Building Name: Mission Hall Building

CAAN ID: 2281

Auxiliary Building ID: NA CALIFORNIA Date: 8/16/2019



FORM 1 CERTIFICATE OF SEISMIC PERFORMANCE LEVEL

UC-Designed & Constructed Facility

☐ Campus-Acquired or Leased Facility

BUILDING DATA

Building Name: Mission Hall Building Address: 550 16th St., San Francisco

Site location coordinates: Latitude 37.7676 Longitudinal -122.3903

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

ASCE 41-17 Model Building Type:

a. Longitudinal Direction: C2/S2: Concrete Shear Walls with Ordinary Steel Concentrically Braced Frames at Penthouse

b. Transverse Direction: C2/S2: Concrete Shear Walls with Ordinary Steel Concentrically Braced Frames at Penthouse

Gross Square Footage: 276,385 Number of stories *above* grade: 7

Number of basement stories below grade: 0

Year Original Building was Constructed: 2014
Original Building Design Code & Year: CBC-2010

Retrofit Building Design Code & Code (if applicable): NA

SITE INFORMATION

Site Class: D Basis: (Rutherford & Chekene, 2/9/2015, S-002)

Geologic Hazards:

Fault Rupture: No
Liquefaction: No
Landslide: No
Basis: UCSF Presumptive Buildings – Geotechnical Assessment, Egan (2019)
Basis: UCSF Presumptive Buildings – Geotechnical Assessment, Egan (2019)
Basis: UCSF Presumptive Buildings – Geotechnical Assessment, Egan (2019)

ATTACHMENT

Original Structural Drawings: (UCSF Block 25A, Rutherford & Chekene, 2/9/2015, S-002) or

Seismic Evaluation: NA

Retrofit Structural Drawings: NA

Building Name: Mission Hall Building

CAAN ID: 2281





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):

Date: 8/16/2019

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.

Building Name: Mission Hall Building

CAAN ID: 2281

Auxiliary Building ID: NA



Date: 8/16/2019

CERTIFICATION SIGNATURE

Maryann T. PhippsPresidentPrint NameTitle

S2995 6/30/2020

CA Professional Registration No. License Expiration Date

yan J. Thipps 8/16/2019

Signature Date

- // agyans J. Mappe

9/4/2019

AFFIX SEAL HERE

EXP. 6/30/20

Estructure, (510) 235-3116, 1144 65th St Suite A, Oakland

Firm Name, Phone Number, and Address

Building Name: Mission Hall Building

CAAN ID: 2281

Auxiliary Building ID: NA



Table 1: Benchmark Building Codes and Standards

	Building Seismic Design Provisions			
Building Type ^{a,b}	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.

Date: 8/16/2019

^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.

 $^{^{\}it c}$ not used

^d not used

e not used

 $^{^{\}it f}$ 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.

 $^{^{\}it h}$ Cold-formed steel shear walls with wood structural panels only.

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

PRECEDENCE OVER THESE NOTES. B. ALL CONSTRUCTION SHALL CONFORM TO THE CALIFORNIA BUILDING CODE (CBC), TITLE 24, 2010 EDITION. C. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE JOB SITE BEFORE COMMENCING

WORK AND SHALL REPORT ANY DISCREPANCIES TO THE DESIGN BUILDER. D. OMISSIONS OR CONFLICTS BETWEEN VARIOUS ELEMENTS OF THE DRAWINGS, NOTES, AND DETAILS SHALL BE

BROUGHT TO THE ATTENTION OF THE DESIGN BUILDER AND RESOLVED BEFORE PROCEEDING WITH THE WORK E. DETAILS SHOWN SHALL BE INCORPORATED INTO THE PROJECT AT ALL APPROPRIATE LOCATIONS WHETHER SPECIFICALLY CALLED OUT OR NOT. F. THE CONTRACTOR MUST SUBMIT IN WRITING ANY REQUESTS FOR MODIFICATIONS TO THE PLANS AND

SPECIFICATIONS. SHOP DRAWINGS SUBMITTED TO THE DESIGN BUILDER FOR REVIEW DO NOT CONSTITUTE "IN WRITING" UNLESS IT IS CLEARLY NOTED THAT SPECIFIC CHANGES ARE BEING REQUESTED.

G. UNLESS SPECIFICALLY SHOWN ON THESE PLANS, NO STRUCTURAL MEMBER SHALL BE CUT, DRILLED, OR NOTCHED WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE DESIGN-BUILDER

DIMENSIONAL CONTROL

A. DO NOT USE SCALED DIMENSIONS. WHERE NO WRITTEN DIMENSION IS PROVIDED, CONSULT WITH THE DESIGN-BUILDER FOR CLARIFICATION BEFORE PROCEEDING WITH THE WORK.

