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December 29, 2003

Maya E Zaitzevsky, Project Coordinator Department of City Planning 200 North Spring Street, Room 763 Los Angeles, CA 90012

RE: Comments on Draft Environmental Impact Report no. ENV-2002-2481-EIR, Canyon Hills Project

#### Gentlemen:

The project and its alternatives have not been designed with environmental sensitivity. The project and all listed project alternatives have a material and significant impact on the Verdugo Mountains and surrounding communities. The environmental impact report has significant omissions and errors. Adequate fieldwork is lacking in many sections discussing major environmental impacts. Studies that could have been easily conducted have not been done.

In view of the significant and serious omissions and errors in the information contained in the draft environmental impact report (DEIR), the environmental impact report consultant should incorporate the suggestions for revision of the DEIR and re-circulate the DEIR for public comment. We ask for this revisions to be made and recirculation to be made under the California Environmental Quality Act (CEQA) Guideline Section 15088.5. The errors and omissions are of a significant nature that would require re-circulation under Section 15088.5.

It is extremely important that the Environmental Impact Report show the potential impact of this development on the community. It is an important tool for the various city bodies to decide if this project should be built as proposed. An inadequate Environmental Impact Report will lead to bad decisions made or detrimental consequences occurring as a result of inadequate disclosure of the development's consequences.

All the issues and concerns that I raise about the accuracy of the Canyon Hills Environmental Report must be addressed and appropriate responses must be given to these issues and concerns that we have raised. I hope that the EIR consultant can respond to my issues and concerns in a meaningful and appropriate manner and that all deficiencies or inadequacies in the EIR be corrected.

We ask that all our comments and recommendations for changes be addressed. I hope that the City of Los Angeles has EIR consultant Christopher Joseph and Associates and related consultants

respond appropriately to all commenting on the EIR. I further ask that all comment letters be available for public access. This includes access during business hours at the Los Angeles City Planning Division and posting all comment letters on the City of Los Angeles website as an appendix to the revised EIR. Many of us do not have access to the Los Angeles Planning Division during normal business hours. This should not be a barrier for the public to have access to everyone's comments. The public has a right to know this information. It is part of the public record on the project.

The applicant must amend or change the EIR to reflect an applicant that is legally entitled to conduct business in California. Our research with the California Secretary of State has found that Whitebird, Inc., the applicant, is not registered to act as a legal foreign corporation in California. It is technically not allowed to do business in this state. Further research indicates that Whitebird, Inc., is a Nevada Corporation, based in Texas. The address used by the applicant is not actually the legal business address of the applicant, but the address of it's consultant, The Consensus Planning Group. The correct legal business address of the applicant must be used and distinguished from its agent of process, its attorney who is located in Los Angeles.

It is unclear why Whitebird, Inc. chooses to operate illegally in this state and own land in its name. If the applicant is actually operating under another company name or legal entity, that name must be put on the application. I believe that CEQA will require that the actual applicant name be disclosed in the EIR and project application. I would hope that all business entities that operate or do business in our community would act in a legal and ethical manner in the way that they conduct business.

I also ask that the social and economic effects of this development on the community be discussed in the EIR in the appropriate sections. Under CEQA Guideline Section 15131, the EIR must discuss the following areas discussed in subdivisions (a), (b), and (c). The project will have social and economic impacts on the community. I also believe that this development as proposed is not economically viable because the lots will not be sold as planned. Also, there needs to be a discussion of the costs of the project and the assumptions of sale of the lots. This needs to be disclosed in the EIR for discussion of the project to be meaningful.

### 15131. Economic and Social Effects

Economic or social information may be included in an EIR or may be presented in whatever form the agency desires.

(a) Economic or social effects of a project shall not be treated as significant effects on the environment. An EIR may trace a chain of cause and effect from a proposed decision on a project through anticipated economic or social changes resulting from the project to physical changes caused in turn by the economic or social changes. The intermediate economic or social changes need not be analyzed in any detail greater than necessary to trace the chain of cause and effect. The focus of the analysis shall be on the physical changes.

