Staff Report to the Zoning Administrator

Application Number: 06-0289

Applicant: Diedre Hamilton (for Hamilton-Swift Land Use)
Owner: Kennolyn Conference Center
APN: 043-105-06

Agenda Date: November 3, 2006
Agenda Item #: 2
Time: After 10:00 a.m.

Project Description: Proposal to recognize the removal of approximately 100 cubic yards of soil and vegetation debris and export off-site to a landfill. Requires a Coastal Development Permit and Grading Permit. (See Emergency Grading Permit #06-0289-E, issued 5/25/06).

Location: Project site located on the northeast side of Beach Drive (411 Beach Drive) approximately 0.5 miles southeast of the intersection with Rio Del Mar Boulevard.

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

Permits Required: Coastal Development Permit and Grading Permit

Staff Recommendation:

- Certification that the proposal is exempt from further Environmental Review under the California Environmental Quality Act.
- Approval of Application 06-0289, based on the attached findings and conditions.

Exhibits

A.	Site Plan & Geology Map	G.	Engineering Geologist letters, dated 1/30/06 and 4/19/06.
B.	Findings	H.	Printout of Discretionary Application Comments, dated 11/29/06.
C.	Conditions	I.	Comments & Correspondence
D.	Categorical Exemption (CEQA determination)		
E.	Assessor's parcel map		
F.	Zoning and General Plan map		

Parcel Information

Parcel Size:	About 6,000 square feet
Existing Land Use - Parcel:	Single-family dwelling
Existing Land Use - Surrounding:	Single-family dwellings
Project Access:	Beach Drive

Planning Area:	Aptos
Land Use Designation:	R-UL (Urban Low Density Residential)
Zone District:	R-1-8 (Single-family residential, 8,000 square foot minimum)
Coastal Zone:	X Inside __ Outside
Appealable to Calif. Coastal Comm.	X Yes __ No

Environmental Information

Geologic Hazards:	Landslide hazards
Soils:	Beach Sand
Fire Hazard:	Not a mapped constraint
Slopes:	70% plus (coastal bluff)
Env. Sen. Habitat:	Not mapped/no physical evidence on site
Grading:	About 100 cubic yards of landslide debris removal
Tree Removal:	No trees proposed to be removed
Scenic:	Coastal scenic
Drainage:	Existing drainage adequate
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 Protection District
Drainage District:	Zone 6

History

Heavy rain over the New Year's weekend in 2005/2006 resulted in landsliding on the bluffs above the subject property, residence was deemed "unsafe to occupy" on January 12,2006. On May 25,2006, an emergency grading permit was issued for the removal of landslide debris, resulting in the residence being deemed safe to occupy again on July 7,2006. This permit is a Coastal Development permit to recognize the grading required to remove the landslide debris.

Project Setting

The project site is located on the bluff above Beach Drive in Aptos, above the residence at 411 Beach Drive and below 422 and 426 Sea View Drive. The landslide occurred on the upper third of the bluff, between Beach Drive and Sea View Drive above.

The removal of the dirt from **a** coastal bluff requires a Coastal Permit, as it is not exempt under Section 13.10.077 of the County Code.

Zoning & General Plan/Local Coastal Program Consistency

The grading complies with General Plan policy 5.10.3 (Protection of Public Vistas) in that the removal of the subject landslide debris is not disruptive to the landform of the coastal bluff and is not detrimental to the aesthetic character of the bluff when viewed from the public beach. The amount of grading is relatively small and will not result in any visible scars that are readily visible to the casual observer. The removal of landslide debris is permitted under the County zoning ordinance, especially to preserve the health and safety of residents or the public at large.

Geologic Issues

The removal of the landslide debris was reviewed by Joe Hanna, the County Geologist, and approved per the Emergency Grading Permit 06-0289E. A Declaration of Geologic Hazards is currentlyrecorded on parcel 043-105-06 (411 Beach Drive), recorded on February 14,2006. This declaration specifically acknowledges the presence of landslide debris above the residence at 411 Beach Drive.

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.

