with the exception of: nonhabitable accessory structures that are located within the minimum 25-foot setback from the coastal bluff where there is space on the parcel to accommodate the structure outside of the setback, above-ground pools, water tanks, projects (including landscaping) which would unfavorably alter drainage patterns, and projects involving grading.

For the purposes of this section, "the unfavorable alteration of drainage" is defined as a change that would significantly increase or concentrate runoff over the bluff edge or significantly increase infiltration into the bluff. "Grading" is defined as any earthwork other than minor leveling, of the scale typically accomplished by hand, necessary to create beneficial drainage patterns or to install an allowed structure, that does not excavate into the face or base of the bluff.

Examples of projects which may qualify for this exemption include: decks which do not require a building permit and do not unfavorably alter drainage, play structures, showers (where runoff is controlled), benches, statues, landscape boulders, benches, and gazebos which do not require a building permit.

(b) If a structure that is constructed pursuant to this exemption subsequently becomes unstable due to erosion or slope instability, the threat to the exempted structure shall not qualify the parcel for a coastal bluff retaining structure or shoreline protection structure. If the exempted structure itself becomes a hazard it shall either be removed or relocated, rather than protected in place at the direction of the County.

(3) Shoreline and coastal bluff armoring shall be governed by the following:

(a) New Shoreline and coastal bluff protection structures shall only be allowed on parcels where both adjacent parcels are already similarly protected, or where necessary to protect existing structures from a significant threat, or on vacant parcels which, through lack of protection threaten adjacent developed lots, or to protect public roads and infrastructure, public beaches, and coastal dependent uses.

(b) New shoreline and coastal bluff protection structures shall not be allowed where the existing structure proposed for protection was granted an exemption pursuant to subsection (H)(2) of this section.

(c) Application for shoreline and coastal bluff protective structures shall include thorough analysis by a Professional Engineer or Professional Geologist of all reasonable alternatives to such structures, including but not limited to the following:

(i) Relocation or partial removal of the threatened structure

(ii) Protection of the upper bluff and blufftop (including through planting appropriate native or non-invasive vegetation and removing invasive plant species, and better drainage controls) or the area immediately adjacent to the threatened structure

(iii) Natural or "green" infrastructure (like vegetated beaches, dune systems, and wetlands)

(iv) Engineered shoreline or coastal bluff armoring (such as beach nourishment, revetments, or vertical walls)

(v) Other engineered systems to buffer coastal areas

(vi) Combinations or hybrids of the above

(vii) Consistency with an approved shoreline management plan, if applicable

(d) Shoreline and coastal bluff protection structures shall be placed as close as possible to the coastal bluff or structure requiring protection and must be designed to minimize adverse impacts. Design considerations include but are not limited to the following:

(i) Minimize the footprint of the armoring on the beach

(ii) Provide for public recreational access

(iii) Provide for future access for maintenance of the armoring

(iv) Strive for a continuous lateral pedestrian access as physically feasible

(v) Minimize visual intrusion by using materials that blend with the color or natural materials in the area, contouring to match nearby landforms as much as possible, and using vegetation for screening

(vi) Meet approved engineering standards and applicable County Code provisions for the site as determined through the coastal development, building, and grading permit process

(vii) The design must be based on detailed technical studies to accurately define geologic, hydrologic and oceanographic conditions affecting the site

(viii) Eliminate or mitigate adverse impacts on local shoreline sand supply

(ix) All armoring structures shall incorporate permanent survey monuments for future use in establishing a survey monument network along the coast for use in monitoring seaward encroachment or slumping of armoring and erosion trends

(e) For development activities protected by existing shoreline and coastal bluff armoring, the coastal permit application shall include:

(i) Re-assessment of the need for the armoring (see paragraph (l) below)

(ii) A report on the need for any repair or maintenance of the device (see paragraph (k) below)

(iii) Evaluation of the stability and condition of the armoring and recommendations for maintenance, repair, or modification, and potential for removal based on changed conditions

(iv) A report on changed geologic and hydrologic site conditions including but not limited to changes relative to sea level rise

(vi) If the existing armoring is addressed in an approved Geologic Hazard Abatement District Plan of Control, or other joint maintenance agreement, consider the status of implementation of the Plan of Control or maintenance agreement requirements.

(vii) Assessment of impacts to sand supply and public access and recreational resources.

(viii) Recommendation to avoid or mitigate impacts to sand supply and public access and recreational resources

(ix) If approved, such development associated with existing shoreline or coastal bluff armoring shall meet all the other applicable requirements of this policy, including with respect to the impact mitigation requirements

(f) For development activities protected by existing rip rap, require that the applicant submit a report at the time of filing an application for a coastal development permit, including an evaluation of the stability and condition of the armoring and recommendations for maintenance, repair, or modification, and potential for removal based on changed conditions. The report shall include a Recovery Plan for the maintenance and repair and potential removal of all or a portion of the existing rip rap revetment, to recover migrated rip rap and to provide for least disturbance of the beach and shoreline while also functioning as necessary to protect the structures on and adjacent to the parcel. The Recovery Plan must incorporate Best Management Practices for maintenance and repair to address potential impacts to sensitive species and environmental resources, as well as Best Management Practices for construction during maintenance and repair activities.

(g) Shoreline or coastal bluff armoring should be the least environmentally damaging feasible alternative to serve coastal-dependent uses or to protect a structure or a public beach in danger from erosion:

(i) Hard armoring (such as seawalls and revetments, etc.) shall only be allowed if soft alternatives (such as managed retreat/relocation, beach nourishment, vegetative planting, and drainage control, etc.) are not feasible, or are not the least environmentally damaging feasible alternative

(ii) Permit shoreline or coastal bluff armoring only if non-structural measures are infeasible from an engineering standpoint or not economically viable

(iii) Hard armoring is limited as much as possible to avoid coastal resource impacts

(iv) Alternatively, an approved Shoreline Management Plan may authorize hard armoring for identified sections of the coast.

(h) No shoreline or coastal bluff armoring shall be allowed for the sole purpose of protecting an accessory structure.

(i) All Shoreline and coastal bluff armoring shall be sited and designed to eliminate or mitigate adverse impacts on coastal resource. All unavoidable coastal resource impacts shall be appropriately mitigated. Any approved new, replacement, reconstructed or redeveloped shoreline protection structure must not result in unmitigated impacts to coastal resources including:

(i) Reduced or restricted public beach access

(ii) Adverse effects on shoreline processes and sand supply

(iii) Increased erosion or flooding on adjacent properties,

(iv) Adverse impacts on coastal visual or recreational resources, or harmful impacts on wildlife and fish habitats or archaeological or paleontological resources

(j) Mitigation Programs. Require mitigation of unavoidable adverse impacts on coastal resources, including payment of in lieu fees where in-kind options are not possible.

(k) All shoreline and coastal bluff armoring shall include a permanent, County approved, monitoring, maintenance, and repair program. The Program shall include, but is not limited to the following elements:

(i) Monitoring by a professional engineer or geologist familiar and experienced with coastal structures and processes.

(ii) Report to the County upon completion of construction of the armoring and every five years or less thereafter, as determined by either the County Geologist or a qualified professional, for as long as the armoring remains authorized

(iii) The report shall detail the condition of the structure and list any recommended maintenance and repair work

(iv) The monitoring plan and periodic report shall address impacts to shoreline processes and beach width, public access, and availability of public trust lands for public use

(v) The monitoring, maintenance and repair program shall be recorded on the title/deed of the property

(vi) The program shall allow for County removal or repair of shoreline or coastal bluff armoring, at the owner's expense, if its condition creates a public nuisance or if necessary, to protect the public health and safety

(vii) The program shall include any other monitoring, maintenance, and repair activities the County determines necessary to avoid or mitigate impacts to coastal resources

(l) Applications for shoreline or coastal bluff armoring shall include a construction and staging plan that minimizes disturbance to the beach, specifies the access and staging areas, and includes a construction schedule that limits presence on the beach, as much as possible, to periods of low visitor demand. The plan for repair projects shall include recovery of rock and other material that has been dislodged onto the beach.

(m) All other required local, State and Federal permits shall be obtained.

(4) Modification, Reconstruction, or Replacement of Damaged Structures on Coastal Bluffs. If structures located on or at the top of a coastal bluff are damaged as a result of coastal hazards, including slope instability and seismically induced landslides, and where the loss involves 50 percent or more of Major Structural Components, allow repair (development activities) if all applicable regulations can be met, including the minimum 25-foot and the applicable 75 or 100-year geologic/coastal setbacks, or alternate setback authorized by an approved setback exception.

For structures involuntarily damaged by other than coastal hazards (fire, for example), where the loss involves 50 percent or more of the Major Structural Components, allow repair in kind, but encourage relocation to increase the setback if feasible.

Allow other than in-kind reconstruction or replacement of involuntarily damaged structures in accordance with all applicable LCP policies and regulations.

Exemption: Public beach facilities and replacements consistent with Coastal Act Policy 30610(g).

(5) Reconstruction or Replacement of Damaged Structures due to Storm Wave Inundation. If structures located in areas subject to storm wave inundation are damaged as a result of any cause and the loss meets or exceeds 50 percent of the value of the structure before the damage occurred (substantial damage), allow such repair (substantial improvement) only if all applicable regulations in Chapter 16.13 Floodplain Management Regulations and all applicable LCP policies can be met.

Exceptions: Public beach facilities and replacements

(6) Coastal High Hazard Area Development Criteria. The provisions of Chapter 16.13 Flood Hazards shall apply to all development, as defined in that Chapter, that is wholly within, partially within, or in contact with any coastal high hazard area, or other areas as identified by the Floodplain Administrator, including but not limited to the subdivision of land; filling, grading, and other site improvements and utility installations; construction, alteration, remodeling, enlargement, replacement, repair, relocation or demolition of any building or structure; placement, installation, or replacement of manufactured homes; installation or replacement of tanks; placement of temporary structures and temporary storage; installation of swimming pools; and miscellaneous and utility structures.

(7) New and Expanded Critical Structures and Facilities. Construction of critical structures and facilities, including the expansion of existing critical structures and facilities, and nonessential public structures shall be located outside areas subject to coastal hazards; unless such facilities are necessary to serve existing uses, there is no other feasible location, and construction of these structures will not increase hazards to life and property within or adjacent to coastal inundation areas.

(8) Creation of New Parcels and Location of New Building Sites. New parcels or building sites created by minor land divisions, subdivisions or development approvals or permits, and multi-residential structures in coastal hazard areas shall conform to the following criteria:

(a) Demonstration by a full geologic report that each proposed building site on the parcel is not subject to any potential hazards and that each site meets the minimum setback given in subsection (H)(1) of this section;

(b) Determination by the Planning Director based on the geologic report that the long-term stability and safety of the development does not depend on or require shoreline or coastal bluff armoring;

(c) The proposed development does not reduce or restrict public access and the proposed development does not require the construction of public facilities, structures, or

utility transmission lines in coastal hazard areas or within the 25-foot or 75 or 100-year stability (whichever is greater) setback;

(d) The developer and/or the subdivider of a parcel or parcels in an area subject to geologic hazards shall be required, as a condition of development approval and building permit approval, to record on the property title/deed a Notice of Geologic/Coastal Hazards. Acceptance of Risk, Liability Release, and Indemnification with the County Recorder. The Notice shall include a description of the hazards on the parcel and the level of geologic and/or geotechnical investigation conducted, and additional acknowledgements and agreements as applicable to the specific project.

(9) Removal Conditions/Development Duration. Development/development activities on private property located in areas subject to coastal hazards shall be conditioned to require that it be removed, and the affected area restored if:

(a) any government agency has ordered that the structures are not to be occupied due to coastal hazards, or if any public agency requires the structures to be removed;

(b) essential services to the site can no longer feasibly be maintained (e.g., utilities, roads);

(c) the development is no longer located on private property due to the migration of the public trust boundary;

(d) removal is required pursuant to an adopted Shoreline Management Plan

Such condition shall be recorded on a deed restriction against the subject property.

(10) Abatement of Unsafe Site or Structure. If coastal hazards result in an unsafe site or unsafe structure, dangerous conditions shall be abated in accordance with County regulations and Orders of the Chief Building Official. If all or any portion of improvements are deemed uninhabitable, the improvements shall be removed and the affected area restored, unless an alternative response is approved by the County of Santa Cruz, and by the California Coastal Commission if the project is within the Coastal Commission's primary jurisdiction. Alternative responses to coastal hazards may include (1) pursuit of a Coastal Development Permit consistent with County Code regulations in Chapter 13.20 (Coastal Zone Regulations) and Chapter 16.10 (Geologic Hazards); and/or (2) pursuit of an alternative consistent with an adopted shoreline management plan.

(11) If the mean high tide line or the blufftop edge migrates to within 10 feet of a principal, habitable structure to a point where the site or structure is deemed unsafe by County regulations and/or the County Geologist, Civil Engineer, or Chief Building Official, the property owner shall retain a Professional Engineer with experience in coastal processes and hazard response to prepare a geotechnical investigation and Coastal Hazards Report (with input from a Professional Geologist, when required by civil engineering staff or the County Geologist) that addresses whether all or any portions of the residence and related development are threatened by coastal hazards, and that identifies actions that should be taken to ensure safe use and occupancy, which may include removal or relocation of all or portions of the threatened development and improvements, or other alternate responses. The property owner shall undertake activities to pursue an appropriate response in accordance with adopted and applicable County of Santa Cruz and California Coastal Commission regulations. The geotechnical investigation and Coastal Hazards Report shall be submitted to the Executive Director of the California Coastal Commission, and to the Planning Director, Chief Building Official and County Geologist of Santa Cruz County. If the residence or any portion of the residence is proposed to be removed, the Applicant shall submit a Removal and Restoration Plan.

(12) If an appropriate government agency so orders, or as a result of the above-referenced geotechnical investigation and Coastal Hazards Report, it is determined that any portion of the approved development must be removed due to coastal hazards, a Removal and Restoration Plan shall be submitted to the County for review and approval. No removal activities shall commence until the Removal and Restoration Plan and all other required plans and permits are approved. The plan shall specify that in the event that portions of the development fall to the bluffs or ocean before they are removed/relocated, the landowner will remove all recoverable debris associated with the development from the bluffs and ocean and lawfully dispose of the material in an approved disposal site. If it is determined that separate grading and coastal development permits are required in order to authorize the activities, the application shall be submitted as soon as immediately feasible, including all necessary supporting information to ensure it is complete. The Removal and Restoration Plan shall clearly describe the manner in which such development is to be removed and the affected area restored so as to best protect coastal resources, and shall be implemented immediately upon County approval, or County approval of required permit applications, as may be required.

(13) Repetitive loss properties shall be subject to the requirements of Sections 16.10.070(G)(4) and 16.10.070(G)(5) regarding damage due to coastal bluff erosion and storm wave impacts and inundation. Repetitive Loss property is any habitable building for which two or more coastal hazard events within any ten-year rolling period cause damage, the repair of which meets or exceeds the definition of development activities. Multiple losses at the same location within ten days of each other are counted as one loss. The loss history includes all ownership of the property within the ten-year rolling period.

(14) Other Conditions. Other permit conditions including, but not limited to, project redesign, building site elimination, delineation of building and septic system envelopes, building elevation, foundation requirements and drainage plans shall be required as deemed necessary by the Planning Director, or other decision-making body. [Ord. 4836 § 121, 2006; Ord. 4518-C § 2, 1999; Ord. 4346 § 66, 1994; Ord. 4071 §§ 1—4, 1990; Ord. 3997 §§ 3—8, 1989; Ord. 3892 § 3, 1988; Ord. 3808 § 3, 1986; Ord. 3635 § 2, 1985; Ord. 3598 § 1, 1984; Ord. 3437 §§ 2, 3, 4, 1983; Ord. 3340 § 1, 1982; Ord. 2631, 1978; Ord. 2580, 1978; Ord. 2258, 1976; Ord. 2185, 1975; Ord. 2088, 1975].

16.10.080 Project density limitations.

The following requirements shall apply to density calculations for new building sites created through minor land division, subdivision, or other development approval or permit:

(A) Fault Zones.

(1) Exclusion from Density Calculations. The portion of a property within 50 feet of the edge of the area of fault induced offset and distortion of an active or potentially active fault trace shall be excluded from density calculations.

(2) Creation of New Parcels and/or New Building Sites. The following standards shall apply to the creation of new parcels and/or building sites within State Alquist-Priolo earthquake fault zones and County seismic review zones:

(a) All new structures shall meet setbacks as specified in SCCC 16.10.070(B)(2).

(b) Outside of the urban services line and the rural services line, a 20-gross-acre minimum parcel size shall be required, and a 10-gross-acre minimum parcel size shall be required for parcels within the portions of the County seismic review zones that are not also part of a State Alquist-Priolo earthquake fault zone, and are outside the Coastal

Zone, if at least 25 percent of the perimeter of the original parcel to be divided is bounded by parcels of one acre or less in size.

(B) Landslides and Steep Slopes. The portion of a property with slopes over 30 percent in urban areas and 50 percent in rural areas, and the portion of a property within recent or active landslides, shall be excluded from density calculations. Landslide areas determined by a geologic report to be stable and suitable for development shall be granted full density credit.

(C) Special Flood Hazard Area. The portion of a parcel within the special flood hazard area shall be excluded from any density calculations.

(E) Coastal Hazards. The portions of a property subject to coastal inundation, as determined by a geologic hazards assessment, geologic report, or adopted flood insurance rate map (FIRM), as well as bluff faces, sandy beach areas, and areas subject to the public trust, shall be excluded from density calculations. [Ord. 5019 § 1, 2008; Ord. 4518-C § 2, 1999; Ord. 4426 § 3, 1996; Ord. 3598 § 1, 1984; Ord. 3340 § 1, 1982].

16.10.090 Project denial.

A development permit or the location of a proposed development shall be denied if the Planning Director determines that geologic hazards cannot be adequately mitigated, or the project would conflict with National Flood Insurance Program regulations. Development proposals shall be approved only if the project density reflects consideration of the degree of hazard on the site, as determined from the technical information as reviewed and approved by the Planning Director or the decision-making body. [Ord. 4518-C § 2, 1999; Ord. 3598 § 1, 1984; Ord. 3340 § 1, 1982].

16.10.100 Exceptions.

(A) Request for Exception. A request for an exception to the provisions of this chapter or the permit conditions may be considered by the Planning Director, or decision-making body, if the exception is necessary to mitigate a threat to public health, safety and welfare or if the exception is necessary to avoid an unconstitutional taking of private property without just compensation pursuant to Policy 6.4.10.

(B) Reason for Request. A request for an exception shall state in writing the reason why the exception is requested, the proposed substitute provisions, when the exception would apply, or the threat to public health, safety, or welfare that would be mitigated.

(C) Required Findings. In granting an exception, the Planning Director or decision-making body shall make the following findings:

(1) That hardship, as defined in SCCC 16.10.040(27), exists; and

(2) The project is necessary to mitigate a threat to public health, safety, or welfare or to avoid an unconstitutional taking of private property without just compensation pursuant to Policy 6.4.10; and

(3) The request is for the smallest amount of variance from the provisions of this chapter as possible; and

(4) Measures will be taken to ensure consistency with the purposes of this chapter and the County General Plan to the maximum extent feasible.

16.10.105 Notice of geologic hazards in cases of dangerous conditions.

(A) Whenever a site inspection, geologic hazards assessment or full geologic report identifies the presence of a geologic hazard that causes a site, building, structure, or portions thereof to be rendered unsafe or dangerous, then pursuant to the Uniform Code for the Abatement of Structural and Geologic

Hazards as amended by SCCC 12.10.425, the Planning Director may issue a notice of geologic hazard and order thereon, and may record a notice of geologic hazard with the County Recorder.

(B) The Planning Director may initiate abatement procedures pursuant to the Uniform Code for the Abatement of Structural and Geologic Hazards as amended by SCCC 12.10.425. [Ord. 4518-C § 2, 1999; Ord. 4392A § 1, 1996; Ord. 4336 § 1, 1994; Ord. 3808 § 4, 1986].

16.10.110 Appeals.

Except as otherwise provided herein, appeals taken pursuant to the provisions of this chapter shall be made in conformance with the procedures of Chapter 18.10 SCCC, including appeal of the requirement for geologic hazard assessment or technical report. All appeals taken concerning the decision to issue and record a notice of geologic hazard pursuant to the provisions of SCCC 16.10.105 shall be governed by the procedures commencing with Section 501 of the Uniform Code for the Abatement of Structural and Geologic Hazards as amended by SCCC 12.10.425. [Ord. 4518-C § 2, 1999; Ord. 4392A § 2, 1996; Ord. 4336 § 2, 1994; Ord. 3598 § 1, 1984; Ord. 3340 § 1, 1982; Ord. 2281, 1976; Ord. 2088, 1975].

16.10.120 Violations.

(A) Compliance. No structure or land shall hereafter be constructed, located, extended, converted, or altered without full compliance with all the provisions of this chapter and other applicable regulations. Nothing herein shall prevent the taking of lawful action as necessary to prevent or remedy any violation.

(B) Actions Constituting Violation. In the event of a violation of this chapter or of the provisions of permit conditions as specified in this chapter, or if the permit has been exercised in a manner which creates a nuisance or is otherwise detrimental to the public health, safety and welfare, the permittee shall be given notice of such violation, and a reasonable time shall be specified for its correction. [Ord. 4518-C § 2, 1999; Ord. 4392A § 3, 1996; Ord. 3598 § 1, 1984; Ord. 3340 § 1, 1982].

16.10.130 Fees.

Fees for the geologic hazards assessment, other field reviews, applications for exceptions, and the review of technical reports shall be set by resolution by the Board of Supervisors. [Ord. 4518-C § 2, 1999; Ord. 3598 § 1, 1984; Ord. 3340 § 1, 1982].

Chapter 16.10
GEOLOGIC HAZARDS

Sections:

Prior legislation: Ords. 4048 and 4149.

16.10.010 Purpose.

The purposes of this chapter are:

(A) Policy Implementation. To implement the policies of the ~~National Flood Insurance Program of the Federal Insurance Administration,~~ the State of California Alquist-Priolo Earthquake Fault Zoning Act, the Santa Cruz County General Plan, and the Land Use Plan of the Local Coastal Program; and

(B) Public Health and Safety. To minimize injury, loss of life, and damage to public and private property caused by the natural physical hazards of earthquakes, floods, landslides, and coastal processes; and

(C) Development Standards. To set forth standards for development and building activities that will reduce public costs by preventing inappropriate land uses and development in areas where natural dynamic processes present a potential threat to the public health, safety, welfare, and property; and

(D) Notice of Hazards. To assure that potential buyers are notified of property located in an area of ~~special flood~~geologic hazard, and to assure that those who occupy areas of ~~special flood~~geologic hazard assume responsibility for their actions. [Ord. 4518-C § 2, 1999; Ord. 3598 § 1, 1984; Ord. 3340 § 1, 1982].

16.10.020 Scope.

This chapter sets forth regulations and review procedures for development and construction activities including grading, septic systems installation, development permits, changes of use as specified in SCCC 16.10.040~~(19)~~(~~h~~f), building permits, minor land divisions, and subdivisions throughout the County ~~and particularly within mapped geologic hazards areas and areas of special flood hazard (SFHAs)~~. These regulations and procedures shall be administered through a system of geologic hazard assessment, technical review, development and building permits. [Ord. 4518-C § 2, 1999; Ord. 3808 § 1, 1986; Ord. 3635 § 1, 1985; Ord. 3598 § 1, 1984; Ord. 3340 § 1, 1982].

16.10.022 Statutory authorization.

The State of California has in Government Code Sections 65302, 65560, and 65800 conferred upon local government units the authority to adopt regulations designed to promote public health, safety, and general welfare of its citizenry through the adoption of the ~~following~~ geologic hazard ~~and floodplain management~~ regulations of this Chapter. [Ord. 4518-C § 2, 1999].

~~**16.10.025 Basis for establishing the areas of special flood hazard.**~~

~~The areas of special flood hazard identified by the Federal Insurance Administration (FIA) of the Federal Emergency Management Agency (FEMA) in the flood insurance study (FIS) dated April 15, 1986, and accompanying flood insurance rate maps (FIRMs) and flood boundary and floodway maps (FBFMs), dated April 15, 1986, and all subsequent amendments and/or revisions, are hereby adopted by reference and declared to be a part of this chapter. This FIS and attendant mapping is the minimum area of applicability of the flood regulations contained in this chapter, and may be supplemented by studies for other areas. The FIS, FIRMs, and FBFMs are on file at the County Government Center, Planning Department. [Ord. 4518-C § 2, 1999].~~

16.10.030 Amendment procedure.

Any revision to this chapter which applies to the Coastal Zone shall be reviewed by the Executive Director of the California Coastal Commission to determine whether it constitutes an amendment to the Local Coastal Program. When an ordinance revision constitutes an amendment to the Local Coastal Program, such revision shall be processed pursuant to the hearing and notification provisions of Chapter 13.03 SCCC and shall be subject to approval by the California Coastal Commission. [Ord. 4518-C § 2, 1999; Ord. 3598 § 1, 1984; Ord. 3340 § 1, 1982].

16.10.035 Conflict with existing regulations.

This chapter is not intended to repeal, nullify, or impair any existing easements, covenants, or deed restrictions. If this chapter and any other ordinance, easement, covenant, or deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail. [Ord. 4518-C § 2, 1999].

~~**16.10.036 Warning and disclaimer of liability.**~~

~~The degree of flood protection required by this chapter is considered reasonable for regulatory purposes based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by artificial or natural causes. This chapter does not imply that land outside the special flood hazard areas or uses permitted within such areas will be free from flooding or flood damages. This chapter shall not create liability on the part of Santa Cruz County, any officer or employee thereof, the State of California, or the Federal Insurance Administration, Federal Emergency Management Agency, for any flood damages that result from reliance on this chapter or any administrative decision lawfully made hereunder. [Ord. 4518-C § 2, 1999].~~

16.10.037 Severability.

This chapter and the various parts hereof are hereby declared to be severable. Should any section of this chapter be declared by the courts to be unconstitutional or invalid, such decision shall not affect the validity of the chapter as a whole, or any portion thereof other than the section so declared to be unconstitutional or invalid. [Ord. 4518-C § 2, 1999].

16.10.040 Definitions.

For the purposes of this chapter, the following definitions apply:

~~(1) "Accessory use" means any use which is clearly incidental and secondary to the main use and does not change the character of the main use.~~

(~~2~~1) "Active fault" means a ~~geologic feature (~~fault ~~or landslide) which shows evidence of movement,~~that has had surface displacement~~, or activity~~ within Holocene time (about the last 11,000 years).

(2) "Active landslide" means a landslide that is presently moving or has recently moved as indicated by distinct topographic slide features such as sharp, barren scarps, cracks, or tipped (jackstrawed) trees.

(3) "Addition" means improvement to an existing structure that increases ~~the~~its area, measured in square feet. The use of breeze ways, corridors, or other non-integral connections between structures shall not cause separate buildings or structures to be considered additions to an existing structure.

(4) "Adjacent/contiguous parcel" means a parcel touching the subject parcel and not separated from the subject parcel by a road, street or other property.

~~(5) "Area of special flood hazard" means an area having special flood hazard as identified by the Federal Insurance Administration, through the Federal Emergency Management Agency, and shown on an FHBM or FIRM map as Zone A, AO, A1—A30, AE, A99, V1—V30, VE or V. Also known as special flood hazard area (SFHA).~~

~~(6) "Base flood" means a flood which has a one percent chance of being equaled or exceeded in any given year. For flood insurance purposes "100-year flood" and "base flood" have the same meaning.~~

~~(7) "Basement" means, for the purposes of this chapter, any area of the building having its floor subgrade (below ground level) on all sides.~~

(~~8~~5) "Beach erosion" means temporary or permanent reduction, transport or removal of beach sand by littoral drift, tidal actions, storms or tsunamis.

~~(9) "Certified engineering geologist" means a registered geologist who is licensed by the State of California to practice the subspecialty of engineering geology.~~

(~~10~~6) "Coastal bluff" means a bank or cliff along the coast subject to coastal erosion processes, including historic wave erosion. "Coastal bluff" refers to the top edge, face, and base of the subject bluff.

~~(6) "Coastal Bluff" means (1) those bluffs, the toe of which is now or was historically (generally within the last 200 years) subject to marine erosion; and (2) those bluffs, the toe of which is not now or was not historically subject to marine erosion, but the toe of which lies within an area otherwise identified in Public Resources Code Section 30603(a)(1) or (a)(2).~~

(7) "Bluff line or edge" means the upper termination of a bluff, cliff, or seacliff. In cases where the top edge of the cliff is rounded away from the face of the cliff as a result of erosional processes related to the presence of the steep cliff face, the bluff line or edge shall be defined as that point nearest the cliff beyond which the downward gradient of the surface increases more or less continuously until it reaches the general gradient of the cliff. In a case where there is a steplike feature at the top of the cliff face, the landward edge of the topmost riser shall be taken to be the cliff edge. The termini of the bluff line, or edge along the seaward face of the bluff, shall be defined as a point reached by bisecting the angle formed by a line coinciding with the general trend of the bluff line along the seaward face of the bluff, and a line coinciding with the general trend of the bluff line along the inland facing portion of the bluff. Five hundred feet shall be the minimum length of bluff line or edge to be used in making these determinations.

(~~11~~8) "Coastal dependent uses" means any development or use which would not function or operate unless sited on or adjacent to the ocean.

(~~12~~9) "Coastal erosion processes" means natural forces that cause the breakdown and transportation of earth or rock materials on or along beaches and bluffs. These forces include, but are not limited to, landsliding, surface runoff, wave action and tsunamis.

(1~~3~~0) "Coastal hazard areas" means areas which are subject to physical hazards as a result of coastal processes such as landsliding, erosion of a coastal bluff, and inundation or erosion of a beach by wave action.

~~(14) "Coastal high hazard area" means areas subject to high velocity waters, including tidal and coastal inundation. These areas and base flood elevations are identified on a Flood Insurance Rate Map (FIRM) as Zones V1—30, VE or V.~~

(1~~5~~1) "County geologist" means a County employee who is ~~registered as~~ a California licensed ~~p~~Professional ~~g~~Geologist ~~licensed with the State of California~~~~California Board for Professional Engineers, Land Surveyors and Geologists~~ ~~(R.G.) and~~who has been authorized by the Planning Director to assist in the administration of this chapter, or a California licensed ~~registered p~~Professional ~~g~~Geologist ~~licensed with the California Board for Professional Engineers, Land Surveyors and Geologists~~ under contract by the County who has been authorized by the Planning Director to assist in the administration of this chapter.

(1~~6~~2) "County geologic advisor" means an individual who is a California licensed ~~p~~Professional ~~g~~Geologist ~~licensed with the California Board for Professional Engineers, Land Surveyors and Geologists~~~~who is registered as a geologist with the State of California (R.G.),~~ who may be employed by the County to provide geologic services.

(1~~7~~3) "Critical structures and facilities" means structures and facilities which are subject to specified seismic safety standards because of their immediate and vital public need or because of the severe hazard presented by their structural failure. These structures include hospitals and medical facilities, fire and police stations, disaster relief and emergency operating centers, large dams and public utilities, public transportation and communications facilities, buildings with involuntary occupancy such as schools, jails, and convalescent homes, and high occupancy structures such as theaters, churches, office buildings, factories, and stores.

~~(18) "Cumulative improvement" means, for the purposes of calculating "substantial improvement" as defined in subsection (65) of this section, two or more instances of repair, reconstruction, alteration, addition, or improvement to a structure, over the course of five consecutive years. If the value of such~~

~~activities, when added together, equals or exceeds 50 percent of the market value of the structure, the activity as a whole shall be considered to be a "substantial improvement."~~

(1~~9~~4) Development/Development Activities. For the purposes of this chapter, ~~and this chapter only,~~ any project that includes activity in any of the following categories is considered to be development or development activity. This chapter does not supersede SCCC 13.20.040 for purposes of determining whether a certain activity or project is considered development that requires a coastal development permit; some activities and projects will require coastal development permits although they do not fall under the following specific definition:

(a) The construction or placement of any habitable structure, including a manufactured home and including a non-residential structure occupied by property owners, employees and/or the public;

(b) ~~Redevelopment:~~ Modification, reconstruction or replacement of ~~65~~50 percent of the major structural components—consisting of the foundation, floor framing, exterior wall framing, and roof framing—of an existing habitable structure within any consecutive five-year period, or modification, reconstruction or replacement of 50 percent of the major structural components of an existing critical structure or facility, as defined by this chapter, within any consecutive five-year period, whether the work is done at one time or as the sum of multiple projects. For the purpose of this ~~section~~Chapter, the following are not considered major structural components: exterior siding; nonstructural door and window replacement; roofing material; decks; chimneys; and interior elements including but not limited to interior walls and sheetrock, insulation, kitchen and bathroom fixtures, mechanical, electrical and plumbing fixtures. The extent of alterations to major structural components will be calculated in accordance with administrative guidelines adopted by resolution of the Board of Supervisors;

(c) The addition of habitable square footage to any structure, where the addition increases the habitable square footage by more than 50 percent or 500 square feet, whichever is greater, over the existing habitable space within a consecutive five-year period. This allows a total increase of up to 50 percent of the original habitable space of a structure, whether the additions are constructed at one time or as the sum of multiple additions over a consecutive five-year period;

(d) An addition of any size to a structure that is located on or adjacent to ~~on~~ a coastal bluff, on a dune, or in the coastal hazard area, that extends the existing structure in a seaward direction;

(e) A division of land or the creation of one or more new building sites, except where a land division is accomplished by the acquisition of such land by a public agency for public recreational use;

(f) Any change of use from nonhabitable to habitable, according to the definition of "habitable" found in this section, or a change of use from any noncritical structure to a critical structure;

(g) Any repair, alteration, reconstruction, replacement or addition affecting any structure that meets either of the following criteria:

(i) Posted "Limited Entry" or "Unsafe to Occupy" due to geologic hazards, or

(ii) Located on a site associated with slope stability concerns, such as sites affected by existing or potential debris flows;

(iii) Defined as a critical structure or facility;

(h) Grading activities of any scale in the 100-year floodplain or the coastal hazard area, and any grading activity which requires a permit pursuant to Chapter 16.20 SCCC;

(i) Construction of roads, utilities, or other facilities;

(j) Retaining walls which require a building permit, retaining walls that function as a part of a landslide repair whether or not a building permit is required, shoreline and coastal bluff protection structures, sea walls, rip-rap erosion protection or retaining structures, and gabion baskets;

(k) Installation of a septic system;

(l) Any human-made change to developed or undeveloped real estate in the special flood hazard area, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation, drilling operations, or storage of equipment or materials. This is in addition to any activity listed in subsections (1~~9~~4)(a) through (k) of this section;

(m) Any other project that is defined as development under SCCC 13.20.040, and that will increase the number of people exposed to geologic hazards, or that is located within a mapped geologic hazard area, or that may create or exacerbate an existing geologic hazard, shall be determined by the Planning Director to constitute development for the purposes of geologic review.

(~~20~~15) "Development envelope" means a designation on a site plan, ~~or~~ parcel map or grading plan indicating where buildings, access roads and septic systems, and other development are to be located.

~~(16) "Engineering geologist" means a registered geologist who is a professional geologist licensed with the California Board for Professional Engineers, Land Surveyors and Geologists and is competent in the field of engineering geology.~~

(~~21~~17) "Fault zones" ~~means~~ are areas delineated by the State Geologist, pursuant to the Alquist-Priolo Earthquake Fault Zoning Act (Public Resources Code Section 2621 et seq.) which encompasses the traces of active faults; as well as a zone or zones of fracture designated in the General Plan or Local Coastal Program Land Use constraints maps, or other maps and source materials authorized by the Planning Director.

(18) "Fault trace" is that line formed by the intersection of a fault and the earth' surface, and is the representation of a fault as depicted on a map, including maps of earthquake fault zones.

(~~22~~19) "Fill" means the deposition of earth or any other substance or material by artificial means for any purpose, or the condition resulting from a fill taking place.

~~(23) "Flood boundary floodway map" means the map adopted by the Board of Supervisors and used for land use planning and permit review on which the Federal Insurance Administration has delineated the areas of special flood hazard.~~

~~(24) "Flood control structure" means any structure or material, including but not limited to a berm, levee, dam or retaining wall, placed in areas where flooding occurs, and constructed for the purpose of protecting a structure, road, utility or transmission line.~~

(2~~5~~0) "Flood insurance rate map (FIRM)" means the map adopted by the Board of Supervisors and used for insurance purposes on which the Federal Insurance Administration has delineated the special flood hazard areas, base flood elevations and the risk premium zones applicable to the community. The FIRM became effective on April 15, 1986, for insurance purposes.

~~(26) "Flood insurance study" means the official report on file with the Planning Department provided by the Federal Emergency Management Agency entitled, "The Flood Insurance Study, Santa Cruz County, California" that includes flood profiles, the FIRM, the flood boundary floodway map, and the water surface elevation of the base flood.~~

~~(27) "Floodplain" means any land area susceptible to being inundated by water from any source. The 100-year floodplain is used for planning purposes by Federal agencies and the County. For many larger~~

~~and more densely populated drainages, the 100-year floodplain is designated on flood boundary and floodway maps prepared by the Federal Insurance Administration. See also "area of special flood hazard."~~

~~(28) "Floodplain Administrator" means the Planning Director, or single staff member that is designated by the Director, to manage the administration and implementation of the National Flood Insurance Program regulations and the flood control provisions of this chapter.~~

~~(29) "Floodproofing" means any combination of structural and nonstructural additions, changes or adjustments to nonresidential structures which reduce or eliminate flood damage to real estate or improved property.~~

~~(30) "Floodway" means the channel of a river or other watercourse and the adjacent land area that must be reserved in order to carry and discharge the 100-year flood without cumulatively increasing the water surface elevation more than one foot at any point. Also referred to as the regulatory floodway.~~

(~~31~~21) "Geologic hazard" means a threat to life, property, or public safety caused by geologic or hydrologic processes such as flooding, wave inundation, landsliding, erosion, surface fault ground rupture~~faulting~~, ground cracking, and secondary seismic effects including liquefaction, landsliding, tsunami and ground shaking.

