Campus: UCSF Parnassus
Building Name: 1460 5th Ave.
CAAN ID: 2060
Auxiliary Building ID: NA

UNIVERSITY OF CALIFORNIA

Date: 2/3/2020

FORM 1
CERTIFICATE OF SEISMIC PERFORMANCE LEVEL
☐ **UC-Designed & Constructed Facility**
☒ **Campus-Acquired or Leased Facility**

BUILDING DATA
Building Name: 1460 5th Avenue
Address: 1460 5th Avenue, San Francisco
Site location coordinates: Latitude 37.76128 Longitudinal -122.46167

UCOP SEISMIC PERFORMANCE LEVEL (OR "RATING"): III

ASCE 41-17 Model Building Type:
a. Longitudinal Direction: W1: Wood Frame with Wood Shear Panels
b. Transverse Direction: W1: Wood Frame with Wood Shear Panels

Gross Square Footage: 2818 sf
Number of stories *above* grade: 3
Number of basement stories *below* grade: 0

Year Original Building was Constructed: 1915
Original Building Design Code & Year: NA
Retrofit Building Design Code & Code (if applicable): FEMA 356, November 2000

SITE INFORMATION
Site Class: C Basis: UCSF Group 3 Buildings – Geotechnical Assessment, Egan (2019)
Geologic Hazards:
Fault Rupture: No Basis UCSF Group 3 Buildings – Geotechnical Assessment, Egan (2019)
Liquefaction: No Basis: UCSF Group 3 Buildings – Geotechnical Assessment, Egan (2019)
Landslide: No Basis: UCSF Group 3 Buildings – Geotechnical Assessment, Egan (2019))

ATTACHMENT
Original Structural Drawings: NA
Seismic Evaluation: NA
Retrofit Structural Drawings: 1460 5th Avenue Housing Remodel, UCSF Project M3407, by Degenkolb Enigneers dated 2/3/2005 (8 sheets); Sheet S0.1 attached.

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Date: 2/3/2020

CERTIFICATION & PRESUMPTIVE RATING VERIFICATION STATEMENT

I, Maryann T. Phipps, a California-licensed structural engineer, am responsible for the completion of this certificate, and I have no ownership interest in the property identified above. My scope of review to support the completion of this certificate included both of the following ("No" responses must include an explanation):

a) the review of structural drawings indicating that they are as-built or record drawings, or that they otherwise are the basis for the construction of the building: ☑ Yes ☐ No
b) visiting the building to verify the observable existing conditions are reasonably consistent with those shown on the structural drawings: ☑ Yes ☐ No

Based on my review, I have verified that the UCOP Seismic Performance Level (SPL) is presumptively permitted by the following UC Seismic Program Guidebook provision (choose one of the following):

☐ 1) Contract documents indicate that the original design and construction of the aforementioned building is in accordance with the benchmark design code year (or later) building code seismic design provisions for UBC or IBC listed in Table 1 below.

☐ 2) The existing SPL rating is based on an acceptable basis of seismic evaluation completed in 2006 or later.

☑ 3) Contract documents indicate that a comprehensive[1] building seismic retrofit design was fully-constructed with an engineered design based on the 1997 UBC/1998 ***or later*** CBC, and (choose one of the following):

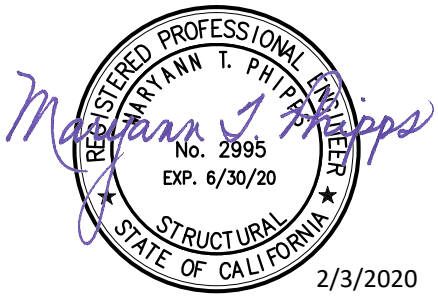
☐ the retrofit project was completed by the UC campus. Further, the design was based on ground motion parameters, at a minimum, corresponding to BSE-1E (or BSE-R) and BSE-2E (or BSE-C) as defined in ASCE 41, or the full design basis ground motion required in the 1997 UBC/1998 CBC ***or later*** for EXISTING buildings, and is presumptively assigned an SPL rating of IV.
☒ the retrofit project was completed by the UC campus. Further, the design was based on ground motion parameters, at a minimum, corresponding to BSE-1 (or BSE-1N) and BSE-2 (or BSE-2N) as defined in ASCE 41, or the full design basis ground motion required in the 1997 UBC/1998 ***or later*** CBC for NEW buildings, and is presumptively assigned an SPL rating of III.
☐ the retrofit project was not completed by the UC campus following UC policies, and is presumptively assigned an SPL rating of IV.

