

Staff Report to the Zoning Administrator

Application Number: 06-0083

Applicant: Dennis Norton Agenda Date: December 1st, 2006

Owner: Christine **Ann** Thompson Agenda Item #. 7

APN: 043-152-27 Time: After 10:00 a.m.

Project Description: Proposal to construct a 2-story single-family residence of about 4,728 square feet. Requires a Coastal Zone Permit and Variance to increase the maximum height from 17 feet to 22 feet to comply with flood elevation requirements.

Location: Project site is a vacant lot on the beach side of Beach Drive, past the private gate between 555 and 620 Beach Drive.

Supervisoral District: 2nd District (District Supervisor: Ellen Pine)

Permits Required Coastal Development Permit and Variance

Staff Recommendation:

- Certification that the proposal is exempt from further Environmental Review under le California Environmental Quality Act.
- Approval of Application 06-0083, based on the attached findings and conditions.

Exhibits

A.	Project plans		Geology Report prepared by Zinn
B.	Findings		Geology, dated 11/05 (report on file).
C.	Conditions	J.	Excerpt of Conclusions and
D.	Categorical Exemption (CEQA		Recommendations from Geotech.
	determination)		Report prepared by Haro, Kasunich,
E.	Assessor's parcel map		and Assoc., dated 7/17/06.
F.	Zoning and General Plan map	K.	Urban Designer's Comments
G.	Location Map	L.	Sketches of project
H.	Soils Report review letter, dated	M.	Printout of Discretionary Application
	10/17/06.		Comments, dated 10/30/06.
I.	Excerpt of Conclusions and	N.	Comments & Correspondence
	Recommendations from Engineering		

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Parcel Information

Parcel Size: 10,675 square feet (9,675 net after subtracting r.o.w.)

Existing Land **Use** • Parcel: Vacant

Existing Land Use - Surrounding: One to three story single-family dwellings, beach

Project Access: Beach Drive (a private road)

Planning Area: Aptos

Land Use Designation: R-UL (Urban Low Density Residential)

Zone District:

Coastal Zone:

Appealable to Calif. Coastal Comm.

RB (Ocean Beach Residential)

X Inside ___ Outside

X Yes ___ No

Environmental Information

Geologic Hazards: Coastal flood hazards (FEMA Flood Zone-V) and landslide hazards

Soils: Beach Sand

Fire Hazard: Not a mapped constraint Slopes: Flat (about 2%) at project site

Env. Sen. Habitat: Not mapped/no physical evidence on site

Grading: No grading proposed

Tree Removal: No trees proposed to be removed

Scenic: Coastal Scenic
Drainage: Retained on site

Archeology: Not mapped/no physical evidence on site

Services Information

Urban/Rural Services Line: X Inside Outside
Water Supply: Soquel Creek Water District

Sewage Disposal: Santa Cruz County Sanitation District

Fire District: Aptos/La Selva Fire District

Drainage District: Zone 6

History

The project site is an undeveloped lot on the beach side of Beach Drive. The only previously issued permit was for the repair and maintenance of the existing seawall and rip-rap issued in **1983.**

Project Setting

The property lies on the beach side of Beach Drive and is within the appealable area between the first through road and the beach of urban coastal zone. The site is undeveloped, but is bounded by development on three sides, and is therefore considered infill development. The lot is essentially level at the building site with an approximately 5 foot high seawall separating the site from the open beach. A five foot wide access easement exists immediately downcoast of the project site, intended for use by other Beach Drive residents.

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The site is located in the FEMA flood zone-V due to coastal flood hazards from wave run-up, requiring the elevation of structures above the base flood elevation of 21 feet above mean sea level. These flood elevation requirements conflict with the current height requirements of the RB zone district, which limit the maximum height of structures to only 17 feet in height, requiring all new construction to obtain a variance to the height requirement. Most houses on the beach side of Beach Drive were constructed prior to the implementation of FEMA flood elevation requirements and are one-story, including houses on either side of the project site. If and when the existing one-story houses are re-constructed or replaced, they will also be required to comply with FEMA flood elevation requirements and will be two stones like the current proposal.

	RB Zone District Standard	Proposed
Front yard setback	10'	24' 9″
Side yard setbacks	0' & 5'	0'&5'
Rear yard setback	10'	About 102'
Maximum height	17' on beach side	22'*
Maximum % lot coverage	40%	28.4%
Maximum % Floor Area Ratio	50%	50%

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General Plan and Local Coastal Program Issues

The General Plan Designation for this parcel is Urban Low Residential (R-UL), a designation that encourages residential uses. The RB zone district implements this General Plan/Local Coastal Program land use designation.

The property is located within a mapped scenic area. The purpose of General Plan Objective 5.10b New Development within Visual Resource Areas is to "ensure that new development is appropriately designed and constructed to have minimal to no adverse impact upon identified visual resources". General Plan/LCP policies 5.10.2 and 5.10.3 require that development in scenic areas be evaluated against the context of their environment, utilize natural materials, blend with the area and integrate with the landform and that significant public vistas be protected from inappropriate structure design. Moreover, General Plan/LCP policy 5.10.7 allows structures, which would be visible from a public beach, where compatible with existing development. In this case, the subject lot is located within a row of developed residential beach properties, and is consistent with General Plan policies for residential infill development. The proposed dwelling will integrate with the built environment along Beach Drive by incorporating earth tone colors and wood siding. The height of the dwelling is proposed at 22 feet, more than the 17-footheight limit for the RB zone district on the beach, but of a comparable height to the recently constructed dwelling at 531 Beach Drive. Other houses will be required to comply with the FEMA flood elevation requirements, and replacement structures will be of a similar height to the proposed residence.

General Plan/LCP policies 8.6.5 and 8.6.6 require that development be complementary with the natural environment and that the colors and materials chosen blend with the natural landforms. The residence is proposed to use wood siding, and sand color plaster. These colors and materials will blend with the surrounding environment and neighborhood.

General Plan policy 6.2.10 requires all development to be sited and designed to avoid or minimize hazards as determined by geologic or engineering investigations. Due to the location of the parcel, potential hazards cannot be avoided and therefore must be mitigated. General Plan policy 6.2.15 allows for new development on existing lots of record in areas subject to storm wave inundation or beach or coastal bluff erosion within existing developed neighborhoods where a technical report demonstrates that the potential hazards *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, friction pier or deep caisson foundation; and where mitigation of the potential hazard is not dependent on shoreline protection structures except on lots where both adjacent parcels are already similarly protected; and where a deed restriction indicating the potential hazards on the site and level of prior investigation conducted is recorded on the property deed with the County Recorder. Coastal hazards are mitigated in part by an existing seawall, which extends for the entire length of the private section of Beach Drive. The project design further incorporates flood elevation and break-away walls, which are expected to provide protection from landslide hazards and flooding during 100-yearstorm events within the 100-year life span of the structure. The project is located on the beach side of the property, which is subject to less significant landslide hazards than locating directly at the base of the coastalbluff. This location is consistent with both General Plan policies for public health and safety and with coastal development policies in that is infill with houses already located on both sides of the property and does not extend the built environment on any undeveloped stretch of beach.

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Variance Issues

Due to the location of the parcel on a beach and to the FEMA flood elevation requirements, it is impossible to construct a dwelling meeting the RB zone district height and one-story limits. As discussed above, the expected 100-yearwave impact height is 21 feet above mean sea level (msl). The lowest habitable floor of the proposed dwelling is elevated above 21 feet msl to prevent the habitable portions of the dwelling from flooding due to a 100-year storm surge. Existing grade is 14 feet msl at the Beach Drive right-of-way and slopes down to about 12 feet msl at the rear of the lot near the seawall. Thus, the lower, uninhabitable story must be at least 10 feet high at the rear of the lot. Since the minimum floor to ceiling height required by the Uniform Building Code and Santa Cruz County Code is 7.5 feet, the lower floor meets the definition of a story and a habitable floor cannot be constructed that would meet the 17-foot height for the structure. The height is further increased to accommodate plumbing and duct works placed above the ceiling to prevent flood damage to this infrastructure. The proposed second story ceiling height ranges from 9 to 10 feet in height. Any new residence on a beach side RB zoned lot would need Variances to the height and one-story requirements in order to meet FEMA flood elevation requirements. Due to the FEMA flood elevation requirements unique to this property's location on a beach and subject to coastal inundation, the strict application of the 17-foot height and one-story requirements would deprive the property owner of privileges enjoyed by other properties in the area, specifically a single family dwelling on a legal, residentially zoned, parcel of record.

Design Review

The site is located within a sensitive site **as** defined in the Design Review Ordinance (Chapter 13.11) due to its location on an open beach, and therefore, is subject to Design Review. The proposed single family dwelling has been designed to be compatible with the existing development in the area. The architecture along this section of Beach Drive **is** generally boxy, one to three story designs, using wood siding or stucco exterior finishes. Most homes have rear yard decks and large expanses of windows facing the beach. These homes predate the FEMA flood regulations and many predate zoning regulations. Nearly all **of** the homes in the neighborhood have flat roofs. **As** proposed, the exterior of the home will be use wood siding and sand colored stucco. **This** color and material scheme is appropriate to the neighborhood. In general, the proposed colors and materials reflect those of the newer homes in this neighborhood, and the color will harmonize with the surrounding development and natural environment. The proposed structure is appropriately sized to the size of the parcel given the flood elevation constraints. The design has been reviewed by the County Urban Designer and has received a positive design review, as it is compatible with the goals of the County's Design Review regulations (Exhibit K).

Conclusion

As proposed and conditioned, the project is consistent with all applicable codes and policies of the Zoning Ordinance and General Plan/LCP. Please see Exhibit "B" ("Findings") for a complete listing of findings and evidence related to the above discussion.

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Staff Recommendation

• Certification that the proposal is exempt from further Environmental Review under the California Environmental Quality Act.

• APPROVAL of Application Number **06-0083**, based on the attached findings and conditions.

Supplementary reports and information referred to in this report are on file and available for viewing at the Santa Cruz County Planning Department, and are hereby made a part of the administrative record for the proposed project.

The County Code and General Plan, as well as hearing agendas and additional information are available online at: www.co.santa-cruz.ca.us

Report Prepared By: David Keyon

Santa Cruz County Planning Department

701 Ocean Street, 4th Floor Santa Cruz CA 95060

Phone **Number:** (831) 454-3561

E-mail: david.keyon@co.santa-cruz.ca.us

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Coastal Development Permit Findings

1. That the project is a use allowed in one of the basic zone districts, other than the Special Use (SU) district, listed in section 13.10.170(d) as consistent with the General Plan and Local Coastal Program LUP designation.

