NABIH YOUSSEF ASSOCIATES
STRUCTURAL ENGINEERS

August 20, 2012

Mr. Matt Ceragioli
UCLA Real Estate
10920 Wilshire Boulevard, Suite 810
Los Angeles, CA 90024

Re: University of California Seismic Rating for 1131 Wilshire Boulevard, Santa Monica

Dear Matt:

Nabih Youssef & Associates (NYA) have performed an Independent Review of the 3-story office building located at 1131 Wilshire Boulevard in Santa Monica. The review consisted of a site visit to observe the existing condition of the exposed structural elements, review of the structural drawings at City of Santa Monica Department of Building and Safety, identification of potential falling hazards that pose a significant life or safety risk to occupants, and a seismic risk assessment.

Description:

The building is a 3-story steel frame with 3-levels of below-grade parking. The building rectangular shaped in-plan with overall dimensions of 98'-8" by 98'-8". The structural drawings were prepared by MBM, Inc. and dated February 23, 1981. The building was constructed in 1981 and likely designed to the 1979 edition of the Uniform Building Code.

The above-grade floors and roof are constructed of plywood sheathing supported by 2x wood joists that span to wide flange steel beams. The steel beams are supported by wide-flange steel girders and columns. The first floor and below-grade floors are constructed of 10" and 9" thick, respectively, post-tensioned concrete slab supported by concrete columns and perimeter reinforced concrete walls.

The foundation system consists of isolated concrete spread footings supporting the interior columns, continuous concrete strip footings beneath the concrete walls and a concrete slab-on-grade at the third below-grade level.

The lateral-force-resisting system consists of the plywood roof and floors acting as structural diaphragms to transfer seismic inertial forces to welded steel moment frames and plywood shear walls that are continuous to the first floor. At the first floor, the seismic forces are transferred through the concrete slab to the perimeter reinforced concrete walls.

Observation:

A site visit was performed by Jason Braun of NYA on August 14, 2012, to observe the condition and characteristics of the building. Observations were limited to visible areas of the structure. The building appeared to be in good condition and there were no obvious signs of distress.

No significant potential falling hazards were observed.

Evaluation:

The site is not subject to the jurisdiction of the Alquist-Priolo Special Studies Zone Act. The building is founded on older alluvium that consists of medium dense to very dense sand, clay and silt with gravel that is not susceptible to liquefaction. Therefore, the potential for earthquake induced site failure is very low.

The welded steel moment frame connections are pre-Northridge connections, which were standard practice at the time of construction. These connections are no longer allowed by current building codes. A previous engineering letter report by John A. Martin & Associates, dated May 28, 1997 to UCLA-Business Finance references letters by EngleKirk & Sabol, Inc., dated June 18 and 27, 1996 that indicate the welds of the moment connections in the building were investigated. The investigation results indicated that the welds were not damaged by the January 17, 1994 Northridge Earthquake.

The building has a complete load path to transfer seismic forces to the foundations. The roof and floor diaphragms appear to have adequate strength with no major openings. There are no significant strength or stiffness irregularities in the vertical elements of the lateral system.

Seismic Risk Assessment:

Based on the review of the structural drawings and visual observations, a seismic risk assessment considering building stability, site stability, seismic ground motion hazard and building damageability was performed. The on-line seismic risk assessment tool *SeismiCat,* developed by ImageCat, Inc., for screening of buildings for seismic risk, was used. The assessment was performed to the Level 1 requirements of ASTM E-2026.

The Scenario Expected Loss (SEL) for ground shaking hazards having 10% probability of exceedance within a 50-year exposure period (BSE-1) was calculated. The SEL corresponds to the Implied Seismic Damageability, as defined by the 2011 UC Seismic Safety Policy. The SEL for the building is 11%. The report generated by SeismiCat is attached.

Conclusion:

Based on our review of the structural drawings, prior engineering reports, observations made during our site visit, and the results of the seismic risk assessment, the expected earthquake performance of the building corresponds to the University of California seismic rating of "IV" ("Fair").

References:

Set of structural drawings for the 1131 Wilshire Bouleard, as prepared by MBM, Inc., dated February 23, 1971.

Structural Observation Report, as prepared by John A. Martin & Associates, dated May 28, 1997.