[1] A comprehensive retrofit addresses the entire building structural system as indicated by the associated seismic evaluation, as opposed to addressing selective portions of the structural system.

CERTIFICATION SIGNATURE

AFFIX SEAL HERE

Maryann T. Phipps	President
Print Name	Title
S2995	6/30/2020
CA Professional Registration No.	License Expiration Date
Maryann T. Phipps	2/3/2020
Signature	Date



2/3/2020

Estructure, (510) 235-3116, 1144 65th St Suite A, Oakland
Firm Name, Phone Number, and Address

Table 1: Benchmark Building Codes and Standards

Building Type[a,b]	Building Seismic Design Provisions	
	UBC	IBC
Wood frame, wood shear panels (Types W1 and W2)	1976	2000
Wood frame, wood shear panels (Type W1a)	1976	2000
Steel moment-resisting frame (Types S1 and S1a)	1997	2000
Steel concentrically braced frame (Types S2 and S2a)	1997	2000
Steel eccentrically braced frame (Types S2 and S2a)	1988[g]	2000
Buckling-restrained braced frame (Types S2 and S2a)	[f]	2006
Metal building frames (Type S3)	[f]	2000
Steel frame with concrete shear walls (Type S4)	1994	2000
Steel frame with URM infill (Types S5 and S5a)	[f]	2000
Steel plate shear wall (Type S6)	[f]	2006
Cold-formed steel light-frame construction—shear wall system (Type CFS1)	1997[h]	2000
Cold-formed steel light-frame construction—strap-braced wall system (Type CFS2)	[f]	2003
Reinforced concrete moment-resisting frame (Type C1)[i]	1994	2000
Reinforced concrete shear walls (Types C2 and C2a)	1994	2000
Concrete frame with URM infill (Types C3 and C3a)	[f]	[f]
Tilt-up concrete (Types PC1 and PC1a)	1997	2000
Precast concrete frame (Types PC2 and PC2a)	[f]	2000
Reinforced masonry (Type RM1)	1997	2000
Reinforced masonry (Type RM2)	1994	2000
Unreinforced masonry (Type URM)	[f]	[f]
Unreinforced masonry (Type URMa)	[f]	[f]
Seismic isolation or passive dissipation	1991	2000

Note: This table has been adapted from ASCE 41-17 Table 3-2. Benchmark Building Codes and Standards for Life Safety Structural Performed at BSE-1E.

Note: UBC = *Uniform Building Code*. IBC = *International Building Code*.

[a] Building type refers to one of the common building types defined in Table 3-1 of ASCE 41-17.

[b] Buildings on hillside sites shall not be considered Benchmark Buildings.

[c] not used

[d] not used

[e] not used

[f] No benchmark year; buildings shall be evaluated in accordance with Section III.J.

[g] Steel eccentrically braced frames with links adjacent to columns shall comply with the 1994 UBC Emergency Provisions, published September/October 1994, or subsequent requirements.

[h] Cold-formed steel shear walls with wood structural panels only.

[i] Flat slab concrete moment frames shall not be considered Benchmark Buildings.