This finding can be made, in that a single-family dwelling is a principal permitted use in the "RB" (Single Family Residential Beach) zone district according to a density of one dwelling per parcel and one dwelling is proposed. The "RB" zone district is consistent with the General Plan and Local Coastal Program land use designation of Urban Low Residential.

2. That the project does not conflict with any existing easement or development restrictions such as public access, utility, or open space easements.

This finding can be made, in that the parcel is not governed by an open space easement or similar land **use** contract. The Beach Drive right-of-way crosses the front of the subject parcel, but will not be blocked. The project will not conflict with the existing right-of-way in that all dwelling **needs** the required setbacks. The proposed dwelling will not affect public access, as public access is available just outside of the Beach Drive gate, and the development will not encroachinto the five foot access adjacent to the project site maintained for use by Beach Drive residents.

3. That the project is consistent with the design criteria and special use standards and conditions of this chapter pursuant to section 13.20.130 et seq.

This finding can be made, in that the single-family dwelling is consistent with the design criteria and special use standards and conditions of County Code Section 13.20.130et seg. for development in the coastal zone. Specifically, the structure follows the natural topography, proposing minimal grading, is visually compatible with the character of the surrounding urban residential neighborhood, and includes mitigations for the geologic and coastal hazards which may occur within its' expected 100 year lifespan (landslides, seismic events and coastal inundation). The project is not on a ridgeline, and does not obstruct any public views to the shoreline. There are no existing special landscape features on the site. The design and siting of the proposed residence, as conditioned, will minimize impacts on the site and the surroundingneighborhood. The building will have an exterior finish of that is earth-tone in coloration, blending with existing residences and the surrounding environment. The architecture is complementary to the existing pattern of development and will blend with the built environment. The structure is flood elevated, two stories and will not exceed 22 feet in height. This height is consistent with the existing older development while conforming to flood elevation requirements. While located on the beach side of the parcel, the proposed dwelling is located between two existing dwellings and, therefore, does not extend development into a currently undeveloped area of the beach.

4. That the project conforms with the public access, recreation, and visitor-serving policies, standards and maps of the General Plan and Local Coastal Program land use plan, specifically Chapter 2: **figure** 2.5 and Chapter 7, and, **as** to any development between and nearest public road and the sea or the shoreline of any body of water located within the coastal zone, such development is in conformity with the public access and public

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recreation policies of Chapter 3 of the Coastal Act commencing with section 30200.

This finding can be made, in that the public access to the beach is located northwest of the parcel on Beach Drive at the State Parks parking lot located before the gate for the private section of Beach Drive. The proposed dwelling will not interfere with public access to the beach, ocean, or any nearby body of water, as it will not encroach into any existing coastal access easements, including the **5** foot easement immediately adjacent to the site for use by Beach Drive residents. The project site is not identified as a priority acquisition site in the County Local Coastal Program, and is not designated for public recreation or visitor serving facilities.

5. That the proposed development is in conformity with the certified local coastal program.

This finding can be made, in that a single family dwelling is a principal permitted use in the RB (Single Family Residential) zone district, with the issuance of a coastal zone permit. General Plan policy 6.2.10 requires all development to be sited and designed to avoid or minimize hazards as determined by geologicor engineering investigations. Any structure placed in proximity to the cliff face would be vulnerable to damage or destruction from the expected landsliding, requiring extraordinary engineering and structural design measures to mitigate these hazards. Sufficient distance between the base of the bluff and the proposed residence exists to result in significantly lower debris volumes and velocity at the building site. General Plan policy 6.2.15 allows for development on existing lots of record in areas subject to storm wave inundation or beach or bluff erosion within existing developed neighborhoods and where technical reports demonstrate that the potential hazards 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, friction pier or deep caisson foundation; and where mitigation of the potential hazard is not dependent on shoreline protection structures except on lots where both adjacent parcels are already similarly protected; and where a deed restriction indicating the potential hazards on the site and level of prior investigation conducted is recorded on the property deed with the County Recorder. A Geologic report and a geotechnical report have been prepared for this project evaluating the hazards and mitigations (Exhibit I and J). These reports have been reviewed and accepted by the County Geologist (Exhibit H). The proposed structure will be engineered to withstand landslide impacts on the structural elements of the lower floor. The lower floor will utilize materials, which will function as breakaway walls in a storm surge or landslide event. There is an existing seawall on the subject parcel, which extends to the parcels on either side and for the entire length of the private section of Beach Drive. The dwelling will be elevated with no habitable portions under 21 feet above mean sea level, in accordance with **FEMA**, the County General Plan policies and Chapter 16.10 of the County Code for development within the 100-year wave hazard or V-zone. Thus, the proposed development is consistent with this General Plan policy.

General Plan/LCP policy 5.10.7 allows structures, which would be visible from a public beach, where compatible with existing development. The subject lot is located within a row of developed residential beach properties. As discussed above, the proposed beach building site minimizes potential geologic hazards. This location is consistent with coastal design and viewshed protection policies, in that the beach site is located between existing structures and does not extend the built environment into an undisturbed stretch of beach. Thus, the project is also consistent with General Plan policies for residential infill development. The proposed dwelling will integrate with the built

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environment along Beach Drive. The height of the dwelling will be 22 feet, which exceeds the 17-foot height limit for the RB zone district on the beach. However, as discussed in the Variance Findings, it is not possible to construct a single family dwelling at this site meeting both the zone district height and story requirements and the FEMA flood elevation requirements. The height, as conditioned, is consistent with most of the existing two-story beach residences, including the recently constructed home of a similar design at **531** Beach Drive (approved under Coastal Development Permit and Variance 01-0022). General Plan/LCP policies 8.6.5 and 8.6.6 require that development be complementary with the natural environment, which the proposal does by using colors and materials chosen blend with the natural landforms.

Development Permit Findings

1. That the proposed location of the project and the conditions under which it would be operated or maintained will not be detrimental to the health, safety, or welfare of persons residing or working in the neighborhood or the general public, and will not result in inefficient or wasteful use of energy, and will not be materially injurious to properties or improvements in the vicinity.

This finding can be made, in that the proposed project complies with all development regulation applicable to the site with the exception of the maximum height (17 feet) and maximum number of stories (1), for which Variances are being sought. Geologic and geotechnical reports have been completed for **this** project analyzing coastal flood and landslide hazards and recommending measures to mitigate them. The habitable portions of the dwelling will be constructed above 21 feet mean sea level (msl), which is the expected height of wave inundation predicted for a 100-year storm event. The lower story will utilize break-away doors to minimize structural damage from wave action and landslide debris impacts.

Construction will comply with prevailing building technology, the Uniform Building Code, and the County Building ordinance, the geologic and soils engineering reports and recommendations to insure the optimum in safety and the conservation of energy and resources. **An** engineered foundation is required in order to anchor the dwelling in the event of a landslide impact, to found the structure in an appropriate substrate and withstand seismic shaking. Adherence to the recommendations of the soils engineer and geologist in the house design and construction will provide an acceptable margin of safety for the occupants of the proposed home.

2. That the proposed location of the project and the conditions under which it would be operated or maintained will be consistent with all pertinent County ordinances and the purpose of the zone district in which the site is located.

This finding can be made, in that the proposed dwelling and the conditions under which it would be operated or maintained will be consistent with all pertinent County ordinances and the purpose of the RB zone district, in that the project will result in the construction of one single-family dwelling. The project will comply with all RB zone district site standards, with the exception of the one-story limitation and the 17 foot height limit, for which Variance findings can be made. As conditioned, the

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dwelling will be constructed subject to an acceptable level of risk for public health and safety, and will allow adequate light, air and open space to adjacent neighbors. The design of the proposed single-family dwelling is consistent with that of the surrounding neighborhood, and is sited and designed to be visually compatible and integrated with the character of surroundingneighborhoods, and by that meets the intent of County Code Section 13.10.130, "Design Criteria for Coastal Zone Developments" and Chapter 13.11 "Site, Architectural and Landscape Design Review." Homes in the area range from one to three-stories, with a wood or stucco exteriors, large expanses of windows and mostly flat roofs. The proposed colors and materials and architecture will harmonize and blend with the other homes in this neighborhood. Thus, the design of the proposed single-family dwelling is consistent with that of the surrounding neighborhood. As discussed in Development Permit Finding #1, geologic and soils reports have been prepared evaluating the coastal hazards and the landslide and coastal flooding hazards will be mitigated in accordance with the regulations set forth in Chapter 16.10 (Geologic Hazards) of the County Code. As discussed in the Coastal Findings, the project is consistent with the County's Coastal Regulations (Chapter 13.20).

3. That the proposed use is consistent with all elements of the County General Plan and with any specific plan which has been adopted for the area.

This finding *can* be made, in that all General Plan/LCP policies have been met in the proposed location of the project, the hazard mitigations, and the required conditions of this permit, as addressed in *Coastal* Development Permit Finding 5, above. The design of the single-family dwelling is consistent with that of the surrounding neighborhood, and is sited and designed to be visually compatible and integrated with the character of surroundingneighborhoods and to minimize exposure to geologic hazards. The dwelling will not block public vistas to the public beach. Although the dwelling is visible from the public beach, it is infill development that will blend with the built environment.

There is no specific plan for this area of Rio del Mar/Aptos.

4. That the proposed use will not overload utilities and will not generate more than the acceptable level of traffic on the streets in the vicinity,

This finding can be made, in that there will be minimal increase in traffic and utility usage, as the project is one single-family dwelling in an urbanized neighborhood with adequate utilities and a road network capable of accommodating the slight increase in traffic from one additional unit. The dwelling will have four bedrooms and adequate off-street parking will be provided.

5. That the proposed project will complement and harmonize with the existing and proposed land uses in the vicinity and will be compatible with the physical design aspects, land use intensities, and dwelling unit densities of the neighborhood.

This finding can be made, in that the proposed project will result in a home of a similar size and mass to other homes in the neighborhood, and will be sited and designed to be visually compatible and integrated with the character of the surrounding neighborhood along the beach. While the bulk,

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mass, and scale of the residence will be greater than adjacent one-story homes on the beach, it will be similar to homes on the bluff side of Beach Drive and the recently constructed home at 531 Beach Drive, which was designed to comply with FEMA flood elevation requirements.

6. The proposed development project is consistent with the Design Standards and Guidelines (sections 13.11.070 through 13.11.076), and any other applicable requirements of this chapter.