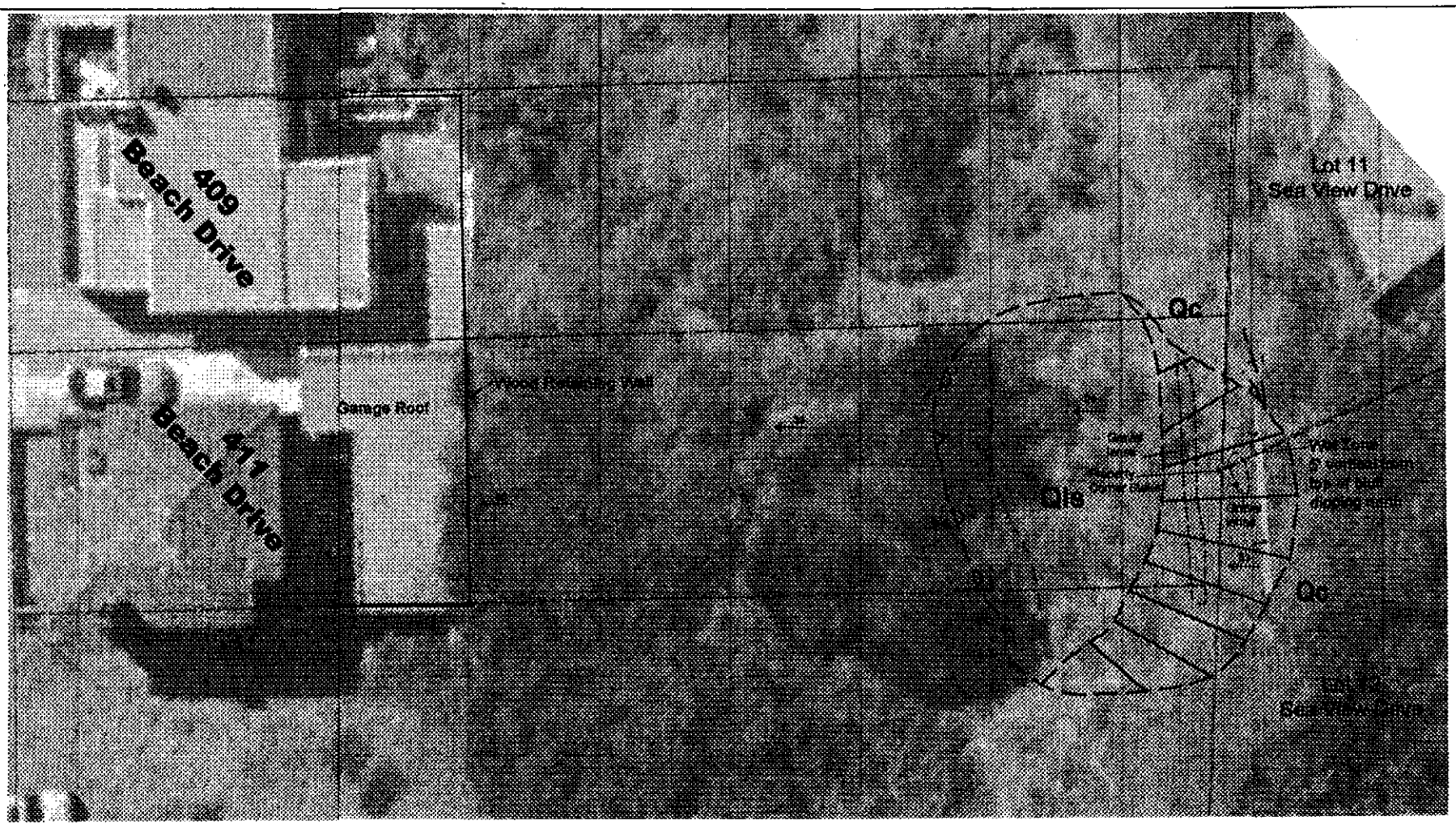
Staff Recommendation

- Certification that the proposal is exempt from further Environmental Review under the California Environmental Quality Act.
- **APPROVAL** of Application Number ***06-0289,*** 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



KEY

- Geologic Contact
- Property Line
- Break in slope
- Slope Direction- inclination in degrees

Landslide, scarp area hachured, arrow in direction of downslope movement, compressional toe with debris pushing over the original ground surface by a dash and semi-circle symbol, vertical heigth in Ft.

Geologic Units

- **Qc** Colluvium
- **Qls** Landslide Deposit

0 20 Feet

Approximate scale

Notes: 1. Standard tape and compass mapping techniques, feature locations are approximate.

2. Orthophoto Base by www.scco.org

SITE PLAN AND GEOLOGY MAP

411 Beach Drive
Aptos, CA

Date 05/4/2006	Project No. 91299.01	Figure 2

Gilpin Geosciences, Inc.
Earthquake & Engineering Geology Consultants

EXHIBIT

Application # 06-0289
APN: 043-105-06
Owner: Kennolyn Conference Center

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 grading, especially to protect an existing residential use on site, is a permitted activity within the zone district.

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 no easements or development restrictions exist on site.

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 removal of the landslide debris is not considered a structure, and the removal complies with Section 13.20.130(b)(2) in that the earthwork has been minimized to only include the landslide debris that threaten the residence at 41 1 Beach Drive.

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

This finding can be made, in that the grading does not interfere with any public access, as none exists across the bluff face at this location.

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

This finding can be made, in that the grading complies with General Plan policy 5.10.3 (Protection of Public Vistas) in that the removal of the subject landslide debris is not disruptive to the landform **of** the coastal bluff and is not detrimental to the aesthetic character of the bluff when viewed from the public beach. The amount of grading is relatively small and will not result in any visible scars that are readily visible to the casual observer.

EXHIBIT B

Application#: 06-0289
APN: 043-105-06
Owner: Kennolyn Conference Center

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 removal of the landslide debris is too protect the habitants of the residence of 411 Beach Drive and the public at large, and the removal has occurred in a manner acceptable to the County Geologist and the Engineering Geologist.

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 removal of the debris was conducted in a manner consistent with the County Code, as only the landslide debris were removed, minimizing disturbance to the bluff as a whole.

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.

See Coastal Development Permit Finding **5,** above.

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 dirt removal of the dirt did not generate a significant amount of vehicle traffic on Beach Drive.

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 removal of the landslide debris did not leave any visible scars, and the visual appearance of the bluff will remain the same as on neighboring properties.

EXHIBIT B

Application #: 06-0289
APN: **043-105-06**
Owner: Kennolyn Conference **Center**

Conditions of Approval

Exhibit A: Site plan and geology map, prepared by Gilpin Geosciences, Inc., dated May 4, 2006.

I. This permit recognizes the removal of about 100 cubic yards of landslide debris under emergency grading permit 06-0289E.

A. Sign, date, and return to the Planning Department one copy of the approval to indicate acceptance and agreement with the conditions thereof.

II. Operational Conditions

A. Recommendations for enhancing slope stability outlined in the letter from the project Engineering Geologist (Exhibit G) shall be implemented. These recommendations include:

1. Slope stability should be improved by re-vegetating with appropriate drought tolerant plants with a dense root system (such **as** lizard tail shrubs).
2. The hillside shall be covered with an erosion control mat with high strength, such as **North American** Green S150BN/SC150BN or comparable materials.
3. Permanent irrigation systems shall be avoided by use of drought tolerant species.

B. 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 fill cost of such County inspections, including any follow-up inspections and/or necessary enforcement actions, up to and including permit revocation.

III. 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.

EXHIBIT *C*

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. Settlement. 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. Successors Bound. "Development Approval Holder" shall include the applicant and the successor'(s) in interest, transferee(s), and assign(s) of the applicant.

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	David Keyon
Deputy Zoning Administrator	Project 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.

