

MEMORANDUM

TO: HONORABLE MAYOR AND COUNCILMEMBERS
FROM: THE CITY ATTORNEY AND THE DIRECTOR OF PLANNING,
BUILDING & CODE ENFORCEMENT
DATE: APRIL 4, 2006
SUBJECT: REPORT ON LAND MOVEMENT WITHIN THE LANDSLIDE
MORATORIUM AREA OUTLINED IN BLUE (A PORTION OF THE
SEAVIEW TRACT)

RECOMMENDATION

1) Review the City Geologist's report on recent movement in the Klondike Canyon landslide area and the additional information provided with the Staff Report; 2) Provide staff with further direction; and 3) Continue the matter to April 18, 2006.

BACKGROUND

In September 1978, the City Council adopted Urgency Ordinance No. 108U, which established the Landslide Moratorium Area in and around the Portuguese Bend landslide (described as the area outlined in red in the ordinance) (the "Red Area"). As originally drawn, the Landslide Moratorium Area did not include any portion of the Seaview Tract, which currently is referred to as the area outlined in blue on the City's Moratorium Map (the "Blue Area").

In July, 1980, Dr. Perry Ehlig, who at that time was a consulting geologist working with Robert Stone and Associates ("RSA") brought to the City's attention cracking within the western end of the Seaview Tract. Dr. Ehlig recommended that the City conduct studies to determine if a landslide was causing the cracks. The Council authorized RSA to perform the studies, which included trenching and borings, and to report back to the Council. Meanwhile, residents of the area began the process of forming the Klondike Canyon Landslide Abatement District.

On September 15, 1980, RSA submitted its report to the City. The report discussed the results of the investigations and stated that a landslide was the cause of the cracks. The RSA report stated that the landslide probably was caused by increased accumulation of ground water, and that the limits of the landslide were not known. The RSA report recommended certain actions to reduce the amount of water that enters the landslide by sealing cracks, installing certain drainage devices, and performing additional studies to determine the boundaries of the landslide.

*51 Homes Bend Club
Seaview
36''
57*

Revised 3/31/06

**Memorandum: Report on Land Movement in Area Outlined in Blue
April 4, 2006**

RSA produced an additional report dated December 10, 1980, which identified the extent of the headscarp of the landslide and recommended subsurface investigations be performed. In response to the RSA reports, on February 3, 1981, the City Council adopted Ordinance No. 139U, which added the entire Seaview area to the Landslide Moratorium as part of the Red Area. The City Council also authorized additional investigations be performed to gain a further understanding of the Klondike Canyon Landslide and its boundaries.

For the next year, subsurface geologic studies were performed in an attempt to ascertain the eastern limits of the Klondike Canyon Landslide. On January 21, 1982, RSA presented another report to the City Council describing the geologic investigations that had been performed (borings and trenching) and RSA's findings and recommendations. The RSA report stated that the Landslide only included 36 lots of the Seaview Tract and that it was "unlikely that the Klondike Canyon landslide will extend further east than its present boundary." The RSA report stated that the most likely causes of the movement of the Klondike Canyon Landslide were ground water and "frictional dragging force" from the Portuguese Bend Landslide.

On February 2, 1982, the City Council discussed a request from a resident living on Yacht Harbor Drive, who had been observed constructing a room addition in violation of the Moratorium (for which a stop work order had been issued). The resident requested that the Moratorium be amended to allow additions to existing structures within the Moratorium Area. In response, the City Council directed Staff to "contact Dr. Ehlig and get an estimate on how much it would cost to determine the appropriate geologic factors that will identify where additions to existing buildings can be safely accomplished and to what extent."

Subsequently, on March 2, 1982, the City Council adopted Ordinance No. 148 U. That Ordinance amended the Moratorium to reduce the boundaries of the Klondike Canyon Landslide to exclude the eastern portion of the Seaview Tract so that only the 36 lots on the western end that were within the boundaries of the Klondike Canyon Landslide remained within the Moratorium. This is the same area that currently is described as the Blue Area; however, at that time it still was included as part of the Red Area.

The Moratorium Ordinance was amended on several occasions to permit certain activities within the Moratorium area, including: repairs and renovations to existing structures (Ordinance No. 118U); remedial landslide grading (Ordinances No. 120U; 130U and 208U) and other minor changes to existing structures (Ordinances 123U, 128U). The Council also amended the Moratorium to allow minor projects and non-residential structures to be constructed in the Moratorium Area (Ordinances No. 130U, 131U, 140U). In 1989, the Code was amended to allow the construction of small additions and detached garages to developed properties within the Moratorium Area (Ordinance No. 208).

**Memorandum: Report on Land Movement in Area Outlined in Blue
April 4, 2006**

In September 1989, the City Council also amended the Code to change the description of the thirty-six lots that are within the Seaview Tract and a portion of 2 Yacht Harbor Drive as the area outlined in blue on the Moratorium Map ("the Blue Area") and to adopt more flexible development criteria for development within the Blue Area (Ordinance No. 247). This action was in response to a request from a resident within the Seaview Tract who wanted to "substantially remodel his home." The Council's action was based on the fact that this area had been subdivided previously and was almost completely developed (only one or two lots were not developed at the time) and included a sewer system, along with a lack of indicators of recent movement in the Blue Area, all of which distinguished this Area from other portions of the Landslide Moratorium Area. The Council found that these distinguishing factors and the imposition of stringent development conditions, which would prevent projects from adversely affecting the stability of the area, justified allowing the owners of properties in the Blue Area to have the same development rights as the owners of other properties within the Seaview Tract.

As a result of these actions, the City's current Landslide Moratorium Ordinance (see attached Municipal Code Chapter 15.20) recognizes two separate areas within the overall landslide moratorium area that are subject to differing development criteria. Unlike properties located in the Red Area, owners of properties in the Blue Area are entitled, subject to certain conditions, to seek approval of a landside moratorium exception permit for "[t]he construction of residential buildings, accessory structures, pools/spas, and grading...." (Municipal Code Section 15.20.040 K.) The Code also requires applicants to submit geological studies reasonably required to demonstrate to the satisfaction of the city geotechnical staff that the proposed project would not aggravate the existing situation.

On September 11, 1995, Dr. Ehlig prepared a report to the Chairman of the Klondike Canyon Landslide Abatement Authority, which also was given to the City (copy attached). The report states that despite high rainfall during the previous winter, which raised the ground water level significantly: "GPS measurements prove that the Klondike Canyon landslide has not moved during this past year. This indicates current landslide abatement measures are adequate to keep the landslide in a stable condition. However, careful management is needed to minimize ground water recharge in Klondike Canyon and keep the beach well in good operating condition." (Emphasis added.) Given that report and other similar statements by Dr. Ehlig, it was reasonable for the City to continue treating the Blue Area differently from the Red Area.

However, in May 2005, following the heavy rains during the winter of 2004-2005, City Staff again witnessed indications that the Blue Area may be experiencing new landslide movement. The movement was brought to the attention of the City's geologist, who documented the movement and recommended that the City continue to monitor the area. In October 2005, Staff received a report from the City Geologist in response to a geology report prepared by an applicant seeking to build additions to an existing residence at 4380 Dauntless. The City Geologist alerted Staff that he had observed cracks in the Blue area

**Memorandum: Report on Land Movement in Area Outlined in Blue
April 4, 2006**

that indicate land movement, and that Staff should be aware of this before issuing the development permits to the applicant.

Based on this report from the City Geologist, Staff placed an item on the City Council's November 15, 2005 agenda to consider whether the more lenient development standards that have been allowed in the Blue Area since 1989 should be repealed, so that the Blue Area will be subject to the same development restrictions as the remainder of the Landslide Moratorium Area, as was the case from February 1981 through September 1989.

The City Council adopted Urgency Ordinance No. 427U establishing a temporary 60-day moratorium on the processing and issuance of building, grading or other permits, in the Blue Area, unless otherwise exempted from the moratorium. The purpose of the 60-day moratorium was to allow the City's Geologist time to acquire additional gps data about the land movement, analyze the data and report his findings to the City Council. On December 20, 2005, the City Council adopted Urgency Ordinance No. 432U, extending the temporary moratorium an additional sixty-six days to March 21, 2006, to allow more time for the City Geologist to prepare his report to the City Council.

The City Geologist submitted his report to the City on March 14, 2006, for review and discussion at the City Council meeting on March 21st and again this evening. To provide additional time for the City Council and the public to review the City Geologist's report, the City Council adopted another Urgency Ordinance at the March 21st meeting. That ordinance extended the temporary moratorium on the acceptance of applications and the issuance of permits for the Blue Area, by an additional 30 days, to April 20, 2006.

DISCUSSION

As discussed in the City Geologist's report dated March 14, 2006 (attached), the City Geologist evaluated the recent movement of the Klondike Canyon landslide by reviewing past documents, photo documentation, and survey documentation. As a result of this evaluation, the City Geologist has concluded that the Klondike Canyon landslide experienced accelerated movement in 2005 due to an increase in the local groundwater within and below the slide mass as a result of the past winter's heavy rains and due to increased drag from the accelerated movement of the adjacent Portuguese Bend Landslide. However, the accelerated movement has declined to a slow creep, as has been the case since the 1980s. Based on those recent events and past observations and monitoring, the City Geologist stated that: "the Klondike Canyon landslide should be considered an active landslide with the potential for continued slow movement and occasional increased acceleration." He also notes that although it doesn't appear that the slide is capable of catastrophic failure at this time, continued movement of the Portuguese Bend landslide could cause episodic acceleration in the creep rate of the Klondike Canyon slide. He concludes that "the continued slow movement of the landslide will result in

**Memorandum: Report on Land Movement in Area Outlined in Blue
April 4, 2006**

distress and damage to structures and improvements that straddle or are adjacent the landslide boundaries.”

The landslide movement in the Blue Area and the City Geologist's analysis undermine the distinction between the Red and Blue Areas and thus do not support continued reliance on Dr. Ehlig's previous optimism about the containment of the movement of the Klondike Canyon Landslide.

Numerous judicial decisions have held that governmental regulations are required to be based on distinctions that are not irrational, arbitrary and capricious, or without any evidentiary support. (See, Lockary v. Kayfetz, 917 F.2d 1150, 1155 (1990).) The absence of geologic data that support continuing the distinction between the Red and Blue Areas might be used by owners of properties in the Red Area to argue that the City is not adopting consistent regulations for properties within the Landslide Moratorium Area and almost certainly will be used by the plaintiffs at the upcoming trial in the Monks case to advance their claims against the City.

Accordingly, the City Attorney recommends that the City Council discuss these issues and consider whether to adopt an ordinance that would repeal Municipal Code Section 15.20.040.K, thereby removing the more lenient development restrictions that have been allowed in the Blue Area, and any other action that the Council deems appropriate and provide further direction to Staff about all of these issues.

CONCLUSION

Pursuant to City Council direction given on November 15, 2005, the City Geologist has evaluated the recent movement related to the Klondike Canyon Landslide and has reported his findings to the City Council. Accordingly, Staff recommends that the Council review the City Geologist's report on recent movement in the Klondike Canyon landslide area and the additional information provided with this Staff Report, provide staff with further direction, and continue the matter to April 18, 2006.

ADDITIONAL INFORMATION

There are two property owners that were in the planning process when the City Council established the temporary moratorium. One is the property owner at 4394 Dauntless Drive (Matura), who was seeking approval of a second story addition by the Planning Commission. The other is the property owner at 4380 Dauntless Drive (Arrogances) who was seeking a Landslide Moratorium Exception Permit for first and second story additions. Both applications were denied without prejudice after the temporary moratorium was enacted on November 15, 2005. The property owner at 4342 Admirable Drive (Mirich) has received planning approval but has not yet been issued a building permit for the demolition of the existing house and the construction of a new 5,000+ sq. ft. residence, since his plans

**Memorandum: Report on Land Movement in Area Outlined in Blue
April 4, 2006**

are still in the plan check process. When the temporary moratorium was enacted, the plan check process was frozen on this project.

ALTERNATIVES

The City Council could direct staff to prepare an ordinance that maintains the depiction of the Blue Area on the City's Landslide Moratorium Map but incorporates the same restrictions on development that are applied in the Red Area.

Respectfully submitted:

Joel Rojas, AICP
Director of Planning, Building
and Code Enforcement

CAROL LYNCH
City Attorney

Reviewed by:

Les Evans
City Manager

Attachments

Report from Dr. Ehlig dated September 11, 1995
Report from City Geologist dated March 14, 2006
Landslide Moratorium Ordinance (Chapter 15.20)
Landslide Moratorium Area maps
Geology Report re: 4380 Dauntless dated October 25, 2005
Photos of land movement
Public comments

ORDINANCE NO. _____ U

AN ORDINANCE OF THE CITY OF RANCHO PALOS VERDES PRECLUDING THE ISSUANCE OF, AND REVOKING, CERTAIN PERMITS AND THE PROCESSING OF PLANNING APPROVALS IN THE PORTION OF THE LANDSLIDE MORATORIUM AREA, AS OUTLINED IN BLUE ON THE LANDSLIDE MORATORIUM MAP ON FILE IN THE CITY'S PLANNING, BUILDING AND CODE ENFORCEMENT DEPARTMENT, WHICH INCLUDES PORTIONS OF DAUNTLESS DRIVE, EXULTANT DRIVE, ADMIRABLE DRIVE AND PALOS VERDES DRIVE SOUTH, AMENDING THE RANCHO PALOS VERDES MUNICIPAL CODE AND DECLARING THE URGENCY THEREOF

WHEREAS, in September 1978, the City Council adopted Urgency Ordinance No. 108U, which established the Landslide Moratorium Area in a portion of the City, as depicted on a map that is on file in the City's Department of Planning, Building and Code Enforcement; and

WHEREAS, in February 1981, the City Council adopted Ordinance No. 139U, which added the area known as the Seaview Tract to the Landslide Moratorium Area, which is described as the area outlined in red on the map that is on file in the City's Department of Planning, Building and Code Enforcement; and

WHEREAS, on March 2, 1982, the City Council adopted Ordinance No. 148 U, which amended the Moratorium to reduce the boundaries of the Klondike Canyon Landslide to exclude the eastern portion of the Seaview Tract so that only the 36 lots on the western end of that Tract and a portion of property on Yacht Harbor Drive remained within the Moratorium; and

WHEREAS, in September 1989, the City Council adopted Ordinance No. 247, which added a new provision to the Landslide Moratorium Ordinance that provided the possibility for more diverse development than previously was permitted in the Klondike Canyon Area, as outlined in blue on the map that is on file in the City's Department of Planning, Building and Code Enforcement ("Blue Area"); and

WHEREAS, in May 2005, following the unusual winter rains during the winter of 2004-2005, the first indications that the Blue Area may be experiencing landslide movement appeared; and

WHEREAS, in October 2005, the City received a report from the City Geologist, who was reviewing a proposed development in the Blue Area, that discussed the issue of landslide movement in the Blue Area; and

WHEREAS, based on the new evidence of landslide movement in the Blue Area, the City Council has considered whether the more flexible development standards that had been allowed in the Blue Area since 1989 should be repealed so that the Blue Area will be subject to the same development criteria that are applicable to the other areas that are subject to the Landslide Moratorium Ordinance, as was the case from February 1981 through September 1989;

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF RANCHO PALOS VERDES DOES ORDAIN AS FOLLOWS:

SECTION 1. Section 15.20.040K of the Rancho Palos Verdes Municipal Code is hereby repealed.