- (b) Economic or social effects of a project may be used to determine the significance of physical changes caused by the project. For example, if the construction of a new freeway or rail line divides an existing community, the construction would be the physical change, but the social effect on the community would be the basis for determining that the effect would be significant. As an additional example, if the construction of a road and the resulting increase in noise in an area disturbed existing religious practices in the area, the disturbance of the religious practices could be used to determine that the construction and use of the road and the resulting noise would be significant effects on the environment. The religious practices would need to be analyzed only to the extent to show that the increase in traffic and noise would conflict with the religious practices. Where an EIR uses economic or social effects to determine that a physical change is significant, the EIR shall explain the reason for determining that the effect is significant.
- (c) Economic, social, and particularly housing factors shall be considered by public agencies together with technological and environmental factors in deciding whether changes in a project are feasible to reduce or avoid the significant effects on the environment identified in the EIR. If information on these factors is not contained in the EIR, the information must be added to the record in some other manner to allow the agency to consider the factors in reaching a decision on the project.

#### **Section I. SUMMARY**

I disagree with many of the findings that many of the impacts are less than significant. I have found that many of the project's impacts are significant and will create adverse effects on the community. We believe additional mitigation measures are required in many areas. Please refer to these discussions in our comments that follow in each section.

#### Section II. GENERAL DESCRIPTION OF ENVIRONMENTAL SETTING

The EIR does not mention or show any projects in the La Tuna Canyon or Sun Valley area. Those projects in the La Tuna Canyon or Sun Valley area that are the same distance from the project site as the 13 projects that are discussed in this section must be identified and discussed. They must be discussed in this section and all other sections in the EIR that discuss cumulative impacts from projects in the surrounding area.

The EIR will be misleading if the full impacts of this project and others in the area are not fairly and accurately discussed.

#### Section III. PROJECT DESCRIPTION

The EIR must properly describe the project area. The EIR does not indicate what land the applicant actually owns. The consultant has failed to list the Assessor Parcel Numbers (APN) for all the properties that the applicant considers part of the development and the APNs of the properties that would be specifically impacted by grading, construction, and other improvement or land modification. The consultant has failed to ascertain even if the applicant actually owns the land considered in the application. If the applicant does not own all the parcels of the land area shown in Figures III-1 and Figures III-2 about the site plan and detail, the DEIR is meaningless because the impacts of the proposed development could be significantly different than what is stated.

Some of the roads, grading, and other land alterations and improvements may not be allowed if the applicant does not own the parcels that are intended to be altered. The EIR must describe the project impacts with the land that the applicant actually owns rather than what the applicant intends to own.

The applicant must disclose all lands that they own in the area off the project site. This includes land owned by related parties such as corporations or other business entities with common or similar owners, relatives of the owners or principals of Whitebird, Inc, and corporations or other business entities of relatives of the owners or principals of Whitebird, Inc. This important because if this project is allowed to proceed as submitted, there is a potential that other lands owned by the applicant or related parties may develop their parcels. This is part of the Growth Inducing Impacts of the Proposed Project that must be discussed under CEQA section 15126.2(d).

Also, there is some indication that the applicant's project boundaries are in dispute with possibly more than one property owner. There must be an accurate survey done of the lands that the applicant does own. This survey must be disclosed in the EIR and the project boundaries redrawn to remove the lands in dispute. If the legal ownership of these properties are not the applicant's, the impacts of the project will be different as road and other site improvements would have to be altered for the changes in the project boundaries.

I also do not understand why in Figure IV.D-4 and other figures in this and other sections discussing the project impact show that this development will have direct impacts on the land known as the Duke Development property. The applicant does not explain in this section or other sections what they intend to do with the Duke property. They do not own this land and should properly discuss impacts related to cumulative impacts. If the Duke development is built, it would be a cumulative impact. If the applicant intends to acquire the Duke Development site and impact it, it should disclose this. Otherwise, it is completely inappropriate for the applicant to modify, grade, improve or impact land which is not theirs. The consultant must fully explain why they are discussing impacts for property they do not own.

