RFI 2-00509 Additional Info. for CRI#223 Electrical

RFI 2-00357 Buffer Room 219 Hard-Lid Ceiling Clarification

RFI 2-00506 Exhaust Grilles for Heat Sealer

RFI 2-00241 Room 219 DI Water Stub Outs

RFI 2-00489 Confirm Snorkel Cap Location

RFI 2-00489.1 Mechanical Updates as a Result

RFI 2-00221.1 Safety Showers vs Fire Rated Wall

RFI 2-00383 CSPTurret Confirmation

RFI 2-00323 Lab Caswrk Mockup-Bench Type Confirmation

COLD ROOM 223 641 SF

PC BULK STORAGE 221 600 SF

VESTIBULE 251 346 SF

STORAGE 265 1994 SF

JAN 257 58 SF

COAT CLOSET 253 46 SF

CONJ LAB 261 2689 SF

BV CONJ LAB LIGHT SENSITIVE 263 2309 SF

NORTH HALL 205 1490 SF

STOCK RM. 260 376 SF

BUFFER ROOM 219 2185 SF

WEST CORRIDOR 204 2326 SF

UTILITY 218 118 SF

IT CLOSET 214A 130 SF

STORAGE 214 395 SF

ELEC 216 95 SF

IRIF LAB 217 898 SF

OPEN OFFICE 211 701 SF

BREAK RM. 210

BOTTLING LAB 212 2342 SF

PROCESS DEVELOPMENT 264 1168 SF

COMM. 260 173 SF

OPEN OFFICE 256 847 SF

FLEX 262 117 SF

PHONE 264 54 SF

FLEX 266 115 SF

STAIR #5 05 277 SF

DN

DN

W2

CP-2
VOLUME 2

PROJECT NO. 1614

REV NO.	DATE ISSUED	REASON
	04.25.17	DESIGN DEVELOPMENT
	08.08.17	CITY SUBMITTAL SET
2.1	08.29.17	ADDENDUM #2.1
2.2	10.03.17	ADDENDUM 2.2
2.3	11.20.17	ASI 2.1/IFC

IFC 11.20.17

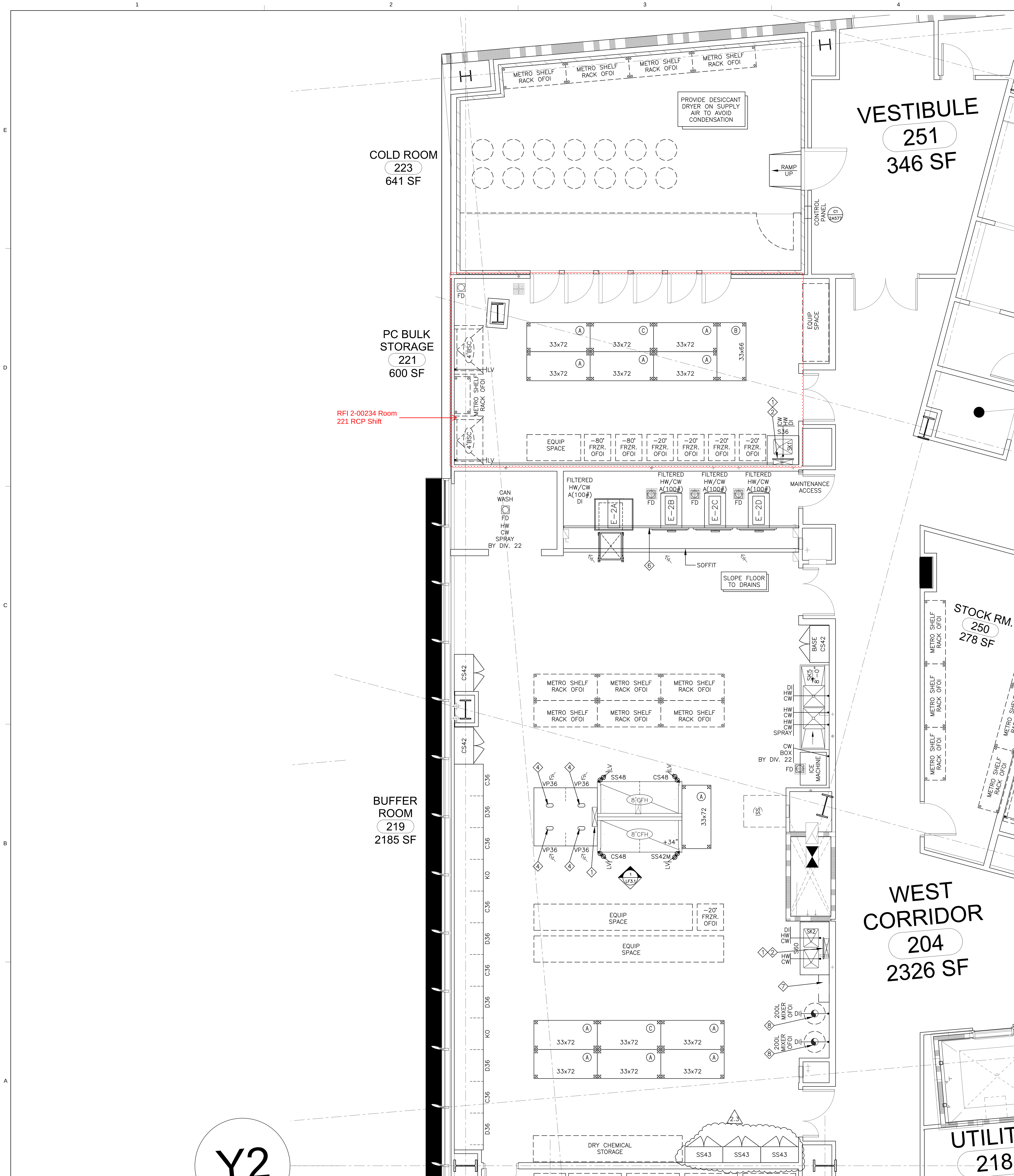
Sheet Title

LEVEL 2 LABORATORY FURNISHINGS FLOOR PLAN

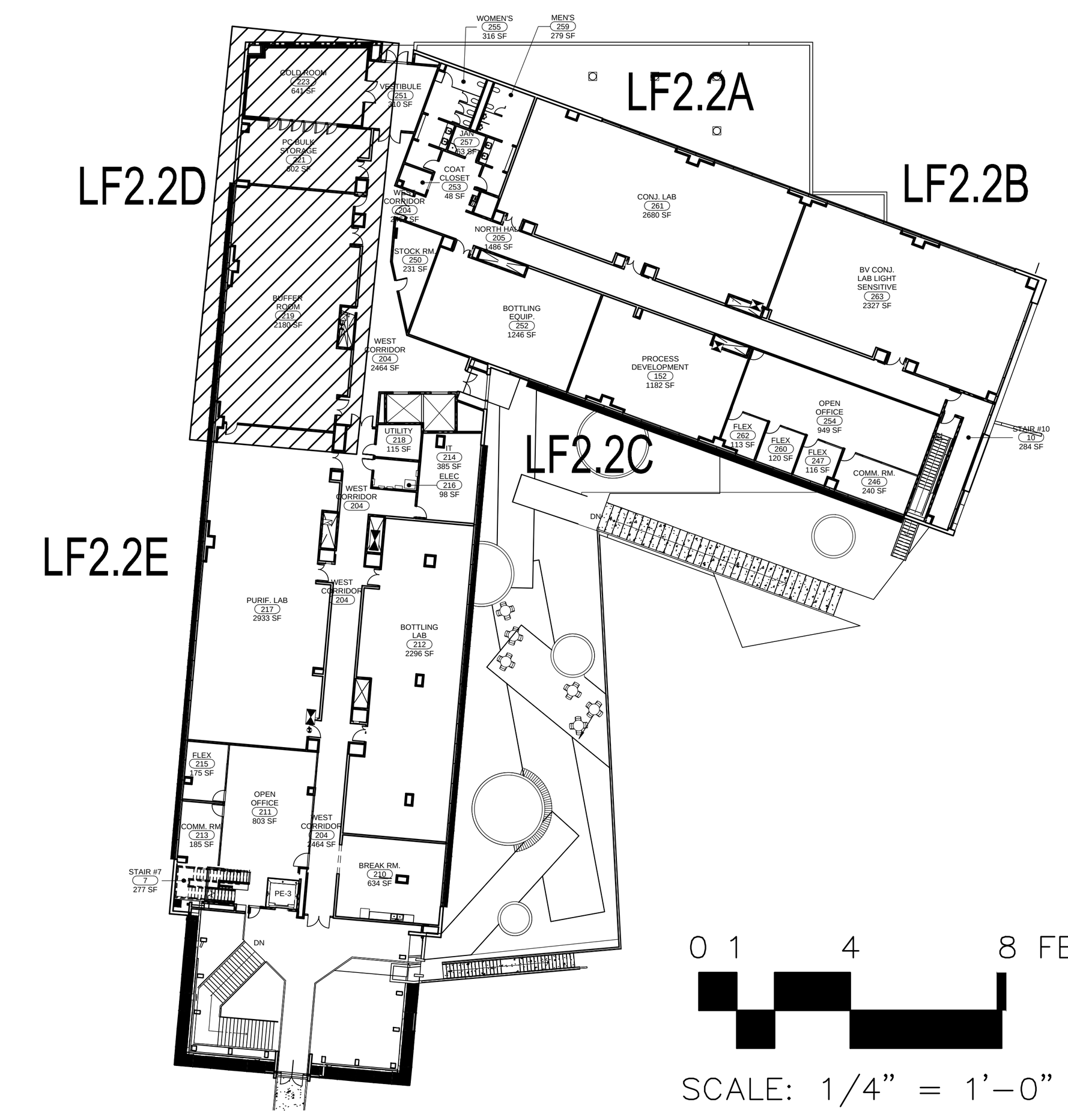
Sheet No.

LF2.2

DPR Issued Sheet 2017-11-20
Link to the Sheet - 2G-002



COLD ROOM
223
641 SF
METRO SHELF RACK OFOI
PROVIDE DESICCANT DRYER ON SUPPLY AIR TO AVOID CONDENSATION
RAMP UP
VESTIBULE
251
346 SF
CONTROL PANEL
PC BULK STORAGE
221
600 SF
EQUIP SPACE
33x72
33x66
RFI 2-00234 Room 221 RCP Shift
-80° FRZR. OFOI
-20° FRZR. OFOI
FILTERED HW/CW A(100#) DI
MAINTENANCE ACCESS
CAN WASH
FD HW CW SPRAY BY DIV. 22
SOFFIT
SLOPE FLOOR TO DRAINS
STOCK RM.
250
278 SF
BUFFER ROOM
219
2185 SF
ICE MACHINE
VP36
SS48
CS48
SS42M
WEST CORRIDOR
204
2326 SF
200L MIXER OFOI
DRY CHEMICAL STORAGE
SS43
2 DOOR
UTILIT
218
Y2



0 1 4 8 FEET

SCALE: 1/4" = 1'-0"

CP-2
VOLUME 2

PROJECT NO. 1614

REV NO.	DATE ISSUED	REASON
	04.25.17	DESIGN DEVELOPMENT
	08.08.17	CITY SUBMITTAL SET
2.1	08.29.17	ADDENDUM #2.1
2.2	10.03.17	ADDENDUM 2.2
2.3	11.20.17	ASI 2.1/IFC

IFC 11.20.17

Sheet Title

LEVEL 2 LABORATORY FURNISHINGS FLOOR PLAN

Sheet No.

LF2.2D

GENERAL NOTES

1. ALL WALL BENCHTOPS AND MOVABLE TABLES SHALL BE 33" DEEP INCLUDING WALL BENCH BACK SPLASH (UNLESS OTHERWISE NOTED).
2. ALL BENCHES AND TABLES SHALL BE 36" HIGH (UNLESS OTHERWISE NOTED).
3. REFER TO FLOOR PLAN FOR WORK SURFACE MATERIAL.
4. ALL BACK & SIDE SPLASHES TO BE 4" HIGH & 1" THICK EPOXY RESIN (UNLESS OTHERWISE NOTED).
5. PROVIDE SIDE SPLASHES AT ALL BENCH TOPS AGAINST FUME HOODS AND/OR ADJACENT WALLS.
6. OVERALL LENGTH OF BENCHTOPS SHALL BE DETERMINED BY CASEWORK SIZES AND DIMENSIONS AS INDICATED ON PLANS. TOPS SHALL OVERHANG 1/2" AT EACH END AND 1" FROM FRONT OF BASE CABINETS AND TABLES. WHEN OVERALL DEMENSIONS ARE GIVEN, 1/2" OVERHANG IS NOT INCLUDED.
7. ALL CASEWORK, FUME HOODS AND ANY OTHER FURNISHINGS WITH EXPOSED-TO-VIEW BACKS AND SIDES SHALL BE FINISHED.
8. INSTALL CLOSURE PANELS BETWEEN BACK OF CABINETS OR HOODS AND WALLS AT EXPOSED ENDS AND BETWEEN BASE CABINETS AND/OR HOODS THAT ARE SET BACK TO BACK.
9. ALL PENETRATIONS THROUGH BENCHTOP SHALL BE SEALED WITH SEALANT.
10. BACKS OF COUNTERTOPS AND SPLASHES AGAINST WALLS SHALL BE SEALED TO THE WALL WITH SEALANT.
11. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO FABRICATION.
12. ARCHITECT TO SELECT COLORS FROM MANUFACTERERS STANDARD COLORS.
13. FREE STANDING SHELVING AND CASEWORK LESS THAN 18" DEEP SHALL BE SECURED TO PREVENT TIPPING. SUBMIT SHOP DRAWINGS OF ATTACHMENT PRIOR TO INSTALLATION.
14. FOR LABORATORY SERVICE FITTING TYPES, LOCATIONS AND ORDER, SEE LABORATORY FURNISHINGS PLANS. THESE FITTINGS SHALL BE PROVIDED UNDER DIVISION 12, FOR INSTALLATION UNDER DIVISION 22.
15. ALL SNORKEL EXHAUST SHOWN ON THESE DRAWINGS SHALL BE PROVIDED UNDER DIVISION 12.
16. LOCATION OF EQUIPMENT, SUCH AS FUME HOODS, OVERHEAD SERVICE CARRIERS, BRACES OR ANY OTHER ITEMS THAT MAY INTERFERE WITH LIGHTING, STRUCTURAL OR MECHANICAL SYSTEMS, SHALL BE CAREFULLY COORDINATED. NOTIFY G.C. OF DISCREPANCIES PRIOR TO PROCEEDING WITH WORK.
17. UNLESS OTHERWISE NOTED, ALL MISCELLANEOUS CHANNELS, BRACKETS AND FITTINGS INDICATED ON ALL LABORATORY FURNISHINGS DRAWINGS SHALL BE SUPPLIED, INSTALLED AND PAINTED UNDER DIVISION 12.
18. CONTRACTOR SHALL EXAMINE ALL LABORATORY FURNISHINGS PLANS AND COORDINATE WITH REFLECTED CEILING PLANS FOR PROPER CEILING HEIGHTS & PIPE DROP ENCLOSURE HEIGHTS AND LOCATIONS.
19. OVERHEAD SERVICE CARRIERS, HEAVY DUTY UNISTRUT AND OTHER STRUCTURALLY ANCHORED AND SUSPENDED DEVICES WHICH REQUIRE COORDINATION WITH OTHER TRADES SHALL BE THE RESPONSIBILITY OF THIS DIVISION (UNLESS OTHERWISE NOTED). ADDITIONAL FRAMING MAY BE REQUIRED TO ACCOMMODATE ANCHORAGE AROUND DUCTWORK OR OTHER OBSTRUCTIONS.
20. SERVICE FITTINGS SHOWN ON THE "LF" PLAN DRAWINGS ARE FOR LOCATION ONLY. REFER TO SPECIFICATIONS AND DETAILS FOR ACTUAL FITTINGS.
21. UNLESS OTHERWISE NOTED ALL ELECTRICAL RACEWAYS & RECEPTACLES ARE TO BE MOUNTED AT +43" A.F.F. TO THE BOTTOM OF THE DEVICE.
22. PAPER TOWEL DISPENSERS & SOAP DISPENSERS ARE OWNER FURNISHED, OWNER INSTALLED.

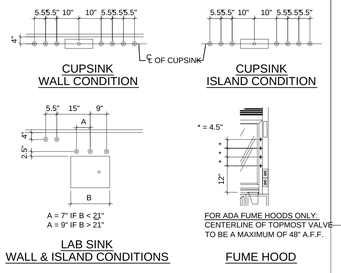
WORK SURFACE SYMBOLS LEGEND

-ALL WORK SURFACES TO BE 1" THICK TRESPA
-REFER TO SPECIFICATIONS

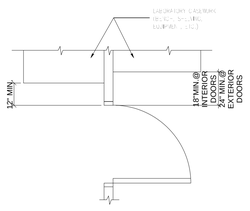
DETAIL & ELEVATION LEGEND

DETAIL NUMBER / SHEET NUMBER
SECTION NUMBER / SHEET NUMBER
ELEVATION NUMBER / SHEET NUMBER

SERVICE FIXTURE SPACING



DOOR/CASEWORK CLEARANCES



LABORATORY SYMBOLS LEGEND

	DESCRIPTION	
*CFH	-CHEMICAL FUME HOOD, REFER TO FLOOR PLANS FOR SIZE REFER TO FLOOR PLANS FOR SERVICES & BASE CABINETS BENEATH	1 & 2 / LF4.1
*BSC	-OFOI BIOLOGICAL SAFETY CABINET CLASS II, TYPE A-2 REFER TO FLOOR PLANS FOR SIZE -REFER TO FLOOR PLANS FOR SERVICES	
33x72	LABORATORY BENCH, REFER TO FLOOR PLANS FOR SIZE & TYPE	1,2 & 3 / LF4.3
+36"	FIXED LABORATORY BENCH	
+34"	FIXED LABORATORY BENCH - ADA	
	METRO SHELF RACK OFOI	
E	MEDIUM AUTOCLAVE (ENCLOSED) 24"X24"X48" CHAMBER	
E	MEDIUM AUTOCLAVE (RECESSED) 24"X24"X48" CHAMBER	
E	LABORATORY GLASSWARE WASHER	
E	CAGE & BOTTLE WASHER	
CS42	CORROSIVE STORAGE CABINET	
SS43	SOLVENT STORAGE CABINET	
VENTILATED RACK	VENTILATED RACK, OWNER FURNISHED, OWNER INSTALLED	
1	UMBILICAL (PIPE DROP ENCLOSURE)	4,5 & 6 / LF4.1
2	DRYING RACK	6 / LF4.2
3	CYLINDER RESTRAINT	2 / LF4.4
4	SLEEVE IN WORK SURFACE	3 / LF4.4
5	LOCAL WATER POLISHER, OFOI	
6	ST. STL. ENCLOSURE PANEL, REFER TO SPECIFICATIONS	
7	(2) TIER ADJUSTABLE SHELVING	5 / LF4.2
8	LABORATORY FUME EXTRACTOR	3 / LF4.1
	LABORATORY SINK REFER TO SINK SCHEDULE ON LF 1.2	5 / LF4.4
	HAND WASH SINK REFER TO SINK SCHEDULE ON LF1.2 & REFER TO SPECIFICATIONS	
	SCULLERY SINK REFER TO FLOOR PLANS FOR SIZE & LABORATORY SINK SCHEDULE ON LF1.2	2 / LF5.3

	SAFETY SHOWER / EYE WASH COMBINATION UNIT (RECESSED)	1 / LF5.3
EQUIP SPACE	OWNER FURNISHED, OWNER INSTALLED EQUIPMENT	
SC24	SUPPLY CART	4 / LF4.3
	DUPLEX RECEPTACLE	
E	DUPLEX RECEPTACLE ON EMERGENCY POWER	
FD	FLOOR DRAIN, SHOWN FOR LOCATION PURPOSES ONLY BY DIV. 22	
FS	FLOOR SINK, SHOWN FOR LOCATION PURPOSES ONLY BY DIV. 22	
HWCW	HOT WATER COLD WATER	
DI	DEIONIZED WATER	
LV	LABORATORY VACUUM	
CO2	CARBON DIOXIDE	
A(100#)	COMPRESSED AIR (100 PSIG) PROVIDE REGULATOR	
EYE WASH	DECK MOUNTED EYE WASH	

PROJECT NO. 16148

REV NO.	DATE ISSUED	REASON
	04.25.17	DESIGN DEVELOPMENT
	08.08.17	CITY SUBMITTAL SET
2.1	08.29.17	ADDENDUM #2.1
2.2	10.03.17	ADDENDUM 2.2
2.3	11.20.17	ASI 2.1/IFC

IFC 11.20.17

Sheet Title
LABORATORY FURNISHINGS SYMBOLS & LEGENDS

Sheet No.
LF1.1

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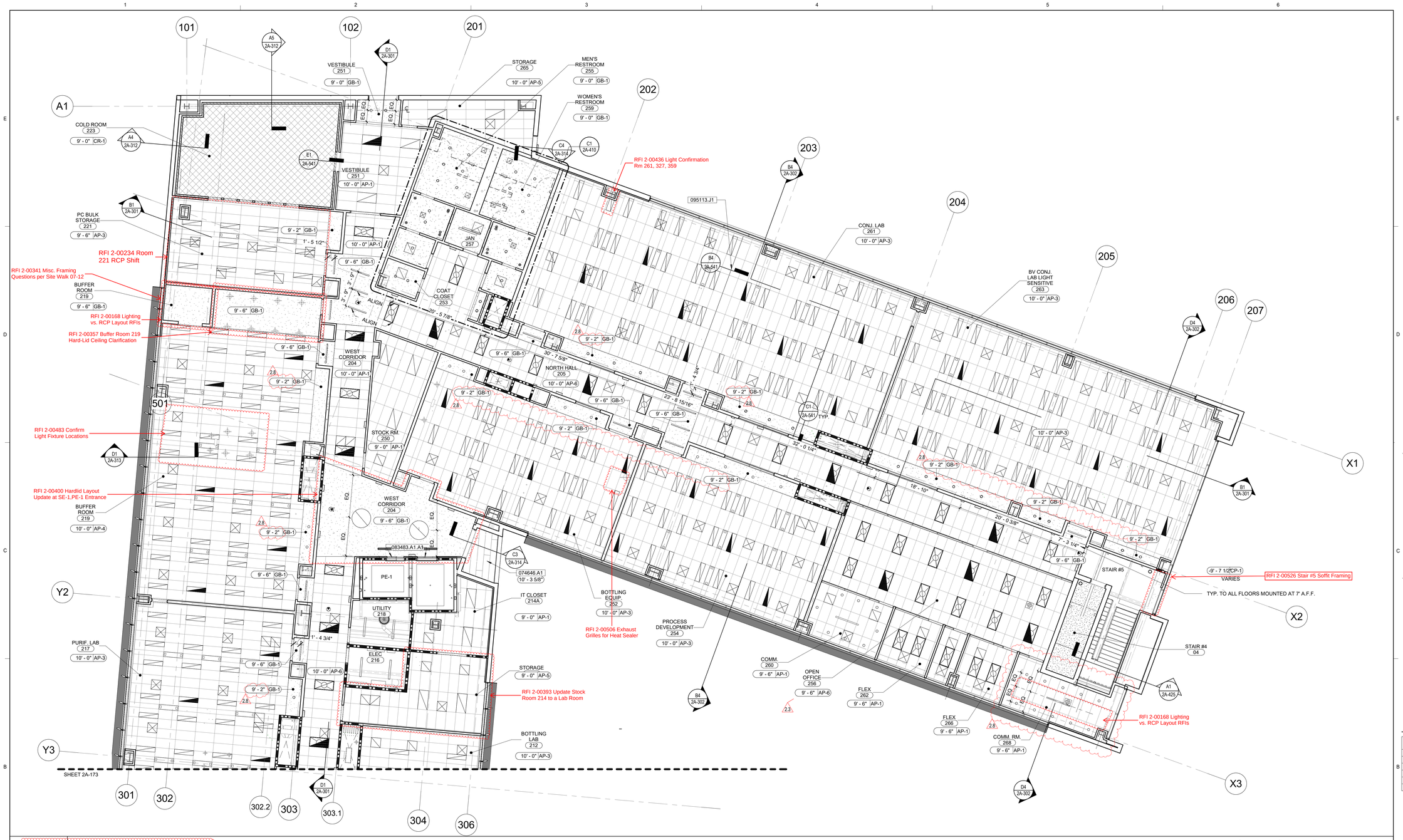

B1 LEVEL 02- RCP PART A

1/8" = 1'-0"

SCALE: 1/8" = 1'

LEGEND - RCP

- GYPSUM BOARD, PAINTED
- CEMENT PLASTER SOFFIT (EXTERIOR)
- ACOUSTICAL PANEL CEILING
- WOOD VENEER PANEL CEILING
- LINEAR METAL OR WOOD PANEL CEILING
- COLD ROOM CEILING BY MANUFACTURER 2.2
- 3/4" THICK WHITE MELAMINE (HUMIDITY RESISTANT) PANEL INSERTED WITH POWER AND DATA, SEE ELECTRICAL DRAWINGS (1'X4' 2'X4')
- EXIT SIGN- SEE ELECTRICAL

CEILING TYPES

TYPE MARK	DESCRIPTION
	2-HR RATED GYPSUM ASSEMBLY, PTD.
AP-1	2' X 4' ACOUSTIC PANEL CEILING (OPEN OFFICE AREAS)
AP-3	2' X 4' ACOUSTIC PANEL CEILING W/ 1' X 4' SERVICE TILE (LABS)
AP-4	2' X 4' ACOUSTIC PANEL CEILING (BUFFER ROOMS AND FOOD AREAS)
AP-5	2' X 4' ACOUSTIC PANEL CEILING (BACK OF HOUSE AREAS)
AP-6	2' X 4' ACOUSTIC PANEL CEILING (LABS)
CP-1	CEMENT PLASTER (EXTERIOR)
CR-1	COLD ROOM CEILING
FCS	FIBER CEMENT SOFFIT
GB-1	GYPSUM BOARD, PTD.
GB-2	2-HR RATED GYPSUM ASSEMBLY, PTD.
LM-1	LINEAR METAL CEILING - EXTERIOR
WD-1	WOOD VENEER PANELS
WP-1	WOOD PANEL CEILING
WP-3	WOOD PANEL CEILING
WP-4	WOOD PANEL CEILING
WP-5	WOOD PANEL CEILING

SHEET KEYNOTES

NUMBER	KEYNOTE TEXT

REFERENCE KEYNOTES

NUMBER	KEYNOTE TEXT
074646.A1	FIBER-CEMENT SIDING SYSTEM
083483.A1	ELEVATOR DOOR SMOKE CONTAINMENT SYSTEM-2HR RATED
095113.J1	ACOUSTICAL PANEL CEILINGS SEISMIC JOINT

GENERAL SHEET NOTES

1. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS.
2. SEE CEILING FRAMING DETAILS SEE SHEET 2A/541
3. ALL SPRINKLER HEADS IN ATRIUM (INCLUDING ALL AREAS ADJACENT, SUCH AS UNDER BRIDGE AND ELEVATOR BALCONIES, ETC.), MAIN LEVEL 1 CORRIDOR, MULTIPURPOSE ROOM, LEVEL 2 LOUNGE OFF ROOF DECK, LEVEL 3 CONFERENCE ROOM AND LEVEL 4 BREAK ROOM, TO BE FULLY CONCEALED WITH HEAD COVERS PAINTED TO MATCH CEILING COLOR THEY ARE WITHIN.
4. REFER TO FINISH SCHEDULE FOR CEILING TYPE MATERIAL INFORMATION AND PRODUCT SELECTIONS.
5. PROVIDE ACCESS PANELS IN GYPSUM BOARD CEILINGS/SOFFITS WHETHER INDICATED OR NOT, TO PERMIT PROPER OPERATION AND MAINTENANCE OF EQUIPMENT ABOVE INACCESSIBLE CEILINGS. COORDINATE LOCATIONS OF ACCESS PANELS WITH MECHANICAL, PLUMBING, AND ELECTRICAL TRADES. CONTRACTOR TO PROVIDE ACCESS PANEL LOCATION SUBMITTAL FOR ARCHITECT'S REVIEW AND APPROVAL PRIOR TO INSTALLATION. SEE DETAIL C6 / 2A-541
6. EXIT SIGNS REQUIRED AT ALL REQUIRED EXITS PER SECTION 1011 OF THE 2016 CBC.
7. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL LIGHTING INFORMATION.
8. ALL COLD ROOMS AND FREEZER ROOMS TO BE C.F.C.I.
9. ANY LAY-IN CEILING OVER 2,500 SF TO HAVE A SEISMIC JOINT.
10. FOR WINDOW SHADE WALL-MOUNTED TYPICALLY, SEE DETAIL D1 / 2A-577 FOR WINDOW SHADE RECESSED IN CEILING SOFFIT AT MULTI-PURPOSE ROOM AND SERVERY, SEE DETAIL C1 / 2A-578
11. FOR CEILING DETAILS SEE SHEET 2A-541

CP-2
VOLUME 2

PROJECT NO. 16148

REV NO.	DATE ISSUED	REASON
	04.25.17	DESIGN DEVELOPMENT
	08.08.17	CITY SUBMITTAL SET
2.2	10.03.17	ADDENDUM 2.2
2.3	11.20.17	ASI 2.1/IFC
2.8	02.14.18	ASI 2.8

IFC 11.20.17

Sheet Title
SECOND LEVEL RCP- PART A

Sheet No.
2A-172

DPR Issued Sheet 2018-02-14
Link to the Sheet - 2G-002

A1 FINISH PLAN - LEVEL 02-Z2 - PART A

1/8" = 1'-0"

INTERIORS TOILET ACCESSORIES

TYPE MARK	MFR.	DESCRIPTION
TA-1	BOBRICK	B-3803 TrimLine Series Recessed Combination Towel and Waste Unit
TA-2	BOBRICK	B-357 Partition Mounted Combo Unit Double Sided Womens
TA-3	BOBRICK	B-2888 Surface Mounted Multi-roll Toilet Tissue Dispenser
TA-4	BOBRICK	B-270 Contura Series Surface Mounted Sanitary Napkin Disposal
TA-5	BOBRICK	B-221 Surface Mounted Seat Cover Dispenser
TA-6	BOBRICK	1 1/4" Diameter Stainless Steel Grab Bars with Snap Flange
TA-7	BOBRICK	1 1/4" Diameter Stainless Steel Grab Bars with Snap Flange
TA-8	SLOAN	ESD-500 Sensor Activated Soap Dispenser
TA-9	TO BID	VANITY MIRROR, 14'-0"W x 3'-9"H
TA-9.1	Restoration Hardware	23220115 CHR - Pivot Mirror
TA-9.2	TO BID	VANITY MIRROR, 4'-6"W X 3'-9"H
TA-9.3	TO BID	VANITY MIRROR, 6'-4"W x 4'-8"H
TA-10	BOBRICK	B-239 Utility Shelf with Rag Hooks and Broom Holders
TA-11	BOBRICK	B-672 Robe Hook
TA-13	ENMOTION	Recessed Automated Paper Towel Dispenser, MFG Part # 59466
TA-17	BOBRICK	B-3574 Classic Series Recessed Toilet Seat Cover Toilet Tissue Dispenser and Sanitary Napkin Disposal Unit
TA-18	BOBRICK	B-3474 Classic Series Recessed Single Compartment Combination Toilet Seat Cover and Tissue Dispenser
TA-21	BOBRICK	Bobrick 818615 Contura Series Surface Mounted Soap Dispenser
TA-22	BOBRICK	Bobrick B-262 Classic Series Surface Mounted Paper Towel Dispenser

SHEET KEYNOTES

NUMBER	KEYNOTE TEXT

REFERENCE KEYNOTES

NUMBER	KEYNOTE TEXT

GENERAL NOTES - INTERIOR

1. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS.
2. ALL WRITTEN DIMENSIONS TAKE PRECEDENCE. VERIFY IN FIELD PRIOR TO COMMENCEMENT AND REPORT ANY DISCREPENCIES TO THE ARCHITECT OR DESIGNER.
3. REFER TO ARCHITECTURAL DRAWINGS FOR WALL TYPES.
4. THE GENERAL CONTRACTOR TO PROVIDE ALL NECESSARY BLOCKING AND BACKING FOR WALL MOUNTED ACCESSORIES, EQUIPMENT, AND FIXTURES PER THE MANUFACTURER'S RECOMMENDATIONS.
5. THE GENERAL CONTRACTOR TO SUBMIT FINISH SAMPLES AND PRODUCT DATA OF ALL MATERIALS FOR DESIGNER'S REVIEW AND APPROVAL PRIOR TO ORDERING AND FABRICATION.
6. THE GENERAL CONTRACTOR TO SUBMIT SEAMING DIAGRAMS AND TILE LAYOUT DRAWINGS FOR DESIGNER'S REVIEW AND APPROVAL PRIOR TO ORDERING AND FABRICATION. CONTRACTOR TO NOTIFY DESIGNER IF TILE LAYOUT WILL RESULT IN TILES LESS THAN 2" IN WIDTH.
7. THE MILLWORK CONTRACTOR IS TO FIELD VERIFY ALL DIMENSIONS AND CONDITIONS AND SUBMIT SHOP DRAWINGS FOR DESIGNER'S REVIEW AND APPROVAL PRIOR TO ORDERING AND FABRICATION.
8. ALL WALLS RECEIVING WALL COVERING TO HAVE A LEVEL 5 FINISH, U.N.O.
9. ALL FINISHES TO BE OF "CLASS A" RATING PER CBC.
10. ALL DIMENSIONS IN ELEVATIONS ARE FROM THE FINISHED FLOOR.
11. SEE SHEET A1 / 2A-578 AND E1 / 2A-578 FOR MOUNTING HEIGHTS AND ALIGNMENTS OF LIGHT SWITCHES, THERMOSTATS, ETC.
12. ALL MECHANICAL GRILLES AND DIFFUSERS LOCATED IN WALLS TO BE PAINTED TO MATCH THE ADJACENT SURFACE.
13. SEE SHEET 2I-601 FOR FINISH LEGEND
14. THE GENERAL CONTRACTOR TO CONFIRM ALL SWITCHPLATES, THERMOSTATS, DIMMING CONTROL, ETC. COVER COLORS WITH INTERIORS PRIOR TO ORDERING AND INSTALLING.
15. ALL WALL TO BE PAINTED P-1 U.O.N. ON PLANS.
16. HAND-OPERATED METERING FAUCETS SHALL REMAIN OPEN FOR 10 SECONDS MINIMUM.