This finding can be made, in that The proposed house is consistent with the Design Standards and Guidelines of the County Code in that the proposed dwelling complies with the required development standards with the exception of the 17-footheight and one-storyrequirement for which Variances are being sought. Special circumstances exist which warrant these exceptions due to FEMA flood elevation requirements that apply to the entire neighborhood. The *primary* elements of the project design, contemporary styling and subdued, natural colors, a flat roof, and two story design with a 22-foot maximum height are compatible with the surrounding development along this section of Beach Drive.

Variance Findings

1. That because of special circumstances applicable to the property, including size, shape, topography, location, and surrounding existing structures, the strict application of the Zoning Ordinance deprives such property of privileges enjoyed by other property in the vicinity and under identical zoning classification.

This finding can be made, in that the building site is within the coastal flood hazard area. Due to coastal flood hazards and debris flows associated with the coastal bluff across Beach Drive, the structure must be elevated above the expected 100-year coastal inundation level of 21 feet above mean sea level in accordance with the regulations set forth by the Federal Emergency Management Agency (FEMA) and Chapter 16.10 (Geologic Hazards Ordinance) of the County Code. The lower floor area cannot be used as habitable space due to hazards associated with wave impact, flooding and landslides. Due to the elevation of the existing grade, the FEMA flood elevation requirements mean that the entire ground floor cannot function as a residence, and any habitable space must be located on a second story. The zone district requirement allowing a maximum one-story dwelling would essentially preclude a residential use on this lot. The majority of homes in this area pre-date the FEMA and County flood regulations and are not flood elevated. All replacement dwellings or improvements to existing structure which constitute substantial improvement will be required to flood elevate, which for parcels along the beach will necessitate variances to height and one-story requirements to construct any replacement dwellings.

2. That the granting of the variance will be in harmony with the general intent and purpose of zoning objectives and will not be materially detrimental to public health, safety, or welfare or injurious to property or improvements in the vicinity.

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This finding can be made, in that compliance with the recommendations and construction methods required by the geologic and geotechnical studies accepted by the Planning Department will insure that the granting of the variances to the height and maximum stories to construct the proposed single family dwelling shall not be materially detrimental to the public health, safety and welfare or be materially injurious to property or improvements in the vicinity. The residence is required to be elevated above 21 feet mean sea level with no habitable features on the ground floor and constructed with a break-away walls and garage doors. No mechanical, electrical or plumbing equipment shall be installed below the base flood elevation. The dwelling will be engineered to withstand debris impacts from landslides on the structural members of the lower floor. Furthermore, the proposed dwelling is an infill project located between existing residences and will not extend development into an undeveloped stretch of beach.

3. That the granting **of** such variances shall not constitute a grant of special privileges inconsistent with the limitations upon other properties in the vicinity and zone in which such is situated.

This finding can be made, in that recently approved and constructed homes on Beach Drive have all obtained variances to increase the maximum number of stories and, in the case of the new house at 531 Beach Drive (constructed under permit and variance 01-0022), to increase the maximum height limit. Any new residence on a beach side **RB** zoned lot would need Variances to the height and one-story requirements in order to meet FEMA flood elevation requirements. Due to the FEMA flood elevation requirements unique to **this** property's location on a beach and subject to coastal inundation, the strict application of the 17-footheight and one-story requirements would deprive the property owner of privileges enjoyed by other properties in the area, specifically a single family dwelling on lot of record.

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Conditions of Approval

Exhibit A: Project plans, 12 sheets, prepared by Dennis Norton, dated May 30,2006.

- I. This permit authorizes the construction of a single-family dwelling of up to 22 feet in height. Prior to exercising any rights granted by this permit including, without limitation, any construction or site disturbance, the applicant/owner shall:
 - **A.** Sign, date, and return to the Planning Department one copy of the approval to indicate acceptance and agreement with the conditions thereof.
 - B. Obtain a Building Permit from the Santa Cruz County Building Official.
- II. Prior to issuance of a Building Permit the applicant/owner shall:
 - A. Submit proof that these conditions have been recorded in the official records of the County of Santa Cruz (Office of the County Recorder).
 - B. Submit final architectural plans for review and approval by the Planning Department. Due to the unique requirements of the site, plans must be prepared by a California licensed Architect or Civil Engineer and shall be in substantial compliance with the plans marked Exhibit "A" on file with the Planning Department. Any changes from the approved Exhibit "A" for this development permit on the plans submitted for the Building Permit must be clearly called out and labeled by standard architectural methods to indicate such changes. Any changes that are not properly called out and labeled will not be authorized by any Building Permit that is issued for the proposed development. The final plans shall include the following additional information:
 - 1. Identify finish and color of exterior materials and roof covering for Planning Department approval, if different from the color board on file wit the Planning Department. Any color boards must be in 8.5" **x** 11" format.
 - 2. Please provide a complete drainage plan clearly presenting all relevant information in detail on one plan sheet. Applicant should provide drainage information to a level addressed in the "Drainage Guidelines for "Single Family Residences" provided by the Planning Department. The drainage plans shall also include the following information:
 - a. Provide a construction detail on the plans substantiating the permeability of the proposed pervious pavements.
 - b. Applicant is to provide revised calculations for the design of stormwater mitigation measures that follow County standards. New calculations must show how driveway areas not routed to mitigation facilities are otherwise compensated for in the design.

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- C Show topography for a minimum of 50 feet beyond the project work limits.
- d. Show complete assessment information for the upstream drainage area, the downstream **flow** path, and the full details of all drainage facilities, demonstrating present adequacy of *this* flow path and ability to receive alterations.
- e. **A** maintenance agreement regarding maintenance of the proposed stormwater facilities and the permeable paving.
- **f.** If no grading is proposed, please state this on the plans.
- g. Submit an erosion control plan indicating proposed methods for he control of runoff, erosion, and sediment movement. The erosion control plan shall address erosion both during and after construction.
- 3. Details showing compliance with fire department requirements.
- 4. An erosion control plan.
- 5. Note on the plans the extent of any grading on site. If over 100 cubic yards of grading is proposed, a grading permit will be required. If no grading is proposed, please note this on the plans.
- 6. A registered civil 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.
- 7. Final plans shall note that Soquel Creek Water District will provide water service and shall meet all requirements of the District including payment of any inspection fees. Final plans shall show the water connection and shall be reviewed and accepted by the District.
- Final plans shall conform with the conditions of the Soils and Geologic Reports Review dated October 17,2006 (Exhibit H).
- 9. The plans shall have details showing that any new electrical power, telephone, and cable television service connections shall be installed underground.
- 10. **A** site plan showing the location of all site improvements, including, but not limited to, points of ingress and egress, parking areas, sewer laterals and drainage improvements. **A** standard driveway and conform is required.

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- 11. Final landscape plan. **This** plan shall include the location, size, and species of all existing and proposed trees and plants within the front yard setback and shall meet the following criteria:
 - a. Plant Selection. At least 80 percent of the plant materials selected for non-turf areas (equivalent to 60 percent of the total landscaped area) shall be drought tolerant. Native plants are encouraged. Up to 20 percent of the plant materials in non-turf areas (equivalent to 15 percent of the total landscaped area), need not be drought tolerant, provided they are grouped together and can be irrigated separately.
 - b. Turf Limitation. Turf area shall not exceed 25 percent of the total landscaped area. Turf area shall be of low to moderate water-using varieties, such as tall fescue. Turf areas should not be used in areas less than 8 feet in width.
- **12.** Details showing compliance with the following FEMA and County flood regulations:
 - a. The lowest habitable floor and the top of the highest horizontal structural members (joist or beam) which provides support directly to the lowest habitable floor and elements that function as a part of the structure such as furnace or hot water heater, etc. shall be elevated above the 100-year wave inundation level. Elevation at this site is a minimum of 21 feet above mean sea level. The building plans must indicate the elevation of the lowest habitable floor area relative to mean sea level and native grade. Locations for furnaces, hot water heaters shall be shown.
 - b. Show that the foundations shall be anchored and the structures attached thereto to prevent flotation, collapse and lateral movement of the structure due to the forces to which they may be subjected during the base flood and wave action.
 - c. The garage doors and non-bearing walls shall function as breakaway walls. The garage doors and front wall shall be certified by a registered civil engineer **or** architect and meet the following conditions:
 - i. Breakaway wall collapse shall result from a water load less than that which would occur during the base flood, and
 - ii. The elevated portion of the building shall not incur any structural damage due to the effects of wind and water loads acting simultaneously in the event of a base flood.

- iii. Any walls on the ground floor not designated as breakaway shall be demonstrated to be needed for shear or structural support and approved by Environmental Planning.
- iv. Any walls on the ground floor not designated as breakaway shall be demonstrated to be needed for shear or structural support and approved by Environmental Planning.
- C. Submit four copies of the approved Discretionary Permit with the Conditions of Approval attached. The Conditions of Approval shall be recorded prior to submittal, if applicable.
- D. Meet all requirements of and pay Zone 6 drainage fees to the County Department of Public Works, Drainage. Drainage fees will be assessed on the net increase in impervious area.
- E. Meet all requirements and pay any applicable plan check fee of the Aptos/La Selva Fire Protection District.
- F. Submit 3 copies each of plan review letters from both the project Geotechnical Engineer and the project Engineering Geologist, confirming the building plans comply with the recommendations of the accepted reports.
- G. Pay the current fees for Parks and Child Care mitigation for four bedrooms. Currently, these fees are, respectively, \$1,000 and \$109 per bedroom.
- H. Pay the current fees for Roadside and Transportation improvements for one new unit. Currently, these fees total \$4,400 per unit.
- I. Provide required off-street parking for three cars. Parking spaces must be **8.5** feet wide by 18 feet long and must be located entirely outside vehicular rights-of way. Parking must be clearly designated on the plot plan.
- J. Submit a written statement signed by an authorized representative of the school district in which the project is located confirming payment in full of all applicable developer fees **and** other requirements lawfully imposed by the school district.
- K. Complete and record a Declaration of Geologic Hazards. **You** may not alter the **wording of this** declaration. Follow the instructions to record and return the form to the Planning Department.
- L. Submit plan review letters from both the project Geotechnical Engineer and the project Engineering Geologist stating the building plans are in conformance with the recommendations of the respective reports.