(~~3~~22) "Geologic hazards assessment" means a summary of the possible geologic hazards present at a site conducted by the ~~staff~~ County ~~geologist~~Geologist or a California licensed ~~p~~Professional ~~g~~Geologist.

(~~3~~23) "Geologic report, full" means a complete geologic investigation conducted by a~~n~~ ~~certified engineering~~ professional geologist hired by the applicant, and completed in accordance with the County geologic report guidelines.

(24) "Geotechnical investigation / report" means a report prepared by a Professional Engineer, hired by the applicant, and completed in accordance with the requirements of this Chapter~~.~~ and County soils (geotechnical) report guidelines. This term is synonymous with the term "soils investigation~~.~~" or "soils report."

(~~34~~25) "Grading" means excavating or filling land, or a combination thereof.

(~~35~~26) "Habitable" means, for the purposes of this chapter, any structure or portion of a structure, whether or not enclosed, that is usable for living purposes, which include working, sleeping, eating, recreation, or any combination thereof. The purpose and use of the space, as described above, defines the habitable nature of the space. The term "habitable" also includes any space that is heated or cooled, humidified or dehumidified for the provision of human comfort, and/or is insulated and/or finished in plasterboard, and/or contains plumbing other than hose bibs.

(~~36~~27) "Hardship" means, for the purposes of administering SCCC 16.10.100, the exceptional hardship that would result from failure to grant the requested exception. The specific hardship must be exceptional, unusual, and peculiar to the property involved. Economic or financial hardship alone is not exceptional. Inconvenience, aesthetic considerations, personal preferences, or the disapproval of neighbors also cannot qualify as exceptional hardship, as these problems can be resolved through means other than granting an exception, even if those alternative means are more expensive, require a property owner to build elsewhere, or put the parcel to a different use than originally intended or proposed.

(~~37~~28) "High and very high liquefaction potential areas" means areas that are prone to liquefaction caused by ground shaking during a major earthquake. These areas are designated on maps which are on file with the Planning Department.

(~~38~~29) ~~"Historic structure" means any structure that is: (a) listed individually in the National Register of Historic Places, or preliminarily determined by the Secretary of the Interior to meet the requirements for such listing; (b) certified as or preliminarily determined by the Department of the Interior to be contributing to the historical significance of a registered historical district or a district preliminarily~~

~~determined to qualify as a historic district by the Secretary of the Interior; (c) individually listed on the State Register of Historic Places which has been approved by the Secretary of the Interior; or (d) individually listed in the inventory of historic structures in a community with a historic preservation program that has been certified either by an approved State program or directly by the Secretary of the Interior.~~

(3~~9~~0) "Hydrologic investigation" means a report prepared by a ~~certified engineering~~professional geologist or civil engineer with expertise in hydrology which analyzes surface hydrology and/or groundwater conditions.

(~~40~~31) "Littoral drift" means the movement of beach sand parallel to the coast due to wave action and currents.

(~~41~~32) "Liquefaction" means the process whereby saturated, loose, granular materials are transformed by ground shaking during a major earthquake from a stable state into a fluid-like state.

~~(42) "Lowest floor" means, for flood purposes, the lowest floor of the lowest enclosed area of a structure, including any basement.~~

~~(a) An unfinished or flood resistant enclosure, below the lowest floor, that is usable solely for parking of vehicles, building access or storage in an area other than a basement area, for the purposes of this chapter, is not considered a building's lowest floor, provided it conforms to applicable nonelevation design requirements, including, but not limited to:~~

~~(i) The wet floodproofing standards in SCCC 16.10.070(F)(3)(h)(i);~~

~~(ii) The anchoring and construction materials and methods in SCCC 16.10.070(F)(3)(b);~~

~~(iii) The standards for septic systems and water supply in SCCC 16.10.070(F)(5) and (6).~~

~~(b) For residential structures, all fully enclosed subgrade areas are prohibited as they are considered to be basements. This prohibits garages and storage areas that are below grade on all sides.~~

~~(43) "Manufactured home" means a structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. For floodplain management purposes the term "manufactured home" also includes park trailers, travel trailers and other similar vehicles placed on a site for greater than 180 consecutive days.~~

~~(44) "Manufactured home park or subdivision" means a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for sale or rent.~~

~~(45) "Mean sea level" means the National Geodetic Vertical Datum (NGVD) of 1929, or other measurement, to which base flood elevations shown on a community's flood insurance rate map are referenced.~~

(~~46~~33) "Multiple-residential structure" means a single structure containing four or more individual residential units.

(~~47~~34) "Natural disaster" means any situation in which the force or forces of nature causing destruction are beyond the control of people.

(~~48~~) ~~"New construction" means, for the purposes of SCCC 16.10.070(F), (G), and (H), structures for which the start of construction commenced on or after April 15, 1986, including any subsequent improvements to such structures.~~

(~~49~~35) "Nonessential public structures" means public structures which are not integral in providing such vital public services as fire and police protection, sewer, water, power and telephone services.

~~(50) "Obstruction" includes, but is not limited to, any dam, wall, wharf, embankment, levee, dike, pile, abutment, protection, excavation, channelization, bridge, conduit, culvert, building, wire, fence, rock, gravel, refuse, fill, structure, vegetation or other material in, along, across, or projecting into any watercourse which may alter, impede, retard or change the direction and/or velocity of the flow of water, snare or collect debris carried by the flow of water, or is likely to be carried downstream.~~

~~(51) "One-hundred-year flood" means a flood that statistically could occur once in 100 years on the average, although it could occur in any year. For flood insurance purposes, "100-year flood" and "base flood" have the same meaning. See "base flood."~~

(~~52~~36) "Planning Director" means the Planning Director of the County of Santa Cruz or his or her ~~authorized employee~~designee.

(37) "Professional Engineer" means an engineer who is licensed by the State of California to practice engineering.

(38) "Professional Geologist" means a geologist who is licensed by the State of California to practice geology.

(~~53~~39) "Public facilities" means any structure owned and/or operated by the government directly or by a private corporation under a government franchise for the use or benefit of the community.

(~~54~~40) "Recent" means a geologic feature (fault or landslide) which shows evidence of movement or activity within Holocene time (about the last 11,000 years).

(41) "Shoreline or coastal bluff armoring armoring" means any structure or material, including but not limited to riprap or a seawall, placed in an area where coastal processes operate.

~~(55) "Registered geologist" means a geologist who is licensed by the State of California to practice geology.~~

~~(56) "Registered geotechnical (soils) engineer" means a civil engineer licensed in the State of California, experienced in the practice of soils and foundation engineering.~~

~~(57) Regulatory Floodway. See "floodway."~~

~~(58) "Recreational vehicle" means a vehicle which is built on a single chassis; is 400 square feet or less when measured at the largest horizontal projection; designed to be self-propelled or permanently towable by a light-duty truck; and designed primarily not for uses as a permanent dwelling but a temporary living quarters for recreation, camping, travel, or seasonal use.~~

~~(59) "Shoreline protection structure" means any structure or material, including but not limited to riprap or a seawall, placed in an area where coastal processes operate.~~

(~~60~~42) "Soils investigation / report" means a report prepared by a ~~registered soils engineer~~Professional Engineer, hired by the applicant, and completed in accordance with the County soils report guidelines. This term is synonymous with the term "geotechnical investigation."

(~~61~~43) Special Flood Hazard Area (SFHA). ~~See "area of special flood hazard."~~ The land in a flood plain subject to a 1 percent or greater annual chance of flooding in any given year. Special flood hazard areas are in general shown on a FIRM as Zones A, AO, A1-A30, AE, A99, AH, V1-V30, VE and V, but can also be determined by the Floodplain Administrator to occur where not shown on the FIRM. Also known as the flood hazard area, FHA, area of special flood hazard, or area of the 1% annual chance flood.

~~(62) "Start of construction" means the date the first building permit was issued, provided actual construction, repair, reconstruction, alteration, addition, rehabilitation, placement, or other improvement was begun within the terms of the permit. "Actual construction" means either the first placement of a structure on the site, such as pouring a slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a~~

~~foundation. Permanent construction does not include land preparation, such as clearing, grading, and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds which are not occupied as dwelling units or are not part of the main structure. For the purposes of the phrase "substantial improvement," "actual construction" means the first alteration of any wall, ceiling, floor, or other structural part of the building, whether or not that alteration affects the external dimensions of the building.~~

(~~63~~44) "Structure" means anything constructed or erected which requires a location on the ground, including, but not limited to, a building, manufactured home, gas or liquid storage tank, or facility such as a road, retaining wall, pipe, flume, conduit, siphon, aqueduct, telephone line, electrical power transmission or distribution line.

~~(64) "Substantial damage" means damage of any origin, sustained by a structure whereby the cost of restoring the structure to its before-damaged condition would equal or exceed 50 percent of the market value of the structure as it existed before the damage occurred.~~

~~(65) "Substantial improvement" means any repair, reconstruction, rehabilitation, addition, alteration or improvement to a structure, or the cumulative total of such activities as defined in subsection (18) of this section, the cost of which equals or exceeds 50 percent of the market value of the structure either immediately prior to the issuance of the building permit. This term includes structures that have incurred "substantial damage" regardless of the actual repair work proposed or performed. This term does not include any project or portion of a project to upgrade an existing habitable structure to comply with current State or local health, sanitary, or safety code specifications which are the minimum necessary to assure safe living conditions, any alteration of an historic structure; provided, that the alteration will not preclude the structure's continued designation as an historic structure. (See also "cumulative improvement.")~~

(~~66~~45) "Subsurface geologic investigation" means a geologic report prepared by ~~a certified~~a ~~engineering~~ professional geologist that provides information on subsurface materials through trenching, test pits, ~~and~~ borings or other methods acceptable to the County Geologist.~~.~~

~~(67) V-Zone. See "coastal high hazard area."~~

(~~68~~) ~~"Violation" means the failure of a structure or other development to be fully compliant with this chapter. A structure or other development without the elevation certificate, other certifications or required permits, or other evidence of compliance required in this chapter is presumed to be in violation until such time as the required documentation has been provided.~~

~~(69) "Watercourse" means a lake, river, creek, stream, wash, arroyo, channel or other topographic feature on or over which waters flow at least periodically. "Watercourse" includes specifically designated areas in which substantial flood damage may occur. [Ord. 5119 § 42, 2012; Ord. 4518-C § 2, 1999; Ord. 4160 §§ 4, 5, 1991; Ord. 4112 § 1, 1991; Ord. 4090 § 1, 1990; Ord. 4080 §§ 1, 2, 1990; Ord. 4024 § 4, 1989; Ord. 3997 §§ 1, 2, 1989; Ord. 3892 § 1, 1988; Ord. 3808 § 2, 1986; Ord. 3686 § 1, 1985; Ord. 3598 § 1, 1984; Ord. 3437 § 1, 1983; Ord. 3340 § 1, 1982].~~

16.10.050 Requirements for geologic and geotechnical assessment.

(A) All development is required to comply with the provisions of this chapter.~~, specifically including, but not limited to, the placement of manufactured homes in the areas designated as SFHAs in the flood insurance study.~~

(B) Hazard Assessment Required. A geologic hazards assessment shall be required for all development activities, and foundation replacements or upgrades, in the following designated areas: fault zones, sites with suspected instability, ~~100-year floodplains and floodways,~~ and coastal hazard areas,

except: as specified in subsections ~~(C)~~ (D) ~~and~~ (E) and (F) of this section, where a full geologic report will be prepared according to the County guidelines for engineering geologic reports.~~, or where t~~The County Geologist may waive the requirement for a hazard assessment based upon a determintation ~~finds~~ that there is adequate information on file. A geologic hazards assessment shall also be required for development located in other areas of geologic hazard, as identified by the County Geologist or designee, using available technical resources, from environmental review, or from other field review.

(C) Geotechnical (Soils) Report Required. A geotechnical report shall be required when determined to be necessary by civil engineering staff, the County geologist, or the California Building Code (CBC).

(D) Geologic Report Required. A full geologic report shall be required for the following:

(1) For all proposed land divisions and critical structures and facilities in the areas defined as earthquake fault zones on the State Alquist-Priolo Earthquake Fault Zoning Act maps;

(2) Whenever a significant potential hazard is identified by a geologic hazards assessment;

(3) For all new reservoirs to serve major water supplies;

(4) Prior to the construction of any critical structure or facility in designated fault zones; and

(5) When a property has been identified as "Unsafe to Occupy" due to adverse geologic conditions, no discretionary approval or building permit (except approvals and permits that are necessary solely to mitigate the geologic hazard) shall be issued prior to the review and approval of geologic reports and the completion of mitigation measures, as necessary.

(6) For all new water tanks in excess of 10,000 gallons which are located in an area of geologic hazards as identified by the County Geologist;

(~~D~~E) Potential Liquefaction Area. A site-specific ~~geotechnical~~soil investigation (with input from a Professional Geologist, when required by civil engineering staff or the County Geologist) ~~by a certified engineering geologist and/or soil engineer~~ shall be required for all development applications for more than four residential units, ~~and for structures greater than one story~~ in areas of high or very high liquefaction potential, or when required by the California Building Code. Development applications for four units or less, one story structures and nonresidential projects shall be reviewed for liquefaction hazard through environmental review and/or geologic hazards assessment. When a significant hazard may exist, a site specific soils investigation shall be required.

(~~E~~F) Additional Report Requirements. Additional information (including but not limited to full geologic, subsurface geologic, hydrologic, geotechnical or other engineering investigations and reports) shall be required when a hazard or foundation constraint requiring further investigation is identified. [Ord. 4518-C § 2, 1999; Ord. 3598 § 1, 1984; Ord. 3340 § 1, 1982].

16.10.060 Assessment and report preparation and review.

(A) Timing of Geologic Review. Any required geologic, soil, or other technical report shall be completed, reviewed and accepted pursuant to the provisions of this section before any public hearing is scheduled and before any discretionary ~~or,~~ development application or building permit is approved or issued. The County Geologist may agree to defer the date for completion, review, or acceptance of any technical report where the technical information is (1) unlikely to significantly affect the size or location of the project, and (2) the project is not in the area of the Coastal Zone where decisions are appealable to the Coastal Commission. In no event shall such be deferred until after the approval or issuance of a building permit.

(1) An application for a geologic hazards assessment shall include a plot plan showing the property boundaries and location of proposed development activities. Any other information

deemed necessary by the County Geologist (including but not limited to topographic map, building elevations or grading plans) shall be submitted upon request.

(2) An application for a geologic hazards assessment or a technical report review constitutes a grant of permission for the Planning Director, or agents, to enter the property for the purposes of responding to the application.

(B) ~~Report~~ Geologic Hazards Assessment Preparation. The geologic hazards assessment shall be prepared by County staff. Alternately, the assessment may be conducted by a private ~~p~~Professional ~~g~~Geologist at the applicant's choice and expense. Such privately prepared assessments shall, however, be subject to review and ~~approval~~acceptance as specified in this section. Application for review of a geologic hazards assessment is not an application for a development permit.

(C) Report Acceptance. All geologic, ~~geotechnical~~soils, engineering, and hydrologic reports or investigations submitted to the County as a part of any development application ~~shall~~must be found by the County to conform to State and County report guidelines and requirements. The Planning Director may require an inspection in the field of all exploratory trenches, test pits, and borings excavated for a technical report.

(D) Geologic Hazard Assessment and Report Expiration. A geologic hazards assessment and all recommendations and requirements given therein shall remain valid for three years from the date of completion~~, unless a shorter period is specified in the report by the preparer~~. ~~A full~~ Geotechnical and geologic reports shall ~~be~~remain valid and all recommendations therein shall remain in effect for three years from the date of completion of the report unless a shorter period is specified in the report by the preparer. ~~The~~An exception to the three-year period of validity is where a change in site conditions, development proposal, technical information or County policy significantly affects the technical data, analysis, conclusions or requirements of the assessment or report; in which case the Planning Director may require a new or revised assessment or report.

(E) Change or Cancellation of Professional In Responsible Charge. When the professional in responsible charge of a report accepted by the County is changed or is no longer involved in the project, notice shall be given by the professional and the property owner to the County within 7 days of such change or cancellation. [Ord. 4518-C § 2, 1999; Ord. 3598 § 1, 1984; Ord. 3340 § 1, 1982].

16.10.070 Permit conditions.

The recommendations of the geologic hazards assessment, full geologic report, and/or the recommendations of other technical reports (if ~~evaluated~~reviewed and ~~authorized~~accepted by the Planning Director), shall be incorporated into the project plans or included as permit conditions of any permit or approvals subsequently issued for the development. In addition, the requirements described below for specific geologic hazards shall become standard conditions for development, building and land division permits and approvals. No development, building and land division permits or approvals shall be issued, and no final maps or parcel maps shall be recorded, unless such activity is in compliance with the requirements of this section.

(A) General. If a project is not subject to geologic review because the structure is nonhabitable and is not otherwise considered to be development under this chapter, a declaration of restrictions for the nonhabitable structure shall be recorded on the property deed that includes an acknowledgment that any change of use to a habitable use, or physical conversion to habitable space, shall be subject to the provisions of this chapter.

(B) Notice and Acknowledgement of Hazards. The developer and/or subdivider of a parcel or parcels in an area of geologic hazards shall be required, as a condition of development approval and building permit approval, to record a Notice of Geologic/Coastal Hazards, Acceptance of Risk, Liability Release, and Indemnification with the County Recorder. The Notice shall be in a form approved by the County of

Santa Cruz, and shall include a description of the hazards on the parcel, and the level of geologic and/or geotechnical investigation conducted, and shall include acknowledgements and agreements, as applicable to the specific project.

(~~B~~C) Fault Zones.

(1) Location. Development shall be located away from potentially hazardous areas as identified by the geologic hazards assessment or full geologic report.

(2) Setbacks. Habitable structures shall be set back a minimum of 50 feet from the edge of the area of fault induced offset and distortion of active and potentially active fault traces. This setback may be reduced to a minimum of 25 feet from the edge of this zone, based upon paleoseismic studies that include observation trenches. Reductions of the required setback may only occur when both the consulting ~~engineering~~Professional ~~g~~Geologist preparing the study and the County Geologist observe the trench and concur that the reduction is appropriate. Critical structures and facilities shall be set back a minimum of 100 feet from the edge of the area of fault induced offset and distortion of active and potentially active fault traces.

~~(3) Notice of Hazards. The developer and/or subdivider of a parcel or parcels in an area of geologic hazards shall be required, as a condition of development approval and building permit approval, to record a declaration of geologic hazards with the County Recorder. The declaration shall include a description of the hazards on the parcel, and the level of geologic and/or geotechnical investigation conducted.~~

(4~~3~~) Other Conditions. Other permit conditions, including but not limited to project redesign, elimination of building sites, and the delineation of development envelopes, building setbacks and foundation requirements, shall be required as deemed necessary by the Planning Director.

(C) Groundshaking.

(1) New Dams. Dams shall be constructed according to high seismic design standards of the Dam Safety Act and as specified by structural engineering studies.

(2) Public Facilities and Critical Structures and Facilities. All new public facilities and critical structures shall be designed to withstand the expected groundshaking during the design earthquake on the San Andreas fault or San Gregorio fault.

(3) Other Conditions. Other permit conditions including but not limited to structural and foundation requirements shall be required as deemed necessary by the Planning Director.

(D) Liquefaction Potential.

(1) Permit Conditions. Permit conditions including, but not limited to, project redesign, elimination of building sites, delineation of development envelopes and drainage and foundation requirements shall be required as deemed necessary by the Planning Director.

~~(2) Notice of Hazards. The developer and/or subdivider of a parcel or parcels in an area of geologic hazards shall be required, as a condition of development approval and building permit approval, to record a declaration of geologic hazardswith the County Recorder. The declaration shall include a description of the hazards on the parcel, and the level of geologic and/or geotechnical investigation conducted.~~

(E) Slope Stability.

(1) Location. All development activities shall be located away from potentially unstable areas as identified through the geologic hazards assessment, full engineering geologic report, soils (geotechnical) report or other environmental or technical assessment.

(2) Creation of New Parcels. Allow the creation of new parcels in areas with potential slope instability as identified through a geologic hazards assessment, full geologic report, soils (geotechnical) report or other environmental or technical assessment only under the following circumstances:

(a) New building sites, roadways, and driveways shall not be permitted on or across slopes exceeding 30 percent grade.

(b) A full engineering geologic report and any other appropriate technical report shall demonstrate that each proposed parcel contains at least one building site and access which are not subject to significant slope instability hazards, and that public utilities and facilities such as sewer, gas, electrical and water systems can be located and constructed to minimize potential for landslide damage and not cause a health or safety hazard.

(c) New building sites shall not be permitted which would require the construction of engineered protective structures such as retaining walls, diversion walls, debris walls or slough walls, or foundations designed to mitigate potential slope instability problems such as debris flows, slumps or other types of landslides.

(3) Drainage. Drainage plans designed to direct runoff away from unstable areas (as identified from the geologic hazards assessment or other technical report) shall be required. New drainage improvements shall not adversely affect slope stability and not increase the danger that any other property or public improvements will be impacted by potentially unstable slopes or landsliding. Drainage plans shall be completed by a Professional Engineer and reviewed by both the Professional Geologist (if required by the County Geologist) and other Professional Engineers as part of the design team. Such plans shall be reviewed and ~~approved~~accepted by the County Geologist.

(4) Leach Fields. Septic leach fields shall not be permitted in areas subject to landsliding as identified through the geologic hazards assessment, environmental assessment, or full geologic report.

(5) Road and Driveway Reconstruction. Where washouts or landslides have occurred on public or private roads and driveways, road and driveway reconstruction shall meet the conditions of appropriate geologic, soils (geotechnical) and/or engineering reports and shall have adequate geologic, soils, and other engineering supervision and permits as required by the County Code.

(6) New Road and Driveway Construction. New roads and driveways shall be located away from potentially unstable areas as identified through the geologic hazards assessment, full engineering geologic report, soils(geotechnical) report or other environmental or technical assessment.

~~(6) Notice of Hazards. The developer and/or subdivider of a parcel or parcels in an area of geologic hazards shall be required to record a declaration of geologic hazards with the County Recorder. The declaration shall include a description of the hazards on the parcel, and the level of geologic and/or geotechnical investigation conducted.~~

(7) Other Conditions. Other permit conditions including but not limited to project redesign, building site elimination and the development of building and septic system envelopes, building setbacks and foundation and drainage requirements shall be required as deemed necessary by the Planning Director.

(F) Floodplains. The provisions of Chapter 16.13 Flood Hazards shall apply to all development, as defined in that Chapter, that is wholly within, partially within, or in contact with any flood hazard area, or other areas as identified by the Floodplain Administrator, including but not limited to the subdivision of land; filling, grading, and other site improvements and utility installations; construction, alteration,

remodeling, enlargement, replacement, repair, relocation or demolition of any building or structure; placement, installation, or replacement of manufactured homes; installation or replacement of tanks; placement of temporary structures and temporary storage; installation of swimming pools; and miscellaneous and utility structures.

~~(1) Critical and Public Facilities. Critical facilities and nonessential public structures and additions shall be located outside of the 100-year floodplain unless such facilities are necessary to serve existing uses, there is no other feasible location and construction of these structures will not increase hazards to life or property within or adjacent to the floodplain.~~

~~(2) Creation of New Parcels. Allow the creation of new parcels including those created by minor land division or subdivision in the 100-year floodplain only under the following circumstances:~~

~~(a) A full hydrologic report and any other appropriate technical report must demonstrate that each proposed parcel contains at least one building site, including a septic system and leach field site, which is not subject to flood hazard, and that public utilities and facilities such as sewer, gas, electrical and water systems can be located and constructed to minimize flood damage and not cause a health hazard.~~

~~(b) A declaration indicating the limits and elevations of the 100-year floodplain certified by a registered professional engineer or surveyor must be recorded with the County Recorder.~~

~~(c) Adequate drainage to reduce exposure to flood hazards must be provided.~~

~~(d) Preliminary land division proposals shall identify all flood hazard areas and the elevation of the base flood.~~

~~(3) Development Criteria and Design Requirements. All development within the 100-year floodplain shall meet the following criteria. Any addition, repair, reconstruction, rehabilitation, alteration, or improvement of structures for which building permits were issued prior to April 15, 1986, when subject to the definition of "cumulative improvement," does not meet the definition of "substantial improvement" (pursuant to SCCC 16.10.040(18) and (65)), is exempt from this section.~~

~~(a) Location of proposed structures outside of the 100-year floodplain when a buildable portion of the property exists outside the floodplain;~~

~~(b) Anchoring of foundations and the structures attached to them by a method adequate to prevent flotation, collapse and lateral movement of the structures due to the forces that may occur during the base flood, including hydrostatic and hydrodynamic loads and the effects of buoyancy.~~

~~A project involving a manufactured home shall achieve this by one of the following methods:~~

~~(i) By providing an anchoring system designed to withstand horizontal forces of 15 pounds per square foot and uplift forces of nine pounds per square foot; or~~

~~(ii) By the anchoring of the unit's system, designed to be in compliance with the Department of Housing and Development Mobile Home Construction and Safety Standards;~~

~~(c) Shall be constructed with materials and utility equipment resistant to flood damage and using construction methods and practices that minimize flood damage;~~

~~(d) Shall be constructed with electrical, heating, ventilation, plumbing and air conditioning equipment and other service facilities that are designed and/or located to prevent water from entering or accumulating within the components during conditions of flooding;~~

~~(e) In flood zones A-O and A-H, provide drainage paths adequate to guide water away from structures and reduce exposure to flood hazards;~~

~~(f) For residential structures, including manufactured homes, the lowest floor, including the basement, and the top of the highest horizontal structural member (joist or beam) which provides support directly to the lowest floor, and all elements that function as a part of the structure, such as furnace, hot water heater, etc., shall be elevated at least one foot above the 100-year flood level. Foundations shall be designed to minimize flood water displacement and flow damage. Where a piling or caisson foundation system is used the space below the lowest floor shall be free of obstruction or be enclosed with wood-constructed lattice work or screens designed to collapse or be carried away under the stress of flood waters without jeopardizing the structural support of the building. Compliance with the elevation requirement shall be certified by a registered professional engineer, architect, or surveyor and submitted to the Planning Director prior to a subfloor building inspection. Failure to submit elevation certification may be cause to issue a stop work notice for a project. The Planning Director will maintain records of compliance with elevation requirements;~~

~~(g) Nonresidential structures shall be floodproofed if elevation above the 100-year flood level in accordance with subsection (F)(3)(f) of this section is not feasible. Floodproofed structures shall:~~

> ~~(i) Be floodproofed so that below an elevation one foot higher than the 100-year flood level, the structure is watertight with walls substantially impermeable to the passage of water based on structural designs, specifications and plans developed or reviewed by a registered professional engineer or architect;~~
>
> ~~(ii) Be capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy; and~~
>
> ~~(iii) Be certified by a registered professional engineer or architect that floodproofing standards and requirements have been complied with; the certification shall be submitted to the Planning Director and shall indicate the elevation to which floodproofing was achieved prior to a final building inspection. The Planning Director shall maintain records of compliance with floodproofing requirements;~~

~~(h) In flood zone AO, residential structures shall have the lowest floor at or above the highest adjacent grade, at least as high as the depth number given on the FIRM, and nonresidential structures, where elevation is not feasible, shall have the lowest floor completely floodproofed at or above the highest adjacent grade, at least as high as the depth number given on the FIRM;~~

~~(i) Fully enclosed areas below the lowest floor that are subject to flooding shall be designed to automatically equalize hydrostatic flood forces on exterior walls allowing for the entry and exit of flood waters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect, or shall provide a minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding. The bottom of all openings shall be no higher than one foot above grade. Openings may be equipped with screens, louvers, valves or other coverings or devices; provided, that they permit the automatic entry and exit of flood~~

~~waters. Nonresidential structures that are floodproofed in compliance with subsection (F)(3)(g) of this section are an exception to this requirement.~~

~~(4) Recreational Vehicles. RVs that are placed on a site that is within the A, A1—A30, AH, AO or AE zones as designated in the FIS, and that are not fully licensed and highway ready, shall meet the criteria given in subsections (F)(3)(b) and (3)(f) of this section, unless they are on the site for less than 180 consecutive days. For the purposes of this chapter, "highway ready" means on wheels or jacking system, attached to the site by quick disconnect type utilities and security devices, and having no attached additions.~~

~~(5) Septic Systems. New septic systems and leach fields shall not be located within the 100-year floodplain. The capacity of existing septic systems in the floodplain shall not be increased.~~

~~(6) Water Supplies and Sanitary Sewage Systems. All new and replacement water supplies and sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharge from the systems into flood waters.~~

~~(7) Placement of Fill. Allow the placement of fill within the 100-year floodplain in the minimum amount necessary, not to exceed 50 cubic yards. Fill shall only be allowed if it can be demonstrated that the fill will not have cumulative adverse impacts.~~

~~(8) Flood Control Structures. Flood control structures shall be permitted only to protect existing development (including agricultural operations) where no other alternative is feasible or where such protection is needed for public safety. Such structures shall not adversely affect sand supply, increase erosion or cause flooding on adjacent properties or restrict stream flows below minimums necessary to maintain fish and wildlife habitats or be placed further than necessary from the development requiring protection.~~

~~(9) Notice of Hazards. The developer and/or subdivider of a parcel or parcels in an area of geologic or flood hazards shall be required, as a condition of development approval and building permit approval, to record a declaration of geologic hazards with the County Recorder. The declaration shall include a description of the hazards on the parcel or parcels and the level of prior hydrologic or geologic investigation conducted.~~

~~(10) Other Conditions. Other permit conditions, including but not limited to project redesign, building site elimination, development of building and septic envelopes, and foundation requirements shall be required as deemed necessary by the Planning Director. When base flood elevation data are not provided in the flood insurance study, the Planning Director shall obtain, review, and reasonably utilize the best base flood data available from Federal, State or other sources, as a basis for elevating residential structures and floodproofing nonresidential structures, to at least one foot above the base flood level. Residential structures shall be elevated no less than two feet above natural grade when base flood data do not exist. Nonresidential structures may elevate or flood proof to meet this standard.~~

~~(11) Alteration or Relocation of Watercourse. Adjacent communities, the California Department of Water Resources and the Federal Emergency Management Agency shall be notified prior to any alteration or relocation of a major watercourse. The flood carrying capacity of any altered or relocated watercourses must be maintained.~~

~~(12) Permit Requirements. All other required State and Federal permits must be obtained.~~

~~(G) Permit Conditions—Floodways. Located within areas of special flood hazard as established in SCCC 16.10.025, and within some areas not mapped as part of the flood insurance study, are areas designated as floodways (see also SCCC 16.10.040(30)). The floodway is an extremely hazardous area due to the quantity and velocity of flood waters, the amount of debris which may be transported, and the~~

~~high potential for erosion during periods of large stream flows. In the floodway the following provisions apply:~~

~~(1) Development and Building within Floodway Prohibited. All development activity, except for the reconstruction, repair, alteration or improvement of an existing structure, is prohibited within the floodway unless exempted by State or Federal laws. Any encroachment which would cause any increase in the base flood level is prohibited.~~

~~(2) Sites Where Floodway Not Established. Where the Flood Insurance Study or other technical report has identified a flood hazard area but has not designated a floodway, the applicant must demonstrate, through hydrologic analysis, that the project will not adversely affect the carrying capacity of the area. For the purposes of this chapter, "adversely affects" means that the cumulative effect of the proposed development, when combined with all other existing and anticipated development in the watershed, will increase the water surface elevation of the base flood more than one foot at any point. The hydrologic analysis must identify the boundaries of the floodway, and the project must comply with the provisions of subsection (G)(1) of this section.~~

~~(3) Setback from Floodway. Where neither a base flood elevation nor a floodway has been identified by the flood insurance study or by a site-specific hydrologic study, a minimum setback of 20 feet from the top edge of the banks of a drainage course shall be maintained, and all activity that takes up flood storage area within this setback shall be prohibited. This floodway setback may be reduced by the Planning Director only if a full hydrologic analysis identifies the boundaries of the floodway, demonstrates that a smaller setback will not increase the susceptibility of the proposed activity to flood-related hazards, and there is no alternative location outside of the 20-foot setback. (See also Chapter 16.30 SCCC, Riparian Corridor and Wetlands Protection, for vegetation-related setbacks from streams.)~~

~~(4) Location of Septic Systems. New septic systems and leach fields shall not be located in the floodway. The capacity of existing systems in the floodway shall not be increased.~~

~~(5) Alteration of Structures in Floodway. Reconstruction, repair, alteration or improvement of a structure in a floodway shall not cause any increase in the base flood elevation. Substantial improvements, regardless of cause, shall only be permitted in accordance with subsection (F) of this section. Repair, reconstruction, alteration, or replacement of a damaged structure which does not exceed the ground floor square area of the structure before the damage occurred shall not be considered an increase in the base flood elevation.~~

~~(6) Permit Requirements. All other required local, State and Federal permits must be obtained.~~

(~~H~~G) Coastal Bluffs and Beaches.

(1) Criteria in Areas Subject to Coastal Bluff Erosion. Projects in areas subject to coastal bluff erosion shall meet the following criteria:

(a) ~~For all development and for nonhabitable structures, demonstration of the stability of the site, in its current, pre-development application condition, for a minimum of 100 years as determined by either a geologic hazards assessment or a full geologic report.~~ All development activities, including those which are cantilevered, and non-habitable structures for which a building permit is required, shall be set back a minimum of 25 feet from the top edge of the bluff. A setback greater than 25 feet may be required based on conditions on and adjoining the site. The setback shall be sufficient to provide a stable building site over the expected design life of the structure, as determined through geologic, geotechnical, hydrologic, or other engineering reports. A new or redeveloped

residential or commercial structure has an expected design life of 75 years. A critical structure or facility has an expected design life of 100 years.

(b) ~~For all development, including that which is cantilevered, and for nonhabitable structures, a minimum setback shall be established at least 25 feet from the top edge of the coastal bluff, or alternatively, the distance necessary to provide a stable building site over a 100-year lifetime of the structure, whichever is greater.~~ The determination of the minimum setback shall be based on the existing site conditions and shall not take into consideration the effect of any proposed protection measures, such as shoreline or coastal bluff armoring structures, retaining walls, or deep piers.

(c) ~~The determination of the minimum setback shall be based on the existing site conditions and shall not take into consideration the effect of any proposed protection measures, such as shoreline protection structures, retaining walls, or deep piers.~~ Within the Urban and Rural Services Lines, the calculation of the 75 or 100-year geologic/coastal setback, or reduced setback requested under an exception procedure, may take into consideration the effect of a legally established shoreline or coastal bluff armoring. However, armoring installed under an emergency coastal permit shall not be factored into the setback calculation unless a regular Coastal Development Permit is issued, and all conditions of the permit are met. In addition, technical reports prepared for sites within the Urban and Rural Services Lines shall also include analysis based upon an alternative calculation of the 75 or 100-year setback that neglects any effect of an existing shoreline or coastal bluff armoring, in order to provide a measure of the effects of the existing protection measure on the site conditions~~-~~.

(d) Outside the Urban and Rural Services Lines the calculation of the 75 or 100-year geologic/coastal hazards setback shall not take into consideration the effect of any existing or proposed shoreline or coastal bluff armoring.

(e) Foundation replacement and/or foundation upgrades that meet the definition of development activity in Chapter 13.20 Coastal Regulations ~~per SCCC 16.10.040(19) and pursuant to SCCC 16.10.040(18)~~ shall meet the 25-foot minimum or the 75 or 100-year geologic/coastal hazard setback requirements.~~setback described in subsection (H)(1) of this section, except that a~~An exception to the setback requirement may be granted for existing structures that are wholly or partially within the setback if the property owner agrees to record a Notice of Geologic/Coastal Hazard prior to issuance of the building permit, and if the Planning Director determines that:

(i) The ~~area of the~~ structure ~~that is within the setback does not exceed 25 percent of the total area of the structure~~ will be relocated to maximize the setback from the coastal bluff or shoreline; or

(ii) The structure cannot be relocated to meet the setback because of inadequate parcel size.

(~~e~~f) Additions, including second story and cantilevered additions, which extend the existing structure in a seaward direction, shall comply with the minimum 25-foot and 75 or 100-year setback.

~~(f) The developer and/or the subdivider of a parcel or parcels in an area subject to geologic hazards shall be required, as a condition of development approval and building permit approval, to record a declaration of geologic hazards with the County Recorder. The declaration shall include a description of the hazards on the parcel and the level of geologic and/or geotechnical investigation conducted~~

(g) ~~Approval~~Acceptance of drainage and landscape plans for the site by the County Geologist. Drainage plans shall be prepared by a Professional Engineer, and reviewed by both the project Professional Geologist and other Professional Engineer when part of the design team.

(h) Service transmission lines and utility facilities are prohibited unless they are necessary to serve existing ~~residences~~development or public facilities.

(i) New swimming pools, spas and similar in-ground and above-ground water recreation or fishpond types of features shall be located landward of the applicable geologic/coastal hazard setback. Any new water-containing features of this nature shall have double-wall construction with leak detection systems and drains to facilities and locations approved by the County.

(j) Accessory structures must include a condition of approval that requires the property owner and all successors in interest to remove the structure if the County Geologist, the Building Official or a Professional Engineer determines that the accessory structure is at risk of failure due to erosion, landslide or other form of bluff collapse or geologic/coastal hazard. In the event that portions of the development fall to the bluffs or ocean before they are removed/relocated, the landowner will remove all recoverable debris associated with the development from the bluffs and ocean and lawfully dispose of the material in an approved disposal site.

(~~i~~k) All other required local, State and Federal permits shall be obtained.

(2) Exemption.

(a) Any project which does not specifically require a building permit pursuant to ~~subsection (B) of this section~~ Section 12.10.315 (exempted work) of the County Code is exempt from subsection (~~H~~G)(1) of this section, with the exception of: nonhabitable accessory structures that are located within the minimum 25-foot setback from the coastal bluff where there is space on the parcel to accommodate the structure outside of the setback, above-ground pools, water tanks, projects (including landscaping) which would unfavorably alter drainage patterns, and projects involving grading.