CP-2
VOLUME 2

PROJECT NO. 16148

REV NO.	DATE ISSUED	REASON
	04.25.17	DESIGN DEVELOPMENT
	08.08.17	CITY SUBMITTAL SET
2.2	10.03.17	ADDENDUM 2.2
2.3	11.20.17	ASI 2.1/IFC
2.5	01.26.18	ASI 2.3 BUFFER ROOM REVISIONS
2.9	03.29.18	ASI 2.9

IFC 11.20.17

Sheet Title
SECOND LEVEL FINISH PLAN - PART A

Sheet No.
2I-122

DPR Issued Sheet 2018-03-29
Link to the Sheet - 2G-002

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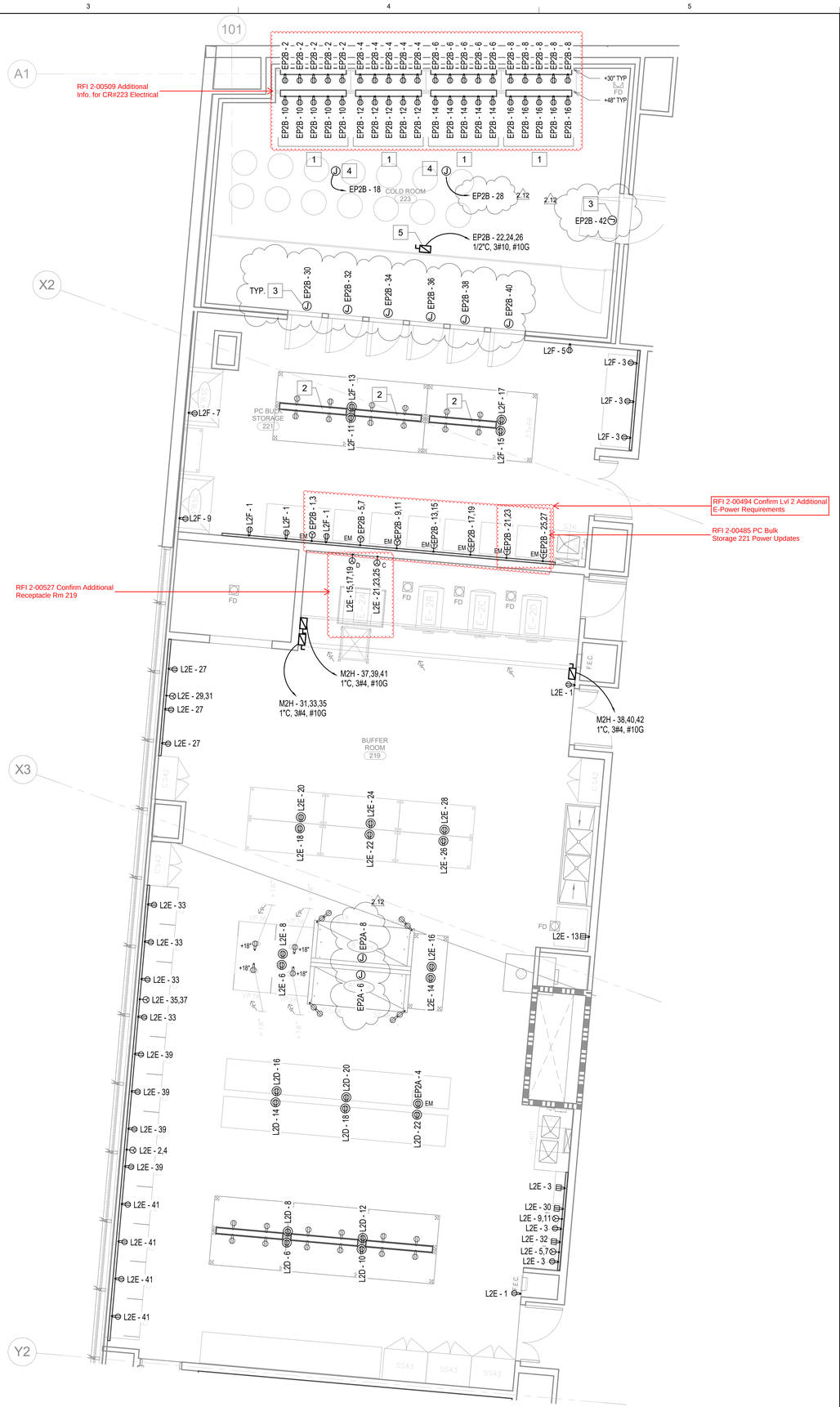


SHEET GENERAL NOTES

1. CONTRACTOR TO PROVIDE A WIRELESS DISTRIBUTED ANTENNA SYSTEM THROUGHT THE BUILDING. REFER TO SPECIFICATION SECTION 275319 FOR SYSTEM DESCRIPTION.
2. PRIOR TO ROUGH-IN, COORDINATE CONDUIT AND PULL BOX LOCATIONS WITH MECHANICAL CONTRACTOR TO AVOID ANY PIPING, DUCTING, CONDUIT CONFLICT.
3. NO PULL BOX SHALL BE LOCATED IN CORRIDORS.
4. WALL MOUNTED RACEWAY TO BE DUAL CHANNEL LEGRAND AL4400 OR EQUAL, MOUNTED AT 48" AFF, TO TOP OF RACEWAY UNO. PROVIDE SPARE 1" CONDUIT AT MIDDLE OF RACEWAY LOCATED ON WALL, BACK TO ELECTRICAL PANEL FEEDING RACEWAY.
5. BENCH MOUNTED RACEWAY TO BE SINGLE CHANNEL LEGRAND AL3000 OR EQUAL, MOUNTED AT 43" AFF TO TOP OF RACEWAY.
6. SEE SHEET 2E-001 FOR SPECIAL RECEPTACLE TYPE DESIGNATIONS AND WIRE CALLOUTS.

SHEET KEYNOTES

NUMBER	KEYNOTE TEXT
1	PROVIDE (2) SINGLE CHANNEL PREASSEMBLED RACEWAYS PER RACK.
2	PROVIDE DEDICATED 120V CIRCUIT TO EACH SINGLE CHANNEL RACEWAY MOUNTED ON BENCH.
3	PROVIDE 120V POWER FOR DOOR FRAME AND WINDOW HEATERS.
4	PROVIDE 120V, 1PH POWER FOR COLD ROOM EVAPORATOR. COORDINATE LOCATION AND REQUIREMENTS WITH COLD ROOM MANUFACTURER PRIOR TO ROUGH-IN.
5	DEHUMIDIFIER LOCATED ON TOP OF COLD ROOM.

REGISTERED PROFESSIONAL ENGINEER
STEFFANE N. BEAUVAIS
No. E 19108
Exp. 12/31/19
ELECTRICAL
STATE OF CALIFORNIA

CP-2
VOLUME: 3

PROJECT NO. 16148

REV NO.	DATE ISSUED	REASON
	04.25.17	DESIGN DEVELOPMENT
	08.08.17	CITY SUBMITTAL
2.2	10.03.17	ADDENDUM #2.2
2.5	01.26.18	ASI 2.3 BUFFER ROOM REVISIONS
2.12	06.05.18	ASI 2.12

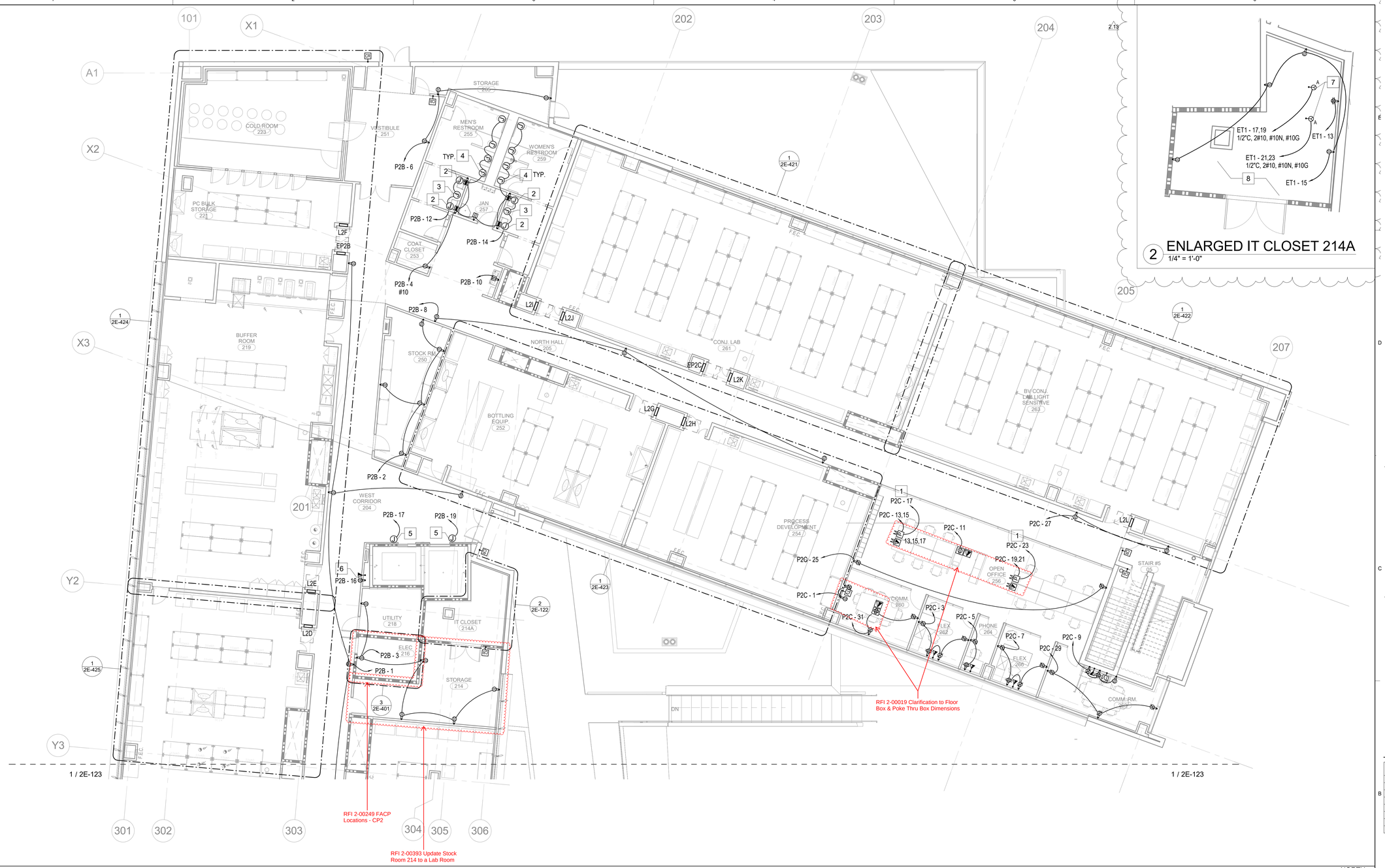
IFC 11.20.17

Sheet Title
SECOND LEVEL - ENLARGED LAB PLAN D

Sheet No.
2E-424

1 LEVEL 02 - ENLARGED LAB PLAN D
1/2E-122 1/4" = 1'-0"
NORTH

DPR Issued Sheet 2018-06-05
Link to the Sheet - 2G-002



2 ENLARGED IT CLOSET 214A
1/4" = 1'-0"

1 LEVEL 02 - PART A - POWER
1/8" = 1'-0"

SHEET GENERAL NOTES

1. CONTRACTOR TO PROVIDE A WIRELESS DISTRIBUTED ANTENNA SYSTEM THROUGHT THE BUILDING. REFER TO SPECIFICATION SECTION 275319 FOR SYSTEM DESCRIPTION.
2. PRIOR TO ROUGH-IN, COORDINATE CONDUIT AND PULL BOX LOCATIONS WITH MECHANICAL CONTRACTOR TO AVOID ANY PIPING, DUCTING, CONDUIT CONFLICT.
3. NO PULL BOX SHALL BE LOCATED IN CORRIDORS.
4. CIRCUIT EXTERIOR LIGHTING VIA ASTRONOMICAL TIME CLOCK.

SHEET KEYNOTES

NUMBER	KEYNOTE TEXT
1	PROVIDE CONTROLLED CIRCUIT FOR FURNITURE RECEPTACLES.
2	PROVIDE 120V POWER FOR PAPER TOWEL DISPENSER. COORDINATE LOCATION AND REQUIREMENTS WITH INTERIORS CONSULTANT PRIOR TO ROUGH-IN.
3	PROVIDE 120V POWER FOR SOAP DISPENSERS AND SINK FAUCETS. COORDINATE LOCATION AND REQUIREMENTS WITH PLUMBING CONTRACTOR PRIOR TO ROUGH-IN.
4	PROVIDE 120V POWER FOR FLUSH VALVES. COORDINATE LOCATION AND REQUIREMENTS WITH PLUMBING CONTRACTOR PRIOR TO ROUGH-IN.
5	PROVIDE 120V, 20A, 1PH POWER FOR ELEVATOR SMOKE CURTAIN. COORDINATE LOCATION AND REQUIREMENTS WITH SMOKE CURTAIN MANUFACTURER PRIOR TO ROUGH-IN.
6	PROVIDE POWER FOR TIME CLOCK LOCATED IN NICHE 40" AFF. COORDINATE LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.

SHEET KEYNOTES

NUMBER	KEYNOTE TEXT
7	MOUNT OUTLET FOR UPS TO LADDER RACK. OWNER TO PROVIDE RACK MOUNT UPS WITH 208V/1PH/30A CONNECTION.
8	COORDINATE LOCATION AND HEIGHTS OF ALL RECEPTACLES WITH IT FACILITIES PRIOR TO ROUGH-IN.

Z.13

REGISTERED PROFESSIONAL ENGINEER
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Exp. 12/31/18
ELECTRICAL
STATE OF CALIFORNIA

CP-2
VOLUME: 3

PROJECT NO. 16148

REV NO.	DATE ISSUED	REASON
	04.25.17	DESIGN DEVELOPMENT
	08.08.17	CITY SUBMITTAL
2.1	08.29.17	ADDENDUM #2.1
2.2	10.03.17	ADDENDUM #2.2
2.6	01.19.18	ASI 2.4
2.12	06.05.18	ASI 2.12
2.13	07.27.18	ASI 2.13

IFC 11.20.17

Sheet Title
SECOND LEVEL - PART A - POWER

Sheet No.
2E-122

DPR Issued Sheet 2018-07-27
Link to the Sheet - 2G-002

ELECTRICAL ABBREVIATIONS

A	AMPERES
ADA	AMERICANS WITH DISABILITIES ACT
AFF	ABOVE FINISHED FLOOR
ALT.	ALTERNATE
ATS	AUTOMATIC TRANSFER SWITCH
C	CONDUIT
CB	CIRCUIT BREAKER
CFCI	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED
CFL	COMPACT FLUORESCENT LAMP
CKT.	CIRCUIT
C.O.	CONDUIT ONLY
CONC.	CONCRETE
CU	COPPER
DIST.	DISTRIBUTION
DWG.	DRAWING
EM	EMERGENCY SERVICE
ETC	EXEDRA
EG	EQUIPMENT GROUND
EXIST.	EXISTING
FA	FIRE ALARM
FLA	FULL LOAD AMPS
GFI	GROUND FAULT INTERRUPTER
HORIZ.	HORIZONTALLY MOUNTED
HP	HORSEPOWER
KVA	KILOVOLT-AMPERES
KW	KILOWATTS
JB	JUNCTION BOX
L	LOCKABLE
LTG.	LIGHTING
MCA	MINIMUM CIRCUIT AMPS
MCC	MOTOR CONTROL CENTER
MEP	MECHANICAL, ELECTRICAL, PLUMBING
MOP	MAXIMUM OVERCURRENT PROTECTION
MTD.	MOUNTED
MTG. HT.	MOUNTING HEIGHT
NIC	NOT IN CONTRACT
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NL	NIGHT LIGHT
NTS	NOT TO SCALE
OC	ON CENTER
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
P	POLE
PB	PULL BOX
PH	PHASE
PNL	PANEL
POC	POINT OF CONNECTION
RCP	REFLECTED CEILING PLAN
RECEPT	RECEPTACLE
REQ'D	REQUIRED
RGS	RIGID GALVANIZED STEEL
SEC	SECURITY
S.N.	SOLID NEUTRAL
SWGR.	SWITCHGEAR
TC	TERMINAL CABINET
TEL.	TELEPHONE
T.I.	TENANT IMPROVEMENT
TR	TAMPER RESISTANT
TYP	TYPICAL
U.C.	UNDER COUNTER
UL	UNDERWRITERS LABORATORY
UNO	UNLESS NOTED OTHERWISE
V	VOLTS
WH	WATER HEATER
W	WATTS
WP	WEATHERPROOF
XFMR	TRANSFORMER
X	EXISTING TO REMAIN
XD	EXISTING TO BE DEMOLISHED
XR	EXISTING TO BE RELOCATED
XL	NEW LOCATION OF EXISTING ITEM

LIGHTING LEGEND

(COORDINATE THE EXACT MOUNTING AND LOCATION OF ALL LIGHTING, SUPPORTS AND ALL CONDUITS WITH OTHER TRADES PRIOR TO ROUGH-IN. SEE ARCH PLANS FOR EXACT GRID, FLUSH AND SURFACE MOUNTING LOCATIONS.)

LIGHTING FIXTURES. SEE FIXTURE SCHEDULE FOR MODEL/PART NUMBERS AND ADDITIONAL DETAILS.

EMERGENCY LIGHTING FIXTURES. EMERGENCY LIGHTING TO AUTOMATICALLY ILLUMINATE THE MEANS OF EGRESS FOR A DURATION OF NOT LESS THAN 90 MINUTES. SEE FIXTURE SCHEDULE FOR MODEL/PART NUMBERS AND ADDITIONAL DETAILS.

LUMINAIRE(S) POLE MOUNTED WITH ARM. TYPE AS NOTED.

LUMINAIRE(S) POLE MOUNTED ON TOP. TYPE AS NOTED.

SUBSCRIPT ADJACENT TO LIGHTING FIXTURE INDICATES:

1,2,3 etc. = BRANCH CIRCUIT NUMBERS
a,b,c etc. = SWITCH-LEG REFERENCE
NL = NIGHT/SECURITY LIGHTING FIXTURE

EMERGENCY BUGEYE FIXTURE.

LIGHTED EXIT SIGN. TOP MOUNTED ON CEILING OR STEM MOUNTED. SHADED SIDE INDICATES FACE. PROVIDE ARROWS WHERE SHOWN TO INDICATE DIRECTION OF TRAVEL.

DOUBLE SIDED EXIT SIGN. PROVIDE ARROWS WHERE SHOWN TO INDICATE DIRECTION OF TRAVEL.

TOGGLE SWITCH. SEE BELOW FOR NOTATION.
2 - DOUBLE POLE
3 - THREE WAY
4 - FOUR WAY
D - DIMMER
K - KEY SWITCH
M - MOTION SENSOR
a,b,c - INDICATES MULTIPLE SWITCHES IN GANGED BOX WITH COMMON COVERPLATE.

LV — LOW VOLTAGE OVERRIDE SWITCH

M — MOTION SENSOR - CEILING MOUNTED.

PC — PHOTOCELL - CEILING MOUNTED.

DS — DAYLIGHT SENSOR - CEILING MOUNTED.

D/M — COMBINATION DAYLIGHT/MOTION SENSOR - CEILING MOUNTED.

SITE SYMBOLS LEGEND

OHP — NEW CONDUIT AND/OR CONDUCTOR LINE. SEE BELOW FOR TYPICAL DESIGNATIONS

X OHP X OHP X — EXISTING TO BE DEMOLISHED CONDUIT AND/OR CONDUCTOR. SEE BELOW FOR TYPICAL DESIGNATIONS

OHP — EXISTING CONDUIT AND/OR CONDUCTOR LINE TO REMAIN. SEE BELOW FOR TYPICAL DESIGNATIONS

TYPICAL DESIGNATIONS TO BE USED IN CONJUNCTION WITH CONDUIT SYMBOLS

UP	- UNDERGROUND PRIMARY
US	- UNDERGROUND SECONDARY
UC	- UNDERGROUND COMMUNICATIONS
USL	- UNDERGROUND STREET LIGHTING
OHP	- OVERHEAD PRIMARY
OHS	- OVERHEAD SECONDARY
OHC	- OVERHEAD COMMUNICATIONS

○	NEW MANHOLE	○	EXISTING MANHOLE
	NEW HANDHOLE		EXISTING HANDHOLE
T	NEW TRANSFORMER	T	EXISTING TRANSFORMER
SW	NEW MV SWITCH	SW	EXISTING MV SWITCH
○	NEW OH POLE	○	EXISTING OH POLE
	NEW GUY		EXISTING GUY
△	NEW OH XFMR	△	EXISTING OH XFMR

GENERAL SYMBOLS LEGEND

1 — SHEET NOTE REFERENCE

3 / E1 — DETAIL NUMBER DESIGNATION / SHEET ON WHICH DETAIL IS FOUND

CONDUIT STUBOUT

CONDUIT RISING UP

CONDUIT CONCEALED IN WALLS OR CEILING.

CONDUIT DROP DOWN

CONDUIT CONCEALED IN FLOOR, UNDERFLOOR, OR BELOW GRADE

CONDUIT RUN EXPOSED

FLEXIBLE CONDUIT

#8 — CROSSMARKS DENOTE QUANTITY OF NEUTRAL (LONG), PHASE (SHORT), AND GROUND (DOT) CONDUCTORS IN BRANCH CIRCUIT CONDUIT. NO CROSSMARKS DENOTES PHASE, NEUTRAL, AND GROUND WIRES. NUMBER ADJACENT TO CROSSMARKS DENOTES WIRE SIZE OTHER THAN #12 FOR ALL CONDUCTORS UNO.

A-1 — HOMERUN TO PANEL AND CIRCUITS INDICATED.

COMMUNICATION LEGEND

COMBINATION VOICE/DATA OUTLET MOUNTED AT 18" UNO.

WALL MOUNTED VOICE OUTLET AT +18" UNO.

WALL MOUNTED DATA OUTLET AT +18" UNO.

CEILING MOUNTED DATA OR VOICE/DATA OUTLET.

FLOOR DATA OR VOICE/DATA OUTLET.

WALL OR FLOOR VOICE/DATA CONNECTION TO MODULAR FURNITURE. VERIFY EXACT LOCATION WITH FURNITURE SUPPLIER.

TV — WALL MOUNTED TELEVISION OUTLET.

AV — WALL MOUNTED AUDIO/VISUAL OUTLET.

S — SPEAKER - CEILING MOUNTED.

12" WIDE MONO-TRAY, 4" DEEP (NOMINAL), 6" RUNG SPACING. TYPICAL UNO

12" WIDE CABLE TRAY, 4" DEEP (NOMINAL) TYPICAL UNO.

COORDINATE THE EXACT MOUNTING OF ALL CABLE TRAY SUPPORTS AND ALL CONDUITS WITH OTHER TRADES PRIOR TO ROUGH-IN.

SECURITY SYSTEM LEGEND

(VERIFY EXACT LOCATION AND MOUNTING OF ALL SYSTEM DEVICES WITH OWNER'S REPRESENTATIVE PRIOR TO ROUGH-IN.)

CR — CARD READER ROUGH-IN WITH TOP OF BOX AT +48" AFF AND 12" FROM DOOR EDGE, UNO PROVIDE 1" C.O. INTO ACCESSIBLE CEILING SPACE UNO
NOTE: THE ROUGH-IN BOX SHALL HAVE A BLANK METAL PLATE UNDER THE DRYWALL. DRILL HOLES FOR CABLE AND MOUNTING THE DEVICE PER MANUFACTURER.

DR — DOOR LOCK/STRIKE ROUGH-IN. PROVIDE 3/4" C., INTO ACCESSIBLE CEILING SPACE UNO

CM — SECURITY CAMERA ROUGH-IN. PROVIDE 3/4" C., INTO ACCESSIBLE CEILING SPACE UNO

DC — DOOR CONTACT ROUGH-IN. PROVIDE 3/4" C. INTO ACCESSIBLE CEILING SPACE UNO

SR — STRIKE RELEASE ROUGH-IN. PROVIDE 3/4" C. INTO ACCESSIBLE CEILING SPACE UNO

IR — INFRARED DETECTOR (REQUEST TO EXIT) PROVIDE 3/4" C.O. INTO ACCESSIBLE CEILING SPACE UNO

I — ROUGH-IN FOR INTERCOM STATION (VERIFY).

ID — INTRUSION DETECTOR (GLASS BREAK).

M — CCTV MONITOR

DVR — CCTV DIGITAL VIDEO RECORDER

BALANCED MAGNETIC SWITCH (BMS)

F — CCTV FIXED CAMERA

SUBSCRIPT ADJACENT TO CCTV INDICATES:

F = FIXED
PTZ = PAN TILT ZOOM
WP = WEATHERPROOF

POWER LEGEND

DUPLEX RECEPTACLE, NON-LOCKING TYPE, GROUNDING, 120V - 20A. MOUNTED AT +18 AFF UNO. SHADED REPRESENTS ABOVE COUNTER OR +42" AFF.

QUAD RECEPTACLE, NON-LOCKING TYPE, GROUNDING, 120V - 20A. MOUNTED AT +18 AFF UNO. SHADED REPRESENTS ABOVE COUNTER OR +42" AFF.

DUPLEX RECEPTACLE WITH GFCI, NON-LOCKING TYPE, GROUNDING, 120V - 20A. MOUNTED AT +18 AFF UNO. SHADED REPRESENTS ABOVE COUNTER OR +42" AFF.

SPECIAL RECEPTACLE, TYPE AS NOTED. MOUNTED AT +18 AFF UNO.

SPECIAL RECEPTACLE, TYPE AS NOTED. CEILING MOUNTED.

TYPE DESIGNATORS
NONE = L6-20R: 1/2"C, 2#12, #12N, #12G
A = L6-30R: 1/2"C, 2#10, #10N, #10G
B = L6-50R: 3/4"C, 2#6, #6N, #10G
C = L15-30R: 3/4"C, 3#8, #10G
D = L15-60R: 1"C, 3#4, #8G

CEILING MOUNTED DUPLEX OR QUAD RECEPTACLE, NON-LOCKING TYPE, GROUNDING.

POWER FLOOR BOX.

CONTROLLED RECEPTACLE NON-LOCKING TYPE 120V-20A. TO BE LOCATED WITHIN 6' OF AN UNCONTROLLED RECEPTACLE. CONNECT SWITCH LEG BETWEEN RELAY POWER PACK AND OCCUPANCY CONTROLS FOR AUTOMATIC SHUT OFF. CONTROLLED RECEPTACLES SHALL HAVE PERMANENT MARKING TO DIFFERENTIATE THEM FROM UNCONTROLLED RECEPTACLES. (CEC TITLE 24 SECTION 130.5(D)). PROVIDE FACEPLATE PER NEC 406.3(E). QUAD RECEPTACLES TO HAVE ONE CONTROLLED DUPLEX AND ONE NON-CONTROLLED DUPLEX.

M M — WALL OR FLOOR POWER CONNECTION TO MODULAR FURNITURE. VERIFY EXACT LOCATION WITH FURNITURE SUPPLIER.

J — JUNCTION BOX

T — TRANSFORMER

SWITCHBOARD OR MCC

PANEL BOARD (SURFACE)

PANEL BOARD (FLUSH)

LOW VOLTAGE PANEL

LCP — LIGHTING CONTROL PANEL

TELEPHONE BACKBOARD. 3/4" PLYWOOD, LENGTH AND WIDTH AS NOTED.

SINGLE LINE LEGEND

GROUND

CIRCUIT BREAKER

CURRENT TRANSFORMERS

TRANSFORMER DELTA PRIMARY, WYE SECONDARY WITH kVA RATING

SPD — SURGE PROTECTION DEVICE

GFP — GROUND FAULT PROTECTION

CB — ENCLOSED CIRCUIT BREAKER

TC — TIME CLOCK

M — KILOWATT-HOUR METER

FUSED SWITCH

NON-FUSIBLE DISCONNECT SWITCH (RATINGS AS NOTED)

FUSIBLE DISCONNECT SWITCH (RATINGS AS NOTED)

2 — MOTOR STARTER (NEMA SIZE AS NOTED)

2 — COMBINATION FUSIBLE DISCONNECT SWITCH AND MOTOR STARTER, (NEMA SIZE AS NOTED), 3P, 600 VAC MAXIMUM RATING.

T — TOGGLE TYPE FRACTIONAL HP MANUAL MOTOR STARTER WITH THERMAL OVERLOADS (DELETED IF FOR DISCONNECT USE ONLY) AND HANDLE GUARD/LOCK-OFF, 2 POLES (VERIFY WITH BRANCH CIRCUIT).

EPO - EMERGENCY POWER OFF BUTTON

MOTOR

AUTOMATIC TRANSFER SWITCH

PANEL BOARD

CIRCUIT BREAKER CALLOUT
225 / 3 — -TRIP SIZE / -POLE

FUSE CALLOUT
150 / 3 — -FUSE SIZE / -POLE

GENERAL NOTES

1. ALL ELECTRICAL SYSTEMS PER NEC.
2. ALL ELECTRICAL SYSTEMS PER CEC 2016.
3. ELECTRICAL CONTRACTOR TO VERIFY EXACT LOCATION OF RECEPTACLES IN TELECOM ROOMS PRIOR TO ROUGH-IN.
4. ALL EXTERIOR LIGHTING INSTALLATIONS AND LAMP TYPE SHALL COMPLY WITH CITY OF OUTDOOR LIGHTING REGULATIONS 142.0740.
5. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL OTHER DOCUMENTATION. COORDINATE WITH ALL OTHER TRADES FOR EQUIPMENT LOCATIONS.
6. COORDINATE WITH ARCHITECTURAL DRAWINGS FOR EXACT LOCATION AND MOUNTING HEIGHT OF ALL RECEPTACLES AND DEVICES.
7. COORDINATE WITH EQUIPMENT MANUFACTURER FOR LOCATIONS AND CONNECTIONS.
8. VERIFY ALL MECHANICAL EQUIPMENT LOCATIONS WITH MECHANICAL AND ARCHITECTURAL DRAWINGS PRIOR TO ROUGH-IN.
9. EACH BRANCH CIRCUIT THAT SUPPLIES NON-LINEAR LOADS INCLUDING COMPUTERS, COMMUNICATION RACKS, ETC. MUST HAVE A DEDICATED NEUTRAL.
10. MULTI-WIRE BRANCH CIRCUITS FOR GENERAL LOADS CAN INCLUDE UP TO THREE PHASE CONDUCTORS WITH A SHARED NEUTRAL IN A RACEWAY IF A MULTI-POLE BREAKER IS PROVIDED TO SIMULTANEOUSLY DISCONNECT ALL SINGLE POLE CIRCUIT BREAKERS THAT SUPPLY INDIVIDUAL PHASE CONDUCTORS OF THE MULTI-WIRE CIRCUIT.