SECTION 2. Other than the building permit and other permits that have been issued by the City to construct the home at 4369 Dauntless Drive, which shall not be affected by this Ordinance, any landslide moratorium exception permit that was granted by the City pursuant to Section 15.20.040K of the Rancho Palos Verdes Municipal Code and any other permit for development, construction or grading in the portion of the Landslide Moratorium Area that is outlined in blue on the Landslide Moratorium Map ("Blue Area") for a project for which a moratorium exception permit had been granted by the City pursuant to Section 15.20.040K of the Rancho Palos Verdes Municipal Code, but which has not been acted upon in substantial reliance by the holder thereof, is hereby revoked of no further force and effect.

SECTION 3. Notwithstanding any other ordinance or code of the City of Rancho Palos Verdes, no application for a building, grading or other permit for a project within the Blue Area shall be accepted for filing, and no such permit shall be issued, for any project for which a landslide moratorium exception permit had been issued by the City pursuant to Section 15.20.040K of the Rancho Palos Verdes Municipal Code.

SECTION 4. Notwithstanding any provision of this Ordinance, other than Section 15.20.040K of the Rancho Palos Verdes Municipal Code, all of the other provisions of Chapter 15.20 shall continue to apply to any and all property located in the Blue Area. Accordingly, this Ordinance shall not invalidate permits for projects in the Blue Area for which a moratorium exception permit was issued pursuant to Paragraphs A, B, C, D, E, F, G, H, I, J, L, M, N, or O of Section 15.20.040.

Nothing contained in this section shall exempt or except the proposed construction or use from any requirement or regulation of the Building Code, Zoning Ordinance or other ordinance of the Rancho Palos Verdes Municipal Code.

SECTION 5. It has recently come to the attention of the City Council that the land identified in the Blue Area, which was previously thought to be stable, in fact is experiencing current landslide movement. In order to protect the public health, safety and welfare, the development of new structures on undeveloped lots or parcels, substantial additions to existing homes, or the construction of certain accessory structures on properties in the Blue Area should not be allowed because it cannot be determined whether such construction in the Blue Area (1) is safe in light of the newly observed instability, or (2) will adversely impact the stability of said Area. Development in areas of geologic instability and landslide both in this City, such as the landslide at Ocean Trails, and in other communities, such as Laguna Hills and La Conchita, have demonstrated the resulting devastation and that can occur. This ordinance is therefore necessary for the immediate preservation of the public peace, health, safety and welfare and shall take effect immediately upon adoption as an urgency ordinance.

PASSED, APPROVED AND ADOPTED this 4th day of April, 2006, by the following vote:

AYES:

NOES:

ABSENT

MAYOR

ATTEST:

CITY CLERK

I HEREBY CERTIFY that the foregoing is true and correct copy of Ordinance No. _____ approved and adopted by the City Council of the City of Rancho Palos Verdes at a meeting thereof held on the 4th day of April, 2006.

CAROLYNN A. PETRU, CITY CLERK

ORDINANCE NO. _____

AN ORDINANCE OF THE CITY OF RANCHO PALOS VERDES PRECLUDING THE ISSUANCE OF, AND REVOKING, CERTAIN PERMITS AND THE PROCESSING OF PLANNING APPROVALS IN THE PORTION OF THE LANDSLIDE MORATORIUM AREA, AS OUTLINED IN BLUE ON THE LANDSLIDE MORATORIUM MAP ON FILE IN THE CITY'S PLANNING, BUILDING AND CODE ENFORCEMENT DEPARTMENT, WHICH INCLUDES PORTIONS OF DAUNTLESS DRIVE, EXULTANT DRIVE, ADMIRABLE DRIVE AND PALOS VERDES DRIVE SOUTH, AND AMENDING THE RANCHO PALOS VERDES MUNICIPAL CODE

WHEREAS, in September 1978, the City Council adopted Urgency Ordinance No. 108U, which established the Landslide Moratorium Area in a portion of the City, as depicted on a map that is on file in the City's Department of Planning, Building and Code Enforcement; and

WHEREAS, in February 1981, the City Council adopted Ordinance No. 139U, which added the area known as the Seaview Tract to the Landslide Moratorium Area, which is described as the area outlined in red on the map that is on file in the City's Department of Planning, Building and Code Enforcement; and

WHEREAS, on March 2, 1982, the City Council adopted Ordinance No. 148 U, which amended the Moratorium to reduce the boundaries of the Klondike Canyon Landslide to exclude the eastern portion of the Seaview Tract so that only the 36 lots on the western end of that Tract and a portion of property on Yacht Harbor Drive remained within the Moratorium; and

WHEREAS, in September 1989, the City Council adopted Ordinance No. 247, which added a new provision to the Landslide Moratorium Ordinance that provided the possibility for more diverse development than previously was permitted in the Klondike Canyon Area, as outlined in blue on the map that is on file in the City's Department of Planning, Building and Code Enforcement ("Blue Area"); and

WHEREAS, in May 2005, following the unusual winter rains during the winter of 2004-2005, the first indications that the Blue Area may be experiencing landslide movement appeared; and

WHEREAS, in October 2005, the City received a report from the City Geologist, who was reviewing a proposed development in the Blue Area, that discussed the issue of landslide movement in the Blue Area; and

WHEREAS, based on the new evidence of landslide movement in the Blue Area, the City Council has considered whether the more flexible development standards that had been allowed in the Blue Area since 1989 should be repealed so that the Blue Area will be subject to the same development criteria that are applicable to the other areas that are subject to the Landslide Moratorium Ordinance, as was the case from February 1981 through September 1989;

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF RANCHO PALOS VERDES DOES ORDAIN AS FOLLOWS:

SECTION 1. Section 15.20.040K of the Rancho Palos Verdes Municipal Code is hereby repealed.

SECTION 2. Other than the building permit and other permits that have been issued by the City to construct the home at 4369 Dauntless Drive, which shall not be affected by this Ordinance, any landslide moratorium exception permit that was granted by the City pursuant to Section 15.20.040K of the Rancho Palos Verdes Municipal Code and any other permit for development, construction or grading in the portion of the Landslide Moratorium Area that is outlined in blue on the Landslide Moratorium Map ("Blue Area") for a project for which a moratorium exception permit had been granted by the City pursuant to Section 15.20.040K of the Rancho Palos Verdes Municipal Code, but which has not been acted upon in substantial reliance by the holder thereof, is hereby revoked of no further force and effect.

SECTION 3. Notwithstanding any other ordinance or code of the City of Rancho Palos Verdes, no application for a building, grading or other permit for a project within the Blue Area shall be accepted for filing, and no such permit shall be issued, for any project for which a landslide moratorium exception permit had been issued by the City pursuant to Section 15.20.040K of the Rancho Palos Verdes Municipal Code.

SECTION 4. Notwithstanding any provision of this Ordinance, other than Section 15.20.040K of the Rancho Palos Verdes Municipal Code, all of the other provisions of Chapter 15.20 shall continue to apply to any and all property located in the Blue Area. Accordingly, this Ordinance shall not invalidate permits for projects in the Blue Area for which a moratorium exception permit was issued pursuant to Paragraphs A, B, C, D, E, F, G, H, I, J, L, M, N, or O of Section 15.20.040.

Nothing contained in this section shall exempt or except the proposed construction or use from any requirement or regulation of the Building Code, Zoning Ordinance or other ordinance of the Rancho Palos Verdes Municipal Code.

PASSED, APPROVED AND ADOPTED this 4th day of April, 2006, by the following vote:

AYES:

NOES:

ABSENT

MAYOR

ATTEST:

CITY CLERK

I HEREBY CERTIFY that the foregoing is true and correct copy of Ordinance No. _____ approved and adopted by the City Council of the City of Rancho Palos Verdes at a meeting thereof held on the 4th day of April, 2006.

CAROLYNN A. PETRU, CITY CLERK

MEMORANDUM

TO: John McCarthy, Chairman
Klondike Canyon Geologic Hazard Abatement District

September 11, 1995

FROM: Perry L. Ehlig, City Geologist

COPYS: C. Abbott, P. Bussey, L. Byrd, A. Davis, T. Pullium

SUBJECT: Findings from Recent Monitoring

SUMMARY

High rainfall during the past winter provides a test of the stability of the Klondike Canyon landslide. Ground water recharge raised the water table to its highest level in the Yacht Harbor well since pumping began at the beach well. The water table reached its highest level in August and has dropped 0.7 feet in the past month. The water level is presently 31 feet above its lowest recorded level in July 1990 and 18 feet higher than it was early this year. The beach well is removing water at a nearly steady rate of 67,000 gallons per day which appears to be the capacity of the pump.

GPS measurements prove that the Klondike Canyon landslide has not moved during the past year. This indicates current landslide abatement measures are adequate to keep the landslide in a stable condition. However, careful management is needed to minimize ground water recharge in Klondike Canyon and keep the beach well in good operating condition.

Some movement has occurred in the Beach Club slide which affects an area seaward from Palos Verdes Drive South. The movement appears to result from compaction of poorly compacted material in the slide rather than actual slippage. The slide is an ongoing concern because its stability is questionable.

Earlier this year, a small landslide occurred on the uphill side of Yacht Harbor Drive opposite the west end of Spendrift Drive. The slide occurred as a result of ground water seepage at the base of terrace deposits. The slide does not threaten homes but is likely to dump debris on Yacht Harbor Drive during future rainy periods.

The Portuguese Bend landslide has accelerated significantly as a result of increased ground water within it and loading caused by a secondary slide along its uphill edge and by sediment washed in from Paintbrush Canyon. The slide is moving at the rate of 0.2 to 0.3 inches per day adjacent to the Beach Club.

MONITORING RESULTS FROM WELLS

Table 1 presents monitoring results for the beach production well and the monitoring well in the parking lot west of the tennis courts. The table covers the period from May 1990 to present. Page 1 of Table 1 was presented with prior reports. Table 2 is a complete record for the Yacht Harbor well.

During the the last four months, 8 million gallons of water has been removed from the beach well. Production has averaged 67,487 gallons per day. Higher production could be obtained by installing a larger pump but is not needed because the landslide is not moving.

15

Ehlig memo of 9/11/95 to McCarthy, page 2.

The water table rose 11 feet in the Yacht Harbor well between the end of March and early May. A nearly equal rise occurred in the beach monitoring well during the same period. Part of the rise results from increased inflow of ground water caused by high rainfall and part is the result of rupture (vandalism) of the pipeline that transports water from the Flying Triangle landslide. The recent decline in the water table may reflect the repair of the pipeline.

GPS MEASUREMENTS

GPS measurements provide proof that the Klondike Canyon landslide has not moved during the past year. Several GPS monuments are located in and adjacent to the landslide. The locations of three of these stations were remeasured during the latest round of measurements on August 10, 1995. Two of the stations, KC06 and KC07, are near the uphill edge of the slide and the third, KC05, is near the center of the slide.

Monument KC06 is in the slide on Dauntless Drive, immediately west of the graben that forms the uphill edge of the Klondike Canyon landslide. The graben passes through the intersection of Dauntless Drive and Exultant Drive. Monument KC07 is 290 feet east of KC06 on stable ground beyond the the graben. Cracks bounding the graben have slowly widened and the ground within the graben has subsided slightly in recent months so as to give the impression that the slide is moving. However, the changes may be caused by compaction of ground dilated by movement when the slide was active several years ago. The correct answer must be based on whether or not KC06 has moved seaward relative to KC07.

The results of the GPS measurements are attached. True scale plots of the measured horizontal locations are shown to the right of the data. The scatter in measured positions is caused by measurement errors and is small. If one considers monument KC07 fixed in location, monument KC06 has moved 0.1 inch north (uphill) and 0.1 inch west during the past year. Since landslides do not move uphill, we can conclude that the change in relative position is caused by measurement error. The maximum amount of movement that could have occurred during the past year without being detected is about 1/4 inch. This is less than the apparent movement in the graben. Therefore, we can conclude that graben movement is the result of vertical settlement caused by compaction, NOT SLIDE MOVEMENT.

Another monument that was remeasured in August is KC05 which is on the hill south of Palos Verdes Drive South and east of Klondike Canyon. The five horizontal locations measured during the past year form a tight cluster of points that can be covered by a dime in the true scale plot on the right of the data. The most recent location is 0.05 inch northeast (uphill direction) of the original location. The data indicate no movement within measurement precision of about +0.1 inches.

The results of the GPS measurements demonstrate the need for this type of monitoring data. Several people have commented to me regarding what they felt was evidence that the Klondike Canyon landslide was slowly moving. Their evidence is equivocal. GPS measurements provide the real answer. The cost of measurements has been higher than usual this year because of the need for close monitoring following high rainfall and the need to establish a baseline for the measured locations of the monuments. In the future, only one measurement per year will be needed during dry years.

16

Ehlig memo of 9/11/95 to McCarthy, page 3.

BEACH CLUB LANDSLIDE

The Beach Club landslide has its uphill edge in the topographic depression along Palos Verdes Drive South (PVDS), 300 feet east of Klondike Canyon. The slide extends seaward into the Beach Club. The slide appears to be young but predates historic time. The slide's factor of safety is uncertain but is assumed to be close to 1.0 following periods of high rainfall. PVDS was constructed across the uphill edge of the slide, apparently without remedial grading. Geotechnical reports by Moore and Taber present ways in which the factor of safety can be increased to 1.5 but no remedial work has been performed.