For the purposes of this section, "the unfavorable alteration of drainage" is defined as a change that would significantly increase or concentrate runoff over the bluff edge or significantly increase infiltration into the bluff. "Grading" is defined as any earthwork other than minor leveling, of the scale typically accomplished by hand, necessary to create beneficial drainage patterns or to install an allowed structure, that does not excavate into the face or base of the bluff.

Examples of projects which may qualify for this exemption include: decks which do not require a building permit and do not unfavorably alter drainage, play structures, showers (where runoff is controlled), benches, statues, landscape boulders, benches, and gazebos which do not require a building permit.

(b) If a structure that is constructed pursuant to this exemption subsequently becomes unstable due to erosion or slope instability, the threat to the exempted structure shall not qualify the parcel for a coastal bluff retaining structure or shoreline protection structure. If the exempted structure itself becomes a hazard it shall either be removed or relocated, rather than protected in place at the direction of the County.

(3) Shoreline and coastal bluff armoring ~~protection structures~~ shall be governed by the following:

(a) New Shoreline and coastal bluff protection structures shall only be allowed on parcels where both adjacent parcels are already similarly protected, or where necessary to protect existing structures from a significant threat, or on vacant parcels which, through lack of protection threaten adjacent developed lots, or to protect public ~~works~~roads and infrastructure, public beaches, and coastal dependent uses.

(b) ~~Note:~~ New shoreline and coastal bluff protection structures shall not be allowed where the existing structure proposed for protection was granted an exemption pursuant to subsection (~~H~~G)(2) of this section.

~~(b) Seawalls, specifically, shall only be considered where there is a significant threat to an existing structure and both adjacent parcels are already similarly protected.~~

(c) Application for shoreline and coastal bluff protective structures shall include thorough analysis by a Professional Engineer or Professional Geologist of all reasonable alternatives to such structures, including but not limited to the following: ~~relocation or partial removal of the threatened structure, protection of only the upper bluff area or the area immediately adjacent to the threatened structure, beach nourishment, and vertical walls. Structural protection measures on the bluff and beach shall only be permitted where nonstructural measures, such as relocating the structure or changing the design, are infeasible from an engineering standpoint or are not economically viable.~~

(i) Relocation or partial removal of the threatened structure

(ii) Protection of the upper bluff and blufftop (including through planting appropriate native or non-invasive vegetation and removing invasive plant species, and better drainage controls) or the area immediately adjacent to the threatened structure

(iii) Natural or "green" infrastructure (like vegetated beaches, dune systems, and wetlands)

(iv) Engineered shoreline or coastal bluff armoring (such as beach nourishment, revetments, or vertical walls)

(v) Other engineered systems to buffer coastal areas

(vi) Combinations or hybrids of the above

(vii) Consistency with an approved shoreline management plan, if applicable

(d) Shoreline and coastal bluff protection structures shall be placed as close as possible to the ~~development~~ coastal bluff or structure requiring protection and must be designed to minimize adverse impacts. Design considerations include but are not limited to the following:

(i) Minimize the footprint of the armoring on the beach

(ii) Provide for public recreational access

(iii) Provide for future access for maintenance of the armoring

(iv) Strive for a continuous lateral pedestrian access as physically feasible

(v) Minimize visual intrusion by using materials that blend with the color or natural materials in the area, contouring to match nearby landforms as much as possible, and using vegetation for screening

(vi) Meet approved engineering standards and applicable County Code provisions for the site as determined through the coastal development, building, and grading permit process

(vii) The design must be based on detailed technical studies to accurately define geologic, hydrologic and oceanographic conditions affecting the site

(viii) Eliminate or mitigate adverse impacts on local shoreline sand supply

(ix) All armoring structures shall incorporate permanent survey monuments for future use in establishing a survey monument network along the coast for use in monitoring seaward encroachment or slumping of armoring and erosion trends

(e) For development activities protected by existing shoreline and coastal bluff armoring, the coastal permit application shall include:

(i) Re-assessment of the need for the armoring (see paragraph (l) below)

(ii) A report on the need for any repair or maintenance of the device (see paragraph (k) below)

(iii) Evaluation of the stability and condition of the armoring and recommendations for maintenance, repair, or modification, and potential for removal based on changed conditions

(iv) A report on changed geologic and hydrologic site conditions including but not limited to changes relative to sea level rise

(vi) If the existing armoring is addressed in an approved Geologic Hazard Abatement District Plan of Control, or other joint maintenance agreement, consider the status of implementation of the Plan of Control or maintenance agreement requirements.

(vii) Assessment of impacts to sand supply and public access and recreational resources.

(viii) Recommendation to avoid or mitigate impacts to sand supply and public access and recreational resources

(ix) If approved, such development associated with existing shoreline or coastal bluff armoring shall meet all the other applicable requirements of this policy, including with respect to the impact mitigation requirements

(f) For development activities protected by existing rip rap, require that the applicant submit a report at the time of filing an application for a coastal development permit, including an evaluation of the stability and condition of the armoring and recommendations for maintenance, repair, or modification, and potential for removal based on changed conditions. The report shall include a Recovery Plan for the maintenance and repair and potential removal of all or a portion of the existing rip rap revetment, to recover migrated rip rap and to provide for least disturbance of the beach and shoreline while also functioning as necessary to protect the structures on and adjacent to the parcel. The Recovery Plan must incorporate Best Management Practices for maintenance and repair to address potential impacts to sensitive species and environmental resources, as well as Best Management Practices for construction during maintenance and repair activities.

(g) Shoreline or coastal bluff armoring should be the least environmentally damaging feasible alternative to serve coastal-dependent uses or to protect a structure or a public beach in danger from erosion:

(i) Hard armoring (such as seawalls and revetments, etc.) shall only be allowed if soft alternatives (such as managed retreat/relocation, beach nourishment, vegetative planting, and drainage control, etc.) are not feasible, or are not the least environmentally damaging feasible alternative

(ii) Permit shoreline or coastal bluff armoring only if non-structural measures are infeasible from an engineering standpoint or not economically viable

(iii) Hard armoring is limited as much as possible to avoid coastal resource impacts

(iv) Alternatively, an approved Shoreline Management Plan may authorize hard armoring for identified sections of the coast.

(h) No shoreline or coastal bluff armoring shall be allowed for the sole purpose of protecting an accessory structure.

(~~e~~i) All Shoreline and coastal bluff armoring ~~protection structures~~ shall be sited and designed to eliminate or mitigate adverse impacts on coastal resource. All unavoidable coastal resource impacts shall be appropriately mitigated. Any approved new, replacement, reconstructed or redeveloped shoreline protection structure must not result in unmitigated impacts to coastal resources including:~~not reduce or restrict public beach access, adversely affect shoreline processes and sand supply, adversely impact recreational resources, increase erosion on adjacent property, create a significant visual intrusion, or cause harmful impacts to wildlife or fish habitat, archaeologic or paleontologic resources. Shoreline protection structures shall minimize visual impact by employing materials that blend with the color of natural materials in the area.~~

(i) Reduced or restricted public beach access

(ii) Adverse effects on shoreline processes and sand supply

(iii) Increased erosion or flooding on adjacent properties,

(iv) Adverse impacts on coastal visual or recreational resources, or harmful impacts on wildlife and fish habitats or archaeological or paleontological resources

~~(f) All protection structures shall meet approved engineering standards as determined through environmental review.~~

(j) Mitigation Programs. Require mitigation of unavoidable adverse impacts on coastal resources, including payment of in lieu fees where in-kind options are not possible.

(~~g~~k) All shoreline and coastal bluff armoring ~~protection structures~~ shall include a permanent, County approved, monitoring, ~~and~~ maintenance, and repair program. The Program shall include, but is not limited to the following elements:

(i) Monitoring by a professional engineer or geologist familiar and experienced with coastal structures and processes.

(ii) Report to the County upon completion of construction of the armoring and every five years or less thereafter, as determined by either the County

Geologist or a qualified professional, for as long as the armoring remains authorized

(iii) The report shall detail the condition of the structure and list any recommended maintenance and repair work

(iv) The monitoring plan and periodic report shall address impacts to shoreline processes and beach width, public access, and availability of public trust lands for public use

(v) The monitoring, maintenance and repair program shall be recorded on the title/deed of the property

(vi) The program shall allow for County removal or repair of shoreline or coastal bluff armoring, at the owner's expense, if its condition creates a public nuisance or if necessary, to protect the public health and safety

(vii) The program shall include any other monitoring, maintenance, and repair activities the County determines necessary to avoid or mitigate impacts to coastal resources

(~~h~~l) Applications for shoreline or coastal bluff armoring~~protection structures~~ shall include a construction and staging plan that minimizes disturbance to the beach, specifies the access and staging areas, and includes a construction schedule that limits presence on the beach, as much as possible, to periods of low visitor demand. The plan for repair projects shall include recovery of rock and other material that has been dislodged onto the beach.

(~~i~~m) All other required local, State and Federal permits shall be obtained.

(4) ~~Alteration of Damaged Structures. Reconstruction, repair, rebuilding, replacement, alteration, improvement, or addition to damaged structures located on a coastal bluff shall proceed according to the following chart:~~ Modification, Reconstruction, or Replacement of Damaged Structures on Coastal Bluffs. If structures located on or at the top of a coastal bluff are damaged as a result of coastal hazards, including slope instability and seismically induced landslides, and where the loss involves 50 percent or more of Major Structural Components, allow repair (development activities) if all applicable regulations can be met, including the minimum 25-foot and the applicable 75 or 100-year geologic/coastal setbacks, or alternate setback authorized by an approved setback exception.

For structures involuntarily damaged by other than coastal hazards (fire, for example), where the loss involves 50 percent or more of the Major Structural Components, allow repair in kind, but encourage relocation to increase the setback if feasible.

Allow other than in-kind reconstruction or replacement of involuntarily damaged structures in accordance with all applicable LCP policies and regulations.

Exemption: Public beach facilities and replacements consistent with Coastal Act Policy 30610(g).

(5) Reconstruction or Replacement of Damaged Structures due to Storm Wave Inundation. If structures located in areas subject to storm wave inundation are damaged as a result of any cause and the loss meets or exceeds 50 percent of the value of the structure before the damage occurred (substantial damage), allow such repair (substantial improvement) only if all applicable regulations in Chapter 16.13 Floodplain Management Regulations and all applicable LCP policies can be met.

Exceptions: Public beach facilities and replacements

Extent of Damage	50% or More of the Value of Structure		Less Than 50% of the Value of Structure	
Cause of Damage (horizontal axis)	Coastal Hazards and Slope Instability	All Other Causes (fire, etc.)	Coastal Hazards and Slope Instability	All Other Causes (fire, etc.)
Location of Existing Structure (vertical axis)				
Existing structure meets setback (less than 10% extends into setback).	Meet all regulations.	Exempt from regulations if repaired/replaced in kind. Otherwise meet all regulations.	Exempt from regulations if repaired/replaced in kind. Otherwise meet all regulations.	Exempt from regulations if repaired/replaced in kind. Otherwise meet all regulations.
Existing structure does not meet setback but could by relocating.	Meet all regulations, including setback for existing structure.	To repair or replace in kind, meet all regulations except setback. Otherwise meet all regulations, including prescribed minimum setback.	Exempt from regulations if repaired/replaced in kind. Otherwise meet all regulations, including prescribed minimum setback.	Exempt from regulations if repaired/replaced in kind. Otherwise meet all regulations, including prescribed minimum setback.
Existing structure does not meet setback and cannot meet setback by relocating.	If hazard can be mitigated to provide stability for a period of 100 years, repair or replace in kind. Meet all regulations except setback. Cannot be rebuilt, even in kind, if hazard cannot be mitigated to a level that provides stability for a period of 100 years.	May repair or replace in kind. To repair or replace in kind, meet all regulations except setback. Hazards shall be mitigated to a level that provides stability for a period of 100 years, if feasible. Projects in excess of "in-kind" shall meet all regulations, including prescribed minimum setback.	May repair or replace in kind. Hazards shall be mitigated to a level that provides stability for a period of 100 years, if feasible. Projects in excess of "in-kind" shall meet all regulations.	May repair or replace in kind. To repair or replace in kind, meet all regulations except setback. Hazards shall be mitigated to a level that provides stability for a period of 100 years, if feasible. Projects in excess of "in-kind" shall meet all regulations including prescribed minimum setback.

Public beach facilities are exempt from the provisions of this chart.

(5) Coastal High Hazard Area Development Criteria. All development, specifically including the placement of and construction on manufactured homes, shall meet the following criteria. For structures that had a building permit issued prior to April 15, 1986, any addition, repair, reconstruction, rehabilitation, alteration, or improvement, which, when subject to the definition of

~~"cumulative improvement," does not meet the definition of "substantial improvement" (pursuant to SCCC 16.10.040(18) and (65)), is exempt from this section.~~ The provisions of Chapter 16.13 Flood Hazards shall apply to all development, as defined in that Chapter, that is wholly within, partially within, or in contact with any coastal high hazard area, or other areas as identified by the Floodplain Administrator, including but not limited to the subdivision of land; filling, grading, and other site improvements and utility installations; construction, alteration, remodeling, enlargement, replacement, repair, relocation or demolition of any building or structure; placement, installation, or replacement of manufactured homes; installation or replacement of tanks; placement of temporary structures and temporary storage; installation of swimming pools; and miscellaneous and utility structures.

~~(a) Demonstration that the potential hazards on the site can be mitigated, over the 100-year lifetime of the structure, as determined by the geologic hazards assessment or full geologic report and any other appropriate technical reports. Mitigations can include but are not limited to building setbacks, elevation of the proposed structure and foundation design;~~

~~(b) Location of the proposed structure landward of the reach of mean high tide and outside of the area of storm wave inundation where a buildable portion of the property is outside of the area of storm wave inundation;~~

~~(c) Elevation of all structures (including manufactured homes) on pilings and columns so that the bottom of the lowest portion of the lowest structural member of the lower floor (excluding the pilings or columns) and elements that function as part of the structure, such as furnace, hot water heater, etc., are elevated to or above the base flood level;~~

~~(d) Anchoring of the pile or column foundation and structure attached thereto to prevent flotation, collapse and lateral movement due to the effect of wind and water loads acting simultaneously on all building components. Wind and water loading values shall each have a one percent chance of being equaled or exceeded in any given year (100-year mean recurrence interval);~~

~~(e) A registered professional engineer or architect shall develop or review the structural design, specifications and plans for the construction, and shall certify that the design and methods of construction to be used are in accordance with accepted standards of practice for meeting the provisions of subsections (H)(5)(c) and (d) of this section prior to permit issuance;~~

~~(f) The space below the lowest floor shall either be free of obstruction or constructed with nonsupporting breakaway walls, open wood lattice-work or insect screening intended to collapse under wind and water loads without causing collapse, displacement or other structural damage to the elevated portion of the building or supporting foundation system. For the purposes of this section, a breakaway wall shall be of nonmasonry construction and have a design safe loading resistance of not less than 10 and no more than 20 pounds per square foot. Use of breakaway walls which do not meet the above material and strength criteria may be permitted only if a registered professional engineer or architect certifies that the designs proposed will permit the breakaway wall to collapse under a water load less than that which would occur during the base flood and that the elevated portion of the building or supporting foundation system shall not be subject to collapse, displacement or other structural damage due to the effects of wind and water loads acting simultaneously on all building components. Such enclosed space shall be useable solely for vehicle parking, building access or storage, and shall not be a finished area or habitable area;~~

~~(g) The use of fill for structural support of buildings is prohibited;~~

~~(h) The alteration of sand dunes which would increase potential flood damage is prohibited;~~

~~(i) Compliance with the provisions of subsections (H)(5)(c) and (d) of this section shall be certified by a registered professional engineer or architect and submitted to the Planning Director when the foundation work has been completed. Failure to submit elevation and structural certification may be cause to issue a stop-work notice for a project. The Planning Director shall maintain records of compliance with the elevation requirements;~~

~~(j) Recreational vehicles that are placed on a site that is within the V, V1—V30, or VE zones as designated in the FIS, and that are not fully licensed and highway ready, must meet all the provisions of subsection (H)(5) of this section unless they are on the site for less than 180 consecutive days. For the purposes of this chapter, "highway ready" means on wheels or jacking system, attached to the site by quick-disconnect utilities and security devices, and having no attached additions;~~

~~(k) Determination by the Planning Director on the basis of the geologic hazards assessment or geologic report that the mitigation of the hazards on the site is not dependent on shoreline protection structures except on lots where both adjacent parcels are already similarly protected;~~

~~(l) The developer and/or the subdivider of a parcel or parcels in an area subject to geologic hazards shall be required, as a condition of development approval and building permit approval, to record a declaration of geologic hazards with the County Recorder. The declaration shall include a description of the hazards on the parcel, and the level of geologic and/or geotechnical investigation conducted;~~

~~(m) All other required State and Federal permits must be obtained.~~

(6) New and Expanded Critical Structures and Facilities. Construction of critical structures and facilities, including the expansion of existing critical structures and facilities, and nonessential public structures shall be located outside areas subject to coastal hazards; unless such facilities are necessary to serve existing uses, there is no other feasible location, and construction of these structures will not increase hazards to life and property within or adjacent to coastal inundation areas.

(7) Creation of New Parcels and Location of New Building Sites. New parcels or building sites created by minor land divisions, subdivisions or development approvals or permits, and multi-residential structures in coastal hazard areas shall conform to the following criteria:

(a) Demonstration by a full geologic report that each proposed building site on the parcel is not subject to any potential hazards and that each site meets the minimum setback given in subsection (~~H~~G)(1) of this section;

(b) Determination by the Planning Director based on the geologic report that the long-term stability and safety of the development does not depend on or require shoreline or coastal bluff armoring~~protection structures~~;

(c) The proposed development does not reduce or restrict public access and the proposed development does not require the construction of public facilities, structures, or utility transmission lines in coastal hazard areas or within the 25-foot or 75 or 100-year stability (whichever is greater) setback;

(d) The developer and/or the subdivider of a parcel or parcels in an area subject to geologic hazards shall be required, as a condition of development approval and building permit approval, to record on the property title/deed a ~~declaration~~Notice of ~~g~~Geologic/Coastal ~~h~~Hazards. Acceptance of Risk, Liability Release, and Indemnification

with the County Recorder. The ~~declaration~~Notice shall include a description of the hazards on the parcel and the level of geologic and/or geotechnical investigation conducted~~.~~, and additional acknowledgements and agreements as applicable to the specific project.

(8) Removal Conditions/Development Duration. Development/development activities on private property located in areas subject to coastal hazards shall be conditioned to require that it be removed and the affected area restored if:

(a) any government agency has ordered that the structures are not to be occupied due to coastal hazards, or if any public agency requires the structures to be removed;

(b) essential services to the site can no longer feasibly be maintained (e.g., utilities, roads);

(c) the development is no longer located on private property due to the migration of the public trust boundary;

(d) removal is required pursuant to an adopted Shoreline Management Plan

Such condition shall be recorded on a deed restriction against the subject property.

(9) Abatement of Unsafe Site or Structure. If coastal hazards result in an unsafe site or unsafe structure, dangerous conditions shall be abated in accordance with County regulations and Orders of the Chief Building Official. If all or any portion of improvements are deemed uninhabitable, the improvements shall be removed and the affected area restored, unless an alternative response is approved by the County of Santa Cruz, and by the California Coastal Commission if the project is within the Coastal Commission's primary jurisdiction. Alternative responses to coastal hazards may include (1) pursuit of a Coastal Development Permit consistent with County Code regulations in Chapter 13.20 (Coastal Zone Regulations) and Chapter 16.10 (Geologic Hazards); and/or (2) pursuit of an alternative consistent with an adopted shoreline management plan.

(10) If the mean high tide line or the blufftop edge migrates to within 10 feet of a principal, habitable structure to a point where the site or structure is deemed unsafe by County regulations and/or the County Geologist, Civil Engineer, or Chief Building Official, the property owner shall retain a Professional Engineer with experience in coastal processes and hazard response to prepare a geotechnical investigation and Coastal Hazards Report (with input from a Professional Geologist, when required by civil engineering staff or the County Geologist) that addresses whether all or any portions of the residence and related development are threatened by coastal hazards, and that identifies actions that should be taken to ensure safe use and occupancy, which may include removal or relocation of all or portions of the threatened development and improvements, or other alternate responses. The property owner shall undertake activities to pursue an appropriate response in accordance with adopted and applicable County of Santa Cruz and California Coastal Commission regulations. The geotechnical investigation and Coastal Hazards Report shall be submitted to the Executive Director of the California Coastal Commission, and to the Planning Director, Chief Building Official and County Geologist of Santa Cruz County. If the residence or any portion of the residence is proposed to be removed, the Applicant shall submit a Removal and Restoration Plan.

(11) If an appropriate government agency so orders, or as a result of the above-referenced geotechnical investigation and Coastal Hazards Report, it is determined that any portion of the approved development must be removed due to coastal hazards, a Removal and Restoration Plan shall be submitted to the County for review and approval. No removal activities shall commence until the Removal and Restoration Plan and all other required plans and permits are approved.

The plan shall specify that in the event that portions of the development fall to the bluffs or ocean before they are removed/relocated, the landowner will remove all recoverable debris associated with the development from the bluffs and ocean and lawfully dispose of the material in an approved disposal site. If it is determined that separate grading and coastal development permits are required in order to authorize the activities, the application shall be submitted as soon as immediately feasible, including all necessary supporting information to ensure it is complete. The Removal and Restoration Plan shall clearly describe the manner in which such development is to be removed and the affected area restored so as to best protect coastal resources, and shall be implemented immediately upon County approval, or County approval of required permit applications, as may be required.

(12) Repetitive loss properties shall be subject to the requirements of Sections 16.10.070(G)(4) and 16.10.070(G)(5) regarding damage due to coastal bluff erosion and storm wave impacts and inundation. Repetitive Loss property is any habitable building for which two or more coastal hazard events within any ten-year rolling period cause damage, the repair of which meets or exceeds the definition of development activities. Multiple losses at the same location within ten days of each other are counted as one loss. The loss history includes all ownership of the property within the ten-year rolling period.

(~~8~~13) Other Conditions. Other permit conditions including, but not limited to, project redesign, building site elimination, delineation of building and septic system envelopes, building elevation, foundation requirements and drainage plans shall be required as deemed necessary by the Planning Director, or other decision making body. [Ord. 4836 § 121, 2006; Ord. 4518-C § 2, 1999; Ord. 4346 § 66, 1994; Ord. 4071 §§ 1—4, 1990; Ord. 3997 §§ 3—8, 1989; Ord. 3892 § 3, 1988; Ord. 3808 § 3, 1986; Ord. 3635 § 2, 1985; Ord. 3598 § 1, 1984; Ord. 3437 §§ 2, 3, 4, 1983; Ord. 3340 § 1, 1982; Ord. 2631, 1978; Ord. 2580, 1978; Ord. 2258, 1976; Ord. 2185, 1975; Ord. 2088, 1975].

16.10.080 Project density limitations.

The following requirements shall apply to density calculations for new building sites created through minor land division, subdivision, or other development approval or permit:

(A) Fault Zones.

(1) Exclusion from Density Calculations. The portion of a property within 50 feet of the edge of the area of fault induced offset and distortion of an active or potentially active fault trace shall be excluded from density calculations.

(2) Creation of New Parcels and/or New Building Sites. The following standards shall apply to the creation of new parcels and/or building sites within State Alquist-Priolo earthquake fault zones and County seismic review zones:

(a) All new structures shall meet setbacks as specified in SCCC 16.10.070(B)(2).

(b) Outside of the urban services line and the rural services line, a 20-gross-acre minimum parcel size shall be required, and a 10-gross-acre minimum parcel size shall be required for parcels within the portions of the County seismic review zones that are not also part of a State Alquist-Priolo earthquake fault zone, and are outside the Coastal Zone, if at least 25 percent of the perimeter of the original parcel to be divided is bounded by parcels of one acre or less in size.

(B) Landslides and Steep Slopes. The portion of a property with slopes over 30 percent in urban areas and 50 percent in rural areas, and the portion of a property within recent or active landslides, shall be excluded from density calculations. Landslide areas determined by a geologic report to be stable and suitable for development shall be granted full density credit.

(C) ~~Floodways~~Special Flood Hazard Area. The portion of a parcel within the special flood hazard area~~100-year floodway~~ shall be excluded from any density calculations.

~~(D) Floodplains. The portion of a property within the 100-year floodplain shall be excluded from density calculations.~~

(E) Coastal Hazards. The portions of a property subject to coastal inundation, as determined by a geologic hazards assessment, geologic report, or adopted flood insurance rate map (FIRM), as well as bluff faces, sandy beach areas, and areas subject to the public trust, shall be excluded from density calculations. [Ord. 5019 § 1, 2008; Ord. 4518-C § 2, 1999; Ord. 4426 § 3, 1996; Ord. 3598 § 1, 1984; Ord. 3340 § 1, 1982].

16.10.090 Project denial.

A development permit or the location of a proposed development shall be denied if the Planning Director determines that geologic hazards cannot be adequately mitigated or the project would conflict with National Flood Insurance Program regulations. Development proposals shall be approved only if the project density reflects consideration of the degree of hazard on the site, as determined from the technical information as reviewed and approved by the Planning Director or the decision making body. [Ord. 4518-C § 2, 1999; Ord. 3598 § 1, 1984; Ord. 3340 § 1, 1982].

16.10.100 Exceptions.

(A) Request for Exception. A request for an exception to the provisions of this chapter or the permit conditions may be considered by the Planning Director, or decision making body, if the exception is necessary to mitigate a threat to public health, safety and welfare or if the exception is necessary to avoid an unconstitutional taking of private property without just compensation pursuant to Policy 6.4.10.

(B) Reason for Request. A request for an exception shall state in writing the reason why the exception is requested, the proposed substitute provisions, when the exception would apply, ~~and~~or the threat to public health, safety, or welfare that would be mitigated.

(C) Required Findings. In granting an exception, the Planning Director or decision making body shall make the following findings:

(1) That hardship, as defined in SCCC 16.10.040(~~36~~27), exists; and

(2) The project is necessary to mitigate a threat to public health, safety, or welfare or to avoid an unconstitutional taking of private property without just compensation pursuant to Policy 6.4.10; and

(3) The request is for the smallest amount of variance from the provisions of this chapter as possible; and

(4) ~~Adequate m~~Measures will be taken to ensure consistency with the purposes of this chapter and the County General Plan to the maximum extent feasible.

~~(D) Exceptions for Projects in the Special Flood Hazard Area. For projects in the SFHAs the following additional procedures and provisions also apply:~~

~~(1) Nature of Exception. The exception criteria set forth in this section are based on the general principle of zoning law that exceptions pertain to a piece of property and are not personal in nature. An exception may be granted for a parcel of property with physical characteristics so unusual that complying with the requirements of this chapter would create an exceptional hardship to the applicant or the surrounding property owners. The characteristics must be unique to the property and not be shared by adjacent parcels. The unique characteristic must pertain to the land itself, not to the structure, its inhabitants, or the property owners.~~

~~The interest in protecting citizens from flooding is compelling, and the cost of insuring a structure built below flood level so onerous that exceptions from the flood elevation or other health and safety requirements in the flood ordinance shall be granted in rare circumstances and only where no other alternative is available.~~

~~(2) Criteria for Exceptions.~~

~~(a) In considering requests for exceptions, technical evaluations, all other relevant information and standards specified in other sections of this chapter shall be considered, including the following:~~

~~(i) Danger that materials may be swept onto other lands to the injury of others;~~

~~(ii) Danger of life and property due to flooding or erosion damage;~~

~~(iii) Susceptibility of the proposed structure and its contents to flood damage and the effect of such damage on the existing individual owner and future owners of the property;~~

~~(iv) Importance of the services provided by the proposed structure to the community;~~

~~(v) Necessity to the structure of a waterfront location, where applicable;~~

~~(vi) Availability of alternative locations for the proposed use which are not subject to flooding or erosion damage;~~

~~(vii) Compatibility of the proposed use with existing and anticipated development;~~

~~(viii) Relationship of the proposed use to the comprehensive plan and floodplain management program for that area;~~

~~(ix) Safety of access to the property in time of flood for ordinary and emergency vehicles;~~

~~(x) Expected heights, velocity, duration, rate of rise, and sediment transport of the floodwater expected at the site; and~~

~~(xi) Costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, and water system, and streets and bridges.~~

~~(b) Any applicant to whom an exception is granted shall be given written notice of the terms and conditions, if any, of the exception, and said notice shall also include the following:~~

~~(i) That the issuance of an exception to construct a structure below the base flood level will result in substantially increased premium rates for flood insurance up to amounts as high as $25.00 for $100.00 of insurance coverage; and~~

~~(ii) That such construction below the base flood level increases risks to life and property; and~~

~~(iii) That a copy of the written notice shall be recorded on the deed so that it appears in the chain of title of the affected parcel of land.~~

~~(c) The Floodplain Administrator will maintain a record of all exception actions, including justification for their issuance, and report such exceptions issued in its biennial report submitted to the Federal Insurance Administration of the Federal Emergency Management Agency.~~

~~(3) Conditions for Exception.~~

~~(a) Exceptions may be issued for new construction, substantial improvement, and other proposed new development to be erected on a lot of one-half acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level, providing that the procedures of SCCC 16.10.050, 16.10.070, and 16.10.080 have been considered. As the lot size increases beyond one-half acre, the justification required for issuing the exception increases.~~

~~(b) Exceptions shall not be issued within any mapped regulatory floodway if any increase in flood levels during the base flood discharge would result from the project.~~

~~(c) Exceptions shall only be issued upon a determination that the exception is the "minimum necessary" considering the flood hazard to afford relief. "Minimum necessary" means to afford relief with a minimum of deviation from the requirements of this chapter. For example, in the case of exceptions to an elevation requirement, exceptions need not be granted for permission for the applicant to build at grade, or even to whatever elevation the applicant proposes, but only to that elevation which will both provide relief and preserve the integrity of the regulatory requirements.~~

~~(d) Exceptions shall only be issued upon:~~

~~(i) Showing of good and sufficient cause;~~

~~(ii) Determination that failure to grant the exception would result in a "hardship" (as defined in SCCC 16.10.040) to the applicant; and~~

~~(iii) Determination that the granting of an exception will not result in increased flood heights, additional threats to public safety, or extraordinary public expense; create a nuisance, cause fraud or victimization of the public, or conflict with existing local laws or ordinances.~~

~~(e) Exceptions may be issued for new construction, substantial improvement, and other proposed new development necessary for the conduct of a functionally dependent use (a functionally dependent use is one that would not function or operate unless sited on or adjacent to flood prone location in question); provided, that the provisions of this section are satisfied and that the structure or other development is protected by methods that minimize flood damages during the base flood, does not result in additional threats to public health or safety, and does not create a public nuisance.~~

~~(f) Exceptions may be issued for the repair or rehabilitation of historic structures (as defined in SCCC 16.10.040) upon a determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as an historic structure and that the exception is the minimum necessary to preserve the historic character and design of the structure.~~

~~(g) Upon consideration of the factors in subsection (D)(2)(a) of this section and the purposes of this chapter, conditions may be attached to the granting of exceptions as necessary to further the purposes of this chapter. [Ord. 4518-C § 2, 1999; Ord. 3598 § 1, 1984; Ord. 3340 § 1, 1982].~~

16.10.105 Notice of geologic hazards in cases of dangerous conditions.

(A) Whenever a site inspection, geologic hazards assessment or full geologic report identifies the presence of a geologic hazard that causes a site, building, structure, or portions thereof to be rendered unsafe or dangerous, then pursuant to the Uniform Code for the Abatement of Structural and Geologic

Hazards as amended by SCCC 12.10.~~070(L)~~425, the Planning Director may issue a notice of geologic hazard and order thereon, and may record a notice of geologic hazard with the County Recorder.

(B) The Planning Director may initiate abatement procedures pursuant to the Uniform Code for the Abatement of Structural and Geologic Hazards as amended by SCCC 12.10.~~070(L)~~425. [Ord. 4518-C § 2, 1999; Ord. 4392A § 1, 1996; Ord. 4336 § 1, 1994; Ord. 3808 § 4, 1986].

16.10.110 Appeals.

Except as otherwise provided herein, appeals taken pursuant to the provisions of this chapter shall be made in conformance with the procedures of Chapter 18.10 SCCC, including appeal of the requirement for geologic hazard assessment or technical report. All appeals taken concerning the decision to issue and record a notice of geologic hazard pursuant to the provisions of SCCC 16.10.105 shall be governed by the procedures commencing with Section 501 of the Uniform Code for the Abatement of Structural and Geologic Hazards as amended by SCCC 12.10.425~~070(A)(10) through (14)~~. [Ord. 4518-C § 2, 1999; Ord. 4392A § 2, 1996; Ord. 4336 § 2, 1994; Ord. 3598 § 1, 1984; Ord. 3340 § 1, 1982; Ord. 2281, 1976; Ord. 2088, 1975].

16.10.120 Violations.

(A) Compliance. No structure or land shall hereafter be constructed, located, extended, converted, or altered without full compliance with all the provisions of this chapter and other applicable regulations. Nothing herein shall prevent the taking of lawful action as necessary to prevent or remedy any violation.

(B) Actions Constituting Violation. In the event of a violation of this chapter or of the provisions of permit conditions as specified in this chapter, or if the permit has been exercised in a manner which creates a nuisance or is otherwise detrimental to the public health, safety and welfare, the permittee shall be given notice of such violation, and a reasonable time shall be specified for its correction. [Ord. 4518-C § 2, 1999; Ord. 4392A § 3, 1996; Ord. 3598 § 1, 1984; Ord. 3340 § 1, 1982].

16.10.130 Fees.

Fees for the geologic hazards assessment, other field reviews, applications for exceptions, and the review of technical reports shall be set by resolution by the Board of Supervisors. [Ord. 4518-C § 2, 1999; Ord. 3598 § 1, 1984; Ord. 3340 § 1, 1982].

This page intentionally left blank

COASTAL BLUFFS AND BEACHES

Coastal communities are particularly vulnerable to impacts from sea level rise and hazards that result from extreme weather, including flooding and inundation, erosion, and wave impacts. State law and current scientific projections regarding climate change and sea level rise require that the County update policies related to coastal bluffs and beaches, and shoreline and coastal bluff armoring, to acknowledge and incorporate sea level rise into development standards that apply to proposed projects. Policies are needed to guide response to proposed changes on existing developed properties due to involuntary damage (fire), as well as proposed demolition/replacement projects or reconstructions that are pursued voluntarily by property owners.

Much of the Santa Cruz County coastline, particularly in the urbanized developed areas, has some level of armoring (walls, riprap, etc.). The primary type of coastal armoring in this area is riprap, but concrete, steel, wood, and gabion basket armoring also exist. East Cliff Drive is one of the four primary east-west transportation corridors in Santa Cruz County which include Highway One, Soquel Drive/Avenue, the Santa Cruz Branch Rail Line and East Cliff Drive/Portola Drive/Opal Cliffs Drive. A modern seawall has been constructed by the County of Santa Cruz in the Pleasure Point area along East Cliff Drive that should greatly reduce potential damage from coastal erosion to East Cliff Drive as well as the homes on the inland side of the road. This seawall is featured in the Coastal Commission's Sea Level Rise Guidance document as a model and desired approach for protecting public access and scenic and visual qualities when armoring is necessary and allowable.~~, and this is the approach that county policies would try to facilitate for the near- and mid-term before the time in the future when it is no longer feasible to protect blufftop properties (i.e. a future time beyond the 2040 planning horizon of this Safety Element).~~

It is not uncommon for East Cliff Drive, a key arterial road, to be closed or damaged where it crosses Schwann Lake, Corcoran Lagoon and Moran Lake during large winter storms. In flood hazard areas it is not appropriate to construct hard armoring structures that divert or block flood waters. Future sea level rise may require that bridges be built to cross the lagoon frontages, if the current road locations are to be maintained. Such bridges would be designed to maximize lagoon function.

Expectations about the ~~"expected life" or~~ "design life" of improvements are an important consideration when establishing policies related to coastal bluff development on an eroding coastline. County policies in the 1994 General Plan/Local Coastal Program required throughout the unincorporated area a geologic setback from the top of a coastal bluff of 25 feet or a setback sufficient to provide a stable building site over the assumed 100-year design life of the structure, whichever is greater. Updated County policies require evaluation of the setback considering not only historical shoreline and bluff retreat data, but also acceleration of shoreline and bluff retreat due to continued and accelerated sea level rise, and other climate impacts according to best available science. The level of uncertainty regarding the rate and amount of future sea level rise and future effects on coastal properties makes it difficult to predict when, where, and how much the coast will change in the future. Property owners will be required to acknowledge and accept the risk of building along the coast ~~in order to re-set expectations regarding the expected life of structures~~ within a context of rising sea levels. In this way, it is expected that property owners and future buyers and financiers of property along the coast will be well aware of and prepare for ~~the projected limited lifespans of structures~~ such risks. ~~In that the urban development pattern is well established and urban lot sizes do not typically accommodate moving structures back, it is established for the urban area that county policies and owner expectations reflect a potentially shorter expected life of improvements, which is a component of the County's proposed adaptation strategy.~~

Although shoreline armoring may reduce or delay coastal erosion processes as long as it remains functioning, ultimately coastal erosion continues, periodic maintenance and repair is needed, and ~~even the best~~ shoreline armoring devices ~~will~~ may eventually fail. At some point in the future, which is not expected

to occur within the 20-year term of this Safety Element (2020-2040) coastal erosion processes ~~will~~ may overwhelm the capacity of shoreline and coastal bluff armoring, in terms of feasibility from both physical and cost considerations. Existing regulatory tools such as the Abatement of Dangerous Building Code can react to evolving conditions by requiring non-occupancy and/or removal of all or portions of a building or shoreline armoring device. While shoreline armoring remains in place, it modifies coastal erosion through the reduction of wave erosion energy, or reflection or refraction of wave energy. For example, focused erosion can occur at the ends of the armoring. More broadly, shoreline armoring has impacts on natural shoreline processes, including ultimately a loss of beach and public recreational opportunities in many areas, and thus the use of armoring as a response to coastal hazards must be carefully examined in this context. While shoreline armoring can be helpful in protecting against coastal erosion, proper setbacks from the brow of bluffs, drainage control, and special construction are all necessary to protect structures, roadways, and utilities from damage for the duration of the expected design life of the improvements.