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CP-2
VOLUME: 3

PROJECT NO. 16148

REV NO.	DATE ISSUED	REASON
	04.25.17	DESIGN DEVELOPMENT
	08.08.17	CITY SUBMITTAL
2.2	10.03.17	ADDENDUM #2.2
2.3	11.20.17	ASI 2.1/IFC

IFC 11.20.17

Sheet Title
LEGEND NOTES AND ABBREVIATIONS

Sheet No.
2E-001

RFI 2-00444 Confirm MSB Busbar Updates to be NEC 705.12(D) Compliant

DPR Issued Sheet 2017-11-20
Link to the Sheet - 2G-002

VOLTAGE DROP SCHEDULE						
	FEEDER		BRANCH CIRCUIT			
DEVICE	VOLTAGE DROP	WIRE SIZE	MAX VOLTAGE DROP	CIRCUIT	LENGTH	WIRE SIZE
G2	0.00%	(3)600kcmil				
GSB	0.00%	(5)600kcmil				
MSB	0.19%	(10)600kcmil	1.38%	21	269'	#4
ATS-EL	0.32%	#4				
ELH1	0.33%	#1	1.27%	10	304'	#12
ELH2	0.55%	#4	1.45%	2	118'	#12
ELH3	0.58%	#4	1.04%	2	116'	#12
ELH4	0.60%	#4	1.09%	2	111'	#12
T-EL	0.34%	#6				
ELL	0.02%	#1	5.22%	11	261'	#12
ATS-EP	0.39%	(4)600kcmil				
EPH	0.43%	(4)600kcmil				
EPHWL	0.44%	#1	1.37%	2	157'	#12
EPHWM	0.44%	(2)350kcmil	1.39%	31,33,35	136'	#10
EPHWMA	0.46%	4/0	1.12%	14,16,18	128'	#8
EPM4H	1.01%	(2)350kcmil	0.94%	13,15,17	161'	#4
T-EP	0.48%	500kcmil				
EPDP	0.23%	(3)300kcmil				
EP1	0.45%	3/0	1.82%	8	91'	#12
EP2A	0.70%	3/0	2.91%	8	87'	#12
EP2B	1.37%	3/0	1.52%	2	61'	#12
EP2C	0.52%	3/0	1.93%	37,39	120'	#10
EP3A	1.14%	3/0	1.66%	29	60'	#12
EP3B	0.97%	3/0	2.19%	34,36	82'	#12
EP3C	0.87%	3/0	0.88%	29,31	33'	#12
EP3D	1.11%	3/0	2.34%	35	84'	#12
EP4A	1.29%	3/0	1.90%	20,22	63'	#12
EP4B	0.88%	3/0	0.87%	20	58'	#12
EP4C	1.94%	3/0	0.95%	29,31	33'	#6
EP4D	0.60%	3/0	1.89%	12,14	105'	#10
EP4E	0.45%	3/0	0.99%	41	89'	#12
ET1	0.25%	#1	0.13%	1	13'	#12
ET3	0.37%	#1	0.53%	5	36'	#12
T-EPM	0.60%	2/0				
EPM	0.22%	600kcmil	1.91%	7	62'	#10
EPM4L	2.18%	4/0	2.85%	9,11	139'	#8
EPM4LA	2.05%	250kcmil	3.04%	25	106'	#8
T-EPW	0.47%	1/0				
EPLW	0.06%	4/0	3.64%	34	183'	#12
LT1	0.46%	1/0	1.97%	8	274'	#12
LT2	1.33%	#1	2.66%	1	193'	#12
LT3	1.44%	#1	2.86%	1	175'	#12
LT4	1.51%	#1	2.45%	2	160'	#12
M1H	0.23%	600kcmil	1.36%	37,39,41	189'	#12
T-M1	0.25%	1/0				
M1L	0.04%	3/0	2.83%	6,8	218'	#10
M2H	0.46%	600kcmil	0.56%	37,39,41	113'	#4
T-M2	0.49%	1/0				
M2L	0.08%	4/0	2.81%	25,27	103'	#12
M3L	0.30%	#1	3.00%	18,20	102'	#12
M3H	0.44%	3/0	0.71%	37,39,41	144'	#4
M4H	1.10%	(3)300kcmil	1.40%	31,33,35	172'	#8
M4HA	1.14%	3/0	1.47%	8,10,12	185'	#12
M4HB	1.20%	3/0	1.52%	1,3,5	173'	#12
M4HC	1.21%	3/0	1.19%	25,27,29	136'	#12
T-M4	1.16%	#4				
M4L	0.11%	1/0	2.95%	18,20	184'	#12
T-DP1P	0.25%	(2)4/0				
DP1P	0.04%	(3)400kcmil				

VOLTAGE DROP SCHEDULE						
	FEEDER		BRANCH CIRCUIT			
DEVICE	VOLTAGE DROP	WIRE SIZE	MAX VOLTAGE DROP	CIRCUIT	LENGTH	WIRE SIZE
P1A	0.09%	#1	2.88%	12	240'	#10
P1B	0.89%	1/0	3.01%	10	120'	#12
P1C	0.72%	1/0	2.60%	23	130'	#12
P1D	1.06%	3-3/0	2.48%	22	57'	#12
P1E	0.21%	#1	1.91%	33	55'	#12
P2A	0.75%	1/0	2.75%	12	124'	#12
P2B	0.70%	1/0	2.91%	11	145'	#12
P2C	0.56%	1/0	3.08%	21	154'	#12
PM	0.08%	#1	2.69%	5	90'	#12
T-DP2L	0.65%	500kcmil				
DP2L	0.09%	(3)300kcmil				
L2A	0.21%	3/0	2.08%	37	83'	#12
L2B	0.37%	3/0	1.09%	4,6	28'	#12
L2C	0.61%	3/0	2.97%	8,10	77'	#12
L2D	0.18%	3/0	2.16%	19,21	56'	#12
L2E	0.36%	3/0	1.29%	21,23,25	80'	#8
L2F	0.21%	3/0	0.59%	9	42'	#12
L2G	0.41%	3/0	0.81%	37	54'	#12
L2H	0.40%	3/0	1.27%	31	64'	#12
L2I	0.38%	3/0	1.32%	33	66'	#12
L2J	0.40%	3/0	2.04%	11	82'	#12
L2K	0.49%	3/0	1.55%	29	78'	#12
L2L	0.57%	3/0	1.22%	5	49'	#12
T-DP3L	0.48%	500kcmil				
DP3L	0.08%	(3)300kcmil				
L3A	0.24%	3/0	1.03%	23,25	27'	#12
L3B	0.30%	3/0	0.98%	12	39'	#12
L3C	0.26%	3/0	3.00%	8,10	67'	#12
L3D	0.26%	3/0	0.97%	24	49'	#12
L3E	0.33%	3/0	0.91%	32	60'	#12
L3F	0.30%	3/0	0.73%	25	37'	#12
L3G	0.49%	3/0	1.02%	31	68'	#12
L3H	0.37%	3/0	0.98%	7	49'	#12
L3I	0.33%	3/0	1.13%	7	75'	#12
L3J	0.44%	3/0	1.09%	1	44'	#12
L3K	0.66%	3/0	1.45%	1	58'	#12
T-DP3P	0.34%	500kcmil				
DP3P	0.03%	(3)300kcmil				
P3A	0.09%	1/0	2.73%	11	109'	#12
P3B	0.06%	1/0	3.44%	6	115'	#12
P3C	0.07%	1/0	2.93%	17	147'	#12
P4A	0.18%	1/0	2.90%	1	145'	#12
P4B	0.12%	1/0	2.98%	4	119'	#12
P4C	0.17%	1/0	3.01%	9	150'	#12
T-DP4L	0.55%	500kcmil				
DP4L	0.06%	(3)300kcmil				
L4A	0.28%	3/0	1.41%	2	51'	#12
L4B	0.42%	3/0	1.79%	15	120'	#10
L4C	0.25%	3/0	0.62%	26	56'	#12
L4D	0.18%	3/0	1.08%	12	54'	#12
L4E	0.31%	3/0	1.88%	29	75'	#12
L4F	0.17%	3/0	1.08%	10	43'	#12
L4G	0.27%	3/0	0.90%	37	60'	#12
L4H	0.50%	3/0	2.46%	32,34	55'	#12
L4I	0.44%	3/0	1.69%	31,33	44'	#12
L4J	0.49%	3/0	1.56%	22,24	35'	#12
L4K	0.43%	3/0	0.99%	7	49'	#12

FAULT CURRENT SCHEDULE								
				FEEDER		TRANSFORMER		
DEVICE	FAULT AT DEVICE	AIC RATING	VOLTAGE	SIZE	LENGTH	KVA	Z%	FAULT AT PRIMARY
G2	45,000	65,000	480V	(3)600kcmil				
GSB	42,582	65,000	480V	(5)600kcmil	41'			
MSB	65,000	100,000	480V	(10)600kcmil	55'			
ATS-EL	13,198	30,000	480V	#4	60'			
ELH1	12,418	30,000	480V	#1	8'-5"			
ELH2	3,461	10,000	480V	#4	185'			
ELH3	2,998	10,000	480V	#4	39'			
ELH4	2,585	10,000	480V	#4	47'			
T-EL	4,260	22,000	480V	#6	15'	30	1.75	9,427
ELL	4,052	10,000	208V	#1	14'			
ATS-EP	56,018	65,000	480V	(4)600kcmil	63'			
EPH	54,377	65,000	480V	(4)600kcmil	14'			
EPHWL	44,602	65,000	480V	#1	10'-10"			
EPHWM	53,629	65,000	480V	(2)350kcmil	2'-10"			
EPHWMA	51,174	65,000	480V	4/0	4'-3"			
EPM4H	26,725	42,000	480V	(2)350kcmil	201'			
EVR	3,766	14,000	480V	#1	154'	75	1.75	10,123
ECPW	3,666	14,000	480V	1/0	21'			
T-EP	24,291	42,000	480V	500kcmil	18'	225	2	46,869
EPDP	22,268	42,000	208V	(3)300kcmil	26'			
EP1	7,092	10,000	208V	3/0	145'			
EP2A	5,227	10,000	208V	3/0	215'			
EP2B	5,593	10,000	208V	3/0	197'			
EP2C	8,606	14,000	208V	3/0	110'			
EP3A	4,925	10,000	208V	3/0	231'			
EP3B	6,242	10,000	208V	3/0	171'			
EP3C	4,960	10,000	208V	3/0	229'			
EP3D	7,005	10,000	208V	3/0	147'			
EP4A	4,321	10,000	208V	3/0	270'			
EP4B	5,426	10,000	208V	3/0	205'			
EP4C	4,977	10,000	208V	3/0	228'			
EP4D	6,694	10,000	208V	3/0	156'			
EP4E	7,267	10,000	208V	3/0	140'			
ET1	5,019	10,000	208V	#1	131'			
ET3	3,520	10,000	208V	#1	197'			
T-EPM	13,376	22,000	480V	2/0	28'	112.5	2	37,328
EPM	11,633	22,000	208V	600kcmil	31'			
EPM4L	4,821	14,000	208V	4/0	216'			
EPM4LA	5,078	14,000	208V	250kcmil	218'			
T-EPW	10,744	22,000	480V	1/0	10'-8"	75	1.75	46,059
EPLW	10,368	22,000	208V	4/0	7'-5"			
EPLW1	9,460	14,000	208V	#1	12'			
LT1	27,417	65,000	480V	1/0	55'			
LT2	7,198	10,000	480V	#1	185'			
LT3	6,290	10,000	480V	#1	36'			
LT4	5,415	10,000	480V	#1	46'			
M1H	41,939	65,000	480V	600kcmil	53'			
T-M1	10,385	14,000	480V	1/0	19'	75	1.75	33,122
M1L	9,529	14,000	208V	3/0	17'			
M2H	22,316	30,000	480V	600kcmil	183'			
T-M2	9,522	14,000	480V	1/0	18'	75	1.75	19,579
M2L	8,845	10,000	208V	4/0	17'			
M3L	6,980	10,000	208V	#1	34'			
M3H	13,265	22,000	480V	3/0	202'			
M4H	33,141	42,000	480V	(3)300kcmil	222'			
M4HA	30,514	42,000	480V	3/0	9'-5"			
M4HB	28,237	42,000	480V	3/0	19'			
M4HC	27,771	30,000	480V	3/0	21'			

FAULT CURRENT SCHEDULE								
				FEEDER		TRANSFORMER		
DEVICE	FAULT AT DEVICE	AIC RATING	VOLTAGE	SIZE	LENGTH	KVA	Z%	FAULT AT PRIMARY
T-M4	6,425	10,000	480V	#4	17'	45	1.75	22,242
M4L	5,999	10,000	208V	1/0	17'			
T-DP1P	30,830	42,000	480V	(2)4/0	42'	300	2	50,233
DP1P	29,148	30,000	208V	(3)400kcmil	14'			
P1A	23,616	25,000	208V	#1	9'-5"			
P1B	4,678	10,000	208V	1/0	180'			
P1C	4,729	10,000	208V	1/0	178'			
P1D	9,454	10,000	208V	3-3/0	108'			
P1E	14,645	22,000	208V	#1	33'			
P2A	4,636	10,000	208V	1/0	182'			
P2B	4,592	10,000	208V	1/0	184'			
P2C	4,589	10,000	208V	1/0	184'			
PM	14,408	22,000	208V	#1	34'			
T-DP2L	19,495	30,000	480V	500kcmil	181'	225	2	21,860
DP2L	18,873	22,000	208V	(3)300kcmil	12'			
L2A	12,957	18,000	208V	3/0	40'			
L2B	9,563	14,000	208V	3/0	81'			
L2C	8,885	14,000	208V	3/0	93'			
L2D	13,796	22,000	208V	3/0	33'			
L2E	13,060	18,000	208V	3/0	39'			
L2F	8,212	14,000	208V	3/0	106'			
L2G	7,571	14,000	208V	3/0	121'			
L2H	7,422	14,000	208V	3/0	124'			
L2I	7,682	14,000	208V	3/0	118'			
L2J	7,559	14,000	208V	3/0	121'			
L2K	6,789	10,000	208V	3/0	142'			
L2L	5,443	10,000	208V	3/0	193'			
T-DP3L	19,106	30,000	480V	500kcmil	196'	225	2	20,726
DP3L	18,213	22,000	208V	(3)300kcmil	17'			
L3A	12,171	14,000	208V	3/0	45'			
L3B	8,537	14,000	208V	3/0	96'			
L3C	11,231	14,000	208V	3/0	55'			
L3D	9,852	14,000	208V	3/0	74'			
L3E	8,634	14,000	208V	3/0	94'			
L3F	8,185	14,000	208V	3/0	104'			
L3G	7,074	10,000	208V	3/0	131'			
L3H	7,538	14,000	208V	3/0	119'			
L3I	6,124	10,000	208V	3/0	162'			
L3J	6,042	10,000	208V	3/0	165'			
L3K	5,416	10,000	208V	3/0	192'			
T-DP3P	19,187	30,000	480V	500kcmil	193'	225	2	20,955
DP3P	18,266	22,000	208V	(3)300kcmil	18'			
P3A	16,186	22,000	208V	1/0	9'-7"			
P3B	15,715	22,000	208V	1/0	12'			
P3C	15,211	22,000	208V	1/0	15'			
P4A	12,891	22,000	208V	1/0	28'			
P4B	12,568	22,000	208V	1/0	31'			
P4C	12,292	22,000	208V	1/0	33'			
T-DP4L	18,650	30,000	480V	500kcmil	214'	225	2	19,488
DP4L	18,088	22,000	208V	(3)300kcmil	11'			
L4A	10,510	14,000	208V	3/0	64'			
L4B	7,699	14,000	208V	3/0	114'			
L4C	9,771	14,000	208V	3/0	74'			
L4D	12,175	18,000	208V	3/0	44'			
L4E	9,183	14,000	208V	3/0	84'			
L4F	8,437	14,000	208V	3/0	98'			
L4G	8,394	14,000	208V	3/0	99'			
L4H	6,890	10,000	208V	3/0	136'			
L4I	7,090	10,000	208V	3/0	130'			
L4J	6,625	10,000	208V	3/0	144'			
L4K	5,837	10,000	208V	3/0	173'			

MSB LOAD SUMMARY

DS1 LOAD SUMMARY		
PARKING GARAGE DISTRIBUTION 'PGDB'	458.8	KVA
DOAS-1	70.2	KVA
DOAS-2	70.2	KVA
ELEVATOR	34.9	KVA
AC-1	77.5	KVA
T-DP1P	152.0	KVA
T-DP3P	89.0	KVA
T-DP2L	215.8	KVA
T-DP4L	161.6	KVA
T-DP3L	148.9	KVA
M4H	641.8	KVA
M2H	143.4	KVA
M1H	71.4	KVA
LT1	70.9	KVA
M3H	36.6	KVA
TOTAL KVA	2443.0	KVA
AMPS @ 480V - 3PH	2938.5	A

DS2 LOAD SUMMARY		
ATS-EP	1318.0	KVA
ATS-EL	13.0	KVA
ELEVATOR	24.9	KVA
ELEVATOR	24.9	KVA
PV SYSTEM	280.0	KVA
TOTAL KVA	1660.8	KVA
AMPS @ 480V - 3PH	1997.6	A

Z 14

ADDED LOAD SUMMARY FOR BOTH DISTRIBUTION SECTIONS ON SWITCHBOARD 'MSB'.

FEEDER SCHEDULE	
DEVICE	CALLOUT
50	
T-EL	3/4"C, 3#6, #10G
60	
ATS-EL	1-1/4"C, 3#4, #4N, #10G
ELH2	1-1/4"C, 3#4, #4N, #10G
ELH3	1-1/4"C, 3#4, #4N, #10G
ELH4	1-1/4"C, 3#4, #4N, #10G
70	
T-M4	1-1/4"C, 3#4, #4N, #8G
100	
ELH1	1-1/2"C, 3#1, #1N, #8G
ELL	1-1/2"C, 3#1, #1N, #6G
EP3E	1-1/2"C, 3#1, #1N, #8G
EPHWL	1-1/2"C, 3#1, #1N, #8G
EPLW1	1-1/2"C, 3#1, #1N, #8G
ET1	1-1/2"C, 3#1, #1N, #8G
ET3	1-1/2"C, 3#1, #1N, #8G
EVR	1-1/4"C, 3#1, #6G
LT2	1-1/2"C, 3#1, #1N, #8G
LT3	1-1/2"C, 3#1, #1N, #8G
LT4	1-1/2"C, 3#1, #1N, #8G
M3L	1-1/2"C, 3#1, #1N, #8G
P1A	1-1/2"C, 3#1, #1N, #8G
P1E	1-1/2"C, 3#1, #1N, #8G
PM	1-1/2"C, 3#1, #1N, #8G
125	
ECPW	1-1/2"C, 3-1/0, 1/0N, #6G
P1B	1-1/2"C, 3-1/0, 1/0N, #6G
P1C	1-1/2"C, 3-1/0, 1/0N, #6G
P2A	1-1/2"C, 3-1/0, 1/0N, #6G
P2B	1-1/2"C, 3-1/0, 1/0N, #6G
P2C	1-1/2"C, 3-1/0, 1/0N, #6G
T-EPW	1-1/2"C, 3-1/0, #6G
T-M1	1-1/2"C, 3-1/0, 1/0N, #6G
T-M2	1-1/2"C, 3-1/0, #6G

FEEDER SCHEDULE	
DEVICE	CALLOUT
150	
LT1	1-1/2"C, 3-1/0, 1/0N, #6G
M4L	1-1/2"C, 3-1/0, 1/0N, #6G
P3A	1-1/2"C, 3-1/0, 1/0N, #6G
P3B	1-1/2"C, 3-1/0, 1/0N, #6G
P3C	1-1/2"C, 3-1/0, 1/0N, #6G
P4A	1-1/2"C, 3-1/0, 1/0N, #6G
P4B	1-1/2"C, 3-1/0, 1/0N, #6G
P4C	1-1/2"C, 3-1/0, 1/0N, #6G
175	
T-EPM	1-1/2"C, 3-2/0, #6G
200	
EP1	2"C, 3-3/0, 3/0N, #6G
EP2A	2"C, 3-3/0, 3/0N, #6G
EP2B	2"C, 3-3/0, 3/0N, #6G
EP2C	2"C, 3-3/0, 3/0N, #6G
EP3A	2"C, 3-3/0, 3/0N, #6G
EP3B	2"C, 3-3/0, 3/0N, #6G
EP3C	2"C, 3-3/0, 3/0N, #6G
EP3D	2"C, 3-3/0, 3/0N, #6G
EP4A	2"C, 3-3/0, 3/0N, #6G
EP4B	2"C, 3-3/0, 3/0N, #6G
EP4C	2"C, 3-3/0, 3/0N, #6G
EP4D	2"C, 3-3/0, 3/0N, #6G
EP4E	2"C, 3-3/0, 3/0N, #6G
L2A	2"C, 3-3/0, 3/0N, #6G
L2B	2"C, 3-3/0, 3/0N, #6G
L2C	2"C, 3-3/0, 3/0N, #6G
L2D	2"C, 3-3/0, 3/0N, #6G
L2E	2"C, 3-3/0, 3/0N, #6G
L2F	2"C, 3-3/0, 3/0N, #6G
L2G	2"C, 3-3/0, 3/0N, #6G
L2H	2"C, 3-3/0, 3/0N, #6G
L2I	2"C, 3-3/0, 3/0N, #6G
L2J	2"C, 3-3/0, 3/0N, #6G

FEEDER SCHEDULE	
DEVICE	CALLOUT
L2K	2"C, 3-3/0, 3/0N, #6G
L2L	2"C, 3-3/0, 3/0N, #6G
L3A	2"C, 3-3/0, 3/0N, #6G
L3B	2"C, 3-3/0, 3/0N, #6G
L3C	2"C, 3-3/0, 3/0N, #6G
L3D	2"C, 3-3/0, 3/0N, #6G
L3E	2"C, 3-3/0, 3/0N, #6G
L3F	2"C, 3-3/0, 3/0N, #6G
L3G	2"C, 3-3/0, 3/0N, #6G
L3H	2"C, 3-3/0, 3/0N, #6G
L3I	2"C, 3-3/0, 3/0N, #6G
L3J	2"C, 3-3/0, 3/0N, #6G
L3K	2"C, 3-3/0, 3/0N, #6G
L4A	2"C, 3-3/0, 3/0N, #6G
L4B	2"C, 3-3/0, 3/0N, #6G
L4C	2"C, 3-3/0, 3/0N, #6G
L4D	2"C, 3-3/0, 3/0N, #6G
L4E	2"C, 3-3/0, 3/0N, #6G
L4F	2"C, 3-3/0, 3/0N, #6G
L4G	2"C, 3-3/0, 3/0N, #6G
L4H	2"C, 3-3/0, 3/0N, #6G
L4I	2"C, 3-3/0, 3/0N, #6G
L4J	2"C, 3-3/0, 3/0N, #6G
L4K	2"C, 3-3/0, 3/0N, #6G
M1L	2"C, 3-3/0, 3/0N, #4G
M3H	2"C, 3-3/0, 3/0N, #6G
M4HA	2"C, 3-3/0, 3/0N, #6G
M4HB	2"C, 3-3/0, 3/0N, #6G
M4HC	2"C, 3-3/0, 3/0N, #6G
P1D	2"C, 3-3/0, 3/0N, #6G
225	
EPHWMA	2-1/2"C, 3-4/0, 4/0N, #4G
EPLW	2-1/2"C, 3-4/0, 4/0N, #2G
EPM4L	2-1/2"C, 3-4/0, 4/0N, #6G
M2L	2-1/2"C, 3-4/0, 4/0N, #2G

FEEDER SCHEDULE	
DEVICE	CALLOUT
250	
EPM4LA	2-1/2"C, 3-250kcmil, 250kcmil N, #6G
350	
T-DP2L	3"C, 3-500kcmil, #2G
T-DP3L	3"C, 3-500kcmil, #2G
T-DP3P	3"C, 3-500kcmil, #2G
T-DP4L	3"C, 3-500kcmil, #2G
T-EP	3"C, 3-500kcmil, #2G
400	
EPM	3-1/2"C, 3-600kcmil, 600kcmil N, 1/0G
M1H	3-1/2"C, 3-600kcmil, 600kcmil N, #2G
M2H	3-1/2"C, 3-600kcmil, 600kcmil N, #2G
450	
T-DP1P	(2)2"C, 3-4/0, #2G
600	
EPHWM	(2)3"C, 3-350kcmil, 350kcmil N, #1G
EPM4H	(2)3"C, 3-350kcmil, 350kcmil N, #1G
800	
DP2L	(3)3"C, 3-300kcmil, 300kcmil N, 2/0G
DP3L	(3)3"C, 3-300kcmil, 300kcmil N, 2/0G
DP3P	(3)3"C, 3-300kcmil, 300kcmil N, 2/0G
DP4L	(3)3"C, 3-300kcmil, 300kcmil N, 2/0G
EPDP	(3)3"C, 3-300kcmil, 300kcmil N, 2/0G
M4H	(3)3"C, 3-300kcmil, 300kcmil N, 1/0G
1000	
DP1P	(3)3"C, 3-400kcmil, 400kcmil N, 3/0G
1200	
G2	(3)3-1/2"C, 3-600kcmil, 600kcmil N, 3/0G
1600	
ATS-EP	(4)3-1/2"C, 3-600kcmil, 600kcmil N, 4/0G
EPH	(4)3-1/2"C, 3-600kcmil, 600kcmil N, 4/0G
2000	
GSB	(5)3-1/2"C, 3-600kcmil, 600kcmil N, 250kcmil G
4000	
MSB	(10)3-1/2"C, 3-600kcmil, 600kcmil N

REGISTERED PROFESSIONAL ENGINEER
STEFANE N. BEAUVAIS
No. E 19108
Exp. 03/2020
ELECTRICAL
STATE OF CALIFORNIA

CP-2
VOLUME: 3

PROJECT NO. 16148

REV NO.	DATE ISSUED	REASON
	04.25.17	DESIGN DEVELOPMENT
	08.08.17	CITY SUBMITTAL
2.1	08.29.17	ADDENDUM #2.1
2.2	10.03.17	ADDENDUM #2.2
2.3	11.20.17	ASI 2.1/IFC
2.12	06.05.18	ASI 2.12
2.14	10.25.18	ASI 2.14

IFC 11.20.17

Sheet Title
ELECTRICAL SCHEDULES

Sheet No.
2E-502

SHEET KEYED NOTES:

1 PROVIDE PROVISIONS FOR SPLIT BUS PANEL PER CEC TITLE 24 REQUIREMENTS.

Branch Panel: M1H

Location:
Supply From: MSB
Mounting: Surface
Enclosure: Type 1

Volts: 480/277 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 65,000
Mains Type: MLO
Mains Rating: 400 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	DI-1	20 A	3	2495...	6133...					3	125 A	T-M1	2
3	--	--	--			2495...	4974...			--	--	--	4
5	--	--	--					2495...	4768...	--	--	--	6
7	VAC-1	60 A	3	7649...	0 VA					--	--	Bussed Space	8
9	--	--	--			7649...	0 VA			--	--	Bussed Space	10
11	--	--	--					7649...	0 VA	--	--	Bussed Space	12
13	AC-1	35 A	3	3575...	0 VA					--	--	Bussed Space	14
15	--	--	--			3575...	0 VA			--	--	Bussed Space	16
17	--	--	--					3575...	0 VA	--	--	Bussed Space	18
19	Bussed Space	--	--	0 VA	0 VA					--	--	Bussed Space	20
21	Bussed Space	--	--			0 VA	0 VA			--	--	Bussed Space	22
23	Bussed Space	--	--					0 VA	0 VA	--	--	Bussed Space	24
25	Bussed Space	--	--	0 VA	0 VA					--	--	Bussed Space	26
27	Bussed Space	--	--			0 VA	0 VA			--	--	Bussed Space	28
29	Bussed Space	--	--					0 VA	0 VA	--	--	Bussed Space	30
31	Bussed Space	--	--	0 VA	600 VA					2	20 A	Receptacle	32
33	Bussed Space	--	--			0 VA	600 VA			--	--	--	34
35	Bussed Space	--	--					0 VA	1000...	2	30 A	Receptacle	36
37	CAGE & BOTTLE WASHER	20 A	3	2772...	1000...					--	--	--	38
39	--	--	--			2772...	1500...			2	50 A	Receptacle	40
41	--	--	--					2772...	1500...	--	--	--	42
		Total Load:		24224 VA		23565 VA		23759 VA					
		Total Amps:		88 A		85 A		86 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Receptacle	6200 VA	100.00%	6200 VA		
Power	65348 VA	100.00%	65348 VA	**Total Conn. Load:**	71548 VA
				Total Est. Demand:	71548 VA
				Total Conn.:	86 A
				Total Est. Demand:	86 A

RFI 2-00503 Electrical Req. for Bottle Washer

Branch Panel: M1L

Location:
Supply From: T-M1
Mounting: Surface
Enclosure: Type 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 14,000
Mains Type: MCB
Mains Rating: 200 A
MCB Rating: 200 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	DI-1 BOOSTER PUMP	20 A	1	840 VA	441 VA					2	20 A	BS-1.01, FC-1.08, FC-1.09	2
3	WS-1	20 A	1			300 VA	441 VA			--	--	--	4
5	B-1	20 A	1					180 VA	674 VA	2	20 A	FC-1.05, FC-1.06, FC-1.07	6
7	CD-1	20 A	1	360 VA	674 VA					--	--	--	8
9	B-2	20 A	1			180 VA	483 VA			2	20 A	BS-1.02, FC-1.04, FC-1.10	10
11	CD-1	20 A	1					540 VA	483 VA	--	--	--	12
13	WH-3	20 A	1	180 VA	799 VA					2	20 A	FC-1.01, FC-1.02, FC-1.03	14
15	SP-1 CONTROL PANEL	20 A	1			180 VA	799 VA			--	--	--	16
17	SP-1	20 A	3					577 VA	466 VA	2	20 A	FC-2.10, FC-2.11	18
19	--	--	--	577 VA	466 VA					--	--	--	20
21	--	--	--			577 VA	707 VA			2	20 A	FC-2.06, FC-2.08, FC-2.12	22
23	FC-2.02, FC-2.03	20 A	2					374 VA	707 VA	--	--	--	24
25	--	--	--	374 VA	707 VA					2	20 A	FC-2.01, FC-2.05, FC-2.13	26
27	CP-3	20 A	1			600 VA	707 VA			--	--	--	28
29	EF-9	20 A	1					52 VA	715 VA	2	20 A	FC-2.04, FC-2.07, FC-2.09	30
31	Bussed Space	--	--	0 VA	715 VA					--	--	--	32
33	Bussed Space	--	--			0 VA	0 VA			--	--	Bussed Space	34
35	Bussed Space	--	--					0 VA	0 VA	--	--	Bussed Space	36
37	Bussed Space	--	--	0 VA	0 VA					--	--	Bussed Space	38
39	Bussed Space	--	--			0 VA	0 VA			--	--	Bussed Space	40
41	Bussed Space	--	--					0 VA	0 VA	--	--	Bussed Space	42
		Total Load:		6133 VA		4974 VA		4768 VA					
		Total Amps:		51 A		42 A		40 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Power	15875 VA	100.00%	15875 VA		
				Total Conn. Load:	15875 VA
				Total Est. Demand:	15875 VA
				Total Conn.:	44 A
				Total Est. Demand:	44 A

Branch Panel: M2H

Location:
Supply From: MSB
Mounting: Surface
Enclosure: Type 1

Volts: 480/277 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 30,000
Mains Type: MCB
Mains Rating: 400 A
MCB Rating: 400 A

Notes:

RFI 2-00527 Confirm Additional Receptacle Rm 219

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	T-M2	125 A	3	1229...	0 VA					--	--	Bussed Space	2
3	--	--	--			1171...	0 VA			--	--	Bussed Space	4
5	--	--	--					9598...	0 VA	--	--	Bussed Space	6
7	Bussed Space	--	--	0 VA	0 VA					--	--	Bussed Space	8
9	Bussed Space	--	--			0 VA	0 VA			--	--	Bussed Space	10
11	Bussed Space	--	--					0 VA	0 VA	--	--	Bussed Space	12
13	Bussed Space	--	--	0 VA	0 VA					--	--	Bussed Space	14
15	Bussed Space	--	--			0 VA	0 VA			--	--	Bussed Space	16
17	Bussed Space	--	--					0 VA	0 VA	--	--	Bussed Space	18
19	Bussed Space	--	--	0 VA	0 VA					--	--	Bussed Space	20
21	Bussed Space	--	--			0 VA	0 VA			--	--	Bussed Space	22
23	Bussed Space	--	--					0 VA	0 VA	--	--	Bussed Space	24
25	Bussed Space	--	--	0 VA	0 VA					--	--	Bussed Space	26
27	Bussed Space	--	--			0 VA	0 VA			--	--	Bussed Space	28
29	Bussed Space	--	--					0 VA	0 VA	--	--	Bussed Space	30
31	AUTOCLAVE	60 A	3	1219...	0 VA					--	--	Bussed Space	32
33	--	--	--			1219...	0 VA			--	--	Bussed Space	34
35	--	--	--					1219...	0 VA	--	--	Bussed Space	36
37	AUTOCLAVE	60 A	3	1219...	1219...					3	60 A	AUTOCLAVE	38
39	--	--	--			1219...	1219...			--	--	--	40
41	--	--	--					1219...	1219...	--	--	--	42
		Total Load:		48876 VA		48296 VA		46180 VA					
		Total Amps:		178 A		176 A		167 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Receptacle	3300 VA	100.00%	3300 VA		
Power	140052 VA	100.00%	140052 VA	**Total Conn. Load:**	143352 VA
				Total Est. Demand:	143352 VA
				Total Conn.:	172 A
				Total Est. Demand:	172 A

Branch Panel: M3H

Location:
Supply From: MSB
Mounting: Surface
Enclosure: Type 1

Volts: 480/277 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 22,000
Mains Type: MCB
Mains Rating: 200 A
MCB Rating: 200 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	Bussed Space	--	--	0 VA	0 VA					--	--	Bussed Space	2
3	Bussed Space	--	--			0 VA	0 VA			--	--	Bussed Space	4
5	Bussed Space	--	--					0 VA	0 VA	--	--	Bussed Space	6
7	Bussed Space	--	--	0 VA	0 VA					--	--	Bussed Space	8
9	Bussed Space	--	--			0 VA	0 VA			--	--	Bussed Space	10
11	Bussed Space	--	--					0 VA	0 VA	--	--	Bussed Space	12
13	Bussed Space	--	--	0 VA	0 VA					--	--	Bussed Space	14
15	Bussed Space	--	--			0 VA	0 VA			--	--	Bussed Space	16
17	Bussed Space	--	--					0 VA	0 VA	--	--	Bussed Space	18
19	Bussed Space	--	--	0 VA	0 VA					--	--	Bussed Space	20
21	Bussed Space	--	--			0 VA	0 VA			--	--	Bussed Space	22
23	Bussed Space	--	--					0 VA	0 VA	--	--	Bussed Space	24
25	Bussed Space	--	--	0 VA	0 VA					--	--	Bussed Space	26
27	Bussed Space	--	--			0 VA	0 VA			--	--	Bussed Space	28
29	Bussed Space	--	--					0 VA	0 VA	--	--	Bussed Space	30
31	Bussed Space	--	--	0 VA	0 VA					--	--	Bussed Space	32
33	Bussed Space	--	--			0 VA	0 VA			--	--	Bussed Space	34
35	Bussed Space	--	--					0 VA	0 VA	--	--	Bussed Space	36
37	AUTOCLAVE	60 A	3	1219...	0 VA					--	--	Bussed Space	38
39	--	--	--			1219...	0 VA			--	--	Bussed Space	40
41	--	--	--					1219...	0 VA	--	--	Bussed Space	42
		Total Load:		12194 VA		12194 VA		12194 VA					
		Total Amps:		44 A		44 A		44 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Power	36582 VA	100.00%	36582 VA		
				Total Conn. Load:	36582 VA
				Total Est. Demand:	36582 VA
				Total Conn.:	44 A
				Total Est. Demand:	44 A