Also, it must be explained why the EIR indicates that there could be up to 20% remedial grading for the project that could increase the amount of earthwork graded from 4,600,000 cubic yards to over 5,500,000 cubic yards. The assumptions and rationale for this should be explained including how much is earth is estimated to be lost due to shrinkage factors such as graded dirt becoming aerial during the grading process, compaction, and loss of dirt due to runoff or flooding during the rainy season. It should be noted that using a standard 10 wheel dump truck used for excavation work holds about 15 cubic yards of material. If the remedial grading is required and 5,500,000 cubic yards are graded, it would require that 367,667 dump truck trips within the project are required to move the earth on site, if each truck were completely filled.

If these trucks were only 90% full, it would mean that it would require 407,407 truck trips. If you put these trucks that are 25 feet long end to end it would span 1,929 miles which is about 500

miles short of having the trucks go from Los Angeles to New York. This will have an impact on air pollution and construction noise during the construction phase of the development.

The engineering estimates of time and equipment needed to accomplish the grading in these areas are way off. The EIR information is not correct and must be corrected to rectify these errors. According to the information providing in the EIR, the developer may need 8 to 12 times the equipment that is listed on Page IV.E-9 & 10 for Development Area A. In order to complete the grading in Development Area A in 19 months, it requires 833 on-site truck trips per day to haul dirt working every allowable weekday. This means that if each truck took 20 minutes to be filled, drive to an adjacent area to drop off the fill, and return back to be filled it would take 31 trucks operating 9 hours per day continuously to do this. If each truck took 30 minutes to be filled, drive to an adjacent area to drop off the fill, and return back to be filled it would take 46 trucks operating 9 hours per day continuously to do this. The equipment lists only indicate that 4 trucks are needed. Does this also mean that 8 to 12 times the number of support equipment are needed, so that instead of 8 scrapers, 64 to 96 are needed, instead of 2 Cat loaders, 16 to 24 are needed, and instead of 6 tractors, 48 to 72 are needed to complete the task in Development Area A???? Even if it takes 57 months to do the grading in Development Area A, about 3 to 4 times the number of trucks and other equipment will be needed. If the grading time is off substantially, then the project build date is incorrect and all the measurements of build out time and impacts in 2009 are incorrect and must be redone.

# CANYON HILLS DEVELOPMENT NUMBER OF TRUCKS NEEDED & AMOUNT OF GRADING DONE

	DEVELOPMENT AREA A		DEVELOPMENT AREA B	
Amount of Grading with 20% Remedial Grading	4,080,000	cubic yds	1,452,000	cubic yds
No. of Dump Trucks Required- 90% Full*	302,222	truck trips	107,555	truck trips
Grading Time Period	19	months	12	months
No of Working Days in Grading Time Period ** Less Holidays Off Days work stopped	410 (15)	days days	260 (10)	days days
due to Adverse Weather	(32)	days	(20)	days
Total Project Work Days Available	363	days	230	days

Total Truck Trips per Day Required at Each Site	833	truck trips per day	468	truck trips per day
No of Trucks Required on Site Each Day if 27 trips per day****	31	Operating Trucks on Site	16	Operating Trucks on Site
No of Trucks Required on Site Each Day if 18 trips per day*****	46	Operating Trucks on Site	26	Operating Trucks on Site