B. THE FOLLOWING MEMBERS CAN BE LOCATED WITHOUT WRITTEN DIMENSIONS:

1. CENTER MEMBERS ON GRID LINES THAT ARE SHOWN LOCATED ON GRID LINES.

2. SPACE MEMBERS EQUALLY BETWEEN MEMBERS ON GRID LINES OR MEMBERS OTHERWISE LOCATED, WHERE MEMBERS ARE SHOWN EQUALLY SPACED.

C. ELEVATIONS NOTED ON THE STRUCTURAL DRAWINGS USE THE FOLLOWING CONVENTIONS:

1. ACTUAL ELEVATIONS ARE DESIGNATED IN FEET AND INCHES (EXAMPLE: EL 105'-0"), REFERENCING NGVD DATUM.

2. FEATURES THAT ARE CLOSELY RELATED TO OTHER SIMILAR ELEMENTS AT INDIVIDUAL FLOORS, ARE REFERENCED TO THE ELEVATION OF THE TYPICAL ELEMENT AT THAT LEVEL. DIMENSIONS ARE GIVEN IN

a. TOP OF CONCRETE AT DEPRESSED AREAS IS RELATED TO TYPICAL TOP OF CONCRETE (EXAMPLE: T.O.C. -2").

b. TOP OF STEEL IS REFERENCED TO TYPICAL TOP OF STEEL FOR THAT LEVEL [EXAMPLE W12x14 (-6")].

D. DIMENSION POINTS ARE AS FOLLOWS, UNLESS OTHERWISE INDICATED:

1. TYPICAL, U.O.N.: CENTERLINE.

2. WALLS: FACE OF CONCRETE OR FACE OF STUDS.

STEEL ANGLES AND CHANNELS: FACE.

4. FLAT FRAMING: TOP OF STEEL OR TOP OF CONCRETE

COORDINATION OF DOCUMENTS

A. ALTHOUGH WATERPROOFING AND DRAINAGE ITEMS ARE SOMETIMES PICTURED ON THE STRUCTURAL DRAWINGS FOR REFERENCE, THESE ITEMS ARE THE DESIGN RESPONSIBILITY OF OTHERS AND ARE DETAILED AND/OR SPECIFIED ELSEWHERE

B. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION AND DETAILS OF NON-BEARING INTERIOR AND EXTERIOR WALL CONSTRUCTION. C. REFER TO ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR LOCATIONS AND SIZES

OF THE FOLLOWING ITEMS:

 ANCHOR BOLTS, INSERTS AND HANGERS FOR ATTACHMENT AND BRACING OF NONSTRUCTURAL BUILDING COMPONENTS TO THE BUILDING STRUCTURE.

2. ITEMS EMBEDDED IN STRUCTURAL ELEMENTS, INCLUDING DRAINS, SLEEVES, CONDUITS, AND BOXES.

3. OPENINGS IN SLAB FOR INDIVIDUAL PIPES SMALLER THAN 6" IN DIAMETER.

D. ITEMS THAT ARE NOT SHOWN ON STRUCTURAL DRAWINGS, BUT AFFECT STRUCTURAL ELEMENTS, SHALL BE SUBJECT TO LIMITATIONS OF THE STRUCTURAL DETAILS LISTED BELOW, EXCEPT AS APPROVED BY DESIGN-BUILDER

ITEM	DETAIL REFERENCE	,
PENETRATIONS THROUGH FOOTINGS AND GRADE BEAMS	9/S-300	
PENETRATIONS THROUGH WALLS AND SLABS	3/S-301	

 REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION AND DETAILS OF MISCELLANEOUS STEEL ITEMS. INCLUDING BUT NOT LIMITED TO:

1. FRAMING THAT SERVES SOLELY AS A COMPONENT OF NON-BEARING STUD WALL OR CURTAINWALL ASSEMBLY, INCLUDING JAMB FRAMING AT ROLL-DOWN DOORS, JAMB AND/ OR HEAD REINFORCEMENT AT OTHER STUD AND CURTAIN ASSEMBLIES, CANTILEVER FRAMING FOR SILLS AND PARTIAL HEIGHT

2. ORNAMENTAL METAL, INCLUDING RAILINGS, SUN CONTROL DEVICES AND TRELLISES.

DESIGN CRITERIA

A. APPLICABLE CODE: PART 2, TITLE 24, CALIFORNIA CODE OF REGULATIONS (CALIFORNIA BUILDING CODE CBC) 2010 EDITION. SEE S-003 FOR ADDITIONAL CODE REQUIREMENTS FOR NON-STRUCTURAL ITEMS.