GENERAL NOTES

GENERAL NOTES

I. GENERAL

1. MATERIALS AND WORKMANSHIP TO CONFORM WITH THE 2001 EDITION OF THE CALIFORNIA BUILDING CODE, AND THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.
2. THESE GENERAL NOTES SUPPLEMENT THE REQUIREMENTS OF THE PROJECT SPECIFICATIONS. IN CASE OF CONFLICT BETWEEN THE PLANS AND SPECIFICATIONS, CONTACT THE UNIVERSITY'S REPRESENTATIVE.
3. REFERENCE TO CODES, RULES, REGULATIONS, STANDARDS, MANUFACTURER'S INSTRUCTIONS OR REQUIREMENTS OF REGULATORY AGENCIES IS TO THE LATEST PRINTED EDITION OF EACH IN EFFECT AT THE DATE OF SUBMISSION OF BID UNLESS THE DOCUMENT DATE IS SHOWN.
4. DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF SIMILAR CHARACTER TO DETAILS SHOWN, USE SIMILAR DETAILS OF CONSTRUCTION, SUBJECT TO REVIEW BY THE UNIVERSITY'S REPRESENTATIVE.
5. DETAILS ON SHEETS TITLED "TYPICAL DETAILS" APPLY TO SITUATIONS OCCURRING ON THE PROJECT THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY REFERENCED. SUCH DETAILS ARE NOT NOTED AT EACH LOCATION THAT THEY OCCUR.
6. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES AND FOR CHECKING DIMENSIONS. NOTIFY THE UNIVERSITY'S REPRESENTATIVE OF ANY DISCREPANCIES AND RESOLVE BEFORE PROCEEDING WITH THE WORK.
7. DO NOT SCALE THE DRAWINGS.
8. PROVIDE MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES INCLUDE, BUT MAY NOT BE LIMITED TO, BRACING AND SHORING FOR LOADS DURING CONSTRUCTION. RETAIN A REGISTERED CIVIL ENGINEER WHOM IS PROPERLY QUALIFIED TO DESIGN BRACING, SHORING, ETC. VISITS TO THE SITE BY THE UNIVERSITY'S REPRESENTATIVE WILL NOT INCLUDE OBSERVATION OF THE ABOVE NOTED ITEMS.
9. INFORMATION SHOWN ON THE DRAWINGS RELATED TO EXISTING CONDITIONS REPRESENTS THE PRESENT KNOWLEDGE, BUT WITHOUT GUARANTEE OF ACCURACY. REPORT CONDITIONS THAT CONFLICT WITH THE CONTRACT DOCUMENTS TO THE UNIVERSITY'S REPRESENTATIVE. DO NOT DEVIATE FROM THE CONTRACT DOCUMENTS WITHOUT WRITTEN DIRECTION FROM THE UNIVERSITY'S REPRESENTATIVE.
10. REFER TO ARCHITECTURAL DRAWINGS FOR SIZE AND LOCATION OF FLOOR, ROOF AND WALL OPENINGS NOT SHOWN ON THE STRUCTURAL DRAWINGS. COORDINATE THE SIZE AND LOCATION OF OPENINGS ASSOCIATED WITH, BUT NOT LIMITED TO, ELECTRICAL, MECHANICAL AND PLUMBING TRADES. SUBMIT FINAL SIZING AND LOCATION REQUIREMENTS OF OPENINGS TO THE UNIVERSITY'S REPRESENTATIVE FOR REVIEW.

II. FOUNDATION AND SITE WORK

1. THE DESIGN OF THE FOUNDATION SYSTEM IS BASED UPON THE CRITERIA AND RECOMMENDATIONS CONTAINED IN CHAPTER FOUR OF FEMA 356.
2. LOCATE AND PROTECT EXISTING UTILITIES TO REMAIN DURING AND/OR AFTER CONSTRUCTION.
3. NOTIFY THE UNIVERSITY'S REPRESENTATIVE IF ANY BURIED STRUCTURES NOT INDICATED, SUCH AS CESSPOOLS, CISTERNS, FOUNDATIONS, ETC., ARE FOUND.
4. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR EXCAVATION PROCEDURES INCLUDING LAGGING, SHORING, UNDERPINNING AND PROTECTION OF EXISTING CONSTRUCTION.
5. REMOVE LOOSE SOIL AND STANDING WATER FROM FOUNDATION EXCAVATIONS PRIOR TO PLACING CONCRETE.
6. MECHANICALLY COMPACT SOIL BENEATH FOOTINGS AND SLABS TO 90% MAXIMUM DRY DENSITY IN ACCORDANCE WITH THE ASTM D1557 TEST METHOD.

III. REINFORCING STEEL

1. REINFORCING STEEL TO BE ASTM A615, 60 KSI, UNLESS OTHERWISE NOTED.
2. TERMINATE REINFORCING STEEL IN STANDARD HOOKS, UNLESS OTHERWISE SHOWN.