Seismic Hazard Zone Report for the Beverly Hills 7.5-Minute Quadrangle, Los Angeles County, CA, prepared by State of California, Department of Conservation Division of Mines and Geology, Report No. 023, 1998.

State of California Seismic Hazard Zone, Beverly Hills Quadrangle, March 25, 1999.

University of California Seismic Safety Policy, August 25, 2011.

Sincerely,

NABIH YOUSSEF & ASSOCIATES

Nabih Youssef, S.E.
Principal

Enclosure

cc: N. Youssef; O. Hata; File 12242.00

Earthquake Risk Analysis Summary

1131 Wilshire Blvd

Project Number: 12242.00
Analyst Name: Jason Braun PE
Analysis Date: 2012-08-17 14:26:39

Project Name: 1131 Wilshire Blvd
Property ID: 799
Site Name: 1131 Wilshire Blvd
Site Address: 1131 Wilshire Blvd
City: Santa Monica **State:** CA **ZIP:** 90401
Latitude: 34.025271 **Longitude:** -118.491181

1. Introduction

SeismiCat is a web-based seismic risk assessment tool for individual buildings. For seismic hazards, SeismicCat uses ground shaking data from the USGS National Seismic Hazard Mapping Project [Petersen et al, 2010], together with digital maps of ground conditions, faulting and liquefaction. SeismiCat offers three vulnerability models: ATC-13, Code-Oriented Damage Assessment (CODA), and HAZUS-MH. SeismicCat provides estimates of Scenario Loss (SEL and SUL), Probable Loss (PL), and Average Annual Loss (AAL).

2. Level of Review / Data Quality

The quality of the data affects the uncertainty modeled for the hazards and structures. Investigation by engineering professionals using visual surveys, site-specific geotechnical data, and structural design documents improves data quality and reduces the modeling uncertainties.
Study Level: 2

Definition:

0 Preliminary or desktop study
1 Visual survey by Professional Engineer (Civil or Structural)
2 Visual survey + review of structural design drawings by Professional Engineer
3 Detailed engineering study (ASCE 31 Tier 2) or detailed design information provided by the Engineer-of-Record

3. Seismic Hazards

The seismic hazards considered in the risk estimates include strong ground shaking and liquefaction damage on flat sites (i.e., excluding lurching and lateral spread). Other hazards are shown here for the user to consider, but these are not considered in the damage estimates. These are surface fault rupture, tsunami and earthquake-induced landslide. Where seismic hazards other than strong ground shaking are present or suspected, the user may wish to consult with a Geotechnical Engineer.

3.1 Site Ground Conditions

Ground condition found at site coordinates: CD
Ground condition used in risk estimates: CD

3.2 Soil Liquefaction

Liquefaction Susceptibility: Low

3.3 Ground Shaking (Hazard Recurrence)

Per USGS National Seismic Hazard Mapping Project [M. Petersen and others, 2008-2010]

Standard soft-rock site conditions (NEHRP B-C)

Return Periods (yr)	PGA (%g)	SA at 0.2 sec (%g)	SA at 1 sec (%g)
10	3.3	7.4	2.3
72	14.8	34.2	10.9
475	39.9	96.9	29.3
975	54.9	135.0	41.1
2475	78.9	197.0	61.8

Actual site conditions (CD)

Return Periods (yr)	PGA (%g)	SA at 0.2 sec (%g)	SA at 1 sec (%g)
10	4.4	10.0	3.9
72	18.4	42.3	18.6
475	45.3	103.0	49.2
975	60.2	135.1	68.4
2475	82.9	183.4	101.6

3.4 Seismic Sources

Seismic sources within 50.0 miles. of the site [per USGS, Petersen and others, 2008]:

Fault Name	Type	Limiting Magnitude	Distance (mi.)
Santa Monica Connected alt 1	SS	7.3	0.5
Santa Monica, alt 1	SS	6.6	0.5
Santa Monica, alt 2	SS	6.8	1.0