This year, numerous people have noticed the development of a bump where PVDS crosses the east edge of the slide and a swale where PVDS has subsided on the west edge of the slide. Extensive ground cracking and subsidence has occurred in the arcuate head of the slide to the north of PVDS. Deformation also occurs along the edge of the slide in the Beach Club area.

I have been watching the deformation since late February. The most prominent movement is vertical subsidence but about an inch of seaward displacement has also occurred. Similar movement was observed by me in 1983. Since movement is small and most appears to have occurred when the area was very wet, I suspect the movement is primarily caused by compaction of thick soil and slide materials rather than by actual sliding. However, I am aware of nothing that would prevent slide movement from starting during exceptionally wet periods in the future. During the past twenty years, the placing of fill in a former depression at the uphill edge of the slide (north of PVDS) should have decreased the slide's factor of safety and increased the risk of future sliding. The most important low-cost thing that can be done to minimize the likelihood of future movement is to maintain good drainage within the slide so as to minimize subsurface infiltration of water.

There are no GPS monuments within the Beach Club slide. One or two monuments could be installed and monitored at a small cost.



March 14, 2006

PN 97082-1364

Mr. Joel Rojas
City of Rancho Palos Verdes
30940 Hawthorne Blvd
Rancho Palos Verdes, CA 90275-5391

Subject: Evaluation of Recent Movement related to the Klondike Canyon Landslide, Rancho Palos Verdes, California.

Dear Mr. Rojas,

At the request of the City of Rancho Palos Verdes our firm has evaluated the recent movement associated with the Klondike Canyon landslide. As part of our evaluation we reviewed past documents relating to the landslide, photo documented the area of movement and reviewed survey documentation of the movement. Recent movement of the landslide has manifested as the cracking of pavements, curb and gutter and sidewalks in the area of Dauntless and Exultant Drives.

Background

From a review of published documents, the Klondike Canyon landslide was recognized to be active in around 1980. The landslide is estimated to occupy about 50 acres immediately east of the Portuguese Bend landslide. The landslide is generally considered to be the eastward extension of the ancient Portuguese Bend landslide with movement being initiated as part of the movement of the Portuguese Bend landslide approximately 37,000 years ago. It has been estimated that the total horizontal displacement since the initiation of landslide movement is on the order of less than 50 feet. The toe of the landslide is thought to be about 100 feet below the ground surface at the coastline and about 50 feet below the ground surface near the head of the landslide. The Klondike Canyon landslide is thought to be a block glide landslide that has generally moved as an intact block.

Historical overall movement from 1956 to 1981 has been estimated at about 2.5 feet, with most of the movement estimated to have occurred between 1977 and 1981. In 1981, an excavation for an inclinometer near the toe of the landslide produced artesian water conditions from the landslide. The subsequently installed dewatering well has been credited with slowing the movement of the landslide.

In a March 1987 memo, Perry Ehlig indicated that the horizontal movement of the Klondike Canyon landslide from 1980 to 1987 ranged from 3.5 to 8.6 inches with rates ranging from 0.5 to 2.3 inches per year. He also observed accelerated creep of the landslide during 1986. He attributed increased groundwater and frictional drag from the

1221 E. Dyer Road • Suite 105 • Santa Ana, CA 92705 • (714) 755-1355 • Fax (714) 755-1366

Geotechnical Engineering • Engineering Geology • Materials Testing and Inspection

accelerated movement on the adjacent Portuguese Bend landslide as the cause of the accelerated creep. Remedial grading in 1987 removed the portion of the Portuguese Bend landslide that was overriding the lower portion of the Klondike Canyon landslide that was suspected of increasing frictional drag on the Klondike Canyon landslide. It is our understanding that grading of this nature had previously been performed at least one other time in the past.

It was Mr. Ehlig's opinion that although the movement of the Klondike Canyon landslide was of concern; he determined that "such movement could continue almost indefinitely without causing much damage." This was due in part to the unbroken nature of the main landslide body.

Recent Observations and Monitoring

It is our understanding that the recent distress within the Dauntless Drive area was observed in May of 2005. Our first observation of the distress was on June 1, 2005. Specifically, distress was manifested in the form of en-echelon cracking and displacements in street pavement, driveways, curbs and gutter and sidewalks. Two lines of discontinuous cracking extended from north of the southeast corner property at the intersection of Dauntless and Exultant Drives (4342 Dauntless Drive) to the southwest corner of the house at 4361 Dauntless Drive. Generally the cracks were on the order of 1/8 inch to 1 inch wide. A distinct down dropped zone is visible between the two sets of cracks. It should be noted that previous authors (Ehlig, Ehlert and Davis) recognized the same crack pattern and down dropped subsidence zone in the 1980s and early 1990s. It is our understanding that the distressed area has been repaired a number of times between observations. A review of photographs taken over time and observations by the authors indicates that the observed cracks and distress have changed very little in the 9 months since our initial observations; although minor new cracks have appeared and minor enlargements of existing cracks have been observed. In addition, other cracks and offsets in pavements and distress to improvements and structures have also occurred on Palos Verdes Drive South and within the lower portion of the landslide along Yacht Harbor Drive.

A set of monitoring points for the Klondike Canyon Landslide were established in late 1994 and early 1995 and have been monitored using global position satellites (GPS) since installation. The monitoring data was provided by Charles Abbott and Associates at the direction of the City of Rancho Palos Verdes Public Works Department. A review of the monitoring points indicate that the readings show abundant scatter, and appear to be within a range of potential survey error (due to thermal expansion, traffic disturbance, etc.). In order to more accurately evaluate the movement of the landslide, we have evaluated the distance between the individual monitoring points. Point KC07 is northeast of the recognized landslide headscarp and is therefore considered to be out of the zone subject to movement. Using KC07 as a base point, we have compared the distance over time between KC07 and other monitoring points. In order to further reduce the error form one reading to another, we have evaluated the cumulative change in distance between points over time (see Figures 1 through 4). The distance between points has

increased over time for all the points evaluated which indicates continued movement of the landslide. In addition, the graph of distance versus time over the past 11 years plots generally as a straight line indicating relatively continuous movement throughout the monitoring period. Vertical differences were not observed in the data beyond the precision of the survey.

A comparison of monitoring points within the main landslide mass indicates that the distance between points has not increased. This suggests that the main landslide mass is moving in a relatively undisturbed intact block.

The last monitoring period prior to the movement in May 2005 was February 2005. Readings have been made of various monitoring points following the May movement. A comparison of the February readings to the readings following the May movement would suggest that the landslide experienced an accelerated movement. Based on the visual observations it appears that most of the movement recorded occurred in a relatively short period of time prior to June 2005.

In October it was reported by the Portuguese Bend Club and the Klondike Canyon Geologic Hazard Abatement District that the eastern portion of the Portuguese Bend landslide in the area of 131 Yacht Harbor Drive had again overridden the lower portion of the Klondike Canyon landslide in a manner very similar to that which occurred in 1987 (AMEC, 2005). Remedial grading similar to the remedial grading in 1987 was completed in late 2005. It should be recognized that this area of the Portuguese Bend landslide had the largest horizontal movements in the landslide during the period of January to October 2005 including 9.6 feet at PB46, 8 feet at PB11, 5.4 feet at PB12 and 3.2 feet at PB13. Comparing these readings to past readings, horizontal movements are on the order of 12 to 29 percent above the average yearly movement recorded for these points.

Conclusions

Based on the foregoing discussion, it is concluded that the Klondike Canyon landslide experienced accelerated movement in the period just prior to June of 2005. However, we also conclude that the accelerated movement has again declined to a slow background creep as has been the case since the 1980's. Based on recent events and past observations and monitoring, the Klondike Canyon landslide should be considered an active landslide with the potential for continued slow movement and occasional increased acceleration. It does not appear to be capable of catastrophic failure at this time, although over the long term, continued movement of the Portuguese Bend Landslide could cause episodic acceleration in the creep rate of the Klondike Canyon Landslide.

It is further concluded that the accelerated movement in May of 2005 was precipitated by two major causes: an increase in the local groundwater within and below the slide mass due to the record rainfall received during the winter of 2004-2005 and increased drag from the accelerated movement of the Portuguese Bend landslide.

The Klondike Canyon landslide is estimated to have moved less than 50 feet since the estimated initiation of movement about 37,000 years ago. This is only a fraction of the total movements recognized in the other active landslides in the area. The overall limited movement of the Klondike Canyon landslide has also contributed to the relatively stable nature of the main block of the landslide. However, it should be noted that the continued slow movement of the landslide will result in distress and damage to structures and improvements that straddle or are adjacent the landslide boundaries. Structures and improvements within the main landslide block away from landslide boundaries should be generally immune from distress unless a major increase in movement occurs.

Recommendation

The following recommendations should be considered for continued evaluation of the Klondike Canyon landslide.

Monitoring

The current survey monitoring utilizing GPS generally has only limited application for precise survey monitoring for slow moving landslides with limited displacements. Since GPS is dependent on the number of satellites available at any given time and a direct line of site to the satellites, there are limitations to the precision of the data. It is therefore recommended that the landslide monitoring currently being implemented be evaluated from a precision standpoint and be modified as necessary to obtain more precise data. This would include establishment of more robust monitoring points and monuments, and implementing either a traditional closed loop, or a survey net type of monitoring system.

Remedial Grading

It is recommended that grading in the area of the Portuguese Bend Club as was accomplished recently and in 1987 be completed any time the Portuguese Bend landslide overrides the lower portion of the Klondike Canyon landslide.

Groundwater

Groundwater has been one of the primary factors controlling the movement of the Rancho Palos Verdes landslides. Numerous steps have been taken in the past to reduce the amount of water in the subsurface of the landslide areas. These include directing surface water away from areas of potential infiltration, installation of dewatering wells, limiting irrigation, modifying irrigation practices, installation of sewer and storm drain facilities and limiting development including limiting the installation of pools. Where possible, these steps should be continued or implemented throughout the landslide areas of Rancho Palos Verdes including the Klondike Canyon landslide.

Investigation

Further investigation of the Klondike Canyon landslide should be considered. Investigative work should focus on improved monitoring, monitoring schedules, observation and mapping of landslide features and distress within Klondike Canyon and the adjoining development, the relationship of water infiltration within Klondike Canyon to landslide stability and the relationship of movement of the Portuguese Bend landslide to the measured creep rate of the Klondike Canyon landslide.

Repair of Improvements

Currently, damaged and cracked pavements and concrete drainage features in the area of Dauntless Drive allow water to enter the subsurface. It is recommended that these damaged or distressed improvements be repaired to limit infiltration of surface water into the subsurface.

CLOSURE

Zeiser Kling Consultants, Inc. appreciates this opportunity to be of continued services to the City of Rancho Palos Verdes. If you should have any questions regarding the information or recommendations contained in this letter, please contact our office.

Sincerely,

ZEISER KLING CONSULTANTS, INC.

Matthew D. Rogers

Matthew G. Rogers
Principal Geotechnical Engineer
GE 2495
Expires 12/31/07



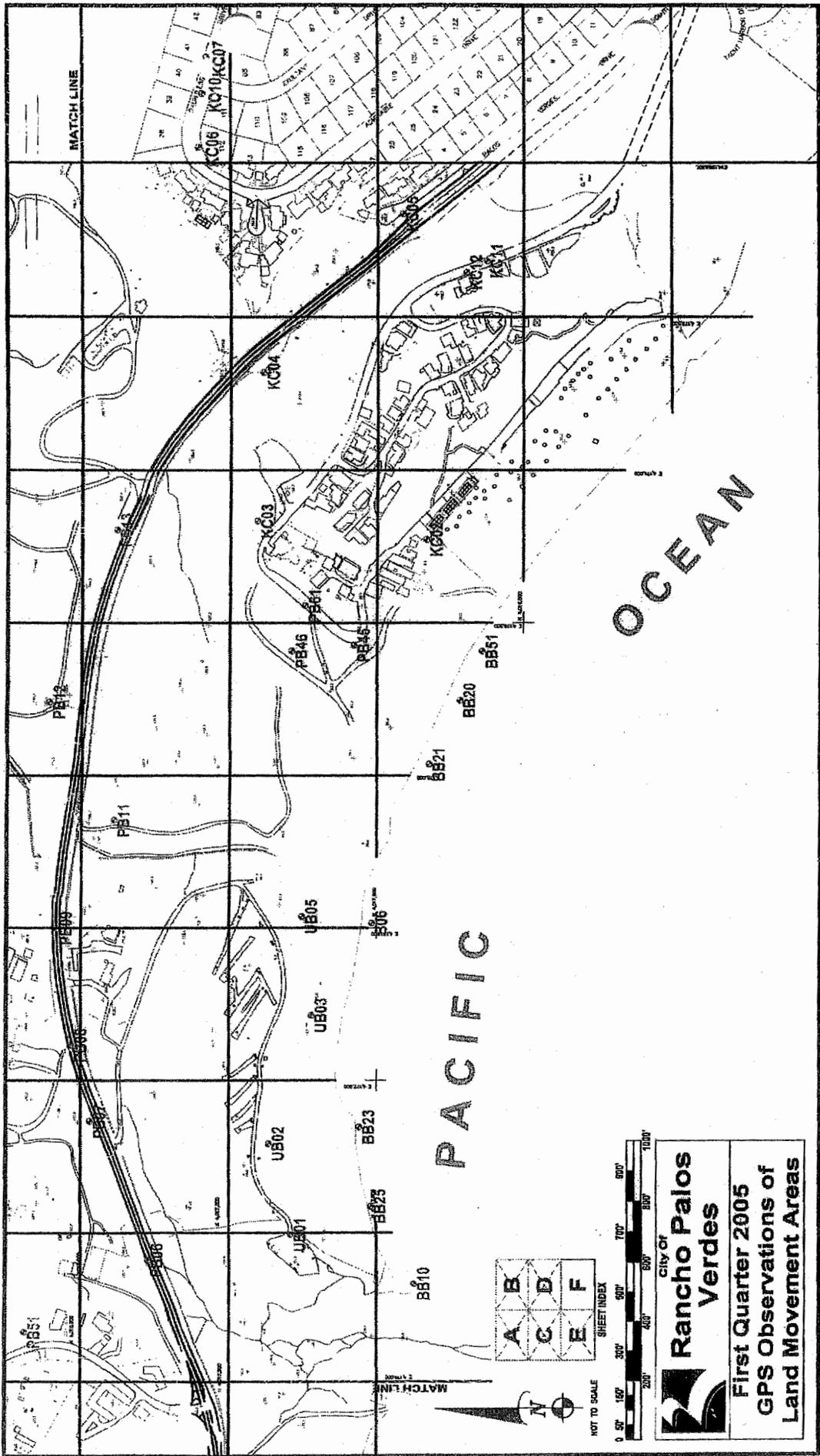
James M. Lancaster, Jr.
James M. Lancaster, Jr.
Principal Engineering Geologist
CEG 1927
Expires 6/30/06