IV. CAST-IN-PLACE CONCRETE

1. CONCRETE IS REINFORCED AND CAST-IN-PLACE. WHERE REINFORCING IS NOT SPECIFICALLY SHOWN OR WHERE DETAILS ARE NOT GIVEN, PROVIDE REINFORCING SIMILAR TO THAT SHOWN FOR SIMILAR CONDITIONS, SUBJECT TO REVIEW BY THE UNIVERSITY'S REPRESENTATIVE.
2. AT CONSTRUCTION JOINTS AND LOCATIONS WHERE CONCRETE IS CAST AGAINST EXISTING CONCRETE, ROUGHEN CONTACT SURFACES TO ¼ INCH AMPLITUDE AND CLEAN OF LAITANCE, FOREIGN MATTER, AND LOOSE PARTICLES.
3. REFER TO ARCHITECTURAL AND MECHANICAL DRAWINGS FOR LOCATIONS OF ADDITIONAL CONCRETE CURBS AND HOUSEKEEPING PADS NOT SHOWN.
4. CONCRETE CLEAR COVER TO REINFORCING BARS IS AS FOLLOWS, UNLESS OTHERWISE NOTED:

LOCATION	CLEAR COVER
CONCRETE PLACED AGAINST EARTH	3 INCHES
FORMED SURFACES EXPOSED TO WEATHER OR IN CONTACT WITH EARTH: #6 BARS AND LARGER #5 BARS AND SMALLER	 2 INCHES 1 ½ INCHES
SLABS ON GRADE (TOP CLEARANCE)	1 ½ INCHES

5. CONCRETE TYPES:

CLASS	28-DAY STRENGTH	TYPE	LOCATION
A	4000 PSI	NORMAL WEIGHT	FOUNDATIONS, ETC.

V. ADHESIVE ANCHORS AND DOWELS

1. ANCHORS AND DOWELS INSTALLED INTO CONCRETE TO BE HIT HY-150 BY HILTI (ICBO #ER-5193) OR EQUAL. EMBEDMENT DEPTH FOR ANCHORS AND DOWELS IS AS FOLLOWS, UNLESS OTHERWISE NOTED. THE TESTING LABORATORY WILL PERFORM TENSION TESTS ON 25% OF THE ADHESIVE ANCHORS TO THE FOLLOWING TEST LOADS:

ROD DIA OR BAR SIZE	EMBEDMENT	TEST LOAD	BASE MATERIAL
5/8"	6"	5000#	CONCRETE
7/8"	9"	9700#	CONCRETE

#4	6-1/2"	-	CONCRETE
#6	10"	-	CONCRETE

2. ANCHORS: ASTM A572, GR.50 THREADED RODS WITH ASTM A 563 GRADE A NUTS AND ANSI B18.22.1 TYPE A WASHERS, UNLESS OTHERWISE NOTED.
3. DOWELS: ASTM A615 GRADE 60 REINFORCING STEEL.
4. REMOVE GREASE, OIL, RUST, AND OTHER LAITANCE FROM RODS AND DOWELS PRIOR TO INSTALLATION.
5. REPLACE ANCHORS THAT FAIL DURING TESTING AND RETEST. IF THE TESTED ANCHORS FAIL TO ACHIEVE THE SPECIFIED TEST LOAD, TEST 100% OF THE ANCHORS.
6. INSTALL ANCHORS AND PREPARE HOLES PER MANUFACTURER'S INSTRUCTIONS AND ICBO REPORT.
7. IF REINFORCEMENT IS ENCOUNTERED DURING DRILLING, ABANDON AND SHIFT THE HOLE LOCATION TO AVOID THE REINFORCEMENT. PROVIDE A MINIMUM OF 2 ANCHOR DIAMETERS OR 1 INCH, WHICHEVER IS LARGER, OF SOUND CONCRETE BETWEEN THE DOWEL AND THE ABANDONED HOLE. FILL THE ABANDONED HOLE WITH NON-SHRINK GROUT. IF THE ANCHOR OR DOWEL MAY NOT BE SHIFTED AS NOTED ABOVE, THE UNIVERSITY'S REPRESENTATIVE WILL DETERMINE A NEW LOCATION.
8. LOCATE REINFORCEMENT AND CONFIRM FINAL ANCHOR LOCATIONS PRIOR TO FABRICATING PLATES, MEMBERS, OR OTHER STEEL ASSEMBLIES ATTACHED WITH ADHESIVE ANCHORS.