EXHIBIT C

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: 06-0289
Assessor Parcel Number: 043-105-06
Project Location: 411 Beach Drive

Project Description: Remove about 100 cubic yards of landslide debris on a coastal bluff

Person or Agency Proposing Project: Diedre Hamilton (for Hamilton-Swift Land Use)

Contact Phone Number: (831) 459-9992

A. _____ The proposed activity is not a project under CEQA Guidelines Section 15378.

B. _____ 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. _____ **Statutory Exemption** other than a Ministerial Project (CEQA Guidelines Section 15260 to 15285).

Specify type:

E. __X__ **Categorical Exemption**

Specify type:

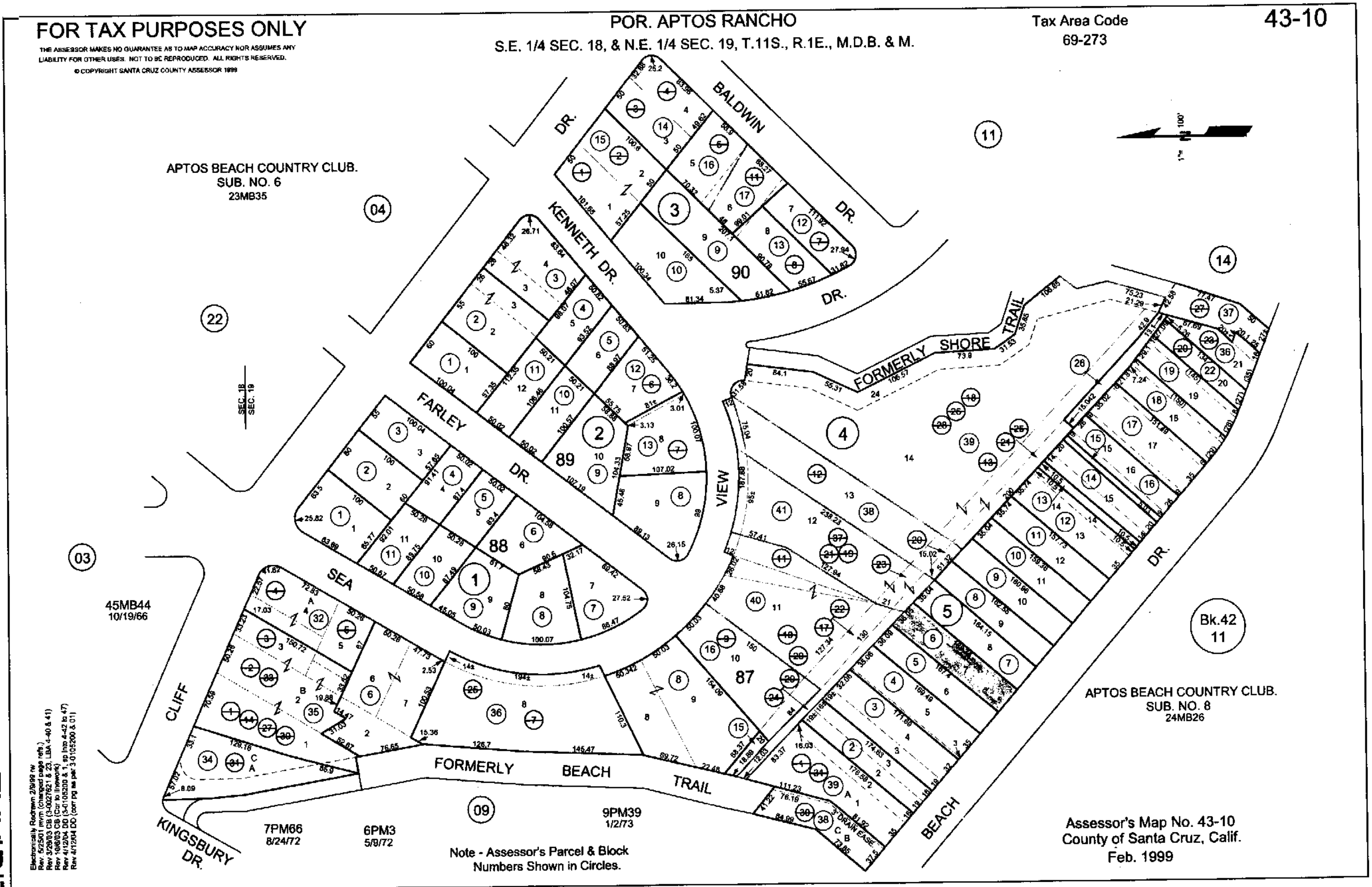
F. Reasons why the project is exempt:

In addition, none of the conditions described in Section 15300.2 apply to this project.