Santa Monica Connected alt 2	SS	7.4	1.0
Malibu Coast, alt 2	SS	7.0	2.4
Malibu Coast, alt 1	SS	6.7	2.4
Anacapa-Dume, alt 2	RV	7.2	4.2
Palos Verdes	SS	7.3	6.5
Palos Verdes Connected	SS	7.7	6.5
Newport Inglewood Connected alt 2	SS	7.5	7.2
Newport-Inglewood, alt 1	SS	7.2	7.2
Newport-Inglewood, alt 2	SS	7.2	7.2
Newport Inglewood Connected alt 1	SS	7.5	7.2
Hollywood	SS	6.7	7.7
Puente Hills (LA)	RV	7.0	10.8
Puente Hills	RV	7.1	13.6
Anacapa-Dume, alt 1	RV	7.2	14.5
Elysian Park (Upper)	RV	6.7	15.3
Verdugo	RV	6.9	18.6
Raymond	RV	6.8	20.2
Sierra Madre Connected	RV	7.3	22.4
Sierra Madre (San Fernando)	RV	6.7	22.4
Santa Susana, alt 1	RV	6.9	23.2
Sierra Madre	RV	7.2	24.3
Northridge	RV	6.9	24.9
Puente Hills (Santa Fe Springs)	RV	6.7	26.3
Simi-Santa Rosa	SS	6.9	27.2
San Gabriel	SS	7.3	28.4
Elsinore	SS	7.8	30.8
Elsinore;W+GI+T+J+CM	SS	7.9	30.8
Elsinore;W	SS	7.0	30.8
Elsinore;W+GI+T+J	SS	7.8	30.8
Elsinore;W+GI+T	SS	7.5	30.8
Elsinore;W+GI	SS	7.3	30.8
Puente Hills (Coyote Hills)	RV	6.9	32.8
Holser, alt 1	RV	6.8	32.9

Oak Ridge (Onshore)	RV	7.2	34.9
Oak Ridge Connected	RV	7.4	34.9
Clamshell-Sawpit	RV	6.7	36.3
San Cayetano	RV	7.2	39.0
San Jose	SS	6.7	42.4
San Joaquin Hills	RV	7.1	47.3

*NM - Normal SS - Strike Slip OB - Oblique RV - Reverse / Thrust

3.5 Fault Rupture

1:24,000 Geology Quadrangle: Beverly Hills
California Alquist-Priolo (AP) 'Special Studies' Zone: Not found within 1 km of a currently-defined zone.

4. Seismic Vulnerability

4.1 Building Structure

General Information	
Year Built	1979
Number of Stories Above Grade	3
Number of Basement Levels	3
Design Code	UBC
Code Edition	1976
Designed for UBC Seismic Zone	4
Special Type	
Occupancy Type	Professional, Technical and Business Services
Building Value	$0.00
Business Loss Rate / Month	$0.00
Contents Value	$0.00
Vulnerability Model	CODA
Material in Lateral Force-Resisting Elements	Steel
Model Building Type	MRSF_S
Description	Moment-Resisting Space Frame

4.1.1 Shaking Vulnerability

CODA Engineering Parameters	
Structural Period (seconds)	0.62
Design Base Shear (Cs, V/W) LRFD	0.131
Near Source Factor Na (UBC97 only)	1.00
Near Source Factor Nv (UBC97 only)	1.00
Effective Response Modification Factor (R)	5.5
Shaking Scaling Factor	1.00

Building Vulnerability Notes:

4.1.2 Liquefaction Vulnerability

Foundation Type: Spread/Strip footings
Earthquake Magnitude: 7.0
Water Table Depth (ft): 5.0
Liquefaction Scaling Factor: 1.00

5. Risk Results

5.1 Probable Loss

Exposure Period: 50Years
Loss Threshold: 10%
Probability of Exceeding Threshold: 14.08%
Average Annual Loss: 0.1252%

Summary of Probabilistic Results

Return Period (years)	Loss Level (% of Building Repl. Value)	Probability of Exceedance in Exposure Period	Downtime (days)
50	1.4	63.2	9
72	2.6	50.1	12
250	8.4	18.0	32
475	12.3	10.0	45
975	17.2	5.1	62
2475	24.1	2.0	93

5.2 Probable Maximum Loss (PML)

Selected Scenario: 10% probability of exceedence in 50 years.
Return Period: 475 years

PML (Mean)	11.12% of building replacement value 41 days business interruption
PML (90% confidence)	17.82% of building replacement value 80 days business interruption

