Campus: Mount Zion
Building Name: 2420 Sutter Parking
CAAN ID: 3062
Auxiliary Building ID: NA

UNIVERSITY OF CALIFORNIA

Date: 1/29/2020

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

BUILDING DATA
Building Name: 2420 Sutter Street Parking Garage
Address: 2420 Sutter Street, San Francisco
Site location coordinates: Latitude 37.7855 Longitudinal -122.4406

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

ASCE 41-17 Model Building Type:
a. Longitudinal Direction: C2: Concrete shear wall with stiff diaphragm
b. Transverse Direction: C2: Concrete shear wall with stiff diaphragm

Gross Square Footage: 88,490 sf
Number of stories *above* grade: 5
Number of basement stories *below* grade: 1

Year Original Building was Constructed: 2011
Original Building Design Code & Year: 2007 California Building Code
Retrofit Building Design Code & Code (if applicable): NA

SITE INFORMATION
Site Class: D Basis: Original Structural Drawings Sheet SC-1.1; and UCSF Group 3 Buildings – Geotechnical Assessment for 1701 Divisadero (next door), Egan (2019)
Geologic Hazards:
Fault Rupture: No Basis: See above, Egan 2019
Liquefaction: No Basis: See above, Egan 2019
Landslide: No Basis: See above, Egan 2019

ATTACHMENT
Original Structural Drawings: UCSF Mount Zion Campus Parking Garage 2420 Sutter Street, FBA Structural Engineers, 8/15/2011, SC-1.1 to SC-8.4 (32 sheets); SC-1.1 attached
Retrofit Structural Drawings: NA

Campus: Mount Zion
Building Name: 2420 Sutter Parking
CAAN ID: 3062
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UNIVERSITY OF CALIFORNIA

Date: 1/29/2020

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.

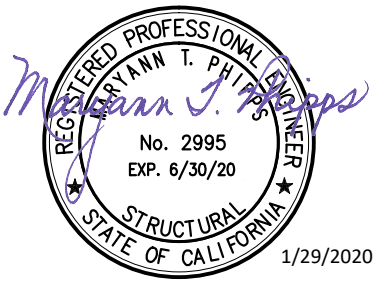
☐ the retrofit project was not completed by the UC campus following UC policies, and is presumptively assigned an SPL rating of IV.