Branch Panel: M4HA

Location:
Supply From: M4H
Mounting: Surface
Enclosure: Type 1

Volts: 480/277 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 42,000
Mains Type: MCB
Mains Rating: 200 A
MCB Rating: 200 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	EF-2A	45 A	3	5820...	3049...					3	20 A	EF-5A	2
3	--	--	--			5820...	3049...			--	--	--	4
5	--	--	--					5820...	3049...	--	--	--	6
7	EF-2B	45 A	3	5820...	3049...					3	20 A	EF-5B	8
9	--	--	--			5820...	3049...			--	--	--	10
11	--	--	--					5820...	3049...	--	--	--	12
13	EF-3A	35 A	3	3880...	0 VA					--	--	Bussed Space	14
15	--	--	--			3880...	0 VA			--	--	Bussed Space	16
17	--	--	--					3880...	0 VA	--	--	Bussed Space	18
19	EF-3B	35 A	3	3880...	0 VA					--	--	Bussed Space	20
21	--	--	--			3880...	0 VA			--	--	Bussed Space	22
23	--	--	--					3880...	0 VA	--	--	Bussed Space	24
25	Bussed Space	--	--	0 VA	0 VA					--	--	Bussed Space	26
27	Bussed Space	--	--			0 VA	0 VA			--	--	Bussed Space	28
29	Bussed Space	--	--					0 VA	0 VA	--	--	Bussed Space	30
31	Bussed Space	--	--	0 VA	0 VA					--	--	Bussed Space	32
33	Bussed Space	--	--			0 VA	0 VA			--	--	Bussed Space	34
35	Bussed Space	--	--					0 VA	0 VA	--	--	Bussed Space	36
37	AUTOCLAVE	60 A	3	1219...	0 VA					--	--	Bussed Space	38
39	--	--	--			1219...	0 VA			--	--	Bussed Space	40
41	--	--	--					1219...	0 VA	--	--	Bussed Space	42
		Total Load:		37692 VA		37692 VA		37692 VA					
		Total Amps:		136 A		136 A		136 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Power	113076 VA	100.00%	113076 VA		
				Total Conn. Load:	113076 VA
				Total Est. Demand:	113076 VA
				Total Conn.:	136 A
				Total Est. Demand:	136 A

Branch Panel: M4L

Location:
Supply From: T-M4
Mounting: Surface
Enclosure: Type 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 10,000
Mains Type: MCB
Mains Rating: 150 A
MCB Rating: 150 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	ROS-1	20 A	1	840 VA	882 VA					2	20 A	BS-14.1, FC-14.01, FC-14.02, FC-14.03	2
3	FC-11.04, FC-11.05, FC-11.06, FC-11.07	20 A	2			740 VA	882 VA			--	--	--	4
5	--	--	--					740 VA	600 VA	2	20 A	FC-14.04A to FC-14.04F, BS-14.04, FC-13.10	6
7	BS-11.1, FC-11.01, FC-11.02, FC-11.03	20 A	2	832 VA	600 VA					--	--	--	8
9	--	--	--			832 VA	866 VA			2	20 A	BS-14.2, FC-14.05, FC-14.06, FC-14.07	10
11	FC-12.07,FC-12.08,FC-12.09	20 A	2					691 VA	866 VA	--	--	--	12
13	--	--	--	691 VA	849 VA					2	20 A	FC-14.08, FC-14.09, FC-14.10	14
15	BS-12.2,BS-12.3,FC-12.04,FC-12.05,FC-12.06	20 A	2			908 VA	849 VA			--	--	--	16
17	--	--	--					908 VA	499 VA	2	20 A	BS-14.3,FC-14.11,FC-14.12,FC-14.13,FC-14.14	18
19	FC-12.01, FC-12.02, FC-12.03, BS-12.01	20 A	2	899 VA	499 VA					--	--	--	20
21	--	--	--			899 VA	641 VA			2	20 A	FC-13.01, FC-13.02, FC-13.03	22
23	CD-1	20 A	1					720 VA	641 VA	--	--	--	24
25	CD-1	20 A	1	720 VA	724 VA					2	20 A	BS-13.1, FC-13.04, FC-13.05, FC-13.06	26
27	SMOKE DETECTORS	20 A	1			180 VA	724 VA			--	--	--	28
29	HF-1	20 A	1					240 VA	416 VA	2	20 A	FC-13.07, FC-13.08, FC-13.09	30
31	SMOKE DETECTORS	20 A	1	360 VA	416 VA					--	--	--	32
33	SMOKE DETECTORS	20 A	1			300 VA	0 VA			--	--	Bussed Space	34
35	SMOKE DETECTORS	20 A	1					180 VA	0 VA	--	--	Bussed Space	36
37	SMOKE DETECTORS	20 A	1	540 VA	0 VA					--	--	Bussed Space	38
39	SMOKE DETECTORS	20 A	1			300 VA	0 VA			--	--	Bussed Space	40
41	Bussed Space	--	--					0 VA	0 VA	--	--	Bussed Space	42
		Total Load:		8852 VA		8120 VA		6500 VA					
		Total Amps:		76 A		70 A		54 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Receptacle	1860 VA	100.00%	1860 VA		
Power	21612 VA	100.00%	21612 VA	**Total Conn. Load:**	23472 VA
				Total Est. Demand:	23472 VA
				Total Conn.:	65 A
				Total Est. Demand:	65 A

REGISTERED PROFESSIONAL ENGINEER
STEFANE N. BEJARANO
No. E 19108
Exp. 12/31/18
ELECTRICAL
STATE OF CALIFORNIA

CP-2
VOLUME: 3

PROJECT NO. 16148

REV NO.	DATE ISSUED	REASON
	04.25.17	DESIGN DEVELOPMENT
	08.08.17	CITY SUBMITTAL
2.3	11.20.17	ASI 2.1/IFC

ADDENDUM #2.2
10.03.17

Sheet Title
PANEL SCHEDULES

Sheet No.
2E-520

DPR Issued Sheet 2017-11-20
Link to the Sheet - 2G-002

MECHANICAL PLAN CHECK NOTES

1. SEE TITLE 24 CALCULATION FORMS ENV-3-C FOR INSULATION AND MATERIAL ASSEMBLY OF WALL, ROOF AND FLOOR. SEE ARCHITECTURAL DRAWINGS FOR MATERIAL ASSEMBLY SECTIONS ON PLANS.
2. ALL INSULATION MATERIAL SHALL COMPLY WITH THE UMC SECTION 602.2. FLAME SPREAD-RATING OR 25 OR LESS AND A SMOKE DEVELOPED RATING OF 50 OR LESS.
3. HVAC PIPING AND DUCTWORK SYSTEMS SHALL BE INSULATED CONSISTENT WITH THE REQUIREMENTS OF SECTIONS 110.8, 120.3, AND 120.4 OF THE CALIFORNIA ENERGY EFFICIENCY STANDARDS, AND 2016 CALIFORNIA MECHANICAL CODE (CMC) CHAPTER 6, TABLE 6-D. FLAME SPREAD-RATING OR 25 OR LESS AND A SMOKE DEVELOPED RATING OF 50 OR LESS.
4. ALL HVAC EQUIPMENT AND APPLIANCES SHALL MEET THE REQUIREMENTS PER SECTIONS 110.1-110.3, 110.5 AND 120.1-120.9 OF THE CALIFORNIA ENERGY EFFICIENCY STANDARDS.
5. HVAC SYSTEMS AUTOMATIC CONTROLS SHALL COMPLY WITH THE CONTROL REQUIREMENTS PER SECTIONS 110.2 AND 120.2 OF THE CALIFORNIA ENERGY EFFICIENCY STANDARDS.
6. ALL MATERIALS EXPOSED WITHIN DUCTS OR PLENUMS, FLEXIBLE DUCTS AND DUCT INSULATION SHALL COMPLY WITH UMC SECTION 602.2 AND SHALL HAVE A FLAME SPREAD RATING OF NOT MORE THAN 25 AND A SMOKE DEVELOPED RATING OF NOT MORE THAN 50.
7. ALL DOORS AND WINDOWS SHALL MEET THE MINIMUM INFILTRATION REQUIREMENTS OF THE CALIFORNIA ENERGY EFFICIENCY STANDARDS.
8. AT THE TIME OF PERMIT ISSUANCE, THE PERMITEE WILL PROVIDE AN APPROVED COPY OF THE CERTIFICATE OF COMPLIANCE (MECH-1) TO THE JURISDICTION FOR FILING.
9. PROVIDE SMOKE DETECTORS ON AIR MOVING SYSTEMS EXCEEDING 2000 CFM AT SUPPLY AIR DUCTS. (2016 CMC 608.1)
10. FIRE AND/OR SMOKE DAMPER ASSEMBLIES, INCLUDING SLEEVES, AND INSTALLATION PROCEDURES SHALL BE APPROVED BY THE BUILDING INSPECTOR PRIOR TO INSTALLATION.
11. ATTICS OR SIMILAR CONCEALED SPACE MUST BE PARTITIONED BY DRAFT STOPS INTO AREAS NOT EXCEEDING 3000 SQ. FT. IN AREA AND 60 FT. IN LENGTH (EVERY 9000 SQ. FT. AND 100 FT. IN SPRINKLED BUILDINGS).
12. ALL WATER HEATERS/ BOILERS SHALL BE STRAPPED OR ANCHORED PER SEC. 510.5 OF THE CPC TO RESIST HORIZONTAL DISPLACEMENT DUE TO EARTHQUAKE MOTION.
13. AIR FILTERS SHALL BE A STATE FIRE MARSHALL APPROVED AND LISTED TYPE. PRE-FORMED FILTERS HAVING COMBUSTIBLE FRAMING SHALL BE TESTED AS A COMPLETE ASSEMBLY. AIR FILTERS IN ALL OCCUPANCIES SHALL BE CLASS 1 OR 2 (AS SHOWN IN THE STATE FIRE MARSHALL LISTING). AIR FILTERS SHALL BE ACCESSIBLE FOR CLEANING OR REPLACEMENT. (305.0 CMC)
14. CERTIFICATE OF ACCEPTANCE AND ALL RELATED ACCEPTANCE DOCUMENTS SHALL BE SUBMITTED TO THE FIELD INSPECTOR DURING CONSTRUCTION. CERTIFICATE OF OCCUPANCY WILL NOT BE ISSUED UNTIL THESE FORMS ARE REVIEWED AND APPROVED.
15. PENETRATIONS IN FIRE-RESISTIVE WALLS, PARTITIONS AND FLOORS WHERE PROTECTED OPENINGS ARE REQUIRED SHALL BE FIRE STOPPED USING APPROVED MATERIALS, SECURELY INSTALLED AND CAPABLE OF MAINTAINING THEIR INTEGRITY AND PREVENTING THE MOVEMENT OF HOT FLAMES OR GASES THROUGH THE VOID SPACES BETWEEN PENETRATING MATERIALS AND WALLS, PARTITIONS AND FLOORS WHEN TESTED IN ACCORDANCE WITH ASTM STANDARD E-814 OR UL STANDARD 1479 (UBC SECTIONS 4304(e), 4305(a) & 4305(b). PROVIDE DESIGN DETAILS ON DRAWINGS DEPICTING APPROVED (LISTED) METHODS AND MATERIALS USED TO PROTECT PENETRATIONS IN WALLS, PARTITIONS AND FLOORS.
16. PROVIDE DESIGN DETAILS ON DRAWINGS DEPICTING APPROVED (LISTED) METHODS AND MATERIALS USE TO PROTECT PENETRATIONS IN WALLS, PARTITIONS AND FLOORS.
17. ENVIRONMENTAL AND/OR PRODUCT CONVEYING DUCT SYSTEMS SHALL NOT EXTEND INTO OR THROUGH DUCTS OR PLENUMS. UMC SECTIONS 504.1 & 505.1.
18. ELECTRICAL WIRING METHODS TO BE INSTALLED IN THE PLENUM AREAS SHALL COMPLY WITH NEC 300-22(C)1. CMC 602.2
19. NONMETALLIC PNEUMATIC TUBING MUST BE LISTED AND LABELED FOR USE IN PLENUM AREAS. CMC 602.2
20. RECESSED SPEAKER ENCLOSURES AND LIGHT FIXTURES SHALL BE LISTED AND LABELED FOR USE IN PLENUM LOCATIONS. CMC 602.2
21. ROOF ACCESS LADDER SHALL COMPLY WITH SECTION 304 CMC.
22. DUCTS CONVEYING EXPLOSIVES OR FLAMMABLE VAPORS, FUMES OR DUSTS SHALL EXTEND DIRECTLY TO THE EXTERIOR OF THE BUILDING WITHOUT ENTERING OTHER SPACES AND SHALL NOT EXTEND IN TO OR THROUGH DUCTS AND PLENUMS (SECTION 505.1, CMC 2016).
23. PROVIDE EXPANSION TANK FOR BOILERS PER SECTION 1005.0 CMC 2016.
24. ROUTING AND TERMINATION OF FLUE FOR EACH BOILER SHALL COMPLY WITH CH. 8, CMC 2016 AND WITH MANUFACTURERS SPECIFICATIONS AND INSTALLATION INSTRUCTIONS.
25. BOILERS SHALL COMPLY WITH ALL THE REQUIREMENTS OF CHAPTER 10 OF CMC 2016
26. COMBUSTION AIR INTAKE FOR EACH BOILER SHALL COMPLY WITH CH. 7, CMC 2016 AND WITH MANUFACTURERS SPECIFICATIONS AND INSTALLATION INSTRUCTIONS.
27. AT THE TIME OF ROUGH INSTALLATION AND DURING STORAGE ON THE CONSTRUCTION SITE UNTIL FINAL STARTUP OF THE HEATING, COOLING AND VENTILATING EQUIPMENT, ALL DUCT AND OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC, SHEETMETAL OR OTHER METHODS ACCEPTABLE TO THE ENFORCING TO THE ENFORCING AGENCY TO REDUCE THE AMOUNT OF DUST, WATER AND DEBRIS WHICH MAY ENTER THE SYSTEM. (CAL GREEN SECTION: 5.504.3)
28. IN MECHANICALLY VENTILATED BUILDINGS, REGULARLY OCCUPIED AREAS OF THE BUILDING SHALL BE PROVIDED WITH AIR FILTRATION MEDIA FOR OUTSIDE AND RETURN AIR THAT PROVIDES AT LEAST A MINIMUM EFFICIENCY REPORTING VALUE (MERV) OF 8. MERV 8 FILTERS SHALL BE INSTALLED IN THE OPERATION AND MAINTENANCE MANUAL. (CAL GREEN SECTION: 5.504.5.3)
29. INSTALLATIONS OF HVAC, REFRIGERATION AND FIRE SUPPRESSION EQUIPMENT SHALL COMPLY WITH SECTIONS 5.508.1.1 AND 5.508.1.2. HVAC, REFRIGERATION, AND FIRE SUPPRESSION EQUIPMENT SHALL NOT CONTAIN CHLOROFLUOROCARBONS (CFC'S) AND ALL SHALL NOT CONTAIN HALONS (SECTION 5.508.1)
30. IN ADDITION TO TESTING, AND ADJUSTING, BEFORE A NEW SPACE-CONDITIONING SYSTEM SERVING A BUILDING OR ITS SPACE IS OPERATED FOR NORMAL USE, BALANCE THE SYSTEM IN ACCORDANCE WITH PROCEDURES DEFINED BY THE TESTING ADJUSTING AND BALANCING BUREAU NATIONAL STANDARDS, THE NATURAL ENVIRONMENTAL BALANCING BUREAU PROCEDURES STANDARDS, OR ASSOCIATED AIR BALANCE COUNCIL NATIONAL STANDARDS.
31. PROVIDE THE BUILDING OWNER OR REPRESENTATIVE WITH DETAILED OPERATING AND MAINTENANCE INSTRUCTIONS AND COPIES OF GUARANTEES/WARRANTEES FOR EACH SYSTEM. O&M INSTRUCTIONS SHALL BE CONSISTENT WITH OSHA REQUIREMENTS IN CCR, TITLE 8, SECTION 5142, AND OTHER RELATED REGULATIONS.

HVAC GENERAL NOTES

1. CONTRACTOR SHALL CAREFULLY REVIEW THESE PLANS AND SPECIFICATIONS PRIOR TO BID. CONTRACTOR SHALL ALSO REVIEW PLANS AND SPECIFICATIONS OF OTHER RELATED TRADES (INCLUDING CIVIL, STRUCTURAL, AND ELECTRICAL) PRIOR TO BID TO ENSURE AN ACCURATE UNDERSTANDING OF EXACT SCOPE OF WORK. ANY ITEMS REQUIRING CLARIFICATION SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT IN SUFFICIENT TIME TO BE INCORPORATED INTO THE BID.
2. CONTRACTOR SHALL VERIFY ALL EQUIPMENT MODEL NUMBERS, CAPACITIES, SIZES, VOLTAGES, AND ALL OTHER SCHEDULED INFORMATION WITH ALL OTHER APPLICABLE TRADES AND WITH THE MANUFACTURER PRIOR TO INSTALLATION.
3. CONTRACTOR SHALL VERIFY ALL LOCATIONS, SIZES, P.O.C.'s, AND AVAILABILITY OF ALL EXISTING ITEMS (I.E.: OUTSIDE AIR, CWS & CWR, EXHAUST ETC.) PRIOR TO INSTALLATION OF ANY MATERIAL OR EQUIPMENT.
4. THESE DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC AND ARE NOT INTENDED TO INDICATE ALL NECESSARY OFFSETS OF DUCTWORK AND PIPING. THE CONTRACTOR SHALL INSTALL MATERIAL AND EQUIPMENT IN A MANNER AS TO CONFORM TO STRUCTURE, AVOID OBSTRUCTIONS, PRESERVE HEADROOM, AND KEEP OPENINGS AND PASSAGEWAYS CLEAR. ALL INSTALLATIONS SHALL BE CONSISTENT WITH NORMALLY ACCEPTABLE INDUSTRY STANDARDS. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IN WRITING OF ANY DISCREPANCIES OR CONFLICTS THAT WOULD AFFECT THE SYSTEM PERFORMANCE OR WHICH WOULD INCUR ADDITIONAL COSTS. THIS NOTIFICATION SHALL BE MADE PRIOR TO THE INSTALLATION OF THE ITEMS CONCERNED.
5. NEW AND/OR EXISTING EQUIPMENT INDICATED ON THIS DRAWING IS SHOWN IN APPROXIMATE POSITION(S). CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS INCLUDING EQUIPMENT LOCATIONS, P.O.C.'s AND STRUCTURAL MEMBERS PRIOR TO INSTALLATION. IN ALL CASES, ADEQUATE ACCESS (PER MANUFACTURER'S RECOMMENDATIONS AND CODE COMPLIANCE) FOR MAINTENANCE AND REPLACEMENT OF EQUIPMENT SHALL BE PROVIDED.
6. ALL WORK SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE CODES. NOTHING SHOWN IN THE PLANS OR STATED IN THE SPECIFICATIONS IS INTENDED TO INDICATE THAT THE INSTALLATION OF CONNECTIONS OF ANY ITEM OR DEVICE SHOULD BE DONE CONTRARY TO THE MANUFACTURER'S INSTRUCTIONS AND ALL APPLICABLE CODES AND REGULATIONS. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT THE INSTALLATION AND CONNECTIONS OF ALL ITEMS AND DEVICES CONFORM TO MANUFACTURER'S INSTRUCTIONS AND TO ALL APPLICABLE CODES AND REGULATIONS.
7. ALL HVAC EQUIPMENT, MATERIAL, AND ALL CONNECTION THERETO SHALL BE INSTALLED COMPLETE PER MANUFACTURER'S INSTRUCTIONS TO PROVIDE A COMPLETE AND FULLY OPERATIONAL SYSTEM.
8. DUCT SIZES INDICATED ON DRAWINGS ARE INSIDE NET CLEARANCE DIMENSIONS.
9. CONTRACTOR MAY, AT HIS OPTION, REVISE DUCTWORK SIZING AND ROUTING TO ALLOW FOR INSTALLATION IN THE AVAILABLE SPACE. DUCTWORK THAT IS RESIZED MUST MAINTAIN THE SAME CROSS-SECTIONAL AREA.
10. FLEX DUCT IS LIMITED TO A MAXIMUM OF 7' AT EACH REGISTER.
11. ALL NEW SUPPLY, RETURN, AND EXHAUST (AIR DISTRIBUTION) GRILLES, REGISTERS, AND DIFFUSERS SHALL MATCH (IF APPLICABLE) EXISTING, AND BE APPROVED BY ARCHITECT. THE MAXIMUM NOISE NC LEVEL SHALL BE 35.
12. ALL SUPPLY, RETURN, AND EXHAUST REGISTER CONNECTIONS TO DUCTWORK SHALL BE PROVIDED WITH ACCESSIBLE MANUAL VOLUME DAMPERS. ALTERNATIVELY, ACCESSIBLE MANUAL VOLUME DAMPERS MAY BE PROVIDED IN DUCT WORK FEEDER LINES SERVING INDIVIDUAL REGISTERS.
13. SUBSTITUTION OF HVAC EQUIPMENT WITH EFFICIENCIES LOWER THAT THOSE INDICATED ON THE PLANS MAY REQUIRE RECALCULATION OF TITLE 24 DOCUMENTS. IF THE CONTRACTOR CHOOSES TO UTILIZE SUCH EQUIPMENT, HE ASSUMES FULL RESPONSIBILITY FOR THE RECALCULATION AND JURISDICTIONAL APPROVAL OF TITLE 24 DOCUMENTS.
14. IF THE CONTRACTOR'S USE OF SUBSTITUTE MATERIALS, EQUIPMENT, OR METHODS OF INSTALLATION REQUIRES ANY CHANGES IN OTHER TRADES' WORK FROM THAT SHOWN ON THE DRAWINGS, THE EXTRA COST OF THE OTHER TRADES WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR INITIATING THE SUBSTITUTION.
15. SUBMITTALS: APPROVAL OF SUBMITTALS DOES NOT RELEASE THE CONTRACTOR FROM OBLIGATIONS TO COMPLY WITH ALL REQUIREMENTS OF THE CONSTRUCTION DOCUMENTS OR APPLICABLE CODE REGULATIONS.
16. WHERE NONMETALLIC PIPING PENETRATES AREA SEPARATION WALLS, THE PIPE SECTION PASSING THROUGH THE WALLS AND THE FIXTURE CONNECTIONS THERETO SHALL BE OF METAL ONLY.
17. NO RANGE HOODS, DRYER VENTS, COMBUSTION VENTS, OR HEATING DUCTS ARE PERMITTED IN AREA SEPARATION WALLS.
18. A. CONTRACTOR TO VERIFY LOCATION OF FIRE AND FIRE/SMOKE BARRIER WALLS WITH ARCHITECT PRIOR TO FIRE AND/OR SMOKE DAMPER, DETECTOR AND ACTUATOR INSTALLATION.

    B. ALL CEILING FIRE DAMPERS TO BE ONE (1) HOUR U.L. AND C.S.F.M. APPROVED.

    C. ALL FIRE RATED WALLS SHALL BE PROVIDED WITH U.L. AND C.S.F.M. APPROVED SMOKE/FIRE DAMPERS (EQUAL TO WALL RATING), MOTOR, ACTUATOR, AND SMOKE DETECTOR.

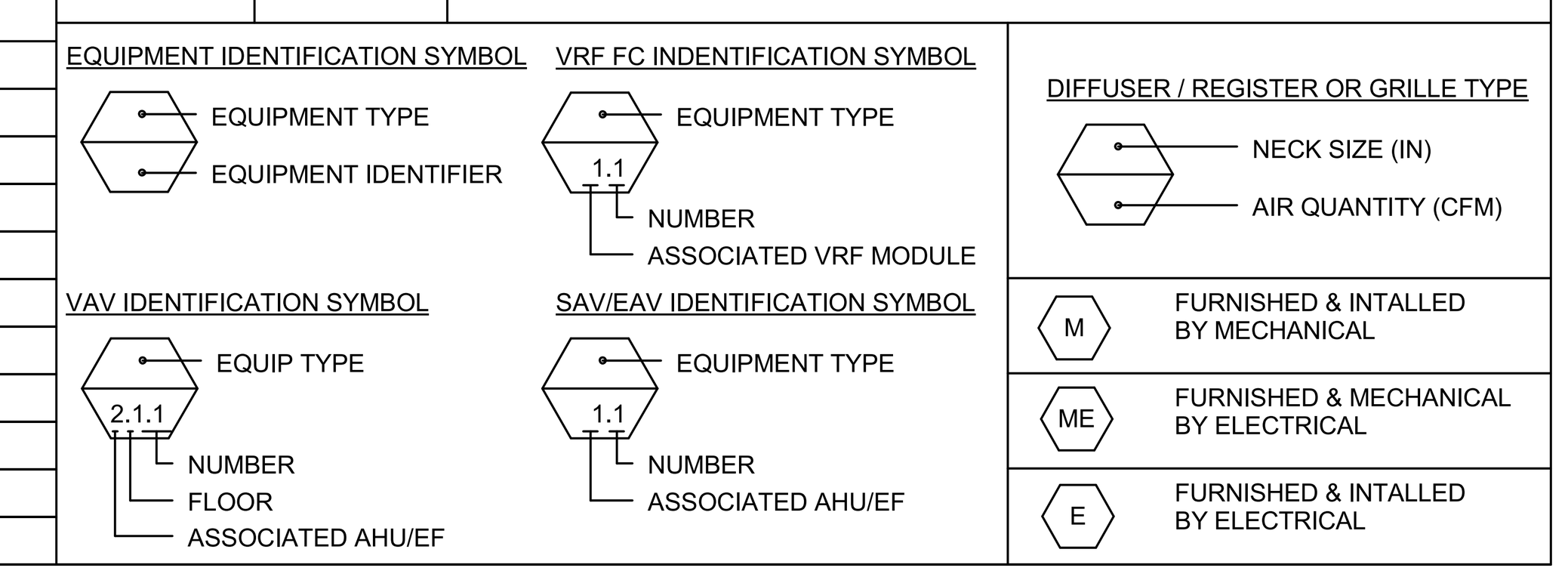
    D. ALL SMOKE BARRIER WALLS SHALL BE PROVIDED WITH U.L. AND C.S.F.M. APPROVED SMOKE/FIRE DAMPERS (EQUAL TO WALL RATING), MOTOR, ACTUATOR, AND SMOKE DETECTOR.

    E. ALL PENETRATIONS OF ONE (1) HOUR CORRIDOR WALLS AND CEILINGS THAT WOULD REQUIRE THE INSTALLATION OF A FIRE DAMPER SHALL BE APPROVED WITH A U.L. AND C.S.F.M. APPROVED COMBINATION SMOKE/FIRE DAMPER, (EQUAL TO WALL RATING), MOTOR, ACTUATOR, AND SMOKE DETECTOR.

    F. PROVIDE ALL FIRE & SMOKE DAMPERS WITH ACCESS DOORS AS NECESSARY.

MECHANICAL

SYMBOL	ABBREV	DESCRIPTION	SYMBOL	ABBREV	DESCRIPTION
R		ROUND DUCT RISE/DUCT DROP		DTR	DOWN THRU ROOF
R/D		RECTANGULAR DUCT RISE/DUCT DROP		EA	EXHAUST AIR
		DUCT WITH ACCOUSTIC DUCT LINER		ELECT	ELECTRICAL
		DUCT SECTION - POSITIVE PRESSURE		FPM	FEET PER MINUTE
		DUCT SECTION - NEGATIVE PRESSURE		GPM	GALLONS PER MINUTE
		DUCT SECTION - EXHAUST		HP	HORSEPOWER
	DL/UC	DOOR LOUVER OR UNDERCUT		KW	KILOWATT
(T)x		ROOM THERMOSTAT & ZONE NUMBER/TEMP. SENSOR		MECH	MECHANICAL
(CO)		ROOM CARBON DIOXIDE SENSOR.		NO.	NUMBER
(TS)		REMOTE TEMPERATURE SENSOR.		NTS	NOT TO SCALE
— HHWS —	HHWS	HEATING HOT WATER SUPPLY		OA	OUTSIDE AIR
— HHWR —	HHWR	HEATING HOT WATER RETURN		PSI	POUNDS PER SQUARE INCH
— RL —	RL	REFRIGERANT LIQUID		PSIG	POUNDS PER SQUARE INCH GAUGE
— RS —	RS	REFRIGERANT SUCTION		PVC	POLYVINYL CHLORIDE
	MOD	MOTOR OPERATED DAMPER		RA	RETURN AIR
	MVD	MANUAL VOLUME DAMPER		SA	SUPPLY AIR
	SFD	COMBINATION SMOKE & FIRE DAMPER		STRUCT	STRUCTURAL
	GV	GATE VALVE		TYP	TYPICAL
	GLV	GLOBE VALVE		UTR	UP THRU ROOF
	CHV	CHECK VALVE		V/PH/HZ	VOLTS/PHASE/HERTZ
	BV	BALL VALVE		VAV	VARIABLE AIR VOLUME
	BFV	BUTTERFLY VALVE		VFD	VARIABLE FREQUENCY DRIVE
	TDV	TRIPLE DUTY VALVE - CHECK/BALANCING/SHUT-OFF		VTR	VENT THRU ROOF
	RED	REDUCER			
	STR	STRAINER			
	U.	UNION			
	PG	PRESSURE GAUGE			
	T.	THERMOMETER			
	AV	AIR VENT			
M	C.V.	CONTROL VALVE - 2-WAY			
M	C.V.	CONTROL VALVE - 3-WAY			
	PRV	PRESSURE REDUCING VALVE			
	P&T	PRESSURE & TEMPURATURE RELIEF VALVE			
	PGV	PLUG VALVE			
	T.W.	TEST WELL			
(SD)	SD	DUCT SMOKE DETECTOR			
(TP)	TP	TEST PORT			
	AHU	AIR HANDLING UNIT			
	AP	ACCESS PANEL			
	ARCH	ARCHITECT OR ARCHITECTURAL			
	BTU	BRITISH THERMAL UNITS			
	BTUH	BRITISH THERMAL UNITS PER HOUR			



CP 2
VOLUME: 3

PROJECT NO. 16148

REV NO.	DATE ISSUED	REASON
	04.25.17	DESIGN DEVELOPMENT SET
	08.08.17	CITY SUBMITTAL SET
2.1	08.29.17	ADDENDUM #2.1
2.2	10.03.17	ADDENDUM 2.2
2.4	02.06.18	ASI 2.2
2.7	01.17.18	ASI 2.5 ADDRESS REVISION

IFC 11.20.17

Sheet Title

MECHANICAL LEGENDS & ABBREVIATIONS

Sheet No.

2M-001

2.4

DPR Issued Sheet 2018-02-06
Link to the Sheet - 2G-002

RFI 2-00205.1 Additional Information to RFI 2-00205 Louvers

RFI 2-00205 Confirm Additional Mechanical & Electrical Cold Room Requirements

RFI 2-00357 Buffer Room 219 Hard-Lid Ceiling Clarification

RFI 2-00496 Confirm Exhaust Design RM 252 & RM 219

RFI 2-00461 Confirm BMS Power Panel Location

RFI 2-00463 Daikin VRV Front-end Panel Coordination

RFI 2-00276 Confirm Lab Exhaust in 304 SS Ductwork

RFI 2-00194 Level 2 – Confirm Fan Coil Drain Pans Open Lab

RFI 2-00393 Update Stock Room 214 to a Lab Room

RFI 2-00496 Confirm Exhaust Design RM 252 & RM 219

RFI 2-00506 Exhaust Grilles for Heat Sealer

1 MECHANICAL FLOOR PLAN - LEVEL 02-Z2 - PART A - DUCTWORK

1/2M-121 | 1/8" = 1'-0"

N

SHEET NOTES

1. PROVIDE GALVANIZED STEEL CAPTURE HOOD.
2. PROVIDE 6'-0" FUME HOOD WITH 12" PVC-COATED EXHAUST AIR DUCT DOWN TO FUME HOOD CONNECTION.
3. PROVIDE 304 STAINLESS STEEL WELDED STEAM EXHAUST CANOPY FOR AUTOCLAVES. SLOPE 1/4" PER LINEAR FOOT.
4. PROVIDE ENCLOSED STEAM EQUIPMENT WITH FIXED FIELD FABRICATED EXHAUST AIR DUCTS DOWN TO SNORKEL CONNECTIONS. (TYP 3)
5. PROVIDE 8'-0" FUME HOOD WITH 12" PVC-COATED EXHAUST AIR DUCT DOWN TO FUME HOOD CONNECTION. (TYP 2)
6. COLD ROOM BY OTHERS.
7. ALL DUCTWORK CONNECTED TO AUTOCLAVE EXHAUST SYSTEM TO BE 304 STAINLESS STEEL WELDED. SLOPE 1/4" PER LINEAR FOOT.
8. 8" PVC TO SNORKEL. REFER TO ARCHITECTURAL PLANS FOR DETAILS.
9. 14"x4" PVC DUCT DOWN WALL TO EXHAUST GRILLE IN WALL. REFER TO ARCHITERCTURAL PLANS FOR MOUNTING REQUIREMENTS.