B. LIVE LOADS: SEE S-004

C. VIBRATION CRITERIA:

8,000 MICRO-INCHES/SEC DUE TO 185# WALKER AT 100 STEPS/MIN

D. WIND DESIGN PRESSURES: WIND PRESSURES BELOW HAVE BEEN DETERMINED BASED ON REPORT BY CPP, INC. ENTITLED "CLADDING REPORT WIND LOAD ASSESMENT FOR UCSF MISSION BAY BLOCK 25A, SAN FRANCISCO, CA", DATED MARCH 1, 2013.

ZONE PER ASCE 7-05 FIGURE 6-17	CLOSED BUILDING, NEGATIVE PRESSURES @ 10 SF AREA (PSF)	
ZONE 2 (ROOF EDGE)	-51	
ZONE 3 (ROOF CORNER)	-69	
ZONE 4 (WALL INTERIOR)	-22	
ZONE 5 (WALL CORNER)	-40	

E. SEISMIC DESIGN PARAMETERS FOR STRENGTH CHECKS:

OCCUPANCY CATEGORY: III SEISMIC DESIGN CATEGORY: D IMPORTANCE FACTOR: I = 1.25 LONGITUDE: -122,390 WEST LATITUDE: 37.7672 NORTH SITE CLASS: D

SITE SPECIFIC SPECTRUMS:

PERIOD (SEC)	CBC 2010 (LIFE SAFETY)	HAYWARD-RODGERS CREEK 84TH PERCENTILE (IMMEDIATE OCCUPANCY)
0.01	0.434	0.327
0.02	0.439	0.329
0.03	0.463	0.343
0.05	0.510	0.377
0.075	0.606	0.451
0.10	0.705	0.533
0.15	0.851	0.663
0.20	0.911	0.724
0.25	0.948	0.748
0.30	0.965	0.749
0.40	0.945	0.723
0.50	0.921	0.686
0.75	0.80	0.593
1.00	0.677	0.524
1.50	0.671	0.421
2.00	0.633	0.350
3.00	0.516	0.247
4.00	0.430	0.191

CBC 2010 SPECTRUM HAS BEEN USED FOR DESIGN OF THE MAIN SEISMIC LATERAL FORCE RESISTING SYSTEM. THE HAYWARD-RODGERS CREEK 84TH PERCENTILE SPECTRUM HAS BEEN USED FOR DESIGN OF ALL NON-STRUCTURAL COMPONENTS AND EQUIPMENT IN COMBINATION WITH THE ACCEPTANCE CRITERIA OF ASCE 41 (N-B) IMMEDIATE OCCUPANCY.

STRUCTURAL RESPONSE MODIFICATION FACTORS 1 R = 6 (SPECIAL CONCRETE SHEAR WALL)

 Ω o = 2.5 Cd = 5

Sds = 0.911

PENTHOUSE (OCBF): Rp = 3.5, ap = 2.5, lp = 1.0

DESIGN BASE SHEAR: V = 0.16W

DESIGN INTERSTORY SEISMIC DRIFT: THE DESIGN INTERSTORY DRIFT BETWEEN A LEVEL AND THE FLOOR BELOW IS AS SHOWN IN THE TABLE BELOW, WHERE H IS THE STORY HEIGHT. ALL NON-STRUCTURAL ITEMS SHALL BE DESIGNED TO ACCOMMODATE THE CBC 2010 DESIGN STORY DRIFT TOGETHER WITH THE CBC ACCEPTANCE CRITERIA AS WELL AS THE HAYWARD-RODGERS CREEK 84TH PERCENTILE DESIGN STORY DRIFT TOGETHER WITH THE ASCE 41 (N-B) IMMEDIATE OCCUPANCY ACCEPTANCE CRITERIA.

DESIGN STORY DRIFT				
FLOOR	STORY HEIGHT	LIFE SAFETY (CBC 2010)	IMMEDIATE OCCUPANCY (HAYWARD - RODGERS CREEK 84TH PERCENTILE)	
LEVEL 2	12'-11"	0.0067xH	0.0045xH	
LEVEL 3	12'-3"	0.0076xH	0.0051xH	
LEVEL 4	12'-3"	0.0081xH	0.0054xH	
LEVEL 5	12'-3"	0.0094xH	0.0063xH	
LEVEL 6	12'-3"	0.0089xH	0.0060xH	
LEVEL 7	12'-3"	0.0091xH	0.0061xH	
LEVEL 8	12'-3"	0.0090xH	0.0061xH	