_____ Date: _____

David Keyon, Project Planner

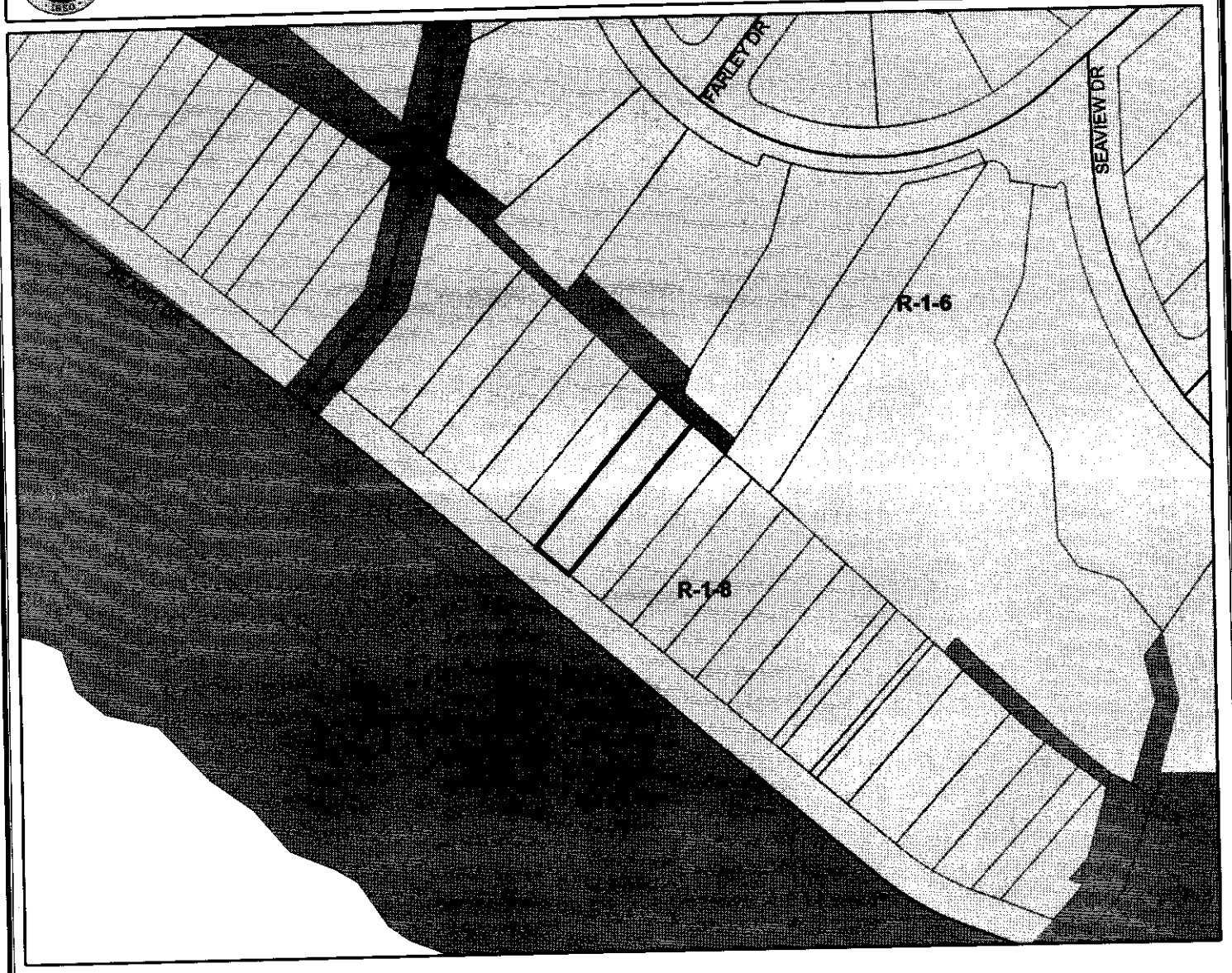
EXHIBIT D



FOR TAX PURPOSES ONLY
THE ASSESSOR MAKES NO GUARANTEE AS TO MAP ACCURACY NOR ASSUMES ANY LIABILITY FOR OTHER USES. NOT TO BE REPRODUCED. ALL RIGHTS RESERVED.
© COPYRIGHT SANTA CRUZ COUNTY ASSESSOR 1999
POR. APTOS RANCHO
S.E. 1/4 SEC. 18, & N.E. 1/4 SEC. 19, T.11S., R.1E., M.D.B. & M.
Tax Area Code
69-273
43-10
APTOS BEACH COUNTRY CLUB.
SUB. NO. 6
23MB35
APTOS BEACH COUNTRY CLUB.
SUB. NO. 8
24MB26
BALDWIN DR.
KENNETH DR.
FARLEY DR.
VIEW
SEA
CLIFF
FORMERLY SHORE TRAIL
FORMERLY BEACH TRAIL
BEACH DR.
KINGSBURY DR.
SEC. 18
SEC. 19
Bk.42
11
45MB44
10/19/66
7PM66
8/24/72
6PM3
5/9/72
9PM39
1/2/73
Note - Assessor's Parcel & Block Numbers Shown in Circles.
Assessor's Map No. 43-10
County of Santa Cruz, Calif.
Feb. 1999
Electronically Redrawn 2/9/99 rw
Rev. 5/25/01 mvm (changed page refs.)
Rev 3/28/03 CB (3-0027621 & 23, LBA 4-40 & 41)
Rev 10/6/03 CB (Cor to linework)
Rev 4/12/04 DD (3-0105200 & 1, sp Into 4-42 to 47)
Rev 4/12/04 DD (corr pg as per 3-0105200 & 01)