GENERAL NOTES

1. DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC AND AS SUCH DOES NOT DETAIL ALL REQUIRED OFFSETS AND TRANSITIONS NEEDED. CONTRACTOR SHALL DEVELOP FULLY COORDINATED SHOP DRAWINGS WITH ALL TRADES.
2. REFER TO ARCHITECTURAL PLANS FOR HVAC PAINTING REQUIREMENTS.
3. PROVIDE INSULATED DUCTWORK WHEN LOCATED ABOVE ARCHITECTURAL CEILINGS, DUCTWORK LOCATED IN OPEN CEILING AREAS SHALL NOT BE INSULATED.
4. THERMOSTAT LOCATIONS SHOWN ON MECHANICAL ZONING PLANS FOR DRAWING CLARITY. CONTRACTOR SHALL REFER TO ARCHITECTURAL INTERIOR ELEVATIONS FOR EXACT MOUNTING PLACEMENT. THERMOSTAT GENERAL PLACEMENT DETAIL SHOWN ON ARCHITECTURAL SHEETS.
5. CONTRACTOR SHALL PROVIDE REMOTE BALANCING DAMPERS FOR ALL BALANCING DAMPERS LOCATED OVER HARD LID CEILINGS OR WHERE THE DAMPER IS INACCESSIBLE.
6. EQUIPMENT ACCESS AND CONNECTION LOCATIONS AS SHOWN ON PLANS ARE DIAGRAMMATICAL. CONTRACTOR SHALL REVIEW COORDINATED SHOP DRAWINGS AND PROVIDE EQUIPMENT WITH ACCESS AND CONNECTIONS AS NECESSARY.
7. MEHCANICAL CONTRACTOR SHALL COORDINATE SHOP DRAWINGS WITH GENERAL AND FIRE-LIFE SAFETY CONTRACTOR FOR ALL REQUIRED SPRINKLER MAIN MODIFICATIONS NEEDED FOR DUCT AND PIPE ROUTING.
8. MECHANICAL CONTRACTOR SHALL PROVIDE DUCT AND PIPING SIESMIC PACKAGE FROM MASON INDUSTRIES (OR EQUAL). SEISMIC PACKAGE SHALL BE STAMPED AND SIGNED BY STRUCTURAL ENGINEER.
9. MANUAL VOLUME DAMPERS SHALL BE PROVIDED AT ALL BRACH DUCT LOCATIONS AND DUCT INLET/OUTLET LOCATIONS WHERE MEASURED AIRFLOW IS REQUIRED. REFER TO SPECIFICATION FOR REQUIREMENTS.

EXHAUST SYSTEM NOTES

1. PRODUCT-CONVEYING HOOD AND DUCT MATERIALS SHALL BE SUITABLE FOR THE INTENDED USE AS PER SECTIONS 505.1 AND 506.1 CMC 2016.
2. PRODUCT-CONVEYING DUCTS THAT ARE SERVED BY A COMMON EXHAUST SYSTEM SHALL HANDLE COPMATIBLE MATERIALS AND SEPARATE AND DISTINCT SYSTEMS SHALL BE PROVIDED FOR INCOMPATIBLE MATERIALS. (CMC 2016 SECTION 505.0).
3. DUCTS CONVEYING EXPLOSIVE OR FLAMMABLE VAPORS, FUMES, OR DUSTS SHALL EXTEND DIRECTLY TO THE EXTERIOR OF THE BUILDING WITHOUT ENTERING OTHER SPACES AND SHALL NOT EXTEND INTO OR THROUGH DUCTS AND PLENUMS.

DUCT MATERIAL SCHEDULE

APPLICATION	MATERIAL	NOTES
GENERAL SUPPLY (LOW AND MEDIUM PRESSURE)	GALVANIZED (G90) SHEET METAL	1
GENERAL RETURN (LOW AND MEDIUM PRESSURE)	GALVANIZED (G90) SHEET METAL	1
GENERAL BUILDING EXHAUST/RELIEF (LOW AND MEDIUM PRESSURE)	GALVANIZED (G90) SHEET METAL	1
FUME HOOD EXHAUST (LOW AND MEDIUM PRESSURE)	PVC COATED GALVANIZED (G90) SHEET METAL	1
SNORKEL/POINT OF USE EXHAUST (LOW AND MEDIUM PRESSURE)	PVC COATED GALVANIZED (G90) SHEET METAL	1
STEAM CAPTURE DUCT/HOOD	WELDED STAINLESS STEEL 304 (SS-304)	1 2
SUPPLY UNDERGROUND DUCT	HIGH-DENSITY POLYETHYLENE (HDPE)	1

NOTES:

1. REFER TO SPECIFICATIONS FOR COMPLETE DUCT MATERIAL REQUIREMENTS.
2. WET EXHAUST SYSTEMS SHALL BE SLOPED TOWARD INTAKE HOOD/GRILLE/OPENING. WHERE LOW POINTS ARE CREATED IN DUCTWORK DRAINS SHALL BE ADDED AND ROUTED TO AN APPROVED RECEPTOR.
3. WET EXHAUST DUCT SYSTEMS SHALL BE PROVIDED WITH BOTTOM JUSTIFIED ECCENTRIC DUCT FITTINGS AND SLOPED PER NOTE-2 ABOVE.

CP 2
VOLUME: 3

PROJECT NO. 16148

REV NO.	DATE ISSUED	REASON
	04.25.17	DESIGN DEVELOPMENT SET
	08.08.17	CITY SUBMITTAL SET
2.1	08.29.17	ADDENDUM #2.1
2.2	10.03.17	ADDENDUM 2.2
2.3	11.20.17	ASI 2.1/IFC
2.4	02.06.18	ASI 2.2
2.5	01.26.18	ASI 2.3 BUFFER ROOM REVISIONS
2.7	01.17.18	ASI 2.5 ADDRESS REVISION

IFC 11.20.17

Sheet Title

MECHANICAL FLOOR PLAN - LEVEL 02 - PART A - DUCTWORK

2M-122

DPR Issued Sheet 2018-02-06
Link to the Sheet - 2G-002

VARIABLE AIR VOLUME TERMINAL SCHEDULE

MARK	MANUFACTURER & MODEL NO.	ROOMS SERVED	AIR HANDLER	INLET SIZE (DIA)	AIRFLOW (CFM) MAX.	AIRFLOW (CFM) MIN.	REHEAT COIL HTG. CAP. (MBH)	MAX HTG AIRFLOW	FLOWRATE (GPM)	E.A.T. (DEG.F)	E.W.T. (DEG.F)	L.W.T. (DEG.F)	A.P.D. (IN WC)	W.P.D. (FT HD)	CONTROL VALVE MANUFACTURER	CONTROL VALVE MODEL	CONTROL VALVE MIN AUTH.	CONTROL POWER (E-POWER)	REMARKS
VAV 1.1.1	TITUS DESV	ATRIUM UNDERGROUND	AC 1	24x16	2500	500	50	1250	3.6	55	140	110	0.4	1.0	VICTAULIC	TCM	0.25	NO	1 2
VAV 1.1.2	TITUS DESV	ATRIUM 1ST FLOOR	AC 1	24x16	3200	640	90	1600	9.9	55	140	110	0.4	1.0	VICTAULIC	TCM	0.25	NO	1 2
VAV 1.1.3	TITUS DESV	1ST FLOOR RECEPTION	AC 1	10	600	120	5	120	0.9	55	140	110	0.4	1.0	VICTAULIC	TCM	0.25	NO	1 2
VAV 1.2.1	TITUS DESV	ATRIUM 2ND FLOOR	AC 1	24x16	5300	1060	90	2650	9.2	55	140	110	0.4	1.0	VICTAULIC	TCM	0.25	NO	1 2
VAV 1.2.2	TITUS DESV	2ND FLOOR LOBBY	AC 1	10	600	120	10	200	1.3	55	140	110	0.4	1.0	VICTAULIC	7 MP	0.25	NO	1 2
VAV 1.3.1	TITUS DESV	ATRIUM 3RD FLOOR	AC 1	24x16	3200	640	90	1600	9.9	55	140	110	0.4	1.0	VICTAULIC	TCM	0.25	NO	1 2
VAV 1.3.2	TITUS DESV	3RD FLOOR LOBBY	AC 1	10	600	120	10	200	1.3	55	140	110	0.4	1.0	VICTAULIC	7 MP	0.25	NO	1 2

REMARKS:

1. PROVIDE WITH DDC CONTROLLER. REFER TO CONTROLS PLANS FOR OPERATION AND REQUIRED COMPONENTS.
2. BASIS OF DESIGN FOR SYSTEM HEATING HOT WATER LOOP DESIGNED WITH VICTAULIC COMBINATION BALANCING AND CONTROL VALVES. SYSTEM DESIGNED WITH A COMBINATION OF PRESSURE INDEPENDENT BALANCING VALVES (P.I.B.V.) AND MANUAL/AUTOFLOW BALANCING VALVES (A.B.V) AT THE TERMINALS AS WELL AS PRESSURE INDEPENDENT BALANCING VALVES AT SELECT LOOP BRANCHES TO ACHIEVE MINIMUM VALVE AUTHORITIES NO LESS THAN 0.25 AT EACH TERMINAL. CONTRACTOR AT THEIR OPTION MAY SUBSTITUTE THE PROPOSED MANUFACTURER BUT SHALL SUBMIT ENGINEERED VALVE SYSTEM PLANS INDICATING THE MINIMUM AUTHORITY AT EACH TERMINAL.

REHEAT COIL SCHEDULE

MARK	MANUFACTURER AND MODEL	SYSTEM SERVED	SERVICE	AIRFLOW (CFM)	MAX COIL FACE AIRFLOW VELOCITY (FPM)	MAX A.P.D. (IN. WC)	COIL FACE SIZE WIDTH (IN.)	COIL FACE SIZE HEIGHT (IN.)	E.A.T. (DEG. F)	MINIMUM CAPACITY (MBH)	HEATING HOT WATER E.W.T. (DEG. F)	L.W.T. (DEG. F)	FLOW (GPM)	MAX COIL WPD (FT. WC)	(2) CONTROL VALVE MANUFACTURER	TYPE	MIN AUTH.	REMARKS
RH 1.1.1	RAE CORP	AHU 1A/B	WASH AREA 139	440	700	0.1	10	10	38	22.3	140	110	1.3	3.0	VICTAULIC	TCM	0.25	1 2
RH 1.1.2	RAE CORP	AHU 1A/B	133 VESTIBULE 143	980	700	0.1	16	14	38	67.3	140	110	2.8	3.0	VICTAULIC	TCM	0.25	1 2
RH 1.1.3	RAE CORP	AHU 1A/B	PROCEDURE 137	440	700	0.1	10	10	38	22.3	140	110	1.3	3.0	VICTAULIC	TCM	0.25	1 2
RH 1.1.4	RAE CORP	AHU 1A/B	HOLDING 135	400	700	0.1	10	10	38	20.3	140	110	1.2	3.0	VICTAULIC	7 MP	0.25	1 2
RH 1.1.5	RAE CORP	AHU 1A/B	BREEDING 129B	215	700	0.1	8	6	38	10.9	140	110	0.6	3.0	VICTAULIC	TCM	0.25	1 2
RH 1.1.6	RAE CORP	AHU 1A/B	BREEDING 129A	240	700	0.1	8	8	38	12.2	140	110	0.7	3.0	VICTAULIC	TCM	0.25	1 2
RH 1.1.7	RAE CORP	AHU 1A/B	HOLDING 131	285	700	0.1	8	8	38	12.3	140	110	0.8	3.0	VICTAULIC	TCM	0.25	1 2
RH 2.2.1	RAE CORP	AHU 2	BUFFER 206	2250	700	0.1	26	20	38	105	140	110	7	3.0	VICTAULIC	TCM	0.25	1 2
RH 2.2.2	RAE CORP	AHU 2	BUFFER 206	2250	700	0.1	26	20	38	105	140	110	7	2.4 3.0	VICTAULIC	TCM	0.25	1 2
2.4 RH 2.2.3	RAE CORP	AHU 2	BOTTLING EQUIP 252	1150	700	0.1	16	14	38	53.3	140	110	3.8	3.0	VICTAULIC	TCM	0.25	1 2
RH 2.2.4	RAE CORP	AHU 2	BOTTLING EQUIP 252	1150	700	0.1	16	14	38	53.3	140	110	3.8	3.0	VICTAULIC	TCM	0.25	1 2
RH 2.3.1	RAE CORP	AHU 2	BUFFER 359	2100	2.4 700	0.1	24	18	38	106.6	140	110	7.1	3.0	VICTAULIC	TCM	0.25	1 2
RH 2.3.2	RAE CORP	AHU 2	CRYO BSL2 367	500	700	0.1	12	10	38	25.4	140	110	1.7	3.0	VICTAULIC	TCM	0.25	1 2
RH 2.3.3	RAE CORP	AHU 2	CRYO BSL1 327	900	700	0.1	14	14	38	45.7	140	110	3.0	3.0	VICTAULIC	7 MP	0.25	1 2
RH 2.4.1	RAE CORP	AHU 2	BUFFER 471	2100	700	0.1	22	20	38	106.6	140	110	7.1	3.0	VICTAULIC	TCM	0.25	1 2
RH 2.4.2	RAE CORP	AHU 2	CRYO ROOM 419	400	700	0.1	10	8	38	20.3	140	110	1.4	3.0	VICTAULIC	TCM	0.25	1 2
RH 2.4.3	RAE CORP	AHU 2	IF/PD-QC 454	1200	700	0.1	16	16	38	60.9	140	110	4.1	3.0	VICTAULIC	TCM	0.25	1 2

REMARKS:

1. BASIS OF DESIGN FOR SYSTEM HEATING HOT WATER LOOP DESIGNED WITH VICTAULIC COMBINATION BALANCING AND CONTROL VALVES. SYSTEM DESIGNED WITH A COMBINATION OF PRESSURE INDEPENDENT BALANCING VALVES (P.I.B.V.) AND MANUAL/AUTOFLOW BALANCING VALVES (A.B.V) AT THE TERMINALS AS WELL AS PRESSURE INDEPENDENT BALANCING VALVES AT SELECT LOOP BRANCHES TO ACHIEVE MINIMUM VALVE AUTHORITIES NO LESS THAN 0.25 AT EACH TERMINAL. CONTRACTOR AT THEIR OPTION MAY SUBSTITUTE THE PROPOSED MANUFACTURER BUT SHALL SUBMIT ENGINEERED VALVE SYSTEM PLANS INDICATING THE MINIMUM AUTHORITY AT EACH TERMINAL.
2. REHEAT COIL MATERIAL. COPPER FIN/ COPPER TUBE

LABORATORY AIR VALVE SCHEDULE (SUPPLY)

MARK	MANUFACTURER AND MODEL	INLET SIZE	SUPPLY SYSTEM	SERVICE	AIRFLOW MAX. (CFM)	AIRFLOW MIN (CFM)	AIRFLOW MAX APD (IN WC)	TYPE OF CONTROL	CONTROL POWER E-POWER	REMARKS
L-SAV 2.1	ACCUTROL -	12x36	AHU 2	2ND FLOOR BUFFER 219 2.4	4,300	0	0.3	CONSTANT	YES	1
L-SAV 2.2	ACCUTROL -	12x24	AHU 2	2ND FLOOR BOTTLING 252	2,300	0	0.3	CONSTANT	YES	1
L-SAV 3.1	ACCUTROL -	12x36	AHU 2	3RD FLOOR LABS	3,500	0	0.3	CONSTANT	YES	1
L-SAV 4.1	ACCUTROL -	12x36	AHU 2	4TH FLOOR LABS	3,700	0	0.3	CONSTANT	YES	1

REMARKS:

1. PROVIDE WITH DDC CONTROLLER. REFER TO CONTROLS PLANS FOR OPERATION AND REQUIRED COMPONENTS.

BUILDING OSA AIR VALVE SCHEDULE

MARK	MANUFACTURER AND MODEL	INLET SIZE	SUPPLY SYSTEM	SERVICE	AIRFLOW MAX. (CFM)	AIRFLOW MIN (CFM)	AIRFLOW MAX APD (IN WC)	TYPE OF CONTROL	CONTROL POWER E-POWER	REMARKS
B-SAV 1.1	ACCUTROL	12x48	DOAS 1	1ST FLOOR EAST WING OSA	1520	0	0.3	CONSTANT	0.25	1
B-SAV 1.2	ACCUTROL	12x36	DOAS 2	1ST FLOOR WEST WING OSA	3680	0	0.3	CONSTANT	0.25	1
B-SAV 2.1	ACCUTROL	12"	DOAS 1	2ND FLOOR EAST WING OSA	880	0	0.3	CONSTANT	0.25	1
B-SAV 2.2	ACCUTROL	12"	DOAS 1	2ND FLOOR EAST WING OSA	1140	0	0.3	CONSTANT	0.25	1
B-SAV 2.3	ACCUTROL	12x18	DOAS 2	2ND FLOOR WEST WING OSA	1780	0	0.3	CONSTANT	0.25	1
B-SAV 3.1	ACCUTROL	12"	DOAS 1	3RD FLOOR EAST WING OSA	1170	0	0.3	CONSTANT	0.25	1
B-SAV 3.2	ACCUTROL	14"	DOAS 1	3RD FLOOR EAST WING OSA	1445	0	0.3	CONSTANT	0.25	1
B-SAV 3.3	ACCUTROL	10"	DOAS 2	3RD FLOOR WEST WING OSA	700	0	0.3	CONSTANT	0.25	1
B-SAV 3.4	ACCUTROL	10"	DOAS 2	3RD FLOOR WEST WING OSA	775	0	0.3	CONSTANT	0.25	1
B-SAV 4.1	ACCUTROL	10"	DOAS 1	4TH FLOOR EAST WING OSA	915	0	0.3	CONSTANT	0.25	1
B-SAV 4.2	ACCUTROL	12"	DOAS 1	4TH FLOOR EAST WING OSA	1245	0	0.3	CONSTANT	0.25	1
B-SAV 4.3	ACCUTROL	8"	DOAS 2	4TH FLOOR WEST WING OSA	485	0	0.3	CONSTANT	0.25	1
B-SAV 4.4	ACCUTROL	12"	DOAS 2	4TH FLOOR WEST WING OSA	1235	0	0.3	CONSTANT	0.25	1

REMARKS:

1. PROVIDE WITH DDC CONTROLLER. REFER TO CONTROLS PLANS FOR OPERATION AND REQUIRED COMPONENTS.

BUILDING RELIEF AIR VALVE SCHEDULE

MARK	MANUFACTURER AND MODEL	INLET SIZE	SUPPLY SYSTEM	SERVICE	AIRFLOW MAX. (CFM)	AIRFLOW MIN (CFM)	AIRFLOW MAX APD (IN WC)	TYPE OF CONTROL	CONTROL POWER E-POWER	REMARKS
B-EAV 1.1	ACCUTROL	12x48	DOAS 1	1ST FLOOR EAST WING OSA	1520	0	0.3	CONSTANT	NO	1
B-EAV 1.2	ACCUTROL	12x36	DOAS 2	1ST FLOOR WEST WING OSA	4605	0	0.3	CONSTANT	NO	1
B-EAV 2.1	ACCUTROL	8"	DOAS 1	2ND FLOOR EAST WING OSA	385	0	0.3	CONSTANT	NO	1
B-EAV 2.2	ACCUTROL	12x18	DOAS 1	2ND FLOOR EAST WING OSA	1860	0	0.3	CONSTANT	NO	1
B-EAV 2.3	ACCUTROL	14"	DOAS 2	2ND FLOOR WEST WING OSA	1300	0	0.3	CONSTANT	NO	1
B-EAV 3.1	ACCUTROL	10"	DOAS 1	3RD FLOOR EAST WING OSA	675	0	0.3	CONSTANT	NO	1
B-EAV 3.2	ACCUTROL	14"	DOAS 1	3RD FLOOR EAST WING OSA	1340	0	0.3	CONSTANT	NO	1
B-EAV 3.3	ACCUTROL	8"	DOAS 2	3RD FLOOR WEST WING OSA	350	0	0.3	CONSTANT	NO	1
B-EAV 3.4	ACCUTROL	12"	DOAS 2	3RD FLOOR WEST WING OSA	1125	0	0.3	CONSTANT	NO	1
B-EAV 4.1	ACCUTROL	10"	DOAS 1	4TH FLOOR EAST WING OSA	640	0	0.3	CONSTANT	NO	1
B-EAV 4.2	ACCUTROL	12x18	DOAS 1	4TH FLOOR EAST WING OSA	1795	0	0.3	CONSTANT	NO	1
B-EAV 4.3	ACCUTROL	8"	DOAS 2	4TH FLOOR WEST WING OSA	495	0	0.3	CONSTANT	NO	1
B-EAV 4.4	ACCUTROL	10"	DOAS 2	4TH FLOOR WEST WING OSA	685	0	0.3	CONSTANT	NO	1

REMARKS:

1. PROVIDE WITH DDC CONTROLLER. REFER TO CONTROLS PLANS FOR OPERATION AND REQUIRED COMPONENTS.

LABORATORY AIR VALVE SCHEDULE (EXHUAST)

MARK	MANUFACTURER	INLET SIZE	EXHUAST SYSTEM	SERVICE	AIRFLOW MAX. (CFM)	AIRFLOW MIN (CFM)	AIRFLOW MAX APD (IN WC)	TYPE OF CONTROL	CONTROL POWER E-POWER	REMARKS
L-EAV 2.1	ACCUTROL	12x36	EF 2	2ND FLOOR BUFFER 219 2.4	4,450	0	0.3	CONSTANT	YES	1
2.4 L-EAV 2.2	ACCUTROL	12x24	EF 2	2ND FLOOR BOTTLING 252	2,400	0	0.3	CONSTANT	YES	1
L-EAV 3.1	ACCUTROL	12x48	EF 2	3RD FLOOR LABS	4,450	0	0.3	CONSTANT	YES	1
L-EAV 4.1	ACCUTROL	12x36	EF 2	4TH FLOOR LABS	3,850	0	0.3	CONSTANT	YES	1

REMARKS:

1. PROVIDE WITH DDC CONTROLLER. REFER TO CONTROLS PLANS FOR OPERATION AND REQUIRED COMPONENTS.

CP 2
VOLUME: 3

PROJECT NO. 16148

REV NO.	DATE ISSUED	REASON
	04.25.17	DESIGN DEVELOPMENT SET
	08.08.17	CITY SUBMITTAL SET
2.1	08.29.17	ADDENDUM #2.1
2.2	10.03.17	ADDENDUM 2.2
2.4	02.06.18	ASI 2.2
2.5	01.26.18	ASI 2.3 BUFFER ROOM REVISIONS
2.7	01.17.18	ASI 2.5 ADDRESS REVISION

IFC 11.20.17

Sheet Title

MECHANICAL SCHEDULES

Sheet No.

2M-004

2.4

DPR Issued Sheet 2018-02-06
Link to the Sheet - 2G-002

2/6/2018 7:50:02 AM

PIPE MATERIALS SCHEDULE

DOMESTIC WATER PIPING ABOVE & BELOW GRADE, INSIDE BUILDING:

1. TYPE "L" COPPER TUBING, HARD DRAWN CONFORMING TO ASTM B 88, WITH WROUGHT COPPER SOLDER SWEAT FITTINGS CONFORMING TO ASTM B 16.22.
2. ANY WATER PIPING LOCATED BELOW GRADE SHALL BE TYPE "K" COPPER TUBING ANNEALED, WITH BRAZED JOINTS WRAPPED IN PE FILM.

CONDENSATE PIPING:

1. FOR COOLING COILS: TYPE "M" COPPER CONFORMING TO ASTM B 88M, TYPE C WITH WROUGHT COPPER FITTINGS CONFORMING TO ASTM B 16.22M. PROVIDE INSULATION ON ALL CONDENSATE PIPING WITHIN AND ON EXTERIOR OF BUILDING.
2. FOR CONDENSING FLUES: CPVC PIPE AND FITTINGS CONFORMING TO ASTM F 2618. ALL PIPE FITTINGS AND CEMENT SHALL BE LISTED BY NSF INTERNATIONAL FOR CHEMICAL WASTE SERVICE AND BEAR THE MARK "NSF-CW".

SEWER WASTE & STORM DRAIN PIPING BELOW GRADE:

1. SOLID-WALL PVC PIPE, ASTM D 2665, DRAIN, WASTE AND VENT PIPING. PVC SOCKET FITTINGS CONFORMING TO ASTM D 2665, SOCKET TYPE, MADE TO ASTM D 3311 DRAIN, WASTE, AND VENT PATTERNS. INSTALL BELOW SLAB/GRADE PVC PIPING PER ASTM D 2321.

SEWER WASTE & STORM DRAIN PIPING ABOVE GRADE:

1. CAST IRON "NO-HUB" CONFORMING TO CISPI 301 AND ASTM A 888 WITH NEOPRENE GASKET AND 300 SERIES STAINLESS STEEL CLAMPING DEVICE CONFORMING TO CISPI 310.

   A. DRAIN PIPING: HEAVY DUTY, SHIELDED. STAINLESS-STEEL COUPLINGS: WITH STAINLESS-STEEL SHIELD, STAINLESS-STEEL BANDS AND TIGHTENING DEVICES, AND ASTM C 564, RUBBER SLEEVE.

   B. VENT PIPING: STANDARD, SHIELDED. CISPI 310 STAINLESS-STEEL COUPLINGS: WITH STAINLESS-STEEL SHIELD, STAINLESS-STEEL BANDS AND TIGHTENING DEVICES, AND ASTM C 564, RUBBER SLEEVE.

2. COPPER DWV TUBE: ASTM B 306, DRAINAGE TUBE, DRAWN TEMPER. WITH ASME B16.23,CAST COPPER OR ASME B16.29, WROUGHT COPPER, SOLDER JOINT FITTINGS.

NATURAL GAS PIPING:

1. SCHEDULE 40 BLACK STEEL, CONFORMING TO ASTM A53 WITH 150 PSIG MALLEABLE IRON THREADED FITTINGS CONFORMING TO ANSI/ASME B16.3
2. BELOW GRADE/SLAB : PE PIPE CONFORMING TO ASTM D 2513, SDR 11, AND PE FITTINGS CONFORMING TO ASTM D-2683, SOCKET-FUSION TYPE OR ASTM D-3261, WITH DIMENSIONS MATCHING PE PIPE. PE TRANSITION FITTINGS, FACTORY-FABRICATED FITTINGS WITH PE COMPLYING WITH ASTM D 2513, SDR 11. PROTECTIVE COATING FOR UNDERGROUND PIPING, FACTORY APPLIED, THREE-LAYER COATING OF EPOXY, ADHESIVE, AND PE.

LAB PIPE MATERIALS SCHEDULE

INDUSTRIAL WATER PIPING INSIDE BUILDING:

1. TYPE "L" COPPER TUBING, HARD DRAWN CONFORMING TO ASTM B 88, WITH WROUGHT COPPER SOLDER SWEAT FITTINGS CONFORMING TO ASTM B 16.22.

DEIONIZED WATER PIPING INSIDE BUILDING:

1. POLYPROPYLENE (PP) SHALL BE TYPE I, GRADE I, PP NATURAL OR WHITE MANUFACTURED CONFORMING TO ASTM D792 TO SDR RATIO CONFORMING TO ASTM F714. BUTT FUSION WELDS AND PURITY REQUIREMENTS PER THE MFG. RECOMMENDATIONS.

INDUSTRIAL WASTE PIPING INSIDE BUILDING:

1. POLYPROPYLENE DRAINAGE PIPE AND FITTINGS CONFORMING TO ASTM F 1412 WITH FIRE RETARDANT ADDITIVE COMPLYING WITH ASTM D 44101. PIPE AND EXTRUDED FITTINGS CONFORMING TO ASTM 23447 AND ASTM D331. BUTT FUSION JOINT ENDS.

   EXCEPTION: PIPE AND FITTINGS MADE FROM PP RESIN WITHOUT FIRE-RETARDANT ADDITIVE MAY BE USED FOR UNDERGROUND INSTALLATION.

COMPRESSED DRY AIR PIPING:

1. TYPE "L" COPPER TUBING, HARD DRAWN CONFORMING TO ASTM B 88, WITH WROUGHT COPPER BRAZED JOINTS UNDER CONTINUOUS NITROGEN PURGE CONFORMING TO AWS A5.8 & MSS SP-73.

LABORATORY VACUUM AIR PIPING:

1. TYPE "L" COPPER TUBING, HARD DRAWN CONFORMING TO ASTM B 88, WITH WROUGHT COPPER BRAZED JOINTS UNDER CONTINUOUS NITROGEN PURGE CONFORMING TO AWS A5.8 & MSS SP-73.

CO2 PIPING:

1. TYPE "L" COPPER TUBING, HARD DRAWN CONFORMING TO ASTM B 88, WITH WROUGHT COPPER BRAZED JOINTS UNDER CONTINUOUS NITROGEN PURGE CONFORMING TO AWS A5.8 & MSS SP-73.

PLUMBING GENERAL NOTES

1. CONTRACTOR SHALL CAREFULLY REVIEW THESE PLANS AND SPECIFICATIONS PRIOR TO BID. CONTRACTOR SHALL ALSO REVIEW PLANS AND SPECIFICATIONS OF OTHER RELATED TRADES (INCLUDING CIVIL, STRUCTURAL, AND ELECTRICAL) PRIOR TO BID TO INSURE AN ACCURATE UNDERSTANDING OF EXACT SCOPE OF WORK. ANY ITEMS REQUIRING CLARIFICATION SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT IN SUFFICIENT TIME TO BE INCORPORATED INTO THE BID.
2. CONTRACTOR SHALL VERIFY ALL EQUIPMENT MODEL NUMBERS, CAPACITIES, SIZES, VOLTAGES, AND ALL OTHER SCHEDULED INFORMATION WITH OTHER APPLICABLE TRADES AND WITH THE MANUFACTURER PRIOR TO INSTALLATION.
3. CONTRACTOR SHALL VERIFY ALL LOCATIONS, SIZES, POC'S, INVERT ELEVATIONS, AND AVAILABILITY OF ALL EXISTING UTILITIES PRIOR TO INSTALLATION OF ANY MATERIAL OR EQUIPMENT.
4. THESE DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC AND ARE NOT INTENDED TO INDICATE ALL DETAILS AND NECESSARY OFFSETS OF PIPING. THE CONTRACTOR SHALL INSTALL MATERIAL AND EQUIPMENT IN A MANNER AS TO CONFORM TO STRUCTURE, AVOID OBSTRUCTIONS, PRESERVE HEADROOM, AND KEEP OPENINGS AND PASSAGEWAYS CLEAR. ALL INSTALLATIONS SHALL BE CONSISTENT WITH NORMALLY ACCEPTABLE INDUSTRY STANDARDS.
5. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IN WRITING OF ANY DISCREPANCIES OR CONFLICTS THAT WOULD EFFECT THE SYSTEM PERFORMANCE OR INCUR ADDITIONAL COSTS. THIS NOTIFICATION SHALL BE SUBMITTED PRIOR TO INSTALLATION OF THE ITEMS CONCERNED.
6. NEW AND/OR EXISTING EQUIPMENT INDICATED ON THIS DRAWING IS SHOWN IN APPROXIMATE POSITION(S). CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS INCLUDING EQUIPMENT LOCATIONS, POC'S AND STRUCTURAL MEMBERS PRIOR TO INSTALLATION. IN ALL CASES, ADEQUATE ACCESS (PER MANUFACTURERS RECOMMENDATIONS AND CODE COMPLIANCE) FOR MAINTENANCE AND REPLACEMENT OF EQUIPMENT SHALL BE PROVIDED.
7. ALL WORK SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE CODES. NOTHING SHOWN ON THE PLANS OR STATED IN THE SPECIFICATIONS IS INTENDED TO INDICATE THAT THE INSTALLATIONS OR CONNECTIONS OF ANY ITEM OR DEVICE SHOULD BE DONE CONTRARY TO MANUFACTURERS INSTRUCTIONS AND ALL APPLICABLE CODES AND REGULATIONS.
8. THE CONTRACTOR IS RESPONSIBLE TO INSURE THAT THE INSTALLATIONS AND CONNECTIONS OF ALL ITEMS AND DEVICES CONFORMS TO MANUFACTURERS INSTRUCTIONS AND TO ALL APPLICABLE CODES AND REGULATIONS.
9. SUBSTITUTION OF PLUMBING EQUIPMENT WITH EFFICIENCIES LOWER THAN THOSE INDICATED ON THE PLANS MAY REQUIRE RE-CALCULATION OF TITLE 24 DOCUMENTS. IF THE CONTRACTOR CHOOSES TO UTILIZE SUCH EQUIPMENT, HE ASSUMES FULL RESPONSIBILITY FOR THE RE-CALCULATION AND JURISDICTIONAL APPROVAL OF TITLE 24 DOCUMENTS.
10. IF THE CONTRACTORS' USE OF SUBSTITUTE MATERIALS, EQUIPMENT OR METHODS OF INSTALLATION REQUIRES ANY CHANGES IN OTHER TRADES' WORK FROM THAT SHOWN ON THE DRAWINGS, THE EXTRA COST OF THE OTHER TRADES' WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR INITIATING THE SUBSTITUTION.
11. SUBMITTALS: APPROVAL OF THE SUBMITTALS DOES NOT RELEASE THE CONTRACTOR FROM OBLIGATIONS TO FULLY COMPLY WITH ALL REQUIREMENTS OF THE CONSTRUCTION DOCUMENTS OR APPLICABLE CODE REGULATIONS.
12. ALL PLUMBING EQUIPMENT, MATERIAL, AND ALL CONNECTIONS THERETO SHALL BE INSTALLED COMPLETE PER MANUFACTURERS INSTRUCTIONS TO PROVIDE A COMPLETE AND FULLY OPERATIONAL SYSTEM.
13. PLUMBING EQUIPMENT SHALL BE CERTIFIED BY AND COMPLY WITH THE STATE OF CALIFORNIA ENERGY CONSERVATION STANDARDS (E.E.S.) SECTION 113. COMPLIANCE CERTIFICATES SHALL BE PROVIDED WITH EQUIPMENT SUBMITTALS.
14. WHERE NON-METALLIC PIPING PENETRATES AREA SEPARATION, 1 HOUR, OR 2 HOUR WALLS, THE PIPE SECTION PASSING THROUGH THE WALLS AND EXTENDING A DISTANCE OF 5 FEET ON EITHER SIDE THERE-OF SHALL BE OF METAL ONLY.
15. CONDENSATE DRAIN PIPING FROM EQUIPMENT WITHIN BUILDING SHALL BE INSULATED A MINIMUM DISTANCE OF 2O (TWENTY) FEET FROM SAID EQUIPMENT.
16. ALL INSULATING MATERIALS INSTALLED MUST BE CERTIFIED BY CALIFORNIA ENERGY COMMISSION TO MEET C.E.C. ENERGY EFFICIENCY STANDARDS (E.E.S.) SECTION 118, 123 AND 124.
17. PILOTLESS IGNITION OF GAS APPLIANCES SHALL COMPLY WITH BUILDING ENERGY EFFICIENCY STANDARDS (E.E.S.) SECTION 115.
18. WATER HEATERS FOR DOMESTIC HOT WATER SHALL COMPLY WITH THE STATE OF CALIFORNIA ENERGY EFFICIENCY STANDARDS (E.E.S.) SECTION 113, AND 114.
19. ALL NATURAL GAS PIPING LOCATED EXPOSED ABOVE GRADE, SHALL BE INSTALLED SO THAT THE INVERT ELEVATION OF SUCH PIPING SHALL BE KEPT AT LEAST 6" ABOVE GRADE OR STRUCTURE.
20. ALL HOSE BIBBS INSTALLED SHALL BE EQUIPPED WITH VACUUM BREAKERS.
21. LAVATORY FAUCETS IN ALL TOILET ROOMS SHALL BE THE SELF CLOSING TYPE.
22. SOIL, SEWER AND WASTE PIPING SHALL SLOPE AT 1/4" PER FOOT MINIMUM.
23. ALL PLUMBING SOLDER SHALL BE LEAD FREE.
24. ALL COMPONENTS OF POTABLE WATER SYSTEM, INCLUDING SHUT OFF VALVES, ANGLE STOPS, AND PLUMBING FIXTURE SHALL COMPLY WITH CALIFORNIA LAW AB 1953 AND SECTION 116875 OF THE CALIFORNIA HEALTH AND SAFETY CODE.
25. PROVIDE CLEANOUTS EVERY 100' AND AT ANY CHANGE OF DIRECTION EXCEEDING 135 DEGREES.
26. BUILDING DRAIN AND VENT PIPING MATERIALS SHALL COMPLY WITH SECTIONS 701.0 AND 903.0 OF THE CALIFORNIA PLUMBING CODE.
27. ALL SANITARY SYSTEM MATERIALS SHALL BE LISTED BY AN APPROVED LISTING AGENCY.
28. EACH VENT SHALL RISE VERTICALLY TO A POINT NOT LESS THAT SIX (6) INCHES ABOVE THE FLOOD-LEVEL RIM OF THE FIXTURE SERVED BEFORE OFFSETTING HORIZONTALLY OR BEFORE BEING CONNECTED TO ANY OTHER VENT.
29. PLUMBING FIXTURES AND FITTINGS SHALL COMPLY WITH ALL THE REQUIREMENTS IN SECTION 5.303 IN THE 2016 CALIFORNIA GREEN BUILDING CODE.
30. WATER HEATER SHALL BE ANCHORED OR STRAPPED TO RESIST HORIZONTAL DISPLACEMENT DUE TO EARTHQUAKE MOTION PER SECTION 507.2 CPC.
31. WALL CLEANOUTS SHALL BE PROVIDED AT ALL URINALS & SINKS (I.E. LAB SINKS, BREAKROOM SINKS AND WELLNESS ROOM SINKS)

