

CITY OF CLAYTON

OAKHURST GEOLOGIC HAZARD ABATEMENT DISTRICT

**GHAD NEWSLETTER
JANUARY 2009**

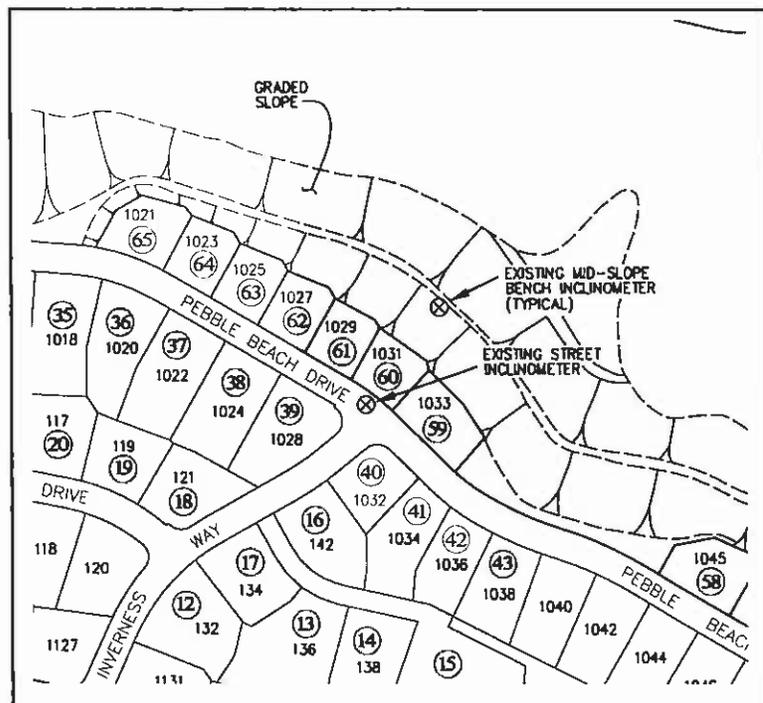
(Note: The six (6) previous Newsletters (dated March 1999; May 1, 2000; March 21, 2001; August 2002; May 2004; and August 2006, may be viewed on the City's Website at www.ci.clayton.ca.us under "City Council" → Geologic Hazard Abatement tabs)

The District's last Newsletter was issued in August of 2006. The topic of that Newsletter was an update on the investigation into the land movement that was occurring in the large open space slope between Golden Eagle Place and Kelok Way.

This newsletter is directed to the property owners within the Peacock Creek portion of the Oakhurst Country Club Development. Due to the significance of this information, the GHAD Board of Directors directed this Newsletter be sent to the Peacock Creek Subdivision property owners by both first-class and certified mail.

Most of the houses in the affected area of the Peacock Creek Subdivision were completed in 1998 and 1999. This means that homebuilder's ten year statute of limitations for latent defects may shortly, or has already, expired depending upon the date of completion. As discussed below, the potential effect of this landslide may be serious damage or destruction of some homes and will not be covered by most homeowner's insurance. Therefore, it is imperative that, in the event you believe your property is at risk, you promptly consult an attorney.

Due to concerns raised by some neighborhood residents in the fall of 2006, the GHAD asked its geologic consultant, Berlogar Geotechnical Consultants ("Berlogar"), to perform a cursory inspection of the Peacock Creek Subdivision area. Berlogar reported that, for the most part, there were no obvious indications of significant distress or movement with the exception of three properties located along the north side of Pebble Beach Drive opposite Inverness Way (Lots 59 – 61: addresses – 1033, 1031, and 1029).



At these locations, Berlogar noted a separation of up to 2-1/2 inches between the back of sidewalk and the residence's driveways. These houses were constructed on fills as deep as 30 feet and are at the top of a very large, steep fill slope (180 feet high) that is located above the Black Diamond Trail and within the City's open space.

Based upon these observations and Berlogar's recommendations, in December, 2006, the Board approved a contract with Berlogar Geotechnical Consultants for the installation and monitoring of two inclinometers. The inclinometers were installed between January 13 and February 5, 2007. One inclinometer was installed to a depth of 63 feet in the street area in front of 1031 Pebble Beach Drive (Lot 60). The second was installed to a depth of 130 feet in the bench located midway down the slope behind 1031 Pebble Beach Drive (Lot 60). After installation, readings of the inclinometers were taken on March 29 and July 25, 2007.