EXHIBIT E

Zoning Map



0 115 230 460 690 920 Feet

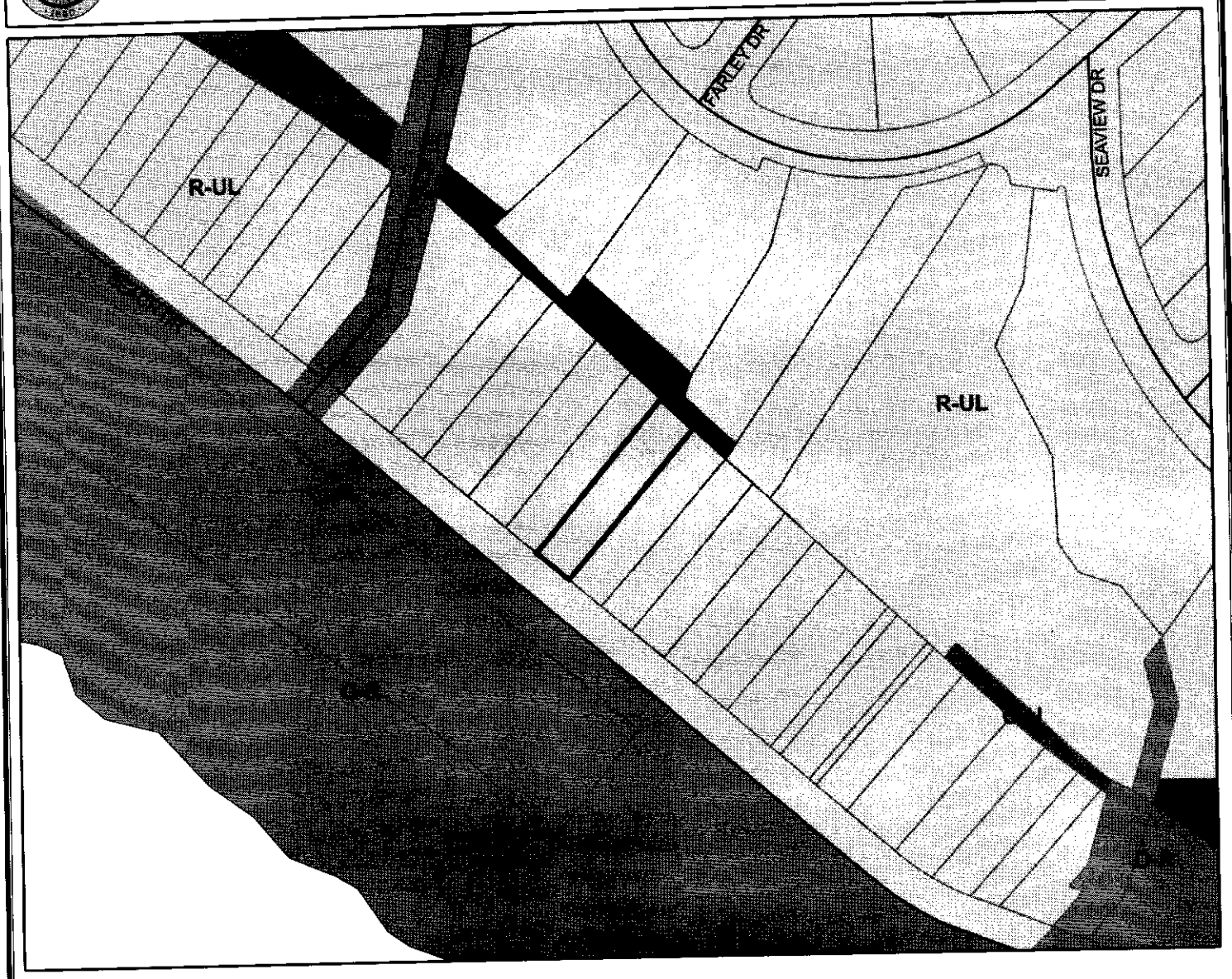
Legend

- APN 043-105-06
- Assessors Parcels
- Streets
- RESIDENTIAL-SINGLE FAMILY (R-1)
- PARK (PR)

N
W E
S

Map Created by
County of Santa Cruz
Planning Department
May 2006

General Plan Designation Map



0 115 230 460 690 920 Feet

Legend

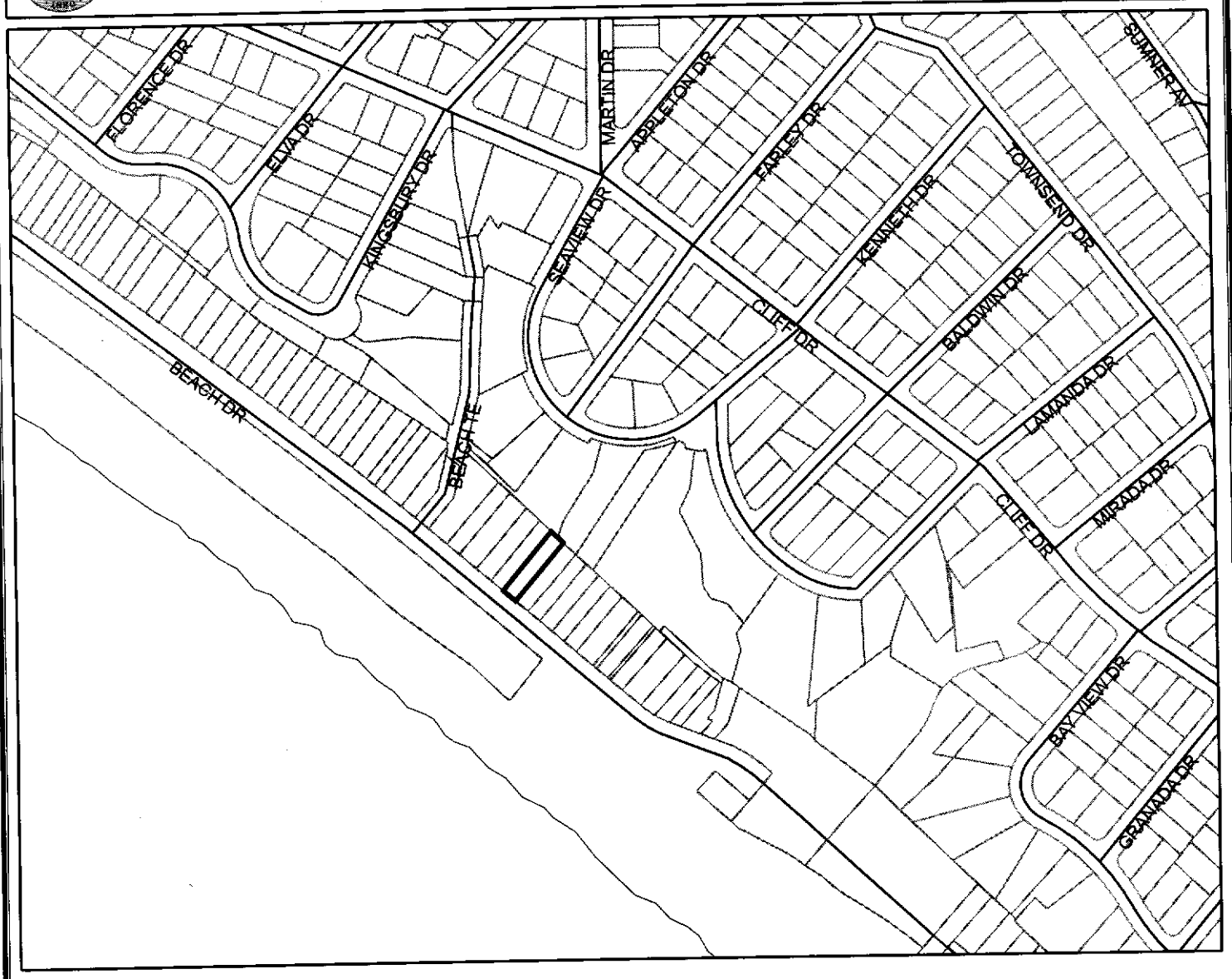
- APN 043-105-06
  Assessors Parcels
- Streets
- Residential - Urban Low Density (R-UL)
- Parks and Recreation (O-R)
- Urban Open Space (O-U)