<sup>\*</sup> Assumes Dump Truck Capacity is 15 cubic yards

According to the information providing in the EIR, the developer may need 4 to 7 times the equipment that is listed on Page IV.E-9 & 10 for Development Area B. In order to complete the grading in Development Area B in 12 months, it requires 468 on-site truck trips per day to haul dirt working every allowable weekday. This means that if each truck took 20 minutes to be filled, drive to an adjacent area to drop off the fill, and return back to be filled it would take 16 trucks operating 9 hours per day continuously to do this. If each truck took 30 minutes to be filled, drive to an adjacent area to drop off the fill, and return back to be filled it would take 26 trucks operating 9 hours per day continuously to do this. The equipment lists only indicate that 4 trucks are needed. Does this also mean that 4 to 7 times the number of support equipment are needed, so that instead of 6 scrapers, 24 to 42 are needed, instead of 2 Cat loaders, 8 to 14 are needed, and instead of 4 tractors, 16 to 28 are needed to complete the task in Development Area B???? Even if it takes 36 months to do the grading in Development Area B, about 1 1/3 to 2 1/3 times the number of trucks and other equipment will be needed. If the grading time is off substantially, then the project build date is incorrect and all the measurements of build out time and impacts in 2009 are incorrect and must be redone.

This is important because without information such as this, it is difficult to evaluate whether the EIR's assertion that the project could be accomplished with balanced on site cutting ridges and filling canyons. If there are material errors in the engineering estimates, it could mean that substantially more ridges or other areas must be bulldozed to achieve an on site balance of grading that have not been previously identified. If this occurs the impacts could be substantially greater and more significant that the impacts listed. Besides increasing the development footpad, if the site is unbalanced in its grading, it could require the importation of possibly thousands of truck loads of earth or other material to achieve a balance. The impacts of a non-balanced grading

<sup>\*\*</sup> Assumes working Monday-Friday during week, 5 working days per week

<sup>\*\*\*</sup> Assumes Work day is 9 hrs from 7am-5pm with 1 hr. off for lunch

<sup>\*\*\*\*</sup> Assumes it takes only 20 minutes for each truck to be filled, drive to drop off fill & return

<sup>\*\*\*\*\*</sup> Assumes it takes only 30 minutes for each truck to be filled, drive to drop off fill & return

project have not been discussed in the current EIR.

Also, if grading 5,500,000 cubic yards instead of the planned 4,600,000 cubic yards for the whole project requires that a larger area of land be graded, that must be disclosed in the EIR. A map showing the additional areas with a description of what will be done must be included in the area. If grading up to 20% more cubic yards of fill necessitates grading possibly another 20% more area or even as little as 5%, it would constitute a significant impact. The maximum potential project impact must be shown in the EIR even if the actual project's impacts are less than the maximum projection.

The EIR must list the impact of both grading and open space modification such as fuel modification in both project areas. It is not clear in this section that 305 acres will be graded or modified in some way which is 34.4% of the applicant's property assuming that the applicant actually owns the full 887 acre tract discussed in the EIR. This is a very significant impact because it affects roughly 3 or more percent of the entire remaining open space in the Verdugo Mountains. Each project over the years has taken small chunks of the open space in the Verdugo Mountains. This project will destroy or modify a significant amount of the remaining open space of the Verdugo Mountains.

The section discusses that about 176 acres would be graded in Development Area A and that about 65 acres would be graded in Development Area B for a total of about 241 acres. However, this section does not discuss additional acreage in each section that will be fuel modified to remove vegetation that is currently there to create defensible fire zones. This section does not discuss how much many acres of modified open space will be in each development area.

The EIR must discuss the current slope and average slope of the site areas proposed to be developed. The EIR must discuss the slope and average slope after the project would be developed of the impacted areas. This important for decision makers to determine whether the project engineering information is accurate and the allowable number of residences under the City of Los Angeles slope density ordinance.