JML:MGR:HFK:mg

Distribution: (3) Addressee

Enclosures: Sheet F CAA GPS Observations of Land Movement Areas
Figures 1 through 4 Cumulative Change in Distance Graphs



CAA
 CHARLES ABBOTT ASSOCIATES, INC.
 MANAGEMENT AND ENGINEERING PROFESSIONALS

SHEET F

23

City of
Rancho Palos Verdes
 First Quarter 2005
 GPS Observations of
 Land Movement Areas

A	B	C	D	E	F
B	C	D	E	F	
C	D	E	F		
D	E	F			
E	F				
F					



NOT TO SCALE

SHEET INDEX

Figure 1

**Klondike Canyon Landslide Area
Cumulative Change in Distance
KC6 vs. KC7**

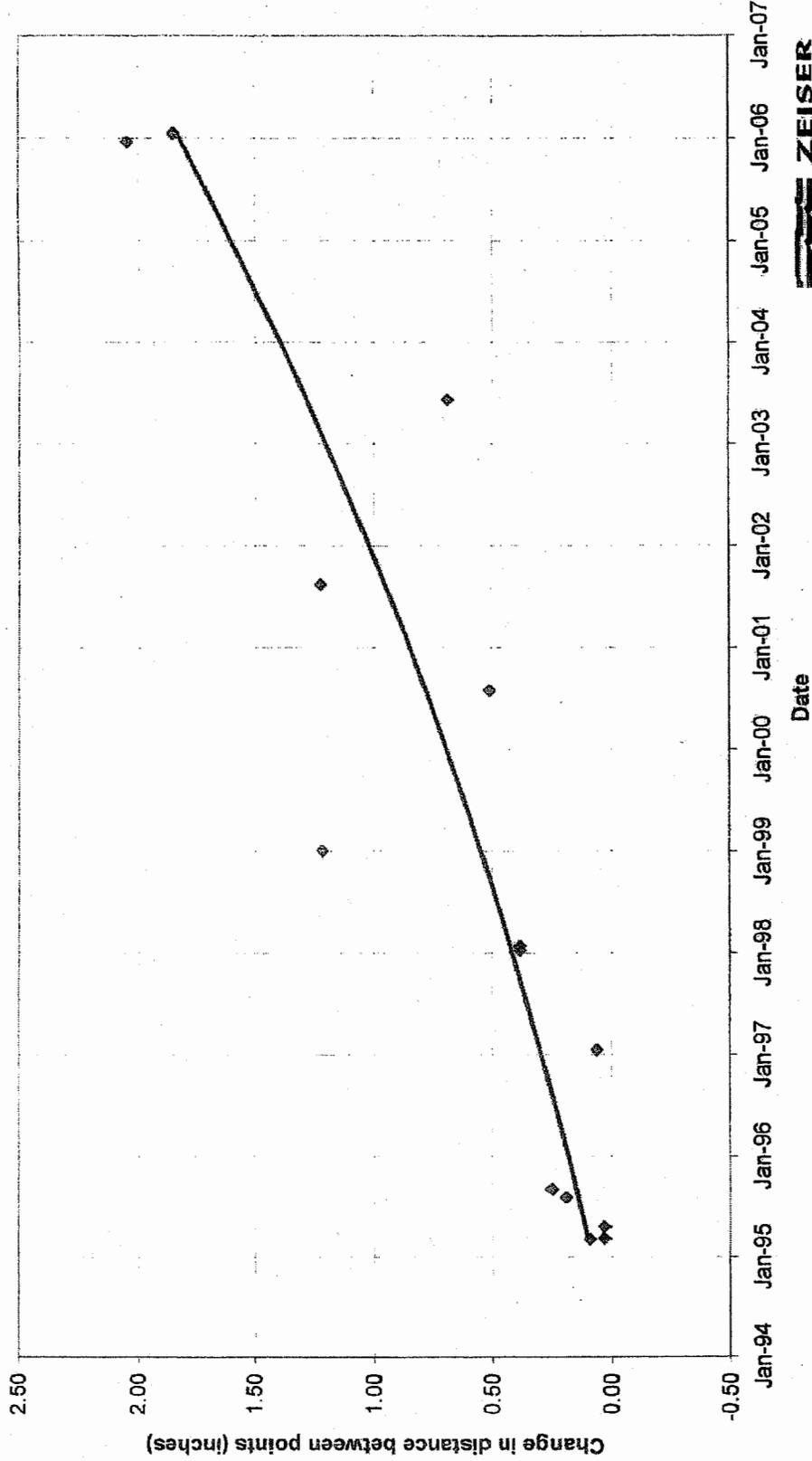
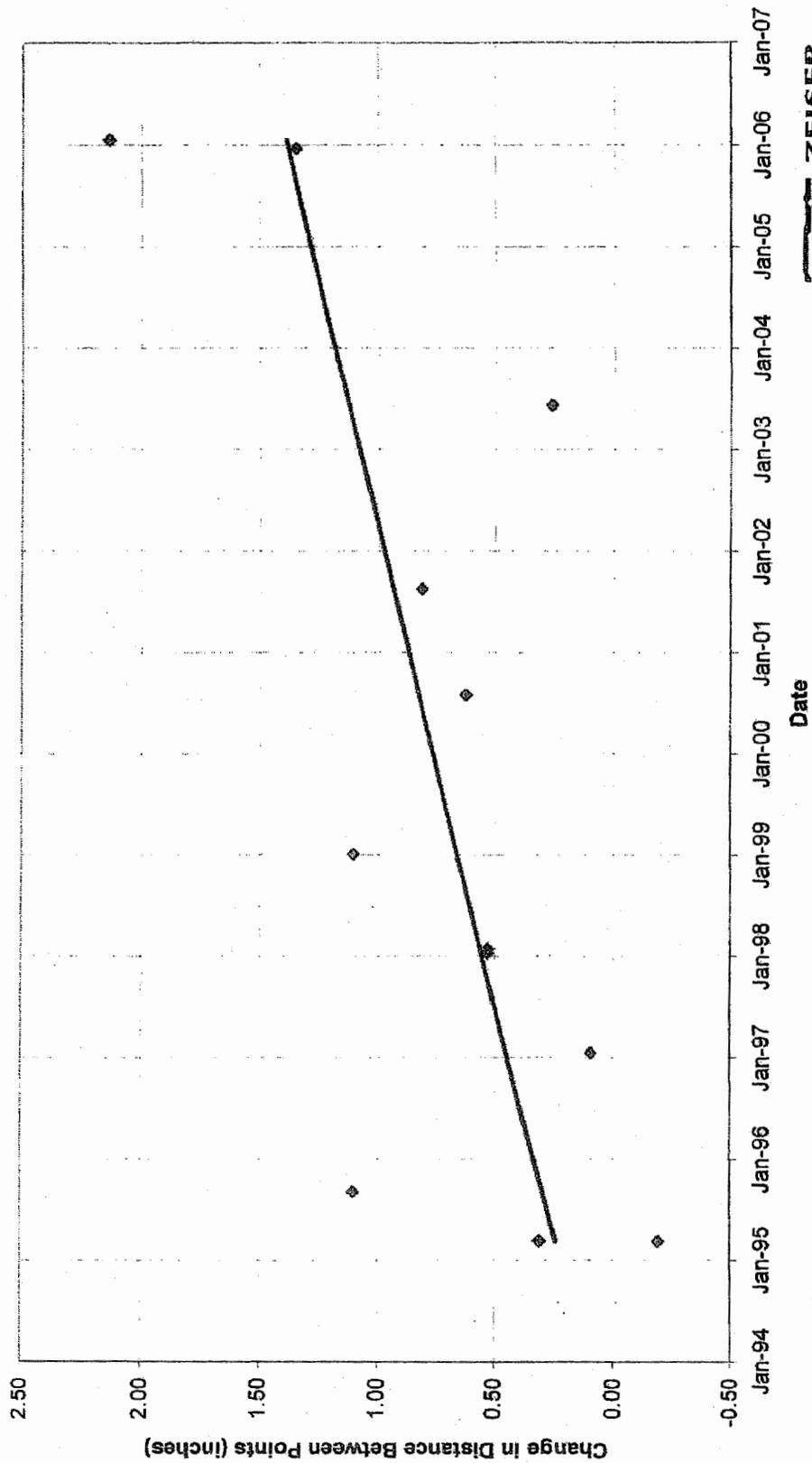


Figure 2

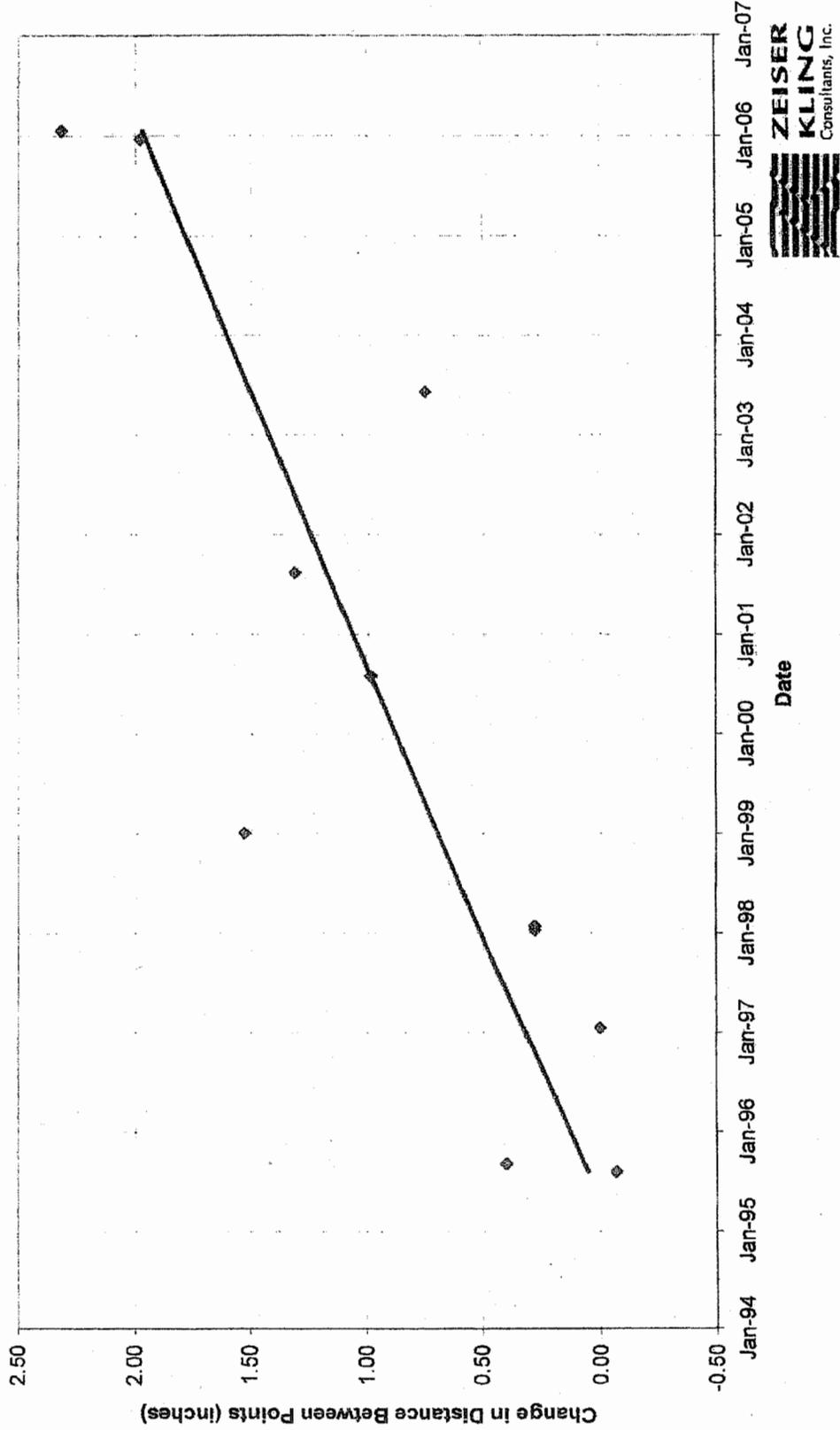
**Klondike Canyon Landslide Area
Cumulative Change in Distance
KC5 vs. KC7**