VI. ROUGH CARPENTRY

1. FRAMING LUMBER: DOUGLAS FIR (COAST REGION) OF THE FOLLOWING GRADES:

MEMBER	MOISTURE CONTENT	WOOD/GRADE
SILLS	15%	D.F. #1 PRESSURE OR PRESERVATIVE TREATED
STUDS	15%	D.F. #2
JOISTS & PLATES	15%	D.F. #1
BEAMS, 5" & WIDER	GREEN	D.F. SELECT STRUCTURAL
BEAMS, 4" & NARROWER	GREEN	D.F. #1
POSTS, 6X6 & LARGER	GREEN	D.F. SELECT STRUCTURAL
POSTS, 4X6 & SMALLER	15%	D.F. #1
FRAMING,BLKG & BRIDGING	15%	D.F. #2
PLYWOOD BLKG	15%	D.F. #1
BACKING,STRIPPING AND FURRING	15%	CONSTRUCTION

2. PANEL SHEATHING:
   A. PANEL SHEATHING TO BE EXPOSURE 1.
   B. PLYWOOD PANELS TO BE 5-PLY MINIMUM.
   C. PLYWOOD TO BE CC GRADE AT LOCATIONS EXPOSED TO WEATHER; CD GRADE ELSEWHERE.
   D. PROVIDE THE FOLLOWING GRADE AND SPAN RATINGS:

PANEL THICKNESS	MINIMUM GRADE	ROOF/FLOOR RATING
15/32	STRUCTURAL 1	32/16

3. ROUGH HARDWARE:
   A. NAILS: COMMON WIRE NAILS, STANDARD LENGTHS U.O.N. USE HOT-DIPPED ZINC-COATED GALVANIZED NAILS FOR EXTERIOR INSTALLATIONS AND WHEN PENETRATING PRESSURE TREATED OR FIRE-RETARTANT LUMBER.
   B. BOLTS AND THREADED RODS: ASTM A307. USE MALLEABLE IRON WASHERS UNDER HEAD AND NUT WHEN IN CONTACT WITH WOOD. AT SILL PLATES USE 2"X2"X3/16" MINIMUM PLATE WASHERS.
   C. LAG SCREWS: ASTM A307. USE WASHERS UNDER HEAD WHEN IN CONTACT WITH WOOD.
   D. MISCELLANEOUS STEEL: ASTM A36.
   E. BOLTS, NUTS, WASHERS, STRAPS AND OTHER HARDWARE EXPOSED TO THE WEATHER TO BE HOT-DIPPED GALVANIZED OR STAINLESS STEEL.
   F. FRAMING CLIPS, SHEET METAL STRAPS, ETC.TO BE SIMPSON, OR EQUAL. DESIGNATIONS ON DRAWINGS ARE BASED ON SIMPSON CATALOGUE NUMBERS, U.O.N.
4. NAILING:
   A DRIVE NAILS PERPENDICULAR TO THE GRAIN, U.O.N.
   B. PREDRILL HOLES TO 3/4 OF NAIL DIAMETER WHEN WOOD TENDS TO SPLIT, U.O.N.
   C. AIR-DRIVEN NAILS TO BE FULL-HEADED NAILS. DO NOT OVERDRIVE NAILS.
   D. PANEL SHEATHING:
      1. USE SMOOTH SHANK NAILS AT WALLS.
      2. USE OF MACHINE NAILING IS SUBJECT TO A SATISFACTORY JOB SITE DEMONSTRATION FOR EACH PROJECT AND APPROVAL BY THE OWNER'S REPRESENTATIVE. NAILHEADS THAT PENETRATE THE OUTER PLY MORE THAN WOULD BE NORMAL FOR A HAND HAMMER OR IF THE MINIMUM ALLOWABLE EDGE DISTANCES ARE NOT MAINTAINED THE INSTALLATION IS UNSATISFACTORY.
   E. PROVIDE MINIMUM NAILING PER TABLE 23-II-B-1 OF THE CBC, U.O.N.
5. PRE-DRILL BOLTS AND LAGS SCREWS PER THE SPECIFICATIONS.
6. INSTALL SOLID BLOCKING BETWEEN JOISTS AT ENDS AND OVER SUPPORTS. PROVIDE SOLID BLOCKING BETWEEN JOISTS IN SPANS EQUALLY SPACED 8 FEET ON CENTER MAXIMUM.
7. DO NOT USE WOOD SHINGLE SHIMS UNDER STUDS, JOISTS, BEAMS, OR POSTS.