N
W E
S

Map Created by
County of Santa Cruz
Planning Department
May 2006

DRAFT

Location Map



0 305 610 1,220 1,830 2,440 Feet

Legend

- APN 043-105-06
- Assessors Parcels
- Streets
- County Boundary

N
W E
S

Map Created by
County of Santa Cruz
Planning Department
May 2006

Gilpin Geosciences, Inc
Earthquake & Engineering Geology

January *30,2006*

Pam Caldwell Nootbaar
Kennolyn Conference Center
8400 Glen Haven Road
Soquel, California 95073

Subject: Engineering Geological Evaluation
411 Beach Drive
Aptos, **CA**

Dear Mrs. Nootbar:

We are pleased to present our evaluation of the recent landslide upslope of your residence at 411 BeachDrive in Aptos, California. Heavy rains over the New Year's weekend caused heavy erosion of the bluffs above BeachDrive. Your's and several neighboring residences were red tagged by the County Inspector **because** of the landslide hazard on the bluff behind the houses. The red tag notice stipulated that the site conditions should be assessed for landslide hazards by a certified engineering geologist.

In order to evaluate the landslide hazards at your property we visited the site on 9 and *26* **January** 2006 to review the site conditions on the slope. **We** observed the conditions on your property and also adjoining properties along Beach Drive and Sea View Drive. We previously reviewed the site conditions at your property in January *2003,* as part of your due diligence **during** the purchase.

SITE CONDITIONS

The residence lies on the back beach area, at the toe of the steep bluffs, it extends approximately 75 feet from the street. This is about half of the depth of the lot; half the lot extends up the bluff slope.

The slope is **inclined** at approximately 1.51horizontal to vertical and is approximately 120 feet high. Unconsolidated dune sand is exposed in the bluff, and is prone to slumping and surface erosion during intense rainfall or concentrated surface water flow. The slope is vegetated with pampas grass, ice plant, poison *oak,* and acacia shrubs that have developed at about the mid-slope elevation above the property.

3228 Silverado Trail Suite 8B, St. Helena, CA 94574 tel: (707) 251-8543 fax: (707) 257-8543

EXHIBIT G

The bluff crest upslope of the property is formed by a knife-edge ridge that forms the downslope (southwestern) side of a swale. The swale is exposed in the bluff face just south of the property. This swale is one of a series of three north northwest trending drainage swales in the bluff top that form depressions that outlet at approximately mid-slope height. These appear to be old drainage courses that were abandoned during the last 5,000 to 10,000 years when the shoreline uplifted and sea level fell. The swales now form closed depressions that *can* collect surface runoff but do not have an outlet channel at the bluff face. The Lots 11 and 12 on Sea View Drive span this swale along the bluff top.

We mapped the recent slide on the slope above the residence. The slide is composed of loose sand, topsoil and organic debris. The deposit is between 1 to 3 feet deep and extends for approximately **30** feet downslope and is approximately 60 feet wide across the slope. We observed a surveyor stake marked as the properly corner of the two upper lots at the approximate middle of the landslide scarp area. The slide **has** removed the vegetation, organic layer, and a thin layer of weathered sand. Sprinkler heads and irrigation lines, associated with upslope improvements, were adjacent to the failure, and incorporated in the landslide debris. **A** near horizontal clay-rich layer in the sand deposit extends across the upper scarp and a pmminent gravel (1/4-to 1/2-inch diameter) lens appear to be seeping causing erosion gullying on the scarp. The toe of the landslide is resting on the dense acacia shrubs at mid-slope. The shrubs have deflected downslope, however, they form a dense mat and appear to be in tact. The landslide deposit is seeping excess water and has consolidated enough since New Years to support my weight without sinking. We estimate the volume of the deposit to be **75** to 100 cubic yards of material, about one third of this is vegetation debris.

The northern lateral margin of the slide lies downslope and approximately 15 to 20 feet from the recently constructed retaining wall on Lot 11. **A** corrugated drain pipe exits the wall and outlets downslope to the **north** of the slide. **A** foundation drain from the new construction outlets on the knife-edge ridge above the slide. In addition significant drainage from the foundation and flat portion of Lot 11 is outlet in the depression on the upslope side of the knife-edge ridge and is subject to infiltration upslope of the slide.

CONCLUSIONS AND RECOMMENDATIONS

The landslide was generated at the top of the bluff on the upslope property and moved down slope approximately 30 feet. **As** surveyed, the upper half of the slide *scarp* lies *on* the two Sea View Lots 11 and 12. The deposit lies mostly on 411 and 413 Beach Drive lots, however we noted a secondary debris slide off of the toe area onto 409 Beach Drive property.

EXHIBIT G

Based on the results of our evaluation we conclude that until the landslide debris is removed, the living areas of the first floor of the 411 Beach Drive residence should not be occupied at nighttime and during heavy rainfall events. The landslide debris has been arrested by the dense mat of shrubs and pampas grass at mid-slope elevation of the bluff. However, a heavy rainfall event could trigger reactivation of the mass that could impact the house. The red tag can be lifted after the debris has been removed from the slope. Care should be taken during removal not to disturb the existing rooted shrubs at the base of the debris deposit.

After the landslide debris is removed and before the next winter season, the slope stability could be improved by re-vegetating with appropriate drought tolerant plants that are capable of improving the bluff stability with a dense root system. Permanent irrigation systems should be avoided by establishing drought tolerant species.