[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	1/29/2020
Signature	Date



1/29/2020

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

1. THE NOTES AND SPECIFICATIONS GIVEN ON THE STRUCTURAL DRAWINGS ARE EXCERPTS FROM THE RELATING PROJECT SPECIFICATIONS. THEY ARE NEITHER COMPLETE NOR DO THEY REPLACE THE CONTRACT SPECIFICATIONS.
2. **CODE:** CONSTRUCTION SHALL CONFORM TO THE PROVISIONS OF THE CALIFORNIA BUILDING CODE, 2007 EDITION AND STANDARDS REFERENCED THEREIN.
3. **GENERAL DETAILS:** AND NOTES ON THESE SHEETS SHALL APPLY UNLESS SPECIFICALLY SHOWN OR NOTED OTHERWISE. CONSTRUCTION DETAILS NOT FULLY SHOWN OR NOTED SHALL BE SIMILAR TO DETAILS SHOWN FOR SIMILAR CONDITIONS. ALL WORK OR CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE BUILDING CODES, REGULATION AND SAFETY REQUIREMENTS.
4. **DISCREPANCIES:** THE CONTRACTOR SHALL INFORM THE ENGINEER IN WRITING OF ANY DISCREPANCIES OR OMISSIONS NOTED ON THE DRAWINGS OR IN THE SPECIFICATIONS OR OF ANY VARIATIONS NEEDED IN ORDER TO CONFORM TO CODES, RULES AND REGULATIONS. UPON RECEIPT OF SUCH INFORMATION, THE ENGINEER WILL SEND WRITTEN INSTRUCTIONS TO ALL CONCERNED. ANY SUCH DISCREPANCY, OMISSION, OR VARIATION NOT REPORTED SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND WORK SHALL BE PERFORMED IN A MANNER AS DIRECTED BY THE ENGINEER.
5. **SHORING:** IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO DESIGN AND PROVIDE ADEQUATE SHORING, BRACING, AND FORMWORK, AS REQUIRED FOR THE PROTECTION OF LIFE AND PROPERTY DURING THE CONSTRUCTION OF THIS BUILDING(S). CONSTRUCTION LOADS SHALL NOT EXCEED LOADS EQUIVALENT TO THE DESIGN SUPERIMPOSED LOADS LESS CONSTRUCTION DEAD AND LIVE LOADS. DESIGN SUPERIMPOSED LOADS INCLUDE LIVE LOAD, PARTITION LOAD, AND ANY OTHER LOAD NOT IN PLACE AT THE TIME OF SHORING.
6. **EXCAVATION:** THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL EXCAVATION PROCEDURES INCLUDING LAGGING, SHORING, AND PROTECTION OF ADJACENT PROPERTY, STRUCTURES, STREETS AND UTILITIES IN ACCORDANCE WITH THE LOCAL BUILDING DEPARTMENT.
7. **OTHER TRADES:** SEE ARCHITECTURAL, ELECTRICAL, AND MECHANICAL DRAWINGS FOR SIZE AND LOCATION OF PIPE, VENT, DUCT AND OTHER OPENINGS AND DETAILS NOT SHOWN ON THESE STRUCTURAL DRAWINGS. ALL DIMENSIONS ARE TO BE CHECKED AND VERIFIED WITH THE ARCHITECTURAL DRAWINGS.
8. **BACKFILL:** WHERE REQ'D BACKFILL AROUND THE EXTERIOR PERIMETER OF WALL SHALL NOT BE PLACED UNTIL AFTER THE COMPLETION OF THE ELEVATED FLOOR SYSTEM, SUPPORTED BY THE WALLS. AS A MINIMUM, DO NOT PROCEED WITH BACKFILL UNTIL SEVEN (7) DAYS AFTER THE COMPLETION OF INTERIOR FLOOR SYSTEMS, UNLESS WALLS ARE ADEQUATELY BRACED. BACKFILL SHALL NOT BE PLACED UNTIL AFTER COMPLETION AND AND INSPECTION OF WATERPROOFING, WHERE WATERPROOFING OCCURS.