In August, 2007, Berlogar Geotechnical Consultants issued an Interim Report, entitled "Interim Report Slope Inclinometer Installation and Monitoring Program", on their findings (*the full report may be viewed on the City's Website at www.ci.clayton.ca.us under "City Council" → Geologic Hazard Abatement tabs*). The report stated that, in the five months since its installation, the mid-slope inclinometer showed a deflection of 1/2 inch at a depth of 72 feet (40+ feet below any fill materials or work performed by the developer).

On October 25, 2007, additional readings were taken on the inclinometers. The mid-slope inclinometer reading showed that the deflection had increased to 3/4 of an inch since the July reading (3 months). The readings of the inclinometer installed in the street were not yet considered definitive; however, Berlogar felt the readings may indicate that the street area was starting to be impacted by the slope movement apparent in the mid-slope inclinometer. The report recommended expanding the area of slope monitoring by the installation of three additional inclinometers at an estimated cost of approximately \$90,000. Since the GHAD is virtually insolvent, except for some lawsuit settlement funds received from Presley Homes, the Board of Directors deferred making a decision whether or not to proceed with the expansion of the slope monitoring area.

In February, 2008, Berlogar performed another inspection of the slope and surrounding area. As part of the inspection, Berlogar searched for evidence of the subdrain outfalls installed as part of the original slope grading. Per the developer's as-built plans, the slope in question had four sets of subdrain outfalls (west-end, middle, and east-end of the mid-slope bench and at the bottom of the fill slope). Berlogar was unable to locate any evidence of the outlets for the subdrains installed in the westerly portion of the slope nor for the lower subdrains in the middle portion of the slope. The outlets for the upper subdrains in the middle of the slope were located and found to be bone-dry. The outlets for the subdrains in the easterly portion of the slope were found and were discharging between 1/2 and 2-1/2 gallons per minute. In addition, cattails were found on the slope below Lot 58 indicating the presence of a significant amount of subsurface water. Berlogar also noted significant movement and damage in the concrete v-ditches since their last inspection at the time of the January readings.

These findings implied 1) that the middle slope subdrains are not working due to either being plugged or damaged; 2) that since the easterly subdrains are at a much

higher elevation than the middle subdrains, there is a significant amount of build up in the groundwater under the slope; and 3) that the increase in the rate of movement measured in the inclinometer readings is even more disturbing due to the buildup of the groundwater pressures.

Berlogar strongly recommended the GHAD immediately install horizontal drains (hydraugers) in order to relieve the water pressure he believed to be building up under the fill. While this action could not be considered a permanent fix, it was hoped the landslide movement would be slowed or, possibly, temporarily stopped. Due to the urgency expressed by Berlogar, the GHAD immediately authorized the installation of the horizontal drains and payment for the work from the lawsuit settlement funds. Unfortunately, after a considerable emergency expenditure of approximately \$100,000, only minimal groundwater was encountered.

The monitoring of the two inclinometers continued with readings taken in May, August and at the end of October of 2008. The report on the October readings and inspection, dated January 19, 2009, is available on the City's website. Its conclusion is that the on-going slope monitoring program indicates that a landslide is moving below a substantial portion of the Peacock Creek Subdivision. As mentioned above, the slide plane is approximately 40 feet below any fill material and into bedrock. At this point, the slide plane's depth makes it impossible to estimate the slide's potential limits and how many houses may be affected should significant movement occur.

Further, the report states that if the landslide is not stabilized, affected homes may be seriously damaged, and perhaps, in some cases, totally destroyed. The latest readings show that the rate of deformation of the slope inclinometer casing (movement of the earth material along the slide plane) has increased from previous readings. Berlogar expects that the landslide will continue to move and exhibit further definition at the ground surface within a short period of time.

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For questions regarding this Newsletter, please contact GHAD District Manager, Rick Angrisani at 925.363-7433.

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Obligations of the GHAD

Any development of hillside areas brings with it potential problems far beyond those normally associated with residential subdivisions. In order to offset any citywide responsibility for future geotechnical problems in this hillside development, the Clayton City Council, in 1987, required the developer, Presley Homes, to form the GHAD covering all of the lots and open spaces within the Oakhurst development. The GHAD was assigned the responsibility for the maintenance of certain facilities, e.g., concrete v-ditches and open space storm drains. In addition, the GHAD has the authority, **but not the obligation**, to perform repairs to public and private properties caused by certain geologic hazards such as landslides, provided GHAD is given assessment revenues. The sole source of GHAD revenues is property owner approved assessments on their real property.