G. PERIMETER DEFLECTION

1. UNDER SUPERIMPOSED DEAD LOAD AND DESIGN LIVE LOADS, THE PERIMETER DEFLECTION IS A MAXIMUM OF 1/2".

FOUNDATION DESIGN CRITERIA:

A. THE FOUNDATION DESIGN IS BASED ON CRITERIA AND RECOMMENDATIONS PRESENTED IN THE FOLLOWING REPORTS 1. "GEOTECHNICAL MEMO SUPPORTING DESIGN DEVELOPMENT, UCSF MISSION BAY BUILDING 25A,

SAN FRANCISCO, CALIFORNIA" DATED FEBRUARY 1, 2013 BY AMEC. 2. "GEOTECHNICAL REPORT, DESIGN-BUILD OF BLOCK 25A ACADEMIC BUILDING, UNIVERSITY OF CALIFORNIA, SAN FRANCISCO, MISSION BAY CAMPUS," DATED FEBURARY 2013 BY AMEC. 3. "ADDENDUM 1 TO GEOTECHNICAL REPORT: EVALUATION OF SITE SPECIFIC Sds VALUE, DESIGN-BUILD OF BLOCK 25A ADACADEMIC BUILDING, UNIVERSITY OF CALIFORNIA, SAN FRANCISCO, MISSION BAY CAMPUS", DATED FEBRUARY 26, 2013.

4. "ADDENDUM 2 TO GEOTECHNICAL REPORT: EVALUATION OF HAYWARD-RODGERS CREEK SCENARIO SPECTRUM, DESIGN-BUILD OF BLOCK 25A ADACADEMIC BUILDING, UNIVERSITY OF CALIFORNIA, SAN FRANCISCO, MISSION BAY CAMPUS", DATED FEBRUARY 27, 2013.

B. AUGER CAST DISPLACEMENT PILES: SEE S-302 FOR ASSUMED PILE CAPACITIES CONCRETE

A. REINFORCING STEEL

1. ALL BARS, U.O.N.: ASTM A615, GR 60 OR ASTM A706, DEFORMED. ASTM A706 IN ALL CONCRETE WALLS, COLUMNS, BEAMS

2. BARS TO BE WELDED: ASTM A706.

3. SPIRAL: ASTM A706. DEFORMED.

a. AT SPLICE, LAP 40 DIAMETERS AND PROVIDE SEISMIC HOOK AT ENDS INTO CORE. b. AT ENDS, PROVIDE TWO FINISHING TURNS AND SEISMIC HOOK AT END INTO CORE.

4. HEADED BARS: a. WHERE HEADED BARS ARE SHOWN, CONFORM TO REQUIREMENTS OF ACI 318-08 SECTIONS 3.5.9 AND 12.6. b. HEADED BARS OR ICBO APPROVED MECHANICAL "TERMINATORS" WILL BE PERMITTED

TO BE SUBSTITUTED FOR HOOKS AT OTHER LOCATIONS AT SUBCONTRACTORS OPTION, SUBJECT TO APPROVAL OF OWNER'S REPRESENTATIVE.

B. MECHANICAL BAR SPLICES: COVER AND CLEARANCE REQUIREMENTS SHALL BE MAINTAINED BAR COUPLERS.

1. WHERE MECHANICAL SPLICES ARE SHOWN, PROVIDE TYPE 2 COUPLERS U.O.N. 2. MECHANICAL SPLICES WILL BE PERMITTED AT OTHER LOCATIONS AT CONTRACTOR'S OPTION, SUBJECT TO APPROVAL OF OWNER'S REPRESENTATIVE FOR LOCATION AND TYPE OF COUPLER.

ARCHITECTURAL DRAWINGS FOR LOCATIONS WHERE CONCRETE IS EXPOSED TO VIEW.

C. CONCRETE MIXES: SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS. REFER TO

STRENGTH, Fc WEIGHT MIX ID USE NORMAL PILE CAPS AND GRADE BEAMS 5,000 PSI 5.000 PSI NORMAL SLAB ON GROUND, FORMED SLABS, BEAMS 4,000 PSI NORMAL WALLS, COLUMNS, 4,000 PSI NORMAL C (ARCH) WALLS, STAIRS C-6000 COLUMNS AS NOTED 6.000 PSI NORMAL 6.000 PSI NORMAL C-6000 (ARCH) COLUMNS AS NOTED CURBS, TOPPING SLABS AND EQUIPMENT PADS 4,000 PSI NORMAL STAIR FILLS NORMAL 4.000 PSI RAT SLAB 1.500 PSI NORMAL

SHOTCRETE A. NOT USED

DRILLED DOWELS

A. HIT RE500-SD ADHESIVE ANCHORING SYSTEM, HILTI, INC. (ICC ESR-2322) OR SET-XP EPOXY ADJESIVE, SIMPSON STRONG-TIE CO. (ICC ESR-2508).