Different Contexts Within and Outside of Urban and Rural Services Lines (Urban / Non-Urban)
A fundamental land use policy of Santa Cruz County since adoption of the Measure J growth management framework in 1978 is to encourage new development to locate within existing developed urban areas, and to protect agricultural land and natural resources. Santa Cruz County has a long established Urban and Rural Services Line (USL/RSL) which defines an area of the county characterized by urban densities of development based on a pattern of existing supporting urban infrastructure. In contrast, areas along the coast that are not within the USL/RSL are characterized by low-intensity development, agriculture and open space. Along the coast the USL includes the communities of Live Oak, Soquel and Aptos/Seacliff/Rio del Mar. The RSL includes locations that reflect urban patterns of development within more rural contexts, including La Selva Beach, Place de Mer, Sand Dollar Beach, Canon Del Sol, Sunset Beach, and Pajaro Dunes.

The area of the County along the coast within the USL is essentially completely urbanized and dominated by single-family residential development on top of coastal bluffs and on beaches or back beach areas. The USL boundary at the west is the Santa Cruz Harbor coastal resource and City of Santa Cruz city limit. The boundary at the east extends to and includes the community of Seascape. This urbanized area along the coast includes the City of Capitola city limits, and the Capitola shoreline is currently protected with rip rap, and coastal bluff armoring within the key coastal visitor serving resource of Capitola Village. This urbanized area along the coast also contains critical public infrastructure such as roads, sewer, water supply, drainage, parking lots and train tracks. In many areas, such as along Opal Cliffs Drive, only one row of residential lots ~~separates~~establish a buffer between public roads and infrastructure ~~from~~and the coastal bluff and beach. Those existing roads and infrastructure improvements support public access to the coast, and support structures, businesses and economic activity related to visitor accommodations and tourism, a key job and business sector for Santa Cruz County. As the existing homes become threatened by coastal bluff erosion it will be important to consider how the homes can be protected while also preserving infrastructure and increasing public access to the coast.

Shoreline and coastal bluff armoring are common within the USL/RSL, currently protecting about one-half of the urbanized area along the coast. These urban areas are part of an historical pattern of development that has been present for decades along the County's coast, and most of this urban development occurred before the Coastal Act became effective in 1977. The currently existing types of shoreline and coastal bluff armoring include natural stone rip-rap, concrete or wood retaining walls, gabion baskets, and concrete rip-rap of various shapes and sizes. Some of these existing measures take up areas of the beach that otherwise would be available to the public (at least in the near- to mid-term before sea level rise may consume the shoreline in certain locations), some have more visual impacts than others, and some are better-maintained than others.

Shoreline and coastal bluff armoring are not common outside of the urbanized coastal areas of Santa Cruz County. Given the two distinctly different contexts that exist within the unincorporated area, the proposed coastal bluffs and beaches and armoring policies reflect a "hybrid approach", with "managed natural retreat" ("MNR") establishing the regulatory approach in the rural areas, and "conditional accommodation, acceptance of risk, ~~amortization~~ and adaptation" ("AAA~~A~~") establishing the regulatory approach in the urban areas.

Objective

The objective of the coastal bluffs and beaches policies is to recognize and minimize risks to life, property, and public infrastructure in coastal hazard areas; and to minimize adverse impacts on coastal resources from development in coastal hazard areas.

The Coastal Act requires that new development be sited and designed to be safe from hazards and to not have significant adverse~~ly impact~~ effects on coastal resources. Coastal Act Section 30235 allows shoreline protective devices to protect existing structures in danger from erosion and when the protective device is designed to eliminate or mitigate adverse impacts on local shoreline sand supply. Coastal Act Section 30253 prohibits new development that would in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs. In the development of LCP policies, the Coastal Commission's Sea Level Rise Guidance Document recommends local governments use adaptation measures that best implement the statewide resource protection and hazard policies of the Coastal Act considering the diverse geography and conditions of different parts of the state.

Policies must be consistent with the Coastal Act. At times, Coastal Act policies may conflict, and it is difficult to balance achievement of competing interests. Notably, Section 30007.5 of the Coastal Act ("Legislative findings and declarations; resolution of policy conflicts") provides guidance for such balancing:

"The Legislature further finds and recognizes that conflicts may occur between one or more policies of the division. The Legislature therefore declares that in carrying out the provisions of this division such conflicts be resolved in a manner which on balance is the most protective of significant coastal resources. In this context, the Legislature declares that broader policies which, for example, serve to concentrate development in close proximity to urban and employment centers may be more protective, overall, than specific wildlife habitat and other similar resource policies."

Other key provisions of the Coastal Act which provide guidance for policy development include sections 30001(c) and (d) (regarding "Legislative findings and declarations; ecological balance"), which finds and declares:

(c) "*That to promote the public safety, health and welfare, and to protect public and private property, wildlife, marine fisheries, and other ocean resources, and the natural environment, it is necessary to protect the ecological balance of the coastal zone and prevent its deterioration and destruction."*

(d) *"That **existing developed areas, and future developments** that are carefully planned and developed consistent with the policies of this division, are essential for the economic and social well-being of the people of this state and especially to working persons employed within the coastal zone".* [emphasis added]

Section 30001.5 of the Coastal Act ("Legislative findings and declarations; goals") includes the following goals for the coastal zone, and includes both natural and man-made ("artificial" or developed) resources:

a. *Protect, maintain, and where feasible, enhance and restore the overall quality of … its natural and artificial resources.*

b. *Assure orderly, balanced utilization and conservation of coastal zone resources taking into account the social and economic needs of the people of the state.*

c. *Maximize public access to and along the coast and maximize public recreational opportunities in the coastal zone consistent with sound resource conservation principles and constitutionally protected rights of private property owners.*

d. *Assure priority for coastal-dependent and coastal-related development over other development on the coast.*

County of Santa Cruz Guiding Principles

Key information and guiding principles related to coastal bluffs and beaches, and shoreline and coastal bluff armoring, which have guided formation of policies, include the following considerations supporting a "hybrid approach". The approach reflects a strategy of "managed natural retreat" ("MNR") for rural, agricultural and open space areas; and of "conditional accommodation, acceptance of risk, ~~amortization~~ and adaptation" ("AAA~~A~~") for existing developed areas within the Urban and Rural Services Lines:

- At the time the Coastal Act was effective in 1977, the urbanized areas of Santa Cruz County were largely developed in a similar form as today, and as of 2017 approximately one-half of the properties within the urbanized area (within the Urban and Rural Services Lines) are protected by some form of shoreline and coastal bluff armoring.

- For these urbanized areas, which were predominately urbanized prior to approval of the Coastal Act, it is not considered reasonable or feasible to expect that existing legally permitted shoreline and coastal bluff armoring will be removed or cease to exist within the immediate or near future, even in the face of climate change and sea level rise. Such armoring should however be regularly monitored, properly maintained, and repaired when needed.

- Recognize that the Coastal Act explicitly allows shoreline and coastal bluff armoring to be installed to protect existing structures and public beaches in danger from erosion, and when designed to eliminate or mitigate adverse impacts on local shoreline sand supply. Existing structures include roadways used to access coastal resources, critical public facilities such as water and sewer lines, and visitor-serving assets such as vacation rentals and commercial areas, in addition to private homes and other private improvements.

- Recognize that existing approved shoreline and coastal bluff armoring is subject to requirements for monitoring, maintenance and repair. Recognize too that such armoring was approved to protect then-existing structures, and when the existing structure is redeveloped or replaced, that structure is subject to current policies and standards, including mitigating the ongoing impacts of the existing armoring ~~those of avoiding armoring, or reconstructing or replacing armoring with a modern approach which reduces impacts on coastal resources. Removal of armoring may be appropriate in certain cases, although removal may not be feasible due to unacceptable impacts on adjacent properties.~~

- Recognize that the Coastal Act also recognizes that new development would occur after adoption in 1977, and that approved developments can be considered essential for economic and social well-being. New development within the USL/RSL may be allowed to rely upon existing ~~or modernized~~ armoring, as determined appropriate through the coastal development permit process.

- Recognize that the Coastal Act and other land use laws require consideration of private property rights and ensure that policy and permitting decisions do not unduly expose the County of Santa Cruz to litigation.

- For projects located on coastal bluffs, the threshold for requiring geologic review, as well as requirements for deed restriction, evaluation of existing armoring, and mitigation of the impact of existing armoring, is established to be projects that meet or exceed the definition of development/development activities found in Santa Cruz County Code Chapter 16.10 Geologic Hazards. This definition establishes the threshold for application of certain policies. Those policies use the identifier, SCCC 16.10, after the term development to indicate the policy applies to development as defined in SCCC 16.10. This is to avoid confusion with the definition of development for purposes of the Coastal Zone Regulations (SCCC 13.20) and the need for a Coastal Development Permit.
- For projects located on beaches and dunes in flood hazard areas, the threshold for requiring geologic review, as well as requirements for deed restriction, evaluation and mitigation of the impact of existing armoring, and elevation of the structure above the flood hazard level, is established to be projects that meet or exceed the definition of substantial improvement found in Santa Cruz County Code Chapter 16.13 Floodplain Regulations.
- Recognize that existing legally permitted structures and armoring will continue to exist pursuant to such permits. New requirements shall only be imposed as a result of a triggering event pursuant to these policies including but not limited to an application for a new permit that exceeds a defined scope of work, a violation of County Code, or the structure or armoring becomes unsafe.
- Strive to avoid placement of new rip rap that is typically associated with "emergency permits", in favor of early planning for construction of modern more-vertical armoring approaches in urbanized areas that would replace rip rap, in a manner that would lead to improved public access and improved visual resources during the planning horizon for the expected life of structures, when armoring is determined to be appropriate. Establish triggers for when property owners would be required to address imminent danger from coastal hazards.
- Recognize that roadways crossing the mid-County lagoons (Schwann, Corcoran, and Moran) are not candidates for seawall protection, and that future road designs for crossing the lagoons may require bridges if the roads are to continue in their current locations.
- Recognize that the dredging practices of the Santa Cruz Port District, especially dredging spoils disposal location, have impacts to the amount of sand transported downcoast during winter months and to the amount of downcoast erosion. Work with the Santa Cruz Port District to implement dredging disposal policies which minimize downcoast impact.
- Pursue a "managed natural retreat" strategy within rural, agricultural and open space areas, which reflects accommodation of natural processes and policies which do not favor shoreline and coastal bluff armoring, with new development placed beyond a 75 or 100-year geologic setback line.
- Pursue an "adaptation ~~and amortization~~" strategy within urbanized areas that conditionally accommodates improvements to and replacements of structures on coastal bluffs, but that emphasizes the risks ~~an expected limited lifespan (generally, 75 years for residential or commercial structures, or 100 years for critical structures and facilities)~~ due to sea level rise and increased coastal hazards., ~~with agreement by property owners to undertake adaptation responses as warranted by future conditions and/or LCP and CDP requirements~~.
- Realize that adaptation ~~and amortization~~ will take place over decades, in light of past and existing conditions, private property rights, and uncertainty about future conditions; but prepare for the time that sea level rise and climate change will mean that development along the shoreline will need to be removed, and ensure that private property owners internalize the risk and ultimately bear the costs of adaptation and removal, if necessary based on conditions on the ground.

- Within urbanized areas, a primary goal is to establish a regulatory approach that will allow for ~~encourage or require~~ replacement of existing armoring with modern measures that are considered near- to mid-term improvements. Strive to ensure that these measures are unified in appearance, remove rip rap as feasible to increase sandy beach areas, incorporate public access features as feasible, are colored and treated to better match natural materials, participate in programmatic mitigation approaches that fund priority investments in sand replenishment, public recreation and beach access, and provide funds for eventual removal of measures in the longer-term when repair and replacements are no longer feasible or appropriate.

- Recognize that the County will periodically update the Safety Element and applicable regulations in order to reflect evolving conditions and best available science. The planning horizon and timeframe of this current Safety Element is to the year 2040 when it is expected these policies will be updated. Applications submitted after the update is adopted would be subject to updated policies.

- Recognize that in the near- to mid-term, expenditures by private owners of coastal bluff properties for shoreline and coastal bluff armoring will allow time for the County of Santa Cruz to identify funding for and carry out priority adaptation projects related to relocation of critical public infrastructure (which may also include roads and bridges) that must be undertaken in the future.

- Recognize that Shoreline Management Plans ~~will~~ may be needed to plan for and implement sea level rise adaptation strategies in certain hazardous areas of the County. Shoreline Management Plans ~~will be prepared~~ for areas within the USL/RSL ~~to~~ could address potential effects of development, and shoreline armoring, and at-grade and elevated buildings, on beach areas, and could identify potential opportunities to improve public access to the coast, protection of coastal resources, and adaptation of public roads and infrastructure.

- In conjunction with approval of coastal development permits for a new home or major project involving an existing home ~~reconstruction, additions or demolition/replacement of existing structures~~ located on a coastal bluff~~s~~ ~~and~~ or on the shoreline ~~within the urbanized area (within Urban and Rural Services Lines)~~, impose conditions of approval consistent with principles of nexus and proportionality, including:

    - Acceptance of risk associated with geologic and coastal hazards by owners., ~~including the potential for a limited expected lifespan for improvements as identified by technical reports and/or as dictated by conditions on the ground.~~

    - Waiver of any claim of damage or liability against and indemnification of the County ~~and the California Coastal Commission~~ for any damages or injury in connection with the permitted development.

    - Ensure ~~Agreement to M~~monitoring, ~~M~~maintenance and ~~R~~repair ~~P~~programs are implemented for existing shoreline and coastal bluff armoring., ~~and to a level of hazard trigger requiring the owner to prepare a Coastal Hazards Report regarding adaptation response to evolving conditions of and closer proximity of the coastal bluff to habitable structures, which may include a required Removal and Restoration Plan.~~

    - Ensure property owners are aware of the their responsibilities to respond to coastal hazards should the site or structure become unsafe.

    - ~~Require that property owners agree and record a restriction that notifies current and future owners of a potential future formation of a Geologic Hazard Abatement District (GHAD) or similar mechanism such as a County Service Area (CSA).~~

- Require property owners within the USL/RSL to recognize that should a future Shoreline Management Plan become effective, future activities that exceed "maintenance and repair" of existing shoreline and coastal bluff armoring may only be considered if determined to be consistent with the Shoreline Management Plan.~~, such as a unified modern design that is to be implemented through a GHAD or CSA, to address related units of coastal bluff properties and coastal resources that exist within the urbanized area or sub-area; and which could involve removal of shoreline armoring in certain circumstances.~~
- Require property owners to recognize that local jurisdictions have the power to require that unsafe/dangerous structures be vacated and/or abated/removed, under the California Building Code and Code for Abatement of Dangerous Buildings, when site conditions are such that hazards to life and public safety are no longer acceptable. ~~In addition, require such property owners to recognize that a future Shoreline Management Plan may require implementation of sea level rise adaptation strategies, potentially including managed retreat, and armoring and other structure removal, in certain circumstances. Ensure that property owners are responsible for costs of removal of development and restoration of sites in a manner that best enhances coastal resources.~~
- When otherwise allowable, require new or repaired or modification ~~redevelopment~~ of existing shoreline armoring to be the least environmentally damaging alternative and ensure that all impacts are mitigated.
- Require property owners to recognize that as sea level rises, the public trust boundary will in most cases migrate inland, resulting in currently private lands becoming public land that is held in the public trust for public trust purposes, including public access and recreation and other coastal-dependent uses.

Objective 6.4 Coastal Bluffs and Beaches

(LCP) To reduce and minimize risks to life, property, and public infrastructure from coastal hazards, including projected hazards due to sea level rise, wave run-up and coastal erosion, and to minimize impacts on coastal resources from development.

General Shoreline Policies

6.4.1 Shoreline Policy Framework and Time Horizon

(LCP) Recognize the diverse nature of the coastline and coastal development in the County and implement a policy hierarchy with general policies that apply to all projects, policies that apply to shoreline type, policies that apply to project type, and policies that address ongoing adaptation to sea level rise along the County's coastline and in specific shoreline areas.

Recognizing that shoreline and blufftop areas are inherently dynamic and hazardous places to build, particularly with respect to sea level rise in the coming decades, while at the same time understanding that property owners and project applicants seek a level of assurance regarding ~~the anticipated lifetime of proposed projects~~County land use policies that apply to proposed projects, the shoreline and coastal bluff policies of this Safety Element shall be considered to be in effect until the year 2040, by which time the expectation is that shoreline management plans and an updated set of policies within a Safety Element Amendment will have been adopted. Projects proposed after adoption of any updated policies and regulations would be subject to the updated policies and regulations. ~~Therefore, development permitted pursuant to the policies of this Element shall be approved with conditions of approval and deed restrictions which establish that after the year 2040, the subject development may be required to implement certain adaptation options, up to and including removal or relocation in accordance with the~~

~~policies of this section and/or policies developed in accordance with a shoreline management plan. This time horizon may be extended, if determined appropriate, through a shoreline management plan (or plans) that guide development and implementation of adaptation responses related to coastal hazards and sea level rise.~~

6.4.2 Site Development to Minimize Coastal Hazards and Protect Coastal Resources

(LCP) Require all development (SCCC 16.10) to be sited and designed to avoid, and where unavoidable to minimize, coastal hazards affecting the proposed development, and to not contribute to increased coastal hazards on adjacent properties, as determined by the geologic hazards assessment or through geologic and engineering investigations and reports, and within acceptable risk levels for the nature of the proposed development. Consider the effects of projected sea level rise in designing proposed improvements. Protect coastal resources (e.g. public access, beaches, and coastal habitats) from significant impacts through project design. Where impacts are unavoidable either deny the project or impose mitigation measures to reduce risks to acceptable levels and reduce impacts on coastal resources to less than significant levels. ~~New development, replacement, reconstruction and/or redevelopment projects that seek to rely on existing shoreline armoring shall be required to re-evaluate the impacts of such armoring on coastal resources and implement the least environmentally damaging alternative and mitigate for any unavoidable impacts.~~

6.4.3 Coastal Hazard Technical Reports to Use Best Available Science for Sea Level Rise Projections and Calculations of Geologic/Coastal Hazards Setbacks

(LCP) Recognize the scientific uncertainty by using within technical reports and project designs reasonably foreseeable projections of sea level rise (SLR) within the acceptable range established by the best available science and statewide guidance. The projection to be used in technical reports shall be based upon current best professional practices and best available science. ~~Guidance may be provided for projections to be used for intermediate or longer-term timeframes, such as 50-year or 100-year SLR projections.~~

6.4.4 Identifying Planning Horizons

(LCP) The time horizon to use to evaluate projected future sea level rise is the expected design life of development~~, after which such development is expected to be removed, replaced or redeveloped~~. A ~~new, replacement, reconstructed or redeveloped~~ residential or commercial structure has an expected design life of 75 years. A critical structure or facility has an expected design life of 100 years. The hazards analysis shall evaluate the site over 75 or 100 years. Using that evaluation, the structure would be set back or designed to avoid hazards over the planning horizon, if possible. However, in areas subject to future hazards, the expected design life of any particular development may be limited by site conditions ~~and an exception approved by the County may specify a shorter expected life than the 75 or 100-year horizon~~. The expected life of development in the coastal zone is not an entitlement to maintain development in hazardous areas, but rather shall be used for sea level rise planning and structure siting purposes. The actual life of the development shall be ~~as established through conditions of a coastal development permit and/or~~ as dictated by actual conditions on the ground at any time in the future.

6.4.5 Geologic Hazards Assessment and Technical Reports in Coastal Hazard Areas

(LCP) Require a geologic hazards assessment or full geologic, geotechnical, hydrologic, and/or other engineering report(s) for all development ~~activities~~ (SCCC 16.10), and foundation replacement or upgrade, within coastal hazards areas. ~~100 feet of a coastal bluff (including shoreline areas seaward of the bluff).~~ Other technical reports may be required if significant potential hazards are identified by the hazards assessment. Reports must be prepared based on current best

professional practices and best available science. ~~and~~ Setback calculations shall consider historical shoreline and bluff retreat factors but must also consider projected acceleration of retreat due to sea level rise, wave run-up and other climate impacts according to best available science which may include requirements for alternatives analysis under a range of future possible scenarios. Reports must be accepted by the County in order to use report findings as the basis for design of proposed structures or improvements.

6.4.6 (LCP) Prohibit New Lots or Parcels in Coastal Hazard Areas

Do not allow the creation of new lots or parcels in areas subject to coastal hazards, or within geologic setback areas necessary to ensure a building site for an expected 75 or 100-year lifetime, or where development would require the construction of public facilities or utility transmission lines within coastal hazard areas.

6.4.7 (LCP) New Development in Hazardous Areas

Allow new ~~development~~construction or placement of any habitable structure, including a manufactured home and including a non-residential structure occupied by property owners, employees and /or the public in areas subject to storm wave inundation or beach or bluff erosion on existing undeveloped lots of record, only under the following circumstances:

(a) A technical report(s), including a geologic hazards assessment, geologic, geotechnical, hydrologic, or other engineering report, demonstrates that the potential hazard can be adequately mitigated by providing a minimum 75 or 100-year geologic/coastal hazards setback calculated at the time of submittal of the development application without consideration of shoreline armoring.

(b) As an alternative to the 75 or 100-year hazard setback, the property owner may apply for a Geologic/Coastal Hazards Setback Exception to request that the geologic setback applicable to the site reflect a shorter expected lifespan for the development on condition that the property owner fully accepts the risk of same and agrees to removal of all development on the site (including any shoreline armoring) as may be required by triggers or other conditions identified in the Notice that is required and recorded pursuant to Policy 6.4.9.

(c) Mitigation of the potential hazard is not dependent on shoreline or coastal bluff armoring, except when within the USL/RSL provided such armoring is existing, legally established, and is required to be monitored, maintained, and repaired, and to mitigate its coastal resource impacts; and

(d) The owner records a Notice of Geologic/Coastal Hazards, Acceptance of Risk, and Liability Release on the property deed ~~that describes the potential hazards, documents the calculated expected lifespan of improvements (while noting that actual conditions and triggers may dictate a different time frame), provides that the current and all future owners and successors in interest accept the risks to people and property, agrees to removal and restoration of the site as required by terms of the Notice recorded~~ pursuant to Policy 6.4.9.~~, and includes a release of liability of and waiver of claims against the County of Santa Cruz, and of the Coastal Commission, as relevant, for damages or injury in connections with the permitted development.~~

6.4.8 (LCP) Density Calculations

Exclude areas subject to coastal inundation, as defined by geologic hazard assessment or full geologic report, as well as bluff faces, sandy beach areas, and areas subject to the public trust from use for density calculations.

6.4.9 Required Recordation on Deed of Notice of Geologic/Coastal Hazard, Acceptance of Risk, Liability Release, and Indemnification as a Condition of Coastal Development Permit Approval

(LCP) As a condition of approval of Coastal Development Permits for development ~~activities~~(SCCC 16.10) on sites subject to coastal hazards, require the applicant to record on title/deed to the property, prior to issuance of a building permit or grading permit, a Notice of Geologic/Coastal Hazard, Acceptance of Risk, ~~and~~ Liability Release, and Indemnification. The Notice shall be in a form approved by the County of Santa Cruz, and shall include, but not be limited to, the following acknowledgements and agreements, on behalf of the applicant and all successors and assigns, as applicable to the specific project:

Coastal Hazards. That the site is subject to coastal hazards including but not limited to episodic and long-term shoreline retreat and coastal erosion, high seas, ocean waves, storm~~s~~ surges, tsunami, tidal scour, coastal flooding, liquefaction and the interaction of same;

Assume and Accept Risks. To assume and accept the risks to the Applicant and the properties that are the subject of a Coastal Development Permit of injury and damage from such coastal and geologic hazards in connection with the permitted development;

Waive Liability. To unconditionally waive any claim of damage or liability against the County of Santa Cruz ~~and of the California Coastal Commission, and the~~ its officers, agents, and employees ~~of each of these agencies~~, for injury or damage in connection with the permitted development;

Indemnification. To indemnify and hold harmless the County ~~and the California Coastal Commission, and the~~ its officers, agents, and employees ~~of each of these agencies~~, with respect to the County's ~~and/or Coastal Commission's~~ approval ~~(or non-appeal)~~ of the development against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage in connection with the permitted development;

Property Owner Responsible. That any adverse effects to property caused by the permitted development shall be fully the responsibility of the property owner. That cost of abatement and/or future removal of structures shall be the responsibility of the property owner;

Flood Insurance. If the structure is built so that it does not comply with an effective BFE data as may be shown on future final Flood Insurance Rate Maps (FIRM), acknowledging that the structure may be subject to a higher flood insurance rating, likely resulting in higher-risk annual flood insurance premium if the property owner purchases flood insurance (voluntarily, or as required by mortgage lenders). If a program is created in the future that removes the subject location from being eligible for FEMA flood insurance, agree to abide with the terms of such a program.

Formation of GHAD or CSA. The property owner and / or any future heirs or assigns, by accepting a Coastal Development Permit, acknowledge that a Geologic Hazard Abatement District (GHAD) or County Service Area (CSA) may be formed in the future by the County (or other public agency) or a private entity to address geologic and coastal hazards along the shoreline and coastal bluff (or related unit thereof) and coastal resources that exist in the project area, and assessments may be proposed for the abatement of geologic hazards.

Public Funds. That public funds may not be available in the future to repair or continue to provide services to the site (e.g., maintenance of roadways or utilities);

Occupancy. That the occupancy of structures where sewage disposal or water systems are rendered inoperable may be prohibited;

Public Trust Lands. That the structure may eventually be located on public trust lands; and

Removal or Relocation. In accordance with County regulations and Orders of the Chief Building Official, County Geologist, or Civil Engineer, that all development on the site, including shoreline and coastal bluff armoring, ~~will~~may be required to be removed or relocated

and the site restored at the owner's expense if it becomes unsafe, it is no longer located on private property, ~~it is required to be removed pursuant to a future, County-approved Shoreline Management Plan,~~ or if essential services to the site can no longer feasibly be maintained consistent with Policies 6.4.32 through 6.4.35 below. ~~In addition, within the USL/RSL, the development must adhere to Shoreline Management Plans adopted by the County, which may require property owners to take actions to protect, adapt, accommodate and/or retreat from coastal hazards.~~

6.4.10 Exceptions Takings Analysis

(LCP) Where full adherence to all LCP policies, including for setbacks and other hazard avoidance measures, would preclude a reasonable economic use of the property as a whole in such a way as to result in an unconstitutional taking of private property without just compensation, the County of Santa Cruz or Coastal Commission if on appeal, may allow some form of development that provides for the minimum economic use necessary to avoid an unconstitutional taking of private property without just compensation. There is no taking that needs to be avoided if the proposed development constitutes a nuisance or is otherwise prohibited pursuant to other background principles of property law (e.g., public trust doctrine). In no case shall the coastal bluff setback be less than 25 feet except as specifically allowed by Policies 6.4.13 and 6.4.28. Continued use of an existing structure, including with any permissible repair and maintenance (which may be exempt from permitting requirements), may provide a reasonable economic use. If development is allowed pursuant to this policy, it must be consistent with all LCP policies to the maximum extent feasible. Approval of a lesser level of hazard reduction based upon accepting a lower than normal expected lifespan for the proposed improvements, may be based on conditions of approval to include requirements to remove improvements as life safety hazards become more imminent and upon notice of the County Building Official and County Geologist, and possible other limitations on future reconstruction or redevelopment of improvements.

Shoreline Policies by Shoreline Type

6.4.11 Geologic/Coastal Hazards Setbacks from Coastal Bluffs for New Development, Redevelopment and Reconstruction Within the Urban and Rural Services Lines

(LCP) ~~New~~All development (SCCC 16.10)~~involving placement of new, replaced, redeveloped or reconstructed habitable improvements~~ on a coastal bluff site, and ~~development of new, replaced, redeveloped or reconstructed~~ all nonhabitable structures for which a building permit is required, shall be set back a minimum of 25 feet from the top edge of the bluff on sites located within the Urban and Rural Services Lines (USL/RSL). A setback greater than 25 feet may be required based on conditions on and adjoining the site, based upon recommendations of required geologic, soil engineering and/or other technical reports, in order to ~~protect life safety~~provide a stable building site for the reasonably foreseeable future. Within the USL/RSL, the geologic/coastal hazards setback shall be sufficient to provide a stable building site for a 75 or 100-year assumed expected life of the improvements, calculated at the time of application for permits when the technical reports are submitted.

Within the Urban and Rural Services Lines, the calculation of the 75 or 100-year geologic/coastal setback, or alternate timeframe setback requested under an exception procedure, may take into consideration the effect of existing legally established shoreline or coastal bluff armoring. If the geologic setback relies on existing armoring, the applicants shall be required to re-evaluate such armoring consistent with Policy 6.4.25 regarding shoreline armoring, including that and such armoring is required to be monitored, maintained and

repaired and to mitigate its coastal resource impacts. However, armoring installed under an emergency coastal permit shall not be factored into the setback calculation unless a regular Coastal Development Permit is issued, and all conditions of the permit are met. In addition, technical reports prepared for sites within the Urban and Rural Services Lines shall also include analysis based upon an alternative calculation of the 75 or 100-year setback that neglects any effect of existing armoring, in order to provide a measure of the effects of the existing armoring on the site conditions and provide information for decision making.

6.4.12 Geologic/Coastal Hazards Setbacks from Coastal Bluffs for New Development, Redevelopment and Reconstruction Outside of the Urban and Rural Services Lines (LCP)

~~New~~All development (SCCC 16.10)~~involving placement of new, replaced, redeveloped or reconstructed habitable improvements~~ on a coastal bluff ~~and/or shoreline~~ site, and ~~development of new, redeveloped or reconstructed~~ all nonhabitable structures for which a building permit is required, shall be set back a minimum of 25 feet from the top edge of the bluff on sites located outside of the Urban and Rural Services Lines (USL/RSL). A setback greater than 25 feet may be required based on conditions on and adjoining the site, based upon recommendations of required geologic, soil engineering and/or other technical reports, in order to ~~protect life safety~~provide a stable building site for the reasonably foreseeable future. Outside the USL/RSL, the geologic/coastal hazards setback shall be sufficient to provide a stable building site for a 75 or 100-year setback, calculated at the time of application for permits when the technical reports are submitted.

Outside the Urban and Rural Services Lines the calculation of the 75 or 100-year geologic/coastal hazards setback shall be based on existing site conditions and shall not take into consideration the effect of any existing or proposed shoreline or coastal bluff armoring.

6.4.13 Modification, Reconstruction, or Replacement of Damaged Structures on Coastal Bluffs (LCP)

If structures located on or at the top of a coastal bluff are damaged as a result of coastal hazards, including slope instability and seismically induced landslides, and where the loss involves 50 percent or more of Major Structural Components, allow repair ~~reconstruction, redevelopment or replacement~~ if all applicable LCP policies and regulations can be met, including the minimum 25-foot and the applicable 75 or 100-year geologic/coastal setbacks, or alternate setback authorized by an approved setback exception that establishes a shorter-term expected design life for the structure~~.~~

For structures involuntarily damaged by other than coastal hazards (fire, for example), where the loss involves 50 percent or more of the Major Structural Components, allow repair "in kind".but encourage relocation to increase the setback if feasible. ~~reconstruction, redevelopment or replacement if the following conditions are met:~~

~~(1) the area of the structure that is within the geologic/coastal hazard setback does not exceed 25% of the area of the structure, and the property owner has agreed to record a Notice of Geologic/Coastal Hazards, Acceptance of Risk, and Liability Release prior to issuance of the building and/or grading permit; OR~~

~~(2) the structure cannot be relocated to increase the setback due to inadequate parcel size, and the property owner has agreed to record a Notice of Geologic/Coastal Hazards, Acceptance of Risk, and Liability Release prior to issuance of the building and/or grading permit.~~

Allow other than "in-kind" reconstruction, redevelopment or replacement of involuntarily damaged structures in accordance with all applicable LCP policies and regulations.

Exemption: Public beach facilities and replacements consistent with Coastal Act Policy 30610(g).

6.4.14 Bluff Face Development

(LCP) Structures, grading, and landform alteration on bluff faces are prohibited, except for the following: public access structures where no feasible alternative means of public access exists or shoreline or coastal bluff armoring if otherwise allowed by the LCP. Such structures shall be designed and constructed to be visually compatible with the surrounding area to the maximum extent feasible and to minimize effects on erosion of the bluff face.

6.4.15 Flood Hazard Policies

(LCP) As further addressed in Section 6.6 Flood Hazards, all structures shall be located outside of the flood hazard area, wherever possible, and to incorporate floodproofing measures as required by FEMA and local flood regulations in areas subject to flood hazards, provided such floodproofing measures are consistent with the shoreline armoring policies for development along coastal bluffs and the shoreline.

6.4.16 Flood Hazard Mitigation

(LCP) If it is infeasible for development to avoid flooding hazards, it shall be designed to minimize risks from flooding, including as influenced by sea level rise, over the anticipated life of the development to the maximum extent feasible and otherwise constructed using design techniques that will limit damage caused by floods. See Policies in Section 6.6 and the Floodplain Regulations) ~~Residential design shall incorporate appropriate flood hazard mitigation measures, including, but not limited to: elevating the finished floor (e.g., above the estimated combined 100-year storm flood elevation considering sea level rise and wave uprush scenario); locating only non-habitable space below the flood hazard elevation; elevating and storing hazardous materials out of the flood hazard area; elevating mechanical and utility installations; prohibiting basements; and using flood vents and anchoring structures where appropriate. However, elevated height should be limited to ensure consistency with visual resource protection policies, and to ensure that access to utilities, including water, sewer, and roads, can continue over the anticipated duration of the development. If such access cannot be ensured consistent with LCP policies, then conditions shall be added requiring assumption of risk, removal conditions, and retreat management plan.~~

6.4.17 Reconstruction or Replacement of Damaged Structures due to Storm Wave Inundation

(LCP) If structures located in areas subject to storm wave inundation are damaged as a result of any cause and the loss involves ~~more than~~ 50 percent or more of the value of the structure before the damage occurred (substantial damage), allow such repair (substantial improvement)~~reconstruction or replacement~~ only if all applicable regulations and LCP policies can be met. Also see policies in Section 6.6 Flood Hazards.

Exceptions: Public beach facilities and replacements subject to Coastal Act Section 30610(g).

6.4.18 Pajaro Dunes

(LCP) Siting and design of new development and other development activities in the Pajaro Dunes Community shall take into account the extent of erosion of the primary frontal dune during the 100-year flood (or 1% annual chance flood). Development shall be elevated a sufficient amount to prevent impacts to coastal resources, assure structural stability of the development, and avoid

coastal hazards over the expected lifespan of the development in accordance with the Flood Hazard policies in Section 6.6 and the Floodplain Regulations. ~~When permitted, development shall be subject to removal plan conditions in Policy 6.4.37 – Removal Plan Conditions for New Development in Hazardous Areas.~~

6.4.19 Rocky Shoreline Development

(LCP) Development atop rocky shoreline areas with no beach or limited beach shall not impact existing public access to the shoreline and shall incorporate conditions of approval as appropriate to increase public access to the shoreline.

6.4.20 Development Along Creeks and Rivers in the Coastal Zone

(LCP) Where creeks and rivers discharge to the coastal zone recognize the combined effects of riverine flooding and coastal storm flooding causing elevated flood levels relative to existing FEMA flood mapping. Require hydrologic analysis to determine risk and appropriate development restrictions and flood resistant designs in these areas.

6.4.21 Habitat Buffers

(LCP) Provide buffers from the edge of wetlands or other environmentally sensitive habitat areas including riparian habitat, ~~including as required by LUP ESHA and other~~ in accordance with habitat protection policies. Development shall ensure that as sea level rises buffer areas shall also expand appropriately to allow for migration of wetlands and other shoreline habitats. Uses and development within buffer areas shall be limited to uses allowed under the County's policies and ordinances involving sensitive habitat and riparian corridor protection. All development, such as grading, buildings and other improvements, adjacent to or draining directly to a habitat area must be sited and designed so it does not disturb habitat values, impair functional capacity, or otherwise degrade the habitat area.

Shoreline Policies by Project Type

6.4.22 Publicly Owned Facilities

(LCP) Existing publicly-owned and quasi-public facilities that are coastal-dependent or visitor serving uses such as public access improvements and lifeguard facilities, that are located within 25 feet or within a calculated 75 or 100-year setback from the edge of the bluff, may be maintained, repaired, ~~reconstructed, redeveloped~~ and/or replaced. Any repair or replacement shall be designed and sited to avoid the need for shoreline protection to the extent feasible.

6.4.23 Public Works Facilities

(LCP) Public works projects as defined in the Coastal Act shall be consistent with the Local Coastal Program.

6.4.24 Public Services in Coastal Hazard Areas

(LCP) Prohibit utility facilities and service transmission systems, including internet/broadband service, in coastal hazard areas, unless they are necessary to serve existing development or public facilities.

6.4.25 Structural Shoreline and Coastal Bluff Armoring

(LCP) (a) Limit shoreline and coastal bluff armoring to serve coastal dependent uses or to protect existing structures or public beaches from significant threats. The armoring shall be designed to eliminate or mitigate adverse impacts on local shoreline sand supply. Armoring may also be considered for vacant lots where both adjacent parcels are already similarly protected, or vacant

lots which through lack of protection threaten adjacent or nearby developed lots; or those which protect public roads and infrastructure, and coastal recreation areas.

(b) ~~For sites located within the Urban and Rural Services Lines, recognize that nearly all the coastal bluff properties have been developed for many decades, and a majority are already protected by a variety of shoreline and coastal bluff armoring that involve a range of impacts to coastal resources. Through the coastal development permit review process for proposed new development, replacement, reconstruction or redevelopment of structures on a site, require, consistent with the principles of nexus and proportionality, improvement or replacement of existing armoring that involve impacts, with rehabilitated or modern protection structures designed to reduce and/or mitigate impacts to coastal resources including but not limited to visual resources, sandy beach, and public access.~~Through the coastal development permit review process for projects involving development (SCCC 16.10), require evaluation of existing shoreline and coastal bluff armoring in accordance with this policy.