9. **BRACING:** TEMPORARY BRACING SHALL BE PROVIDED AS REQUIRED TO HOLD ALL COMPONENTS OF THE STRUCTURE IN PLACE UNTIL FINAL SUPPORT IS SECURELY ANCHORED. (DESIGNED BY OTHERS)
10. **WELDING:** ALL WELDING SHALL BE PERFORMED BY WELDERS CERTIFIED FOR THE WELDS TO BE MADE; SEE SPECIFICATIONS FOR WELDING PROCESS TO BE USED. WELDING OF REINFORCING STEEL FOR USE IN STRUCTURAL CONCRETE OR STRUCTURAL MASONRY SHALL BE PERMITTED ONLY WHERE SPECIFICALLY DESIGNATED ON THESE PLANS OR WHERE SPECIFICALLY APPROVED BY THE ENGINEER.
11. **SIDEWALK PROTECTION:** PEDESTRIAN TRAFFIC SHALL BE PROTECTED AS SPECIFIED IN SECTION 3306 OF THE CBC.
12. **MATERIALS AND WORKMANSHIP WARRANTY:** THE CONTRACTOR SHALL REPLACE ANY DEFECTIVE MATERIALS AND CORRECT POOR WORKMANSHIP WITH NO ADDITIONAL COSTS TO THE OWNER, AND SHALL REMEDY ANY DEFECTS IN MATERIAL OR WORKMANSHIP WHICH APPEAR IN ONE YEAR FROM THE DATE OF COMPLETION OF THE JOB. THIS WARRANTY APPLIES TO THE WORK DONE BY THE SUBCONTRACTORS AS WELL AS THE WORK DONE BY THE EMPLOYEES OF THE CONTRACTOR.
13. **SAFETY:** THE CONTRACTOR SHALL ADEQUATELY PROTECT HIS WORK, ADJACENT PROPERTY, AND THE PUBLIC, AND BE RESPONSIBLE FOR DAMAGE OR INJURY DUE TO HIS ACT OR NEGLIGENCE.
14. **INSPECTIONS:** ANY INSPECTIONS, SPECIAL OR OTHERWISE, THAT ARE REQUIRED BY THE BUILDING CODES, LOCAL BUILDING DEPARTMENTS, OR THESE PLANS, SHALL BE DONE BY AN INDEPENDENT INSPECTION COMPANY. JOB SITE VISITS BY THE ENGINEER DO NOT CONSTITUTE, OR SUBSTITUTE FOR SPECIAL INSPECTIONS UNLESS SPECIFICALLY CONTRACTED FOR.
15. **SHOP DRAWINGS:** SHOP DRAWINGS ARE AN AID FOR FIELD PLACEMENT, AND ARE SUPERCEDED BY THE STRUCTURAL DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO MAKE CERTAIN THAT ALL CONSTRUCTION IS IN FULL AGREEMENT WITH THE LATEST STRUCTURAL DRAWINGS.
16. **SHOP DRAWING CHECK:** THE CONTRACTOR SHALL SUPPLY THE ENGINEER WITH A MINIMUM OF TWO COPIES OF CHECKED SHOP DRAWINGS BEARING THE CONTRACTOR'S STAMP OF APPROVAL AND SIGNATURE A MINIMUM OF THREE WEEKS PRIOR TO FABRICATION. THE REVIEW OF SHOP DRAWINGS BY THE ENGINEER IS ONLY FOR GENERAL COMPLIANCE WITH THE STRUCTURAL DRAWINGS AND SPECIFICATIONS. THIS REVIEW DOES NOT GUARANTEE IN ANY WAY THAT THE SHOP DRAWINGS ARE CORRECT, COMPLETE, NOR DOES IT INFER THAT THEY SUPERCEDE THE STRUCTURAL DRAWINGS.
17. **SLAB FORMING:** THE CONCRETE CONTRACTOR SHALL PREPARE AND SUBMIT TO THE ENGINEER FOR APPROVAL, FORMING SHOP DRAWINGS AND SHOP DRAWINGS SHOWING PODIUM SOFFIT AND SURFACE ELEVATION/SLOPE. THE CONTRACTOR SHALL COORDINATE PODIUM SLAB SOFFIT & SURFACE SLOPE WITH LANDSCAPE/CIVIL DRAINAGE LAYOUTS.