LEGEND

SYMBOL	ABBR.	DESCRIPTION
◯		SITE UTILITY CONNECTION
⊕	POC	POINT OF CONNECTION
⊖	POD	POINT OF DISCONNECTION
— (E) —	(E)	EXISTING PIPING - SEE PLANS FOR TYPE
▨		REMOVE EXIST. EQUIP. OR PIPES SHOWN HATCHED
— — — —	S OR W	SEWER OR WASTE BELOW FLOOR OR GRADE
———	S OR W	SEWER OR WASTE ABOVE FLOOR OR GRADE
— IW —	IW	INDUSTRIAL WASTE
— IV —	IV	INDUSTRIAL VENT
— CD —	CD	CONDENSATE DRAIN
— V —	V	SANITARY VENT
— CW —	CW	COLD WATER (DOMESTIC)
— HW —	HW	HOT WATER (DOMESTIC)
— HWR —	HWR	HOT WATER RETURN
— CO2 —	CO2	CARBON DIOXIDE
— LV —	LV	LABORATORY VACUUM
— LA —	LA	LAB AIR
— LN2 —	LN2	LIQUID NITROGEN
— DI —	DI	DIONIZED WATER
— DIR —	DIR	DIONIZED WATER RETURN
— G —	G	LOW PRESSURE NATURAL GAS
— MPG —	MPG	MEDIUM PRESSURE NATURAL GAS (5 PSI)
— SD —	SD	STORM DRAIN
— OD —	OD	OVERFLOW STORM DRAIN
	BP	BACKFLOW PREVENTER (REDUCED PRESS. TYPE)
	GV	GATE VALVE
	BV	BALL VALVE
	CV	CHECK VALVE
	GC	GAS COCK
	PRV	PRESSURE REDUCING VALVE
	T& PV	TEMPERATURE & PRESSURE RELIEF VALVE
	STR.	STRAINER
	COTG	CLEAN-OUT TO GRADE
	FCO	FLOOR CLEAN OUT
	WCO	WALL CLEAN-OUT OR CLEAN-OUT BELOW FLOOR
	CL	CAPPED LINE
		DOWN OR DROP
		UP OR RISE
	FC	FLEXIBLE CONNECTION (PIPE)
	HB	HOSE BIBB
	PG	PRESSURE GAUGE WITH GAUGE COCK
		"TEE" BRANCH
		VALVE ON RISE OR DROP
	TP	TRAP PRIMER
	TH	THERMOMETER
	U	UNION
	WHA	WATER HAMMER ARRESTOR (P.D.I. SIZE)
		DIRECTION OF FLOW
		REDUCER
	FS	FLOOR SINK
	FD	FLOOR DRAIN
	RD/OD	ROOF DRAIN / OVERFLOW DRAIN
	AD/DD	AREA DRAIN / DECK DRAIN

SYMBOL	ABBR.	DESCRIPTION
	A/C	ABOVE CEILING
	AT/C	AT CEILING OR STRUCTURE
	AB	ANCHOR BOLT
	AD	AREA DRAIN
	AFF	ABOVE FINISHED FLOOR
	AFG	ABOVE FINISHED GRADE
	AP	ACCESS PANEL
	ABV	ABOVE
	ARCH	ARCHITECT OR ARCHITECTURAL
	B/G	BELOW GRADE
	B/F	BELOW FLOOR
	B/S	BELOW SLAB
	BEL	BELOW
	CI	CAST -IRON
	CLG	CEILING
	CLR	CLEAR
	CONC	CONCRETE
	CONN	CONNECT OR CONNECTION
	CONT	CONTINUATION
	CONTR	CONTRACTOR
~	DIA	DIAMETER
	DN	DOWN
	DWGS	DRAWINGS
	ELECT	ELECTRICAL
	ELEV	ELEVATION
	EXIST	EXISTING
	^F	DEGREES FAHRENHEIT
	FFE	FINISH FLOOR ELEVATION
	FPM	FEET PER MINUTE
	FIN	FINISH OR FINISHED
	FLR	FLOOR
	FT	FEET OR FOOT
	GPM	GALLONS PER MINUTE
	HDR	HEADER
	HP	HORSEPOWER
	HVAC	HEATING, VENTILATION, & AIR CONDITIONING
	I.E.	INVERT ELEVATION
	INV	INVERT
	IVTR	INDUSTRIAL VENT THROUGH ROOF
	I/W	IN WALL
	MAX	MAXIMUM
	MECH	MECHANICAL
	MFR	MANUFACTURER
	MIN	MINIMUM
	MTD	MOUNTED
	N.C.	NORMALLY CLOSED
	N.I.C.	NOT IN CONTRACT
	NTS	NOT TO SCALE
	NO	NUMBER
	N.O.	NORMALLY OPEN
	OPER	OPERATING
	PD	PRESSURE DROP
	PSI	POUNDS PER SQUARE INCH
	PSIG	POUNDS PER SQUARE INCH GAUGE
	PLBG	PLUMBING
	QTY	QUANTITY
	SHT	SHEET
	SOV	SHUT- OFF VALVE
	ST STL	STAINLESS STEEL
	SPEC	SPECIFICATION
⌀	SQ FT	SQUARE FEET OR SQUARE FOOT
	STRUCT	STRUCTURAL
	TEMP	TEMPERATURE
	TYP	TYPICAL
	UNO	UNLESS NOTED OTHERWISE
	VTR	VENT THROUGH ROOF
	W.C.	INCHES WATER COLUMN

PLUMBING PLAN CHECK NOTES

1. WHERE PLUMBING PENETRATES THE FIRE RESISTIVE WALLS (AREA SEPARATION AND OCCUPANCY SEPARATION), THE SECTION PASSING THROUGH THE WALL SURFACE, AND THE FIXTURE CONNECTIONS ATTACHED THERETO, SHALL MEET CBC, FIRE AND TEMPERATURE RATING.
2. ALL WATER HEATERS SHALL BE LISTED IN THE CEC LIST OF APPROVED WATER HEATERS.
3. ALL PLUMBING FIXTURES, FAUCETS AND SHOWER HEADS SHALL COMPLY WITH CALIFORNIA GREEN BUILDING CODE MAXIMUM FLOW REQUIREMENTS PER MINUTE.
4. SOIL, SEWER, AND WASTE PIPING SHALL SLOPE AT 1/4" PER FOOT MINIMUM UNLESS NOTED OTHERWISE.
5. ALL SERVICE HOT WATER PIPING SHALL BE INSULATED IN ACCORDANCE WITH CEC T-24, LATEST VERSION
6. STATE HEALTH & SAFETY CODE SEC. 17921.9 BANS THE USE OF CHLORINATED POLYVINYL CHLORIDE (CPVC) FOR INTERIOR WATER SUPPLY PIPING.
7. VALVES, FIXTURES AND ALL OTHER APPERTUNANCES SHALL CONFORM TO THE REQUIREMENTS OF CALIFORNIA ASSEMBLY BILL AB1953, LOW LEAD CONTENT AS APPLICABLE.
8. PLUMBING FIXTURES AND FITTINGS SHALL MEET THE STANDARDS REFERENCED IN TABLE 5.503.6 OF DIVISION 5.3 OF THE 2016 GREEN CODE.
9. EACH KITCHEN FAUCET SHALL NOT EXCEED A WATER FLOW OF 1.8 GPM.
10. PROVIDE EXPANSION TANK OR OTHER APPROVED METHOD OF RELIEVING PRESSURE PER SECTION 608.3 CPC.
12. INSTALLATION OF SOIL OR DRAIN PIPES IN FOOD HANDLING ESTABLISHMENTS WILL COMPLY WITH SECTION 317.0 CPC.
13. BACKWATER VALVE SHALL BE INSTALLED ON THE DOWNSTREAM OF PLUMBING FIXTURES THAT ARE LOCATED ON A FLOOR LEVEL THAT IS LOWER THAN THE NEXT UPSTREAM MANHOLE COVER OF THE PUBLIC OR PRIVATE SEWER SYSTEM PER SECTION 701.1 CPC AND SUBJECT TO FIELD INSPECTION APPROVAL.
14. LABEL MEDIUM PRESSURE GAS EVERY FIVE FEET.

CP-2
VOLUME: 2

PROJECT NO. 16148

REV NO.	DATE ISSUED	REASON
	04.25.17	DESIGN DEVELOPMENT
	08.08.17	CITY SUBMITTAL SET
2.1	08.29.17	ADDENDUM #2.1
2.2	10.03.17	ADDENDUM 2.2
2.4	02.06.18	ASI 2.2
2.7	01.17.18	ASI 2.5 ADDRESS REVISION

IFC 11.20.17

Sheet Title
PLUMBING LEGEND AND NOTES

Sheet No.
2P-101

DPR Issued Sheet 2018-02-06
Link to the Sheet - 2G-002

1 PLUMBING FLOOR PLAN - LEVEL 02 - PART A

1/2P-121 1/8" = 1'-0"

N

SHEET NOTES

1. 4" INDUSTRIAL WASTE DOWN TO FLOOR BELOW.
2. 5" SD AND OD UP.
3. 4" CW, 3" HW, 1-1/2" DI, 1-1/2" DIR, 3" LV & 1" LA PIPING RISERS.
4. 5" SD AND OD UP & DOWN.
5. 4" SD AND OD UP.
6. FOR CONTINUATION SEE SHEET 2P-123.
7. 2" INDUSTRIAL WASTE UP TO FLOOR ABOVE.
8. 2" CW, 2" HW, 3" LV, 3/4" LA, 3/4" CO2 CAPPED AT SHAFT & 1-1/2" DIS & DIR.
9. FOR CONTINUATION, SEE CP-6.

GENERAL NOTES

1. XXX

CP-2
VOLUME: 2

PROJECT NO. 16148

REV NO.	DATE ISSUED	REASON
	04.25.17	DESIGN DEVELOPMENT
	08.08.17	CITY SUBMITTAL SET
2.1	08.29.17	ADDENDUM #2.1
2.2	10.03.17	ADDENDUM 2.2
2.3	11.20.17	ASI 2.1/IFC
2.4	02.06.18	ASI 2.2
2.7	01.17.18	ASI 2.5 ADDRESS REVISION

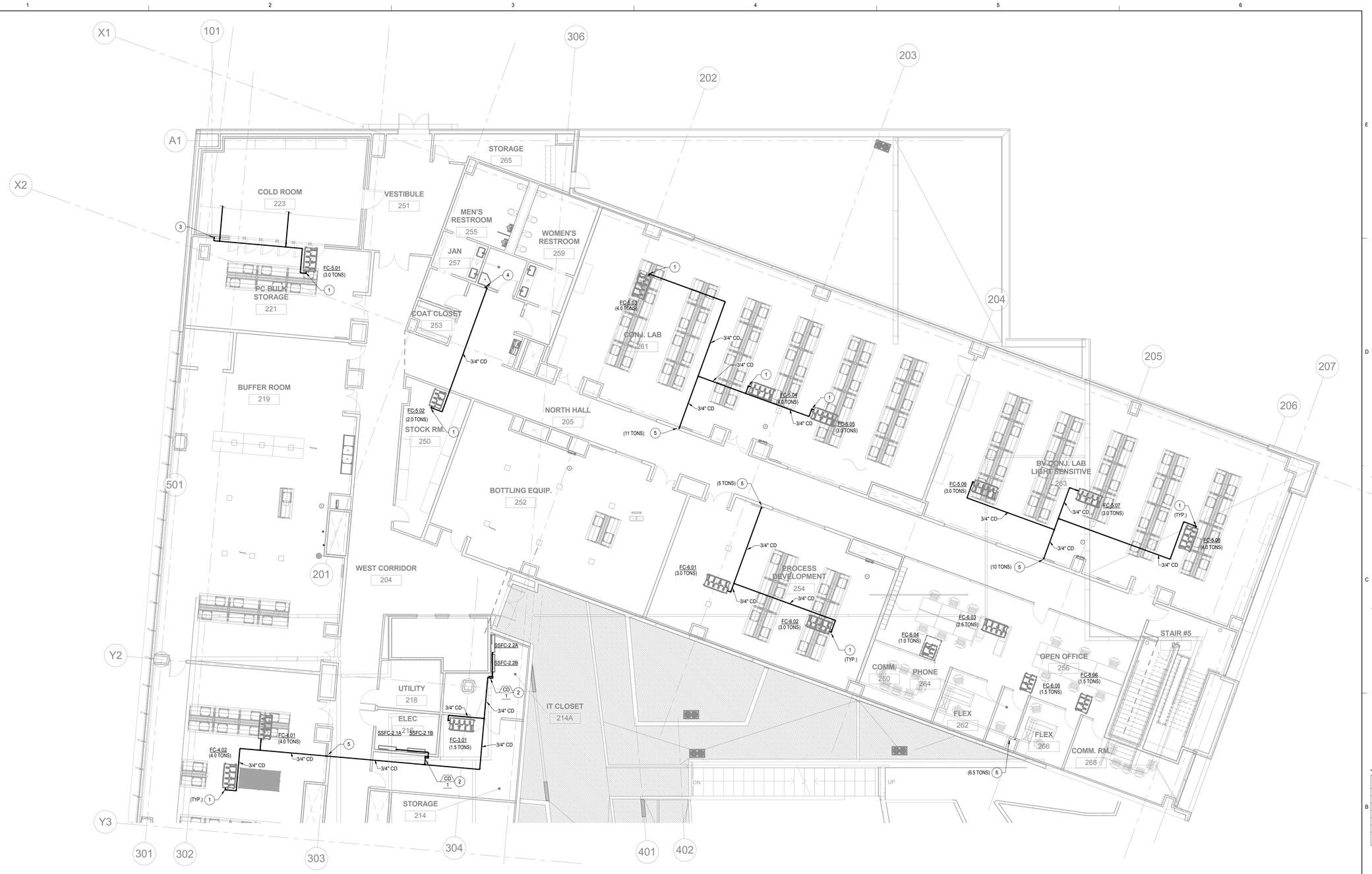
IFC 11.20.17

Sheet Title
PLUMBING FLOOR PLAN - LEVEL 02 - PART A

Sheet No.
2P-122

DPR Issued Sheet 2018-02-06
Link to the Sheet - 2G-002

2/8/2018 10:03:06 AM



1 PLUMBING CONDENSATE FLOOR PLAN - LEVEL 02 - PART A

1/8" = 1'-0"

N

SHEET NOTES

1. PROVIDE TRAP & VENT AT FAN COIL CONDENSATE DRAIN CONNECTION.
2. PUMP CONDENSATE TO HIGHEST POINT.
3. 3/4" CONDENSATE DOWN IN WALL & DISCHARGE INTO FLOOR SINK. PROVIDE AIR GAP AT TERMINATION.
4. CONDENSATE DOWN IN WALL & DISCHARGE INTO MOP SINK. PROVIDE AIR GAP AT TERMINATION.
5. CONDENSATE DOWN IN UMBILICAL AND CONNECT TO LAB SINK TAIL PIECE.
6. CONDENSATE DOWN TIGHT TO COLUMN TO FLOOR BELOW.

GENERAL NOTES

1. XXX

CP-2
VOLUME: 2

PROJECT NO. 16148

REV NO.	DATE ISSUED	REASON
	04.25.17	DESIGN DEVELOPMENT
	08.08.17	CITY SUBMITTAL SET
2.1	08.29.17	ADDENDUM #2.1
2.2	10.03.17	ADDENDUM 2.2
2.4	02.06.18	ASI 2.2
2.7	01.17.18	ASI 2.5 ADDRESS REVISION

IFC 11.20.17

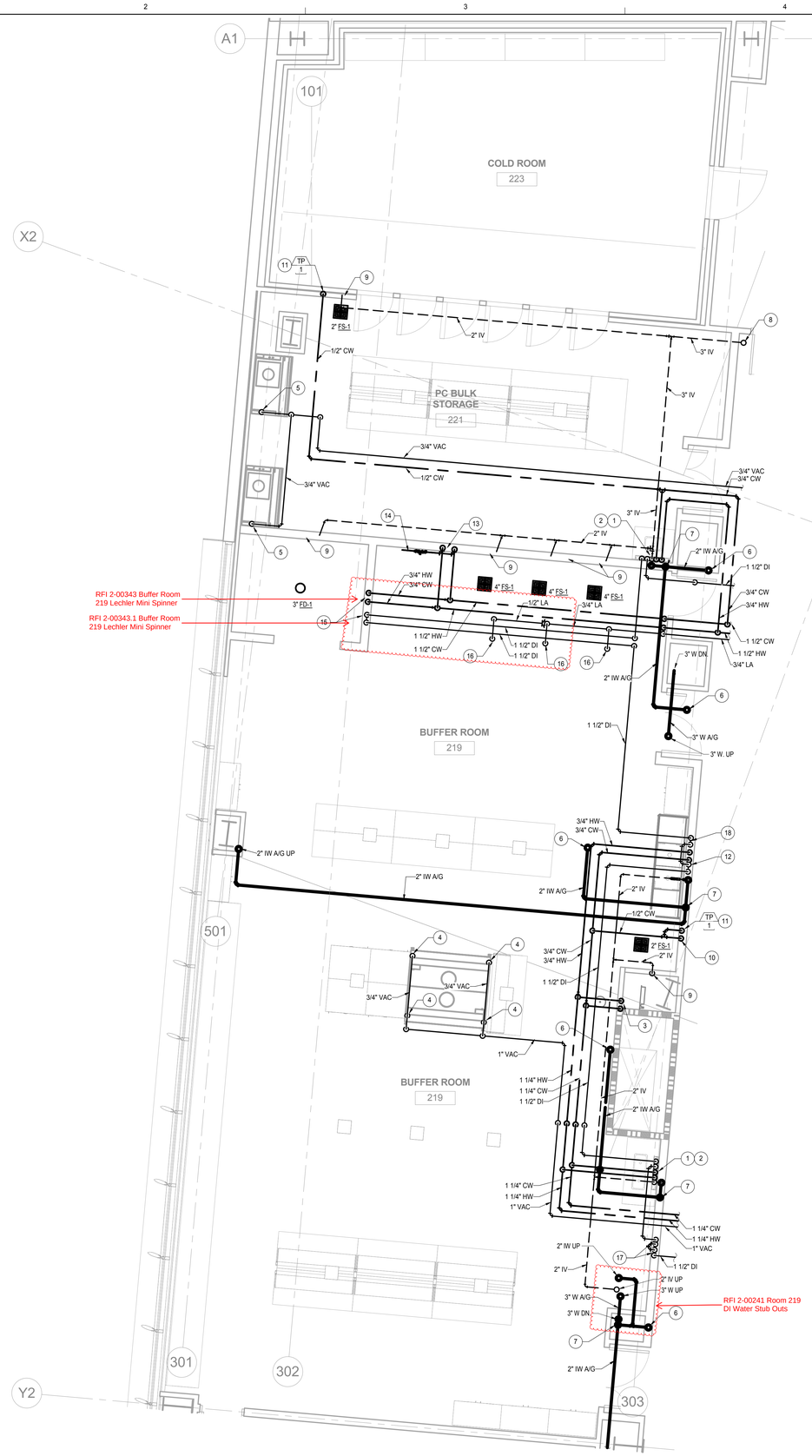
Sheet Title

PLUMBING CONDENSATE FLOOR PLAN - LEVEL 02 - PART A

2P-124

2.4

DPR Issued Sheet 2018-02-06
Link to the Sheet - 2G-002



SHEET NOTES

1. 2" IW DOWN, 2" IV UP.
2. 3/4" CW, HW, 1-1/2" DI & 1-1/2" DIR DOWN IN UMBILICAL TO LAB FIXTURE.
3. 1-1/4" CW & 1-1/4" HW DOWN TO EMERGENCY SHOWER COMBO. MIXING VALVE AND SHUT-OFF VALVES TO BE LOCATED ABOVE CEILING.
4. 3/4" VAC DOWN TO FUME HOOD UTILITY CONNECTION.
5. 3/4" VAC DOWN IN WALL AND STUB-OUT W/ SHUT-OFF VALVE AT 20" ABOVE FINISH FLOOR. COORDINATE EXACT LOCATION OF BIO SAFETY CABINET W/ LAB FURNISHING PLAN.
6. 2" IW UP TO LAB SINK.
7. 2" IW DOWN TO FLOOR BELOW.
8. 3" IV UP TO FLOOR ABOVE.
9. 2" IV DOWN.
10. 1/2" CW DOWN TO ICE MAKER BOX.
11. 1/2" CW DOWN IN WALL TO TRAP PRIMER. PROVIDE ACCESS PANEL. SEE DETAIL 9/2P-501.
12. 3/4" CW, HW, 1-1/2" DI & 1-1/2" DIR DOWN IN WALL TO LAB FIXTURE.
13. 1-1/2" CW & 1-1/2" HW DOWN TO BACKFLOW PREVENTOR.
14. 1-1/2" CW AND 1-1/2" HW SUPPLY TO AUTOCLAVE. PROVIDE WATER HAMMER ARRESTORS AT INLET SUPPLIES FOR GLASSWARE WASHER AND AUTOCLAVES.
15. 3/4" CW, HW, 1-1/2" DI 1ND 1-1/2" DIR DOWN IN WALL TO CAN WASH SUPPLY. PROVIDE LECHLER SERIES 5MI "MINI SPINNER" ROTATING CLEANING NOZZLE.

RFI 2-00343 Buffer Room
219 Lechler Mini Spinner

16. 1/2" LA DOWN TO AUTOCLAVE CONNECTION.
17. 1-1/2" DI & 1-1/2" DIR DOWN IN WALL TO EXPOSED 50mm x 25mm ZERO STATIC VALVE. COORDINATE EXACT LOCATION OF ZERO STATIC VALVE WITH LAB FURNISHING PLAN.
18. 1-1/2" DI & 1-1/2" DIR DOWN IN WALL TO DI FAUCET.

GENERAL NOTES

1. REFER TO LAB FURNISHING PLANS FOR ALL LAB FIXTURES & EQUIPMENT UTILITY CONNECTIONS.

CP-2
VOLUME: 2

PROJECT NO. 16148

REV NO.	DATE ISSUED	REASON
	04.25.17	DESIGN DEVELOPMENT
	08.08.17	CITY SUBMITTAL SET
2.1	08.29.17	ADDENDUM #2.1
2.2	10.03.17	ADDENDUM 2.2
2.3	11.20.17	ASI 2.1/IFC
2.4	02.06.18	ASI 2.2
2.5	01.26.18	ASI 2.3 BUFFER ROOM REVISIONS
2.7	01.17.18	ASI 2.5 ADDRESS REVISION

IFC 11.20.17

Sheet Title
PLUMBING ENLARGED FLOOR PLAN - LEVEL 02

Sheet No.
2P-425

1 **PLUMBING ENLARGED FLOOR PLAN - RM 219, 221 & 223 - LEVEL 02**

1/2P-122 | 1/4" = 1'-0"

N

INTERIOR FINISH KEY SCHEDULE

CODE	MATERIAL NAME	MANUFACTURER	MATERIAL COLLECTION	MATERIAL PRODUCT NUMBER	MATERIAL COLOR	MATERIAL SIZE	MATERIAL LOCATION	INSTALLATION NOTES	MATERIAL COMMENTS	CONTACT
AWP-1	ACOUSTIC WALL PANEL	SUSTAINABLE MATERIALS	MURATTO ORGANIC BLOCKS	BEEHIVE	YELLOW	9 7/8" x 7 1/8" x 7/8"	LEVEL 2 ATRIUM SEATING AREA	WAKOL LOBA D3540 WATER BASED CONTACT CEMENT	FOLLOW MANUFACTURERS INSTALATION INSTRUCTIONS	LINDA SMITH - 949 244 7827
FAB-1	FABRIC	MAHARAM - KVADRAT	HALLINGDAL BY KVADRAT	460760	702	51" WIDTH	LOBBY STAIR - BENCH CUSHION		PROVIDE ALTA HEALTHCARE TREATMENT TO FABRIC	MONICA GIBE - 619 314 0138
05700 - DECORATIVE METAL										
MT-1	STAINLESS STEEL	FORMS AND SURFACES	ECO-ETCH	SEQUENCE	SATIN	3/16"	LEVEL 1 ELEVATOR DOOR AND WALL			
09771 - FABRIC WRAPPED PANELS										
AF-1	FABRIC WRAPPED PANELS	CARNEGIE	XOREL	6603 21	DASH	4' X 8' X 1"	MULTI PURPOSE ROOM WALLS PER ELEVATION, AND OPERABLE PARTITIONS	UNBACKED ON 1"T FABRITRACK W/BEVELED EDGES.	USE 6-7#FIBERGLASS CORE W/ NRC RATING 0.80 AT WALLS	
033000 CAST IN PLACE CONCRETE										
CF-1	SEALED CONCRETE						REFER TO FINISH PLANS			
064023 - INT. ARCHITECTURAL WOODWORK										
PL-1	PLASTIC LAMINATE	WILSONART	PREMIUM	7952K-18	ASIAN SAND		TYPICAL BREAKROOM MILLWORK			
PL-2	PLASTIC LAMINATE	WILSONART	STANDARD	7995-38	STEELING ASH		TYPICAL BREAKROOM CUBBIES			
PL-3	PLASTIC LAMINATE	WILSONART	PREMIUM	8211K-28	PHANTOM PEARL		TYPICAL RESTROOM PARTITIONS		SOLID PHENOLIC	
PL-4	PLASTIC LAMINATE	WILSONART	PREMIUM	8210K-28	PORTICO TEAK		TYPICAL RESTROOM VANITY			
PL-5	PLASTIC LAMINATE	FORMICA	PREMIUM	8208K-16	FAWN CYPRESS	CASUAL RUSTIC W/ AEON	WELLNESS ROOM			
WD-1	WOOD				BLACK OAK		STAIRS, RECEPTION DESK, LOBBY, MPR AND AROUND CONF ROOM 302	STAIR TREADS & RISERS TO BE SOLID WOOD,	RECEPTION DESK, UNDERSIDE & SIDES OF STAIRS TO BE VENEER	
081416 - SOLID WOOD DOOR FINISH										
WD-3	WOOD	EGGERS INDUSTRIES	VENEER	110116WA	PLAIN SLICED WALNUT			01 - CLEAR		

RFI 2-00259 T-18 Specification Change Via ASI 2.9 — RFI 2-00309 Tile T-19.1 Size Change — RFI 2-00173 Tile Clarification Questions (CP1, CP2) — RFI 2-00508 Stair #1 Landing Furred Wall Base Detail

093013 - INTERIOR CERAMIC TILING										
T-1	CERAMIC TILE	MOSA TILE	GLOBAL COLLECTION	16900	WHITE	6" X 12" X 3/16"	TYPICAL RESTROOM WALLS - USE MATCHING CORNER PIECES AND FINISHED EDGE TILES		1/8" GROUT - LATICRETE 90 LIGHT PEWTER	JEANETTE J. 714 4312731
T-2	CERAMIC TILE	MOSA TILE	GLOBAL COLLECTION	16920	LIGHT YELOW	6" X 6" X 1/8"	WAREHOUSE RESTROOM WALL ACCENT		1/8" GROUT - LATICRETE 90 LIGHT PEWTER	JEANETTE J. 714 4312731
T-3	CERAMIC TILE	MOSA TILE	GLOBAL COLLECTION	17950	DARK YELOW	6" X 6" X 1/8"	WAREHOUSE RESTROOM WALL ACCENT		1/8" GROUT - LATICRETE 90 LIGHT PEWTER	JEANETTE J. 714 4312731
T-4	CERAMIC TILE	MOSA TILE	GLOBAL COLLECTION	17930	LIGHT PURPLE	6" X 6" X 1/8"	LEVEL 1 WOMEN/MEN - RESTROOM WALL ACCENT		1/8" GROUT - LATICRETE 90 LIGHT PEWTER	JEANETTE J. 714 4312731
T-5	CERAMIC TILE	MOSA TILE	GLOBAL COLLECTION	17920	DARK PURPLE	6" X 6" X 1/8"	LEVEL 1 WOMEN/MEN - RESTROOM WALL ACCENT		1/8" GROUT - LATICRETE 90 LIGHT PEWTER	JEANETTE J. 714 4312731
T-6	CERAMIC TILE	MOSA TILE	GLOBAL COLLECTION	17970	LIGHT RED	6" X 6" X 1/8"	LEVEL 2 WOMEN/ MEN - RESTROOM WALL ACCENT		1/8" GROUT - LATICRETE 90 LIGHT PEWTER	JEANETTE J. 714 4312731
T-7	CERAMIC TILE	MOSA TILE	GLOBAL COLLECTION	19970	DARK RED	6" X 6" X 1/8"	LEVEL 2 WOMEN/ MEN - RESTROOM WALL ACCENT		1/8" GROUT - LATICRETE 90 LIGHT PEWTER	JEANETTE J. 714 4312731
T-8	CERAMIC TILE	MOSA TILE	GLOBAL COLLECTION	17900	LIGHT GREEN	6" X 6" X 1/8"	LEVEL 3 WOMEN/ MEN - RESTROOM WALL ACCENT		1/8" GROUT - LATICRETE 90 LIGHT PEWTER	JEANETTE J. 714 4312731
T-9	CERAMIC TILE	MOSA TILE	GLOBAL COLLECTION	16930	DARK GREEN	6" X 6" X 1/8"	LEVEL 3 WOMEN/ MEN - RESTROOM WALL ACCENT		1/8" GROUT - LATICRETE 90 LIGHT PEWTER	JEANETTE J. 714 4312731
T-10	CERAMIC TILE	MOSA TILE	GLOBAL COLLECTION	16990	LIGHT BLUE	6" X 6" X 1/8"	LEVEL 4 WOMEN/ MEN - RESTROOM WALL ACCENT		1/8" GROUT - LATICRETE 90 LIGHT PEWTER	JEANETTE J. 714 4312731
T-11	CERAMIC TILE	MOSA TILE	GLOBAL COLLECTION	16940	DARK BLUE	6" X 6" X 1/8"	LEVEL 4 WOMEN/ MEN - RESTROOM WALL ACCENT		1/8" GROUT - LATICRETE 90 LIGHT PEWTER	JEANETTE J. 714 4312731
T-12	CERAMIC TILE	MOSA TILE	GLOBAL COLLECTION	15010	MATTE WHITE	6" X 12" X 3/16"	TYPICAL BREAKROOM BACKSPLASH	POWDER MATTE FINISH	CUSTOM COLOR 1/4" GROUT PER ELEVATION	JEANETTE J. 714 4312731
T-18	CERAMIC TILE	MOSA TILE	GLOBAL COLLECTION	75620V	SMALL SPECKLED LIGHT GREY	12" X 12" X 3/16"	RESTROOM FLOOR		1/8" GROUT/LATICRETE 24 NATURAL GREY, ANTIMICROBIAL GROUT	JEANETTE J. 714 4312731
T-18.1	CERAMIC TILE	MOSA TILE	GLOBAL COLLECTION	75620SP015015	SMALL SPECKLED LIGHT GREY	6" X 6" X 3/16"	RESTROOM COVE BASE		1/8" GROUT/LATICRETE 24 NATURAL GREY, ANTIMICROBIAL GROUT	JEANETTE J. 714 4312731
T-19.1	PORCELAIN TILE	SPEC CERAMIC-ERGON	WOODTALK	289E1R	BEIGE DIGUE	9" X 36" X 3/8"	SERVERY AND DISH DROP AREA FLOOR	USE SCHLUTER COVE DILEX -AHK inTSSG (stone grey)	1/8" GROUT/LATICRETE 24 NATURAL GREY, ANTIMICROBIAL GROUT	BEN FRIESEN
T-20	CONCRETE TILE	CONCRETE COLLABORATIVE	POLISHED CONCRETE TILE	LAGUNA	ALABASTER	48" X 48" X 3/4"	LOBBY, STEPS, PUBLIC AREAS	USE MATCHING 4" X 4' BASE	1/8" GROUT/LATICRETE 24 NATURAL GREY	SALLY SMITHWICK 917 439 8059
T-21	PORCELAIN TILE	IRIS / VERSATILE	ECOCRETE	IRG1836130	SAGE	18" X 36" X 3/8"	MULTI PURPOSE ROOM		1/8" GROUT/LATICRETE 24 NATURAL GREY	ASHA PARKER 858 586 1446
T-22	CERAMIC TILE	SPEC CERAMIC	ORNAMENTA MISERIA E NOBILITA		GREGGIO FELICE	24" X 24" X 10 MM	SEVERY WALLS	USE SCHLUTER JOLLY TSBG	1/16" GROUT/LATICRETE 90 LIGHT PEWTER	BEN FRIESEN
T-23	CERAMIC TILE	SPEC CERMAIC - MIRAGE	TRANSITION	FADE TR 01-03, TR-01. TR-03		24" X 24" X 3/8"	DISH DROP OFF AREA WALLS	SEE ELEVATIONS FOR TILE PATTERN	1/16" GROUT/LATICRETE 90 LIGHT PEWTER	BEN FRIESEN
T-25	CERAMIC TILE	DALTILE	STUDIO D	ETERNAL WALL TILE	EM 10 WHITE SEGMENTS	6" X 6" X 1/8"	SERVERY ACCENT WALL TILE		1/8" GROUT - LATICRETE 44 BRIGHT WHITE	KYLEE MIDURA 858 344 0019
T-26	PORCELAIN TILE	EMSER TILE	EXPANSE	V54EXPAISN59 118H	ISLA NATURA HONED	59" X 118" X 6MM	RECEPTION DESK WALLS	USE SCHLUTER JOLLY TSI	1/16" GROUT/LATICRETE 17 MARBLE BEIGE	DANIELLE VOMBAUR 858 740 7681