VII. GLUED LAMINATED TIMBER

1. PROVIDE STRUCTURAL GLUED LAMINATED TIMBER OF SOFTWOOD SPECIES IN CONFORMANCE WITH ANSI STANDARD A190.1.
2. FABRICATE MEMBERS OF DOUGLAS FIR (COAST REGION) LUMBER.
3. BEAMS TO BE COMBINATION 24F-V4 FOR SINGLE SPAN MEMBERS AND 24F-V8 FOR CONTINUOUS OR CANTILEVERED MEMBERS.
4. ADHESIVES TO BE EXTERIOR TYPE.
5. NOTCH OR BORE GLUED LAMINATED MEMBERS ONLY WHERE SPECIFICALLY DETAILED ON THE STRUCTURAL DRAWINGS.

VIII. STRUCTURAL TESTS, INSPECTIONS, AND OBSERVATIONS

1. AN INDEPENDENT TESTING AGENCY AND SPECIAL INSPECTORS WILL BE RETAINED BY THE UNIVERSITY TO PERFORM THE FOLLOWING TESTS AND INSPECTION. PROVIDE ACCESS AND FURNISH SAMPLES TO THE AGENCY AS REQUIRED BY THE CONTRACT DOCUMENTS.
2. IF INITIAL TESTS OR INSPECTIONS MADE BY THE UNIVERSITY'S TESTING AGENCY REVEAL THAT ANY PORTION OF THE WORK DOES NOT COMPLY WITH THE CONTRACT DOCUMENTS, ADDITIONAL TESTS, INSPECTIONS, AND NECESSARY REPAIRS WILL BE MADE AT THE CONTRACTOR'S EXPENSE.
3. THE FOLLOWING ITEMS REQUIRE TESTS AND INSPECTIONS IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 17 OF THE CBC. ADDITIONAL ITEMS AND REQUIREMENTS FOR TESTS AND INSPECTIONS ARE IDENTIFIED IN THE SPECIFICATIONS.
4. REINFORCING STEEL:
   A. OBTAIN AND REVIEW MILL TEST REPORTS.
   B. INSPECT PLACEMENT OF REINFORCING STEEL INCLUDING BOLTS CAST IN CONCRETE.
5. CAST-IN-PLACE CONCRETE:
   A. REVIEW MIX DESIGN FOR EACH CLASS OF CONCRETE.
   B. REVIEW THE TICKET OF EACH BATCH OF CONCRETE DELIVERED TO THE SITE.
   C. VISUALLY INSPECT CONCRETE PLACEMENT.
   D. SAMPLE AND TEST CONCRETE AS DEFINED IN THE SPECIFICATIONS.
6. ADHESIVE ANCHORS AND DOWELS:
   A. VERIFY ADHESIVE SYSTEM, EXPIRATION DATE, CONCRETE TYPE AND COMPRESSIVE STRENGTH, ANCHOR DIAMETER AND GRADE, HOLE DIAMETER AND LOCATION, CLEANLINESS OF HOLE AND ANCHOR, ADHESIVE APPLICATION AND ANCHOR EMBEDMENT.
   B. PROOF-TEST AS INDICATED IN THE ADHESIVE ANCHORS AND DOWELS SECTION OF THESE GENERAL NOTES.
7. NOTIFY THE UNIVERSITY'S REPRESENTATIVE AT SIGNIFICANT CONSTRUCTION STAGES 72 HOURS IN ADVANCE AND PROVIDE ACCESS FOR THE FOLLOWING STRUCTURAL OBSERVATIONS:
   A. FOUNDATIONS
      1. REINFORCEMENT
   B. WOOD FRAMING
      1. GENERAL
      2. SHEARWALLS AND HOLD-DOWNS
      3. COLLECTORS

IX. DESIGN CRITERIA

1. THESES DOCUMENTS CONTAIN A VOLUNTARY SIESMIC UPGRADE THAT HAS BEEN DESIGNED AND DETAILED IN ACCORDANCE WITH THE PROVISIONS OF FEMA 356 "PRESTANDARD AND COMMENTARY FOR THE SEISMIC REHABILITATION OF BUILDINGS", DATED NOVEMBER 2000.

