**LAWRENCE B. KARP**
**CONSULTING GEOTECHNICAL ENGINEER**

FOUNDATIONS, WALLS, PILES
UNDERPINNING, TIEBACKS
DEEP RETAINED EXCAVATIONS
SHORING & BULKHEADS
CEQA, EARTHWORK & SLOPES
CAISSONS, COFFERDAMS
COASTAL & MARINE STRUCTURES

SOIL MECHANICS, GEOLOGY
GROUNDWATER HYDROLOGY
CONCRETE TECHNOLOGY

April 16, 2010

Mayor & City Council
City of Berkeley
2180 Milvia Street
Berkeley, CA 94704

Subject: 2707 Rose Street (Use Permit)

Dear Mayor & City Council:

I have reviewed the architectural plans and topographic survey filed with the Zoning Administrator for the proposed project and I have visited the subject site on several occasions. I am familiar with the area having been involved since 1960 with new residences on Buena Vista and La Loma, and with remedial foundation design and construction on Euclid, Le Roy, Shasta, Tamalpais, and Maybeck Twin Drive.

The file, and the Administrative Record last updated on 3/1/10, do not show a geotechnical report being part of the record and it appears that the plans were not prepared pursuant to site specific geotechnical engineering recommendations for earthwork (excavations, subdrainage, placement of engineered fill). The architectural Conceptual Grading Plan (Sheet 16) gives cut and fill quantities but the Transverse Section Looking East (Sheet 14) indicates fills are placed directly on very steep existing slopes.

The project site is located alongside the major trace of the Hayward fault and it is mapped within a state designated earthquake-induced landslide hazard zone. Although the site as now configured appears stable, Rose Steps and the concrete of the elevated part of La Loma are cracked from fault creep and other ground movement. An alternative project should be considered to avoid grading with massive excavations and fills as well as the shoring and retaining walls necessary to achieve grades shown on the drawings.

Portions of the major fill for the project are shown to be placed on an existing slope inclined at about 42° (~1.1h:1v) to create a new slope more than 50° (~0.8h:1v). These slopes cannot be constructed by earthwork and all fill must be benched and keyed into the slope which is not shown in the sections or accounted for in the earthwork quantities. To accomplish elevations shown on the architectural plans, shoring and major retaining walls not shown will have to be constructed resulting in much larger earthwork quantities than now expected. The massive grading necessary to achieve grades for the proposed project will involve extensive trucking operations, as a nearby site to stockpile and stage the earthwork is not available. Such work has never before been accomplished in the greater area of the project outside of reservoirs or construction on the University of California campus and Tilden Park. In my professional opinion, the project as proposed is likely to have very significant environmental impacts not only during construction but in service due to the probability of seismic lurching of the oversteepened side-hill fills.

Yours truly,

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