Project Review

(c) Require any application for shoreline and coastal bluff armoring to include a thorough analysis of all reasonable alternatives including, but not limited to, the following:

(1) Relocation or partial removal of the threatened structure

(2) Protection of the upper bluff and blufftop (including through planting appropriate native or non-invasive vegetation and removing invasive plant species, and better drainage controls) or the area immediately adjacent to the threatened structure

(3) Natural or "green" infrastructure (like vegetated beaches, dune systems, and wetlands)

(4) Engineered shoreline or coastal bluff armoring (such as beach nourishment, revetments, or vertical walls)

(5) Other engineered systems to buffer coastal areas

(6) Combinations or hybrids of the above

(7) Consistency with an approved shoreline management plan, if applicable

(d) Shoreline or coastal bluff armoring shall be designed as close as possible to the coastal bluff or structure requiring protection and must be designed to minimize adverse impacts. Design considerations include but are not limited to the following:

(1) Minimize the footprint of the armoring on the beach

(2) Provide for public recreational access

(3) Provide for future access for maintenance of the armoring

(4) Strive for a continuous lateral pedestrian access as physically feasible

(5) Minimize visual intrusion by using materials that blend with the color or natural materials in the area, contouring to match nearby landforms as much as possible, and using vegetation for screening

(6) Meet approved engineering standards and applicable County Code provisions for the site as determined through the coastal development, building, and grading permit process

(7) The design must be based on detailed technical studies to accurately define geologic, hydrologic and oceanographic conditions affecting the site

(8) Eliminate or mitigate adverse impacts on local shoreline sand supply

(9) All armoring structures shall incorporate permanent survey monuments for future use in establishing a survey monument network along the coast for use in monitoring seaward encroachment or slumping of armoring and erosion trends

(e) For development activities (SCCC 16.10) protected by existing shoreline and coastal bluff armoring, the coastal permit application shall include

(1) Re-assessment of the need for the armoring (see paragraph (l) below)

(2) A report on the need for any repair or maintenance of the device (see paragraph (k) below)

(3) Evaluation of the stability and condition of the armoring and recommendations for maintenance, repair, or modification, and potential for removal based on changed conditions

(4) ~~The age and condition of the existing principal structure being protected (or evaluation of the coastal-dependent use being served, or public beach being protected, if applicable)~~

(5) A report on changed geologic and hydrologic site conditions including but not limited to changes relative to sea level rise

(6) If the existing armoring is addressed in an approved Geologic Hazard Abatement District Plan of Control or other joint maintenance agreement, consider the status of implementation of the Plan of Control or maintenance agreement requirements.

(7) Assessment of impacts to ~~coastal resources (see (c) and (d) above)~~ sand supply and public recreation.

(8) Recommendation to avoid or mitigate impacts to ~~coastal resources~~sand supply and public recreational resources.

(9) If approved, such development associated with existing shoreline or coastal bluff armoring shall meet all ~~the~~ other applicable requirements of this policy, including with respect to the impact mitigation requirements

(f) For sites protected by existing rip rap, require that the applicant submit a report at the time of filing an application for a coastal development permit for development (SCCC 16.10), including an evaluation of the stability and condition of the armoring and recommendations for maintenance, repair, or modification, and potential for removal based on changed conditions. The report shall include a Recovery Plan for the maintenance and repair, ~~and~~ or ~~possible~~ potential removal of all or a portion of the existing rip rap revetment, to recover migrated rip rap and to provide for least disturbance of the beach and shoreline while also functioning as necessary to protect the structures on and adjacent to the parcel. The Recovery Plan must incorporate Best Management Practices for maintenance and repair to address potential impacts to sensitive species and environmental resources, as well as Best Management Practices for construction during maintenance and repair activities.

Conditions of Approval

(g) Shoreline or coastal bluff armoring should be the least environmentally damaging feasible alternative to serve coastal-dependent uses or to protect a structure or a public beach in danger from erosion

(1) Hard armoring (such as seawalls and revetments, etc.) shall only be allowed if soft alternatives (such as managed retreat/relocation, beach nourishment, vegetative planting, and drainage control, etc.) are not feasible, or are not the least environmentally damaging feasible alternative

(2) Permit shoreline or coastal bluff armoring only if non-structural measures are infeasible from an engineering standpoint or not economically viable

(3) Hard armoring is limited as much as possible to avoid coastal resource impacts

(4) Alternatively, an approved Shoreline Management Plan may authorize hard armoring for identified sections of the coast.

(h) No shoreline or coastal bluff armoring shall be allowed for the sole purpose of protecting an accessory structure.

(i) All shoreline and coastal bluff armoring shall be sited and designed to ~~avoid~~ eliminate or mitigate adverse impacts on coastal resource impacts to the maximum feasible extent. All unavoidable coastal resource impacts shall be appropriately mitigated. Any approved new, replacement, reconstructed or redeveloped shoreline protection structure must not result in unmitigated impacts to coastal resources including.

(1) Reduced or restricted public beach access

(2) Adverse effects on shoreline processes and sand supply

(3) Increased erosion or flooding on adjacent properties,

(4) Adverse ~~impacts~~ effects on coastal visual or recreational resources, or harmful impacts on wildlife and fish habitats or archaeological or paleontological resources

(j) Mitigation Programs. Require mitigation of unavoidable adverse impacts on coastal resources, including payment of in lieu fees where in-kind options are not possible. The shoreline or coastal bluff armoring project shall include proportional mitigation for all unavoidable coastal resource impacts, including impacts on shoreline sand supply, sandy beaches, public recreational access, public views, natural landforms, and water quality. At a minimum, the effects of the armoring with respect to retention of sand generating materials, the loss of beach/sand due to its footprint, and passive erosion shall be evaluated. Proportional in-lieu fees may be used as a proxy for impact mitigation if in-kind options (such as developing new public access facilities) are not possible, and if such in-lieu fees are deposited in an interest-bearing account managed by the County and used only for mitigations offsetting unavoidable adverse impacts of the project. Required mitigation shall be determined based on reasonable calculation of unavoidable adverse impacts of a specific project on coastal resources, and may include the following:

(1) Sand Mitigation - to mitigate for loss of beach quality sand which would otherwise have been deposited on the beach the County may collect a fee proportional to the impact of the project on the deposit of beach quality sand which would have otherwise occurred to implement projects which mitigate for loss of beach quality sand due to shoreline or coastal bluff armoring. The methodology used to determine the

appropriate mitigation fee will be as approved by the California Coastal Commission and which may be administratively amended from time to time by the Commission. The mitigation fee shall be deposited in an interest-bearing account designated by the Planning Director or County Parks Director.

(2) Public Recreation Mitigation - to mitigate for public recreational impacts associated with actual loss of public recreational opportunities, including access, caused by the armoring, the County shall identify mitigation that allows for objective quantification of the value of beach and shoreline area that is related in both nature and extent to the impact of the project. Project applicants have the option of proposing an in-kind public recreation/access project or payment of fees to the County in lieu of in-kind mitigation of impacts. At the County's discretion, these projects may be accepted if it can be demonstrated that they would provide a directly-related recreation and/or access benefit to the general public. Fees paid to the County to mitigate public recreational impacts shall be calculated based on the cost to provide alternative public recreational opportunity, proportional to the loss of public recreational opportunity caused by the project. Fees paid to the County for use of County-owned property, such as rights-of-way, for the project may be credited at the County's discretion towards mitigation of public recreational impacts associated with a project if committed to use for projects that provide alternative public recreational opportunity; however fees paid for use of County-owned property are not limited to the amount of public recreational impacts. Fees for use of County-owned property may be established and amended by the County from time to time.

(k) No approval shall be given for any development activity involving ~~a~~ shoreline or coastal bluff armoring that does not include a requirement for submittal and County acceptance of a Monitoring, Maintenance and Repair Program prior to finalization of the building/grading permit for the structure. The Program shall include, but is not limited to the following elements;

(1) Monitoring by a~~n~~ professional engineer or ~~engineering~~ geologist familiar and experienced with coastal structures and processes.

(2) Report to the County upon completion of construction of the armoring and every five years or less thereafter, as determined by either the County Geologist or a qualified professional, for as long as the armoring remains authorized

(3) The report shall detail the condition of the structure and list any recommended maintenance and repair work

(4) The monitoring plan and periodic report shall address impacts to shoreline processes and beach width, public access, and availability of public trust lands for public use

(5) The monitoring, maintenance and repair program shall be recorded on the title/deed of the property

(6) The program shall allow for County removal or repair of shoreline or coastal bluff armoring, at the owner's expense, if its condition creates a public nuisance or if necessary, to protect the public health and safety

(7) The program shall include any other monitoring, maintenance, and repair activities the County determines necessary to avoid or mitigate impacts to coastal resources

(8) The term of the program shall be 20-years. Extension beyond 20 years will require an

application to amend the condition of approval of the Coastal Development Permit to extend the Monitoring, Maintenance, and Repair Program at which time the program shall be updated if necessary as shoreline conditions change over time.

(l) Armoring Duration. The shoreline or coastal bluff armoring shall only be authorized until the time when the existing structure that is protected by such a device 1) is no longer present; or 2) no longer requires armoring. Permittees shall be required to submit a coastal permit application to remove the authorized shoreline or coastal bluff armoring within six months of a determination that the armoring is no longer authorized to protect the structure it was designed to protect because the structure is no longer present or no longer requires armoring. ~~In the case of projects involving replacement, reconstruction or redevelopment of structures being protected by armoring, the coastal development permit process shall evaluate the existing armoring along with the proposed structure, and shall require improvement, replacement or removal of the authorized shoreline or coastal bluff armoring as appropriate to reduce impacts on coastal resources.~~

(m) ~~Urbanized Area Shoreline Management Strategy Alternative~~Maintenance and Repair Authorized. ~~For projects located within the Urban and Rural Services Lines, property owners must agree and acknowledge that a~~Approved shoreline or coastal bluff armoring may be maintained and repaired (with building or grading permits as needed) in accordance with conditions of approval of Coastal Development Permits authorizing the armoring; but exceeding authorized maintenance and repair ~~that new, replacement, reconstructed or redeveloped armoring, or any addition to, enlargement, or expansion of an existing armoring~~ will require updated technical reports and approval of ~~another~~ an amendment of the coastal development permit. ~~The property owner and /or any future heirs or assigns must further acknowledge and agree that, should a Shoreline Management Plan become effective, any future shoreline or coastal bluff armoring (including but not limited to seawalls, revetments, retaining walls, tie backs, caissons, piers, groins, etc.), that exceed previously authorized maintenance and repair of the existing armoring, will only be considered for approval if proposed as part of a comprehensive strategy outlined in an approved Shoreline Management Plan, such as a unified project design that is implemented through a Geologic Hazard Abatement District (GHAD) to address related units of coastal bluff properties and coastal resources that exist in the urbanized area. Such a Strategy may allow for phased implementation within sub-areas. The Shoreline Management Plan would be required to address effects on beach areas, potential opportunities to improve public access to the coast, protection of visual resources, and protection of public roads and infrastructure in response to sea level rise.~~

Emergency Authorization

(n) In cases of emergency, an emergency shoreline protective device may be approved on a temporary basis only, and only under the condition that the device is required to be removed unless a regular coastal development permit is approved for retention of the structure. In such cases, a complete coastal development permit application shall be required to be submitted within 60 days following construction of the temporary emergency shoreline protective device, unless an alternate deadline is authorized by the Planning Director for good cause and good faith efforts continue toward submittal of the application. Any such temporary emergency shoreline protective device shall be sited and designed to be the minimum necessary to abate the identified emergency, and to be as consistent as possible with all LCP shoreline protective device standards, including in terms of avoiding coastal resource impacts to the maximum feasible extent. Mitigation for impacts will be required

through the regular coastal development permit process, although mitigation commensurate with the duration of impacts caused by the emergency temporary device may also be required as determined by the County to be warranted. The County shall notify the Coastal Commission upon receipt of a request for an emergency shoreline protective device within the County's coastal permit jurisdiction.

6.4.26 (LCP) Drainage and Landscape Plans

Require drainage and landscape plans to consider potential hazards on and off site, to require removal of invasive plants and replacement with native bluff and/or other county-approved acceptable species in the area within 10 feet of the blufftop edge and below and be approved by the County Geologist prior to the approval of development in coastal hazard areas. Require that approved drainage and landscape development not contribute to offsite impacts and that the defined storm drain system or Best Management Practices be utilized where feasible. The applicant shall be responsible for the costs of repairing and/or restoring any off-site impacts caused by drainage and landscape work on the site. ~~All drainage shall be directed inland to established drainage systems and shall not be directed seaward over or through bluffs.~~

6.4.27 (LCP) Drainage and Improvements within 25 feet or applicable setback from coastal bluff.

Drainage systems shall be designed to ensure that no drainage will flow over the coastal bluff. The drainage system (including water from landscaping and irrigation) shall not contribute to coastal bluff erosion. Furthermore, all drainage system components shall be maintained in good working order. All deck, stairs etc. within the 25-foot or applicable geologic/coastal setback are required to be structurally detached from other structures and not require a building permit.

6.4.28 (LCP) ~~Exception for~~ Foundation Replacement and/or Upgrade

Foundation replacement and/or foundation upgrades that meet the definition of development activity in Chapter 13.20 Coastal Regulations of the Santa Cruz County Code, shall meet the 25-foot minimum and the applicable 75 or 100-year geologic/coastal hazard setback requirements. An exception to those requirements is allowed for foundation replacement and/or upgrade for existing structures that are located partly or wholly within the setback if the Planning Director determines that:

(1) ~~the area of the structure that is within the geologic/coastal hazard setback does not exceed 25% of the area of~~ the structure will be relocated to maximize the setback from the coastal bluff or shoreline, and the property owner has agreed to record a Notice of Geologic/Coastal Hazards, Acceptance of Risk, ~~and~~ Liability Release and Indemnification prior to issuance of the building and/or grading permit; OR

(2) the structure cannot be relocated to meet the setback due to inadequate parcel size, and the property owner has agreed to record a Notice of Geologic/Coastal Hazards, Acceptance of Risk, ~~and~~ Liability Release and Indemnification prior to issuance of the building and/or grading permit.

6.4.29 (LCP) Additions to Existing Structures Located on Coastal Bluff and Beaches

Additions of any size to existing structures located on coastal bluff sites, including second story and cantilevered additions that extend the existing structure in a seaward direction, shall comply with the applicable geologic/coastal hazards setback requirements of Policies 6.2.11 and 6.2.12. Prohibit additions of any size to existing structures located on beaches or in the wave run-up zone, including second story and cantilevered additions, that extend the existing structure in a seaward direction.

6.4.30 Swimming Pools and Spas

(LCP) All new swimming pools, spas and similar in-ground and above-ground water recreation or fishpond types of features shall be located landward of the applicable geologic/coastal hazard setback. Any new water-containing features of this nature shall have double-wall construction with leak detection systems and drains to facilities and locations approved by the County.

6.4.31 Accessory Structures

(LCP) Coastal Development Permits are required for accessory structures in coastal hazard areas (including on blufftops and in the shoreline area), whether habitable or nonhabitable, and whether or not a building permit is required under Chapter 12.10 Building Regulations. CDPs authorizing accessory structures must include a condition of approval that requires the property owner and all successors in interest to remove the structure if the County Geologist, the Building Official or a licensed geotechnical engineer determines that the accessory structure is at risk of failure due to erosion, landslide or other form of bluff collapse or geologic/coastal hazard. In the event that portions of the development fall to the bluffs or ocean before they are removed/relocated, the landowner shall be required to remove all recoverable debris associated with the development from the bluffs and ocean and lawfully dispose of the material in an approved disposal site.

Ongoing Adaptation

6.4.32 Removal Conditions/Development Duration

(LCP) Coastal development permits for projects involving ~~New~~ development (SCCC 16.10) ~~and redevelopment~~ on private property located in areas subject to coastal hazards shall be conditioned to require that it be removed, and the affected area restored if:

(a) any government agency has ordered that the structures are not to be occupied due to coastal hazards, or if any public agency requires the structures to be removed;

(b) essential services to the site can no longer feasibly be maintained (e.g., utilities, roads);

(c) the development is no longer located on private property due to the migration of the public trust boundary; or

(d) removal is required pursuant to an adopted Shoreline Management Plan.

Such condition shall be recorded on a deed restriction against the subject property. See Policy 6.4.9.

6.4.33 Abatement of Unsafe Site or Structure

(LCP) If coastal hazards result in an unsafe site or unsafe structure, dangerous conditions shall be abated in accordance with County regulations and Orders of the Chief Building Official. If all or any portion of improvements are deemed uninhabitable, the improvements shall be removed, and the affected area restored, unless an alternative response is approved by the County of Santa Cruz, and by the California Coastal Commission if the project is within the Coastal Commission's original jurisdiction. Alternative responses to coastal hazards may include (1) pursuit of a Coastal Development Permit consistent with County Code regulations in Chapter 13.20 (Coastal Zone Regulations) and Chapter 16.10 (Geologic Hazards); and/or (2) pursuit of an alternative consistent with an adopted shoreline management plan.

6.4.34 Bluff or Beach Erosion Trigger for Technical Report

(LCP) If the mean high tide line or the blufftop edge migrates to within 10 feet of a principal structure or to any other point where the site or structure is deemed unsafe by County regulations and/or the County Geologist, Civil Engineer, or Chief Building Official, the property owner shall retain a licensed geologist or civil engineer with experience in coastal processes and hazard response to prepare a geotechnical investigation and Coastal Hazards Report that addresses

whether all or any portions of the residence and related development are threatened by coastal hazards, and that identifies actions that should be taken to ensure safe use and occupancy, which may include removal or relocation of all or portions of the threatened development and improvements, or other alternate responses. The property owner shall undertake activities to pursue an appropriate response in accordance with adopted and applicable County of Santa Cruz and California Coastal Commission regulations. The geotechnical investigation and Coastal Hazards Report shall be submitted to the Executive Director of the California Coastal Commission, and to the Planning Director, Chief Building Official and County Geologist of Santa Cruz County. If the residence or any portion of the residence is proposed to be removed, the Applicant shall submit a Removal and Restoration Plan.

6.4.35 Removal and Restoration

(LCP) If an appropriate government agency so orders, or as a result of the above-referenced geotechnical investigation and Coastal Hazards Report, it is determined that any portion of the approved development must be removed due to coastal hazards, or if removal is required pursuant to Policies 6.4.9 or 6.4.32 or 6.4 33, a Removal and Restoration Plan shall be submitted to the County for review and approval. No removal activities shall commence until the Removal and Restoration Plan and all other required plans and permits are approved. The plan shall specify that in the event that portions of the development fall to the bluffs or ocean before they are removed/relocated, the landowner will remove all recoverable debris associated with the development from the bluffs and ocean and lawfully dispose of the material in an approved disposal site. If it is determined that separate grading and coastal development permits are required in order to authorize the activities, the application shall be submitted as soon as immediately feasible, including all necessary supporting information to ensure it is complete. The Removal and Restoration Plan shall clearly describe the manner in which such development is to be removed and the affected area restored so as to best protect coastal resources, and shall be implemented immediately upon County approval, or County approval of required permit applications, as may be required.

6.4.36 Repetitive Loss Properties

(LCP) Repetitive loss properties shall be subject to the requirements of Policy 6.4.13 and 6.4.17 regarding damage due to coastal bluff erosion and storm wave impacts and inundation. Repetitive Loss property is any habitable building for which two or more coastal hazard events within in any ten-year rolling period caused damage, the repair of which meets or exceeds either 1) the definition of development activities or 2) in the case of structures in the coastal flood hazard zone (Zone V) the definition of substantial damage. Multiple losses at the same location within 10 days of each other are counted as 1 loss. The loss history includes all ownership of the property within the 10-year rolling period.

6.4.37 Shoreline Management Plan(s)

(LCP) Seek funding to assist with more specific planning that would assess alternatives and identify preferred strategies for how various segments of the urbanized area shoreline/coastal bluffs could transition if more comprehensive modern approaches to shoreline protection were implemented by the County and/or private property owners through Geologic Hazard Abatement District(s) or County Service Area(s); rather than property-by-property measures. Consistent with Policy 6.4.1, the shoreline and coastal bluff policies of this Safety Element shall be considered to be in effect until the year 2040, by which time the expectation is that shoreline management plans and/or an updated set of policies within a Safety Element Amendment will have been adopted. ~~Therefore, development permitted pursuant to the policies of this Element shall be approved with conditions of approval and deed restrictions which establish that after the year 2040, the subject development may be required to implement~~

~~certain adaptation options, up to and including removal or relocation in accordance with the policies of this section and/or policies developed in accordance with a shoreline management plan. This time horizon may be extended, if determined appropriate, through a shoreline management plan (or plans) that guide development and implementation of adaptation responses related to coastal hazards and sea level rise.~~ Should a future Shoreline ~~and Coastal Bluffs~~ Management Plan(s) become effective, all future ~~proposed new~~ development~~, redevelopment, replacement or reconstruction~~ shall be found to be substantially consistent with the provisions of the approved management plan. ~~The s~~Shoreline management plan(s) ~~shall~~ would identify appropriate adaptation options to implement if and when shoreline and coastal bluff armoring is no longer a feasible solution; ~~shall~~ identify triggers for when other adaptation options should be implemented; and ~~shall~~ identify priority areas for future adaptation responses.

Programs

(LCP) a. Relocate if feasible, essential public facilities such as sewer lines and sanitation pump stations to locations outside of coastal hazard areas when they are due for expansion or replacement or major upgrade. (Responsibility: Public Works)

(LCP) b. Develop and implement a program to correct existing erosion problems along coastal bluffs caused by public drainage facilities and monitor and enforce compliance of private drainage facilities with approved designs and applicable standards. (Responsibility: Public Works)

(LCP) c. Review existing public coastal protection structures to evaluate the presence of adverse impacts such as pollution problems, loss of recreational beach area, and fish kills and implement feasible corrective actions. (Responsibility: Public Works, Environmental Health, Planning Department)

(LCP) d. Support, encourage, and seek funding from FEMA and other appropriate agencies for the initiation of a review of all shoreline protective structures to evaluate their effectiveness and potential for becoming public hazards. Shoreline armoring can become public hazards, for example, if they are in such a state of disrepair that portions have fallen or are in imminent danger of falling onto beaches. Where it is determined that such structures are public hazards or where they provide ineffective protection due to inadequate maintenance, notify the property owner and require the property owner to either maintain the structure to a reasonable level or remove and replace the structure. ~~within one year of the notice, or sooner if the hazard is imminent.~~ Consider County action to maintain or remove and replace the structure and recover costs by a lien against the property if the property owner does not act within one year of such notice. (Responsibility: Planning Department, Board of Supervisors)

(LCP) e. Notify private property owners in areas subject to coastal hazards they are responsible for costs of responding to property damage due to coastal erosion, coastal flooding, and wave run-up hazards, including but not limited to repair, replacement, relocation and/or removal of a portion or all of damaged structures. Encourage property owners to create a contingency fund to cover future costs to modify, relocate and/or remove development that may become threatened in the future by sea level rise and/or when removal triggers are met. Costs for removal and restoration may be based on estimates provided by a licensed building moving/demolition contractor for the amount of contingency funds necessary to remove the structure, including any seawall and restore the site. The amount of contingency funds should be reviewed every ten years and adjusted to account for changed site conditions, inflation and

other conditions that effect the amount of future contingency funds needed. (Responsibility: Planning Department)

(LCP) f. Support, encourage, seek funding, and cooperate with the Coastal Conservancy, Coastal Commission, State Lands Commission, and the Army Corps of Engineers for the establishment and maintenance of a permanent survey monument monitoring network along the coast. Utilize existing monuments set by Caltrans, other public agencies, geologic consultants, and others to the greatest degree possible. Incorporate the use of these monuments into all future planning for shoreline protective structures. Provide geo-reference (latitude and longitude) for each monument and structure. (Responsibility: Planning Department, Public Works)

(LCP) g. Explore, with regional, state and federal agencies as appropriate, whether it is desirable or feasible to create a program that would exclude certain areas of the coast and/or certain types of projects, from being eligible for FEMA insurance or other programs that involve shifting costs of private property repair, replacement or abatement to public agencies or to insurance ratepayers in general.

(LCP) h. Consider the best available and most recent scientific information with respect to the effects of coastal hazards and long-range sea level rise when establishing sea level rise maps, scenarios, and assumptions for use in geologic, geotechnical, hydrologic and engineering investigations, including coastal hazards analyses. Support scientific studies that increase and refine the body of knowledge regarding potential sea level rise in the County, and possible responses to it.

(LCP) i. Research and identify a range of financing mechanisms to support the implementation of adaptation strategies, including through grant programs (e.g. State Coastal Conservancy Climate Ready grants, NOAA Coastal Resilience grants, FEMA/Cal OES Hazard Mitigation funding) and utilization of in-lieu fees collected as mitigation for shoreline armoring.

(LCP) j. Work with entities that plan or operate infrastructure, such as Public Works, Santa Cruz County Sanitation District, Water Districts, the Regional Transportation Commission, Caltrans and PG&E, to plan for potential realignment of public infrastructure impacted by sea level rise, with emphasis on critical accessways.

(LCP) k. Support efforts to develop and implement innovative design alternatives that reduce or eliminate flood damage, especially those which would qualify through FEMA as acceptable alternatives to elevation under the National Flood Insurance Program (NFIP). Encourage homeowners to implement voluntary floodproofing measures in conjunction with development that is not required to be elevated.

(LCP) l. **Shoreline Management Plan** Pursue grant funding to enable creation of multiple Shoreline Management Plans for the shoreline areas within the Urban and Rural Services Lines, where such Plans ~~shall~~would be structured around sections of the shoreline with similar existing conditions and potential hazards. Shoreline management plans would include the short- and long-term goals for the specified area, the management actions and policies necessary for reaching hazard reduction, environmental and public access goals, and necessary monitoring and maintenance to ensure effectiveness. The Plan ~~will~~ would examine priorities for shoreline management, timelines, options, specific projects to be implemented, phasing and action triggers. As components of the management plans, assess seasonal and long-term shoreline changes and the potential for flooding or damage from erosion, sea level rise, waves, and storm surge. Plans ~~will~~would provide requirements for adapting existing development,

public improvements, coastal access, recreational areas, and other coastal resources. Plans ~~will~~would assess the impact of existing and future development, and evaluate the feasibility of hazard avoidance, managed retreat, restoration of the sand supply and beach nourishment in appropriate areas. Plans ~~will~~would incorporate strategies necessary to manage and adapt to changes in wave, flooding, and erosion hazards due to sea level rise.

(LCP) m. The County would work with coastal property owners to seek funding for preparation of ~~Identify in the~~ Shoreline Management Plans, which would identify specific objectives for defined subareas of the County's coastline. ~~Define subsections~~Subareas would be defined geographically where multiple adjacent properties would be managed toward the same objective. ~~. Identify the subareas and specific~~with policies that apply in the ~~zones~~areas.

~~**(LCP)** n. Identify in the Shoreline Management Plan actions and programs that can be implemented in the near term or would be implemented based on pre-determined future triggers to preserve recreational, habitat, and other coastal resource values. Include research into opportunities for additional adaptation actions that would be implemented based on future impacts. Possible actions may include removal, modification or relocation of existing development.~~

~~**(LCP)** o. Establish in the Shoreline Management Plan the conditions of existing beaches and coastal access including widths and berm heights throughout the tidal and seasonal ranges. In addition, document existing surfing resources including the conditions that create the surfing resource. The purpose of studying existing beaches and surfing resources is to provide a baseline to monitor future changes as a result of sea level rise, assess the impact of existing development, and support future actions outlined in the Shoreline Management Plan.~~

~~**(LCP)** p. Seeking additional funding to implement the Shoreline Management Plan or specific actions outlined in the Plan~~

~~**(LCP)** q. Take actions to support creation of Geologic Hazard Abatement District(s) or County Service Area(s) involving one or more sections of the coastline, as a preferred mechanism for funding replacement of existing armoring in the urban area with more modern measures, for portions of the coast within urban and rural services lines that are planned to be protected in the near- to mid-term.~~

This page intentionally left blank

(LCP) Condition development permits and ensure design/mitigation specifications have been incorporated into building and grading plans based on the recommendations of the Hazard assessment and other technical reports.

6.3.4 Mitigation of Geologic Hazards and Density, Design and Location Considerations

(LCP) Deny the location of a proposed development or permit for a grading or building project if it is found that geologic hazards cannot be mitigated to within acceptable risk levels for the nature of the proposed project; and approve development proposals or permits only if the project's density, design, and location reflects consideration of the degree of hazard on the site, as determined by technical information.

6.3.5 Slope Considerations for Land Division Calculations

(LCP) Exclude land with slopes exceeding 30 percent in urban areas and 50 percent in rural areas and land with recent or active landslides from density calculations for land divisions.

6.3.6 Location of Structures and Drainage Considerations in Unstable Areas

(LCP) Require location and/or clustering of structures away from potentially unstable slopes whenever a feasible building site exists away from the unstable areas. Require drainage plans that direct runoff and drainage away from unstable slopes.

6.3.7 Location of Septic Leachfields

(LCP) Prohibit the location of septic leachfields in areas subject to landsliding, unless investigation by a registered geologist and soils engineer demonstrates that such placement will not adversely affect slope stability.

~~**6.3.8 Limitations on Use of Wood for Private Retaining Walls**~~

~~**(LCP)** Due to limited lifespan of wood in contact with earth, prohibit the use of wooden retaining walls on private property for walls that are needed to establish the required access to a site and for walls that establish the required stable building area for habitable site improvements. Allow wooden retaining walls as landscape retaining walls or in other areas that do not involve primary site access or building sites, as allowed consistent with applicable building and grading regulations.~~

6.3.8~~9~~ Recordation of Notice of Geologic Hazards, Acceptance of Risk, ~~and~~ Liability Release and Indemnification

(LCP) As a condition of development approval and/or prior to the issuance of a building/grading permit for development/development activities or new or substantially improved~~ments~~ structures in geologic and/or coastal hazard areas, require the owner of a parcel in an area of potential geologic hazards to record on property title/deed, with the County Recorder, a Notice of Geologic Hazards, Acceptance of Risk, ~~and~~ Liability Release, and Indemnification in a form approved by the County. The Notice shall include information about the nature of the hazard(s) as determined by the geologic and/or geotechnical investigation, provides that the current and all future owners and successors in interest accept the risks to people and property, and includes a release of liability of and waiver of claims against the County of Santa Cruz~~, and of the Coastal Commission, as relevant,~~ for damages or injury in connection with the approved development.

Programs

a. Require property owners and public agencies to control or mitigate landslide conditions which threaten structures or roads, including improper or unauthorized drainage affecting county

This page intentionally left blank

The policies of the Flood Hazards section require new development to be located outside of the flood hazard area, wherever possible, and to incorporate floodproofing measures as required by FEMA and local flood regulations in areas subject to flood hazards.

Objective 6.6 Flood Hazards

(LCP) To reasonably protect new, replacement, reconstructed, modified, and existing structures from flood hazards, including sea level rise and coastal wave run-up hazards, in order to minimize economic damages within the expected lifespans of such structures; and to address threats to public health and safety, prevent adverse impacts on floodplains, and maintain their beneficial function for flood water storage and transport and for biotic resource protection.

Policies

6.6.1 Geologic/Flood/Coastal Hazards Assessments and Reports, and Use of Best Available Science Required in Flood Hazard Areas and on Coastal Bluff Locations

(LCP) Require an assessment of geologic, coastal, and flood hazards for all development, and building/grading proposals within the County's flood hazard areas ~~and for coastal bluff properties~~ in order to identify flood hazards and development constraints. Recognize scientific uncertainty by using within technical reports and project designs a reasonably foreseeable projection of sea level rise within the acceptable range established by the best available science and statewide guidance. ~~The projection to be used in technical reports will be incorporated into Coastal/Flood Hazard Report Administrative Practice Guidelines issued by the Planning Director, which will be periodically revised based upon current best professional practices and best available science. Guidance may be provided for projections to be used for intermediate or longer-term timeframes, such as 50-year or 100-year SLR projections.~~ Any Hazards Assessment or Investigation Report must be accepted by the County Geologist in order to use its findings and/or incorporate its mitigations into a proposed development project.

6.6.2 Development Proposals Protected from Flood Hazard

(LCP) Approve only those grading applications and development proposals that are adequately protected from flood and coastal hazards and which do not add to flooding damage or potential within applicable regulatory or expected lifespans of structures. This may include the requirement for foundation design which minimizes displacement of flood waters, as well as other mitigation measures. Require all developments to be sited and designed to avoid or minimize flood hazards for the expected lifespans of principal structures associated with the development.

6.6.3 Development on or Adjacent to Coastal Bluffs and Beaches

(LCP) Allow development in areas immediately adjacent to coastal bluffs and beaches only if a geologist determines that wave action, storm swell and tsunami inundation are not a hazard to the proposed development or that such hazard can be adequately mitigated and conditioned to protect life/safety, and within the applicable regulatory or expected lifespans of structures. Such determination shall be made by the County Geologist, or a registered geologist may conduct this review at applicant's choice and expense.

6.6.4 Locate New Public Facilities Outside Flood Hazard Areas

(LCP) Require new utilities, critical facilities and non-essential public structures to be located outside the flood hazard areas, unless such facilities are necessary to serve existing uses, there is no other feasible location, and construction of these structures will not increase hazards to life or property within or adjacent to the flood hazard area.

6.6.5 New Parcels in Flood Hazard Areas

(LCP) Allow the creation of new parcels, including those created by minor land division or subdivision, in the flood hazard areas only under the following circumstances:

(a) A full hydrologic report and any other appropriate technical report(s) must demonstrate that each proposed parcel contains at least one building site, including as applicable a septic system and leach field site, which is not subject to flood hazard within the expected lifespan of the development, and that public utilities and facilities such as sewer, gas, electrical and water systems can be located and constructed to minimize flood damage and not cause a health hazard.

(b) The final recorded map shall indicate the limits and elevations of the flood hazard area as certified by a registered professional engineer or surveyor.

(c) Adequate drainage to reduce exposure to flood hazards must be provided.

(d) Preliminary land division proposals shall identify all flood hazard areas and the elevation of the base flood. (Revised by Res. 81-99)

6.6.6 Density Calculations

(LCP) In all areas exclude the portion of the property designated within the flood hazard area from density calculations. Require clustering of allowable units to minimize flood hazards, as warranted and feasible given the location of the development.

6.6.7 New Construction to be Outside Flood Hazard Areas

(LCP) Restrict new construction to the area outside the flood hazard areas, if a buildable portion of the parcel exists outside such areas.

6.6.8 Elevation of Residential Structures

(LCP) Require elevation of the habitable portions of residential structures above the ~~100-year~~ base flood ~~level~~ elevation where constructed within a flood hazard area~~, with maximum elevation and height of structure within established limits.~~ Require floodproofing or elevation of non-residential structures. Require~~d~~ that foundations do not cause floodwater displacement except where necessary for floodproofing. ~~Establish a maximum flood elevation for structures elevated above flood and wave run-up levels; guided by when the mean high tide line will trigger all or a portion of a property to become subject to public trust ownership, and/or when it is no longer feasible to provide access and/or utilities to a development.~~

6.6.9 Require Freeboard

(LCP) Freeboard is a factor of safety measured in feet above a base flood elevation or height for purposes of floodplain management. Freeboard is required to compensate for the many unknown factors that could contribute to flood heights or elevations greater than the height or elevation calculated for a selected size flood and floodway conditions, such as wave action, bridges, climate change, sea level rise, and the hydrological effect of urbanization of the watershed. For all structures located on parcels that are partially or wholly in Coastal A and V Zones, freeboard above the wave run-up elevation shall be based on a reasonably foreseeable projection of sea level rise within the acceptable range established by the best available science and statewide guidance. ~~The freeboard requirement in Coastal A and V Zones is three feet. In all other flood hazards areas, the freeboard requirement above the base flood elevation shall be two feet. These values may be revised periodically based on best available new science, as determined by the Planning Director through issuance of Administrative Practice Guidelines.~~ For habitable structures located in flood hazard areas outside of Coastal A and V Zones, freeboard, above the base flood elevation shall be determined by the Planning Director.

6.6.10 Septic Systems~~,~~ and Leach Fields

(LCP) Septic systems and leach fields to serve previously undeveloped parcels shall not be located within the flood hazard area. The capacity of existing systems in the flood hazard area shall not be increased. Septic systems shall be located and designed to avoid impairment or contamination in accordance with County Sewage Disposal Regulations.

6.6.11 Fill Placement

(LCP) Allow grading within the 100-year floodplain only if there is no net increase in fill, or if it can be demonstrated through analysis by a qualified engineer's report that is reviewed and accepted by the County, and by FEMA if applicable, that the grading will not have cumulative adverse impacts on or off site. No fill is allowed in the floodway.

6.6.12 Flood Control Structures

(LCP) Allow flood control structures only to protect existing development (including agricultural operations) where no other alternative is feasible and where such protection is necessary for public safety. The structures must be designed or must incorporate mitigations/conditions of approval to ensure that they do not adversely affect sand supply, increase erosion or flooding on adjacent properties, or restrict stream flows below minimum levels necessary for the maintenance of fish and wildlife habitats.

6.6.13 Required Recordation on Deed of Notice of Geologic/Coastal Hazard, Acceptance of Risk, ~~and~~ Liability Release, and Indemnification Prior to Permit Approval

(LCP) Prior to issuance of a building or grading permit for substantial improvement on sites subject to flood hazards, require the applicant to record on title/deed to the property a Notice of Geologic/Coastal Hazard, Acceptance of Risk, and Liability Release. The Notice shall be in a form approved by the County of Santa Cruz, and shall include, but not be limited to, the following acknowledgements and agreements, as applicable to the specific project:

Coastal Hazards (if applicable). That the site is subject to coastal hazards including but not limited to episodic and long-term shoreline retreat and coastal erosion, high seas, ocean waves, storm~~s~~ surge, tsunami, tidal scour, coastal flooding, liquefaction and the interaction of same;
Assume and Accept Risks. To assume and accept the risks to the Applicant and the properties that are the subject of a building or grading permit of injury and damage from such geologic/flood/coastal hazards in connection with the permitted development;
Waive Liability. To unconditionally waive any claim of damage or liability against the County of Santa Cruz ~~and of the California Coastal Commission (if applicable),~~ and ~~the~~ its officers, agents, and employees ~~of each of these agencies,~~ for injury or damage in connection with the permitted development;
Indemnification. To indemnify and hold harmless the County ~~and the California Coastal Commission (if applicable),~~ and ~~the~~ its officers, agents, and employees ~~of each of these agencies,~~ with respect to the County's ~~and/or Coastal Commission's~~ approval ~~(or non-appeal)~~ of the development against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage in connection with the permitted development;
Property Owner Responsible. That any adverse effects to property caused by the permitted development shall be fully the responsibility of the property owner. That cost of abatement and/or future removal of structures shall be the responsibility of the property owner;
Flood Insurance. If the structure is built so that it does not comply with an effective BFE data as may be shown on future final Flood Insurance Rate Maps (FIRM), acknowledging that the structure may be subject to a higher flood insurance rating, likely resulting in higher-risk annual flood insurance premium if the property owner purchases flood insurance (voluntarily, or as

required by mortgage lenders). If a program is created in the future that removes the subject location from being eligible for FEMA flood insurance, agree not to protest and to abide with the terms of such a program.