I have excerpted this ordinance below:

### §17.50

E. Slope Density. (Added by Ord. No. 162,144, Eff. 5/11/87.) In Hillside Areas as defined in Chapter IX of the Los Angeles Municipal Code which are designated in the Minimum Density housing category by the applicable element of the General Plan adopted by the City Council, the dwelling unit density shall not exceed that allowed by the following formula:

D = (50 - S)/35

Where: D = the maximum number of dwelling units per gross acre allowable, and

S = the average natural slope of the land in percent

Where the total allowable number of dwelling units per parcel map or tentative tract map calculated under the above formulas results in a number other than a whole number, it shall be rounded to the nearest whole number as follows: where the fractional portion of the total allowable number of dwelling units equals .5 or more, the total number of allowable dwelling units shall be rounded to the next larger whole number; where the fractional portion of the total allowable number of dwelling units equals less than .5, the total number of allowable dwelling units shall be rounded to the next smaller whole number

In no case shall the permitted density be less than 0.05 dwelling units per gross acre. Average natural slope is slope prior to any grading. Where previous grading on a site makes it difficult to determine average natural slope using the above formula, the Director of Planning shall determine the average natural slope in a manner to carry out the purpose and intent of this subsection.

The average natural slope in Section 17.50 is calculated under the following LAMC section.

#### §17.02

# Average Natural Slope (Added by Ord. No. 162,144, Eff. 5/11/87.)

The average of the ungraded slopes at selected contours within a given parcel of land divided by its areas as computed from either the City Engineer's topographic maps or a topographic map prepared by a registered civil engineer or licensed land surveyor. Average natural slope shall be computed by the following formula:

 $S = (C \times L)/A \times 100$ 

Where: S = average natural slope in percent.

C = contour interval in feet, at not greater than 25-foot intervals, resulting in at least 5 contour lines.

L = total accumulated length of all contours of interval "C" in feet.

A = the area being considered in square feet.

Slopes may be computed by the entire parcel area or by 500-foot grid increments, as shown on the City Engineer's topographic maps.

If the Average Natural Slope of the project site is 49% or greater, the applicant would only be allowed .05 residences per acre. So, only 1 residence per 20 acres could be built. This ordinance was passed in 1987, 9 years before the applicant began acquiring the project site land. Changing the project site slope is a significant and unavoidable impact to the land and must be stated as such in the EIR. The project must conform with the slope density ordinance.

On page 4 of this section, there is a discussion and table of the number of lots and pad sizes in each development area. However, their location must be described and shown in the EIR. We must be able to evaluate whether, the pad sizes and lots are feasible in the development as described. Without this information, we might surmise that the development as proposed may not be feasible and the pads that are actually developed may be significantly smaller in size as

proposed or significantly more grading must be done to achieve the desired pad sizes.

For the lots that are custom lots with custom pads, the minimum and maximum pad size must be described. This is important to determine if this is in conformity with all city ordinances and regulations that govern buildable areas.

The lot size and pad size of all pads must be disclosed also to determine if the project is feasible and all city regulations and ordinances are followed regarding building versus lot size. This must be disclosed for both Development Areas A and B.

The EIR must discuss in greater detail the entitlement process and expected lengths of time to receive the different entitlements sought. In some other sections of the EIR, expected time frames are discussed. Those time frames could be significantly impacted if the expected time frames to receive the entitlements are substantially different than planned. As there are no time frames discussed about obtaining entitlements, it is not possible to judge whether any time frames discussed are realistic in the context of obtaining permits.

If it takes longer than anticipated to obtain these permits, it could alter this development's threshold of significant impact for the community. For example, with current growth rates in population, if the project were completed in 15 years instead of 5 years, many of the local schools would be at a point where they may be close to their enrollment capacity or have exceeded it. Thus, in 15 years if 5 students cause this project to exceed the enrollment capacity of any school, this would be a significant impact. However, if in 5 years, the project's students would not cause the same schools to exceed enrollment capacity (due to increases in area population), then that would not be a significant impact.

We disagree with many of the project objectives. It is misleading to state some of these objectives. These must be changed to present fairly and accurately what the project objectives are.