25

Figure 3

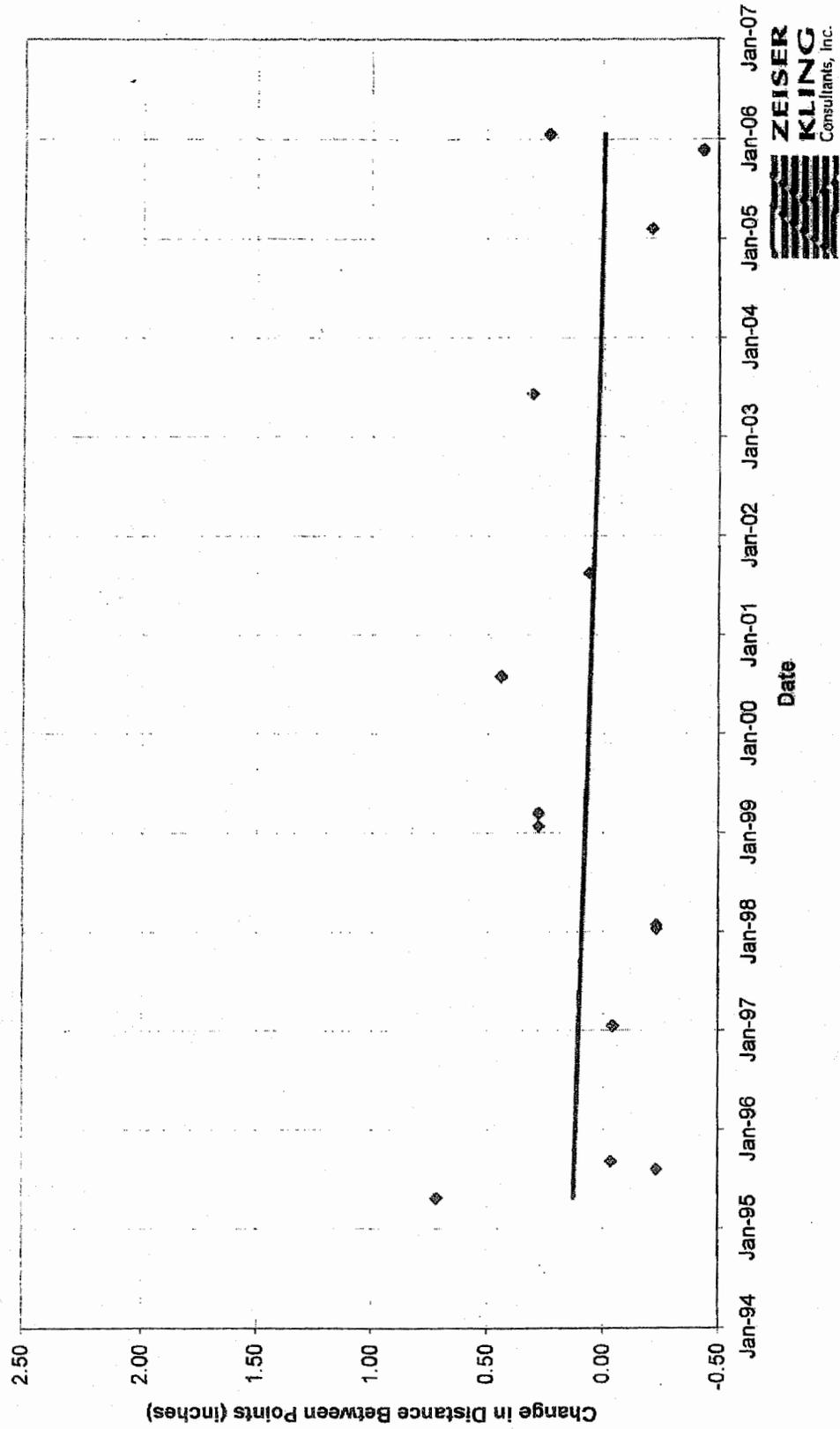
**Klondike Canyon Landslide Area
Cumulative Change in Distance
KC4 vs. KC7**



26

Figure 4

**Klondike Canyon Landslide Area
Cumulative Change in Distance
KC4 vs. KC6**



27

Chapter 15.20

MORATORIUM ON LAND USE PERMITS***Sections:**

- 15.20.010** Definitions.
- 15.20.020** New construction permits not issued.
- 15.20.030** Revocation of unused permits.
- 15.20.040** Exceptions.
- 15.20.050** Landslide mitigation measures required.
- 15.20.060** Application.
- 15.20.070** Appeals.
- 15.20.080** Expiration.
- 15.20.090** Municipal code and environmental regulations.
- 15.20.100** Exclusions.
- 15.20.110** Required connection to operational sanitary sewer system.

* Prior ordinance history: Ordinances 108U, 118U, 120U, 123U, 128U, 130U, 131U, 139U, 140U, 143U, 148U, 155U, 208, 223, 247, 249U and 276.

15.20.010 Definitions.

The following definitions shall apply to this chapter:

"Alter" means to change in some, but not all, aspects where necessary to continue the use of, and where repair, replacement and restoration are not possible.

"Director" means the director of planning, building and code enforcement.

"Geologic investigation permit" means a permit issued by the city to allow field research for the preparation of geologic, geotechnical or soils reports. Field research shall include investigative trenching, boring or grading which is performed mechanically or by hand. Such trenching, boring or grading shall pertain only to the accumulation of necessary data.

"Maintenance" means to keep in a particular safe condition.

"Repair" means to bring back to a safe condition after partial decay or destruction.

"Replacement" means to exchange a damaged portion for a new equivalent portion without changing form or function. For a dwelling unit it means to construct a new portion of a dwelling to substitute for that existing prior to damage.

"Restoration" means to bring back to the original condition.

"Permanent detached accessory structure" means a structure that is constructed on a permanent foundation,

separate from and appurtenant to a main dwelling unit, which meets the minimum Uniform Building Code standards for human habitation, does not include any kitchen facilities and is not used as a separate dwelling unit. Acceptable structures shall include guest rooms, workshops or similar structures.

"Plumbing fixture" means a plumbing fixture as defined by the Uniform Plumbing Code, unless expressly defined otherwise in this chapter.

"Served by a sanitary sewer system" means that an operational sanitary sewer system is located within the boundaries of the subject lot or parcel or is located within a thoroughfare or right-of-way that is immediately adjacent to the lot or parcel and is no more than two hundred feet from the boundary of the lot or parcel. (Ord. 357 § 5 (part), 2000: Ord 309 § 4 (part), 1995)

15.20.020 New construction permits not issued.

Notwithstanding any other ordinance or code of the city, the city declares a moratorium on the filing, processing, approval or issuance of building, grading or other permits, environmental assessments, environmental impact reports, conditional use permits, tentative maps or parcel maps in the area of the city identified as the "landslide moratorium area" as outlined in red on the landslide moratorium map on file in the office of the director, unless expressly allowed by Section 15.20.040 of this chapter. However, the filing and preparation of environmental assessments, initial studies, negative declarations or environmental impact reports for the exclusive purpose of determining whether a parcel of land may be excluded from the moratorium pursuant to Section 15.20.100 of this chapter are not precluded by this section. (Ord. 309 § 4 (part), 1995)

15.20.030 Revocation of unused permits.

Any building, grading permit or other permit for new construction in the landslide moratorium area which has been previously granted by the city but which has not been acted upon in substantial reliance by the holder thereof is revoked. (Ord. 309 § 4 (part), 1995)

15.20.040 Exceptions.

The moratorium shall not be applicable to any of the following:

A. Maintenance of existing structures or facilities which do not increase the land coverage of those facilities or add to the water usage of those facilities;

B. Replacement, repair or restoration of a residential building or structure which has been damaged or destroyed due to one of the following hazards, provided that a land-

slide moratorium exception permit is approved by the director, and provided that the project complies with the criteria set forth in Section 15.20.050 of this chapter:

1. A Geologic Hazard. Such structure may be replaced, repaired or restored to original condition; provided, that such construction shall be limited to the same square footage and in the same general location on the property and such construction will not aggravate any hazardous geologic condition, if a hazardous geologic condition remains. Prior to the approval of a landslide moratorium exception permit, the applicant shall submit to the director any geological or geotechnical studies reasonably required by the city to demonstrate to the satisfaction of the city geotechnical staff that the proposed project will not aggravate the existing situation. The applicant shall comply with any requirements imposed by the city's geotechnical staff and shall substantially repair the geologic condition to the satisfaction of the city geotechnical staff prior to the issuance of a final building permit. Upon application to the director, setbacks may conform to the setbacks listed below:

Minimum Setback Standards

Front	Interior side	Street side	Rear
20	5	10	15

2. A Hazard Other Than a Geologic Hazard. Such structure may be replaced, repaired or restored to original condition; provided, that such construction shall be limited to the same square footage and in the same general location on the property and such construction will not aggravate any hazardous condition, if a hazardous condition remains. Prior to the approval of a landslide moratorium exception permit, the applicant shall submit to the director any geological or geotechnical studies reasonably required by the city to demonstrate to the satisfaction of the city geotechnical staff that the proposed project will not aggravate the existing situation. Upon application to the director, setbacks may conform to the setbacks listed in subsection (B)(1) of this section;

C. Building permits for existing structures which were constructed prior to October 5, 1978, for which permits were not previously granted, in order to legalize such structure(s). Such permits may only be granted if the structure is brought into substantial compliance with the Uniform Building Code;

D. The approval of an environmental assessment or environmental impact report for a project as to which the city or redevelopment agency is the project applicant;

E. Projects that are to be performed or constructed by the city or by the Rancho Palos Verdes redevelopment agency to mitigate the potential for landslide or to otherwise enhance public safety;

F. Remedial grading to correct problems caused by landslide or to otherwise enhance public safety, performed pursuant to a permit issued pursuant to Section 17.76.040(B)(3) of this Code;

G. Geologic Investigation Permits. Prior to the approval of such a permit, the applicant shall submit to the director any geological or geotechnical studies reasonably required by the city to demonstrate to the satisfaction of the city geotechnical staff that the proposed investigation will not aggravate the existing situation;

H. Minor projects on a lot that currently is developed with a residential structure or other lawfully existing non-residential structure and involves an addition to an existing structure, enclosed patio, conversion of an existing garage to habitable space or construction of a permanent attached or detached accessory structure and does not exceed a cumulative project(s) total of six hundred square feet per parcel; provided that a landslide moratorium exception permit is approved by the director and provided that the project complies with the criteria set forth in Section 15.20.050 and does not include any additional plumbing fixtures, unless the lot is served by a sanitary sewer system. The six hundred square foot limitation on cumulative projects that can be approved on a lot pursuant to this subsection does not include the construction of a new garage, which can be approved pursuant to subsection L of this section. Minor projects involving the construction of an enclosed permanent detached accessory structure shall include a requirement that a use restriction covenant, in a form acceptable to the city, that prevents the enclosed permanent detached accessory structure from being used as a separate dwelling unit is recorded with the Los Angeles County register-recorder. Such covenant shall be submitted to the director prior to the issuance of a building permit. Prior the approval of a landslide moratorium exception permit for such minor projects, the applicant shall submit to the director any geological or geotechnical studies reasonably required by the city to demonstrate to the satisfaction of the city geotechnical staff that the proposed project will not aggravate the existing situation

I. Construction of temporary minor nonresidential structures which are less than one hundred twenty square feet in size, with no plumbing fixtures and which do not increase water use, may be approved by the director. If the lot is served by a sanitary sewer system, the permit may allow the installation of plumbing fixtures. All permits shall include a requirement that a use restriction covenant,

29

in a form acceptable to the city which prevents the structure from being used for any purpose other than a non-habitable use, is recorded with the Los Angeles County registrar-recorder. A minor nonresidential structure is defined as temporary if the Building Code does not require it to be erected upon or attached to a fixed, permanent foundation and if, in fact, it will not be erected upon or attached to such a foundation. Prior to approval of the application, the applicant shall submit to the director any geological or geotechnical studies reasonably required by the city to demonstrate to the satisfaction of the city geotechnical staff that the proposed project will not aggravate the existing situation;

J. Submittal of a lot-line adjustment application;

K. The construction of residential buildings, accessory structures, pools/spas and grading in the "landslide moratorium area" as outlined in blue on the landslide moratorium map on file in the director's office; provided, that a landslide moratorium exception permit is approved by the director, and provided that the project complies with the criteria set forth in Section 15.20.050 of this chapter. Such projects shall qualify for a landslide moratorium exception permit only if all applicable requirements of this code are satisfied, and the parcel is served by a sanitary sewer system. Prior to the issuance of a landslide moratorium exception permit, the applicant shall submit to the director any geological or geotechnical studies reasonably required by the city to demonstrate to the satisfaction of the city geotechnical staff that the proposed project will not aggravate the existing situation;

L. Construction of one attached or detached garage per parcel that does not exceed an area of six hundred square feet, without windows or any plumbing fixtures, on a lot that currently is developed with a residential structure or other lawfully existing nonresidential structure; provided that a landslide moratorium exception permit is approved by the director, and provided that the project complies with the criteria set forth in Section 15.20.050. If the lot is served by a sanitary sewer system, the permit may allow the installation of windows and plumbing fixtures in the garage. The approval of a landslide moratorium exception permit for such a project shall be conditioned to require that a use restriction covenant, in a form acceptable to the city, that prevents the garage from being used for any purpose other than parking of vehicles and storage of personal property is recorded with the Los Angeles County registrar-recorder. Such covenant shall be submitted to the director prior to the issuance of a building permit. Prior to the approval of a landslide moratorium exception permit for such garage, the applicant shall submit to the director any geological or geotechnical studies reasonable required

by the city to demonstrate to the satisfaction of the city's geotechnical staff that the proposed project will not aggravate the existing situation.

M. Submittal of applications for discretionary planning permits for structures or uses which are ancillary to the primary use of the lot or parcel, where there is no possibility of any adverse impact upon soil stability. Examples of these types of applications include special use permits for minor, temporary uses and events; fence, wall and hedge permits that do not involve grading or the construction of retaining walls; permits for the keeping of large domestic animals and exotic animals; conditional use permits for the establishment of a use or activity at or on an existing structure where no structural modifications are required; and such other uses, activities and structures that the city geotechnical staff determines to have no potential for adverse impacts on landslide conditions;

N. Minor projects on those lots which are currently developed with a residential structure, which do not involve new habitable space, which cannot be used as a gathering space and viewing area, and which do not constitute lot coverage;

O. Permits issued pursuant to Section 15.20.110 of this chapter to connect existing structures with functional plumbing fixtures to an operational sewer system. (Ord. 407 § 6, 2004; Ord. 383 § 5, 2002; Ord. 382U § 5, 2002; Ord. 357 § 5 (part), 2000; Ord. 309 § 4 (part), 1995)

15.20.050 Landslide mitigation measures required.

Within the landslide moratorium area as identified in Section 15.20.020 of this chapter, the city shall require that appropriate landslide abatement measures be implemented as conditions of issuance of any permit issued pursuant to this chapter. With respect to proposed projects and uses requiring a landslide moratorium exception permit pursuant to subsections B, H, K and L of Section 15.20.040, which must satisfy all of the criteria set forth in this section, the conditions imposed by the city shall include, but not be limited to, the following:

A. If lot drainage deficiencies are identified by the director of public works, all such deficiencies shall be corrected by the applicant.

B. If the project involves additional plumbing fixtures, or additions of habitable space which exceed two hundred square feet, or could be used as a new bedroom, bathroom, laundry room or kitchen, and if the lot or parcel is not served by a sanitary sewer system, septic systems shall be replaced with approved holding tank systems in which to dispose of on-site waste water. The capacity of the required holding tank system shall be subject to the review and approval of the city's building official. For the pur-

poses of this subsection, the addition of a sink to an existing bathroom, kitchen or laundry room shall not be construed to be an additional plumbing fixture. For those projects which involve additions of less than two hundred square feet in total area and which are not to be used as a new bedroom, bathroom, laundry room or kitchen, the applicant shall submit for recordation a covenant specifically agreeing that the addition of the habitable space will not be used for those purposes. Such covenant shall be submitted to the director for recordation prior to the issuance of a building permit. For lots or parcels which are to be served by a sanitary sewer system on or after the effective date of this ordinance (July 6, 2000), additional plumbing fixtures may be permitted and the requirement for a holding tank may be waived, provided that the lot or parcel is to be connected to the sanitary sewer system. If a sanitary sewer system is approved and/or under construction but is not yet operational at the time that a project requiring a landslide moratorium exception permit is approved, the requirement for a holding tank may be waived, provided that the lot or parcel is required to be connected to the sanitary sewer system pursuant to Section 15.20.110 of this chapter, or by an agreement or condition of project approval.