Formation of GHAD or CSA. The property owner and / or any future heirs or assigns, by accepting this permit, acknowledge that a Geologic Hazard Abatement District (GHAD) or County Service Area (CSA) may be formed in the future by the County or other private entity to address geologic/flood/coastal hazards, and assessments may be proposed for the abatement of geologic hazards.

Public Funds. That public funds may not be available in the future to repair or continue to provide services to the site (e.g., maintenance of roadways or utilities);

Occupancy. That the occupancy of structures where sewage disposal or water systems are rendered inoperable may be prohibited;

Public Trust Lands. That the structure may eventually be located on public trust lands; and

Removal or Relocation. In accordance with County regulations and Orders of the Chief Building Official, County Geologist, or Civil Engineer, that all development on the site, including shoreline and coastal bluff armoring, ~~That the structure~~ may be required to be removed or relocated and the site restored at the owner's expense if it becomes unsafe, it is no longer located on private property, ~~or removal is required pursuant to adaptation planning requirements~~ or if essential services to the site can no longer feasibly be maintained consistent with Policies 6.4.32 through 6.4.35.

Programs

a. Continue the Floodplain Management Program in accordance with the Federal Flood Insurance Program. (Responsibility: Planning Department)

b. Revise County floodplain maps as updated adopted FEMA Maps are published. (Responsibility: Planning Department, FEMA)

c. Comprehensively map the Geologic Hazards Combining District in order to place all existing regulations into one concise and consistent ordinance and to notify future buyers of the policies as they pertain to affected parcels. (Responsibility: Planning Commission, Planning Department)

d. Maintain culverts and drainage facilities on County roads, and seek to eliminate log-jams and other obstructions from stream courses. (Responsibility: Public Works, Environmental Health Department).

e. Continue to provide information to property owners located in flood hazard areas ~~and~~ and coastal high hazard areas to encourage participation in the Federal Flood Insurance Program. (Responsibility: Planning Department).

f. Maintain the Automated Local Evaluation in Real Time (ALERT) Systems along the San Lorenzo River, Soquel Creek, Pajaro River, and Corralitos Creek. Implement a floodplain warning system for Aptos Creek and Valencia Creek. The Pajaro River Basin continues to be monitored by the National Weather Service. (Responsibility: ~~Planning~~ Public Works Department, County Office of Emergency Services)

g. Maintain detailed tsunami evacuation plans for coastal areas subject to the tsunami hazard. (Responsibility: County Office of Emergency Services)

(LCP) h. Consider incorporating more detailed information on tsunami inundation levels into the existing flood hazard program when this information is available. Existing development regulations would then apply to areas subject to this hazard. (Responsibility: County Office of Emergency Services, Planning)

i. Prepare and adopt an emergency warning system and detailed evacuation plans for areas subject to inundation in the event of failure of the Newell Creek Dam. (Responsibility: County Office of Emergency Services)

j. Work with relevant state and federal agencies to continue to monitor potential rise in sea level due to climate change-and refine regulations and develop long term programs to address the impacts. (Responsibility: Planning Department, Board of Supervisors)

k. Continue to work with the Joint Powers Authority to relocate the Santa Cruz County Emergency Operations Center from the basement of the County Government Center, where it is vulnerable to flooding. (Responsibility: Board of Supervisors, Office of Emergency Services, County Administrative Office

This page intentionally left blank

16.13.290 Floodplain Development Permit.
Floodplain permits shall be issued for all development activities including those which are not subject to the requirements of the building codes and those which do not constitute a substantial improvement.

16.13.295 Special exemption for prevention or mitigation of Pajaro River/Salsipuedes Creek flooding.
In areas outside of the Coastal Zone, the operation, repair and maintenance of the Pajaro River and Salsipuedes Creek levees and the areas within the levees, for the purpose of restoring flood conveyance capacity, including bench excavation, sediment removal, and similar projects shall be exempt from the provisions of this chapter if all of the following conditions are met:

(A) The work is conducted by or under the direction of the Department of Public Works;

(B) The work is in accordance with a streambed alteration agreement approved by the California Department of Fish and Game, to the extent that such an agreement is required; and

(C) The project has been subjected to environmental review with the County of Santa Cruz serving as the lead agency.

16.13.300 Buildings and Structures Exempt From a Building Permit are Subject to the Requirements of this Ordinance.
Floodplain permits are required for buildings and structures that are explicitly exempt from requirements to obtain a building permit under the building codes, including but not limited to:

(A) One-story detached accessory structures used as tool and storage sheds, playhouses and similar uses of any size

(B) Fences of any height.

(C) Retaining walls of any height.

(D) Water tanks of any size.

(E) Fill placement of any scale.

16.13.310 Application for a Permit.
Anyone who proposes development within a flood hazard area shall file an application with the Planning Department. The information provided shall:

(A) Identify and describe the development to be covered by the permit.

(B) Describe the land on which the proposed development is to be conducted by legal description, street address or similar description that will readily identify and definitely locate the site.

(C) Indicate the use and occupancy for which the proposed development is intended.

(D) Be accompanied by a site plan and/or construction documents as specified in Part V of this ordinance, if required.

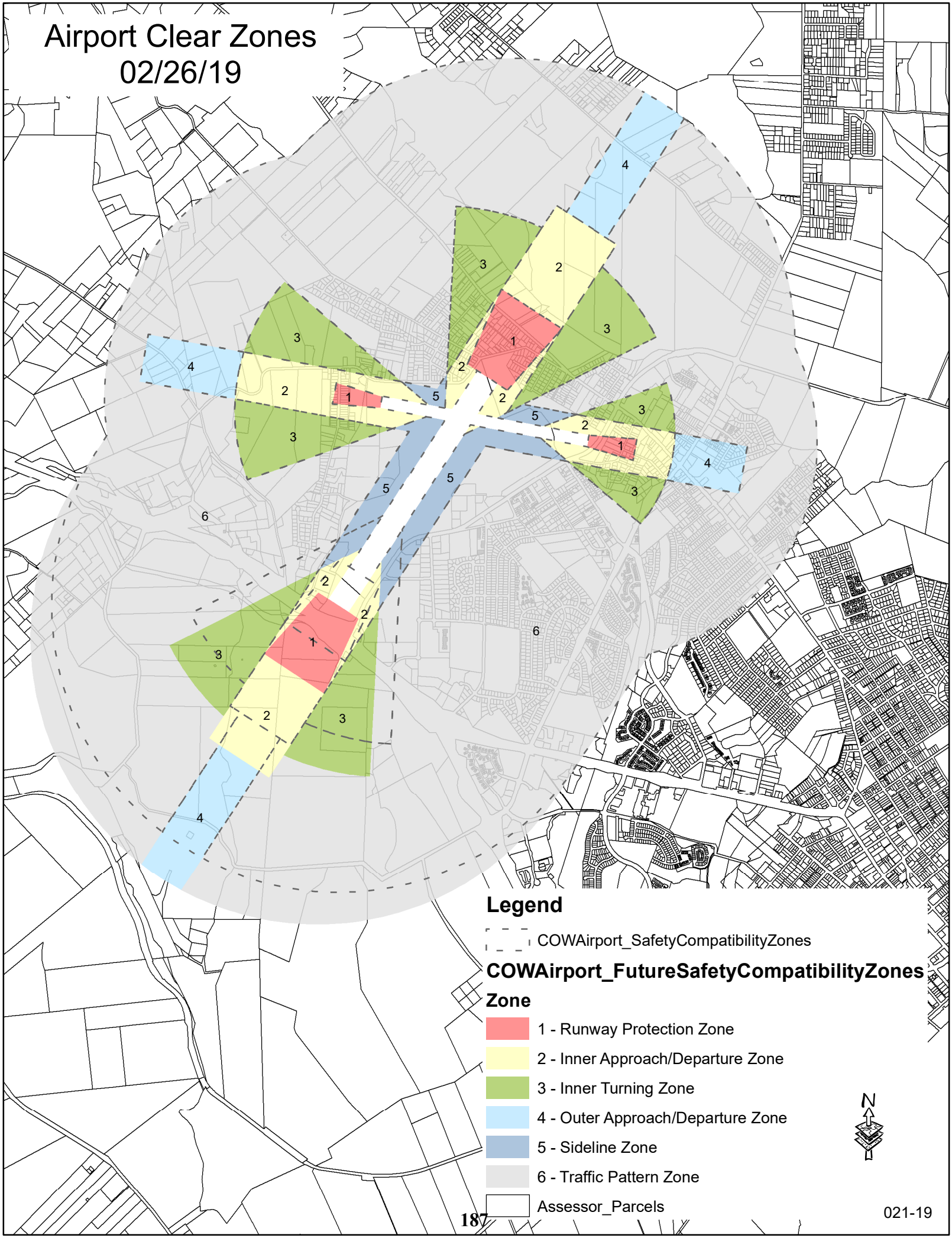
(E) State the valuation of the proposed work, based upon a preliminary or detailed cost estimate, as required by the Floodplain Administrator and this Chapter. The cost estimate shall include a list of all

plan sheets used to develop the estimate, including title, latest revision date and plan preparer, as well as the signature and license number of the contractor who prepared the cost estimate.

(F) Be signed by the applicant or the applicant's authorized agent.

16.13.320 Validity of Permit.
The issuance of a permit pursuant to this ordinance shall not be construed to be a permit for, or approval of, any violation of this ordinance, the building codes, or any other ordinance of the jurisdiction. The issuance of a permit based on submitted documents and information shall not prevent the Floodplain Administrator from requiring the correction of errors. The Planning Director or the Building Official is authorized to prevent occupancy or use of a building or structure which is in violation of the permit, the building codes or of any other ordinances of this jurisdiction.

16.13.330 Notice of Hazards.
The developer and/or subdivider of a parcel or parcels in an area of flood hazards shall be required, as a condition of development or building permit approval for new or substantially improved structures, to record a Declaration of Flood Hazards, Acceptance of Risk, liability Release, and Indemnification with the County Recorder. The Declaration shall be in a form approved by the County of Santa Cruz and shall include acknowledgements and agreements, as applicable to the specific project, including but not limited to, description of the hazards on the parcel or parcels, the level of hydrologic analysis conducted, and an acknowledgement and assumption of risks posed by flood hazards.


Airport Clear Zones
02/26/19
Legend
COWAirport_SafetyCompatibilityZones
COWAirport_FutureSafetyCompatibilityZones
Zone
1 - Runway Protection Zone
2 - Inner Approach/Departure Zone
3 - Inner Turning Zone
4 - Outer Approach/Departure Zone
5 - Sideline Zone
6 - Traffic Pattern Zone
Assessor_Parcels
N
021-19

This page intentionally left blank

February 8, 2019

To: Santa Cruz County Planning Commission
c/o David Carlson

From: Pajaro Dunes Association
Pajaro Dunes North Association

Re: Public Safety and Hazard Management
General Plan / Local Coastal Plan (GP/LCP)
and County Code Amendments

The purpose of this letter is to enter into the record our preliminary comments on the county's proposed amendment.

The Pajaro Dunes homeowner associations represent more than 600 property owners. These property owners will be significantly affected by the county's proposed Safety and Hazard Management and GP/LCP ordinance revisions. As we mentioned in our letter of October 23, 2018, we understand the value of planning that recognizes the impacts of foreseeable sea level rise. However, we continue to be concerned about a number of elements that remain in the proposed amendments.

We submitted a series of LCP-related questions to Santa Cruz County planning staff on January 28, 2019 but have not yet received a response. In the absence of those clarifying responses, our central concerns are outlined below in four broad areas.

- **Deed Restrictions and Waivers**
- **Revetments**
- **Reconstruction**
- **Mitigation Fees**

DEED RESTRICTIONS AND WAIVERS

It is unclear what the County is trying to achieve by using deed restrictions rather than zoning and real estate disclosure statements to inform coastal property buyers of threats and responsibilities posed by sea-level rise. Deed restrictions are particularly onerous because the issues cited by the county are speculative, imposing dated deadlines and requirements for action based on future events that even the county acknowledges cannot accurately be predicted.

PROPOSALS

1. Use Zoning and real estate disclosure statements rather than deed restrictions to inform buyers and future property owners.

2. Remove the requirement that liability waivers be recorded in deeds by modifying section 6.1.9 and related sections as follows:

   6.1.9 **Recordation of Notice of Geologic Hazards, Acceptance of Risk, and Liability Release (LCP)** As a condition of development approval and/or prior to the issuance of a building/grading permit for improvements in geologic hazard areas, require the owner of a parcel in an area of potential geologic hazards to ~~record on the property/title deed, with the County Recorder, a~~ **sign a** Notice of Geologic Hazards, Acceptance of Risk, and Liability Release, in a form approved by the County, **for potential harm or danger to the public or safety hazards due to natural erosion of cliffs, bluffs, sea level rise, storm surges or other natural events.** The Notice shall include ~~information about the nature of the hazard(s) as determined by the geologic and/or geotechnical investigation, provide that the current and all future owners and successors in interest accept the risks to people and property, and includes~~ a release of liability of and waiver of claims against the County of Santa Cruz for any damages or injury **due to natural erosion of cliffs, bluffs, sea level rise, storm surges or other natural events.** ~~in connection with the permitted development.~~

   Reasons:
   - Psychologically, deed restrictions are more inflammatory and will cause unnecessary and premature impact on property values.

   - Zoning and disclosure statements effectively inform buyers.

   - Zoning is controlled by the County Board of Supervisors and can be amended to deal with future changes without requiring modification of deeds.

   - Zoning restrictions can be changed more easily as needed, but it is difficult to change deeds. Under the county's proposed amendments, the deeds would no longer hold after 2040.

   - Local governments and the California Coastal Commission already are offered liability and indemnification protection in the Government Code. Reference to those state law provisions should be included in permit documents.

REVETMENTS

A Geologic Hazard Abatement District has maintained the sea wall revetment in the southern portion of Pajaro Dunes for the past XX years. For more than 35 years, the Pajaro Dunes North Association has maintained its sea wall armoring without fail, meeting the highest standards, and at its own expense. The revetment sits entirely on Association property and does not encroach on state, county or other public lands. The North Association maintains a large reserve fund that we believe should suffice as a "contingency fund" required in the LCP proposal.

Proposals

1. Include in the revised LCP the following or similar language:

   "No policy or language enacted herein shall affect or require any changes for existing permitted structures or armoring, including maintenance and repairs. The County may only require changes in the permit requirements for renewal of existing permits upon a showing of public safety hazards and danger. A property owner shall have a due process right to a hearing regarding the County's claim of public safety hazard or danger. All provisions in this document for permitting, fees, reports and other requirements shall apply only to new permits for new or reconstructed structures, new armoring or revised armoring, unless current permit conditions require otherwise."

2. Allow the Pajaro Dunes North Association to continue to manage its sea wall revetment without a requirement to form a CSA or GHAD.

3. Permit requests for new armoring should be expedited when property and structures are in imminent danger of erosion and risk to public safety.

4. Repairs to existing armoring do not require a new permit, nor are they subject to any of the new requirements.

5. When required, permit renewals for armoring devices shall be issued in increments of ten years.

6. The term of existing armoring permits shall not be altered.

RECONSTRUCTION

As presented to the county planning commission on October 10, the application to condominiums of many of the amendments is unclear. We read the proposed ordinance language referring to "major structure components" to mean the entire building rather than an individual condominium unit, since a limitation on any one unit could adversely affect a building that includes 24 or more residential units.

For both single-family homes and condominium developments, the criteria used to measure value as applied to the 50 percent limitation remains unclear. However, we support the County's proposal for a five-year rolling cycle in calculating the 50 percent standard.

Many well-maintained structures more than 100 years old, particularly residences, remain in excellent condition. Absent further clarification, the proposed idea that buildings are constructed to a "design life" has at least two negative consequences:

- It discourages maintenance as the expiration date approaches, and
- It imposes an artificial life span that is bound to be unrealistic as applied to disparate structures.

Proposals

1. Clarify that the meaning and use of the terms "expected life" and "design life" are for planning purposes only and do not establish a deadline for removal or relocation of a structure.

2. Modification, reconstruction or replacement of structures shall be allowed in-kind when the loss or damage is due to natural phenomena such as fire, earthquake or flood.

MITIGATION FEES

Different types of protection structures – jetties, sea walls, piers, dunes, etc. – have different impacts on the movement of sand. Experience has shown, and engineering studies are likely to confirm, that dunes areas including sea wall armoring at Pajaro Dunes actually accrete sand.

Proposals

1. Ordinance revisions should include acknowledgment of the benefit of existing dune seawall protections in reducing loss of sand. A similar statement is included in the proposed ordinance for calculation of benefit in reference to setback from bluffs.

2. The LCP should clearly identify the methodology for calculating sand loss.

3. Sand mitigation fees shall be reasonable and based on the actual (not theoretical) sand loss, due to new or revised armoring. The sand mitigation shall take into account the natural migration and accretion of sand at Pajaro Dunes, including the effects of tides, storm surges or other oceanic events.

Conclusion

This is a summary of many, but not all, of our concerns and recommendations relating to the proposed revisions to the Santa Cruz County LCP. The single "study session" scheduled by the Planning Commission for February 13, 2019 remains insufficient to fully vet the very complex and sometimes ambiguous provisions of the county's LCP amendments. We request that more time and additional study sessions be provided before final adoption.

Signed by:

Bob Scranton
President
Pajaro Dunes Homeowners Association

Jeff Raimundo
President
Pajaro Dunes North Homeowners Association

Cc: Supervisor Zach Friend

This page intentionally left blank

Questions for David Carlson, County Planning Department
From: Pajaro Dunes Study Group

The questions are divided into four categories:

- **Deed Restrictions**
- **Revetment**
- **Reconstruction**
- **Mitigation Fees**

Answers provided by David Carlson are in boxes.

DEED RESTRICTIONS

QUESTIONS:

1. What is the County trying to achieve by using deed restrictions rather than zoning and real estate disclosure statements to inform buyers of coastal property?

The requirement to record a notice of geologic hazard on the property deed would apply to projects that are subject to geologic review. These are projects located on a coastal bluff that meet or exceed the definition of development/development activities, or projects located on a beach in a flood hazard zone that meet or exceed the definition of substantial improvement (see below for an explanation of these terms). Recording the notice is not required for existing homes and minor construction projects

The County's interest is to ensure that property owners and buyers are aware of the risks of building on property in hazardous coastal locations, that owners and potential buyers accept those risks, and that future potential costs associated with building in a hazardous location are internalized and do not become public costs. The County's requirement is different compared to real estate disclosure in that it only applies when the County is issuing a building permit for a project defined as development/development activities or substantial improvement.

County Code does include a zone district called the Geologic Hazards Combining District. The purpose of the district is to designate those properties located in areas containing geologic hazards which constitute a threat to life and property and to facilitate implementation of the requirements of the geologic hazards ordinance. Properties on coastal bluffs and beaches could be rezoned into this zone district either individually or all at the same time. As such, major construction projects on properties included in this zone district would be subject to the requirements of the geologic hazards ordinance which requires the notice of geologic hazards to be recorded on the property deed prior to issuance of a building permit for development activities or substantial improvement.

2. Does the proposed provision in the LCP increase the County's and the CCC's liability and indemnification protection? Does the proposal go

beyond existing state law provisions in the Government Code? If so, in what ways? Why not just reference state law protections?

The purpose of the requirement is to shift the risk of liability of development in hazardous areas from the public to the private party benefiting from the development. The public should not be responsible for the risk undertaken to benefit a private property owner in voluntarily developing within hazardous areas. Local governments can adopt policies requiring acceptance of risk, liability waiver, and indemnification, that ensure that existing and new property owners are aware of the limitations of the property. Such policies are not prohibited by State law.

The County already includes a general indemnification requirement specific to development approvals that gets recorded on the property deed as a standard condition of approval of a development permit. In addition, County Code already requires prior to issuance of a building permit recordation of a declaration of geologic hazards on the property deed. The language in the existing declaration of geologic hazard document is expanded in the new notice of geologic hazards to include acceptance of risk, liability waiver, and indemnification. The updated notice of geologic hazards is based on guidance from the California Coastal Commission and is already in use by the Commission statewide. The County has already begun requiring recordation of the updated notice prior to issuance of building permits in geologic hazard areas throughout the county.

PROPOSAL:
Use Zoning and real estate disclosure statements rather than deed restrictions to inform buyers.

Reasons:

- Deed restrictions will cause an immediate decrease in property values.
- Zoning and disclosure statements effectively inform buyers
- Psychologically deed restrictions are more inflammatory.
- Zoning is controlled by the County Board of Supervisors and can be amended to deal with future changes without requiring deed changes.
- One can modify zoning, but it is difficult to change deeds. Under the proposal the deeds would no longer hold after 2040.

The 2040 timeline would have no effect on the deed notice.

REVETMENT
QUESTIONS:
1. Does <u>any</u> repair of the revetment constitute “development” or does the 50% rule apply? Is the revetment considered a “structure” and trigger the 50% rule?

The 50% rule applies to residential and commercial structures, it does not apply to armoring structures. Any work to an armoring structure is subject to geologic review, which is an existing requirement.

2. Please clarify the process that applies to revetment repair activity by the GHAD.

For shoreline and coastal bluff armoring structures, if there is an approved monitoring, maintenance and repair program authorizing certain maintenance and repair activities, the authorized work can occur without a coastal development permit CDP or a grading permit. If the work exceeds the scope of maintenance and repair of an approved program, or if there is no approved program that describes maintenance and repair work that can be done without a CDP or grading permit, it would constitute development requiring a CDP from the County or the Coastal Commission depending on the location of the armoring structure.

3. The Homeowner Association in Pajaro Dunes North maintains their revetment. Would the HOA reserve fund required by the Davis Sterling provisions governing homeowner associations suffice as a "contingency fund" required in the LCP proposal?

The LCP proposal does not require a contingency fund. The language regarding contingency funds is included in the GP/LCP proposal as a Program. A Program is an implementing measure the County would take to pursue the policy objective of the Safety Element. While there is a proposed program that mentions encouraging establishment of contingency funds, they are not required.

4. Will individual homeowners of coastal property be required to form a CSA or a GHAD?

No. Formation of a GHAD or CSA would be undertaken voluntarily by property owners and requires an election by members.

5. Do projects on individual homes require an engineering report on armoring?

It depends on the type of project and the location. The trigger for requiring geologic review including an engineering report is defined a little differently depending on whether the project is located on a coastal bluff or on a beach or dune.

In nearly all cases for projects located on coastal bluffs no geologic review and no engineering report on armoring is required if the scope of work does not involve 50% or more of the major structural components of the building including foundation, floor framing, wall framing, and roof framing. For purposes of geologic review, this is defined as development/development activities and includes multiple projects within any 5-year period. The following elements are not considered major structural components: exterior siding; nonstructural door and window

replacement; roofing material; decks; chimneys; and interior elements including but not limited to interior walls and sheetrock, insulation, kitchen and bathroom fixtures, mechanical, electrical and plumbing fixtures. The extent of alterations to major structural components is calculated using guidelines adopted by resolution of the Board of Supervisors. The Planning Department website includes a page explaining the calculation at the following link: http://www.sccoplanning.com/PlanningHome/ZoningDevelopment/Non-ConformingRegulations/ModificationEvaluation/Overview.aspx#mod

For projects located on the beach or dune in mapped FEMA flood hazard areas, in nearly all cases, no geologic review and no engineering report on armoring is required if the cost of the project does not equal or exceed 50 percent of the market value of the structure (not including land value). This is defined as substantial improvement and includes multiple projects within any 5-year period. The existing value of the structure is usually established by an appraisal and the cost of improvements is usually established by a contractor's estimate. The proposed policy language addressing reevaluation of armoring includes consideration of the implementation of a GHAD Plan of Control. While Pajaro Dunes works to implement the Plan of Control individual homeowners would not be required to reevaluate the armor protecting their homes.

6. Can an HOA serve the same role as a CSA or GHAD?

No. The State laws governing an HOA, CSA, or GHAD are different. There may be some overlap, but each entity is intended to serve a different purpose. A GHAD might be the most appropriate mechanism to address a geologic hazard.

7. Who/What writes the Shoreline Management Plan? Who has to approve the plan? Who implements the plan?

The County would manage the development of a shoreline management plan in collaboration with property owners, and other stakeholders. To have the effect of land use regulation the plan would have to be adopted by the Board of Supervisors. The plan would likely include programs that could be implemented by the County and property owners to accomplish the objectives of the plan.

RECONSTRUCTION

QUESTIONS:

1. Please explain the 50% rule. 50% of what? How is value determined?

- What does the 50% apply to? Fair market value, original construction cost + inflation factor, current construction cost, or something else?
- Who makes this determination?

The criteria depends on the type of project. The trigger for requiring geologic review is defined a little differently depending on whether the project is located on a coastal bluff or a beach or dune.

For projects located on coastal bluffs, in nearly all cases, no geologic review, no deed restriction, and no engineering report on armoring is required if the scope of work does not involve 50% or more of the major structural components of the building including foundation, floor framing, wall framing, and roof framing. For purposes of geologic review, this is defined as development/development activities and includes multiple projects within any 5-year period. In the case of damage repair the calculation is done the same way but includes multiple damage events within any 10-year period. The following elements are not considered major structural components: exterior siding; nonstructural door and window replacement; roofing material; decks; chimneys; and interior elements including but not limited to interior walls and sheetrock, insulation, kitchen and bathroom fixtures, mechanical, electrical and plumbing fixtures. The extent of alterations to major structural components is calculated using guidelines adopted by resolution of the Board of Supervisors. The Planning Department website includes a page explaining the calculation at the following link: http://www.sccoplanning.com/PlanningHome/ZoningDevelopment/Non-ConformingRegulations/ModificationEvaluation/Overview.aspx#mod

For projects located on the beach or dune in mapped FEMA flood hazard areas, in nearly all cases, no geologic review, no deed restriction, and no engineering report on armoring is required if the cost of the project does not equal or exceed 50 percent of the market value of the structure, not including land value. FEMA calls this substantial improvement. This includes multiple projects within any 5-year period. The existing value of the structure is usually established by an appraisal and the cost of improvements is usually established by a contractor's estimate. In the case of damage repair the calculation is done the same way but includes multiple damage events within any 10-year period.

2. Do different rules apply if a structure is damaged by fire, earthquake, flooding, ocean water run-up, wind, or other damaging event?

Yes. If a structure on a coastal bluff is damaged by fire it can be reconstructed in kind. If a structure on a coastal bluff is damaged by coastal hazards (wave impact, for example), and the extent of damage repair needed would exceed the 50% threshold, the repaired structure must meet all LCP standards including minimum setback.

If a structure on a beach or dune in a mapped FEMA flood hazard area is damaged by any cause or origin (including fire) and the cost to repair the structure to the before-damaged condition equals or exceeds 50% of the market value of the structure before the damage occurred, the structure would have to meet FEMA requirements. This requires elevation of the building, if necessary, such that the lowest floor of the repaired structure is above the flood hazard level.

3. Why are there different rules for shoreline and bluff structures proposed for reconstruction after noncoastal hazard destruction? They should be the same rules.

PROPOSAL: We support the County's 5 year rolling proposal.

The different rules are necessary because there are different definitions of the 50% threshold that apply on coastal bluffs and beaches. The County's definition of development/development activities for projects on coastal bluffs is a structural standard. Because it is a County-defined standard, we can allow repair in kind of fire-damage structures on coastal bluffs regardless of the extent of damage or location of the building.

Because the County participates in the National Flood Insurance Program we are required to follow FEMA's rules including adopting FEMA's definition for the 50% threshold. FEMA's definition is a valuation standard and FEMA requirements for repair are the same regardless of the cause or origin of the damage.

MITIGATION FEES

QUESTIONS:

1. Where are the California Coastal Commission documents that specify the methodology for mitigation of
   - Sand loss
   - Recreational opportunities

In the case of a buried riprap revetment similar to Pajaro Dunes, I have not been able to find an example. However, there is a very recent example of the Coastal Commission's Methodology for calculation of sand loss and recreational impacts for a project involving the repair of an existing concrete wall armoring structure in the Pleasure Point area. The Coastal Commission staff analysis of recreational and sand loss impacts can be reviewed at the following link. The relevant analysis begins on page 23 and continues through page 29. Note that instead of payment of the calculated mitigation fee, an in-lieu project was identified and the private property owners agreed to fund the project in the amount of approximately $300,000.

https://documents.coastal.ca.gov/reports/2019/2/W16b/W16b-2-2019-report.pdf

In case of difficulty with the link the staff report is also provided as a separate attachment.

Planning Commission Meeting March 13, 2019
Agenda Item # 7

Coastal Property Owners Association proposed edits in underline strikethrough format.

Section 1: Below are the proposed new policies with an introduction. See Section 2 for existing policies that will be completely replaced with the new policies in Section1. The polices in Section 1 and Section2 contain references to new development and development activities and the definitions of these terms are included in Section 3.

COASTAL BLUFFS AND BEACHES

Coastal communities are particularly vulnerable to impacts from sea level rise and hazards that result from extreme weather, including flooding and inundation, erosion, and wave impacts. Current scientific projections regarding climate change and sea level rise require that the County update policies related to coastal bluffs and beaches, and shoreline and coastal bluff armoring, to acknowledge and incorporate sea level rise into development standards that apply to proposed projects. Policies are needed to guide response to proposed changes on existing developed properties due to involuntary damage, as well as to proposed demolition/replacement projects or reconstructions that are pursued voluntarily by property owners.

Much of the Santa Cruz County coastline, particularly in the urbanized developed areas, has some level of armoring (walls, riprap, etc.). The primary type of coastal armoring in this area is riprap, but concrete, steel, wood, and gabion basket armoring also exist. East Cliff Drive is one of the four primary east-west transportation corridors in Santa Cruz County which include Highway One, Sequel Drive/Avenue, the Santa Cruz Branch Rail Line and East Cliff Drive/Portola Drive/Opal Cliffs Drive. A modem seawall has been constructed by the County of Santa Cruz in the Pleasure Point area along East Cliff Drive that should greatly reduce potential damage from coastal erosion to East Cliff Drive as well as the homes on the inland side of the road. This seawall is featured in the Coastal Commission's Sea Level Rise Guidance document as a model and desired approach for protecting public access and scenic and visual qualities when armoring is necessary and allowable, and this is the approach that county policies would try to facilitate for the near- and mid-term before the time in the future when it ~~is~~ may be no longer feasible to protect blufftop properties (i.e. a future time beyond the 2040 planning horizon of this Safety Element).

It is not uncommon for East Cliff Drive, a key arterial road, to be closed or damaged where it crosses Schwann Lake, Corcoran Lagoon and Moran Lake during large winter storms. In flood hazard areas it ~~is~~ may not be appropriate to construct hard armoring structures that divert or block flood waters. Future sea level rise may require that bridges be built to cross the lagoon frontages, if the current road locations are to be maintained. Such bridges would be designed to maximize lagoon function.

Expectations about the "expected life" or "design life" of improvements are an important consideration when establishing policies related to coastal bluff development. County policies in the 1994 General Plan/Local Coastal Program required throughout the unincorporated area a geologic setback from the top of a coastal bluff by 25 feet or sufficient to provide a stable building site over the assumed 100-year lifetime of the structure. Updated County policies require evaluation of the setback considering not only historical shoreline and bluff retreat data, but also acceleration of shoreline and bluff retreat due to continued and accelerated sea level rise, and other climate impacts according to best available science. The level of uncertainty regarding the rate and amount of future sea level rise and future effects on coastal properties makes it difficult to predict when, where, and how much the coast will change in the future. Property owners ~~will be required to~~ should acknowledge and accept the risk of building along the coast in order to re-set expectations regarding the expected life of structures within a context of rising sea levels. In this way, it is expected that property owners and future buyers and financiers of property along the coast will be well aware of and prepare for the ~~projected~~ potential limited lifespans of structures. In that the urban development pattern is well established and urban lot sizes do not typically accommodate moving structures back, it is ~~established~~ claimed for the urban area that county policies and owner expectations reflect a potentially shorter expected life of improvements, which is a component of the County's proposed adaptation strategy.

1

Although shoreline armoring may reduce or delay coastal erosion processes as long as it remains functioning, ultimately coastal erosion continues, periodic maintenance and repair is needed, and ~~even the best some of the~~ shoreline armoring devices ~~will~~ may eventually fail. At some point in the future, coastal erosion processes ~~will~~ may overwhelm the capacity of shoreline and coastal bluff armoring, in terms of feasibility from both physical and cost considerations. Existing regulatory tools such as the Abatement of Dangerous Building Code can react to evolving conditions by requiring non-occupancy and/or removal of all or portions of a building or shoreline armoring device. While shoreline armoring remains in place, it ~~modifies~~ may affect coastal erosion through the reduction of wave erosion energy, or reflection or refraction of wave energy. For example, focused erosion can occur at the ends of the armoring. More broadly, new shoreline armoring has impacts on natural shoreline processes, including ultimately a loss of beach in many areas, and thus the use of armoring as a response to coastal hazards must be carefully examined in this context. While shoreline armoring can be helpful in protecting against coastal erosion, proper setbacks from the brow of bluffs, drainage control, and special construction are all necessary to protect structures, roadways, and utilities from damage for the duration of the expected design life of the improvements.

No policy or language enacted herein shall affect or require any changes for existing permitted structures or armoring, including maintenance and repairs. The County may only require changes in the permit requirements for renewal of existing permits upon a showing of public safety hazards and danger. A property owner shall have a due process right to a hearing regarding the County's claim of public safety hazard or danger. All provisions in this document for permitting, fees, reports and other requirements shall apply only to new permits for new or reconstructed structures, new armoring or revised armoring, unless current permits conditions require otherwise.

Different Contexts Within and Outside of Urban and Rural Services Lines (Urban/ Non-Urban)
A fundamental land use policy of Santa Cruz County since adoption of the Measure J growth management framework in 1978 is to encourage new development to locate within existing developed urban areas, and to protect agricultural land and natural resources. Santa Cruz County has a long established Urban and Rural Services Line (USL/RSL) which defines an area of the county characterized by urban densities of development based on a pattern of existing supporting urban infrastructure. In contrast, areas along the coast that are not within the USL/RSL are characterized by low-intensity development, agriculture and open space. Along the coast the USL includes the communities of Live Oak, Soquel and Aptos/Seacliff/Rio del Mar. The RSL includes locations that reflect urban patterns of development within more rural contexts, including La Selva Beach, Place de Mer, Sand Dollar Beach, Canon Del Sol, Sunset Beach, and Pajaro Dunes.

The area of the County along the coast within the USL is essentially completely urbanized and dominated by single-family residential development on top of coastal bluffs and on beaches or back beach areas. The USL boundary at the west is the Santa Cruz Harbor coastal resource and City of Santa Cruz city limit. The boundary at the east extends to and includes the community of Seascape. This urbanized area along the coast includes the City of Capitola city limits, and the Capitola shoreline is currently protected with rip rap, and coastal bluff armoring within the key coastal visitor serving resource of Capitola Village. This urbanized area along the coast also contains critical public infrastructures such as roads, sewer, water supply, drainage, parking lots and train tracks. In many areas, such as along Opal Cliffs Drive, only one row of residential lots ~~separates~~ protects public roads and infrastructure from the coastal bluff and beach. Those existing roads and infrastructure improvements support public access to the coast, and support structures, businesses and economic activity related to visitor accommodations and tourism, a key job and business sector for Santa Cruz County. These important shoreline and road protections shall be taken into consideration, when deciding how Opal Cliff properties can be protected from cliff erosion.

Shoreline and coastal bluff armoring are common within the USL/RSL, currently protecting about one-half of the urbanized area along the coast. These urban areas are part of an historical pattern of development that has been present for decades along the County's coast, and most of this urban development occurred before the Coastal Act became effective in 1977. The currently existing types of shoreline and coastal bluff armoring include natural stone rip-rap, concrete or wood retaining walls, gabion baskets, and concrete rip-rap of various shapes and sizes. Some of these ~~pre-~~existing measures take up areas of the beach that otherwise would be available to the public (at least in the near- to mid-term before sea level rise may consume the shoreline in certain locations), some have more visual impacts than others, and some are better-maintained than others.

Shoreline and coastal bluff armoring are not common outside of the urbanized coastal areas of Santa Cruz County. Given the two distinctly different contexts that exist within the unincorporated area, the proposed coastal bluffs and beaches and armoring policies reflect a "hybrid approach", with maintenance of appropriate and sustainable armoring, realistic "managed natural retreat" ("MNR") establishing the regulatory approach in the rural areas, and "conditional accommodation, acceptance of risk, amortization and adaptation" ("AAAA") establishing the regulatory approach in the urban areas.

Objective

The objective of the coastal bluffs and beaches policies is to recognize and minimize risks to life, property, and public infrastructure in coastal hazard areas; and to minimize adverse impacts on coastal resources from development in coastal hazard areas, while protecting the constitutional rights of existing coastal property owners.

The Coastal Act requires that new development be sited and designed to be safe from hazards and to not ~~adversely~~ significantly impact coastal resources. Coastal Act Section 30235 allows shoreline protective devices to protect existing structures in danger from erosion and when the protective device is designed to eliminate or mitigate adverse impacts on local shoreline sand supply. Coastal Act Section 30253 prohibits new development that would in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs. In the development of LCP policies, the Coastal Commission's Sea Level Rise Guidance Document recommends local governments use adaptation measures that best implement the statewide resource protection and hazard policies of the Coastal Act considering the diverse geography and conditions of different parts of the state.