It is our opinion that the heavy rainfall of the New Year's weekend was the primary cause of the landslide failure. We noted a small failure on Lot 12, at the top of this recent slide in our 2003 site photographs. It appears that significant changes to the surface drainage during the Lot 11 construction of a new residence have also contributed to the landslide failure. We noted the seepage from the gravel lens that lies at the approximate elevation of the swale on the upslope side of the knife-edge ridge. Concentrated surface flow in this swale appears to have infiltrated along the gravel layers that daylight in the scarp on Lots 11 and 12. The surface drainage from the Lots 11 and 12 on Sea View should be controlled in pipes and not allowed to discharge in areas susceptible to erosion above homes on Beach Drive.

We trust that this includes all that *you* require at this time. If you have questions, please call.

Sincerely yours,
GILPIN GEOSCIENCES, INC.

Lou M. Gilpin, Ph.D.
Engineering Geologist 1518

EXHIBIT G

Gilpin Geosciences, Inc
Earthquake & Engineering Geology

April 19,2006

Pam Caldwell Nootbaar
Kennolyn Conference Center
8400 Glen Haven Road
Soquel, California 95073

Subject: Debris Landslide Mitigation
411 Beach Drive
Aptos, CA

Dear **Mrs.** Nootbaar:

We are pleased to present our recommendations regarding the debris landslide deposit that lies on the steep slope above your residence at 411 Beach Drive in Aptos, California. Heavy rains over the New Year's weekend caused heavy erosion of the bluffs above Beach Drive. Your's and several neighboring residences were red tagged by the County Inspector because of the landslide hazard on the bluff behind the houses. The red tag notice stipulated that the site conditions should be assessed for landslide hazards by a certified engineering geologist.

In order to evaluate the landslide hazards at your property we visited the site on 9 and 26 January 2006 to review the site conditions on the slope and prepared a letter ofor you dated 30 January 2006. The objective of this letter is to provide receommendations for the mitigation of the debris landslide hazard to your home for use in obtaining the County permits required to safely remove the debris.

SITE CONDITIONS

The residence lies on the back beach area, at the toe of the steep bluffs, it extends approximately 75 feet from the street. This is about half of the depth of the lot; half the lot extends up the bluff slope.

The slope is inclined at approximately 1.5:1 horizontal to vertical and is approximately 120 feet high. Unconsolidated dune sand is exposed in the bluff,

3228 Silverado Trail, St. Helena, CA 94574 tel: (707) 251-8543 fax: (707) 257-8543

EXHIBIT G

and is prone to slumping and surface erosion during intense rainfall or concentrated surface water flow. The slope is vegetated with pampas grass, ice plant, poison oak, and acacia shrubs that have developed at about the mid-slope elevation above the property.

We mapped the recent slide on the slope above your home. The slide source zone extends onto the two abutting upslope properties. The debris deposit is composed of loose sand, topsoil and organic debris. The deposit is between **1** to **3** feet deep and extends for approximately **30** feet downslope and is approximately 60 feet wide across the slope. The toe of the landslide is resting on the dense acacia shrubs at mid-slope. The shrubs have deflected downslope, however, they form a dense mat and appear to be in tact. These shrubs should not be disturbed during the debris removal.

We estimate the volume of the deposit to be 75 to 100 cubic yards of material, about one third of this is vegetation debris.

CONCLUSIONS AND RECOMMENDATIONS

The landslide was generated at the top of the bluff on the upslope property and moved down slope approximately 30 feet. **As** surveyed, the upper half of the slide scarp lies on the two Sea View Lots **11** and 12. The deposit lies mostly on 411 and **413** Beach Drive lots, however we noted a secondary debris slide off of the toe area onto 409 Beach Drive property.

Based on the results of our evaluation presented in our 30 January 2006 letter, we concluded that until the landslide debris is removed, the living areas of the first floor of the 411 Beach Drive residence should not be occupied at nighttime and during heavy rainfall events, and that the red tag can be lifted after the debris has been removed from the slope. Care should be taken during removal not to disturb the existing rooted shrubs at the base of the debris deposit or the dense vegetation on the lower elevations of the slope.

After the landslide debris is removed and before the next winter season, the slope stability should be improved by re-vegetating with appropriate drought tolerant plants that are capable of improving the bluff stability with a dense root system. We have recently used lizard tail shrubs on a coastal bluff and they appear to have responded very well with **minimal** irrigation. **A** coastal terrace grass mix (Pacific Coast Seed) should be applied with some taafier prior to mat placement.

The bare lullslope should be covered with an erosion control mat with more strength than plain jute mesh, such as North American Green S150BN/SC150BN or comparable material.

Permanent irrigation systems should be avoided by establishing drought tolerant species. If necessary, temporary irrigation systems (refillable containers) should be used until the vegetation is established. If the debris removal is completed soon there should be enough ground water available for initial vegetation development.

We trust that this includes all that you require at this time. If you have questions, please call.