NORMAL

LIGHTWEIGHT

I. NON-SHRINK GROUT (BASED ON 2010 CBC, TABLE 1704.4)

STEEL (BASED ON 2010 CBC, TABLE 1704.3 AND AISC 341-05)

D. INSPECT END-WELDED STUS (ASTM A-108) INSTALLATION.

B. TEST COMPRESSIVE STRENGTH OF GROUT.

WELDS, 5/16" OF SMALLER.

NON-STRUCTURAL COMPONENTS

A. INSPECT MIXING AND PLACING OF NONSHRINK GROUT.

3,000 PSI

4,000 PSI

STRUCTURAL STEEL

A. SHAPES AND PLATES

1. W-SHAPES: ASTM A992, U.O.N.

PROTECTION SLAB

LIGHTWEIGHT TOPPING SLAB

2. ANGLES, CHANNELS, BENT PLATES: ASTM A36, U.O.N.

3. PLATE AND FLAT BARS: ASTM A572, GRADE 50 TYPICAL; ASTM A36 WHERE NOTED.

4. ROUND, SQUARE, AND RECTANGULAR TUBES: ASTM A500, GRADE B.

B. BOLTS AND RODS

1. HIGH STRENGTH BOLTS (H.S. BOLTS): ASTM A325, TYPE 1 OR ASTM F1852, TYPE 1 "TWIST-OFF", U.O.N. ASTM A490 TYPE 1 WHERE SPECIFICALLY NOTED.

2. MACHINE BOLTS AND THRU-BOLTS: ASTM A307.

3. STANDARD ANCHOR BOLTS: ASTM F1554, GRADE 36, U.O.N.

4. HIGH STRENGTH ANCHOR BOLTS: ASTM F1554, GRADE 105.

5. THREADED RODS: ASTM A36 U.O.N.

C. DEFORMED BAR ANCHORS (DBA): ASTM A496 GR 70.

D. WELDING

1. ELECTRODES: E70XX

2. WELDS USED FOR CONNECTIONS IN THE SEISMIC LOAD RESISTING SYSTEM: SEE SPECIFICATIONS FOR REQUIREMENTS EXCEPT AS SPECIFICALLY NOTED ON DRAWINGS, ALL WELDS AT THE FOLLOWING LOCATIONS SHALL BE CONSIDERED WELDS PART OF THE SEISMIC LOAD RESISTING SYSTEM:

a. BRACED FRAME COLUMN BASE PLATE CONNECTIONS. b. BRACE CONNECTIONS, INCLUDING GUSSETS

E. EXPANSION OR WEDGE ANCHORS: HILTI KWIK BOLT TZ EXPANSION ANCHOR, OR APPROVED

F. U.O.N., STEEL ELEMENTS AT EXTERIOR LOCATIONS ARE HOT DIPPED GALVANIZED; SEE SPECIFICATIONS FOR PRIMER REQUIREMENTS. PROVIDE GALVANIZING RELIEF HOLES AS REQUIRED. AND FILL WITH FREEZE PLUGS.

STRUCTURAL STEEL FRAMING NOTES

A. CODE: COMPLY WITH ANSI / AISC 360 "SPECIFICATION FOR STRUCTURAL STEEL BUILDING\$2005" FOR ALL TOLERANCES, SPACINGS, MINIMUM WELD SIZES AND OTHER DETAILS NOTNOTED OR

B. CONNECTIONS: USE CONNECTIONS DESIGNATED AS "TYPICAL" WHERE SPECIFIC CONNECTION DETAILS ARE NOT CALLED OUT. WHERE GEOMETRY OR OTHER CONDITIONS VARY FROM CONDITIONS OF THE TYPICAL CONNECTIONS, PROVIDE SIMILAR CONNECTIONS OF EQUAL STRENGTH.

METAL DECK

A. ROOF DECK: ASTM A653, SS, GRADE 33, GALVANIZED, MINIMUM YIELD 38 KSI.

HAZARDOUS MATERIALS

A. RUTHERFORD & CHEKENE ASSUMES NO RESPONSIBILITY FOR THE MANAGEMENT OF HAZARDOUS MATERIALS THAT MAY BE ON THE SITE.

B. RUTHERFORD & CHEKENE HAS NOT PERFORMED INVESTIGATIONS TO DETERMINE THE

PRESENCE OF HAZARDOUS MATERIALS. THE DESIGN BUILDER WILL PROVIDE THE RESULTS OF SUCH INVESTIGATIONS IF THEY HAVE BEEN PERFORMED. C. THE SUBCONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT PERSONNEL WITHIN

THE WORK AREA ARE PROTECTED FROM EXPOSURE TO HAZARDOUS MATERIALS. IF HAZARDOUS MATERIALS ARE DISCOVERED, THE SUBCONTRACTOR SHALL IMMEDIATELY NOTIFY THE CONTRACTOR AND CEASE WORK UNTIL CONDITIONS CAN BE MAINTAINED IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS.