ALLOWANCES (IN ADDITION TO STEEL SHOWN)

1. **PRESSURE EPOXY ALLOWANCE:** THE OWNER SHALL ALLOW FOR 1500 FEET OF PRESSURE EPOXY INJECTION FOR CRACKS WHICH MAY DEVELOP IN THE STRUCTURE DURING THE FIRST THREE YEARS.

INSPECTION NOTES

1. REFER TO SECTION 1704 OF THE 2007 CALIFORNIA BUILDING CODE FOR AMPLIFICATION OF THE FOLLOWING REQUIREMENTS: ALL SPECIAL INSPECTORS MUST SUBMIT FINAL REPORTS.
2. **FOUNDATIONS:**

	YES	NO	N/A
A. COMPACTED FILL INCLUDING UTILITY TRENCHES	☒	☐	☐
B. VISUAL EXAMINATION & APPROVAL OF ALL FOUNDATION EXCAVATIONS	☒	☐	☐
C. CONTINUOUS INSPECTION OF PILE DRIVING AND/OR CAISSONS	☐	☐	☒

3. **CONCRETE:**

A. CONTINUOUS INSPECTION & TEST CYLINDERS FOR CONCRETE OVER 2500 PSI	☒	☐	☐
B. DURING THE TAKING OF TEST SPECIMENS AND PLACING OF ALL SHOTCRETE	☒	☐	☐

4. **REINFORCING AND PRESTRESSING STEEL:**

A. PLACING OF REINFORCING	☒	☐	☐
B. PLACING OF TENDONS	☒	☐	☐
C. SAMPLING & TESTING OF STEEL (MILL REPORTS & IDENTIFICATION OF STEEL)	☒	☐	☐
D. CONTINUOUS INSPECTION OF INSTALLATION OF REBAR COUPLERS	☒	☐	☐
E. CONTINUOUS INSPECTION DURING STRESSING OF PT TENDONS	☒	☐	☐
F. FIELD MEASURED ELONGATION AND JACKING FORCE RECORDS	☒	☐	☐
G. GROUTING OF POST-TENSIONED CONCRETE	☒	☐	☐
H. POST-TENSIONED TENDON PROTECTIVE WRAPPING	☒	☐	☐