The applicant states as one objective, "To provide a substantial amount of high-quality housing for local and area residents to meet existing and future needs of those desiring to live in the northeast San Fernando Valley and to help alleviate the substantial housing shortage in the City." According to the EIR, only 831 residents will live in this new development and it will create only 280 households. According to the 2000 census figures in Section IV.H of the EIR, the City of Los Angeles had 3,852,993 residents and 1,323,882 households. This development would allow the number of residents in the city to increase by 0.02% and number of households to increase by .02%. This is hardly alleviates any of the substantial housing shortage in the City.

The applicant states as another objective, "To provide greater regional housing opportunities for homebuyers and assist in satisfying the housing needs for the region." The EIR indicates that these houses may have an average size of 4,000 square feet. Houses in this area of that size tend to be priced in excess of \$1,000,000. Unless the applicant plans to provide low income housing or subsidies of purchase costs, these expensive homes will do little to provide greater regional

home opportunities for homebuyers. It will not really assist in satisfying the housing needs of the region either. The region needs affordable housing for residents. People that will be able to purchase homes priced \$1,000,000 or more will probably have to have household incomes in excess of \$250,000 per year. This development will not assist in satisfying the housing needs for the region.

The applicant states as another objective, "To invigorate the local economy by providing employment and business opportunities associated with the construction, use, and occupancy of the proposed project". The EIR does not really discuss the actual economic impact on the local economy. There is no measurement of the effect. The applicant is an out of state developer. The profit from this development will go to out of state investors and will not benefit the local economy.

The applicant states as another objective, "To provide ample equestrian and other recreational amenities, as well as significant passive open space and landscaping areas." The project will eliminate the possibility of having this area as equestrian estates as these lots will be too small for housing horses. The equestrian park will have little room for park users that drive vehicles to the site. Thus, this project will not provide ample equestrian amenities.

The applicant states as another objective, "To establish a low-density residential community that avoids the crowded appearance of a typical subdivision". In the La Tuna Canyon area, the residences there are equestrian homes with a large amount of open space. This development will appear to be a typical subdivision by comparison with this community.

The applicant states as another objective, "To provide a peaceful, attractive residential development within the context of the surrounding man-made and natural environment, and separate and shield the development to maximize environmental and land use compatibility with surrounding uses". The development will not be very peaceful as many if not most of the homes, since it is so close to the freeway will experience noise levels even after mitigation close to the maximum normal level of 67 dB of Caltrans guidelines. The development is environmentally insensitive with possibly grading as much as 5.5 million cubic yards of fill according to the EIR. The development could have proposed substantially less grading and utilize the natural contours of the land and habitat to design the development. The proposed land use is incompatible with current zoning regulations and land use classifications. The land use is also incompatible with surrounding land uses as this development will eliminate the rural atmosphere that is found in the area and will not allow the property to be used as equestrian estates.

The applicant states as another objective, "To locate the residential development in proximity to existing infrastructure and services where possible". The residential development is far away from services and stores that residents will need to utilize. This will require numerous vehicle trips to obtain those services and acquire goods required by the residents. Additionally, the area is not served by public transportation which will handicap the residents from eliminating vehicle trips from the project.

The applicant states as another objective, "To provide safe, efficient and aesthetically attractive streets in the residential development with convenient connections to adjoining arterial and freeways, while minimizing traffic impacts on existing residential neighborhoods". The applicant has stated no plans for street landscaping and street design for aesthetics that is described in the EIR. It is misleading to believe that the streets will be aesthetically attractive with no landscaping plan in place. The development will have significant impacts on local traffic that will not be mitigated. We discuss those later in the traffic section of our comments.

The applicant states as another objective, "To minimize impacts to important natural landforms and significant natural resources". The development will grade up to 5.5 million cubic yards of fill. This is more than any alternative that is described in the EIR or could be done instead being sensitive to land forms and natural contours. This development seems to maximize the impacts to the natural landforms, because the project's terrain is not suitable for the development that is proposed. The development when looking at the visual simulations in the EIR will cut many ridges, fill canyons, and destroy many other natural landforms found on the project site. This development eliminates many significant natural resources such as rare habitats, rare plants, and rare animals.