Policies must be consistent with the Coastal Act. At times, Coastal Act policies may conflict, and it is difficult to balance achievement of competing interests. Notably, Section 30007.5 of the Coastal Act ("Legislative findings and declarations; resolution of policy conflicts") provides guidance for such balancing:

"The Legislature further finds and recognizes that conflicts may occur between one or more policies of the division. The Legislature therefore declares that in carrying out the provisions of this division such conflicts be resolved in a manner which on balance is the most protective of significant coastal resources. In this context, the Legislature declares that broader policies which, for example, serve to concentrate development in close proximity to urban and employment centers may be more protective, overall, than specific wildlife habitat and other similar resource policies. "

Other key provisions of the Coastal Act which provide guidance for policy development include sections 3000l(c) and (d) (regarding "Legislative findings and declarations; ecological balance"), which finds and declares:

(c) "That to promote the public safety, health and welfare, and to protect public and private property, wildlife, marine fisheries, and other ocean resources, and the natural environment, it is necessary to protect the ecological balance of the coastal zone and prevent its deterioration and destruction."

(d) *" That **existing developed areas, and future developments** that are carefully planned and developed consistent with the policies of this division, are essential for the economic and social well-being of the people of this state and especially to working persons employed within the coastal zone".* [emphasis added]

Section 30001.5 of the Coastal Act ("Legislative findings and declarations; goals") includes the following goals for the coastal zone, and includes both natural and man-made ("artificial" or developed) resources:

a. *Protect, maintain, and where feasible, enhance and restore the overall quality of ... its natural and artificial resources.*
b. *Assure orderly, balanced utilization and conservation of coastal zone resources taking into account the social and economic needs of the people of the state.*
c. *Maximize public access to and along the coast and maximize public recreational opportunities in the coastal zone consistent with sound resource conservation principles and constitutionally protected rights of private property owners.*
d. *Assure priority for coastal-dependent and coastal-related development over other development on the coast.*

County of Santa Cruz Guiding Principles

Key information and guiding principles related to coastal bluffs and beaches, and shoreline and coastal bluff armoring, which have guided formation of policies, include the following considerations supporting a "hybrid approach". The approach reflects a strategy of maintenance of exisiting and sustainable armoring, " managed natural retreat" ("MNR") for rural, agricultural and open space areas; and of "conditional accommodation, acceptance of risk, amortization and adaptation" ("AAAA") for existing developed areas within the Urban and Rural Services Lines:

- At the time the Coastal Act was effective in 1977, the urbanized areas of Santa Cruz County were largely developed in a similar form as today, and as of 2017 approximately one-half of the properties within the urbanized area (within the Urban and Rural Services Lines) are protected by some form of shoreline and coastal bluff armoring.
- For these urbanized areas, which were predominately urbanized prior to approval of the Coastal Act, it is not considered reasonable or feasible to expect that shoreline and coastal bluff armoring will be removed or cease to exist within the immediate or near future, even in the face of climate change and sea level rise. It is appropriate to allow continued maintenance and repair of exisiting and sustainable armoring.
- Recognize that the Coastal Act explicitly allows shoreline and coastal bluff armoring to be installed to protect existing structures and public beaches in danger from erosion, and when designed to eliminate or mitigate adverse impacts on local shoreline sand supply. Existing structures include roadways used to access coastal resources, critical public facilities such as water and sewer lines, and visitor-serving assets such as vacation rentals and commercial areas, in addition to private homes and other private improvements.

- Recognize that existing approved shoreline and coastal bluff armoring is subject to requirements for monitoring, maintenance and repair. Recognize too that such armoring was approved to protect then-existing structures, and when the existing structure is redeveloped or replaced, (other than casualty loss from fire, earthquake or other natural disasters) that structure is subject to current policies and standards, including those of avoiding armoring, ~~orreconstructing~~ maintaining or replacing existing armoring with a modern approach which reduces impacts on coastal resources. Although removal of armoring may be appropriate in certain cases, ~~although~~ the removal or armoring devices may not be feasible due to unacceptable impacts on adjacent properties.

- Recognize that the Coastal Act also recognizes that new development would occur after adoption in 1977, and that approved developments can be considered essential for economic and social well-being. New development within the USL/RSL maybe allowed to rely upon existing or modernized armoring, as determined appropriate through the coastal development permit process.

- Recognize that the Coastal Act and other land use laws require consideration of private property rights and ensure that policy and permitting decisions do not unduly expose the County of Santa Cruz to litigation, for violation of the Constitutional Rights of coastal property owners.

- Strive to avoid placement of new rip rap that is typically associated with "emergency permits", in favor of early planning for construction of modern more-vertical armoring approaches in urbanized areas that would replace rip rap, in a manner that would lead to improved public access and visual resources during the planning horizon for the expected life of structures, when armoring is determined to be appropriate. Therefore, permit requests for new protective armoring should be expedited when property and structures are in emanate danger of erosion and risk to public safety, 2-5 years before it becomes an emergency situation or within 10 feet of an existing structure.

- Recognize that roadways crossing the mid-County lagoons (Schwann, Corcoran, and Moran) are not candidates for seawall protection, and that future road designs for crossing the lagoons may require elevation or bridges if the roads are to continue in their current locations.

- Recognize that dredging of the harbor by the Santa Cruz Port District ~~supplies nearly all the sand to beaches in the mid-county and south-county with relatively small amounts of sand supplied by erosion of coastal bluffs~~ is inadequate to replenish the sand loss on beaches east of the Harbor, and that the sand loss/migration on the beaches east of the Harbor is in fact aggrevated by the Harbor Jetties. Therefore, it is difficult to determine the amount of potential sand loss from natural erosion of cliffs and bluffs, with pre-existing armoring devices, before the Harbor was built. Further study is warranted.

- Pursue a "managed natural retreat" strategy within rural, agricultural and open space areas, which reflects accommodation of natural processes and policies which do not favor shoreline and coastal bluff armoring, with new development placed beyond a 75 or 100-year geologic setback line.

- Pursue an "adaptation and amortization" strategy within urbanized areas that conditionally accommodates improvements to and replacements of structures on coastal bluffs, but that emphasizes an expected limited lifespan (generally, 75 years for residential or commercial structures, or 100 years for critical structures and facilities) due to potential sea level rise and increased coastal hazards, with agreement by property owners to undertake potential adaptation responses as warranted by future conditions ~~and/or LCP and CDP requirements~~.

- Realize that adaptation and amortization will take place over decades, in light of past and existing conditions, private property rights, and uncertainty about future conditions; but prepare for the time that potential future sea level rise and climate change will mean that development along the shoreline ~~will~~ may need to be removed, and ensure that private property owners and public property owners ~~internalize~~ accept the risk and ultimately bear the costs of adaptation and removal of unsafe structure, as may be required in all existing permits.
- Within urbanized areas, a primary goal is to establish a regulatory approach that will encourage or require replacement of existing armoring with modem measures that are considered near- to mid-term improvements. Strive to ensure that these measures are unified in appearance, that remove rip rap as feasible to increase sandy beach areas, that incorporate public access features as feasible, that are colored and treated to better match natural materials, that participate in programmatic mitigation approaches that fund priority investments in sand replenishment and beach access, and that provide funds for eventual removal of measures in the longer-term when repair and replacements are no longer feasible or appropriate.
- Recognize that the County will periodically update the Safety Element and applicable regulations in order to reflect evolving conditions and best available science. The planning horizon and timeframe of this current Safety Element is to the year 2040. At that time, all new permits for Coastal armoring will be re-evaluated, and permits renewed according to an updated County Local Coastal Program. The current term limits for any existing permits shall not be altered.
- Recognize that in the near- to mid-term, expenditures by private owners of coastal bluff properties for shoreline and coastal bluff armoring, will allow time for the County of Santa Cruz to identify funding for, and carry out priority adaptation projects, related to relocation of critical public infrastructure (which may also include roads and bridges) that must be undertaken in the future.
- Recognize that Shoreline Management Plans will be needed to plan for and implement sea level rise adaptation strategies in hazardous areas of the County. Shoreline Management Plans will be prepared for areas within the USL/RSL to address potential effects of development, including shoreline armoring, and at-grade and elevated buildings, on beach areas, potential opportunities to improve public access to the coast, protection of coastal resources, and adaptation of public roads and infrastructure.
- In conjunction with approval of coastal development permits for major reconstruction, additions or demolition/replacement of existing structures located on coastal bluffs and on the shoreline within the urbanized area (within Urban and Rural Services Lines), impose conditions of approval consistent with principles of nexus and proportionality, (excluding damages due to fire, earthquake or other natural disasters) including:
    - Acceptance of risk associated with geologic and coastal hazards by owners, including the potential for a limited expected lifespan for improvements as identified by technical reports and/or as dictated by conditions on the ground.
    - Waiver of any claim of damage or liability against and indemnification of the County and the California Coastal Commission for any damages or injury in connection with the permitted development due to natural erosion of the cliffs and bluffs, sea level rise, or storm surges.
    - Agreement to Monitoring, Maintenance and Repair Program, and to a level of hazard trigger requiring the owner to prepare a Coastal Hazards Report regarding adaptation response to evolving conditions of and closer proximity of the coastal bluff to habitable structures, which may include a required Removal and Restoration Plan. A Maintenance & Repair Plan shall be filed with the County and Coastal Commission for all newly proposed coastal armoring. The Maintenance & Repair Plans shall include a periodic report, at least every ten years, of the stability and condition of the armoring device by a licensed Engineer.

- Require that property owners agree and ~~record~~ submit a restriction that notifies current and future owners of a potential future formation of a Geologic Hazard Abatement District (GHAD) or similar mechanism such as a County Service Area (CSA).
- Require property owners within the USL/RSL to recognize that should a future Shoreline Management Plan become effective, future activities that exceed "maintenance and repair" of ~~existing~~ new shoreline and coastal bluff armoring may only be considered appropriate if determined to be consistent with the Shoreline Management Plan, such as a unified modern design that is to be implemented through a GRAD or CSA, to address related units of coastal bluff properties and coastal resources that exist within the urbanized area or sub-area; and which could involve removal of shoreline armoring in certain circumstances.
- Require property owners to recognize that local jurisdictions have the power to require that unsafe/dangerous structures be vacated and/or abated/removed, under the California Building Code and Code for Abatement of Dangerous Buildings, when site conditions are such that hazards to life and public safety are no longer acceptable. ~~In addition, require such property owners to recognize that a future Shoreline Management Plan may require implementation of sea level rise adaptation strategies, potentially including managed retreat, and armoring and other structure removal, in certain circumstances. Ensure that property owners are responsible for costs of removal of development and restoration of sites in a manner that best enhances coastal resources.~~
- When otherwise allowable, require redevelopment of ~~existing~~ new shoreline armoring to be the least environmentally damaging alternative and ensure that all potential impacts are mitigated.
- Require property owners to recognize that as sea level rises, ~~the public trust boundary will in most cases migrate inland, resulting in currently private lands becoming public land that is held in the public trust for public trust purposes, including public access and recreation and other coastal-dependent uses~~, access to public beaches, public land and recreational areas shall be maintained, when feasible while respecting the rights of property owners.

Objective 6.4 Coastal Bluffs and Beaches
(LCP) To reduce and minimize risks to life, property, and public infrastructure from coastal hazards, including projected hazards due to sea level rise, wave run-up and coastal erosion, and to minimize impacts on coastal resources from development.

General Shoreline Policies

6.4.1 Shoreline Policy Framework and Time Horizon
(LCP) Recognize the diverse nature of the coastline and coastal development in the County and implement a policy hierarchy with general policies that apply to all projects, policies that apply to shoreline type, policies that apply to project type, and policies that address ongoing adaptation to sea level rise along the County's coastline and in specific shoreline areas subject to public and professional input.

6.4.2 (LCP) Recognizing that shoreline and blufftop areas are inherently dynamic and hazardous places to build, particularly with respect to sea level rise in the coming decades, while at the same time understanding that property owners and project applicants seek a level of assurance regarding the anticipated lifetime of proposed projects, the shoreline and coastal bluff policies of this Safety Element shall be considered to be in effect until the year 2040, by which time the expectation is that shoreline management plans and an updated set of policies within a Safety Element Amendment will have been adopted. Therefore, development permitted pursuant to the policies of this Element shall be approved with conditions of approval and deed restrictions which establish that after the year 2040, the subject development may be required to implement certain adaptation options, up to and including removal or relocation in accordance with the policies of this section and/or policies developed in accordance with a shoreline management plan. This time horizon may be extended, if determined appropriate through a shoreline management plan (or plans) that guide development and implementation of adaptation responses related to coastal hazards and sea level rise. However, existing permits will not expire, but required renewals will be re-evaluated based on the new LCP and current coastal conditions.

6.4.2 (LCP)

Site Development to Minimize Coastal Hazards and Protect Coastal Resources
Require all developments to be sited and designed to avoid, and where unavoidable to minimize, coastal hazards affecting the proposed development, and to not contribute to increased coastal hazards on adjacent properties, as determined by the geologic hazards assessment or through geologic and engineering investigations and reports, and within acceptable risk levels for the nature of the proposed development. Consider the effects of projected sea level rise in designing proposed improvements. Protect coastal resources (e.g. public access, beaches, and coastal habitats) from significant impacts through project design. Where impacts are unavoidable either deny the project or impose mitigation measures to reduce risks to acceptable levels and reduce impacts on coastal resources to less than significant levels. New development replacement, reconstruction and/or redevelopment projects that seek to rely on existing shoreline armoring shall be required to re-evaluate the impacts of such armoring on coastal resources and implement the least environmentally damaging alternative and mitigate for any unavoidable impacts.

6.4.3 **Coastal Hazard Technical Reports to Use Best Available Science for Sea Level Rise Projections and Calculations of Geologic/Coastal Hazards Setbacks**

Recognize the scientific uncertainty by using within technical reports and project designs reasonably foreseeable projections of sea level rise (SLR) within the acceptable range established by the best available science and statewide guidance. The projection to be used in technical reports shall be based upon current best professional practices and best available science. Guidance may be provided for projections to be used for intermediate or longer-term

Timeframes, such as 50-year or 100- year SLR projections.

6.44 **Identifying Planning Horizons**

The time horizon to use potential elevated sea level rise is the expected design life of development, after which such time such development is expected to be removed, replaced or redeveloped. A new replacement, reconstructed or redeveloped residential or commercial structure has an expected design life of 75 years. A critical structure or facility has an expected design life of 100 years. The hazards analysis shall evaluate the site over 75 or 100 years. Using that evaluation, the structure would be set back or resigned to avoid hazards over the planning horizon, if possible.

However, in areas subject to future hazards, the expected design life of any particular development may be limited by site conditions and an exception approved by the County may specify a shorter expected life than the 75 or 100-year horizon. The expected life of development in the coastal zone is not an entitlement to maintain development in hazardous areas, but rather shall be used for sea level rise planning purposes. The actual life of the development shall be as established through conditions of a coastal development permit and/or as dictated by actual conditions on the ground. Required permit renewals for armoring devices shall be issued in increments of every ten years, in compliance with the approved Maintenance & Repair Plans.

6.4.5 (LCP) **Geologic Hazards Assessment and Technical Reports in Coastal Hazard Areas**

Require a geologic hazards assessment or full geologic, geotechnical, hydrologic, and/or other engineering report(s) for all development activities within 100 feet of a coastal bluff (including shoreline areas seaward of the bluff). Other technical reports may be required if significant potential hazards are identified by the hazards assessment. Reports must be prepared based on current best professional practices and best available science, and Setback calculations consider historical shoreline and bluff retreat factors but must also consider projected acceleration of retreat due to sea level rise, wave run-up and other climate impacts according to best available science which may include requirements for alternatives analysis under a range of future possible scenarios. Reports must be accepted by the County in order to use report findings as the basis for design of proposed structures or improvements. Geologic Hazards Assessments shall only be required for new or substantially modified structures and new armoring devices.

6.4.6 (LCP) **Prohibit New Lots or Parcels in Coastal Hazard Areas**

Do not allow the creation of undeveloped new lots or parcels (excludes lot splits of parcels with existing structures) in areas subject to coastal hazards, or within geologic setback areas necessary to ensure a building site for an expected 75 or 100-year lifetime, or where development would require the construction of public facilities or utility transmission lines within coastal hazard areas.

6.4.7 (LCP) **New Development in Hazardous Areas**

Allow new development in areas subject to storm wave inundation or beach or bluff erosion on existing lots of record, only under the following circumstances:

(a) A technical report(s), including a geologic hazards assessment, geologic, geotechnical, hydrologic, or other engineering report, demonstrates that the potential hazard can be adequately mitigated by providing a minimum 75 or 100-year geologic/coastal hazard setback calculated at the time of submittal of the development application without consideration of shoreline armoring

(b) As an alternative to the 75 or 100-year hazard setback, the property owner may apply for a Geologic/Coastal Hazards Setback Exception to request that the geologic setback applicable to the site reflect a shorter expected lifespan for the development on condition that the property owner fully accepts the risk of same and agrees to removal of all development on the site (including any shoreline armoring) as may be required by triggers or other conditions identified in the Notice that is required and recorded pursuant to Policy 6.4.9.

(c) Mitigation of the potential hazard is not dependent on shoreline or coastal bluff armoring, except when within the USL/RSL provided such armoring is legally established and is required for such armoring and to mitigate its coastal resource impacts; and to be modified as necessary to meet current professional standards

(d) The owner ~~records~~ shall submit a Notice of Geologic/Coastal Hazards, Acceptance of Risk, and Liability Release due to damages from natural erosion of the cliffs and bluffs, sea level rise, or storm surges with the Permit Request ~~on the property deed~~ that describes the potential hazards, documents the calculated expected lifespan of improvements (while noting that actual conditions and triggers may dictate a different time frame), provides that the current and all future owners and successors in interest accept the risks to people and property agrees to removal and restoration of the site as required by terms of the Notice ~~recorded~~ submitted pursuant to Policy 6.4.9, and includes a release of liability of and waiver of claims against the County of Santa Cruz, and of the Coastal Commission, as relevant, for damages or injury in connections with the permitted development.

6.4.8 (LCP) Density Calculations

Exclude areas subject to coastal inundation, as defined by geologic hazard assessment or full geologic report, as well as bluff faces, sandy beach areas, and areas subject to the public trust from use for density calculations.

6.4.9 (LCP) Required ~~Recordation on Deed~~ Submission of Notice of Geologic/Coastal Hazard, Acceptance of Risk, Liability Release (limited to public safety hazards and danger), and Indemnification as a Condition of Coastal Development Permit Approval for new permits

As a condition of approval of Coastal Development Permits for new development activities on sites subject to coastal hazards, require the applicant to submit ~~to record on title/deed to the property~~, prior to issuance of a building permit or grading permit, a Notice of Geologic/Coastal Hazard, Acceptance of Risk, and Liability Release due to damages from natural erosion of the cliffs and bluffs, sea level rise, or storm surges, assuming there is no current policy to prohibit armoring. The Notice shall be in a form approved by the County of Santa Cruz, and shall include the following acknowledgements and agreements, on behalf of the applicant and all successors and assigns, as applicable to the specific project:

Coastal Hazards. That the site is subject to coastal hazards including but not limited to episodic and long-term shoreline retreat and coastal erosion, high seas, ocean waves, storm surges, tsunami, tidal scour, coastal flooding, liquefaction and the interaction of same;

Assume and Accept Risks. To assume and accept the risks to the Applicant and the properties that are the subject of a Coastal Development Permit of injury and damage due to natural erosion of the cliffs and bluffs, sea level rise, or storm surges from such coastal and geologic hazards in connection with the permitted development;

Waive Liability. To ~~unconditionally~~ waive any claim of damage or liability against the County of Santa Cruz and of the California Coastal Commission, and the officers, agents, and employees of each of these agencies, for injury or damage due to natural erosion of the cliffs and bluffs, sea level rise, or storm surges in connection with the permitted development;

Indemnification. To indemnify and hold harmless the County and the California Coastal Commission, and the officers, agents, and employees of each of these agencies, with respect to the County's and/or Coastal Commission's approval (or non-appeal) of the development against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to natural erosion of the cliffs and bluffs, sea level rise, or storm surges in connection with the permitted development. Other disputes will be subject to binding arbitration.

Property Owner Responsible. That any adverse effects to property caused by damages due to natural erosion of the cliffs and bluffs, sea level rise, or storm surges to the permitted development shall be fully the responsibility of the property owner. That cost of abatement and/or future removal of structures shall be the responsibility of the property owner;

Flood Insurance. If the structure is built so that it does not comply with an effective BFE data as may be shown on future final Flood Insurance Rate Maps (FIRM), acknowledging that the structure may be subject to a higher flood insurance rating, likely resulting in higher-risk annual flood insurance premium if the property owner purchases flood insurance (voluntarily, or as required by mortgage lenders). If a program is created in the future that removes the subject location from being eligible for FEMA flood insurance, agree to abide with the terms of such a program.

Formation of GHAD or CSA. The property owner and / or any future heirs or assigns, by accepting a Coastal Development Permit, acknowledge that a Geologic Hazard Abatement District (GHAD) or County Service Area (CSA) may be formed in the future by the County (or other public agency) or a private entity to address geologic and coastal hazards along the shoreline and coastal bluff (or related unit thereof) and coastal resources that exist in the project area, and assessments may be proposed for the abatement of geologic hazards.

Public Funds. That public funds may not be available in the future to repair or continue to provide services to the site (e.g., maintenance of roadways or utilities);

Occupancy. That the occupancy of structures where sewage disposal or water systems are rendered inoperable may be prohibited;

Public Trust Lands. That the structure may eventually be located on public trust lands; and

Removal or Relocation. In accordance with County regulations and Orders of the Chief Building Official, County Geologist, or Civil Engineer, that all development on the site, including shoreline and coastal bluff armoring, will be required to be removed or relocated and the site restored at the owner's expense if it becomes unsafe, it is no longer located on private property, it is required to be removed pursuant to a future, County-approved Shoreline Management Plan, or if essential services to the site can no longer feasibly be maintained consistent with Policies 6.4.32 through 6.4.35 below. In addition, within the USL/RSL, the development must adhere to Shoreline Management Plans adopted by the County, which may require property owners to take actions to protect, adapt, accommodate and/or retreat from coastal hazards.

6.4.10 (LCP) **Exceptions Takings Analysis**

Where full adherence to all LCP policies, including for setbacks and other hazard avoidance measures, would preclude a reasonable economic use of the property as a whole in such a way as to result in an unconstitutional taking and un-lawfull seizure of private property without just compensation, the County of Santa Cruz or Coastal Commission if on appeal, may allow some form of development that provides for the minimum economic use necessary to avoid an unconstitutional taking of private property without just compensation. There is no taking that needs to be avoided if the proposed development constitutes a ~~nuisance~~ risk to public safety or is otherwise prohibited pursuant to other background principles of property law (e.g., public trust doctrine). In no case shall the coastal bluff setback be less than 25 feet except as specifically allowed by Policies 6.4.13 and 6.4.28. Continued use of an existing structure, including with any permissible repair and maintenance (which may be exempt from permitting requirements), may provide a reasonable economic use. If development is allowed pursuant to this policy, it must be consistent with all LCP policies to the maximum extent feasible. Approval of a lesser level of hazard reduction based upon accepting a lower than normal expected lifespan for the proposed improvements, may be based on conditions of approval to include requirements to remove improvements as life safety hazards become more imminent and upon notice of the County Building Official and County Geologist and possible other limitations on future reconstruction or redevelopment of improvements.

6.4.11 (LCP) **Geologic/Coastal Hazards Setbacks from Coastal Bluffs for New Development, Redevelopment and Reconstruction within Urban and Rural Service Lines**

New development involving placement of new, replaced, redeveloped or reconstructed habitable improvements on a coastal bluff site, and development of new, replaced, redeveloped or reconstructed non-habitable structures for which a building permit is required, shall be set back a minimum of 25 feet from the top edge of the bluff on sites located within the Urban and Rural Services Lines (USL/RSL). A setback greater than 25 feet may be required based on conditions on and adjoining the site, based upon recommendations of required geologic, soil engineering and/or other technical reports, in order to protect life safety for the reasonably foreseeable future. Within the USL/RSL, the geologic/coastal hazards setback shall be sufficient to provide a stable building site for a 75 or 100-year assumed expected life of the improvements, calculated at the time of application for permits when the technical reports are submitted.

Within the Urban and Rural Services Lines, the calculation of the 75 or 100-year geologic/coastal setback, or alternate timeframe setback requested under an exception procedure, may take into consideration the effect of existing legally established shoreline or coastal bluff armoring. If the geologic setback relies on existing armoring, the applicants shall be required to re-evaluate such armoring consistent with Policy 6.4.25 regarding shoreline armoring, including that and such armoring is required to be modified as necessary to meet current professional standards for such armoring and to mitigate its coastal resource impacts. However, armoring installed under an emergency coastal permit shall not be factored into the setback calculation unless a regular Coastal Development Permit is issued, and all conditions of the permit are met. In addition, technical reports prepared for sites within the Urban and Rural Services Lines shall also include analysis based upon an alternative calculation of the 75 or 100-year setback that neglects any effect of existing armoring, in order to provide a measure of the effects of the existing armoring on the site conditions and provide information for decision making.

6.4.12 (LCP) **Geologic/Coastal Hazards Setbacks from Coastal Bluffs for New Development, Redevelopment and Reconstruction Outside of the Urban and Rural Services Lines**

New development involving placement of new, replaced, redeveloped or reconstructed habitable improvements on a coastal bluff and/or shoreline site, and development of new, redeveloped or reconstructed non-habitable structures for which a building permit is required, shall be set back a minimum of 25 feet from the top edge of the bluff on sites located outside of the Urban and Rural Services Lines (USL/RSL). A setback greater than 25 feet may be required based on conditions on and adjoining the site, based upon recommendations of required geologic, soil engineering and/or other technical reports, in order to protect life safety for the reasonably foreseeable future. Outside the USL/RSL, the geologic/coastal hazards setback shall be sufficient to provide a stable building site for a 75 or 100-year setback, calculated at the time of application for permits when the technical reports are submitted.

Outside the Urban and Rural Services Lines the calculation of the 75 or 100-year geologic/coastal hazards setback shall be based on existing site conditions and shall not take into consideration the effect of any existing or proposed shoreline or coastal bluff armoring.

6.4.13 (LCP) **Modification, Reconstruction, or Replacement of Damaged Structures on Coastal Bluffs** If structures located on or at the top of a coastal bluff are damaged as a result of coastal hazards, including slope instability and seismically induced landslides, and where the loss involves ~~50~~ 75 percent or more of Major Structural Components (to include foundation, exterior walls, and supports), allow reconstruction, redevelopment or replacement if all applicable LCP policies and regulations can be met, including the minimum 25-foot and the applicable 75 or 100-year geologic/coastal setbacks, or alternate setback authorized by an approved setback exception that establishes a shorter-tern1 expected life for the structure.

For structures involuntarily damaged by other than coastal hazards (fire, ~~earthquake for example~~ or other natural disasters), where the loss involves ~~50~~ 75 percent or more of the Major Structural Components, allow "in kind" reconstruction, redevelopment or replacement if the following conditions are met (new Coastal Permits are not required, just regular building permits):

(1) the area of the structure that is within the geologic/coastal hazard setback does not exceed ~~25%~~ 50% of the area of the structure, and the property owner has agreed to ~~record~~ file a Notice of Geologic/Coastal Hazards, Acceptance of Risk, and Liability Release prior to issuance of the building and/or grading permit; OR

(2) the structure cannot be relocated to increase the setback due to inadequate parcel size, and the property owner has agreed to ~~record~~ file a Notice of Geologic/Coastal Hazards, Acceptance of Risk, and Liability Release prior to issuance of the building and/or grading permit.

Allow other than "in-kind" reconstruction, redevelopment or replacement of involuntarily damaged structures in accordance with all applicable LCP policies and regulations.

Exemption: Public beach facilities and replacements consistent with Coastal Act Policy 30610(g).

Bluff Face Development

6.4.14 (LCP) Structures, grading, and landform alteration on bluff faces are prohibited, except for the following: public access structures where no feasible alternative means of public access exists or shoreline or coastal bluff armoring if otherwise allowed by the LCP. Such structures shall be designed and constructed to be visually compatible with the surrounding area to the maximum extent feasible and to minimize effects on erosion of the bluff face.

Flood Hazard Policies

6.4.15 (LCP) As further addressed in Section 6.6 Flood Hazards, all structures shall be located outside of the flood hazard area, wherever possible, and to incorporate floodproofing measures as required by FEMA and local flood regulations in areas subject to flood hazards, provided such floodproofing measures are consistent with the shoreline armoring policies for development along coastal bluffs and the shoreline.

Flood Hazard Mitigation

6.4.16 (LCP) If it is infeasible for development to avoid flooding hazards, ~~it~~ the structure shall be designed to minimize risks from flooding, including as influenced by sea level rise, over the anticipated life of the development to the maximum extent feasible and otherwise constructed using design techniques that will limit damage caused by floods. See Policies in Section 6.6 and the Floodplain Regulations) Residential design shall incorporate appropriate flood hazard mitigation measures, including but not limited to elevating the furnished floor (e.g above the estimated combined 100 year storm flood elevation considering the sea level rise and wave uprush scenario), locating non-habitable space below the flood elevation hazard elevation elevating and storing hazardous materials out of the flood hazard area elevating mechanical and utility installations, prohibiting basements and using flood vents and anchoring structures where appropriate. However, elevated height should be limited to ensure consistency with visual resources protection policies, and to ensure that access to utilities, including water, sewer, and roads, can continue over the anticipated duration of the development. If such access cannot be ensured consistent with LCP policies, then conditions shall be added requiring the assumption of risk, removal conditions, and retreat management plan.

l u f f F a

E s t i m a t e d c o m b i n e d

6.4.17 **Reconstruction or Replacement of Damaged Structures due to Storm Wave Inundation**
If structures located in areas subject to storm wave inundation are damaged as a result of any cause and the loss involves more than ~~50~~ 75 percent of the value of the structure before the damage occurred, allow reconstruction or replacement only if all applicable regulations and LCP policies can be met. Also see policies in Section 6.6 Flood Hazards.

Exceptions: Public beach facilities and replacements subject to Coastal Act Section 30610(g).

6.4.18 (LCP) **Pajaro Dunes**
Siting and design of new development and other development activities in the Pajaro Dunes Community shall take into account the extent of erosion of the primary frontal dune during the 100-yearflood (or 1% annual chance flood). Development shall be elevated a sufficient amount to prevent impacts to coastal resources, assure structural stability of the development, and avoid coastal hazards over the expected lifespan of the development in accordance with the Flood Hazard policies in Section 6.6 and the Floodplain Regulations. When permitted, development shall be subject to removal plan conditions in Policy 6.4.37 - Removal Plan Conditions for New Development in Hazardous Areas. Pajaro Dunes development may be eligible for additional or expanded beach armoring subject to the terms of this LCP.

6.4.19 (LCP) **Rocky Shoreline Development**
Development atop rocky shoreline areas with no beach or limited beach shall not impact existing public access to the shoreline and shall incorporate conditions of approval as appropriate to increase public access to the shoreline. Continued public access to the beaches shall take into account the seasonal migration of sand levels (eg. along East Cliff Dr.10 - 12' vertical variance).

6.4.20 (LCP) **Development Along Creeks and Rivers in the Coastal Zone**
Where creeks and rivers discharge to the coastal zone recognize the combined effects of riverine flooding and coastal storm flooding causing elevated flood levels relative to existing FEMA flood mapping. Require hydrologic analysis to determine risk and appropriate development restrictions and flood resistant designs in these areas.

6.4.21 (LCP) **Habitat Buffers**
Provide buffers from the edge of wetlands or other environmentally sensitive habitat areas including riparian habitat, including as required by LUP ESRA and other habitat policies. Development shall ensure that as sea level rises buffer areas shall also expand appropriately to allow for migration of wetlands and other shoreline habitats. Uses and development within buffer areas shall be limited to uses allowed under the County's policies and ordinances involving sensitive habitat and riparian corridor protection. All development such as grading, buildings and other improvements, adjacent to or draining directly to a habitat area must be sited and designed so it does not disturb habitat values, impair functional capacity, or otherwise degrade the habitat area.

Shoreline Policies by Project Type

6.4.22 Publicly Owned Facilities

Existing publicly-owned and quasi-public facilities that are coastal-dependent or visitor serving uses such as public access improvements and lifeguard facilities, that are located within 25 feet or within a calculated 75 or 100-year setback from the edge of the bluff, may be maintained, repaired, reconstructed, redeveloped and/or replaced. Any repair or replacement shall be designed and sited to avoid the need for shoreline protection to the extent feasible.

6.4.23 Public Works Facilities

Public works projects as defined in the Coastal Act shall be consistent with the Local Coastal Program.

6.4.24 Public Services in Coastal Hazard Areas

Prohibit utility facilities and service transm1ss10n systems, including internet/broadband service, in coastal hazard areas, unless they are necessary to serve existing development or public facilities.

6.4.25 Structural Shoreline and Coastal Bluff Armoring

(a) Limit shoreline and coastal bluff armoring to serve coastal dependent uses or to protect existing structures or public beaches from significant threats. The armoring shall be designed to eliminate or mitigate adverse impacts on local shoreline sand supply. Armoring may also be considered for vacant lots where both adjacent parcels are already similarly protected, or vacant lots which through lack of protection threaten adjacent or nearby developed lots; or those which protect public roads and infrastructure, and coastal recreation areas. For all pre-existing armoring, which are already permitted but must be renewed, owner's shall be required to submit an approved Maintenance & Repair Plan with the County and Coastal Commission, submit a written report to the County at least every ten years to address the stability and sustainability of the armoring in lieu of current sea level rise, tide and storm hazards, and to file for a permit renewal according to the terms of the County's LCP. Maintenance and Repair of existing permitted armoring shall not be subject to the required Geologic/Coastal Hazard, Acceptance of Risk, and Liability Release.

(b) For sites located within the Urban and Rural Services Lines, recognize that nearly all the coastal bluff properties have been developed for many decades, and a majority are already protected by a variety of shoreline and coastal bluff armoring that involve a range of impacts to coastal resources. Through the coastal development permit review process for proposed new development, replacement, reconstruction or redevelopment of structures on a site, require, consistent with the principles of nexus and proportionality, improvement or replacement of existing armoring that involve impacts, with rehabilitated or modem protection structures designed to reduce and/or mitigate impacts to coastal resources including but not limited to visual resources, sandy beach, and public access.

Project Review (new, redevelopment or revised projects)

(c) Require any new application for shoreline and coastal bluff armoring to include a thorough analysis of all reasonable alternatives including, but not limited to, the following:

(1) Relocation or partial removal of the threatened structure
(2) Protection of the upper bluff and blufftop (including through planting appropriate native vegetation and removing invasive plant species, and better drainage controls) or the area immediately adjacent to the threatened Structure. Consider other anti-soil erosive plants which are non-invasive.
(3) Natural or "green" infrastructure (like vegetated beaches, dune systems, and wetlands)
(4) Engineered shoreline or coastal bluff armoring (such as beach nourishment, revetments, or vertical walls)
(5) Other engineered systems to buffer coastal areas
(6) Combinations or hybrids of the above
(7) Consistency with an approved shoreline management plan, if applicable

(d) New or revised Shoreline or coastal bluff armoring shall be designed as close as possible to the coastal bluff or structure requiring protection and must be designed to minimize adverse impacts. Design considerations include but are not limited to the following:
(1) Minimize the footprint of the armoring on the beach
(2) ~~Provide~~ Not adversely impact existing ~~for~~ public recreational access
(3) Provide for future access for maintenance of the armoring
(4) Strive for a continuous lateral pedestrian access as physically feasible
(5) Minimize visual intrusion by using materials that blend with the color or natural materials in the area, contouring to match nearby landforms as much as possible, and using vegetation for screening
(6) Meet approved engineering standards and applicable County Code provisions for the site as determined through the coastal development, building, and grading permit process
(7) The design must be based on detailed technical studies to accurately define geologic, hydrologic and oceanographic conditions affecting the site
(8) Eliminate or mitigate adverse impacts on local shoreline sand supply
(9) All armoring structures shall incorporate pennanent survey monuments for future use in establishing a survey monument network along the coast for use in monitoring seaward encroachment or slumping of armoring and erosion trends

(e) For development activities protected by pre-existing shoreline and coastal bluff armoring, the coastal permit renewal application shall include
(1) Re-assessment of the need for the armoring (see paragraph (1) below)
(2) A report on the need for any repair or maintenance of the device (see paragraph (k) below) according to the approved Maintenance & Repair Plan
(3) Evaluation of the potential ~~for removal~~ stability and sustainability of the armoring based on changed conditions
~~(4) The age and condition of the existing principal structure being protected (or evaluation of the coastal-dependent use being served, or public beach being protected, if applicable)~~
(5) A current coastal survey report on changed geologic site conditions including but not limited to changes relative to sea level rise, and median high tide levels
(6) If the existing armoring is addressed in an approved Geologic Hazard Abatement District Plan of Control, consider the status of implementation of the Plan of Control

(7) Assessment of impacts to coastal resources (see (c) and (d) above)
(8) Recommendation to avoid or mitigate impacts to coastal resources
(9) If approved, such development associated with existing shoreline or coastal bluff armoring shall meet all the other requirements of this policy, including with respect to the impact mitigation requirements
(10) A County Grading permit may be required to restack revetment rocks.

(f) For sites protected by existing rip rap, require that the applicant submit a report at the time of filing an application for a coastal development permit renewal, including a Recovery Plan for the maintenance and repair, ~~and possible removal of all or a portion of the existing rip rap revetment~~, to recover migrated rip rap and to provide for least disturbance of the beach and shoreline while also functioning as necessary to protect the structures on and adjacent to the parcel. The Recovery Plan must incorporate Best Management Practices for maintenance and repair to address potential impacts to sensitive species and environmental resources, as well as Best Management Practices for construction during maintenance and repair activities.