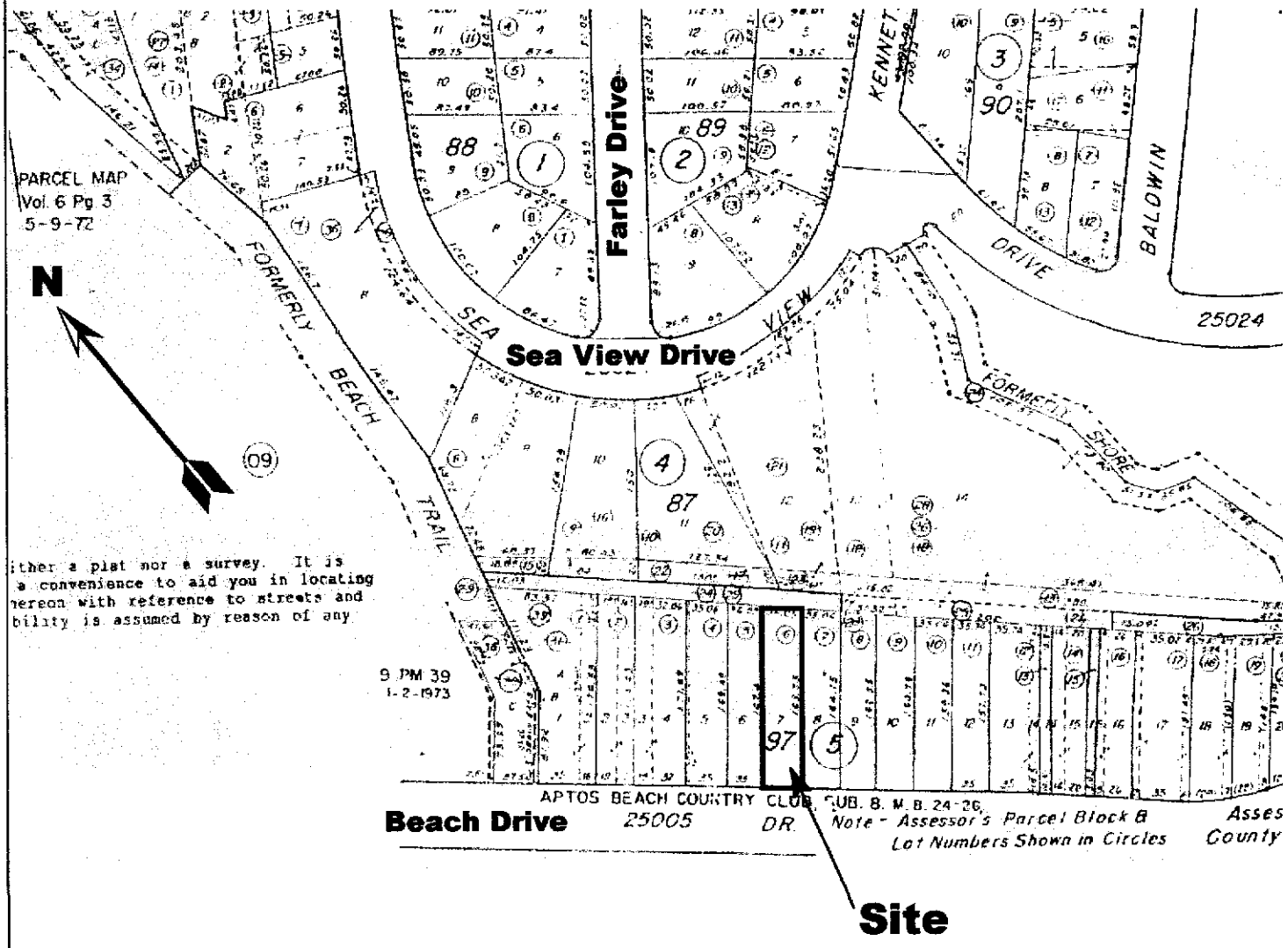
Sincerely yours,
GILPIN GEOSCIENCES, INC.

REGISTERED GEOLOGIST L.M. GILPIN No. 1518 CERTIFIED ENGINEERING GEOLOGIST STATE OF CALIFORNIA

Lou M. Gilpin, Ph.D.
Engineering Geologist 1518

Attachments: Figure 1: Site Location Map
Figure 2 Debris Slide Plan

EXHIBIT, G



Reference: Santa Cruz Co. Assessors Map.

SITE LOCATION MAP

Date 4/26/06	Project No. 91299.01	Figure 1

EXHIBIT G

KEY

- Geologic Contact
- Property Line
- Break in slope
- Slope Direction- inclination in degrees (20)

Landslide, scarp area hachured, arrow in direction of downslope movement, compressional toe with debris pushing over the original ground surface by a dash and semi-circle symbol, vertical height in feet.

Geologic Units

Qc	Colluvium
Qls	Landslide Deposit

0 20 Feet

Approximate scale

Notes: 1. Standard tape and compass mapping techniques, feature locations are approximate.

2. Orthophoto Base by www.scco.org

SITE PLAN AND GEOLOGY MAP

411 Beach Drive
Aptos, CA

Date 05/4/2006	Project No. 91299.01	Figure 2

Gilpin Geosciences, Inc.
Earthquake & Engineering Geology Consultants

EXHIBIT C

COUNTY OF SANTA CRUZ
DISCRETIONARY APPLICATION COMMENTS

Project Planner: David Keyon
Application No.: 06-0289
APN: 043-105-06

Date: November 29. 2006
Time: 11:13:02
Page: 1

Environmental Planning Completeness Comments

========== REVIEW ON JUNE 8, 2006 BY JOSEPH L HANNA ==========
Lou Gilpin. CEG 1313 has inspected the removal of landslide debris and has indicated that enough of the landslide debris has been removed that the home at 411 Beach Drive can be reoccupied.

Environmental Planning Miscellaneous Comments

========== REVIEW ON JUNE 8, 2006 BY JOSEPH L HANNA ==========
NO COMMENT

Dpw Drainage Completeness Comments

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

========== REVIEW ON JUNE 6. 2006 BY DAVID W SIMS ==========
The project description to remove landslide debris does not propose any drainage modifications to surrounding parcels. Therefore, there are no requirements from this review section.

Dpw Drainage Miscellaneous Comments

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

========== REVIEW ON JUNE 6, 2006 BY DAVID W SIMS ==========
The permanent drainage configurations for the approved new construction of two separate single family dwellings ON the parcels above were not in place at the time of the landslide event, and cannot be a cause. Both developments proposed runoff impact mitigations to obtain approvals. The retaining wall construction was approved as a separate permit and was not reviewed by the Stormwater Management section (Drainage section).

The letter from the project geologist characterizes several drainage swales as geologically abandoned, but also as conducting concentrated surface flow. This sounds contradictory. The bluff swales do drain limited watershed areas in the neighborhood and their channel form has been, and is presently, influenced by this drainage among other factors. The swale closest to the landslide drains less watershed area than once naturally occurred, due to urban development changes on the plateau above. Several drainage swales are described in the geologist's letter as having closed depressions, when only one small closed depression is indicated by available topography. This small depression. proximate to the landslide, does have an accessible outlet channel at the bluff face, which would likely overflow during common runoff events. Seepage promoted by surface flows is therefore limited to lesser quantities of water than that originating as surface runoff.

EXHIBIT H