5. **MASONRY:**

A. SAMPLING & TESTING OF MASONRY	☒	☐	☐
B. SAMPLING & TESTING OF GROUT & MORTAR	☒	☐	☐
C. LEVEL 1 SPECIAL INSPECTION	☒	☐	☐

6. **INSULATING CONCRETE FILL:**

TEST & INSPECTIONS	☐	☐	☒

7. **WELDING:**

A. ALL STRUCTURAL FIELD WELDING (INCLUDES DECKING)	☒	☐	☐
B. NON-DESTRUCTIVE TESTING OF MOMENT-RESISTING SPACE FRAMES	☐	☐	☒
C. STRUCTURAL LIGHT GAGE METAL FRAMING	☒	☐	☐
D. SHOP WELDING PER CBC §1704.2	☒	☐	☐

8. **BOLTING:**

A. HIGH STRENGTH BOLTING	☒	☐	☐
B. EXPANSION BOLTS IN CONCRETE OR MASONRY	☒	☐	☐

9. **STRUCTURAL STEEL:**

A. MILL REPORTS & IDENTIFICATION OF STEEL (AFFIDAVIT OF COMPLIANCE)	☒	☐	☐
B. SAMPLING & TESTING	☐	☒	☐

10. **EPOXY APPLICATIONS & POST-INSTALLED ANCHORS:** ☒ ☐ ☐
11. **APPROVED FABRICATORS:**

MUST SUBMIT CERTIFICATE OF COMPLIANCE FOR ALL OFFSITE FABRICATION SUCH AS STRUCTURAL STEEL, PRECAST CONCRETE, ETC.	☒	☐	☐

12. ARCHITECTURAL COMPONENTS – PERIODIC ☒ ☐ ☐
13. ALL TESTS & INSPECTIONS SHALL BE PERFORMED BY AN INDEPENDENT INSPECTION AGENCY. JOB SITE VISITS BY THE STRUCTURAL ENGINEER DO NOT CONSTITUTE AND ARE NOT A SUBSTITUTE FOR INSPECTIONS UNLESS THE STRUCTURAL ENGINEER IS CONTRACTED TO DO SO.

NOTE: IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO SEE THAT THESE TESTS AND INSPECTIONS ARE PERFORMED.

STRUCTURAL OBSERVATIONS

THE OWNER SHALL EMPLOY THE ENGINEER OR ARCHITECT RESPONSIBLE FOR THIS STRUCTURAL DESIGN, OR ANOTHER REGISTERED ENGINEER OR ARCHITECT DESIGNATED BY THE ENGINEER OR ARCHITECT RESPONSIBLE FOR THE STRUCTURAL DESIGN, TO PERFORM STRUCTURAL OBSERVATION AS DEFINED IN SECTION 1702. OBSERVED DEFICIENCIES SHALL BE REPORTED IN WRITING TO THE OWNER'S REPRESENTATIVE, SPECIAL INSPECTOR, CONTRACTOR & THE UCSF FIRE MARSHAL'S OFFICE. THE STRUCTURAL OBSERVER SHALL SUBMIT TO THE BUILDING OFFICIAL A WRITTEN STATEMENT THAT THE SITE VISITS HAVE BEEN MADE & IDENTIFYING ANY REPORTED DEFICIENCIES THAT, TO THE BEST OF THE STRUCTURAL OBSERVER'S KNOWLEDGE, HAVE NOT BEEN RESOLVED.

STRUCTURAL OBSERVATIONS SHALL BE PERFORMED AT THE FOLLOWING STAGES OF CONSTRUCTION PRIOR TO PLACEMENT OF CONCRETE:

1. COLUMN & SHEAR WALL FOOTING REINFORCEMENT.
2. COLUMN & SHEAR WALL REINFORCEMENT.
3. P.T. SLAB REINFORCEMENT & CONNECTION OF P.T. SLABS TO SHEAR WALLS.