STRUCTURAL TESTING AND INSPECTION

A. THE FOLLOWING CHECKLIST IS TO ASSIST THE SUBCONTRACTOR IN SCHEDULING OF TESTING AND INSPECTION RELATED TO STRUCTURAL FEATURES. THE WORK OF OTHER DISCIPLINES MAY REQUIRE TESTING AND INSPECTION THAT IS ADDITIONAL TO THE ITEMS LISTED BELOW.

B. REFER TO APPLICABLE PROVISIONS OF DIVISION 1 OF THE PROJECT SPECIFICATIONS AND THE GENERAL CONDITIONS OF THE CONTRACT FOR DESIGN BUILDER, UNIVERSITY'S TESTING LABORATORY, GEOTECHNICAL ENGINEER AND SUBCONTRACTOR'S RESPONSIBILITIES REGARDING TESTING AND INSPECTION.

D. REFER TO PROJECT SPECIFICATIONS FOR MORE DETAILED REQUIREMENTS FOR TESTS AND INSPECTIONS. THE PROJECT SPECIFICATIONS SHALL TAKE PRECEDENCE OVER THE CHECKLIST. E. SPECIAL INSPECTORS SHALL BE QUALIFIED BY TRAINING AND EXPERIENCE FOR THE

REQUIRED INSPECTIONS AND MUST BE ACCEPTABLE TO THE DESIGN BUILDER. INSPECTORS SHALL THOROUGHLY REVIEW THE APPLICABLE PORTIONS OF THE DOCUMENTS. INSPECTORS SHALL PERFORM ALL DUTIES AND RESPONSIBILITIES AS REQUIRED BY CBC SECTION 1704.

A. THE STRUCTURAL ENGINEER WILL GENERALLY REVIEW THE PROGRESS OF THE WORK IN ACCORDANCE WITH SECTION 1702 OF THE CBC, BUT THIS REVIEW SHALL NOT BE CONSTRUED AS SPECIAL INSPECTION.

STRUCTURAL OBSERVATION

ITEMS NOT INCLUDED IN THIS PACKAGE A. THE FOLLOWING ITEMS ARE NOT INCLUDED IN THIS PACKAGE, AND WILL BE INCLUDED IN PACAKGES 2 AND 3:

1. DESIGN BUILD STEEL STAIRS, AND EMBEDMENTS FOR THEM 2. CAST-IN-PLACE CONCRETE STAIRS 3. SITE CONCRETE AND FOUNDATIONS.

ATERIAL VERIFICATION, TEST OR SPECIAL INSPECTION	TYPE	PERFORMED BY	CODE REFERENCE AND NOTES
DILS	<u></u>		
COMPACTED FILLS (BASED ON 2010 CBC, TABLE 1704.7)			
A. OBSERVE SUBGRADE PRIOR TO PLACEMENT OF FILL MATERIALS.	PERIODIC	GEO. ENGINEER	
B. QUALIFICATION TEST FILL MATERIALS.	TEST	TESTING LAB	UNDER THE SUPERVISION OF GEO. ENGINNER
C. INSPECT PLACEMENT OF FILL. VERIFY USE OF PROPER MATERIALS AND INSPECT FILL PLACEMENT AND COMPACTION.	CONTINUOUS	GEO. ENGINEER	
D. TEST FILL COMPACTION.	TEST	TESTING LAB	UNDER THE SUPERVISION OF GEO. ENGINNER
PILE FOUNDATIONS (BASED ON 2010 CBC, TABLE 1704.9)			
A. PRECONSTRUCTION LOAD TEST PILES USING STATIC AND DYNAMIC METHODS.	TEST	GEO. ENGINEER	TESTING PERFORMED BY PILE INSTALLER AND WITNESSED BY GEOTECHNICAL ENGINEER
B. MONITOR PILE INSTALLATION WITH ELECTRONIC DATA RECORDER. RECORD DATA SPECIFIC TO SPECIALTY PILE TYPE, AS LISTED IN APPROVED PILE QUALITY ASSURANCE PLAN.	CONTINUOUS	GEO. ENGINEER	MONITORING BY PILE INSTALLER AND WITNESSED AND REVIEWED BY THE GEOTECHNICAL ENGINEER
C. OBSERVE PILE INSTALLATION, INCLUDING INDICATOR AND TEST PILES. VERIFY PILE CAPACITY BASED ON OBSERVATIONS AND REVIEW OF ELECTRONIC DATA.	CONTINUOUS	GEO. ENGINEER	GEOTECHNICAL ENGINEER SHALL VERIFY PILE CAPACITY BASED ON OBSERVATIONS AND REVIEW OF ELECTRONIC DATA.
D. VERIFY PLACEMENT LOCATIONS OF PILES.	PERIODIC	SURVEYOR	
E. CONCRETE FILL AND REBAR IN PILES.	PROVIDE TESTS AND INSPECTIONS PER CONCRETE SECTION BELOW.		
ONCRETE			
CAST IN PLACE CONCRETE (BASED ON 2010 CBC, TABLE 1704.4))		
A. TEST REINFORCING STEEL.	TEST	TESTING LAB	SPEC. SECTION 032000, "QUALITY ASSURANCE"
B. OBSERVE FORMWORK AND FOUNDATION EXCAVATIONS FOR SHAPE, LOCATION AND DIMENSIONS.	PERIODIC	SPECIAL INSPECTOR	INSPECTOR SHALL BE UC INSPECTOR OR REPRESENTATIVE OF TESTING LABORATORY.
C. INSPECT INSTALLATION OF REINFORCEMENT BAR COUPLERS.	PERIODIC	SPECIAL INSPECTOR	IN ACCORDANCE WITH MANUFACTURER'S EVALUATION SERVICE REPORT
D. INSPECT PLACEMENT OF REINFORCING STEEL AND STRUCTURAL EMBEDS IN CONCRETE, INCLUDING ANCHOR BOLTS.	PERIODIC	SPECIAL INSPECTOR	SPECIAL INSPECTOR SHALL BE QUALIFIED UC INSPECTOR OR REPRESENTATIVE OF TESTING LABORATORY.
E INCREAT CONCRETE DI ACEMENT COLLECT AND DEVIENA	CONTINUOUS	SDECIAL	OPECIAL INODECTOR CHALL BE CHALLETED HE

E. INSPECT CONCRETE PLACEMENT. COLLECT AND REVIEW BATCH TICKETS TO VERIFY USE OF REQUIRED DESIGN MIX.	CONTINUOUS	SPECIAL INSPECTOR	SPECIAL INSPECTOR SHALL BE QUALIFIED UC INSPECTOR OR REPRESENTATIVE OF TESTING		<u>#</u>	BACKCHEC	REVISION LIST				
			LABORATORY.		LABORATORY.		LABORATORY.		1	18 SI-024 29 SI-044	
F. INSPECT FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES	PERIODIC	SPECIAL INSPECTOR	ACI 318: 5.11-5.13, SPECIAL INSPECTOR SHALL BE QUALIFIED UC INSPECTOR OR REPRESENTATIVE OF TESTING LABORATORY.								
G. SAMPLE AND TEST CONCRETE FOR COMPRESSIVE STRENGTH.	TEST	TESTING LAB	ASTM C39. REFER TO 033000 FOR FREQUENCY.								
H. SAMPLE AND TEST CONCRETE FOR SLUMP AND TEMPERATURE.	TEST	TESTING LAB	ASTM C143 (SLUMP, ASTM C1064 (TEMP)								
I. INSPECT AND TEST FLOOR FOR FLATNESS AND LEVELNESS	TEST	SPECIAL INSPECTOR	SPEC, SECTION 033000, "FINISHING FOR NON-FORMED SURFACES"								
•	1	1		1	i .						

5. STRUCTURAL STEEL A. VERIFY IDENTIFICATION MARKINGS AND PERIODIC TESTING LAB MANUFACTURER'S CERTIFICATES OF COMPLIANCE FOR STEEL, BOLTS, SHEAR CONNECTOR STUDS AND WELDING CONSUMABLES. CONTINUOUS | TESTING LAB | FOLLOW QA INSPECTION PROCEDURES OF AISC B. VISUALLY INSPECT WELDING, U.O.N. 341 SECTION Q5.1. PERIODIC TESTING LAB C. VISUALLY INSPECT WELDING SINGLE-PASS FILLET FOLLOW QA INSPECTION PROCEDURES OF AISC