C. Roof runoff from all buildings and structures on the site shall be contained and directed to the streets or an approved drainage course.

D. If required by the city geotechnical staff, the applicant shall submit a soils report, and/or a geotechnical report, for the review and approval of the city geotechnical staff.

E. If the lot or parcel is not served by a sanitary sewer system, the applicant shall submit for recordation a covenant agreeing to support and participate in existing or future sewer and/or storm drain assessment districts and any other geological and geotechnical hazard abatement measures required by the city. Such covenant shall be submitted to the director prior to the issuance of a building permit.

F. If the lot or parcel is not served by a sanitary sewer system, the applicant shall submit for recordation a covenant agreeing to an irrevocable offer to dedicate to the city a sewer and storm drain easement on the subject property, as well as any other easement required by the city to mitigate landslide conditions. Such covenant shall be submitted to the director prior to the issuance of a building permit.

G. A hold harmless agreement satisfactory to the city attorney promising to defend, indemnify and hold the city harmless from any claims or damages resulting from the requested project. Such agreement shall be submitted to the director prior to the issuance of a building permit.

H. The applicant shall submit for recordation a covenant agreeing to construct the project strictly in accordance with the approved plans; and agreeing to prohibit further projects on the subject site without first filing an application with the director pursuant to the terms of this chapter. Such covenant shall be submitted to the director for recordation prior to the issuance of a building permit.

I. All landscaping irrigation systems shall be part of a water management system approved by the director of public works. Irrigation for landscaping shall be permitted only as necessary to maintain the yard and garden.

J. If the project involves pools and/or spas, a leak detection system approved by the city building official shall be installed.

K. All other necessary permits and approvals required pursuant to this code or any other applicable statute, law or ordinance shall be obtained. (Ord. 357 § 5 (part), 2000; Ord. 309 § 4 (part), 1995)

15.20.060 Application.

A. Applicants for an exception to this chapter under Section 15.20.040(B), (H), (K) and (L), shall file an application for a landslide moratorium exception permit with the director. The application shall be signed by the property owner, and shall include the following:

1. A letter, signed by the property owner, setting forth the reason for request, as well as a full description of the project;

2. Copies of a site plan, showing accurate lot dimensions; the location, dimensions, and heights of all existing and proposed structures; the location of the existing and proposed septic systems and/or holding tank systems; and the location of the existing and/or proposed sanitary sewer system, if the site is or will be served by a sanitary sewer system. The number of copies required shall be determined by the director;

3. Information satisfactory to the city's geotechnical staff (including but not limited to geological, geotechnical, soils or other reports) reasonably required by the city to demonstrate that the proposed project will not aggravate the existing situation;

4. A fee as established by resolution of the city council;

5. If grading is proposed, a grading plan showing the topography of the lot and all areas of project cut and fill, including a breakdown of the earthwork quantities.

B. A landslide moratorium exception permit application shall become null and void if, after submitting the required application to the director, the application is ad-

ministratively withdrawn by the director because the application is allowed to remain incomplete by the applicant for a period which exceeds one hundred eighty days, or if the application is withdrawn by the applicant. (Ord. 357 § 5 (part), 2000; Ord. 309 § 4 (part), 1995)

15.20.070 Appeals.

Any interested person may appeal any decision or any condition imposed by the director to the city council by filing a written request, together with an appeal fee as established by resolution of the city council, with the city within fifteen days after the decision is made. (Ord. 309 § 4 (part), 1995)

15.20.080 Expiration.

A moratorium exception permit shall become null and void after one hundred eighty days from the date of issuance unless the planning applications necessary for the proposed project have been submitted to the director. The director may grant extensions beyond these periods for good cause. (Ord. 309 § 4 (part), 1995)

15.20.090 Municipal code and environmental regulations.

The building code, as amended, and existing plan checking procedures are adequate and appropriate to allow and regulate maintenance, repair, restoration, replacement and alteration as defined in this chapter. The Administrative Code, including Sections 309 through 319 as added by Section 15.18.110, applies and permits are required. Nothing contained in this chapter shall except the proposed construction or use from any requirement or regulation of the building code, zoning ordinance or other ordinance of this Code or the California Environmental Quality Act. (Ord. 309 § 4 (part), 1995)

15.20.100 Exclusions.

For a parcel of land to be excluded from the landslide moratorium area, a landowner, or his designated agent, may apply for such exclusion to the city council.

A. Application. To obtain an exclusion from this chapter, an applicant shall file an application for exclusion with the director and signed by the property owner. An application shall not be deemed complete until all required geology studies have been completed and review has been completed by the city geotechnical staff. An application shall include the following:

1. The reason for the request;
2. A legal description of the property and a map of the property;
3. All anticipated development applications;

4. Any existing geological or geotechnical reports or necessary geology studies as determined by the city geotechnical staff;

5. A fee as established by the city council;

6. Any additional information as determined by the director or the city geotechnical staff;

7. A completed environmental assessment.

B. Public Hearing. Notice shall be published in a newspaper of general circulation in the community not less than fifteen days before the date set for the city council hearings. The notice shall contain all data pertinent to the hearing. Written notice shall also be mailed not less than fifteen days before the date set for the city council hearing to owners of property shown on the last equalized assessment roll as owning real property within five hundred feet of the boundaries of the subject property.

C. Findings. Upon approval of a landslide moratorium exclusion, the city council shall find as follows:

1. The exclusion is consistent with the general plan and any applicable specific plan of the city, including but not limited to, the coastal specific plan of the city;

2. The exclusion promotes the health, safety and welfare of the community;

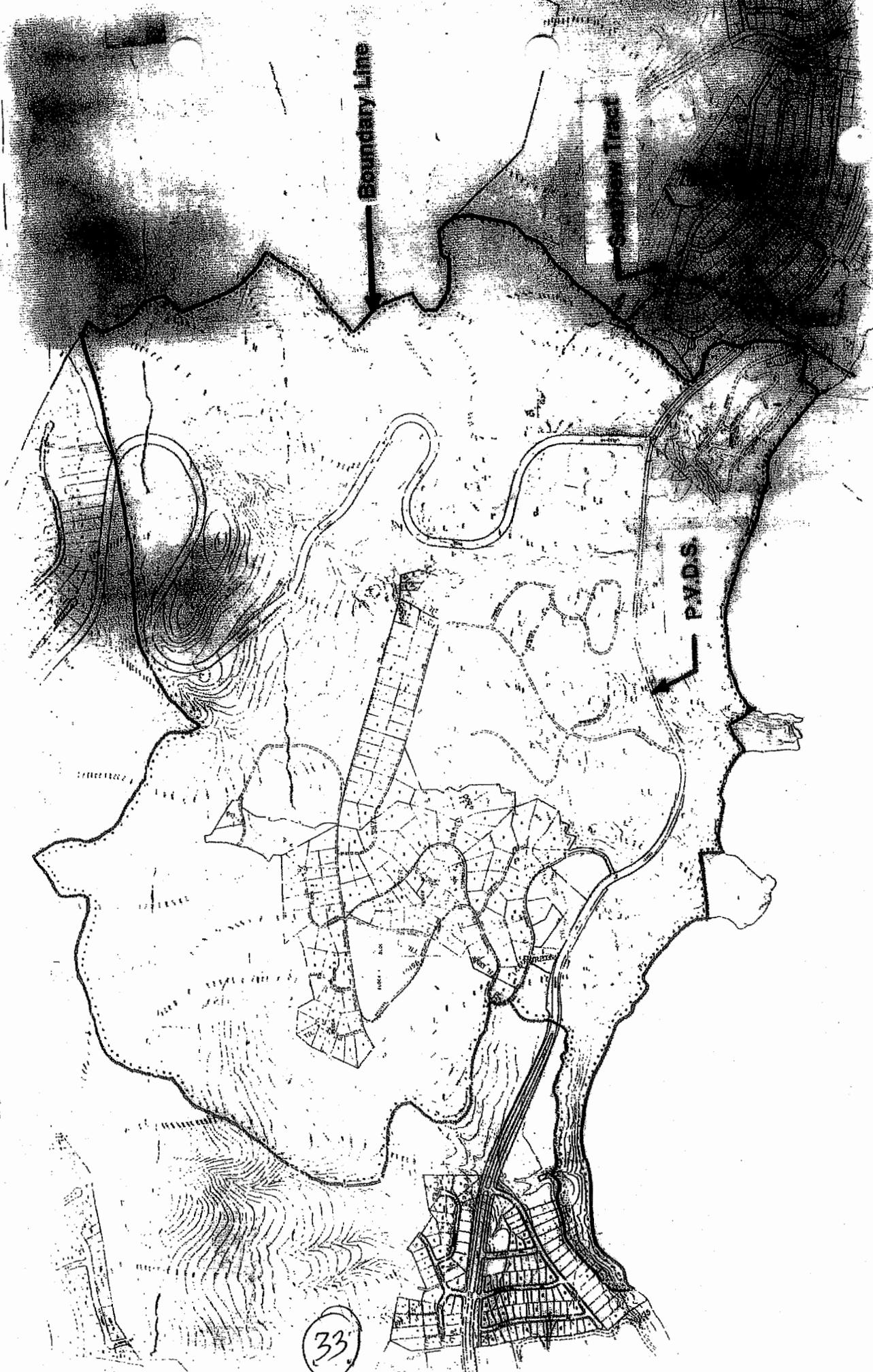
3. The exclusion shall not aggravate any existing geologic conditions in the area.

D. Conditions Upon Issuance of Approval. In granting any exclusion under this chapter, the city council may impose such conditions as may be reasonably necessary to preserve the intent of the goals and policies of the general plan. (Ord. 309 § 4 (part), 1995)

15.20.110 Required connection to operational sanitary sewer system.

Any owner of a lot or parcel within the "landslide moratorium area," as outlined in red on the landslide moratorium map on file in the director's office, which is developed with a residential structure or any other structure that contains one or more operational plumbing fixtures and is served by a sanitary sewer system, as defined in this chapter, shall connect such structure(s) to the sanitary sewer system within six months after the commencement of operation of the sanitary sewer system. Either the director or the director of public works shall determine whether a lot or parcel is served by a sanitary sewer system, whether a structure contains one or more operational plumbing fixtures, or whether the connection to the sewer system is performed properly, including, without limitation, removal, or the discontinuation of the use, of any existing septic system. (Ord. 357 § 5 (part), 2000)

LANDSLIDE MORATORIUM AREA MAP

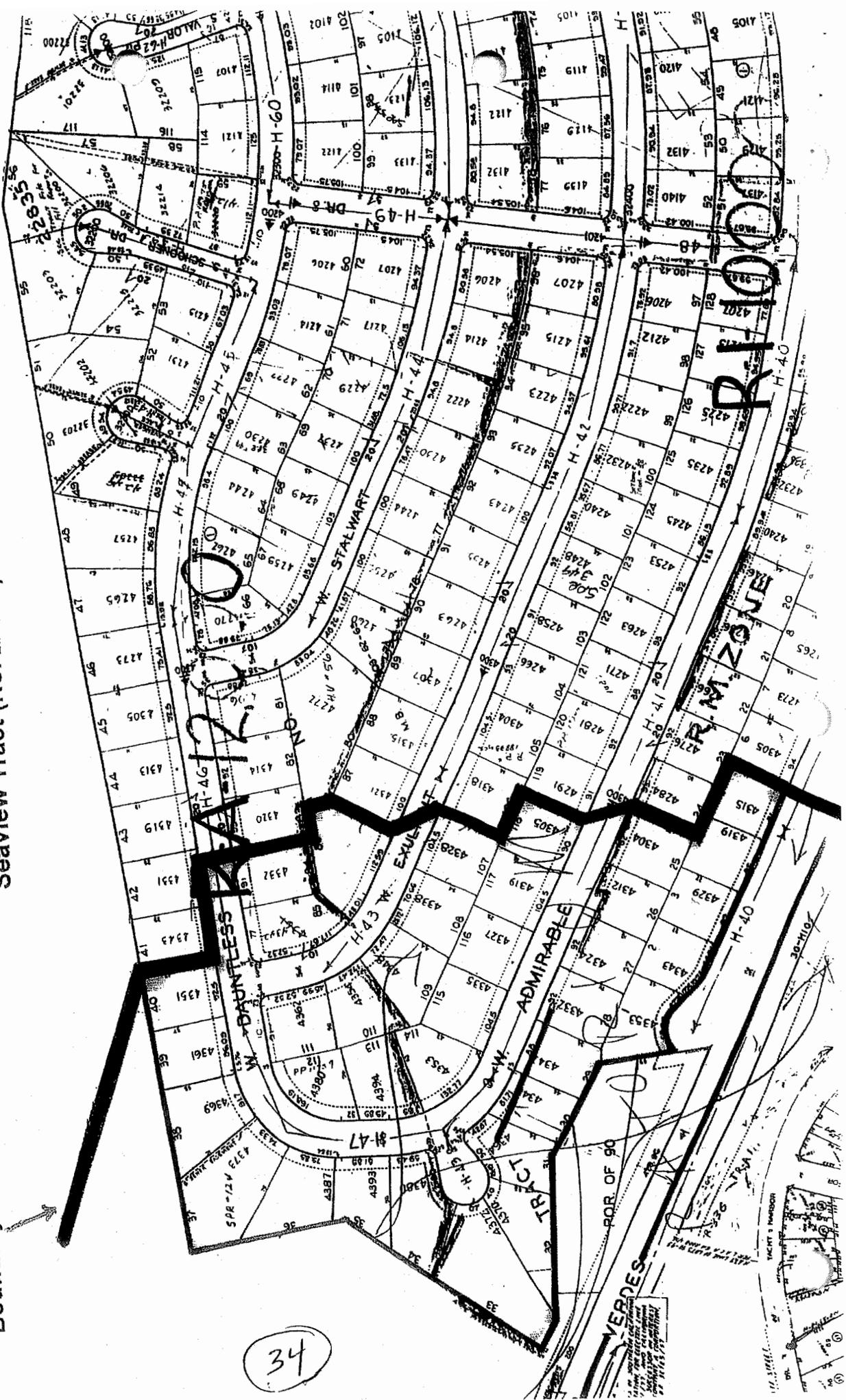


33

LANDSLIDE MORATORIUM AREA "OUTLINED IN BLUE"

Seaview Tract (No. 22835)

Landslide Moratorium
Boundary Line



34



CITY OF RANCHO PALOS VERDES
GEOTECHNICAL REPORT RESPONSE CHECKLIST

Date Received: October 19, 2005 Date Completed: October 25, 2005
 Date of Report: October 17, 2005
 Previous Report: July 31, 2005 Prior Review: September 16, 2005
 Consultant: Hamilton & Associates Their Job No.:

Applicant Name: Mr. & Mrs. Arregoces
 Site Address: 4380 Dauntless Drive
 Rancho Palos Verdes, CA
 Lot/Tract No.:
 A.P.N.:

LEGEND: N = No
 Y = Yes
 NA = Not Applicable

Proposed Project: One and Two Story Additions and Subterranean Garage

Geotechnical Response

N Responsive to Checklist Comments
 Y Grading/Foundation Plans Changed as a Result of Response

Planning Department:

In Concept Approval for Planning Purposes

Building and Safety:

Report Approved Conditional Approval (See Below) Additional Input Required

The site is located within the Blue Area of the Landslide Moratorium Zone as defined in Chapter 15.20.40.K of the City of Rancho Palos Verdes Building Code. The applicant shall abide by the provisions of Section 15.20.050 of the City of Rancho Palos Verdes Building Code.