Application#: 06-0083 APN: 043-152-27

- III. Prior to Site Disturbance and during construction:
 - A. Erosion shall be controlled at all times. Erosion control measures shall be monitored, maintained and replaced as needed. No turbid runoff shall be allowed to leave the immediate construction site.
 - B. Dust suppression techniques shall be included as part of the construction plans and implemented during construction.
 - C. All foundation and retaining wall excavations shall be observed and approved in writing by the project soils engineer prior to foundation pour. A copy of the letter shall be kept on file with the Planning Department.
 - D. Prior to subfloor building inspection, compliance with the elevation requirement shall be certified by a registered professional engineer, architect or surveyor and submitted to the Environmental Planning section of the Planning Department. Construction shall comply with the FEMA flood elevation requirement of 21 feet above mean sea level for all habitable portions of the structure. Failure to submit the elevation certificate may be cause to issue a stop work notice for the project.
- IV. All construction shall be performed according to the approved plans for the Building Permit. Prior to final building inspection, the applicant/owner must meet the following conditions:
 - A. All site improvements shown on the final approved Building Permit plans shall be installed.
 - B. All inspections required by the building permit shall be completed to the satisfaction of the County Building Official.
 - C. The soils engineer/geologist shall submit a letter to the Planning Department verifying that all construction has been performed according to the recommendations of the accepted geologic and soils report. A copy of the letter shall be kept in the project file for future reference.
 - D. The project must comply with all recommendations of the approved soils and engineering geologic reports.
 - E. Pursuant to Sections 16.40.040 and 16.42.100 of the County Code, if at any time during site preparation, excavation, or other ground disturbance associated with this development, any artifact or other evidence of an historic archaeological resource or a Native American cultural site is discovered, the responsible persons shall immediately cease and desist from all further site excavation and notify the Sheriff-Coronerif the discovery contains human remains, or the Planning Director if the discovery contains no human remains. The procedures established in

Application#: 06-0083 APN: 043-152-27

Owner: Christine Ann Thompson

Sections 16.40.040 and 16.42.100, shall be observed.

V. Operational Conditions

- A. In the event that future County inspections of the subject property disclose noncompliance with any Conditions of this approval or any violation of the County Code, the owner shall pay to the County the full cost of such County inspections, including any follow-up inspections and/or necessary enforcement actions, up to and including permit revocation.
- VI. As a condition of this development approval, the holder of this development approval ("Development Approval Holder"), is required to defend, indemnify, and hold harmless the COUNTY, its officers, employees, and agents, from and against any claim (including attorneys' fees), against the COUNTY, it officers, employees, and agents to attack, set aside, void, or annul this development approval of the COUNTY or any subsequent amendment of this development approval which is requested by the Development Approval Holder.
 - A. COUNTY shall promptly notify the Development Approval Holder of any claim, action, or proceeding against which the COUNTY seeks to be defended, indemnified, or held harmless. COUNTY shall cooperate fully in such defense. If COUNTY fails to notify the Development Approval Holder within sixty (60) days of any such claim, action, or proceeding, or fails to cooperate fully in the defense thereof, the Development Approval Holder shall not thereafter be responsible to defend, indemnify, or hold harmless the COUNTY if such failure to notify or cooperate was significantly prejudicial to the Development Approval Holder.
 - B. Nothing contained herein shall prohibit the COUNTY from participating in the defense of any claim, action, **or** proceeding if both of the following occur:
 - 1. COUNTY bears its own attorney's fees and costs; and
 - 2. COUNTY defends the action in good faith.
 - C. <u>Settlement</u>. The Development Approval Holder shall not be required to pay or perform any settlement unless such Development Approval Holder has approved the settlement. When representing the County, the Development Approval Holder shall not enter into any stipulation **or** settlement modifying or affecting the interpretation or validity of any of the terms or conditions of the development approval without the prior written consent of the County.
 - **D.** <u>Successors Bound</u>. "Development Approval Holder" shall include the applicant and the successor'(s) in interest, transferee(s), and assign(s) of the applicant.

Application #: 06-0083 APN: 043-152-27

Owner: Christine Ann Thompson

Minor variations to this permit which do not affect the overall concept or density may be approved by the Planning Director at the request of the applicant or staff in accordance with Chapter 18.10 of the County Code.

Please note: This permit expires on the expiration date listed below unless you obtain the required permits and commence construction.

Approval Date:		-
Effective Date:		-
Expiration Date:		-
Don Bussey Deputy Zoning Administrator	David Project	Keyon Planner

Appeals: Any property owner, or other person aggrieved, or any other person whose interests are adversely affected by any act or determination of the **Zoning** Administrator, may appeal the act or determination to the Planning Commission in accordance with chapter 18.10 of the Santa Cruz County Code.

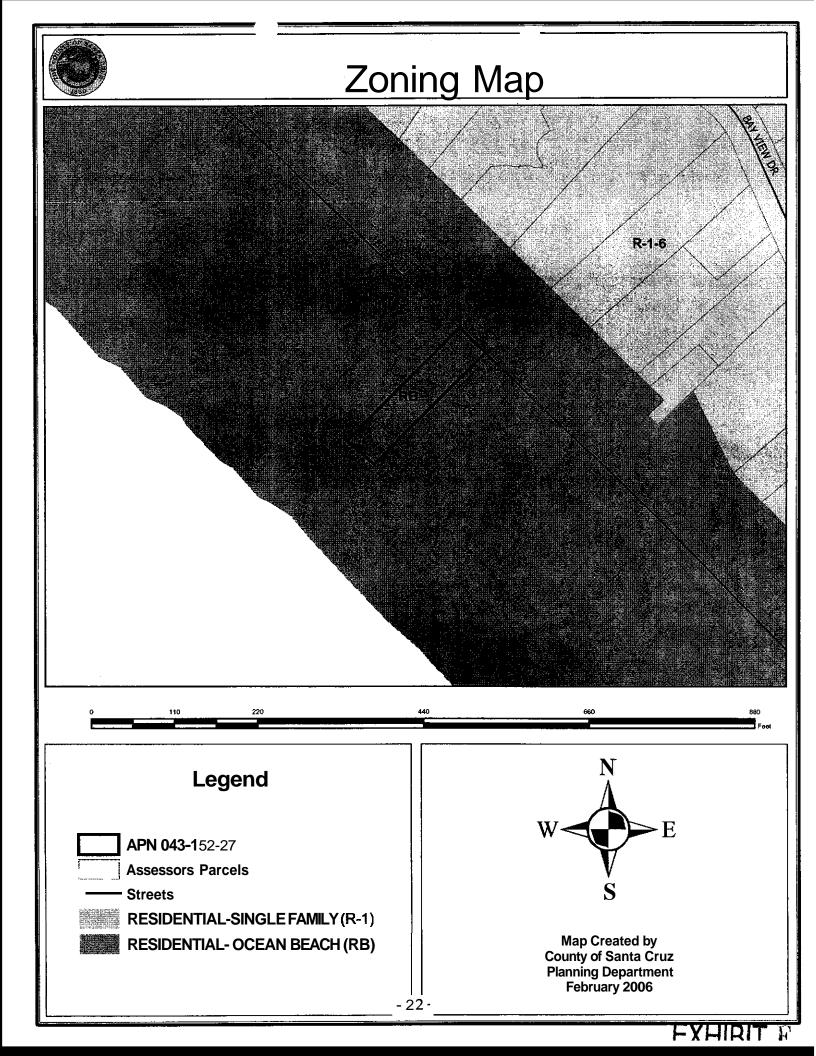
CALIFORNIA ENVIRONMENTAL QUALITY ACT NOTICE OF EXEMPTION

The Santa Cruz County Planning Department **has** reviewed the project described below and has determined that it is exempt from the provisions of CEQA as specified in Sections 15061 - 15332 of CEQA for the reason(s) which have been specified in this document.

Application Number: 06-0083

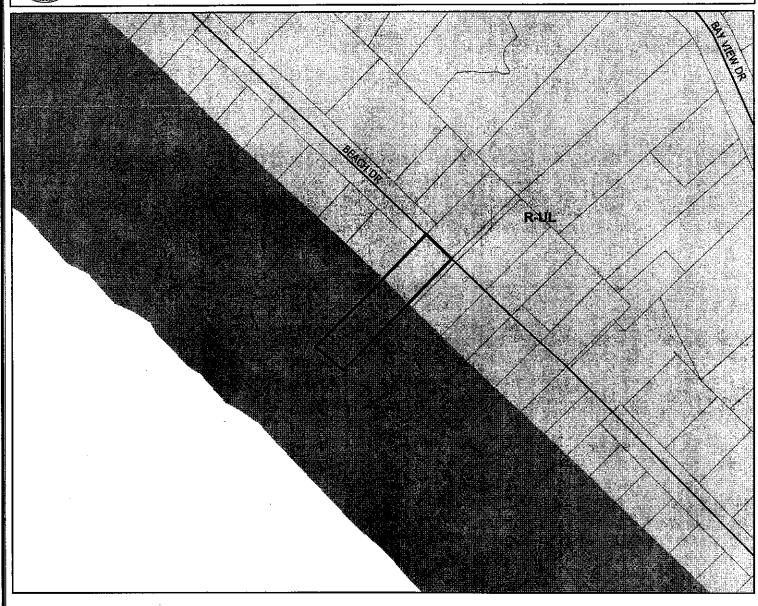
Assessor Parcel Number: 043-152-27

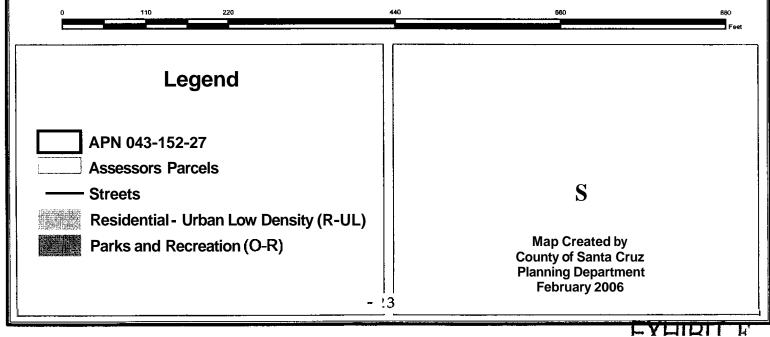
Project Locati	on: No Address				
Project Descr	ription: Construct a single-family dwelling				
Person or Agency Proposing Project: Dennis Norton					
Contact Phor	ne Number: (831) 476-2616				
A	The proposed activity is not a project under CEQA Guidelines Section 15378. The proposed activity is not subject to CEQA as specified under CEQA Guidelines Section 15060 (c).				
C	Ministerial Project involving only the use of fixed standards or objective measurements without personal judgment.				
D	<u>Statutory Exemption</u> other than a Ministerial Project (CEQA Guidelines Section 15260 to 15285).				
Specify type:					
EX_	<u>Categorical Exemption</u>				
Specify type:	Section 15303(a): Construction of one single-family dwelling				
F. Reaso	ns why the project is exempt:				
Construction	of one single-family dwelling exempt from CEQA				
In addition, no	one of the conditions described in Section 15300.2 apply to this project.				
	Date:				
David Keyon,	Project Planner				