The last goal that the applicant states is, "To develop a residential project on the project site that is financially viable and thereby permits (1) the donation or dedication of all of the project site located outside the Development Areas to an appropriate public agency or nonprofit entity and (2) the development of public and private equestrian and other recreational amenities on the project site". The property owner is not guaranteed a right to a financially viable project. The developer purchased the land knowing that it was subject to certain zoning restrictions, land use classifications, slope density ordinance, hillside protection ordinances, the Los Angeles General Plan and the local Community Plan. Those land use restrictions were in place when the land was purchased by the applicant. For the applicant to change all the above mentioned restrictions to build something that is not compatible with all those restrictions is a risk that the applicant has taken. The applicant should have made a plan to have a financially viable project taking into account all the land restrictions that existed on the property at the time of purchase. The development will really not add to the recreational opportunities in the area as we further discuss in our comments on the recreation section.

Also, if the Army Corps of Engineers is to use this document to determine the appropriateness of requiring a Section 404 permit or other approvals required regarding this development impacting the Waters of the United States, there must be a discussion of the size of the waters of the United States on the property, the location of these and how much of the Waters of the United States are expected to be destroyed, modified or impacted.

The EIR must include information pursuant to CEQA guideline Section 15124(d)(2), "If a public agency must make more than one decision on a project, all its decisions subject to CEQA should be listed, preferably in the order in which they will occur." The City of Los Angeles will make multiple decisions concerning this project. These decisions must be listed in the EIR according to CEQA guidelines.

The EIR must disclose the properties owned by the applicant. The listing the APNs would be the easiest way and most meaningful way to list the properties owned and impacted by the applicant. The EIR must disclose the underlying assumptions and estimates used in the engineering estimates of what will be graded to achieve a balanced on site grading project and the maximum grading impacts of the project. Engineering information in the EIR appears to be erroneous. The EIR must be redone to incorporate correct information. Also, the EIR must disclose information including maps of the lot and pad sizes of all lots that are proposed in both development areas. The EIR must discuss the current slope and slope after development and the allowed project under LAMC slope density ordinance. The project objectives must be changed or modified.

### Section IV. A GEOLOGY AND SOILS

The EIR must discuss and recommend mitigation measures that need to taken to insure slope stability if the project area was inundated with precipitation and runoff from a 100 year flood, an event expected to occur once every hundred years. The EIR does not discuss flood or mudflow impacts in the proposed fill areas. This must be discussed in the EIR and mitigation measures must be discussed.

The hazards of mudflows, debris flows or landslides are real in hillside areas. They are of special concern in hillside areas that have been altered by development.

The United States Geological Survey describes these hazards on their website. We have included parts of their hazard description in our response.

### **Hazard Fact Sheet**

The term landslide includes a wide range of ground movement, such as rock falls, deep failure of slopes, and shallow debris flows. Although gravity acting on an over steepened slope is the primary reason for a landslide, there are other contributing factors:

- erosion by rivers, glaciers, or ocean waves create oversteepened slopes
- rock and soil slopes are weakened through saturation by snowmelt or heavy rains
- earthquakes create stresses that make weak slopes fail
- earthquakes of magnitude 4.0 and greater have been known to trigger landslides
- volcanic eruptions produce loose ash deposits, heavy rain, and debris flows
- excess weight from accumulation of rain or snow, stockpiling of rock or ore, from waste piles, or from man-made structures may stress weak slopes to failure and other structures

Slope material that become saturated with water may develop a debris flow or mud flow. The resulting slurry of rock and mud may pick up trees, houses, and cars, thus blocking bridges and tributaries causing flooding along its path.

Where do landslides occur?