RFI 2-00530 Alternate Tile ILO T-20 at Lobby Stair — RFI 2-00456 Clarification of Wall Section Callouts in Rm 310

095113 - ACOUSTICAL PANEL CEILINGS										
AP-1	ACOUSTIC PANEL CEILING	ARMSTRONG	ULTIMA HIGH NRC	1945	WHITE	2' X 4'	OPEN OFFICE AREAS		GRID: SUPRAFINE 9/16"	DAI-NEE TAN 949 275 8169
AP-2	ACOUSTIC PANEL CEILING	ARMSTRONG	CALLA HIGH TOTAL ACOUSTICS	2824	WHITE	2' X 2'	CONFERENCE ROOMS		GRID: SUPRAFINE 9/16"	DAI-NEE TAN 949 275 8169
AP-3	ACOUSTIC PANEL CEILING	ARMSTRONG	ULTIMA	1913	WHITE	2' X 4'	LABS	W/ 1'X4' SERVICE PNL.	GRID: PRELUDE 15/16"	DAI-NEE TAN 949 275 8169
AP-4	ACOUSTIC PANEL CEILING	ARMSTRONG	ULTIMA HEALTH ZONE	1938	WHITE	2' X 4'	BUFFER ROOMS (W/ 1'X4' SERVICE PNL.) AND KITCHEN		GRID: 15/16" CLEAN ROOM	DAI-NEE TAN 949 275 8169
AP-5	ACOUSTIC PANEL CEILING	ARMSTRONG	FINE FISSURED	1729	WHITE	2' X 4'	BACK OF HOUSE (MECH / ELEC, STORAGE)		GRID: PRELUDE 15/16"	DAI-NEE TAN 949 275 8169
AP-6	ACOUSTIC PANEL CEILING	ARMSTRONG	ULTIMA	1913	WHITE	2' X 4'	SOME LABS AND LAB CORRIDORS	USE SINGLE SPAN PRELUDE 730098HRC ON CORRIDORS	GRID: PRELUDE 15/16"	DAI-NEE TAN 949 275 8169
WP-1	ACOUSTIC PANEL CEILING	HUNTER DOUGLAS	TECHSTYLE WOOD	OAK WOOD	MEDIUM BROWN	4' X 6' + CUSTOM	FIRST FLOOR MULTI-PURPOSE RM.	SWING DOWN	USE MID SPAN SUPPORT AT 6' LENGHTS.	GORDON GRANT 858 560 1070
WP-3	WOOD PANEL CEILING	ARMSTRONG	WOODWORKS GRILLE TEGULAR	663112 GWN	WALNUT	24" X 48" X 2"	BREAKROOMS LEVEL 2, 3 and 4 - 1/2" X 1 1/2", 12 VERTICAL	USE #5823, BLACK ABOVE	15/16" HEAVY DUTY PRELUDE XL IN BLACK	DAI-NEE TAN 949 275 8169
WP-4	WOOD PANEL CEILING	ARMSTRONG	WOODWORKS GRILLE	7265 BO GWN	WALNUT	5/8" X 2-1/4" 6	SERVERY, WITH WOODWORKS SOLID WOOD TRIM 6'H	USE #5823, BLACK ABOVE	15/16" HEAVY DUTY PRELUDE XL IN BLACK	DAI-NEE TAN 949 275 8169
WP-5	WOOD PANEL CEILING	ARMSTRONG	WOODWORKS LINEAR	6440W1DC	WALNUT	96" x 3 3/4" x 3/4"	CONFERENCE LEVEL 3, W/ MATCHING WOODWORKS TRIM 6'H	USE #5823, BLACK ABOVE	15/16" HEAVY DUTY PRELUDE XL IN BLACK	DAI-NEE TAN 949 275 8169
095423 - LINEAR METAL CEILINGS										
LM-1	ACOUSTIC PANEL CEILING	HUNTER DOUGLAS	WOODWRIGHT EXTERIOR BOX	DEEP BOX 6	WALNUT	6" X 1"X CUSTOM	EXTERIOR SOFFIT	SEE DRAWING		GORDON GRANT 858 560 1070

RFI 2-00451 Confirm Telephone and Phone Rm Base Type

096513 - RESILIENT BASE										
B-1	BASE	JOHNSONITE		32	PEBBLE WG	4"	GENERAL OFFICE		USE W/ INTERFACE DUO TRIO	CARMELA LURIE 619 985 9319
B-2	BASE	JOHNSONITE		29	MOON ROCK WG	4"	FLEX ROOM AND COMN. ROOM AND WITH CF-1 FLOOR		USE W/ INTERFACE URBAN RETREAT	CARMELA LURIE 619 985 9319
B-3	BASE	JOHNSONITE		55	SILVER GREY	4"	TYPICAL LAB FLOOR AND IT ROOM		USE W/ LAB VCT	CARMELA LURIE 619 985 9319
B-4	BASE	JOHNSONITE		280	SHORELINE	4"	TYPICAL LAB CORRIDOR AND WELLNESS AND BREAKROOM		USE W/ CORRIDOR VCT	CARMELA LURIE 619 985 9319
B-6	WOOD BASE		PT GRADE WD BASE		WALL COLOR	4"	MPR			

INTERIOR FINISH KEY SCHEDULE

CODE	MATERIAL NAME	MANUFACTURER	MATERIAL COLLECTION	MATERIAL PRODUCT NUMBER	MATERIAL COLOR	MATERIAL SIZE	MATERIAL LOCATION	INSTALLATION NOTES	MATERIAL COMMENTS	CONTACT
096516 - RESILIENT SHEET FLOORING										
RS-1	SHEET FLOORING	JOHNSONITE	IQ NATURAL	273	NIMBUS CG	6'6" ROLL	GMP LAB	SELF COVE		CARMELA LURIE 619 985 9319
096519 - RESILIENT TILE FLOORING										
LVT-1	LUXURY VINYL TILE	USF CONTRACT	STRATUM 700 WIDE PLANK	50DLV704	MONTEREY OAK	7 1/8" X 48" X 8mm	WELLNESS ROOMS AND BREAKROOM LEVEL 4	GLUE DOWN	USE ADHESIVE 30GT400	KIM MCVAY 562 900 2583
LVT-2	LUXURY VINYL TILE	INTERFACE	LEVEL SET COLLECTION	A00406	ANTIQUE LIGHT OAK	25CM X 1M	BREAKROOMS LEVEL 2 AND 3	TACK TILES	TEXTURED WOOD GRAINS	MATT PROBST 619 857 4179
VCT-1	VINYL COMPOSITION TILE	ARMSTRONG	STANDARD EXCELON-IMP TEXT	51861	SOFT WARM GRAY	12" X 12"	LAB FLOORS	GLUE DOWN	3 COATS OF FLOOR WAX	PAULA HABERKERN 619 756 3698
VCT-2	VINYL COMPOSITION TILE	ARMSTRONG	STANDARD EXCELON-RAVE	57515	HOT LIPS	12" X 12"	SECOND FLOOR - LIGHT RED ACCENT	GLUE DOWN	3 COATS OF FLOOR WAX	PAULA HABERKERN 619 756 3698
VCT-3	VINYL COMPOSITION TILE	ARMSTRONG	STANDARD EXCELON-IMP. TEXT.	51816	CHERRY RED	12" X 12"	SECOND FLOOR - DARK RED ACCENT	GLUE DOWN	3 COATS OF FLOOR WAX	PAULA HABERKERN 619 756 3698
VCT-4	VINYL COMPOSITION TILE	ARMSTRONG	STANDARD EXCELON-RAVE	57510	KICKIN KIWI	12" X 12"	THIRD FLOOR - LIGHT GREEN ACCENT	GLUE DOWN	3 COATS OF FLOOR WAX	PAULA HABERKERN 619 756 3698
VCT-5	VINYL COMPOSITION TILE	ARMSTRONG	STANDARD EXCELON-IMP. TEXT.	51824	SEA GREEN	12" X 12"	THIRD FLOOR - DARK GREEN ACCENT	GLUE DOWN	3 COATS OF FLOOR WAX	PAULA HABERKERN 619 756 3698
VCT-6	VINYL COMPOSITION TILE	ARMSTRONG	STANDARD EXCELON-RAVE	57512	BIKINI BLUE	12" X 12"	FOURTH FLOOR - LIGHT BLUE ACCENT	GLUE DOWN	3 COATS OF FLOOR WAX	PAULA HABERKERN 619 756 3698
VCT-7	VINYL COMPOSITION TILE	ARMSTRONG	STANDARD EXCELON-IMP. TEXT.	51821	CARIBBEAN BLUE	12" X 12"	FOURTH FLOOR - DARK BLUE ACCENT	GLUE DOWN	3 COATS OF FLOOR WAX	PAULA HABERKERN 619 756 3698
VCT-8	VINYL COMPOSITION TILE	ARMSTRONG	MIGRATIONS BBT	T3509	MUSHROOM BEIGE	12" X 12"	LAB CORRIDORS	GLUE DOWN	3 COATS OF FLOOR WAX	PAULA HABERKERN 619 756 3698
096566 - STATIC CONTROL RESILIENT FLOORING										
SCT-1	STATIC CONTROL	FORBO	CLOREX VINYL TILE	SD 150207	QUARTZ	24" X 24"	IT ROOMS	GLUE DOWN	USE B-3	NICOLE RIVERIA 619 213 7232
096723 - RESINOUS FLOORING										
RF-1	EPOXY	STONHARD	STONETECK	TRF	SANTA CRUZ		W/ INTEGRAL COVE BASE			GEREMY 619-8864265
RF-2	EPOXY	STONHARD	STONESHIELD	HR-1	DRIFTWOOD		BUFFER ROOM W/ INTEGRAL COVE BASE			GEREMY 619-8864265
RF-3	EPOXY	STONHARD	STONECLAD	UT	PEWTER		KITCHE W/ INTEGRAL COVE BASE			GEREMY 619-8864265
096813 - CARPET TILE										
CP-1	CARPET TILE	INTERFACE	DUO TRIO	D-103870, T-103878	D-ASH, T-LINEN ASH	25CM X 1M	OPEN OFFICE	ASHLAR, TACK TILES	100% RECYCLED CONTENT TYPE 6 NYLON	MATT PROBST 619 857 4179
CP-2	CARPET TILE	INTERFACE	URBAN RETREAT	102996	STONE	50 CM X 50 CM	FLEX ROOM, TELE ROOM, COMM ROOM	TACK TILES	100% RECYCLED SOLUTION DYED NYLON	MATT PROBST 619 857 4179
CP-3	CARPET TILE	INTERFACE FLOOR	URBAN NATURE	URBAN NATURE	STONE GRASS	50 CM X 50 CM	FLEX ROOM, TELE ROOM, COMM ROOM	TACK TILES	100% RECYCLED SOLUTION DYED NYLON	MATT PROBST 619 857 4179
CP-4	CARPET TILE	INTERFACE	URBAN RETREAT	100641	GRASS	50 CM X 50 CM	FLEX ROOM, TELE ROOM, COMM ROOM	TACK TILES	100% RECYCLED SOLUTION DYED NYLON	MATT PROBST 619 857 4179
CP-5	CARPET TILE	SHAW CONTRACT	CONFIGURE	5T161	59991 - BRILLIANT	24.9"H X 28.8 DIA	MPR, PER PLAN	LOKDOTS	ECOSOLUTION Q W/ ECOWORKS BACKING	CATHY MILLER
CP-6	CARPET TILE	SHAW CONTRACT	CONFIGURE	5T160	59518 - BRILLIANT PROPORTION	24.9"H X 28.8 DIA	MPR, PER PLAN	LOKDOTS	ECOSOLUTION Q W/ ECOWORKS BACKING	CATHY MILLER
CP-7	CARPET TILE	SHAW CONTRACT	CONFIGURE	5T159	59518 - PROPORTION	24.9"H X 28.8 DIA	MPR, CORRIDOR, PER PLAN	LOKDOTS	ECOSOLUTION Q W/ ECOWORKS BACKING	CATHY MILLER
CP-8	CARPET TILE	SHAW CONTRACT	CONFIGURE	5T161	59615 - SOCIAL	24.9"H X 28.8 DIA	MPR, PER PLAN	LOKDOTS	ECOSOLUTION Q W/ ECOWORKS BACKING	CATHY MILLER
CP-9	CARPET TILE	SHAW CONTRACT	CONFIGURE	5T160	59596 - SOCIAL DIALOGUE	24.9"H X 28.8 DIA	MPR, PER PLAN	LOKDOTS	ECOSOLUTION Q W/ ECOWORKS BACKING	CATHY MILLER
CP-10	CARPET TILE	SHAW CONTRACT	CONFIGURE	5T159	59596 - DIALOGUE	24.9"H X 28.8 DIA	MPR, CORRIDOR, PER PLAN	LOKDOTS	ECOSOLUTION Q W/ ECOWORKS BACKING	CATHY MILLER
CP-11	CARPET TILE	SHAW CONTRACT	CONFIGURE	5T161	59325 - SUBLIME	24.9"H X 28.8 DIA	MPR, PER PLAN	LOKDOTS	ECOSOLUTION Q W/ ECOWORKS BACKING	CATHY MILLER
CP-12	CARPET TILE	SHAW CONTRACT	CONFIGURE	5T160	59104 - SUBLIME SHIFT	24.9"H X 28.8 DIA	MPR, PER PLAN	LOKDOTS	ECOSOLUTION Q W/ ECOWORKS BACKING	CATHY MILLER
CP-14	CARPET TILE	INTERFACE	HUMAN NATURE	HN 840	SHALE -104226	25CM X 1M	CONFERENCE ROOM LEVEL 3	ASHLAR, TACK TILES	100% RECYCLED CONTENT TYPE 6 NYLON	MATT PROBST 619 857 4179
CP-15	CARPET TILE	INTERFACE	HUMAN NATURE	HN 850	SHALE - 104210	25CM X 1M	CONFERENCE ROOM LEVEL 3 BORDER	ASHLAR, TACK TILES	100% RECYCLED CONTENT TYPE 6 NYLON	MATT PROBST 619 857 4179
CP-20	CARPET TILE	INTERFACE	ON LINE	#138700AK00	103801 POPPY	25CM X 1M	ACCENT CARPET LEVEL 2	TACK TILES	100% RECYCLED CONTENT TYPE 6 NYLON	MATT PROBST 619 857 4179
CP-21	CARPET TILE	INTERFACE	ON LINE	#138700AK00	103798 LIME	25CM X 1M	ACCENT CARPET LEVEL 3	TACK TILES	100% RECYCLED CONTENT TYPE 6 NYLON	MATT PROBST 619 857 4179
CP-22	CARPET TILE	INTERFACE	ON LINE	#138700AK00	103799 LAPIS	25CM X 1M	ACCENT CARPET LEVEL 4	TACK TILES	100% RECYCLED CONTENT TYPE 6 NYLON	MATT PROBST 619 857 4179
WMT-1	WALK OFF MAT	CS- ENTRANCE FLOOR	GRID LINE 2 W/ SLIP NOT	G6P(SN)(3/4")	TBD	PER PLAN	AT ATRIUM, RECESSED			
097200 - WALL COVERINGS										
WC-1	WALLCOVERING	TRIKES	LANARK - RIO	LSC.RO. 03	SILVER FIR	54" WIDE ROLL	ELEVATOR LOBBY L2, L3 AND L4		100% VYNIL CLASS A	
WC-2	WALLCOVERING	BLEND	CUSTOM	CUSTOM	CUSTOM	54" WIDE ROLL	REFER TO FINISH PLANS	CUSTOM IMAGE	100% VYNIL CLASS A	RON LEWIS 858 9527 611
WC-3	WALLCOVERING	KOROSEAL	ARBOR WOOD WALLCOVERING	RECON HAVANA	AA5611HAV		LOBBY NICHE AND L3 MEETING ROOM		VENEER	SHARLENE M. 858-449-4546
097720 - DECORATIVE FIBERGLASS REINFORCED WALL PANELS										
FRP-1	FIBERGLASS REINF.	MARLITE	PEBBLED SURFACE	P 440N	BISCUIT	4' x 10' x 3/32"	WASH RM AND BUFFER RM (WASH)			
099123 - INTERIOR PAINTING										
P-1	PAINT	SHERWIN WILLIAMS		SW 7042	SHOJI WHITE		TYPICAL WALL COLOR	SATIN FINISH		
P-2	PAINT	SHERWIN WILLIAMS		SW 7004	SNOWBOUND		TYPICAL CEILING COLOR	FLAT FINISH		
P-3	PAINT	SHERWIN WILLIAMS		SW 7015	REPOSE GRAY		TYPICAL RESTROOM WALLS + DOORS AND DOOR FRAME	SATIN FINISH		
P-4	PAINT	SHERWIN WILLIAMS		SW 6314	LUXURIOUS RED		DARK RED LEVEL 2 ACCENT PAINT	SATIN FINISH		
P-5	PAINT	BENJAMIN MOORE		2003-20	STRAWBERRY RED		LIGHT RED LEVEL 2 ACCENT PAINT	SATIN FINISH		
P-6	PAINT	BENJAMIN MOORE		2041-20	FIDDLEHEAD GREEN		DARK GREEN LEVEL 3 ACCENT PAINT	SATIN FINISH		
P-7	PAINT	SHERWIN WILLIAMS		SW 9030	LIMON FRESCO		LIGHT GREEN LEVEL 3 ACCENT PAINT	SATIN FINISH		
P-8	PAINT	DUNN EDWARDS		DE5839	INK BLOTCH		DARK BLUE LEVEL 4 ACCENT PAINT	SATIN FINISH		
P-9	PAINT	SHERWIN WILLIAMS		SW 6788	CAPRI		LIGHT BLUE LEVEL 4 ACCENT PAINT	SATIN FINISH		
P-10	PAINT	SHERWIN WILLIAMS		SW 6983	FULLY PURPLE		DARK PURPLE LEVEL 1 ACCENT PAINT	SATIN FINISH		
P-11	PAINT	SHERWIN WILLIAMS		SW 6831	CLEMATIS		LIGHT PURPLE LEVEL 1 ACCENT PAINT	SATIN FINISH		
P-12	PAINT	SHERWIN WILLIAMS		SW 6914	EYE CATCHING		YELLOW LEVEL 1 ACCENT PAINT	SATIN FINISH		
P-13	PAINT	SHERWIN WILLIAMS		SW 7073	NETWORK GRAY		DARK GREY ACCENT PAINT	SATIN FINISH		
P-14	PAINT	SHERWIN WILLIAMS		SW 7037	BALANCED BEIGE		ATRIUM RECEPTION DOOR PAINT	SATIN FINISH		
P-DE	PAINT	SHERWIN WILLIAMS	DRY ERASE	DRY ERASE			REFER TO FINISH PLANS			
122413 - ROLLER WINDOW SHADES										
RWS-1	ROLLER WINDOW SHADE	LUTRON	SHEER LITE	SHL-212-5	CHARCOAL GREY	5'-6" W	5% NORTH WINDOWS, PER PLAN			DENISE JENKINS 858 254 9047
RWS-2	ROLLER WINDOW SHADE	LUTRON	SHEER LITE	SHL-212-3	CHARCOAL GREY	5'-6" W	3% SOUTH, WEST, AND EAST WINDOWS, PER PLAN			DENISE JENKINS 858 254 9047
RWS-3	ROLLER WINDOW SHADE	LUTRON	BLACKOUT		CHARCOAL GREY	5'-6" W	ROOM 263			DENISE JENKINS 858 254 9047

LICENSED ARCHITECT MICHAEL L. ASARO C-22519 REN 05/31/19 STATE OF CALIFORNIA

CP-2
VOLUME 2

PROJECT NO. 16148

REV NO.	DATE ISSUED	REASON
	04.25.17	DESIGN DEVELOPMENT
	08.08.17	CITY SUBMITTAL SET
2.1	08.29.17	ADDENDUM #2.1
2.2	10.03.17	ADDENDUM 2.2
2.3	11.20.17	ASI 2.1/IFC
2.5	01.26.18	ASI 2.3 BUFFER ROOM REVISIONS
2.6	01.19.18	ASI 2.4
2.8	02.14.18	ASI 2.8
2.9	03.29.18	ASI 2.9
2.11	05.11.18	ASI 2.11
2.12	06.05.18	ASI 2.12
2.13	07.27.18	ASI 2.13

IFC 11.20.17

Sheet Title
FINISH SCHEDULE PT.1

Sheet No.
2I-601

DPR Issued Sheet 2018-07-27
Link to the Sheet - 2G-002

SHADED AREA DENOTES 1 1/2", 18 GA. STEEL DECK W/ 3 1/4" (MIN) TO 4 3/4" (MAX) LT.WT. CONC. W/ #3@18" O.C. PER EXACT LOCATION OF SLAB DEPRESSION PER ARCH. (7 / 2S-014)

RFI 2-00040 Sequence 1 Steel (RFIs 73 - 76)

RFI 2-00210 Confirm Ramps at Cold Rooms (Level 2-4)

RFI 2-00178 Mislocated VSE on Side Plate Beam

RFI 2-00052 Openings Modified by ASI 2.1 Sequence 1 Steel

RFI 2-00021 - Schuff Steel RFIs 54 Through 62

RFI 2-00148 - Angle Steel Brace vs. Conduit: Lvl 1-3

RFI 2-00314 Added Tube Steel for Elevator Guide Rail Support

RFI 2-00269 Penetration Support Steel Level 2 Through Roof

RFI 2-00269 Penetration Support Steel Level 2 Through Roof

3", 20 GA. STEEL DECK W/ 3 1/4" (MIN) LT.WT. CONC. W/ #3@18" O.C. PER (2 / 2S-014)

RFI 2-00333 Adding 4x4 post in ATS room 128 for electrical support

RFI 2-00052 Openings Modified by ASI 2.1 Sequence 1 Steel

RFI 2-00204 Beam Location 2nd level Stair 5

RFI 2-00246 Stair 5 Stringer Attachment Modifications

RFI 2-00040 Sequence 1 Steel (RFIs 73 - 76)

RFI 2-00036 Schuff Steel RFIs 41, 63, and 68

RFI 2-00040 Sequence 1 Steel (RFIs 73 - 76)

RFI 2-00034 Order Fulfillment- Clarification to Cold Room Floor Drain Locations & Depressed Slabs

RFI 2-00034.1 Revision to RFI 2-00034 to Provide Final Direction on Floor Sinks-Drains Locations

RFI 2-00102 Confirm Current Conduit Bank Conditions & Updates to Freezer Room Slab are Acceptable

RFI 2-00470 Green Roof Sloping to Drains

RFI 2-00212 Stepped Green Roof Vertical Bent Plate

TOP OF STEEL AT GREEN ROOF ALONG GRID LINE 306 = 20'-6"

TOP OF STEEL AT GREEN ROOF ALONG GRIDLINE (X) = 20'-6"

AT GREEN ROOF 3", 18 GA. STEEL DECK W/ 4 1/2" (MIN) NORMAL WT. CONC. W/ #3@12" O.C. PER (2 / 2S-014)

DOUBLE HSS5x5x3/8 ELEVATOR GUIDERAIL SUPPORT PER (20 / 2S-013) + (30 / 2S-013) TYP

HSS7x5x1/2 ELEVATOR GUIDERAIL SUPPORT PER (20 / 2S-013) TYP

STAIR FRAMING PER (1 / 2S-603)

SHEET1 / 2S-123

SHEET1 / 2S-123

FLOOR FRAMING NOTES:

1. FOR FRAMING NOTES AND LEGENDS, SEE SHEET 2S-121.
2. DETAILS 8/2S-553 AND 13/2S-553 CONFORM TO THE CONFINEMENT DETAIL AS REQUIRED BY CONDITION #2 ON CITY OF LOS ANGELES REPORT #RR-25746 (TILE TECH PAVERS PEDESTAL SYSTEM) AND PROVIDES SEISMIC STABILITY AS REQUIRED THEREON.

2 FRAMING PLAN AT STEPPED GREEN ROOF
1/8" = 1'-0"

1 SECOND LEVEL FRAMING PLAN - PART A
1/8" = 1'-0"

RFI 2-00007 Clarification for Missing Tie-in Dimensions

RFI 2-00007.1 Clarification for Missing Tie-in Dimensions Revision

RFI 2-00059 Sequence 1 Steel Missing Dimensions

RFI 2-00066 Clarification to EOS Locations & Dimensions

RFI 2-00112.1 Confirm Framing Infill for Lvl 1 Overhead SFD

SCALE: 1/8" = 1'

CHARLES B. HOPE, JR.
No. 40784
Exp. 3-31-19
CIVIL
STATE OF CALIFORNIA
SIGNED: 08/08/2017
NO: 216188.20

CP-2
VOLUME 1

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PROJECT NO. 16148

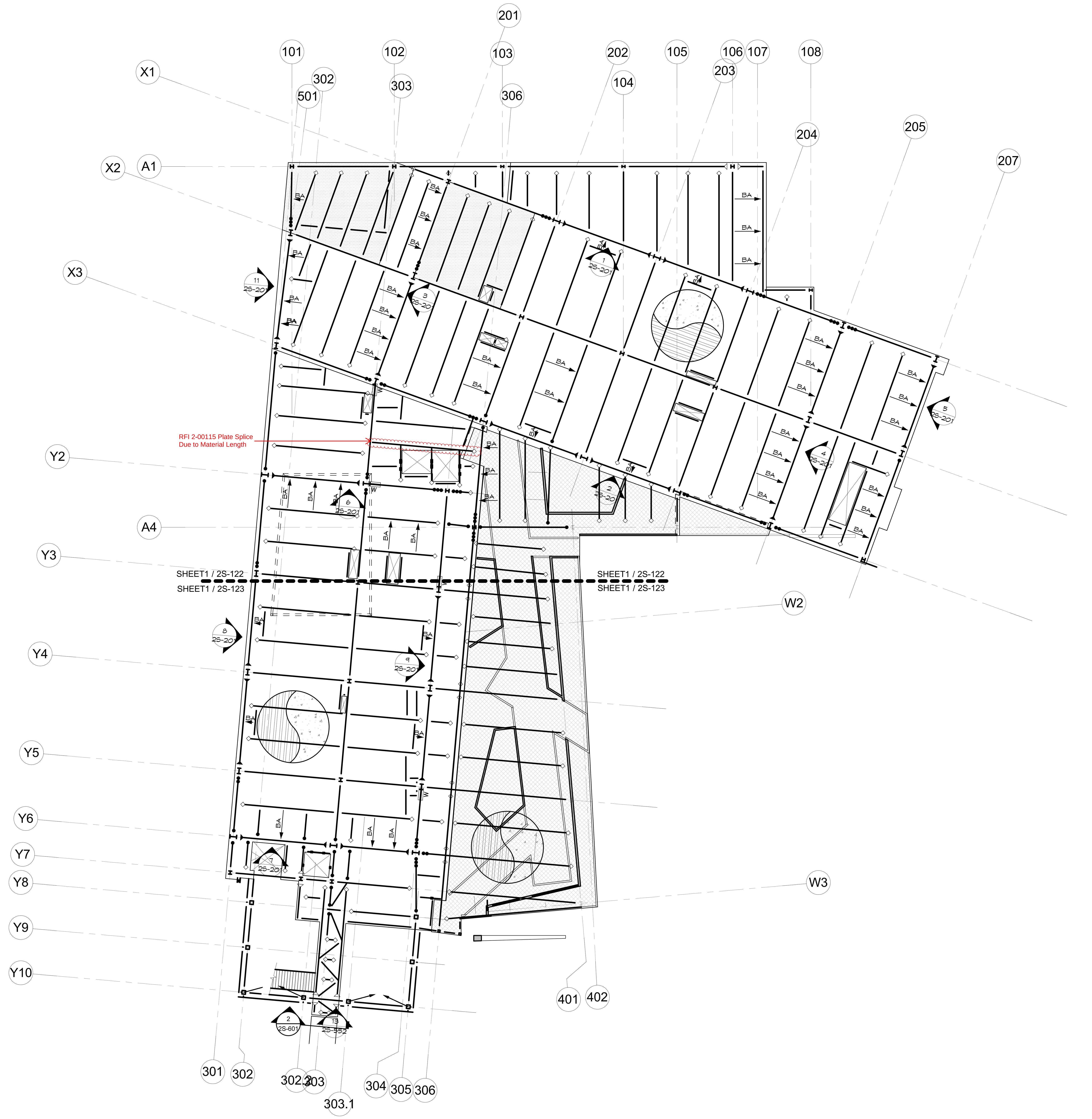
REV NO.	DATE ISSUED	REASON
	04.25.17	DESIGN DEVELOPMENT
	07.10.17	STRUCT. STEEL BID SET
	08.08.17	CITY SUBMITTAL SET
2.1	08.29.17	ADDENDUM #2.1
2.2	10.03.17	ADDENDUM #2.2
2.3	11.20.17	ASI 2.1/IFC
2.8	02.14.18	ASI 2.8

IFC 11.20.17

Sheet Title
SECOND LEVEL FRAMING PLAN - PART A

Sheet No.
2S-122

DPR Issued Sheet 2018-02-14
Link to the Sheet - 2G-002



FLOOR FRAMING NOTES:

1. TOP OF STEEL ELEVATION = 22'-1 3/4" U.O.N.
2. TOP OF CONCRETE ELEVATION = 22'-8" U.O.N.
3. WHERE SPACING OF BEAMS NOT INDICATED, PROVIDE EQUAL SPACING WITHIN EACH BAY.
4. WHERE 3" STEEL FLOOR DECK WITH CONCRETE FILL IS INDICATED, STEEL DECK SHALL BE 20 GA. VERCO PLW3 FORMLOCK VENTED AND GALVANIZED (IAPMO UES ER-0217)OR APPROVED EQUAL. U.O.N., MAX. SPAN = 11'-6" (MIN. 2 SPAN) OR 10'-6" (SINGLE SPAN).
5. WHERE 1 1/2" STEEL FLOOR DECK WITH CONCRETE FILL IS INDICATED, STEEL DECK SHALL BE 18 GA. VERCO PLB FORMLOK VENTED AND GALVANIZED (IAPMO UES ER-0217) OR APPROVED EQUAL, U.O.N. MAX. SPAN = 9'-6" (MIN. 2 SPAN) OR 8'-6" (SINGLE SPAN).
6. THE CONCRETE FLOOR THICKNESS SHALL BE PLACED AND MONITORED PER 4 / 2S-014
7. FOR SIZE AND LOCATIONS OF CURBS AND SLAB OPENINGS, REFER TO ARCH. DWGS.
8. WHERE FLOOR FINISHES HAVE MORE STRINGENT REQUIREMENTS FOR LEVELNESS, FLATNESS OR MOISTURE BARRIER MAY BE APPLIED. THE DESIGN OF THE FLOOR ACCOUNTS FOR AN AVERAGE THICKNESS OF 3/8" AND A MAXIMUM OF 3/4" OF LEVELING AGENT.
9. SEE GENERAL NOTES AND TYP. DETAILS FOR INFO NOT REFERENCED. TYPICAL DETAILS SHALL BE FOLLOWED WHERE APPLICABLE WHETHER OR NOT THEY ARE REFERENCED ON PLAN.
10. SEE ARCHITECTURAL DRAWINGS FOR
    A) SLAB EDGE DIMENSION
    B) OPENING SIZES AND LOCATIONS
    C) SLOPES AND DEPRESSION SIZES AND LOCATIONS
    D) SLAB ELEVATIONS
    E) CURB LOCATIONS

    COLUMNS ARE CENTERED ON GRID LINES UNLESS DIMENSIONED OTHERWISE.