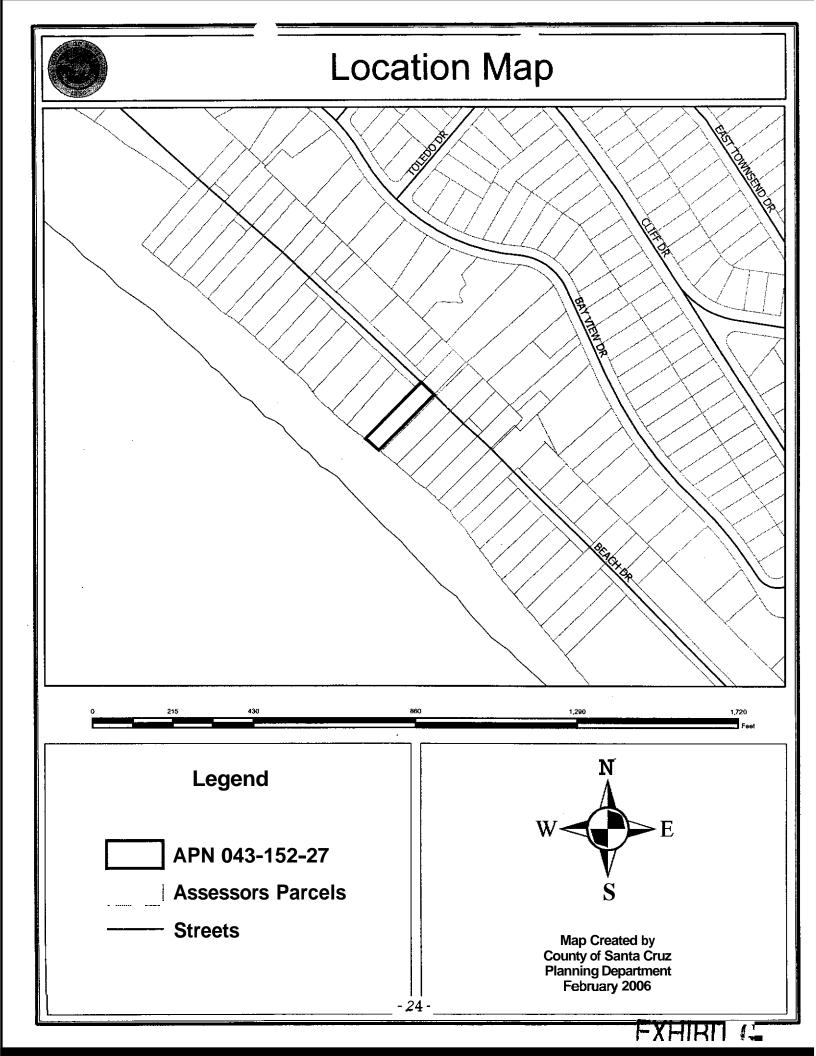




General Plan Designation Map









COUNTY OF SANTA CRUZ

PLANNING DEPARTMENT

701 OCEAN STREET, 4TH FLWR, SANTA CRUZ, CA 95060 (831) 454-2580 FAX: (831) 454-2131 TDD: (831) 454-2123 TOM BURNS, PLANNING DIRECTOR

October 17,2006

Dennis Norton 4315 Capitola Road Capitola, CA 95010

Subject: Review of Engineering Geology Report, Zinn and Associates, Dated November 6,

2005 and June 6,2006, Project Number 2005030-GSC: and Geotechnical Engineering Report, Haro, Kasunich and Associates dated July 17,2006, Project Number SC 8983

APN 043-252-27, Application 06-0083

Dear Applicant,

The purpose of this letter is to inform you that the Planning Department has accepted the subject reports and the following items shall be required:

- 1. All construction shall comply with the recommendations of the reports.
- 2 Final **plans** shall reference the reports and include a statement that the project **shall** conform to the reports' recommendations.
- 3. Before building permit issuance a *plan review letter* shall be submitted to Environmental Planning. The authors' of the reports shall write the *plan review letters*, *and in their letter* must state that the project plans conform to their report's recommendations.
- 4. The building must be designed to comply with all FEMA requirements, and the requirements of 16.10 of the County Code.
- 5. The applicant must agree to maintain the seawall so that it provides at least the same level of protection against coastal erosion that it currently provides.
- 6. The applicant must record the attached declaration of geologic hazards before the issuance of a building permit.

(over)

Review of Engineering Geology Report and Geotechnical Report

APN: 043-152-27, Application 06-0083

Page 2 of 5

After building permit issuance the geotechnical engineer and engineering geologist **must remain** *involved with the project* during construction. Please review the *Notice* to Permits *Holders* (attached).

Our acceptance of these reports is limited to its technical content. Other project issues such as zoning, fire safety, septic or sewer approval, etc. may require resolution by other agencies.

Please call the undersigned at (831)454-3175, e-mail: pln829@co.santa-cruz.ca.us if we can be of any further assistance.

Sincerely

Joseph L. Hanna CEG1313

County Geologist

Cc: David Keyon, Development Review

Zinn and Associates

Haro, Kasunich and Associates

Geology reportfor 618 Beach Drive Job #2005030-G-SC 6November 2005 Page 17

Liquefaction can lead to several types of ground failure, depending on slope conditions and the geologic and hydrologic setting (Seed, 1968; Youd, 1973; Tinsley et al, 1985). The four most common types of ground failure are: 1) lateral spreads, 2) flow failures, 3) ground oscillation and 4) loss of bearing strength. Sand boils (injections of fluidized sediment) commonly accompany these different types of ground failure and form sand volcanoes at the ground surface or convolute layering and sand dikes in subsurface sediment layers.

Dupré (1975) has mapped the beach sand deposits in the Beach Drive area as having a high potential for liquefaction. As noted in our Earth Materials section, the entire property is blanketed by a layer of beach sand that ranges between 25 and 26 feet thick. There will be times in the future when groundwater on the property will nearly be at the ground surface and, as noted in the Seismic Shaking section, the property will likely be subjected to at least one or more large magnitude earthquakes on one of the nearby fault zones. Additionally, a geological consultant report for some nearby Beach Drive properties (Foxx, Nielsen and Associates, 1999) documented some evidence of minor ground cracking (likely due to liquefaction and lateral spreading) occurring within the beach sand in this region during the 1989 Loma Prieta earthquake.

Based upon this qualitative analysis, we conclude that liquefaction and lateral spreading may occur during the lifetime of the proposed residence and will create a greater than ordinary risk if is not adequately mitigated. We hasten to add, however, that our analysis is qualitative in nature. If the project geotechnical engineer performs a more robust quantitative liquefaction analysis that concludes that liquefaction is not a potential hazard, we will defer to that conclusion.

CONCLUSIONS

Based on the information gathered and analyzed in the steps outlined above, it is our opinion that the proposed development area of the subject property is geologically suitable for the proposed construction of an existing single-family residence, and will be subject to "ordinary" risks as defined in Appendix B, provided our recommendations are followed. Appendix B should be reviewed in detail by the developer and all property owners to determine whether an "ordinary" risk as defined in the appendix is acceptable. If this level of risk is unacceptable to the developer and the property owners, then the geologic hazards in question should be mitigated to reduce the corresponding risks to an acceptable level.

The subject property lies on a slightly elevated fill pad, constructed landward from an existing seawall, set upon a broad beach. The development area is underlain by 25 to 26 feet of beach sand, which in turn overlies sandstone bedrock belonging to the Purisima Formation. A fluctuating piezometric surface, influenced by the incoming and outgoing tides, likely hovers at about mean sea level year round within the beach sand and Purisima Formation bedrock.

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Community Panel number 060353 0360 B portray the property as being within the limit of the floodway flood zone V-5. FEMA has calculated a coastal flood 100-yearbase flood elevation of +21.0 feet NGVD (above mean sea level) for this zone. Since the ground surface is no higher than about +15½ feet NGVD in the developable portions of the property, the risk to structures constructed at or near the existing grade due to coastal flooding is clearly greater than ordinary.

Geology reportfor 618 Beach Drive Job #2005030-G-SC 6 November 2005 Page 18

It is important to note that coastal flooding due to coastal wave run up will break away the walls on the lower story (below +21 feet NGVD) and will damage the contents therein.

Scouring due to coastal wave erosion poses a potential hazard and greater than ordinary risk to the proposed development, particularly considering the depth of the existing scour level (the contact between the beach sand and bedrock between about -12 and -12½ feet NGVD and the unknown design of the existing sea wall. If the sea wall, as well as the proposed foundation for the new residence are not designed to withstand that depth of scour, then the foundation elements will be undermined and will catastrophically collapse. It is also important to note that such an extreme scour depth will expose the foundation elements *to* battering by objects caught up in breaking waves such as logs.

The subject property is located in an area of high seismic activity and will be subject to strong seismic shaking in the future. Modified Mercalli Intensities of IX are possible. The controlling seismogenic source for the subject property is the Zayante-Vergeles fault, 6.6 kilometers to the northeast. The design earthquake on **this** fault should be a $M_{\rm w}$ 7.0. Expected duration of strong shaking for this event is about 16 seconds. Although it yields lower seismic shaking values, the expected duration of strong shaking for a $M_{\rm w}$ 7.9 earthquake on the San Andreas fault is about 38 seconds. Deterministic analysis for the site yields a mean peak ground acceleration of 0.56 g with an associated effective peak acceleration of **0.42**, and a **mean** peak ground acceleration plus one dispersion of 0.84 g.

It is our opinion that the proposed residence will be subject to a greater than ordinary **risk** related to the landsliding hazard (in the form of debris flows), in spite of the fact that the likelihood of occurrence of such an event is very remote. However, if the adequate mitigation measures for the coastal flooding hazard are pursued, the risk due to the landsliding hazard will be reduced to ordinary. It is important to note that if a debris flow does impact the proposed residence, and breaks away the walls of the lower story (below +21feet NGVD and the habitable portion of the structure), the contents of the ground floor may be damaged. Additionally, it is important to note that driveway and parking area will be inundated by the debris flow deposits if such an event occurs, which will damage or destroy any cars or items parked there.