Conditions of Approval

(g) Shoreline or coastal bluff armoring should be the least environmentally damaging feasible alternative to serve coastal-dependent uses or to protect a structure or a public beach in danger from erosion
(1) Hard armoring (such as seawalls and revetments, etc.) shall only be allowed if soft alternatives (such as ~~managed retreat~~/relocation, beach nourishment, vegetative planting, and drainage control, etc.) are not feasible, or are not the least environmentally damaging feasible alternative
(2) Permit shoreline or coastal bluff armoring only if non-structural measures are infeasible from an engineering standpoint or not economically viable
(3) Hard armoring is limited as much as possible to avoid coastal resource impacts
(4) Alternatively, an approved Shoreline Management Plan may authorize hard armoring for identified sections of the coast.

(h) No shoreline or coastal bluff armoring shall be allowed for the sole purpose of protecting an accessory structure.

(i) All shoreline and coastal bluff armoring shall be sited and designed to ~~avoid~~ minimize potential coastal resource impacts to the maximum feasible extent. All unavoidable coastal resource impacts shall be appropriately mitigated. Any approved new, replacement, reconstructed or redeveloped shoreline protection structure must not result in unmitigated impacts to coastal resources including.

(1) Reduced or restricted public beach access
(2) ~~Adverse~~ Minimize potential effects on shoreline processes and sand supply
(3) Increased erosion or flooding on adjacent properties,
(4) ~~Adverse~~ Minimize potential impacts on coastal visual or recreational resources, or harmful impacts on wildlife and fish habitats or archaeological or paleontological resources.

(j) Mitigation Programs. Require mitigation of unavoidable adverse impacts on coastal resources, including payment of in lieu fees where in-kind options are not possible. The shoreline or coastal bluff armoring project shall include proportional mitigation for all unavoidable coastal resource impacts, including impacts on shoreline sand supply, sandy beaches, public recreational access, public views, natural landforms, and water quality. At a minimum, the effects of the armoring with respect to retention of sand generating materials, the loss of beach/sand due to its footprint, and passive erosion shall be evaluated. Proportional in-lieu fees may be used as a proxy for impact mitigation if in-kind options (such as developing new public access facilities) are not possible, and if such in-lieu fees are deposited in an interest-bearing account managed by the County and used only for mitigations offsetting unavoidable adverse impacts of the project. Required mitigation shall be determined based on reasonable calculation of unavoidable adverse impacts of a specific project on coastal resources, and may include the following:

(1) Sand Mitigation - to mitigate for loss of beach quality sand which would otherwise have been deposited on the beach, the County may collect a fee proportional to the impact of the project on the deposit of beach quality sand which would have otherwise occurred to implement projects which mitigate for loss of beach quality sand due to shoreline or coastal bluff armoring. Sand mitigation fees shall only apply to new or revised armoring and does not apply to pre-existing armoring devices or repairs thereof. The methodology used to determine the appropriate mitigation fee will be as approved by the California Coastal Commission and which may be administratively amended from time to time by the Commission. The Sand mitigation fees must be reasonable and represent to cost of replacing lost beach sand. When determining the potential lost sand due to new or revised armoring, the natural seasonal migration of sand as a result of the Harbor Jetty construction, storm surges, and other oceanic events shall be determined and taken into consideration. Coastal property owner's shall not be held responsible for the natural erosion and migration of sand levels. For example, there is a documented natural migration of 10 – 12 vertical feet of sand levels along the beaches of East Cliff Dr. between 17th and 30th streets. The mitigation fee shall be deposited in an interest-bearing account designated by the Planning Director or County Parks Director, and will be restricted for use for public beach and recreational improvements. Sand recovered from Harbor dredging shall also be used for sand mitigation along the beach East of the Harbor.

(2) Public Recreation Mitigation - to mitigate for public recreational impacts associated with actual loss of public recreational opportunities, including access, caused by the armoring, the County shall identify mitigation that allows for objective quantification of the value of beach and shoreline area that is related in both nature and extent to the impact of the project. Project applicants have the option of proposing an in-kind public recreation/access project or payment of fees to the County in lieu of in-kind mitigation of impacts. At the County' s discretion, these projects may be accepted if it can be demonstrated that they would provide a directly-related recreation and/or access benefit to the general public. Fees paid to the County to mitigate public recreational impacts shall be calculated based on the cost to provide alternative public recreational opportunity, proportional to the loss of public recreational opportunity caused by the project. Fees paid to the County for use of County-owned property, such as rights-of-way, for the project may be credited at the County's discretion towards mitigation of public recreational

impacts associated with a project if committed to use for projects that provide alternative public recreational opportunity; however fees paid for use of County-owned prope1ty are not limited to the amount of public recreational impacts. Fees for use of County-owned prope1ty may be established and amended by the County from time to time.

(k) No approval shall be given for any new development activity involving a shoreline or coastal bluff armoring (excluding maintenance & repair of existing armoring) that does not include a requirement for submittal and County acceptance of a Monitoring, Maintenance and Repair Program prior to finalization of the building/grading permit for the structure. The Program shall include, but is not limited to the following elements;

(1) Monitoring by a licensed civil engineer or ~~engineering~~ geologist familiar and experienced with coastal structures and processes.
(2) Report to the County upon completion of construction of the armoring and every five years or less thereafter, as determined by either the County Geologist or a qualified professional, for as long as the armoring remains authorized.
(3) The report shall detail the condition of the structure and list any recommended maintenance and repair work
(4) The monitoring plan and periodic report shall address impacts to shoreline processes and beach width, public access, and availability of public trust lands for public use
(5) The monitoring, maintenance and repair program shall be ~~recorded on the title/deed of the property~~ filed with the permit renewal application, and updated as needed but not any less than every 10 years.
(6) The program shall allow for County removal or repair of shoreline or coastal bluff armoring, at the owner's expense, if its condition creates a public ~~nuisance~~ safety hazard. ~~or if necessary, to protect the public health and safety~~
(7) The program shall include any other monitoring, maintenance, and repair activities the County determines necessary to avoid or mitigate impacts to coastal resources

Armoring Duration. The shoreline or coastal bluff armoring shall only be authorized until the time when the existing structure that is protected by such a device 1) is no longer present; or 2) no longer requires armoring. Permittees shall be required to submit a coastal permit application to remove the authorized shoreline or coastal bluff armoring within six months of a determination that the armoring is no longer authorized to protect the structure it was designed to protect because the structure is no longer present or no longer requires armoring. In the case of projects involving replacement, reconstruction or redevelopment of structures being protected by armoring, the coastal development permit process shall evaluate the existing armoring along with the proposed structure, and shall require improvement, reinforcement, replacement or removal of the authorized shoreline or coastal bluff armoring as appropriate to reduce impacts on coastal resources. If no substantial structural improvements, redevelopment, or reconstruction is required , permits for existing armoring devices shall be renewed every ten years according to provisions. This excludes replacement or renovation due to fire, earthquake or other natural disasters.

(m) Urbanized Area Shoreline Management Strategy Alternative. For projects located within the Urban and Rural Services Lines, property owners must agree and acknowledge that approved shoreline or coastal bluff armoring may be maintained and repaired (with building or grading permits as needed) in accordance with conditions of approval of Coastal Development Permits

authorizing the armoring; but that new, replacement, reconstructed or redeveloped armoring, or any addition to, enlargement, or expansion of an existing armoring will require updated technical reports and approval of another coastal developmentpe1mit. The property owner and /or any future heirs or assigns must further acknowledge and agree that, should a Shoreline Management Plan become effective, any future shoreline or coastal bluff armoring (including but not limited to seawalls, revetments, retaining walls, tie backs, caissons, piers, groins, etc.), that exceed previously authorized maintenance and repair of the existing armoring, will only be considered for approval if proposed as part of a comprehensive strategy outlined in an approved Shoreline Management Plan, such as a unified project design that is implemented through a Geologic Hazard Abatement District (GRAD) to address related units of coastal bluff properties and coastal resources that exist in the urbanized area. Such a Strategy may allow for phased implementation within sub-areas. The Shoreline Management Plan would be required to address effects on beach areas, potential opportunities to improve public access to the coast, protection of visual resources, and protection of public roads and infrastructure in response to sea level rise.

Emergency Authorization

(n) In cases of emergency, an emergency shoreline protective device may be approved on a temporary basis only, and only under the condition that the device is required to be removed unless a regular coastal development permit is approved for retention of the structure. In such cases, a complete coastal development permit application shall be required to be submitted within 60 days following construction of the temporary emergency shoreline protective device, unless an alternate deadline is authorized by the Planning Director for good cause and good faith efforts continue toward submittal of the application. Any such temporary emergency shoreline protective device shall be sited and designed to be the minimum necessary to abate the identified emergency, and to be as consistent as possible with all LCP shoreline protective device standards, including in terms of avoiding coastal resource impacts to the maximum feasible extent. Mitigation for impacts will be required through the regular coastal development permit process, although mitigation commensurate with the duration of impacts caused by the emergency temporary device may also be required as determined by the County to be warranted. The County shall notify the Coastal Commission upon receipt of a request for an emergency shoreline protective device within the County's coastal permit jurisdiction. The County will expedite the review and approval of emergency permits.

Drainage and Landscape Plans

Require drainage and landscape plans to consider potential hazards on and off site, to require removal of invasive plants and replacement with native bluff and/or other county-approved acceptable species in the area within 10 feet of the blufftop edge and below and be approved by the County Geologist prior to the approval of development in coastal hazard areas. Require that approved drainage and landscape development not contribute to offsite impacts and that the defined storm drain system or Best Management Practices be utilized where feasible. The applicant shall be responsible for the costs of repairing and/or restoring any off-site impacts caused by drainage and landscape work on the site. All drainage shall be directed inland to established drainage systems and shall not be directed seaward over or through bluffs.

Drainage and Improvements within 25 feet or applicable setback from coastal bluff. Drainage systems shall be designed to ensure that no drainage will flow over the coastal bluff. The drainage system (including water from landscaping and irrigation) shall not contribute to coastal bluff erosion. Furthermore, all drainage system components shall be maintained in good working order. All deck, stairs etc. within the 25-foot or applicable geologic/coastal setback are required to be structurally detached from other structures and not require a building permit.

Exception for Foundation Replacement and/or Upgrade

Foundation replacement and/or foundation upgrades that meet the definition of development activity in Chapter 13.20 Coastal Regulations of the Santa Cruz County Code, shall meet the 25-foot minimum and the applicable 75 or 100-year geologic/coastal hazard setback requirements. An exception to those requirements is allowed for foundation replacement and/or upgrade for existing structures that are located partly or wholly within the setback if the Planning Director determines that:

(I) the area of the structure that is within the geologic/coastal hazard setback does not exceed ~~25%~~ 50% of the area of the structure, and the property owner has agreed to ~~record~~ file a Notice of Geologic/Coastal Hazards, Acceptance of Risk, and Liability Release prior to issuance of the building and/or grading permit; OR

(2) the structure cannot be relocated to meet the setback due to inadequate parcel size, and the property owner has agreed to ~~record~~ submit a Notice of Geologic/Coastal Hazards, Acceptance of Risk, and Liability Release prior to issuance of the building and/or grading permit.

6.4.29 (LCP) Additions to Existing Structures Located on Coastal Bluff and Beaches

Additions of any size to existing structures located on coastal bluff sites, including second story and cantilevered additions that extend the existing structure in a seaward direction, shall comply with the applicable geologic/coastal hazards setback requirements of Policies 6.2.11 and 6.2.12. Prohibit additions of any size to existing structures located on beaches or in the wave run-up zone, including second story and cantilevered additions, that extend the existing structure in a seaward direction.

6.4.30 (LCP) Swimming Pools and Spas

All new swimming pools, spas and similar in-ground and above-ground water recreation or fishpond types of features shall be located landward of the applicable geologic/coastal hazard setback. Any new water-containing features of this nature shall have double-wall construction with leak detection systems and drains to facilities and locations approved by the County.

6.4.31 (LCP) Accessory Structures

Coastal Development Permits are required for accessory structures in coastal hazard areas (including on blufftops and in the shoreline area), whether habitable or non-habitable, and

whether or not a building permit is required under Chapter 12.10 Building Regulations. CDPs authorizing accessory structures must include a condition of approval that requires the property owner and all successors in interest to remove the structure if the County Geologist, the Building Official or a licensed geotechnical engineer determines that the accessory structure is at risk of failure due to erosion, landslide or other form of bluff collapse or geologic/coastal hazard. In the event that portions of the development fall from the bluffs to the ocean before they are removed/relocated, the landowner shall be required to remove all recoverable debris associated with the development from the bluffs and ocean and lawfully dispose of the material in an approved disposal site.

Ongoing Adaptation

6.4.32 (LCP) **Removal Conditions/Development Duration**

New development and redevelopment on private property located in areas subject to coastal hazards shall be conditioned to require that it be removed, and the affected area restored if:
(a) any government agency has ordered that the structures are not to be occupied due to coastal hazards, or if any public agency requires the structures be removed;
(b) essential services to the site can no longer feasibly be maintained (e.g., utilities, roads);
~~(c) the development is no longer located on private property due to the migration of the public trust boundary; or~~
(d) removal is required pursuant to an adopted Shoreline Management Plan.
Such condition shall be recorded on a deed restriction against the subject property. See Policy 6.4.9.

6.4.33 **Abatement of Unsafe Site or Structure**

If coastal hazards result in an unsafe site or unsafe structure, dangerous conditions shall be abated in accordance with County regulations and Orders of the Chief Building Official. If all or any portion of improvements are deemed uninhabitable, the improvements shall be removed, and the affected area restored, unless an alternative response is approved by the County of Santa Cruz, and by the California Coastal Commission if the project is within the Coastal Commission's original jurisdiction. Alternative responses to coastal hazards may include (1) pursuit of a Coastal Development Permit consistent with County Code regulations in Chapter 13.20 (Coastal Zone Regulations) and Chapter 16.10 (Geologic Hazards); and/or (2) pursuit of an alternative consistent with an adopted shoreline management plan.

6.4.34 **Bluff or Beach Erosion Trigger for Technical Report**

If the mean high tide line or the blufftop edge migrates to within 10 feet of a principal structure or to any other point where the site ~~or~~ and structure is deemed unsafe by County regulations and/or the County Geologist, Civil Engineer, or Chief Building Official, the property owner shall retain a licensed geologist or civil engineer with experience in coastal processes and hazard response to prepare a geotechnical investigation and Coastal Hazards Report that addresses whether all or any portions of the residence and related development are threatened by coastal hazards, and that identifies actions that should be taken to ensure safe use and occupancy, which may include removal or relocation of all or portions of the threatened development and improvements , or other alternate responses. The property owner shall undertake activities to pursue an appropriate response in accordance with adopted and applicable County of Santa Cruz and California Coastal Commission regulations. The geotechnical investigation and Coastal Hazards Report shall be submitted to the Executive Director of the California Coastal Commission, and to the Planning Director, Chief Building Official and County Geologist of Santa Cruz County. If the residence or any portion of the residence is proposed to be removed, the Applicant shall submit a Removal and Restoration Plan.

6.4.35 (LCP) **Removal and Restoration**

If an appropriate government agency so orders, or as a result of the above-referenced geotechnical investigation and Coastal Hazards Report, it is determined that any portion of the approved development must be removed due to coastal hazards, or if removal is required pursuant to Policies 6.4.9 or 6.4.32 or 6.4 33, a Removal and Restoration Plan shall be submitted to the County for review and approval. No removal activities shall commence until the Removal and Restoration Plan and all other required plans and permits are approved. The plan shall specify that in the event that portions of the development fall to the bluffs or ocean before they are removed/relocated, the landowner will remove all recoverable debris associated with the development from the bluffs and ocean and lawfully dispose of the material in an approved disposal site. If it is determined that separate grading and coastal development permits are required in order to authorize the activities, the application shall be submitted as soon as immediately feasible, including all necessary supporting information to ensure it is complete. The Removal and Restoration Plan shall clearly describe the manner in which such development is to be removed and the affected area restored so as to best protect coastal resources, and shall be implemented immediately upon County approval, or County approval of required permit applications, as may be required.

6.4.36 (LCP) **Repetitive Loss Properties**

Repetitive loss properties shall be subject to the requirements of Policy 6.4.13 and 6.4.17 regarding damage due to coastal bluff erosion and storm wave impacts and inundation. Repetitive Loss property is any habitable building for which two or more coastal hazard events within in any ten-year rolling period caused damage, the repair of which meets or exceeds either 1) the definition of redevelopment or 2) in the case of structures in the coastal flood hazard zone (Zone V) the definition of substantial damage. Multiple losses at the same location within ~~10 days~~ one year of each other are counted as 1 loss. The loss history includes all ownership of the property within the 10-year rolling period.

6.4.37 **Shoreline Management Plan(s)**

Seek funding to assist with more specific planning that would assess alternatives and identify preferred strategies for how various segments of the urbanized area shoreline/coastal bluffs could transition if more comprehensive modem approaches to shoreline protection were implemented by the County and/or private property owners through Geologic Hazard Abatement District(s) or County Service Area(s); rather than property-by-property measures. Consistent with Policy 6.4.1, the shoreline and coastal bluff policies of this Safety Element shall be considered to be in effect until the year 2040, by which time the expectation is that shoreline management plans and an updated set of policies within a Safety Element Amendment will have been adopted. Therefore, development permitted pursuant to the policies of this Element shall be approved with conditions of approval and deed restrictions which establish that after the year 2040, the subject development may be required to implement certain new adaptation options, up to and including removal or relocation in accordance with the policies of this section and/or policies developed in accordance with a shoreline management plan. This time horizon may be extended beyond 2040, if determined appropriate, through a shoreline management plan (or plans) that guide development and implementation of adaptation responses related to coastal hazards and sea level rise. Should a future Shoreline and Coastal Bluffs Management Plan(s) become effective, all proposed new development, redevelopment, replacement or reconstruction shall be found to be substantially consistent with the provisions of the approved management plan. The shoreline management plan(s) shall identify appropriate adaptation options to implement if and when shoreline and coastal bluff armoring is no longer a feasible solution; shall identify triggers for when other adaptation options should be implemented; and shall identify priority areas for future adaptation responses.

Programs (LCP) a. Relocate if feasible, essential public facilities such as sewer lines and sanitation pump stations to locations outside of coastal hazard areas when they are due for expansion or replacement or major upgrade. (Responsibility: Public Works)

(LCP) b. Develop and implement a program to correct existing erosion problems along coastal bluffs caused by public drainage facilities and monitor and enforce compliance of private drainage facilities with approved designs and applicable standards. (Responsibility: Public Works)

(LCP) c. Review existing public coastal protection structures to evaluate the presence of adverse impacts such as pollution problems, loss of recreational beach area, and fish kills and implement feasible corrective actions. (Responsibility: Public Works, Environmental Health, Planning Department)

(LCP) d. Support, encourage, and seek funding from FEMA and other appropriate agencies for the initiation of a review of all shoreline protective structures to evaluate their effectiveness and potential for becoming public hazards. Shoreline armoring can become public hazards, for example, if they are in such a state of disrepair that portions have fallen or are in imminent danger of falling onto beaches. Where it is determined that such structures are public hazards or where they provide ineffective protection due to inadequate maintenance, notify the property owner and require the property owner to either maintain the structure to a reasonable level or remove and replace the structure within ~~one~~ two years of the notice, or sooner if the hazard is imminent. Consider County action to maintain or remove and replace the structure and recover costs by a lien against the property if the property owner does not act within one year of such notice. (Responsibility: Planning Department, Board of Supervisors)

(LCP) e. e. Notify private property owners in areas subject to coastal hazards they are responsible for costs of responding to property damage due to coastal erosion, coastal flooding, and wave run-up hazards, including but not limited to repair, replacement, relocation and/or removal of a portion or all of damaged structures. ~~Encourage property owners to create a contingency fund to cover future costs to modify, relocate and/or remove development that may become threatened in the future by sea level rise and/or when removal triggers are met.~~ Costs for removal and restoration may be based on estimates provided by a licensed building moving/demolition contractor for the amount of contingency funds necessary to remove the structure, including any seawall and restore the site. The amount of contingency funds should be reviewed every ten years and adjusted to account for changed site conditions, inflation and other conditions that effect the amount of future contingency funds needed. (Responsibility : Coastal property owners)

(LCP) f. f. Support, encourage, seek funding, and cooperate with the Coastal Conservancy, Coastal Commission, State Lands Commission, and the Anny Corps of Engineers for the establishment and maintenance of apermanent survey monument monitoring network along the coast. Utilize existing monuments set by Caltrans, other public agencies, geologic consultants, and others to the greatest degree possible. Incorporate the use of these monuments into all future planning for shoreline protective structures. Provide geo-reference (latitude and longitude) for each monument and structure. (Responsibility: Planning Department, Public Works)

(LCP) g. g. Explore, with regional, state and federal agencies as appropriate, whether it is desirable or feasible to create a program that would exclude certain areas of the coast and/or certain types of projects, from being eligible for FEMA insurance or other programs that involve shifting costs of private property repair, replacement or abatement to public agencies or to insurance ratepayers in general.

h.
i.

(LCP) h. Consider the best available and most recent scientific information with respect to the effects of coastal hazards and long-range sea level rise when establishing sea level rise maps, scenarios, and assumptions for use in geologic, geotechnical, hydrologic and engineering investigations, including coastal hazards analyses. Support scientific studies that increase and refine the body of knowledge regarding potential sea level rise in the County, and possible responses to it.

(LCP) i. Research and identify a range of financing mechanisms to support the implementation of adaptation strategies, including through grant programs (e.g. State Coastal Conservancy Climate Ready grants, NOAA Coastal Resilience grants, FEMA/Cal OES Hazard Mitigation funding) and utilization of in-lieu fees collected as mitigation for shoreline annoring.

(LCP) j. Work with entities that plan or operate infrastructure, such as Public Works, Santa Cruz County Sanitation District, Water Districts, the Regional Transportation Commission, Caltrans and PG&E, to plan for potential realignment of public infrastructure impacted by sea level rise, with emphasis on critical accessways.

(LCP) k. Support efforts to develop and implement innovative design alternatives that reduce or eliminate flood damage, especially those which would qualify through FEMA as acceptable alternatives to elevation under the National Flood Insurance Program (NFIP). Encourage homeowners to implement voluntary floodproofing measures in conjunction with development that is not required to be elevated.

(LCP) l. **Shoreline Management Plan** Pursue grant funding to enable creation of multiple Shoreline Management Plans for the shoreline areas within the Urban and Rural Services Lines, where such Plans shall be structured around sections of the shoreline with similar existing conditions and potential hazards. Shoreline management plans would include the short- and long-term goals for the specified area, the management actions and policies necessary for reaching hazard reduction, environmental and public access goals; and necessary monitoring and maintenance to ensure effectiveness. The Plan will examine priorities for shoreline management, timelines, options, specific projects to be implemented, phasing and action triggers. As components of the management plans, assess seasonal and long-term shoreline changes and the potential for flooding or damage from erosion, sea level rise, waves, and storm surge. Plans will provide requirements for adapting existing development, public improvements, coastal access, recreational areas, and other coastal resources. Plans will assess the impact of existing and future development, and evaluate the feasibility of hazard avoidance, ~~managed retreat~~, restoration of the sand supply and beach nourishment in appropriate areas. Plans will incorporate strategies necessary to manage and adapt to changes in wave, flooding, and erosion hazards due to sea level rise.

(LCP) m. Identify in the Shoreline Management Plan specific objectives for defined subareas of the County's coastline. Define subsections geographically where multiple adjacent properties would be managed toward the same objective. Identify the subareas and specific policies that apply in the zones.

(LCP) n. Identify in the Shoreline Management Plan actions and programs that can be implemented in the near term or would be implemented based on pre-determined future triggers to preserve recreational, habitat, and other coastal resource values. Include research into opportunities for additional adaptation actions that would be implemented based on future impacts. Possible actions may include removal, modification or relocation of existing development.

(LCP) o. Establish in the Shoreline Management Plan the conditions of existing beaches and coastal access including widths and berm heights throughout the tidal and seasonal ranges. In addition, document existing surfing resources including the conditions that create the surfing resource. The purpose of studying existing beaches and surfing resources is to provide a baseline to monitor future changes as a result of sea level rise, assess the impact of existing development, and support future actions outlined in the Shoreline Management Plan.

(LCP) o. p. Seeking additional funding to implement the Shoreline Management Plan or specific actions outlined in the Plan

(LCP) q. Take actions to support creation of Geologic Hazard Abatement District(s) or County Service Area(s) involving one or more sections of the coastline, as a preferred mechanism for funding replacement of existing armoring in the urban area with more modem measures, for portions of the coast within urban and rural services lines that are planned to be protected in the near- to mid-term.

Section 2: Below are existing policies that would be replaced with the new policies in Section 1 above.

COASTAL BLUFFS AND BEACHES

Policies

6.2.10 Site Development to Minimize Hazards

(LCP) Require all developments to be sited and designed to avoid or minimize hazards as determined by the geologic hazards assessment or geologic and engineering investigations. *(Revised by Res. 81- 99)*

6.2.11 Geologic Hazards Assessment in Coastal Hazard Areas

(LCP) Require a geologic hazards assessment or full geologic report for all new development activities within coastal hazard areas, including all development activity within 100-feet of a coastal bluff. Other technical reports may be required if significant potential hazards are identified by the hazards assessment. *(Revised by Res. 81-99)*

6.2.12 Setbacks from Coastal Bluffs

(LCP) All development activities, including those which are cantilevered, and non-habitable structures for which a building permit is required, shall be set back a minimum of 25 feet from base of structure foundation to the top edge of the bluff. A setback greater than 25 feet may be required based on conditions on and adjoining the site. The setback shall be sufficient to provide a stable building site over the 100-year lifetime of the structure, as determined through geologic and/or soil engineering reports. The determination of the minimum 100 year setback shall be based on the existing site conditions and shall not take into consideration the effect of any proposed shoreline or coastal bluff protection measures. *(Revised by Res. 81-99)*

6.2.13 Exception for Foundation Replacement and/or Upgrade

(LCP) Foundation replacement and/or foundation upgrades that meet the definition of development activity shall meet the 25-foot minimum and 100-year stability setback requirements. An exception to those requirements may be granted for existing structures that are located partly or wholly within the setback if the Planning Director determines that:

1) the area of the structure that is within the setback does not exceed ~~25%~~ 50% of the area of the structure, OR

2) the structure cannot be relocated to meet the setback due to inadequate parcel size. (Revised by Res. 81-99)

6.2.14 Additions to Existing Structures

(LCP) Additions, including second story and cantilevered additions, shall comply with the setback requirements of 6.2.12. *(Revised by Res. 81-99)*

6.2.15 New Development on Existing Lots of Record

(LCP) Allow development activities in areas subject to storm wave inundation or beach or bluff erosion on existing lots of record, within existing developed neighborhoods, under the following circumstances:

a) A technical report (including a geologic hazards assessment, engineering geology report and/or soil engineering report) demonstrates that the potential hazard can be mitigated over the

100-year lifetime of the structure. Mitigations can include, but are not limited to, building setbacks, elevation of the structure, and foundation design;

b) Mitigation of the potential hazard is not dependent on shoreline or coastal bluff protection structures, except on lots where both adjacent parcels are already similarly protected; and

c) The owner ~~records~~ files a Declaration of Geologic Hazards ~~on the property deed~~ with the permit application that describes the potential hazard and the level of geologic and/or geotechnical investigation conducted. *(Revised by Res. 81-99)*

6.2.16 Structural Shoreline Protection Measures

(LCP) Limit structural shoreline protection measures to structures which protect existing structures from a significant threat, vacant lots which through lack of protection threaten adjacent developed lots, public works, public beaches, or coastal dependent uses.

Require any application for shoreline protection measures to include a thorough analysis of all reasonable alternatives, including but not limited to, relocation or partial removal of the threatened structure, protection of the upper bluff or area immediately adjacent to the threatened structure, engineered shoreline protection such as beach nourishment, revetments, or vertical walls. Permit structural protection measures only if non-structural measures (e.g. building relocation or change in design) are infeasible from an engineering standpoint or not economically viable.

The protection structure must not significantly reduce or restrict public beach access, adversely affect shoreline processes and sand supply, increase erosion on adjacent properties, or cause harmful impacts on wildlife and fish habitats or archaeological or paleontological resources.

The protection structure must be placed as close as possible to the development requiring protection and must be designed to minimize adverse impacts to recreation and to minimize visual intrusion.

Shoreline protection structures shall be designed to meet approved engineering standards for the site as determined through the environmental review process.

~~Detailed~~ Technical studies shall be required to accurately define oceanographic conditions affecting the site. All shoreline protective structures shall incorporate permanent survey monuments for future use in establishing a survey monument network along the coast for use in monitoring seaward encroachment or slumping of revetments or erosion trends.

No approval shall be given for shoreline protective structures that do not include permanent Monitoring and Maintenance programs. Such programs shall include a report to the County every ~~five~~ ten years or less, as determined by a qualified professional, after construction of the structure, detailing the condition of the structure and listing any recommended maintenance work. Maintenance programs shall be recorded and shall allow for County removal or repair of a shoreline protective structure, at the owner's expense, if its condition creates a public ~~nuisance~~ safety hazard ~~or if necessary to protect the public health and safety~~. *(Revised by Res. 81-99)*

6.2.17 Prohibit New Building Sites in Coastal Hazard Areas

(LCP) Do not allow the creation of new building sites, lots, or parcels in areas subject to coastal hazards, or in the area necessary to ensure a stable building site for the minimum 100-year lifetime, or where development would require the construction of public facilities or utility transmission lines within coastal hazard areas or in the area necessary to ensure a stable building site for the minimum 100-year lifetime.

6.2.18 Public Services in Coastal Hazard Areas

(LCP) Prohibit utility facilities and service transmission systems in coastal hazard areas unless they are necessary to serve existing residences. *(Revised by Res. 81-99)*

6.2.18.l Density Calculations

(LCP) Exclude areas subject to coastal inundation, as defined by geologic hazard assessment or full geologic report, from use for density calculations. *(Added by Res. 81-99)*

6.2.19 Drainage and Landscape Plans

(LCP) Require drainage and landscape plans recognizing potential hazards on and off site to be approved by the County Geologist prior to the approval of development in the coastal hazard areas. Require that approved drainage and landscape development not contribute to offsite impacts and that the defined storm drain system or Best Management Practices be utilized where feasible. The applicant shall be responsible for the costs of repairing and/or restoring any off-site impacts.

6.2.20 Reconstruction of Damaged Structures on Coastal Bluffs

(LCP) Permit reconstruction of structures on or at the top of a coastal bluff which are damaged as a result of coastal hazards, including slope instability and seismically induced landslides, or are damaged by non-coastal related hazards (fire, etc.) and where the loss is less than ~~50~~ 75 percent of the value, in accordance with the recommendations of the hazards assessment. Encourage relocation to a new footprint provided that the new location is landward of the previous site at the best possible site not affecting resources (e.g. the most landward location, or landward of the area necessary to ensure a stable building site for the minimum 100-year lifetime, or not necessitating a future shoreline protective structure).

When structures located on or at the top of a coastal bluff are damaged as a result of coastal hazards, including slope instability and seismically induced landslides, and where the loss is greater than ~~50~~ 75 percent of the value, permit reconstruction if all applicable regulations can be met, including minimum setbacks. If the minimum setback cannot be met, allow only in-kind reconstruction, and only if the hazard can be mitigated to provide stability over a 100-yearperiod.

For structures damaged by other than coastal hazards, where the loss is greater than ~~50~~ 75% of the value, allow in-kind reconstruction, subject to all regulations except for the minimum setback. Allow other than in-kind reconstruction only if the minimum setback is met.

Exemption: Public beach facilities and replacements consistent with Coastal Act Policy 3061O(g). *(Revised by Res. 81-99)*

6.2.21 Reconstruction of Damaged Structures due to Storm Wave Inundation

(LCP) Permit reconstruction of individual structures located in areas subject to storm wave inundation, which are damaged as a result of coastal hazards, and loss is less than 50 percent of the value, in accordance with recommendations from the geologic hazards assessment and other technical reports, as well as with policy 6.2.16.

When structures located in areas subject to storm wave inundation are damaged as a result of coastal hazards and the loss is greater than ~~50~~ 75 percent of the value, permit reconstruction if all applicable regulations can be met. If the minimum setback cannot be met, allow only in-kind reconstruction, and only if the hazard can be mitigated to provide stability of the shoreline protection over a 100 year period.

For structures damaged greater than ~~50~~ 75 percent of the value by other than coastal hazards (such as fire or earthquakes or other natural disasters), allow in- kind reconstruction which meets all regulations except for the coastal bluff setback. Allow other than in-kind reconstruction only if the minimum setback is met.

Exceptions: Public beach facilities and replacements consistent with Coastal Act Policy 3061O(g). *(Revised by Res. 81-99)*

Programs

(LCP) a. Relocate if feasible, essential public facilities such as ser lines to locations outside of coastal hazard areas when they are due for expansion or replacement. (Responsibility: Public Works)

b. Zone areas subject to coastal erosion, inundation, and potential bluff failure to the Geologic Hazards Combining district. (Responsibility: Planning Department)

(LCP) c. Develop and implement a program to correct existing erosion problems along coastal bluffs ,. caused by public drainage facilities. (Responsibility: Public Works)

d. Review existing coastal protection structures to evaluate the presence of adverse impacts such as pollution problems, loss of recreational beach area, and fish kills and implement feasible corrective actions. (Responsibility: Environmental Health, Planning Department)

(LCP) e. Support, encourage, and seek funding from FEMA and other appropriate agencies for the initiation of a review of all shoreline protective structures to evaluate their effectiveness and potential for becoming public hazards. Shoreline protective structures can become public hazards, for example, if they are in such a state of disrepair that portions have fallen or are in imminent danger of falling onto beaches. Where it is determined that such structures are public hazards or where they provide ineffective protection due to inadequate maintenance, consider notifying the property owner and requiring the property owner to either maintain the structure to a reasonable level or remove and replace the structure within ~~one~~ two year of the notice. Consider County action to maintain or remove and replace the structure and recover costs by a lien against the property if the property owner does not act within one year of such notice. (Responsibility: Planning Department, Board of Supervisors)

(LCP) f. Support, encourage, seek funding, and cooperate with the Coastal Conservancy, Coastal Commission, State Lands Commission, and the Corps of Engineers for the establishment and maintenance of a permanent survey monument monitoring network along the coast. Utilize existing monuments set by Caltrans, other public agencies, geologic consultants, and others to the greatest degree possible. Incorporate the use of these monuments into all future planning for shoreline protective structures. Provide geo-reference (latitude and longtitude) for each monument and structure. (Responsibility: Planning Department, Public Works)

Section 3: Below are the proposed General Plan definitions of the terms, development activities and new development. Note this proposal would change the percent number in the definition of development activities from 65 percent to 50 percent. The definition of new development would be modified to be consistent with the definition of development activity and FEMA regulations that apply in flood hazard areas (beaches).

Development Activity

(LCP) Any project that includes activity in any of the following categories is considered to be development activity:

(1) The construction or placement of any habitable structure, including a i.nanufactured home and including a non-residential structure occupied by property owners, employees and/or the public;

(2) Modification, reconstruction or replacement of ~~50 (fifty)~~ 75 (seventy-five) percent of the major structural components -- consisting of the foundation, floor framing, exterior wall framing, and roof framing
-- of an existing habitable structure or critical structure or facility within any consecutive five-year period whether the work is done at one time or as the sum of multiple projects. For the purpose of this section, the following are not considered major structural components: exterior siding; non-structural door and window replacement; roofing material; decks; chimneys; and interior elements including but not limited to interior walls and sheetrock, insulation, kitchen and bathroom fixtures, mechanical, electrical and plumbing fixtures. The extent of alterations to major structural components will be calculated in accordance with administrative guidelines adopted by resolution of the Board of Supervisors;

(3) The addition of habitable square footage to any structure, where the addition increases the habitable square footage by more than fifty (50) percent or 500 square feet, whichever is greater, over the existing habitable space within a consecutive five-year period. This allows a total increase of up to fifty (50) percent of the original habitable space of a structure, whether the additions are constructed at one time or as the sum of multiple additions over a consecutive five-year period;

(4) An addition of any size to a structure that is located on a coastal bluff, dune, or in the coastal hazard area, that extends the structure in a seaward direction;

(5) A division of land or the creation of one or more new building sites, except where a land division is accomplished by the acquisition of such land by a public agency for public recreational use;

(6) Any change of use from non-habitable to habitable, according to the definition of "habitable" found in Section 16.10.040, or a change of use from any non-critical structure to a critical structure;

(7) Any repair, alteration, reconstruction, replacement or addition affecting any structure that meets either of the following criteria:

(a) Posted "Limited Entry" or "Unsafe to Occupy" due to geologic hazards, or
(b) Located on a site associated with slope stability concerns, such as sites affected by existing or potential debris flows;

(8) Grading activities of any scale in the 100-year flood plain or the coastal hazard area, and any grading activity which requires a grading permit pursuant to Chapter 16.20;

(9) Construction of roads, utilities, or other facilities;

(10) Retaining walls which require a building permit, retaining walls that function as a part of a landslide repair whether or not they require a building permit, sea walls, rip-rap erosion protection or retaining structures, and gabion baskets;

(11) Installation of a septic system;

(12) Any human made change to developed or undeveloped real estate in the Special Flood Hazard Area, including but not limited to buildings or other structures, mining, dredging, filling grading, paving, excavation, drilling operations, or storage of equipment or materials. This is in addition to any activity listed in items 1**- 11;**

(13) Any other project that is defined as development under Section 13.20.040, and that will increase the number of people exposed to geologic hazards, or that is located within a mapped geologic hazard area, or that may create or exacerbate an existing geologic hazard, shall be determined by the Planning Director to constitute development for the purposes of geologic review. *(Resolution No. 52-2012)*

New Development
(LCP) Any development activity excluding:

(1) In flood hazard areas: reconstruction, demolition, alteration or improvement of any structure within any five-year period the cost of which is less than ~~50 (fifty)~~ 75 (seventy-five) percent of the existing structure' s fair market value.

(2) All other areas: modification, reconstruction or replacement of less than ~~50 (fifty)~~ 75 (seventy-five) percent of the major structural components of an existing habitable structure within any consecutive five- year period. (See Development Activity.)