5.3 Scenario Loss (SL)

Selected Scenario: 10% probability of exceedence in 50 years.
Return Period: 475.0 years

Scenario Expected Loss (SEL)	11.12% of building replacement value 41 days business interruption
Scenario Upper Loss (SUL)	17.82% of building replacement value 80 days business interruption

6. Program Limitations

SeismiCat is intended for seismic risk screening of real estate properties, to help identify high-risk properties for further evaluation. For detailed reviews of individual, high-value or critical facilities, engineering investigation is recommended, using detailed site-specific data and accepted national standards (e.g., ASCE 31 and ASCE 41). The damage models employed for the various facility classes in SeismiCat are based upon historical building earthquake performance data and expert opinion, rather than upon specific information concerning the properties in question.

The damage estimates produced by SeismiCat are based on damage to the building structure from strong ground shaking and (where relevant) liquefaction-induced settlements. Loss estimates from SeismiCat do not include damage due to other hazards such as surface fault rupture, tsunami, seismically induced landslide or earthquake-initiated fires.

The seismic performance of each property type may vary considerably, and all risk estimates involve uncertainty. Factors affecting the seismic performance include structural configuration, design force levels, seismic design details, dynamic characteristics, construction quality, condition and any preexisting damage, and local site conditions. These factors are generally beyond the scope of the damage models, and require the involvement of experienced engineers and geologists to refine the estimates.

This report utilizes site condition data and building vulnerability data assembled and interpreted by the user, who is solely responsible for the data and for the use of the results obtained. ImageCat makes no representation regarding the accuracy of risk estimates produced using the software for particular properties or sites. The user must evaluate the results and take responsibility for all engineering or business decisions made.

7. Earthquake Risk Glossary

Acceleration	The rate of change of velocity. As applied to strong ground motions, the rate of change of earthquake shaking velocity of a reference point. Commonly expressed as a fraction or percentage of the acceleration due to gravity (g), wherein g = 980 centimeters per second squared.
Active Fault	An earthquake fault that is considered to be likely to undergo renewed movement within a period of concern to humans. Faults are commonly considered to be active if they have moved one or more times in the last 10,000-11,000 years, but they may also be considered potentially active when assessing the hazard for some applications even if movement has occurred in the last 500,000 years. See fault.
Alluvium	A soil type consisting of loosely compacted gravel, sand, silt, or clay deposited by streams.
Amplification	An increase in seismic wave amplitude as the waves propagate through certain soils, in sedimentary basins, or in certain topographic configurations (e.g. along ridge lines).
Alquist-Priolo (A-P) Special Studies Zone	More recently known as Earthquake Fault Zone (EFZ). In California, these are defined areas surrounding active faults, as defined by the State Geologist, within which it is necessary to perform fault location studies in order to construct buildings for human occupancy. Buildings for human occupancy may not be constructed within 50 feet of the identified fault rupture trace. Details of the regulations are presented in Special Publication 42, published by the California Geological Survey (CGS).
Average Annual Loss	The long-term loss rate per year due to hazards, calculated as the probabilistic loss contribution of all events.
Business Interruption (BI) Loss	Economic loss associated with loss of function of a commercial enterprise.
Damage	Physical disruption of a structure or equipment item, such as cracking in walls or overturning of equipment.
Hazard	A natural physical manifestation of the earthquake peril, such as ground shaking, soil liquefaction, surface fault rupture, landslide or other ground failures, tsunami, seiche. These hazards can cause damage to man-made structures.
Liquefaction	A ground failure phenomenon in which loose, granular soils below the water table lose shear strength when subjected to many cycles of strong ground shaking.
Magnitude (M)	Magnitude (M) is the most widely used measure of the size of an earthquake. Magnitude scales are logarithmic, found by taking the common logarithm (base 10) of the largest ground motion recorded at the arrival of the type of seismic wave being measured and correcting for the distance to the earthquake's epicenter. A typical seismogram will display separate arrival times for P-waves or compressional waves, and the slower S-waves or shear waves. The difference in arrival times for P- and S-waves indicates site-to-source distance. The logarithmic scale means that an increase in