STRUCTURAL OBSERVATION DOES NOT WAIVE NOR REPLACE RESPONSIBILITY FOR THE INSPECTIONS REQUIRED OF THE BUILDING INSPECTOR OR THE DEPUTY INSPECTOR. STRUCTURAL OBSERVATION IS NOT INSPECTION. IT IS FAMILIARIZATION WITH THE PROGRESS & QUALITY OF THE WORK AND CLARIFICATION OF THE DOCUMENTS & GENERAL CONFORMANCE TO DESIGN INTENT. SEE "INSPECTION NOTES" FOR INSPECTION CRITERIA & NOTE THAT CONTINUOUS SPECIAL INSPECTION PERFORMED BY A QUALIFIED DEPUTY IS REQUIRED FOR ALL PRIMARY STRUCTURAL ELEMENTS, ETC. THE CONTRACTOR & INSPECTOR WILL ASSURE THAT CERTIFIED RECORD OF CONTINUOUS SPECIAL INSPECTION OF THE WORK TO BE OBSERVED IS MADE AVAILABLE TO THE OBSERVER BEFORE REQUESTING OBSERVATION. THE STRUCTURAL OBSERVER SHALL PERFORM SITE VISITS AT THOSE STEPS IN THE PROGRESS OF THE WORK THAT ALLOW FOR CORRECTION OF DEFICIENCIES WITHOUT SUBSTANTIAL EFFORT OR UNNCOVERING OF THE WORK INVOLVED.

ABBREVIATIONS

SYMBOL	DEFINITION
@	AT
A.B.	ANCHOR BOLT
A.C.I.	AMERICAN CONCRETE INSTITUTE
A.I.S.C.	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
ALT.	ALTERNATE
ARCH.	ARCHITECTURAL
A.S.T.M.	AMERICAN STANDARD FOR TESTING AND MATERIALS
A.W.S.	AMERICAN WELDING SOCIETY
B, (B)	BOTTOM
BET.	BETWEEN
BLDG.	BUILDING
C.G.S.	CENTROID OF TENDON
C.I.P.	CAST-IN-PLACE CONCRETE
C.B.C.	CALIFORNIA BUILDING CODE
C.J.	CONSTRUCTION JOINT
℄	CENTERLINE
CLG.	CEILING
CLR.	CLEAR
C.M.U.	CONCRETE MASONRY UNIT
COL.	COLUMN
CONC.	CONCRETE
CONST.	CONSTRUCTION
CONT.	CONTINUOUS
CTR.	CENTER
CTR'D.	CENTERED
CU.FT.	CUBIC FEET
CU.IN.	CUBIC INCH
CU.YD.	CUBIC YARD
d_b	BAR DIAMETER
DET.	DETAIL
DIA. (ø)	DIAMETER
DIAG.	DIAGONAL
DIM.	DIMENSION
D.L.	DEAD LOAD
DN.	DOWN
DWG.(S)	DRAWING(S)
EA.	EACH
E.F.	EACH FACE
EL.	ELEVATION
ELEV.	ELEVATOR
ENGR.	ENGINEER
E.O.R.	ENGINEER OF RECORD
EQ.	EQUAL
E.S.	EACH SIDE
E.W.	EACH WAY
E-W	EAST-WEST
EXT.	EXTERIOR
F.D.	FLOOR DRAIN
FDN.	FOUNDATION
F.F.	FINISH FLOOR
F.G.	FINISH GRADE
FIN.	FINISH
FLR.	FLOOR
F.O.	FACE OF
F.O.C.	FACE OF CONCRETE
F.O.M.	FACE OF MASONRY
FTG.	FOOTING
GA.	GAGE
GALV.	GALVANIZED
G.B.	GRADE BEAM
HORIZ.	HORIZONTAL
H.P.	HIGH POINT
I.D.	INSIDE DIAMETER
I.F.	INSIDE FACE
IN.	INCH(ES)
INT.	INTERIOR
JT.	JOINT
K.	KIP (1,000 LBS)
K/FT, K/′	KIPS PER FOOT
LG.	LONG
LIN.	LINEAR
L.L.	LIVE LOAD
L.P.	LOW POINT
LT.WT.	LIGHT WEIGHT
M.B.	MACHINE BOLT
M.D.	MID DEPTH
MATL.	MATERIAL
MAX.	MAXIMUM
MECH.	MECHANICAL
MEMB.	MEMBRANE
MEP	MECHANICAL, ELECTRICAL & PLUMBING
MFR.	MANUFACTURER
MIN.	MINIMUM
MISC.	MISCELLANEOUS
N.A.	NEUTRAL AXIS
NO., #	NUMBER
N-S	NORTH-SOUTH
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
O.F.	OUTSIDE FACE
OPNG.	OPENING
OPP.	OPPOSITE
ORIG.	ORIGINAL
P.S.F.	POUNDS PER SQUARE FOOT
P.S.I.	POUNDS PER SQUARE INCH
P.T.	POST-TENSIONING
R.	RADIUS
R.D.	ROOF DRAIN
REF.	REFERENCE
REINF.	REINFORCE(D) / REINFORCING
REQ'D.	REQUIRED
S.A.D.	SEE ARCHITECTURAL DRAWINGS
S.C.D.	SEE CIVIL DRAWINGS
S.M.D.	SEE MECHANICAL DRAWINGS
S.E.D.	SEE ELECTRICAL DRAWINGS
S.L.D.	SEE LANDSCAPE DRAWINGS
SEC.	SECTION
SHT.	SHEET
SIM.	SIMILAR
S.J.	SLAB JOINT
S.O.G.	SLAB-ON-GRADE
SPECS.	SPECIFICATIONS
SQ.	SQUARE
STAG.	STAGGER(ED)
STD.	STANDARD
STL.	STEEL
STR.	STRAIGHT
SYM.	SYMMETRICAL
T, (T)	TOP
T.S.	STRUCTURAL TUBE
TYP.	TYPICAL
U.B.C.	UNIFORM BUILDING CODE
U.N.O.	UNLESS NOTED OTHERWISE
W/	WITH
W.J.	WALL JOINT