Based upon ow qualitative analysis, we conclude that liquefaction and lateral spreading may occur during the lifetime **of** the proposed residence and will create a greater than ordinary risk if is not adequately mitigated. We hasten to add, however, that our analysis is qualitative in nature. If the project geotechnical engineer performs a more robust quantitative liquefaction analysis that concludes that liquefaction is not a potential hazard, we will defer to that conclusion.

RECOMMENDATIONS

1. A wave force analysis should be performed by the project geotechnical engineer for the subject property in order to evaluate the effect of coastal flooding on the proposed developments and the results should be used to establish design criteria for wave action.



Geology report for 618 Beach Drive Job #2005030-G-SC 6 November 2005 Page 19

- 2. Structural elements of the habitable portion of the proposed residence shall be placed above +21.0 feet NGVD, which is the base flood elevation for the 100-year flood as determined by FEMA (1986).
- 3. The structural elements below the habitable **portion** of the residence should be designed to withstand the impact of coastal waves, as well as the impact of battering objects caught up in the waves, such as large logs. The lower structural elements should also be designed for uplift forces from wave action in the event that sand accumulates under the residence.

The foundation should also be designed to resist the forces generated by liquefaction and lateral spreading, unless a more robust quantitative analysis by the project geotechnical engineer indicates that this is unnecessary. It may also turn out that designing the foundation and lower structural elements **for** the recommended coastal flooding and erosion hazards may result in a foundation that is also resistant to any forces that might be generated by liquefaction or lateral spreading. The project geotechnical engineer may want to consider simply demonstrating that the forces resulting from coastal waves and erosion are greater than the forces that might be generated by liquefaction and lateral spreading.

- 4. All structures for the proposed development should be designed for a scour depth of $-12\frac{1}{2}$ feet NGVD (below mean sea level), as portrayed upon Plate 2.
- 5. The project engineers and designer should review our seismic shaking parameters and choose a value appropriate for their particular analyses.
- 6. The owners or occupants of the residence should be prepared to accept the loss of all items stored on the ground floor and parked in the driveway, including vehicles. Additionally, they should be prepared to pay for replacement of the break-away walls on the lower story, since **our** analysis indicates that the property will be inundated by coastal waves and possibly by debris flows.
- 7. We recommend that our firm be provided the opportunity to review the final design and specifications in order that our recommendations may be properly interpreted and implemented in the design and specification. If our firm is not accorded the privilege of making the recommended review we can assume no responsibility for misinterpretation of our recommendations.
- 8. For further information about what you can do to protect yourself from earthquakes and their associated hazards, read *Peace of Mind in Earthquake Country*, by P. Yanev (1991).

INVESTIGATIVE LIMITATIONS

1. Or services consist of professional opinions and recommendations made in accordance with generally accepted engineering geology principles and practices. No warranty, expressed or implied including any implied warranty of merchantability or fitness for the

DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

The residential structure is to be supported by drilled piers embedded into undisturbed sandstone bedrock. The project engineering geologist has delineated the historic or design scour elevation within the proposed building envelope to be -12.5 feet NGVD. All soil materials/beach deposits atop the design scour line should be neglected in the determination of the pier foundation system bearing capacities.

The residence should be designed in conformance with guidelines outlined in the FEMA-2000 Coastal Construction Manual (CCM) - Publication Number 55.

The residential structure will be elevated above the FEMA Base Flood Elevation (BFE), 21 feet NGVD. We have developed wave impact pressures for the vertical structural elements and wave slam pressures for horizontal structural elements placed below the BFE.

To protect the adjacent structures from deflected flood waters and reduce the potential for localized scour around the project piers, the number of vertical piers and the volume of horizontal bracing below the BFE should be minimized. On grade parking can be facilitated by using a minimally reinforced concrete slab, supported directly on the soil present at the site. The slab on grade would be displaced during a design storm event, allowing flood waters to flow through the foundation system with minimal obstruction and

wave deflection. The parking platform is expected to be undermined, lost and replaced during the design life of the structure.

The seawall at the reference parcel was constructed in about 1983 and consists of vertical concrete panels with two horizontal tieback tendons per panel. It is our understanding the panels are about 18 feet high and that the panels were jetted into place. The seawall is dependent on the beach deposit backfill material to resist lateral wave forces. 'With a measured site historic scour elevation of -12.5 feet NGVD, the panels are founded in previously scoured soil materials. Also the seawall is not maintained by a FEMA recognized entity such as a County Service Area (CSA) or Geologic Hazards Assessment District (GHAD) and as such, cannot be utilized to assess the project design life.

Due to the existing seawall tieback configuration, the project structural engineer will need to situate the proposed drilled piers to avoid damaging the tieback tendons during pier drilling.

We recommend the worst case 100 year design scenario include failure of the seawall with the building envelope scoured down to the historic scour platform elevation of -12.5 feet NGVD.

We also recommend the structural elements be designed to mitigate the impact of wave borne, floating debris.

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If the recommendations in the geologic and geotechnical reports are closely followed and properly implemented during design and construction, and maintained for the lifetime of the proposed residence, then in our opinion, the occupants within the residence should not be subject to risks from geologic hazards beyond the Ordinary Risks Level, in the Scale of Acceptable Risks contained in the Appendix C of this report.

The following recommendations should be used as guidelines for preparing project plans and specifications:

Site Construction

1. The geotechnical engineers ould be notified <u>at least four (4) working days</u> prior to any pier excavation so that the work in the field can be coordinated with the drilling contractor, and arrangements for testing and observation can be made. The recommendations of this report are based on the assumption that the geotechnical engineer will perform the required testing and observation during grading and construction. It is the owner's responsibility to make the necessary arrangements for these required services.

Drilled Piers

2. The proposed residence should be supported by drilled piers, penetrating the beach deposits and embedded into the underlying Purisima formation sandstone/siltstone

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bedrock. Due to the existing tieback configuration, the project structural engineerwill need to site the proposed drilled piers to avoid damaging the tieback tendons during pierdrilling.

- 3. The drilled piers should be at least 24 inches in diameter and be embedded at least 8 feet below the historic scour line into undisturbed Purisima sandstone. Minimum pier bottom elevation should be -20.5 feet NGVD or lower.
- 4. At 8 feet embedment into undisturbed sandstone, an allowable vertical bearing capacity of 12.5 ksf may be used (Factor of Safety = 3) see Figures 10 and 11. This value may be increased by one third for short term seismic and wind loading (Factor of Safety = 2.25). The bottom of the pier excavations should **be** clear of debris. Due to the uncernented nature of the overlying beach sands and groundwater at +2 feet NGVD or higher, the pier excavations will need to be cased.
- 5. For passive resistance, all beach sand and the top 1 foot of Purisima sandstone should be neglected in pier design. From -1 to -4 feet into the Purisirna bedrock (-13.5 to -16.5 feet NGVD), a lateral passive resistance of 500 pcf (efw) times 2 pier diameters may be used. Below -4 feet (-16.5 feet NGVD) into the bedrock, a passive lateral resistance of 600 pcf (efw) times 3 pier diameters may be used for structural design.

6. To resist uplift forces, an allowable skin friction of 315 psf may be used from -1 feet to -4 feet into undisturbed Purisima sandstone (-13.5 to -16.5 feet NGVD). Below -4 feet (-12 feet NGVD) embedment into the Purisirna sandstone, an allowable skin friction of 475 psf may be used. All beach sand above the historic scour line and the top 1 foot of Purisirna sandstone should be neglected in design of uplift resistance

Wave Forces

- 7. The wave force at each pier location is based upon water depth at the toe of the structure, i.e. the depth below the Stillwater Line (elevation 7.5 feet NGVD) to the historic scour line below. We calculated the maximum lateral wave impact pressures on the proposed pier system using criteria outlined in the 2000 FEMA Coastal Construction Manual see Figure 12. We recommend a breaking wave force (F_{WL}) of 13.6 kips per foot of pier diameter acting at the Stillwater level of 7.5 feet NGVD or 20 feet above the scour line. For example, a 2 feet diameter pier should be designed for a lateral force of 27.2 **kips** acting at 7.5 feet NGVD.
- 8. To determine the forces imposed on the underside of the horizontal structural elements placed below the BFE, i.e. uplift pressures, we used the following technical notes from the U.S. Naval Civil Engineering Laboratory:
 - Uplift Pressures Under A Pier Deck From Water Waves dated December
 1964; and

2) Long Waves On A Sloping Beach And Wave Forces On A Pier Deck dated

September 1964.

All horizontal structure elements situated below the BFE should be designed to resist wave

slam (F_WV) caused by wave crests striking the underside of the horizontal structural

elements. An uplift pressure of 350 psf should be used for the structural design.

Lateral Spreading Active Force

9. The foundation system should be designed to withstand an active lateral force of 30 pcf

(efw) to accommodate any future lateral spreading of the beach sediments above the

historic sour line. The potential lateral spreading will extend from the historic scour line up

to elevation +2 feet NGVD. The lateral spreading would be associated with severe seismic

shaking, not simultaneously with design scour event and wave impact.

Dvnamic Loading - Waveborne Debris

10. During the design scour condition, the pier system supporting the residence may be

impacted by waveborne debris during its design life of 100 year. Impact loading is a

function of: the size, shape and weight of the object; the flood velocity; the velocity of the

object compared to the flood velocity; and the duration of impact.

The pier foundation should be design to withstand the impact of an object traveling at 12.7

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feet per second, weighting 1,000 pounds with a duration of impact determined by the Debris Impact Load Formula (11.9) from the 2000 FEMA Coastal Construction Manual see Figures 13 to 16. We also recommend the impact loading be applied at 7.5 feet NGVD. We have included the FEMA section for debris impact calculation in the Appendix of this report, see Figures 13-16. We have also included the FEMA reference for Flood Load Combinations, see Figure 17.

Parking Slab on Grade

As outlined in the included FEMA Coastal Construction Manual, Section 12.9.2, parking may be facilitated by use of a minimally reinforced slab, supported directly on the soil present at the site see Figures 18 to 20. To assure a consistent bearing surface, we recommend the slab subgrade soils be compacted to at least 95 percent relative compaction (ASTM Test Designation D1557-current).

Plan Review, Construction Observation, and Testing

11. Our firm should be provided the opportunity for a general review of the final project plans prior to construction so that our geotechnical recommendations may be properly interpreted and implemented. If our firm is not accorded the opportunity of making the recommended review, we can assume no responsibility for misinterpretation of our recommendations. We recommend that our office review the project plans prior to submittal to public agencies, to expedite project review. The recommendations presented

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Project No. SC8983 9 November 2005

in this report require our review of final plans and specifications prior to construction and upon our observation and, where necessary, testing of the earthwork and foundation excavations. Observation of grading and foundation excavations allows anticipated soil conditions to be correlated to those actually encountered in the field during construction.