It should be noted that our firm and the consultant of record have observed a large zone of distress in the street directly adjacent to the subject property. Please see item 2, below.

Items requiring response/further evaluation:

None

Additional Comments/Conditions of Approval (no response required):

1. Note to City Staff: Staff should confirm that the Consultants (C.E.G. and R.C.E./G.E.) have signed the final dated grading/foundation plans, thereby verifying the plans' geotechnical conformance with the Consultant's original report and associated addenda.
2. Note to City Staff: The site is within the limits of the Klondike Canyon Landslide. Staff should be aware that the consultant observed "two distinct patterns of cracking near the intersection of Dauntless Drive and Exultant Drive... Tension cracks are on the order of 0.25 to 1.25 inches wide, with vertical separation in some areas of concrete paving up to 1.25 inches... Cracks like these are indicative of landslide movement..." City staff should be aware of this in deciding whether or not to issue a permit (Blue Area of the Landslide Moratorium Zone).
3. An as graded geotechnical report should be prepared by the project geotechnical consultant following grading of the subject site. The report should include the results of all field density testing, depth of reprocessing and recompaction, as well as a map depicting the limits of grading, locations of all density testing, and geologic conditions exposed during grading. The report should include conclusions and recommendations regarding applicable setbacks, foundation recommendations, erosion control and any other relevant geotechnical aspects of the site. An updated risk assessment statement should be provided to address landslide concerns.

36

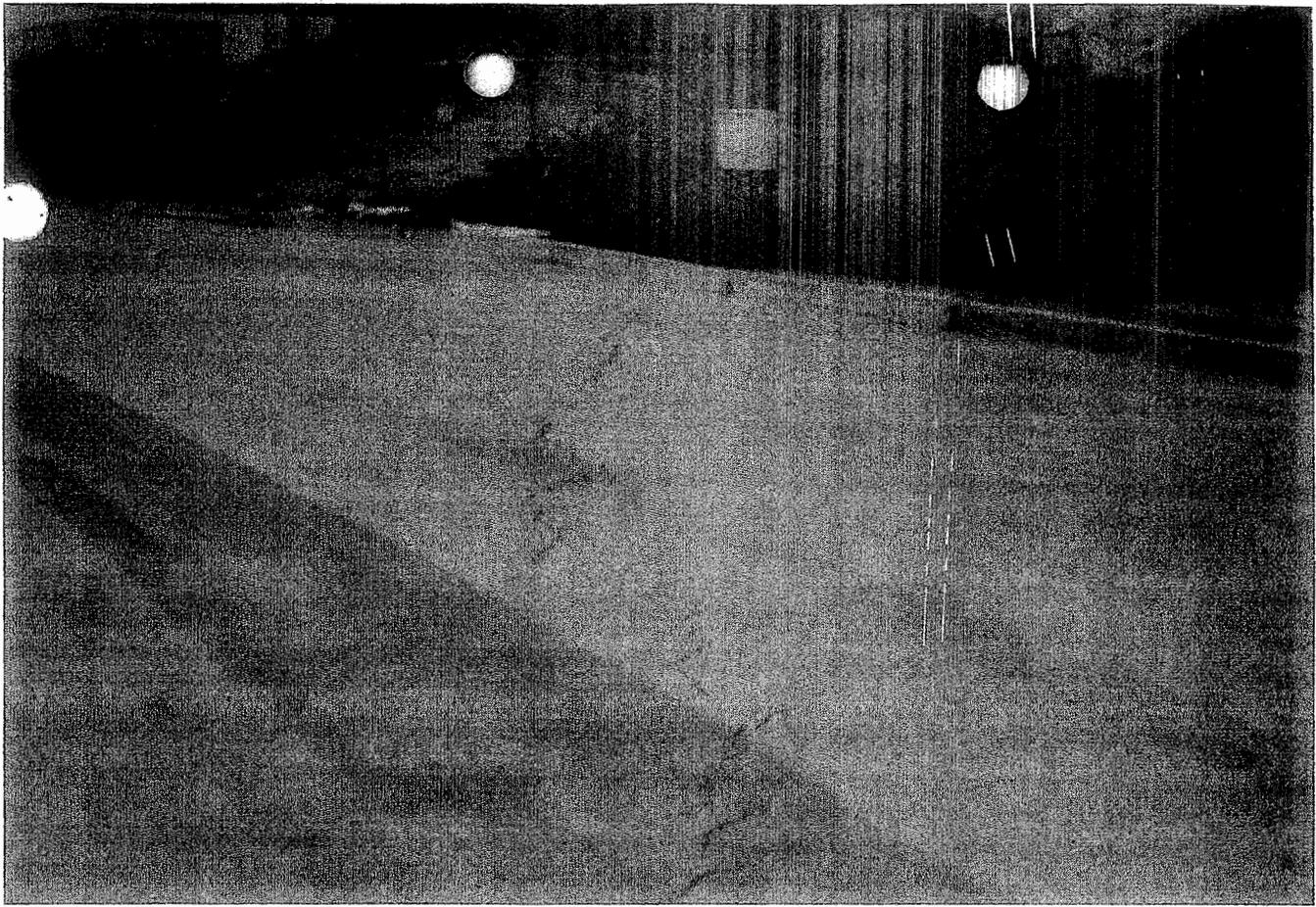
CITY OF RANCHO PALOS VERDES
GEOTECHNICAL REPORT RESPONSE CHECKLIST

Limitations:

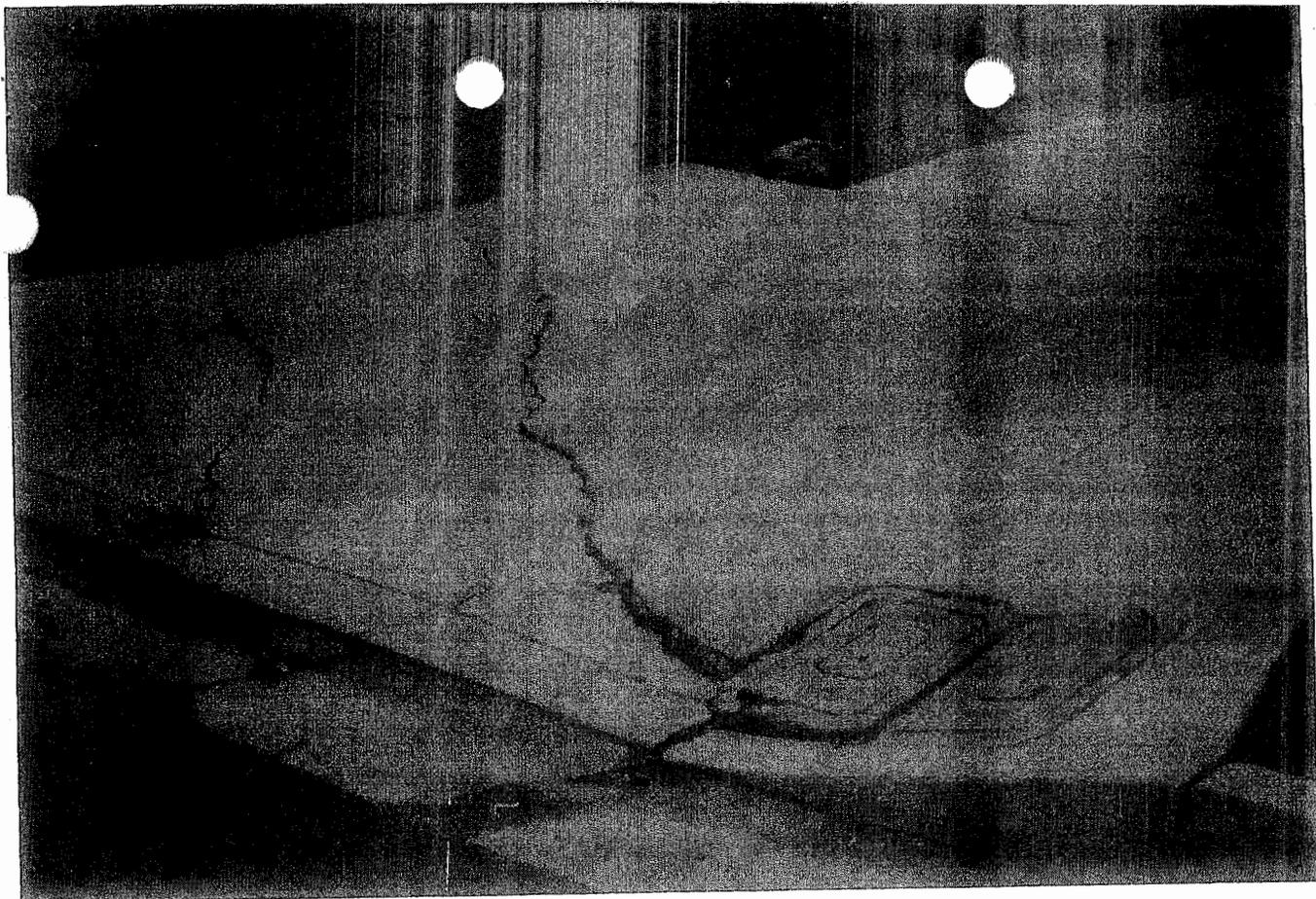
Our review is intended to determine if the submitted report(s) comply with City of Rancho Palos Verdes Codes and generally accepted geotechnical practices within the local area. The scope of our services for this third party review has been limited to a brief site visit and a review of the above referenced report and associated documents, as supplied by the City of Rancho Palos Verdes. Re-analysis of reported data and/or calculations and preparation of amended construction or design recommendations are specifically not included within our scope of services. Our review should not be considered as a certification, approval or acceptance of the consultant's work, nor is it meant as an acceptance of liability for final design or construction recommendations made by the geotechnical consultant of record or the project designers or engineers.

BY: Gail T. Cosulich
Gail T. Cosulich, C.E.G. 1674
ZEISER KLING CONSULTANTS, INC.

BY: Chris A. Spitzer
Chris A. Spitzer, R.C.E. 768988
ZEISER KLING CONSULTANTS, INC.



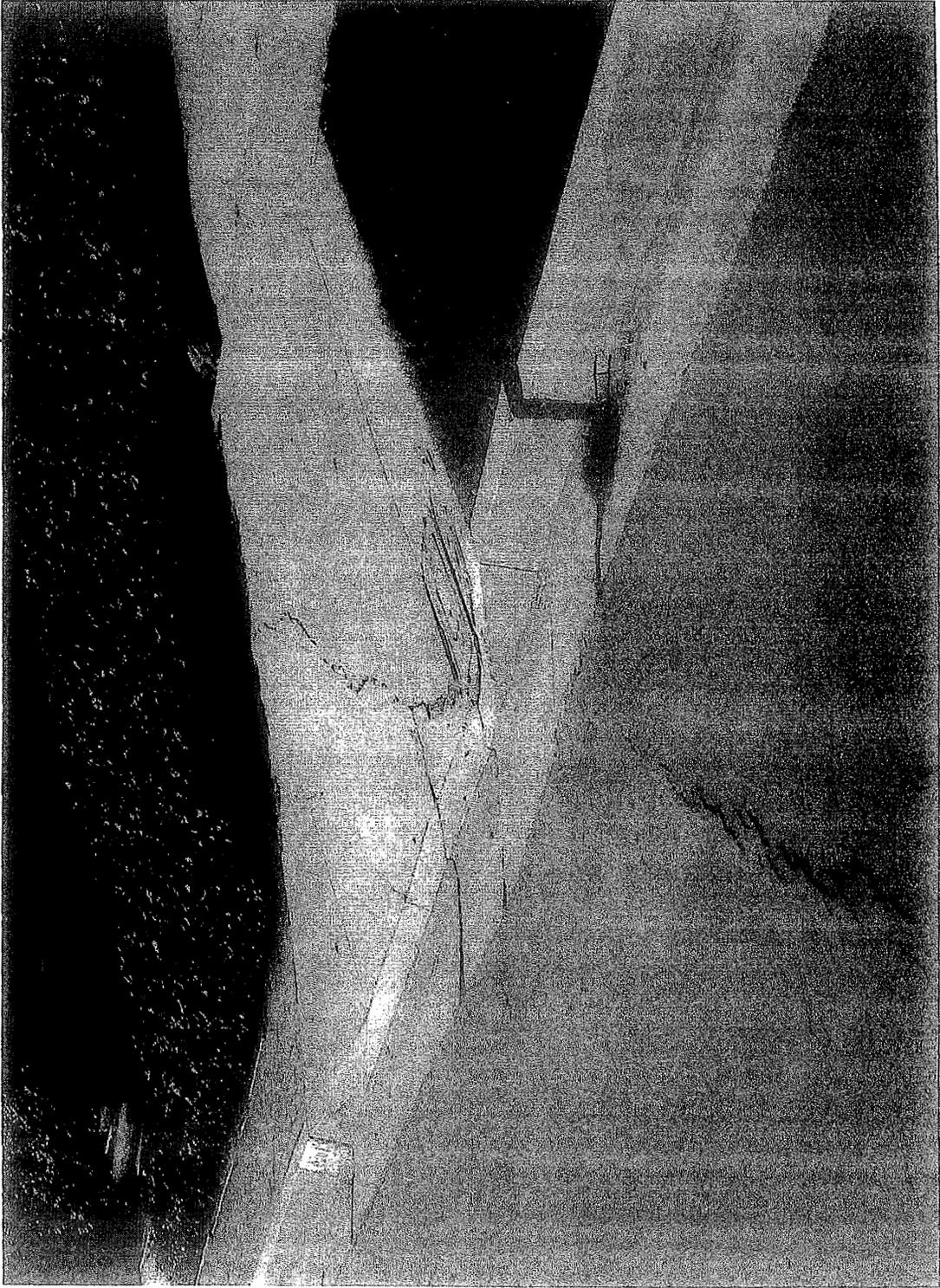
38



39



40



41

To: joelr@rpv.com
From: Les Evans <lese@rpv.com>
Subject: Fwd: Blue zone vs. red zone

From: "Louise Koch" <fckoch@earthlink.net>
To: <cc@rpv.com>
Subject: Blue zone vs. red zone
Date: Tue, 28 Mar 2006 07:48:22 -0800

Dear Council Members,

I have lived in Seaview for 32 years. My husband who taught Geology in the PV Schools investigated the slide area adjacent to Seaview and felt (especially after talking to Geologists in the area) because Seaview was an "anticline" that our area would be safe even if the Klondike slid more or more rapidly. I am now a widow and am very dependent on the good value of our home. Please leave the Seaview homes in the Blue Zone. There certainly seems to be an incredible difference between the Portuguese Bend slide and our area. I have lived in Palos Verdes since 1952 and have seen the changes that the Portuguese Bend slide has wrought loss of the PB Club, the swimming pools and yacht harbor. In all that time Seaview has been very stable. Why equate the two areas by putting Seaview in the Red Zone? Please leave it in the Blue Zone!!!!