MAINTENANCE REQUIREMENTS

1. THE ENTIRE CONCRETE FRAME, INCLUDING ELEVATED SLABS, COLUMNS, BEAMS, WALLS, SLAB-ON-GRADES REQUIRE STRICT MAINTENANCE IN ORDER TO REMAIN SERVICEABLE AND SAFE.
2. DETAILS OF THE MAINTENANCE PROGRAM APPLICABLE TO THIS PROJECT MUST BE COMPILED BY THE OWNER AND SUBMITTED TO THE FACILITY MAINTENANCE DEPARTMENT.
3. AS A GUIDE THE FOLLOWING REFERENCES MAY BE CONSULTED AS MINIMUM REQUIREMENT: "PARKING STRUCTURES" BY ANTHONY P. CHREST AND SAM BHUYAN (CHAPTER 9, TITLED MAINTENANCE) ISBN 0-442-20655-0.
4. GUIDE FOR STRUCTURAL MAINTENANCE OF PARKING STRUCTURES, REPORTED BY ACI COMMITTEE 362 (ACI 362.2R-00)

SPECIAL NOTES TO OWNER

1. UNDER NORMAL CONDITIONS, AND FOR CONVENTIONAL BUILDINGS SUCH AS THE SUBJECT PROJECT, REINFORCED CONCRETE AS WELL AS POST-TENSIONED CONCRETE DEVELOP CRACKS. THE CRACKS ARE DUE TO INHERENT SHRINKAGE OF CONCRETE, CREEP AND RESTRAINING EFFECTS OF VERTICAL AND OTHER STRUCTURAL ELEMENTS TO WHICH THE BEAMS/SLABS ARE TIED.
2. THE CRACKS FORMED ARE NORMALLY COSMETIC. THE SLAB MAINTAINS ITS SERVICEABILITY AND STRENGTH REQUIREMENTS. DUE TO SPECIAL FEATURES OF UNBONDED POST-TENSIONING, IT IS POSSIBLE THAT A NUMBER OF HAIRLINE CRACKS, WHICH WOULD NORMALLY SPREAD OVER A WIDE AREA, WILL INTEGRATE INTO A SINGLE CRACK WITH A WIDTH EXCEEDING 0.01 INCH. IT IS EMPHASIZED THAT ALTHOUGH SPECIAL EFFORT IS MADE TO REDUCE THE POTENTIAL CAUSES AND NUMBER OF SUCH CRACKS, IT IS NOT PRACTICAL TO PROVIDE TOTAL ARTICULATION BETWEEN THE FLOOR SYSTEM AND ITS SUPPORTS AND THEREBY ACHIEVE COMPLETE INHIBITION OF ALL CRACKS.
3. MOST SUCH CRACKS DEVELOP OVER THE FIRST THREE YEARS OF THE LIFE OF THE FLOOR SYSTEM. CRACKS WHICH ARE WIDER THAN 0.01 INCH MAY NEED TO BE PRESSURE EPOXIED. REFER TO THE NOTES UNDER "ALLOWANCES".
4. THE OBJECT OF THE JOINTS PROVIDED IS TO ALLOW MOVEMENT. MOVEMENTS DUE TO CREEP AND SHRINKAGE MAY BE NOTICEABLE AT JOINTS UP TO TWO YEARS AFTER CONSTRUCTION, BEYOND WHICH MOVEMENTS DUE TO VARIATIONS IN TEMPERATURE WILL PERSIST.

SOIL

1. DESIGN OF FOUNDATION IS BASED ON THE CRITERIA AS PER SOIL'S REPORT
   PREPARED BY : TREADWELL & ROLLO
   DATE : 11/24/10
   REPORT # : 5070.01
   ADDENDUMS :
2. **ALLOWABLE SOIL BEARING PRESSURE:**

ALLOWABLE FOUNDATION PRESSURE (DL+LL)	6000 PSF
ALLOWABLE FOUNDATION PRESSURE (INCLUDING WIND OR SEISMIC)	8000 PSF
PASSIVE LATERAL PRESSURE	300 PCF
ACTIVE LATERAL PRESSURE (UNRESTRAINED)	35 PCF
ACTIVE LATERAL PRESSURE (RESTRAINED)	55 PCF
SEISMIC LATERAL PRESSURE	26 PCF
COEFFICIENT OF SLIDING FRICTION	0.35

3. SHOULD THE CONTRACTOR ENCOUNTER SOIL THAT APPEARS TO BE WEAKER THAN THE ABOVE, HE/SHE SHALL NOTIFY THE STRUCTURAL ENGINEER AND GEOTECHNICAL ENGINEER.
4. ALL COMPACTION SHALL BE PER THE GEOTECHNICAL REPORT.
5. SOIL ENGINEER SHALL BE RETAINED TO PROVIDE OBSERVATION & TESTING SERVICES DURING THE GRADING & FOUNDATION PHASE OF CONSTRUCTION PER SOILS REPORT RECOMMENDATIONS. INSPECTION & TESTING REPORTS SHALL BE SUBMITTED TO THE BUILDING DEPARTMENT.

DEFERRED SUBMITTALS

THE FOLLOWING DEFERRED SUBMITTALS SHALL FIRST BE SUBMITTED TO THE PROJECT ENGINEER OF RECORD/ARCHITECT FOR REVIEW AND COORDINATION PRIOR TO FABRICATION. FOLLOWING THE COMPLETION OF THE REVIEW AND COORDINATION BY THE ENGINEER OF RECORD/ARCHITECT, A SUBMITTAL WOULD THEN BE MADE TO THE UCSF FIRE MARSHALL'S OFFICE FOR REVIEW AND APPROVAL. THE SUBMITTAL WILL INCLUDE A LETTER STATING THAT THIS REVIEW AND COORDINATION IS COMPLETED AND PLANS AND CALCULATIONS FOR THE DEFERRED ITEMS ARE FOUND TO BE ACCEPTABLE WITH NO EXCEPTIONS.

A. STAIRS AND THEIR CONNECTIONS.
B. ELEVATORS AND CONNECTIONS TO THE STRUCTURE.
C. LIGHT GAUGE STEEL FRAMING.
D. SEISMIC ANCHORAGE OF MECHANICAL EQUIPMENT.