Landslides occur in every state and U.S. territory. The Appalachian Mountains, the Rocky Mountains and the Pacific Coastal Ranges and some parts of Alaska and Hawaii have severe landslide problems. Any area composed of very weak or fractured materials resting on a steep slope can and will likely experience landslides.

Although the physical cause of many landslides cannot be removed, geologic investigations, good engineering practices, and effective enforcement of land-use management regulations can reduce landslide hazards.

USGS scientists continue to produce landslide susceptibility maps for many areas in the United States. In every state, USGS scientists monitor streamflow, noting changes in sediment load carried by rivers and streams that may result from landslides. Hydrologists with expertise in debris and mud flows are studying these hazards in volcanic regions.

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The United States Geological Survey gives some recommendations for those in hillside areas regarding dealing with landslides and debris flows.

# If you live near steep hills

### **Before Intense Storms**

- Become familiar with the land around you. Learn whether landslides or debris flows have occurred in your area by contacting local officials, state geological surveys or departments of natural resources, USGS maps, and university departments of geology. Slopes where landslides or debris flows have occurred in the past are likely to experience them in the future.
- Support your local government in efforts to develop and enforce land-use and building ordinances that regulate construction in areas susceptible to landslides and debris flows. Buildings should be located away from known landslides, debris flows, steep slopes, streams and rivers, intermittent-stream channels, and the mouths of mountain channels.
- Watch the patterns of storm-water drainage on slopes near your home, and note especially the places were runoff water converges, increasing flow over soil-covered slopes. Watch the hillsides around your home for any signs of land movement, such as small landslides or debris flows or progressively tilting trees.
- Contact your local authorities to learn about the emergency response and evacuation plans for your area, and develop your own emergency plans for your family and business.

### **During Intense Storms**

- Stay alert and stay awake! Many landslide and debris flow fatalities occur when people are sleeping. Listen to a radio for warnings of intense rainfall. Be aware that intense short bursts of rain may be particularly dangerous, especially after longer periods of heavy rainfall and damp weather.
- Listen for any unusual sounds that might indicate moving debris, such as trees cracking or boulders knocking together. A trickle of flowing or falling mud or debris may precede larger landslides. If you are near a stream or channel, be alert for any sudden increase or decrease in water flow. Such changes may indicate landslide activity upstream, so be prepared to move quickly. Don't delay! Save yourself, not your belongings.
- If you are in areas susceptible to landslides and debris flows, consider leaving if it is safe to do so. If you remain at home, move to a part of the house farthest away from the source of the landslide or debris flows, such as an upper floor, but keep an escape route open should it become necessary to leave the house.
- Be especially alert when driving. Embankments along roadsides are particularly susceptible to landslides. Watch the road for collapsed pavement, mud, fallen rocks, and other indications of possible landslides or debris flows.

#### **After Intense Storms**

• **Keep looking** for signs that the land is moving. Landslides can occur weeks or months after intense storms.

The USGS indicates that the debris flows and landslides have been more acute with weather phenomena like El Nino. From their publication "Debris Flow Hazards in the United States" the USGS have written, "Highly destructive debris flows occur in many areas across the United States. Hilly areas subject to prolonged, intense rainfall are particularly susceptible. Areas throughout southern California are frequently beset by debris-flow problems, and public agencies have expended vast resources on massive debris-protection systems for more than 65 years. The San Francisco Bay region also has experienced damaging debris-flow episodes throughout this century. El Niño, the ocean-warming phenomenon that can produce heavier-than-usual rainfall in certain areas of the United States, was associated with countless debris flows in Utah, when El Niño's increased rainfall effects were felt during the early 1980's.

Hilly areas of Hawaii experience much destruction from debris flows, as do areas of extreme northern California, Idaho, Oregon, and Washington. The mountains of Colorado and the Sierra Nevada of California have also experienced debris flows in areas receiving high rates of rainfall, rapid snowmelt, or a combination of these. As more people populate hilly areas of the west, the potential for damage from debris flows increases."