COUNTY OF SANTA CRUZ

Planning Department

INTEROFFICE MEMO

APPLICATION NO: 06-0083

Date: October 17,2006

To: David Keyon, Project Planner

From: Larry Kasparowitz, Urban Designer

Re: Design Reviewfor a new residence at 618 Beach Drive, Aptos

GENERAL PLAN! ZONING CODE ISSUES

Design Review Authority

13.20.130 The Coastal Zone Design Criteria are applicable to any development requiring a Coastal Zone Approval.

Design Review Standards

13.20.130 Design criteria for coastal zone developments

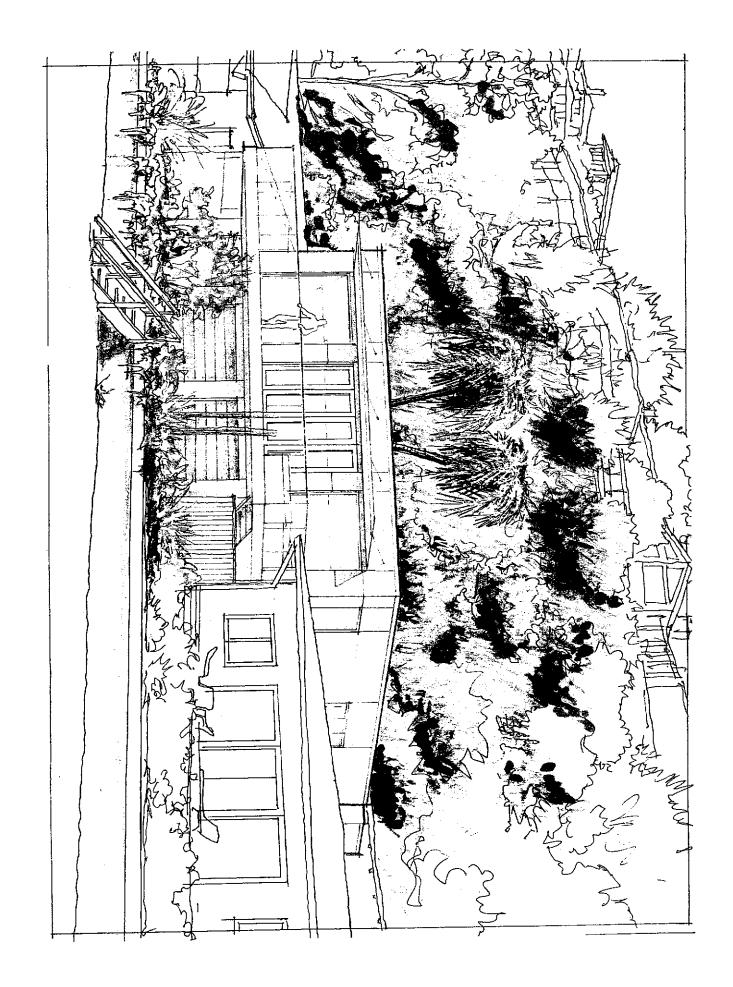
Evaluation Criteria	Meetswteria In code (✔)	Does not meet criteria (✓)	Urban Designer's Evaluation	
Visual Compatibility				
All new development shall be sited, designed and landscaped to be visually compatible and integrated with the character of surrounding neighborhoods or areas	~			
Grading, earth moving, and removal of major vegetation shall be minimized.	~			
maintain all mature tressover 6 inches in diameter except where circumstances require their removal, such as obstruction of the building site, dead or diseased trees, or nuisance species.			N/A	
Special landscape features (rock outcroppings, prominent natural landforms, tree groupings) shall be retained.			N/A	

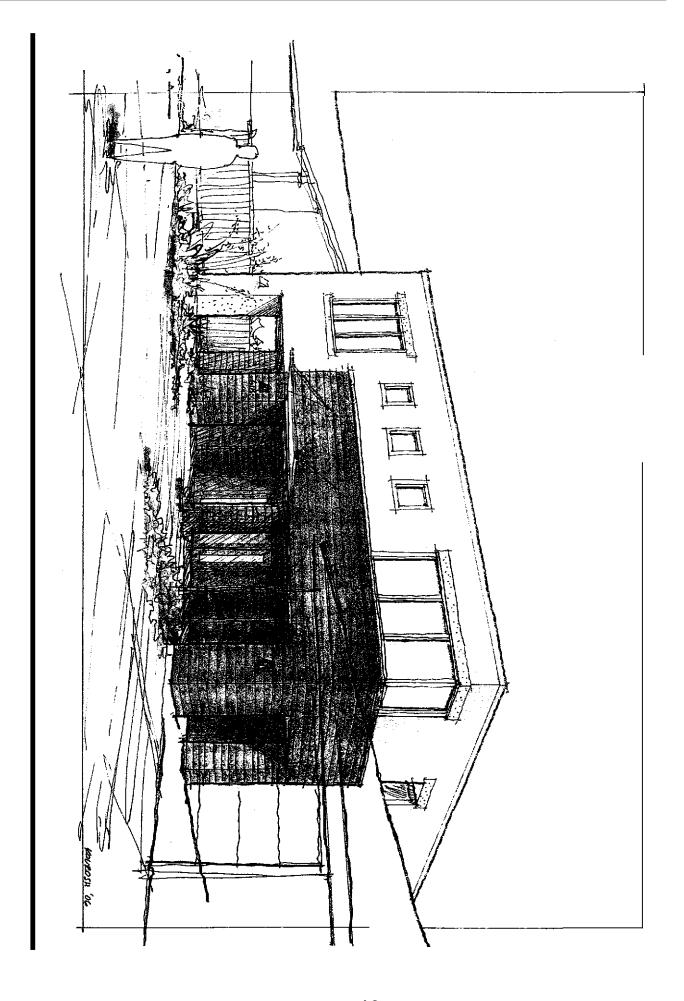
Structures located near ridges shall be		N/A
sited and designed not to project		TW/A
above the ridgeline or tree canopy at		
the ridgeline		
Land divisions which would create		NIA
parcels whose only building site would		INIA
be exposed on a ridgetop shall not be		
permitted		
permitted		
Landscaping	•	
New or replacement vegetation shall		
be compatible with surrounding	•	
vegetation and shall be suitable to the		
climate, soil, and ecological		
characteristics of the area		
		<u>'</u>
Development shall be located, if		NIA
possible, on parts of the site not visible		
or least visible from the public view.		
Development shall not block views of		N/A
the shoreline from scenic road		
turnouts, rest stops or vista points		
		N/A
designed to fit the physical setting		
carefully so that its presence is		
subordinate to the natural character of		
the site, maintaining the natural		
features (streams. major drainage,		
mature trees , dominant vegetative		
communities)	[
Screening and landscaping suitable to		NIA
		1 1
Structures shall be designed to fit the		N/A
topography of the site with minimal		
cutting, grading, orfiliing for		
construction		
Pitched, rather than flat roofs, which		NIA
are surfaced with non-reflective		
materials except for solar energy		
devices shall be encouraged		
ao vidos di idii so di loculagea		

Natural materials and colors which blend with the vegetative cover of the site shall be used, or if the structure is located in an existing duster of buildings. colors and materials shall repeat or harmonize with those in the duster		N/A
Large agricultural structures		
The visual impact of large agricultural structures shall be minimized by locating the structure within or near an existing group of buildings		N/A
The visual impact of large agricultural structures shall be minimized by using materials and colors which blend with the building duster or the natural vegetative cover of the site (except for		NIA
The visual impact of large agricultural structures shall be minimized by using		N/A
Feasible elimination or mitigation of unsightly, visually disruptive or degrading elements such as junk heaps, unnatural obstructions, grading scars, or structures incompatible with the area shall be included in site development		N/A
The requirement for restoration of visually blighted areas shall be in scale with the size of the proposed project		NIA
Signs		
Materials, scale , location and orientation of <i>signs</i> shall harmonize with surrounding elements		N/A
Directly lighted, brightly colored, rotating, reflective, blinking, flashing or moving signs are prohibited		N/A
Illumination of signs shall be permitted only for state and county directional and informational signs, except in designated commercial and visitor serving zone districts		N/A
In the Highway 1 viewshed, except within the Davent cnells only CALTRANS standard signs and ticark or 1 i jkt ticatics, shall it to be sible matherials and colors	•	N/A

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3each Viewsheds		
Blufftop development and landscaping		NIA
(e.g., decks, patios, structures. trees,		
shrubs, etc.) in rural areas shall be set		
back from the Muff edge a sufficient		
distance to be out of sight from the		
shoreline, or if infeasible, not visually		
inbusive		
No new permanent structures on open		N/A
beaches shall be allowed, except		
where permitted pursuant to Chapter		
16.10 (Geologic Hazards) or Chapter		
16.20 (Grading Regulations)		
The design of permitted structures		
shall minimize visual intrusion, and		
shall incorporate materials and		
finishes which harmonize with the		
character of the area. Natural		
materials are preferred		





COUNTY OF SANTA CRUZ DISCRETIONARY APPLICATION COMMENTS

Project Planner: David Keyon Date: October 30, 2006

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Environmental Planning Completeness Coments

A drainage plan prepared by a civil engineer is required prior to project completeness.

A conceptual strucutual plan prepared by a RCE or Arhitect is required prior to completeness and must conceptual compliance with the recommend- ation of the geotechnical engineer and engineering geology report. The project is a non conventional design and all plans for this type of construction must be prepared under the direction of an RCE or architect.

The geologist report indicates that groundwater level's were not measured, but the log's for the HKA borings indicate water levels. Please have the geologist clarify.

The geologist must at least comment on the potential for tsunamis to affect the site.

The existing tie-backs must be shown on the plan

The geologist states that the "project engineer and designer should review our seismic shaking parameters and choose a value appropriate for their particular analyses." I don't know what this recommendation means. The geologist must be much more active than this in their recommendations. ========= UPDATED ON JULY 6, 2006 BY ANDREA M KOCH ==========

Comnents from Joe Hanna 7-10-06:

- 1. The plan must show the location of all of the tiebacks to the exisiting seawall.
- 2. The drainage plan must be designed by a civil engineer.
- 3. The engineering geologist indicates that the site ground water conditions change with the tides and other factors. County staff has requests clarification concerning the ground water elevations and variation as these may influence site development, and the disposal of site drainage.
- 1) No completeness comments from the Resource Planner



Project Planner: David Keyon Date: October 30, 2006

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UPDATED ON JULY 19, 2006 BY JOSEPH L HANNA ======== 1. All project plans shall be designed under the direction of a civil engineer.