SUBMITTALS FOR ITEMS B,C,E,F, & G SHALL INCLUDE CALCULATIONS AND SHALL BE SIGNED BY A REGISTERED CALIFORNIA CIVIL ENGINEER. REFER TO ARCHITECTURAL SHEET A0.1 FOR ADDITIONAL DEFERRED SUBMITTALS.

LOADING

1. **GRAVITY:**
   LOADS SUPERIMPOSED ON THE STRUCTURE USED IN THE DESIGN. LIVE LOADS MAY BE REDUCIBLE PER CBC SECTION 1607.
   A. DEAD LOADS: CONCRETE 150 PCF
   B. LIVE LOADS:
      1. PARKING 40 PSF NON-REDUCIBLE, 3,000 LBS CONCENTRATED
      2. CRASH WALL 6,000 LBS AT 18" ABOVE FLOOR
2. **SEISMIC DESIGN: DESIGN IS IN ACCORDANCE TO CBC CHAPTER 16**

DESCRIPTION	DATA
SEISMIC FORCE RESISTING SYSTEM	SPECIAL REINF. CONC. SHEARWALLS
RESPONSE MODIFICATION COEFFICIENT	R = 5.0
OCCUPANCY CATEGORY	II
IMPORTANCE FACTOR	I = 1.0
SITE CLASS	D
MAPPED SPECTRAL RESPONSE ACCELERATION-SHORT PERIOD	S_s = 1.5 g
MAPPED SPECTRAL RESPONSE ACCELERATION-1sec. PERIOD	S_1 = 0.7 g
SHORT-PERIOD SITE COEFFICIENT	F_a = 1.00
LONG-PERIOD SITE COEFFICIENT	F_v = 1.50
DESIGN SPECTRAL RESPONSE ACCELERATION-SHORT PERIOD	S_{MS} = 1.0 g
DESIGN SPECTRAL RESPONSE ACCELERATION-1 SECOND	S_{M1} = 0.7 g
SEISMIC DESIGN CATEGORY	D
SEISMIC FORCE AMPLIFICATION FACTOR	Ω_o = 2.5
SEISMIC RESPONSE COEFFICIENT	C_s = .2
DESIGN BASE SHEAR	V = 1961 KIPS
ANALYSIS PROCEDURE USED	M.R.S.A.
MAXIMUM INELASTIC DEFLECTION X-DIR	X-DIR = 2.5"
MAXIMUM INELASTIC DEFLECTION Y-DIR	Y-DIR = 1.1"
REDUNDANCY FACTOR	ℓ = 1.3

3. **WIND DESIGN:**

DESCRIPTION	DATA
BASIC WIND SPEED	85 MILES PER HR.
EXPOSURE	B
IMPORTANCE FACTOR	I=1.0

INDEX

ARCHITECT
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STAMP

REGISTERED PROFESSIONAL ENGINEER — CHRIS BANE — No. S 4722 Exp. 12-31-12 — STRUCTURAL — STATE OF CALIFORNIA

CONSULTANTS
FBA. INC
STRUCTURAL ENGINEERS
1675 Sabre St.
Hayward, CA 94545
Tel 510.265.1888
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PROJECT

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO
MOUNT ZION CAMPUS
PARKING GARAGE
2420 SUTTER STREET
SAN FRANCISCO, CA 94115
CSFM# H30276, 2009.03
DSA A# 01-111949, File #:38-UCsanfrancisco
LOT 23, BLOCK 1052

REVISIONS

100% DD	12-03-10
FOUNDATION ONLY	01-20-11
PERMIT	02-17-11
1 RESPONSE TO FOUNDATION PLAN CHECK/ BID SET	03-22-11
2 RESPONSE TO SFM PLAN CHECK	05-12-11
3 RESPONSE TO PLAN CHECK	06-06-11
4 FOR CONSTRUCTION	08-15-11

SHEET DATA

DATE:	08-15-11
JOB NO.:	2010-37
PHASE:	CD
ISSUED FOR:	CONSTRUCTION
SCALE:	AS SHOWN

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
SC-1.1