PERIODIC

CONTINUOUS | SPECIAL

INSPECTOR

SPECIAL

TESTING LAB ASTM C 109

341 SECTION Q5.1.

AWS D1.1. INCLUDING BEND TEST

INSPECTOR TESTING LAB PERIODIC E. INSPECT HIGH STRENGTH BOLTING. PERIODIC TESTING LAB F. STEEL ERECTION: INSPECT STEEL FRAME TO VERIFY INSPECTOR SHALL BE UC INSPECTOR OR COMPLIANCE WITH APPROVED DRAWINGS FOR BRACING, REPRESENTATIVE OF TESTING LABORATORY. MEMBER LOCATIONS, AND APPLICATION OF JOINT DETAILS

6. STEEL DECK PERIODIC TESTING LAB A. VERIFY IDENTIFICATION MARKINGS AND MANUFACTUER'S CERTIFICATES OF COMPLIANCE FOR STEEL DECK AND WELDING CONSUMABLES. PERIODIC TESTING LAB AWS D1.3. B. INSPECT ROOF DECK WELDS

7. POST-INSTALLED ANCHORS PERIODIC A. INSPECT INSTALLATION OF POST-INSTALLED ANCHORS. SPECIAL INSPECTOR SHALL BE UC INSPECTOR OR INSPECTOR REPRESENTATIVE OF TESTING LABORATORY. TORQUE TEST 25% OF INSTALLED ANCHORS. TEST TESTING LAB B. TEST POST-INSTALLED ANCHORS. FOR EXPANSION ANCHORS, TEST TO MANUFACTURER'S RECOMMENDED INSTALL TORQUE. 3. ARCHITECTURAL COMPONENTS (BASED ON 2010 CBC, SECTION 1707.6) PERIODIC SPECIAL A. ACCESS FLOOR - VISUALLY INSPECT ADHESIVE INSPECTOR SHALL BE UC INSPECTOR OR

INSPECTOR ATTACHMENT OF PEDASTALS. REPRESENTATIVE OF TESTING LABORATORY. PERIODIC TESTING LAB B. EXTERIOR CLADDING - VISUALLY INSPECT ERECTION INSPECTOR SHALL BE UC INSPECTOR OR AND FASTENING. REPRESENTATIVE OF TESTING LABORATORY. . MISCELLANEOUS STEEL (BASED ON 2010 CBC, TABLE 1704.3) TESTING LAB PERIODIC A. VISUALLY INSPECT WELDING OF MISCELLANEOUS STEEL. INCLUDING STAIRS. AND RAILING SYSTEMS.

ELEVATOR GUIDE RAIL SUPPORTS. 10. MECHANICAL AND ELECTRICAL COMPONENTS (BASED ON 2010 CBC, SECTION 1707.7) TESTING LAB PERIODIC A. INSPECT ANCHORAGE OF EMERGENCY OR STAND-BY INSPECTOR SHALL BE UC INSPECTOR OR POWER SYSTEMS. REPRESENTATIVE OF TESTING LABORATORY. PERIODIC TESTING LAB B. INSPECT INSTALLATION OF VIBRATION ISOLATED INSPECTOR SHALL BE UC INSPECTOR OR EQUIPMENT. REPRESENTATIVE OF TESTING LABORATORY.

WRNSSTUDIO

RUDOLPH AND SLETTEN

GENERAL AND ENGINEERING CONTRACTOR

Structural | Geotechnical

55 Second Street Suite 600

02/09/15

03/04/13

San Francisco CA 94105

T 415 568 4400

F 415 618 0684

www.ruthchek.com

501 SECOND STREET

4TH FLOOR, STE. 402

SAN FRANCISCO

CALIFORNIA 94107

415.489.2224 TEL

415.358.9100 FAX

WWW.WRNSSTUDIO.COM

RUTHERFORD +

RECORD DOCUMENTS

PACKAGE 1: EXTERIOR CLADDING AND

UNIVERSITY OF CALIFORNIA SAN FRANCISCO FIRE MARSHAL CDF-OFFICE OF STATE FIRE MARSHAL APPROVED 5/22//5 Approval of this plan does not authorize or approve any omission or deviation from applicable regula-

tions. Final approval is subject to field inspection.

One set of approved plans shall be available on the project site at all times. Reviewed by: M1623 - PKG 1 Project #: Authorization #: SE0114

MISSION BAY CAMPUS, SAN FRANCISCO, CA CONTRACT NO. DB0016 | PROJECT NO. M1623

KEYPLAN

PROJECT NO.: 12000.00 DATE: 11/05/2014 SCALE: As indicated

SHEET NO:

S-002

All drawings and written material appearing herein constitute original and unpublished work of the Architect/Engineer and may not be duplicated, used or disclosed without consent of Architect/Engineer.

SHEET TITLE:

GENERAL NOTES