Sincerely,
Louise Wiedmann Koch

PS I was out of the country during your meeting and thus could not attend.

42

From: "Tim Burrell" <tim@TimBurrell.com>
To: "Joel Rojas" <joelr@rpv.com>
Subject: Blue Zone Moratorium

Dear Joel: In order to prepare for the next City Council meeting on the Blue Zone, there is some information that I need.

We are looking into the Klondike Canyon Geologic Hazard Abatement to see what efforts we can take to improve the geological condition of the area. With the acquisition of the land adjacent to Seaview that is administered by the Land Conservancy, is the City a landowner in the Klondike Canyon Landslide Abatement District. In other words, is any of that land in the district.

I need the title of any litigation pending against the city dealing with the Red Zone or the Blue Zone of the Moratorium Area. The City Council is talking about waiving confidentiality about some litigation. I am not asking for that. All I want is the name of the lawsuit (s) that deal with that subject matter, and the name of the lawsuit (s) is not confidential, as they are a matter of public record.

Who determines the order of the agenda where our items will come back before the City Council. The last two times we were on the agenda, the hearing was around midnight. Since the next hearing is so important to Seaview, and all its residents, I would like to be heard when the City Council and staff (and myself) are not exhausted.

Please answer any part of this email when you have the information, as we have only 30 days to come back to the City Council, and we have a lot of work to do in order to prepare.

One item that the City Council asked the staff to prepare was a history concerning the adoption of the Blue Zone Ordinance. The staff mentioned some differences between the Blue Zone and the Red Zone in terms of the character of the neighborhoods, i.e. at that time Seaview had sewers and Portuguese Bend did not. There continues to be a difference between the improvements to the two neighborhoods as they relate to water intrusion: Seaview has a comprehensive storm drain system, including curbs and gutters to keep runoff on the streets, so that once water hits an impermeable surface in Seaview it is trapped, taken to a storm drain, and taken out of the landslide. While a portion of Portuguese Bend has added sewers, that area does not have our quality of storm drain system, and their roads do not have curb and gutter, so that any increased runoff is not guaranteed to be taken out of the landslide area. In other words, in Seaview the larger the lot coverage with impermeable surfaces, the less water gets into the landslide. That is not true in Portuguese Bend. I expect you will want to point this out in your analysis of the differences between the areas.

Since I was involved in the early efforts at landslide abatement in this area, and I am a past President of the Rancho de los Palos Verdes Historical Society, please do not hesitate to contact me to provide information on the history of the adoption of the Blue Zone.

Thank you for your consideration.

Tim Burrell,
(310)377-4702, cell (310)714-4777
<mailto:tim@SouthBayHomeTeam.com>

43

To: joelr@rpv.com
From: Les Evans <lese@rpv.com>
Subject: Fwd: Red/Blue zone issue

From: "ROBERT KALMEY" <kalmeyfamily@cox.net>
To: <cc@rpv.com>
Subject: Red/Blue zone issue
Date: Tue, 21 Mar 2006 17:36:13 -0800

Dear City Council

I live at 4263 Admirable Drive and would NOT support changing any area of Seaview to a red zone. Please maintain the neighborhood in a Blue zone status. The changes are not significant enough to warrant a Red zone designation.
Thank you.
Robert Kalmey
4263 Admirable Drive in Seaview
RPV

44

March 21, 2006

City of Rancho Palos Verdes
30940 Hawthorne Boulevard
Rancho Palos Verdes, CA 90275

Attn: The Honorable Mayor and Members of the City Council
City of Rancho Palos Verdes

Subject: Possible Landslide Movement in the Blue Zone
and Proposed Revisions to the Moratorium

As a resident of the Seaview Community and a practicing geotechnical engineer, I have reviewed the geotechnical report dated March 14, 2006, prepared by the City Geologist (Zeiser Kling Consultants), about evaluation of the recent movement related to the Klondike Canyon Landslide. The following is a brief summary of my observations on the findings and recommendations from this report:

The report is based on a review of existing documents related to the slide and an evaluation of monitoring data, with the primary data consisting of a plot of dozen or so points. Considering that the City Geologist was given over 4 months to prepare this report, it is quite limited in scope and lacking in specifics. There were no field investigations performed to explore the subsurface conditions, and to measure the ground water levels in this area, or to assess if other localized features (such as ground settlement or a malfunctioning storm drain) could be contributing to the problem. There is no mapping data presented to show all the surficial features observed in the area and how they correlate in the overall geometry of the Klondike Canyon slide. And there are no specific recommendations for remedial actions to reduce the slide movement; the only recommendations are for further investigations, monitoring and evaluations. (The recommendation about remedial grading seems garbled.)

The accuracy of the survey data used is a major issue that needs further clarification. The report indicates that "the readings show abundant scatter, and appear to be within a range of potential survey error." Therefore, the anticipated error in the data needs to be clarified before we conclude anything solely based on this data.

The frequency of monitoring the slide movements appears to be about once a year or more until January 1999. However, after that over a period of 7 years we have only 4 data points through 2006, with a major gap of 2½ years between the current and the last reading. So how can we conclude that this is an accelerated movement with the major gap in data and uncertainties related to the accuracy of the data? The report conclusion based on one point would also mean that we had accelerated movements in January 1999 and August 2001, which proved to be wrong by the following readings. Therefore, the data needs to be thoroughly checked and evaluated over a long enough period before arriving at conclusions. A single data point cannot be used to decide a trend, much less to decide a policy that affects so many residents.

45

As the report points out, just one dewatering well installed in 1981 resulted in significant reduction in the slide movement. This is a smaller slide that responds well with limited effort. What have we done since 1981 to improve these conditions for the residents of this area? And more importantly, what do we intend to do tonight and in the future to help the residents?

We could take a cue from the 1981 work and do something to actually reduce the movement, like installing an additional dewatering well. We could also monitor the movement a lot more carefully and diligently, just like a diabetic watches his sugar level daily. Since this is a smaller slide, may be even a limited amount of grading can help us well. There could be more innovative solutions that could come out of a detailed evaluation.

Or, we could slap a new ordinance and impose more restrictions on the residents and their properties. Paint it all red, scare all those would-be residents out of the City, and like the staff report says, it won't cost the city a dime to do this. No financial impact.

Let's decide what makes sense.

Thank you.

Sincerely,



Uday K. Patil (4011 PVDS, RPV 90275)

Cc: Ms. Carolyn Petru / Mr. Les Evans

To: carolynn@rpv.com
From: Joel Rojas <joelr@rpv.com>
Subject: Fwd: Blue Zone

From: "Tim Burrell" <tim@TimBurrell.com>
To: <joelr@rpv.com>
Subject: Blue Zone
Date: Wed, 29 Mar 2006 15:27:48 -0500
X-Mailer: Microsoft Outlook, Build 10.0.6626
X-RCPT-TO: <joelr@rpv.com>

The residents of the Blue Zone were reviewing the City Council meeting and wondering about the geological report. When you find a total of 2 inches of movement in a block landslide over 11 years, that translates to 3/16 of an inch per year. The geologist mentioned that the accuracy of the measurements is "give or take" an inch or two. With that level of accuracy, it is hard to tell if anything is happening.

So, a group of residents went along the boundary of the moratorium and the boundary of the potential slide. If the entire block is moving, there should be some cracks someplace other than the intersection of Exultant and Dauntless. In other words, if it is moving out by two inches, there should be other cracking along the boundary of the slide. By going through the yards and talking with the residents, they found no other cracking.

At the intersection of Exultant and Dauntless, there was a water line and sewer that broke, with the water running for about 36 hours. This would cause localized settlement in the nature of a sink hole. The cracking and settling in the gutter would look similar, as one portion of the earth moves. This area has an abundance of fill that was compacted to the standards of 1959 (not much compaction at all), and when it gets wet, it settles dramatically.

The street and gutter at this intersection were left unpatched from May 2005 until last week, adding even more water during our record rains. One spot of localized cracking is much more consistent with localized settlement than an accelerated landslide, particularly when the geologist says that all the time they were actually measuring it, it was moving at a "background creep." If the whole thing is moving, why are there no other cracks?

The City's consultants said there are other more accurate ways to measure the movement, that were used by Keith Tucker in studying the new construction. His figures show considerably less movement than the City's consultant. Also, Uday Patil, a geotechnical engineer, wrote to the City Council saying you cannot show movement in the whole slide mass by studying only one point on one side of the localized movement, particularly when the City's consultant indicates that all the points are not stable and influenced by other sources of movement.

In short, Seaview deserves better information as the basis for a decision. Studying the boundary of the slide shows no cracks along the boundary, only in one place where water saturated one area. It is likely that what we have is a localized settlement, and not an accelerated slide (which is consistent with the City's consultant's actual measurements that all the time they measured it, it was just "background creep").

As we have discussed, there is substantial geological differences between the Blue Zone and the Red Zone. The geological study had such a huge margin for error that it should not be the basis for changing our restrictions, particularly with the new information that shows no cracks along the boundary. Please proceed with any consideration of any changes only based on good science.

Thank you for your consideration.

Tim Burrell
tim@SouthBayHomeTeam.com
310-714-4777

March 27, 2006

City of Rancho Palos Verdes
30940 Hawthorne Boulevard
Rancho Palos Verdes, CA 90275

Attn: The Honorable Mayor and Members of the City Council
City of Rancho Palos Verdes

Subject: Code Requirements and Enforcement
and Proposed Revisions to the Moratorium

During the public hearing on Item 11 on March 21, 2006, there was some discussion on issues related to construction on existing developed residential properties and empty lots. I would like to provide some input on this subject as a practicing geotechnical engineer in Southern California for over 30 years.

There is plenty of precedence for differentiating between an existing developed residential property and an empty lot while enforcing code requirements. The basic rule followed by essentially all the building departments nationwide is: an existing facility is not required to meet the current code requirements retroactively. However, any new project, especially on an undeveloped empty lot, is required to meet the current requirements. This is dealt with on a routine basis for issues like seismic safety, because the seismic code requirements are constantly being modified and upgraded. The rationale is that it would be practically impossible for an existing facility to keep up with such changing code requirements on a continuing basis.

There is no question that the residences in the Blue zone would never be allowed if they were being permitted for the first time today. But it would also be highly unusual to ask them to meet the same exact standards as for a new residence on an empty lot. Generally, the standard of practice is to allow the intended use of the existing facility as well as reasonable modifications on such properties as long as they do not affect life safety on their property or any neighboring properties. Often, the new modifications can result in improving the overall safety of the existing properties. In such cases, the City or County would have plenty of discretion in deciding what is reasonable depending on the specifics of the issues involved. The primary issues include: the definition of failure, consequences of any modifications on the property, past performance, and public safety and any associated liabilities. A broader and detailed assessment of the available margin of safety and the use of engineering judgment are especially important because the 1.5 factor of safety criterion is overly simplistic for dealing with these issues. If the minimum code requirements were to be applied strictly by the book, PV Drive South should not even exist in the area.

The grading requirements in the Uniform Building Code (UBC) were first developed in Southern California following numerous slope failures in the late 50's. At that time, the City of Los Angeles enlisted some leading geotechnical engineers in developing the related code requirements. Initially, the code amendments tried to assure stability of the slopes by limiting the steepness of a slope for different conditions. Later, some time in the early 60's, the additional requirements related to a minimum factor

Page 2
Code Requirements and Enforcement
March 27, 2006

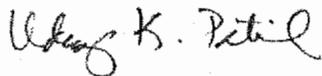
of safety of 1.5 were added. The LA City code requirements (related to grading) were then included in the UBC, which were also incorporated by the County of Los Angeles in their code some time in the mid-sixties or later. It is clear that the Blue zone residences were built prior to the 1.5 factor of safety requirements, and therefore cannot be and should not be required to meet those requirements today.

The building code is intended to provide minimum requirements primarily for life safety, and is not necessarily intended to protect any structures or assets. The Klondike Canyon landslide has always shown very limited movement and has responded well to even limited remedial measures. There is decades of track record and performance history without any problems. The threat of a catastrophic failure (like the Bluebird Canyon landslide) has never been associated with this area. Therefore, even if the residences in the Blue zone do not meet all the current code requirements, they meet the intent of the code in terms of life safety.

In conclusion, I believe, the existing properties in the Blue zone should be treated differently and at this time there is no reason to change the status of these properties.

Thank you.

Sincerely,



Uday K. Patil, P.E., G.E.
(4011 PVDS, RPV 90275)

Cc: Ms. Carolyn Petru / Mr. Les Evans

49