Environmental Planning Miscellaneous Comments

========	REVIEW ON	FEBRUARY 27,	2006 BY AN	IDREA M KOCH			
		of the engin					
		nd after the					
letters fro	m the eng	gineering ged	ologist and	geotechnical	l engineer	stating th	at the
final plans	s are in d	conformance w	ith the rec	ommendations	sin the r	espective r	eports.

- 2) Include existing topographic contours on the Drainage Plan
- 3) The lot is relatively flat. and the plans imply that no grading is to take place. If no grading is proposed, state this on the plans.
- 4) Submit an erosion control plan indicating proposed methods for the control of runoff, erosion, and sediment movement. For more information, call 454-3164, or go to:

http://www.sccoplanning.com/brochures/erosion.htm

The erosion control plan should address erosion control both during and after construction.

- 5) This site is located in a Coastal High Hazard Area. meaning that **it** is subject to high velocity waters. including tidal and coastal inundation. According to Section 16.10.070(h)(5.) of the County Code, the proposed development must meet the following criteria due to its location:
- elevation of all structures on pilings and columns so that the bottom of the lowest portion of the lowest structural member of the lower floor (excluding the pilings and columns) and elements that function as part of the structure, such as furnaces, hot water heaters, etc., are elevated to or above the base flood level.
- anchoring of the pile or column foundation and structure attached thereto to prevent floatation, collapse. and lateral movement due to the effects 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).
- A registered civil 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 previous two criteria.

Project Planner: David Keyon **Application No.:** 06-0083

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6) The space below the lowest floor shall either be free of obstruction or constructed with non-supporting 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.

A breakaway wall shall be of non-masonry construction and have a design safe loading resistance of not less than ten (10) and no more than twenty (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 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.

- 7) Note that in the Coastal High Hazard Area, the use of fill for structural support of buildings is prohibited. Also note that placement of fill must be minimized and shall not exceed 50 cubic yards. Fill shall only be allowed if it can be demonstrated that the fill will not have cumulative adverse impacts.
- 8) Sign, notarize, record, and submit a Declaration of Geologic Hazards to Environmental Planning. The Declaration shall include a description of the hazards on the parcel and the level of geologic and/or geotechnical investigation conducted. Call 454-3164 to obtain the Declaration of Geologic Hazards form.
- 9) Per Section 16.10.075, all new foundations for habitable structures located within designated coastal hazard areas shall be designed by an engineer licensed by the State of California to perform structural calculations on buildings.
- 10) Structures shall be constructed with materials and utility equipment resistant to flood damage.
- 11) Structures 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. ————— UPDĂTED ON FEBRUARY 27. 2006 BY ANDREA M KOCH ====== UPDATED ON JULY 6, 2006 BY ANDREA M KOCH ========

Dpw Drainage Completeness Comments

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LATEST COMMENTS HAVE NOT YET BEEN SENT TO PLANNER FOR THIS AGENCY

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The submitted drainage plan was reviewed for completeness and compliance with storm-water management controls provided by County policies listed above. The plan needs the following additional information and revisions prior to approving discretionary stage Stormwater Management review.

- 1) A drainage assessment by a licensed civil engineer will be required in conjunction with this infill development. The assessment must investigate the adequacy of existing common private drainage systems serving the local area. and determine if alternate drainage improvements are needed. Please contact your reviewer in advance to discuss the specific requirements of this issue. See miscellaneous comments for more discussion. See item 2 about site grades.
- 2) Site grades and surface drainage are inadequately shown. For the proposed elevations and grades. it is not possible to make use of the garage for parking and still construct the driveway sloping 1% towards the street. Because of restrictions on fill in a flood zone. it is presumed that the driveway will need to slope towards the beach and the home. This will require different drainage provisions than those proposed, including the ability to safely receive offsite runoff from the street. Please review and provide proposed topographic detail for the site that is clear and provides appropriate surface drainage.
- 3) The driveway area appears to occupy the entire frontage width of the parcel with minimal landscape area provided. It is unclear what surfacing is proposed in the backyard and along the west side of the home. If most of this area is proposed to be paved this would be an excessive amount of site pavement, and the pavement extents should be reduced or designed from porous materials. Please clearly indicate all surfacing materials and landscape areas.
- 4) The proposed percolation trenches appear feasible and appropriate in method. but the extent drawn on the plans (rear) is much more than the minimum noted on the plans. It is not clear what is actually being proposed. Calculations appear based on criteria (2 yr & 20 yr?) that are different than County requirements. and there were problems with completeness and legibility. The site is required to hold to predevelopment rates for a 10-year storm. How is mitigation provided for the driveway runoff shown sloped to the street? Please clarify the mitigation extents being proposed. ========= UPDATED ON JULY 7. 2006 BY DAVID W SIMS ========== Application is complete.

Prior item 1) Complete. Mid Coast Engineers has provided additional information on existing drainage infrastructure serving the surrounding neighborhood. Offsite improvements are not anticipated as needed.

Prior item 2) Complete. Provision of the site profile and additional spot elevations and drainage systems has clarified feasibility of proposed grading, structure elevations and layout.

Prior item 3) Complete. Applicant has more clearly identified surfaces. All yard paving is noted as permeable construction.

Prior item 4) Deferred for this stage of review. See miscellaneous comments for conditions required of the building application.

Project Planner: David Keyon Date: October 30, 2006 Time: 10:31:58

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See miscellaneous comments.

Dow Drainage Miscellaneous Coments

LATEST COMMENTS HAVE NOT YET BEEN SENT TO PLANNER FOR THIS AGENCY

======= REVIEW ON MARCH 9. 2006 BY DAVID W SIMS === Miscel 1aneous:

General Info: This parcel is positioned in a localized low point and presently receives an unknown amount of offsite drainage coming from the road frontage, and possibly significant runoff from the bluff face and lands above. It is noted that the 5 foot access easement along the east side of the parcel may offer one of the only effective routes for drainage improvements that serve the local area and do not interfere with buildings. It is not clear to what extent the existing private stormdrain along the road frontage effectively protects this parcel and neighboring development. In developing the parcel, the applicant currently proposes to block and divert receipt of any surface runoff by elevating the grade for the driveway. Additionally, new runoff from the parcel will then be redirected to the road. Complete assessment information is required for the upstream drainage area, the downstream flow path, and the full details of all drainage facilities, demonstrating present adequacy of this flow path and ability to receive alterations. If there are present inadequacies or the proposed development would create an inadequacy, other improvements may be required.

The Stormwater Management section does not recommend allowing storage space on the ground floor because of the assured flooding and destruction of this entire construction and the resulting water pollutant and debris risk from stored items,

Applicant should provide drainage information to a level addressed in the "Drainage Guidelines for Single Family Residences" provided by the Planning Department. This may be obtained online: http://www.sccoplanning.com/brochures/drain.htm

County policy requires topography be shown a minimum of 50 feet beyond the project work limits.

A recorded maintenance agreement may be required for certain stormwater facilities.

A drainage impact fee will be assessed on the net increase in impervious area. The fees are currently \$0.90 per square foot. and are assessed upon permit issuance. Reduced fees are assessed for semi-pervious surfacing to offset costs and encourage more extensive use of these materials.

Because this application is incomplete in addressing County requirements, resulting revisions and additions will necessitate further review comment and possibly different or additional requirements.

All resubmittals shall be made through the Planning Department. Materials left with Public Works may be returned by mail, with resulting delays.

Please call the Dept. of Public Works. Stormwater Management Section. from 8:00 am

Date: October 30. 2006 Time: 10:31:58 Project Planner: David Keyon Application No.: 06-0083 **APN:** 043-152-27 Page: 6 to 12:00 noon if you have questions. ———— UPDATED ON JULY 7, 2006 BY DAVID W Conditions and requirements of the building application. A) The plans remain substandard in their organization and presentation of drainage information. Please provide a complete drainage plan clearly presenting all relevant information in detail on one plan sheet. Applicant should provide drainage information to a level addressed in the "Drainage Guidelines for Single Family Residences" provided by the Planning Department. This may be obtained online: http://www.sccoplanning.com/brochures/drain.htm B) Application is approved on the conditions that permeable pavement surfaces are used in all yard areas as proposed and noted on the plans. Provide a construction detail on the plans substantiating the permeability of such pavements. C) There are still small grade errors with the proposal to slope the driveway 1% to the street. Either the driveway grade must be flatter or the building finished floor must be raised. Please review and clarify on the building plans and assure adequate control of street frontage drainage is provided. D) Current calculations contain inconsistencies, omissions, and do not follow County standards. Applicant is to provide revised calculations for the design of stormwater mitigation measures that follow County standards. New calculations must show how driveway areas not routed to mitigation facilities are otherwise compensated for in the design. New design criterial for retention design are now available from the Public Works survey section. Dpw Road Engineering Completeness Coments ====== REVIEW ON MARCH 9. 2006 BY TIM N NYUGEN ====== Minimum required surface for the proposed driveway shall be 4" Concrete over 4" sand. Please revise current proposal of 2" AB base on Sheet 3. The proposed concrete driveway limits shall be to the edge of easement only. From the edge of easement to the edge of pavement along Beach Drive shall be 3" AC over 6" AB. Dpw Road Engineering Miscellaneous Coments ------ REVIEW ON MARCH 9, 2006 BY TIM N NYUGEN -----NO COMMENT Aptos-La Selva Beach Fire Prot Dist Completeness C LATEST COMMENTS HAVE NOT YET BEEN SENT TO PLANNER FOR THIS AGENCY ====== REVIEW ON FEBRUARY 22. 2006 BY ERIN K STOW =======



All Fire Department building requirements and fees will be addressed in the Building

Plan check is based upon plans submitted to this office. Any changes or alterations

DEPARTMENT NAME: Aptos/La Selva Fire Dept. APPROVED

Permit phase.

Project Planner: David Keyon Application No.: 06-0083 APN: 043-152-27

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shall be re-submitted for review prior to construction.

Aptos-La Selva Beach Fire Prot Dist Miscellaneous

LATEST COMMENTS HAVE NOT YET BEEN SENT TO PLANNER FOR THIS AGENCY

====== REVIEW ON FEBRUARY 22, 2006 BY ERIN K STOW ======

NO COMMENT