   SEISMIC FORCES WERE DEVELOPED USING THE BASIC LIFE SAFTEY OBJECTIVE OF FEMA 356, WHICH ENDEAVORS TO PROVIDE LIFE SAFETY PERFORMANCE LEVEL FOR THE 10% IN 50 YEAR EVENT.

   SEISMIC DEMANDS PER FEMA 356 LINEAR STATIC PROCEDURES:

   BASE SHEAR: $V_{ULT} = 0.73\ W$ FOR ALL DIRECTIONS

   WHERE: $S_{XS} = 1.10$
   $S_{X1} = 0.68$
   WITH SOIL SITE CLASS D
2. GRAVITY LOADS:
   A. DEAD LOADS - VARY BASED ON ACTUAL BUILDING AND EQUIPMENT OPERATING WEIGHTS
   B. LIVE LOADS:
   ROOF 20 PSF (REDUCIBLE)
   FLOOR 40 PSF (REDUCIBLE)

SHEET LIST:

316096

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REGISTERED PROFESSIONAL ENGINEER
RAJMOHAN SUBRAMANIAN
No. 3968
EXP. 3/31/06
STRUCTURAL
STATE OF CALIFORNIA

NOTES/REVISIONS

CDF: OFFICE OF STATE FIRE MARSHALL
APPROVED 04/11/05

Approval of this plan does not authorize or approve any omission or deviation from applicable regulations. Final approval is subject to field inspection. One set of approved plans shall be available on the project site at all times.

Reviewed by:

PROJECT

UNIVERSITY OF CALIFORNIA
SAN FRANCISCO

1460 FIFTH AVENUE
HOUSING REMODEL

USCF PROJECT NO. M3407

SHEET TITLE

GENERAL NOTES

DATE 02/03/05 JOB NO. A4901013.00

SCALE NONE DRAWN BY MAM

SHEET NO.

S0.1

FILE PLOT DATE 02/03/05

Basis for Rating

The retrofit of 1460 5th Avenue was based on FEMA 356 (November 2000) and was designed to satisfy the performance objective of Life Safety in the BSE-1 hazard. The pseudo lateral force used for design was 0.73W. Linear procedures were used for design. FEMA 356 would have required an *m* value of 3 for plywood shear walls with low aspect ratios and holdowns. Thus, the walls would have been effectively designed for V = 0.73/3 = 0.24g.

The retrofit of the building two doors down, 1432-34 5th Avenue, also by Degenkolb, was undertaken the following year. Design was based on the 2001 CBC. The design base shear for that building was 0.22W.

The FEMA 356 criteria used for the project is essentially equivalent to the 2001 CBC criteria for new buildings. The retrofit was comprehensive and included plywood shear walls and holdowns at all levels well distributed throughout the building. Collectors were added at the front of the building. This satisfies the conditions for a Seismic Performance Level II, defined in the UCOP Guidebook (Version 1.3) as follows:

> g. A building that has been retrofitted by the campus following UC policies may meet this requirement. Unless the campus has reason to further investigate a building using ASCE 41, a building for which a comprehensive building seismic retrofit design was fully-constructed with a design completed in 2000 or later, as indicated on the contract documents, may be presumptively rated as described below:
>
> (i) For retrofit designs based on ground motion parameters corresponding to BSE-1 (or BSE-1N) and BSE-2 (or BSE-2N) as defined in ASCE 41, or the full design basis ground motion required in the 1997 UBC/1998 ***or later*** CBC for NEW buildings, the Seismic Performance Level may be presumed to be III.
>
> (ii) For retrofit designs based on ground motion parameters corresponding to BSE-1E (or BSE-R) and BSE-2E (or BSE-C) as defined in ASCE 41, or the full design basis ground motion required in the 1997 UBC/1998 CBC ***or later*** for EXISTING buildings, the Seismic Performance Level may be presumed to be IV.

On this basis, the building is rated Seismic Performance Level III.

By: Maryann Phipps
Estructure
2/3/2020