	magnitude by one unit corresponds to a tenfold increase in measured wave amplitude. Moreover, the energy released by an earthquake increases by a factor of about 30 for each unit increase in magnitude.
Modified Mercalli Intensity (MMI) (abridged)	A numerical scale ranging from I to XII which describes local ground earthquake intensity in terms of local earthquake effects. In many historical earthquakes (1900 to 1970's), few ground shaking instruments were in use, and ground shaking maps were compiled on the basis of observed effects, using scales like the Modified Mercalli Intensity (MMI) scale. As a result, building damage statistics from older earthquakes are often correlated to the MMI scale. I-V Not significant to structures or equipment. VI Felt by all; many are frightened and run outdoors. Some heavy furniture moved; a few instances of fallen plaster or damaged chimneys. Damage slight. VII Everybody runs outdoors. Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable in poorly built or badly designed structures; some chimneys broken. Noticed by persons driving motorcars. VIII Damage slight in specially designed structures; considerable in ordinary substantial buildings, with partial collapse; great in poorly built structures. Panel walls thrown out of frame structures. Chimneys, factory stacks, columns, monuments, and walls fall. Heavy furniture overturned. Disturbs persons driving motorcars. IX Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb; damage great in substantial buildings, with partial collapse. Buildings shifted off foundations. Ground cracked conspicuously. Underground pipes broken. X Some well-built wooden structures destroyed; most masonry and frame structures destroyed, along with foundations; ground badly cracked. Rails bent. Landslides considerable from river banks and steep slopes. Shifted sand and mud. Water splashed (slopped) over banks. XI Few, if any, (masonry) structures remain standing. Bridges destroyed. Broad fissures in ground. Underground pipelines completely out of service. Earth slumps and land dips in soft ground. Rails bent greatly. XII Damage total. Waves seen on ground surfaces. Lines of sight and level distorted. Objects thrown upward into the air.
Peak Horizontal Acceleration (PHA)	An instrumental measure of earthquake ground motion intensity, normally taken from a triaxial earthquake accelerogram. The horizontal of the randomly-oriented component maxima may be combined to give a 'geometric mean', or simply taken as the maximum value recorded from the horizontally-oriented axes. The time history may also be processed to instantaneous vectorial maximum value, or rotated to fault-parallel and fault-perpendicular directions. PHA may also be referred to as PGA (peak ground acceleration).
Probable Loss	A level of building damage from earthquake, expressed as a fraction of the building replacement value, having a stated probability of exceedance

	within a given exposure period. Alternatively, a level of earthquake damage having a stated return period. Probable Loss is found by considering all levels of earthquake hazard that may occur for the site in question, the building damage associated with each hazard level, and the variability of building damage within each hazard state.
Probable Maximum Loss	A term used in the past to characterize the risk of earthquake damage to buildings. Care must be used to avoid ambiguity in definition [ASTM E 2026-07]. PML50 is a term sometimes used interchangeably with Scenario Expected Loss (SEL), and PML90 is sometimes used interchangeably with Scenario Upper Loss (SUL).
Probability of Exceedance	In the context of these risk reports, this is the probability that a specified level of damage will be surpassed within the exposure period (related to building life or term of investment), given the site's seismic environment and the property's seismic vulnerability. Using a Poissonian model, the probability of exceedance and exposure period are related to the average return interval of the loss. For example, a loss level that has a 10% chance of exceedance in a 30-year exposure period may be described as having a 285-year average recurrence interval. A loss level that has a 10% chance of exceedance in a 50-year exposure period has a 475-year average recurrence interval.
Risk	The chance or probability that some undesirable outcome, such as injury, damage or loss, will occur during a specified exposure period.
Scenario Loss	A level of building damage from earthquake, expressed as a fraction of the building replacement value, associated with a stated earthquake hazard scenario. In our reports, probabilistic seismic hazards are used, and the stated scenario is based on the level of ground shaking that has a 10% chance of being exceeded in the exposure period specified by the user. Scenario Loss is further specified as the mean loss (Scenario Expected Loss or SEL) or the 90% nonexceedance loss (Scenario Upper Loss or SUL) for the stated hazard.
Vulnerability	The susceptibility of a building, equipment item or component to damage or loss from a specific hazard.
Tsunami	Seismic seawave