2.3

11. ANCHORAGE OF NON-STRUCTURAL COMPONENTS SHALL BE BOLTED, WELDED OR OTHERWISE POSITIVELY FASTENED WITHOUT THE CONSIDERATION OF THE FRICTIONAL RESISTANCE PRODUCED BY THE EFFECT OF GRAVITY.

FLOOR FRAMING LEGEND:

MOMENT FRAME CONNECTION PER FRAME ELEVATIONS.

W18x50 [30] — BEAM SIZE AND STUD COUNT. U.O.N., STUDS ARE TO BE DISTRIBUTED UNIFORMLY OVER ENTIRE LENGTH OF BEAM. IF DECK CELL LAYOUT IS SUCH THAT UNIFORM DISTRIBUTION IS NOT POSSIBLE. PLACE EXTRA CONNECTORS TOWARD EACH END OF BEAM STUD LENGTH PER 5 / 2S-014

(c=1") — UPWARD CAMBER AT MIDSPAN

(-6") — TOP OF STEEL (RELATIVE TO TYPICAL STEEL ELEVATION)

BA — BRACE ANGLE PER 3 / 2S-013

BOTT. FLANGE CONNECTION

BA — MOMENT JOINT BRACE ANGLE PER 3 / 2S-013 SPACING PER 29 / 2S-202

FULL HEIGHT STIFFENER PLATE PER 2 / 2S-013

USE OF A325SC (SLIP CRITICAL) BOLTS AT BEAM CONNECTION, PER 1 / 2S-203

RFI 2-00040 Sequence 1 Steel (RFIs 73 - 76)

INDICATES SLAB DEPRESSION PER 13 / 2S-551 COORDINATE WITH ARCH DWGS.

INDICATES STEP IN CONCRETE/STEEL DECK PER 18 / 2S-551

W — WELDED DRAG CONNECTION PER 2 / 2S-203

PROFESSIONAL ENGINEER CHARLES B. HOPE JR. No. 40784 Exp. 3-31-19 CIVIL STATE OF CALIFORNIA

SIGNED: 08/08/2017
NO: 216188.20

CP-2
VOLUME 1

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PROJECT NO. 16148

REV NO.	DATE ISSUED	REASON
	04.25.17	DESIGN DEVELOPMENT
	07.10.17	STRUCT. STEEL BID SET
	08.08.17	CITY SUBMITTAL SET
2.1	08.29.17	ADDENDUM #2.1
2.3	11.20.17	ASI 2.1/IFC

CITY SUBMITTAL SET
08.08.17

Sheet Title

OVERALL SECOND LEVEL FRAMING PLAN

Sheet No.
2S-121

1 OVERALL SECOND LEVEL FRAMING PLAN

1/16" = 1'-0"

0 8' 16' 32'
SCALE: 1/16" = 1'

N

STRUCTURAL NOTES

A. BASIS OF DESIGN:

1. THE STRUCTURAL DESIGN HAS BEEN PERFORMED IN ACCORDANCE WITH THE 2016 CALIFORNIA BUILDING CODE (CBC).

2. LIVE LOADS (MAY BE REDUCED IN ACCORDANCE WITH THE BUILDING CODE)

ROOF	20 psf
FLOOR	125 psf
EXITS AND STAIRS	100 psf
ASSEMBLY AREAS	100 psf
MEZZANINE	250 psf
WALKABLE CEILING	20 psf

3. SEISMIC DESIGN DATA

RISK CATEGORY	II
SEISMIC IMPORTANCE FACTOR	$I_E = 1.0$
MAPPED SPECTRAL ACCELERATION	$S_S = 0.988$
MAPPED SPECTRAL ACCELERATION	$S_1 = 0.380$
SITE CLASS	C
SITE COEFFICIENT	$F_a = 1.005$
SITE COEFFICIENT	$F_v = 1.420$
DESIGN SPECTRAL ACCELERATION	$S_{DS} = 0.662$
DESIGN SPECTRAL ACCELERATION	$S_{D1} = 0.360$
SEISMIC DESIGN CATEGORY	D
PARTITION LOADING AT FLOORS	10 psf
PARTITION LOADING AT ROOFS	5 psf
ANALYSIS PROCEDURE USED	MODAL RESPONSE SPECTRUM (SEE NOTE 4)
FOR LONGITUDINAL & TRANSVERSE DIRECTION	
SEISMIC FORCE RESISTING SYSTEM	STEEL SPECIAL MOMENT FRAMES
RESPONSE MODIFICATION FACTOR	$R = 8$
SYSTEM OVERSTRENGTH FACTOR	$\Omega = 3$
DEFLECTION AMPLIFICATION FACTOR	$C_d = 5.5$
REDUNDANCY FACTOR	$\rho = 1.3$
SEISMIC RESPONSE COEFFICIENT	$C_S = .038$
DESIGN BASE SHEAR	V = 540 kips

4. THE MODAL RESPONSE SPECTRUM ANALYSIS IS BASED ON THE DESIGN RESPONSE SPECTRUM IN ASCE 7, FIGURE 11.4-1.

5. WIND DESIGN DATA

RISK CATEGORY	II
BASIC WIND SPEED	V = 110 mph
EXPOSURE CATEGORY	
NORTH QUADRANT	C
EAST QUADRANT	C
SOUTH QUADRANT	C
WEST QUADRANT	C
ENCLOSURE CATEGORY	ENCLOSED
GUST & INTERNAL PRESSURE COEFF	$GC_{PI} = 0.18$
DIRECTIONALITY FACTOR	$K_d = 0.85$
TOPOGRAPHIC FACTOR	$K_{zt} = 1.00$
TOPOGRAPHIC FACTOR	$K_1 = 0.00$
TOPOGRAPHIC FACTOR	$K_2 = 0.00$
TOPOGRAPHIC FACTOR	$K_3 = 0.00$

B. DEFERRED APPROVALS:

1. THE FOLLOWING COMPONENTS REQUIRE DEFERRED APPROVAL BY THE BUILDING OFFICIAL. STRUCTURAL CALCULATIONS AND DRAWINGS SIGNED AND SEALED BY A CALIFORNIA REGISTERED CIVIL ENGINEER SHALL BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER FOR REVIEW AND TO THE BUILDING OFFICIAL FOR PERMIT.
   A. AS INDICATED ON SHEET 2G-001

2. IN ADDITION TO THE SEAL OF THE RESPONSIBLE ENGINEER, DEFERRED SUBMITTAL PACKAGES SHALL BEAR THE SHOP DRAWING APPROVAL STAMPS OF THE ARCHITECT, ENGINEER AND THE GENERAL CONTRACTOR PRIOR TO BUILDING DEPARTMENT SUBMITTAL.

3. PLANS FOR DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED IN A TIMELY MANNER THAT ALLOWS A MINIMUM OF 30 WORKING DAYS FOR INITIAL PLAN REVIEW BY THE BUILDING OFFICIAL. ALL COMMENTS RELATED TO THE DEFERRED SUBMITTAL MUST BE ADDRESSED TO THE SATISFACTION OF THE PLAN CHECK DIVISION PRIOR TO PERMIT APPROVAL OF THE SUBMITTAL ITEMS.

4. DEFERRED SUBMITTAL ITEMS SHALL NOT BE FABRICATED PRIOR TO APPROVAL BY THE BUILDING OFFICIAL OF THE CALCULATIONS AND DRAWINGS.

C. PRE-ENGINEERED ELEMENTS TO BE ANCHORED TO THE BUILDING:

1. PRE-ENGINEERED STRUCTURAL AND NONSTRUCTURAL ELEMENTS AND THEIR ATTACHMENTS SUPPORTED BY THE BUILDING WHICH ARE NOT DETAILED ON THESE DRAWINGS SHALL BE DESIGNED BY OTHER RESPONSIBLE PARTIES.

2. SPECIAL INSPECTION AND TESTING IS REQUIRED IN ACCORDANCE WITH SECTIONS 1704 AND 1705 OF THE BUILDING CODE AND THE "STATEMENT OF SPECIAL INSPECTIONS" ON THESE CONSTRUCTION DOCUMENTS.

3. DESIGN CALCULATIONS AND DRAWINGS, SIGNED AND SEALED BY A CALIFORNIA REGISTERED CIVIL ENGINEER, SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND TO THE BUILDING OFFICIAL FOR PERMIT, PRIOR TO FABRICATION AND INSTALLATION. CALCULATIONS SHALL CLEARLY IDENTIFY LOADS IMPOSED ON THE BUILDING STRUCTURE.

4. SUCH ELEMENTS AND THEIR ATTACHMENTS SHALL BE DESIGNED IN ACCORDANCE WITH ASCE 7, CHAPTER 13, SECTIONS OF THE AISI SPECIFICATIONS AND THE MSMA RECOMMENDED DESIGN PRACTICE MANUAL, AS ARE APPLICABLE.

5. EQUIPMENT WEIGHING IN EXCESS OF 400 POUNDS SHALL NOT EXCEED THE WEIGHT NOR DEVIATE FROM THE LOCATION AS IDENTIFIED ON THE STRUCTURAL DRAWINGS.

6. NONSTRUCTURAL ELEMENTS THAT CONTAIN OR TRANSMIT HAZARDOUS MATERIALS OR THAT ARE REQUIRED TO FUNCTION FOR LIFE-SAFETY PURPOSES FOLLOWING AN EARTHQUAKE ARE DEFINED AS "DESIGNATED SEISMIC EQUIPMENT SYSTEMS." THE FOLLOWING SHALL BE CONSIDERED AS COMPONENTS OF DESIGNATED SEISMIC EQUIPMENT SYSTEMS:
   A. EMERGENCY GENERATORS
   B. FUEL SUPPLY SYSTEMS
   C. FIRE SUPPRESSION SYSTEMS

7. EACH MANUFACTURER OF A COMPONENT OF A DESIGNATED SEISMIC EQUIPMENT SYSTEM SHALL QUALIFY THE COMPONENT AND ITS MOUNTING SYSTEM OR ANCHORAGE BY TESTING OR ANALYSIS IN ACCORDANCE WITH ASCE 7 SECTION 13.2. A CERTIFICATE OF COMPLIANCE SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND TO THE BUILDING OFFICIAL FOR PERMIT. (WHERE CERTIFICATES ARE BASED ON ANALYSIS, THE ANALYSIS SHALL BE SIGNED BY A CALIFORNIA-REGISTERED CIVIL ENGINEER.)

8. AT CONNECTIONS TO STRUCTURE, PROVIDE STABILIZING ELEMENTS SUCH AS BRACES, STIFFENER PLATES, ETC., SO AS TO NOT IMPOSE ECCENTRIC LOADING, TWISTING, OR WARPING TO STRUCTURAL MEMBERS. PROVIDE MATERIAL AND INSTALL STABILIZING ELEMENTS.

9. ELEMENTS THAT ARE ATTACHED TO THE BUILDING SHALL BE DESIGNED TO ACCOMMODATE MOVEMENTS OF THE STRUCTURE BASED ON THE MAXIMUM INELASTIC RESPONSE DISPLACEMENT, δ_M PER ASCE 7, SECTION 12.12.3. THE VALUES OF. δ_M ARE AS FOLLOWS:

	δ_M
LEVEL ROOF	9.25"
LEVEL 4	7.5"
LEVEL 3	5.25"
LEVEL 2	2.75"
LEVEL MEZZANINE	2.0"

RFI 2-00180 Bent Plate Splice

D. SUBMITTALS:

1. THE CONTRACTOR SHALL MAKE SUBMITTALS PRIOR TO FABRICATION AS REQUIRED BY THE WRITTEN SPECIFICATIONS AND SHALL INCLUDE AS A MINIMUM THE FOLLOWING SUBMITTALS:
   A. CONCRETE MIX DESIGNS.
   B. REINFORCING STEEL DRAWINGS.
   C. CONTROL JOINT/CONSTRUCTION JOINT LOCATIONS.
   D. PENETRATIONS THOUGH STRUCTURAL MEMBERS, INCLUDING SIZES AND LOCATIONS OF SLEEVES, FOR THE FIRE SUPPRESSION SYSTEM [AND OTHER UTILITY SYSTEMS].
   E. MASONRY GROUT MIX DESIGNS
   F. MASONRY UNIT CERTIFICATES
   G. STRUCTURAL STEEL DRAWINGS
   H. STEEL STAIRS DRAWINGS.
   I. DEFERRED APPROVAL STEEL STAIRS DRAWINGS AND CALCULATIONS (SIGNED BY A CALIFORNIA-REGISTERED CIVIL ENGINEER).
   J. COLD-FORMED STEEL DECK DRAWINGS.
   K. DEFERRED APPROVAL COLD-FORMED STEEL FRAMING DRAWINGS AND CALCULATIONS (SIGNED BY A CALIFORNIA-REGISTERED CIVIL ENGINEER).
   L. WELDING PROCEDURES (SHOP AND FIELD WELDING).
   M. GLAZED CURTAIN WALL DRAWINGS AND CALCULATIONS (SIGNED BY A CALIFORNIA-REGISTERED CIVIL ENGINEER).
   N. MANUFACTURER'S CERTIFICATES OF COMPLIANCE FOR DESIGNATED SEISMIC EQUIPMENT SYSTEMS IN ACCORDANCE WITH SECTION 1708.5 OF THE BUILDING CODE, PRIOR TO INSTALLATION.

2. THE FOLLOWING SUBMITTALS ARE NOT REQUIRED FOR STRUCTURAL REVIEW:
   A. SHORING AND BRACING.
   B. PICK-UP INSERTS.
   C. WINDOW MULLIONS
   D. UNSPLICED REBAR AT SLAB-ON-GRADE AND FOOTINGS
   E. FORMWORK.
   F. STRUCTURAL STEEL MILL REPORTS.
   G. WELDER CERTIFICATIONS
   H. WWF FOR CONCRETE OVER STEEL DECK.

3. STEEL REINFORCING LISTS AND QUANTITIES AND LENGTHS OF ALL MATERIALS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ASSURE COMPLIANCE WITH THE PLANS. ENGINEER WILL NOT REVIEW.

4. SUBMITTALS MADE TO THE ENGINEER FOR REVIEW SHALL BE STAMPED AND SIGNED BY THE CONTRACTOR INDICATING THE CONTRACTORS PRIOR REVIEW AND THAT THE SUBMITTAL IS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

5. SUBMITTALS SHALL BE MADE IN ELECTRONIC (PDF) FORMAT. SUBMITTALS WILL BE PROCESSED AND RETURNED ELECTRONICALLY.

E. GENERAL:

1. SPECIFIC NOTES AND DETAILS ON THE STRUCTURAL DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.

2. THE REQUIREMENTS ON THE STRUCTURAL DRAWINGS SHALL TAKE PRECEDENCE OVER THE STRUCTURAL BUILDING INFORMATION MODEL. THE STRUCTURAL BUILDING INFORMATION MODEL SHALL NOT BE RELIED ON FOR UNDERSTANDING CONSTRUCTION REQUIREMENTS.

3. WHERE NO DETAILS ARE SHOWN, OR NOTED IN ANY PART OF THE WORK THE DETAILS FOR OTHER SIMILAR WORK SHALL APPLY

4. DETAILS IDENTIFIED AS TYPICAL, SHALL APPLY IN ESTIMATING AND CONSTRUCTION TO EVERY LIKE CONDITION WHETHER OR NOT THE REFERENCE IS REPEATED.

5. THE STRUCTURAL DRAWINGS AND STRUCTURAL BUILDING INFORMATION MODEL SHALL NOT BE SCALED. COORDINATE DIMENSION, ELEVATION, SLOPE AND DRAINAGE REQUIREMENTS WITH THE ARCHITECTURAL DRAWINGS.

6. STANDARDS REFERENCED ON THE STRUCTURAL DRAWINGS REFER TO THE EDITION APPLICABLE UNDER THE APPLICABLE BUILDING CODE.

7. THE RESPONSIBILITY FOR THE REVIEW AND COORDINATION OF DRAWINGS AND SPECIFICATIONS PRIOR TO THE START OF RELATED CONSTRUCTION SHALL BEAR ON THE CONTRACTOR. DISCREPANCIES THAT EXIST SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IN A TIMELY MANNER, PRIOR TO START OF RELATED CONSTRUCTION.

8. WORK PERFORMED IN CONFLICT WITH THE STRUCTURAL DRAWINGS OR APPLICABLE BUILDING CODE REQUIREMENTS SHALL BE CORRECTED AT THE EXPENSE OF THE CONTRACTOR.

9. EXISTING CONDITIONS SHALL BE VERIFIED BEFORE STARTING RELATED WORK. EXISTING CONDITIONS THAT ARE NOT REFLECTED ON THE STRUCTURAL DRAWINGS OR THAT DEVIATE FROM THE MAXIMUM OR MINIMUM DIMENSIONS INDICATED SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IN A TIMELY MANNER. SUCH CONDITIONS MAY INCLUDE CONFLICT IN GRADES, ADVERSE SOIL CONDITIONS, PRESENCE OF GROUND WATER, UNCOVERED OR UNEXPECTED EXISTING CONSTRUCTION CONFIGURATIONS, ETC.

10. MATERIALS AND WORKMANSHIP SHALL CONFORM TO REQUIREMENTS OF APPLICABLE REGULATIONS AND THE BUILDING CODE AS AMENDED AND ADOPTED BY THE BUILDING OFFICIAL.

11. LOADS TO THE BUILDING EXCEEDING THE LOADS INDICATED ON THE PLANS, OR ANY LOADS EXCEEDING 400 POUNDS THAT ARE NOT INDICATED ON THE STRUCTURAL DRAWINGS SHALL BE REPORTED TO THE ENGINEER.

F. TEMPORARY WORK AND SITE SAFETY:

1. THE STRUCTURAL DRAWINGS SHOW THE REQUIREMENTS FOR THE COMPLETED STRUCTURE ONLY. TEMPORARY WORKS REQUIRED TO COMPLETE THE CONSTRUCTION PROCESS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE STRUCTURAL ENGINEER SHALL NOT BE RESPONSIBLE FOR THE DESIGN OR FIELD VERIFICATION OF TEMPORARY AND ANCILLARY WORK.

2. THE RESPONSIBILITY FOR SAFETY IN AND AROUND THE JOBSITE SHALL BEAR ON THE CONTRACTOR. PROPER AND SAFE METHODS OF CONSTRUCTION SHALL BE EMPLOYED AT ALL TIMES INCLUDING THE STABILIZING OF INCOMPLETE STRUCTURES, FORMWORK, SHORING, RESHORING, FALSEWORK, PLATFORMS, SCAFFOLDING, BARRIERS, WALKWAYS, ETC. AND INCLUDING CONTROL OF THE INTENSITY, DURATION AND LOCATION OF CONSTRUCTION LOADS.

3. THE RESPONSIBILITY FOR THE DESIGN AND INSTALLATION OF ALL CRIBBING, SHEATHING, UNDERPINNING, AND SHORING REQUIRED TO SAFELY RETAIN ALL GRADES AND STRUCTURES SHALL BEAR ON THE CONTRACTOR.

4. CONSTRUCTION MATERIALS SHALL BE SPREAD OUT IF PLACED ON A STRUCTURE. LOADS SHALL NOT EXCEED THE DESIGN LIVE LOAD INDICATED. WHERE THE STRUCTURE HAS NOT ATTAINED FINAL DESIGN STRENGTH, ADEQUATE SHORING AND OR BRACING SHALL BE INSTALLED.

G. FOUNDATION:

1. THE RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL INVESTIGATION REPORT SHALL BE FOLLOWED:

BY: CONSTRUCTION TESTING & ENGINEERING, INC
DATED: DECEMBER 8, 2016
PROJECT NO: 10-13397G

2. DEVIATIONS IN GEOTECHNICAL CONDITIONS FROM THOSE DESCRIBED IN THE GEOTECHNICAL REPORT SHALL BE REPORTED TO THE STRUCTURAL AND GEOTECHNICAL ENGINEERS IN A TIMELY MANNER.

3. SPECIAL INSPECTION AND TESTING IS REQUIRED IN ACCORDANCE WITH SECTIONS 1704 AND 1705 OF THE BUILDING CODE AND THE "STATEMENT OF SPECIAL INSPECTIONS" ON THESE CONSTRUCTION DOCUMENTS.

4. RAMMED AGGREGATE PIER SYSTEM IS TO BE INSTALLED AT THE BUILDING FOUNDATIONS WHERE REQUIRED IN ACCORDANCE TO THE GEOTECHNICAL RECOMMENDATIONS.

5. THE MAXIMUM ALLOWABLE SOIL BEARING PRESSURE SHALL BE 7000 psf ON FORMATIONAL MATERIAL OR WHERE RAMMED AGGREGATE PIER SYSTEM HAS BEEN INSTALLED. AT OTHER LOCATIONS, THE MAXIMUM SOIL BEARING PRESSURE SHALL BE 3,000 psf. THE RESULTING ALLOWABLE BEARING VALUE MAY BE INCREASED BY 1/3 FOR WIND AND SEISMIC LOAD CASES.

6. THE EXPANSION INDEX HAS BEEN DETERMINED TO BE 50 OR LESS AND NO SPECIAL DESIGN RECOMMENDATIONS ARE REQUIRED.

7. FOOTING AND UTILITY TRENCH BACKFILL SHALL BE MECHANICALLY COMPACTED IN LAYERS SUBJECT TO THE APPROVAL OF THE GEOTECHNICAL ENGINEER. FLOODING WILL NOT BE PERMITTED.

8. LOOSE SOIL AND FILL MATERIAL SHALL BE COMPACTED ACCORDING TO THE REQUIREMENTS OF THE SOILS REPORT.

9. COMPACTION TEST REPORTS FOR FILL BY A QUALIFIED TESTING LAB SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER, GEOTECHNICAL ENGINEER AND BUILDING OFFICIAL PRIOR TO REQUESTING FOUNDATION INSPECTION.

10. FOOTING DEPTHS INDICATED ON THE STRUCTURAL DRAWINGS ARE BELIEVED TO BE IN SUITABLE BEARING MATERIALS AND ARE INDICATED FOR COST ESTIMATING PURPOSES ONLY. THE GEOTECHNICAL ENGINEER MAY REQUIRE FOUNDATION DEPTHS TO BE INCREASED. THE RESPONSIBILITY FOR CONFORMING TO THE GEOTECHNICAL REPORT RECOMMENDATIONS REGARDING DEPTH OF FOOTINGS SHALL BEAR ON THE CONTRACTOR.

11. FOOTING ELEVATIONS SHALL BE LOCATED SUCH THAT THEIR BEARING IS A MINIMUM HORIZONTAL DISTANCE OF 12 FEET FROM THE DAYLIGHT OF AN ADJACENT SLOPE OR AS RECOMMENDED WITHIN THE GEOTECHNICAL REPORT.

12. ANCHOR BOLTS, DOWELS AND HOLD-DOWN ANCHORS SHALL BE TIED IN PLACE PRIOR TO FOUNDATION INSPECTION.

13. WALLS RETAINING EARTH SHALL BE DRAINED AND BACKFILLED ACCORDING TO THE RECOMMENDATIONS WITHIN THE GEOTECHNICAL REPORT.

14. BACKFILLING BEHIND RETAINING WALLS SHALL NOT BEGIN UNTIL WALLS HAVE BEEN CURED FOR A MINIMUM OF 14 DAYS.

15. SLABS ON GRADE THAT RESTRAIN THE BOTTOM OF RETAINING WALLS SHALL BE IN PLACE PRIOR TO BACKFILLING OF THE WALLS.

H. WELDING:

1. WELDING OF STRUCTURAL STEEL SHALL BE PERFORMED BY CERTIFIED WELDERS IN ACCORDANCE WITH THE PROVISIONS OF THE AMERICAN WELDING SOCIETY (AWS) D1.1. ELECTRODE FILLER MATERIAL SHALL BE A MINIMUM OF E70XX U.O.N

2. WELDING OF COLD-FORMED STEEL DECK AND COLD-FORMED FRAMING SHALL BE PERFORMED BY WELDERS CERTIFIED FOR SHEET STEEL IN ACCORDANCE WITH THE PROVISIONS OF THE AMERICAN WELDING SOCIETY (AWS) D1.3. E60XX ELECTRODES SHALL BE USED FOR WELDING OF COLD-FORMED STEEL DECK AND COLD-FORMED FRAMING.

3. SPECIAL INSPECTION AND TESTING IS REQUIRED IN ACCORDANCE WITH SECTIONS 1704 AND 1705 OF THE BUILDING CODE AND THE "STATEMENT OF SPECIAL INSPECTIONS" ON THESE CONSTRUCTION DOCUMENTS.

4. WELDING ELECTRODES FOR THE SHIELDED METAL-ARC WELDING (S.M.A.W.) PROCESS AND WELDING ELECTRODES SHALL CONFORM TO AWS A5.1 "SPECIFICATION FOR CARBON STEEL ELECTRODES FOR SHIELDED METAL ARC WELDING."

5. WELDING ELECTRODES FOR THE FLUX CORED ARC WELDING (F.C.A.W.) PROCESS AND WELDING ELECTRODES SHALL CONFORM TO AWS A5.20 "SPECIFICATION FOR CARBON STEEL ELECTRODES FOR FLUX CORED ARC WELDING."

6. WELDS SHALL HAVE A WELD CONTROLLED SEQUENCE AND TECHNIQUE IN ORDER TO MINIMIZE SHRINKAGE STRESSES AND DISTORTION.

7. FOR SPECIAL STEEL MOMENT RESISTING FRAME WELDING REQUIREMENTS, SEE SHEET 2S-202.

I. REINFORCING STEEL:

1. DETAILING, FABRICATION AND ERECTION OF REINFORCING BARS SHALL BE PREFORMED IN ACCORDANCE WITH ACI 315, "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT."

2. SPECIAL INSPECTION AND TESTING IS REQUIRED IN ACCORDANCE WITH SECTIONS 1704 AND 1705 OF THE BUILDING CODE AND THE "STATEMENT OF SPECIAL INSPECTIONS" ON THESE CONSTRUCTION DOCUMENTS.

3. REINFORCING BARS SHALL CONFORM TO ASTM A 615, GRADE 60, U.O.N.

4. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185. MINIMUM LAP OF WWF SHALL BE ONE FULL MESH + 2".

5. REINFORCING BAR LAP SPLICES SHALL BE:
CLASS B. (18" MIN.) FOR CONCRETE, U.O.N.
65 BAR DIA. (24" MIN.) FOR MASONRY, U.O.N.

6. DETAILS OF REINFORCEMENT SHALL COMPLY WITH ACI 318, CHAPTER 7.

7. WHERE HOOKS ARE ILLUSTRATED AS 90-DEGREE HOOKS, 180-DEGREE HOOKS MAY BE USED IN LIEU OF 90-DEGREE HOOKS.

8. REINFORCING BARS FOR CONCRETE SHALL BE PROVIDED WITH THE FOLLOWING MINIMUM COVER:

CONC. CAST AGAINST EARTH	3"
FORMED CONC. EXPOSED TO EARTH/ WEATHER	
#5 OR SMALLER	1-1/2"
#6 OR LARGER	2"
SLABS (#11 AND SMALLER)	3/4"
COLUMN TIES	1-1/2"

RFI 2-00099 Rebar Cover at Lettering

9. VERTICAL WALL BARS SHALL BE ACCURATELY POSITIONED AT THE CENTER OF THE WALL, U.O.N., AND SHALL BE TIED IN PLACE AT THE TOP AND BOTTOM.

10. WHERE CONVENTIONAL STIRRUPS, TIES, HOOPS OR CROSS-TIES ARE ILLUSTRATED, MACHINE-PREASSEMBLED, RESISTANCE-WELDED TRANSVERSE REINFORCEMENT MAY BE SUBSTITUTED, PROVIDED THAT:
    A. THE RESULTING CONFIGURATION PROVIDES FOR PROPER CONSOLIDATION OF CONCRETE.
    B. ASTM A 706 REINFORCING IS USED FOR TRANSVERSE REINFORCING, AND
    C. ¼ INCH ASSEMBLY WIRES ARE USED, CONFORMING TO ASTM A36.

11. #3 SPACER TIES SHALL BE INSTALLED AT 30" ON CENTER IN BEAMS AND FOOTINGS TO SECURE REINFORCING BARS IN PLACE, U.O.N.

12. REINFORCEMENT SUPPORTS SHALL BE MANUFACTURED OF NONCORROSIVE MATERIAL

J. REINFORCED CONCRETE - GENERAL:

1. CONCRETE CONSTRUCTION SHALL CONFORM WITH CHAPTER 19 OF THE BUILDING CODE AND TO THE PROVISIONS OF ACI 318.

2. SPECIAL INSPECTION AND TESTING IS REQUIRED IN ACCORDANCE WITH SECTIONS 1704 AND 1705 OF THE BUILDING CODE AND THE "STATEMENT OF SPECIAL INSPECTIONS" ON THESE CONSTRUCTION DOCUMENTS.

3. WATER MAY BE ADDED TO CONCRETE ON-SITE TO OBTAIN SPECIFIED SLUMPS PROVIDED THAT IT IS ADDED WITHIN ONE HOUR OF BATCHING AND SITE-ADDED WATER IS SPECIFIED ON THE BATCH REPORT. SITE-ADDED WATER SHALL NOT COMPROMISE THE STRENGTH OR SLUMP OF THE CONCRETE.

4. CONCRETE SHALL NOT BE PLACED BEYOND 1-1/2 HOURS FOLLOWING BATCHING.

5. PROJECTING CORNERS OF SLABS, BEAMS, WALLS, COLUMNS, ETC., SHALL BE FORMED WITH A 3/4" CHAMFER U.O.N.

6. CONSTRUCTION JOINTS IN STRUCTURAL MEMBERS THAT ARE NOT INDICATED ON THE STRUCTURAL DRAWINGS SHALL BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION. LONGITUDINAL REINFORCEMENT SHALL CONTINUE UNINTERRUPTED THROUGH CONSTRUCTION JOINTS. KEYWAYS SHALL BE PROVIDED PERPENDICULAR TO THE DIRECTION OF LOAD IN CONSTRUCTION JOINTS.

7. WHERE CONCRETE IS PLACED AGAINST EXISTING CONCRETE SURFACES, THE EXISTING CONCRETE SURFACES SHALL BE THOROUGHLY CLEANED AND ROUGHENED TO A MINIMUM AMPLITUDE OF ¼-INCH. A CONCRETE BONDING AGENT SHALL BE APPLIED TO THE EXISTING CONCRETE SURFACE.

8. CONDUIT, PIPES OR DUCTS SHALL NOT BE PLACED IN CONCRETE COLUMNS, WALLS OR SLABS OR UNLESS SPECIFICALLY INDICATED ON THE STRUCTURAL DRAWINGS OR APPROVED IN WRITING BY THE ENGINEER. SLEEVES FOR OPENINGS IN CONCRETE SHALL BE INSTALLED BEFORE PLACING. REINFORCING WHICH MAY CONFLICT SHALL NOT BE CUT UNLESS APPROVED IN WRITING BY THE ENGINEER.

9. FORMWORK FOR COLUMNS SHALL NOT BE REMOVED UNTIL THE COLUMN CONCRETE HAS REACHED A MINIMUM STRENGTH OF 1500 PSI.

10. FORMWORK FOR SLABS SHALL NOT BE REMOVED UNTIL SLAB CONCRETE HAS REACHED A MINIMUM OF 75% OF THE SPECIFIED STRENGTH. SLABS SHALL BE RESHORED IMMEDIATELY AFTER FORMWORK REMOVAL UNTIL CONCRETE HAS REACHED DESIGN STRENGTH AND RE-SHORES ARE NO LONGER REQUIRED TO CARRY CONSTRUCTION LOADS ABOVE. THE SHORING REMOVAL AND RESHORING PROCEDURE SHALL BE DESIGNED IN ACCORDANCE WITH THE RECOMMENDATIONS OF ACI 347.2R. ALTERNATE DESIGN PROCEDURES SHALL DEMONSTRATE A MINIMUM HISTORY OF 10 YEARS OF SUCCESSFUL USE AND SHALL BE APPROVED FOR USE BY THE ENGINEER IN WRITING PRIOR TO SUBMITTAL.

11. CONCRETE COLUMNS SHALL ACHIEVE A MINIMUM OF 75 PERCENT OF THE DESIGN STRENGTH INDICATED PRIOR TO POURING ELEVATED CONCRETE SLABS.

12. CONCRETE SHALL BE MAINTAINED IN A MOIST CONDITION FOR A MINIMUM OF 7 DAYS AFTER ITS PLACEMENT. APPROVED CURING COMPOUNDS MAY BE USED IN LIEU OF MOIST CURING.

K. CONCRETE MIX REQUIREMENTS:

RFI 2-00065 Concrete Mix Design for Walls

1. READY MIX CONCRETE SHALL BE MIXED AND DELIVERED IN ACCORDANCE WITH ASTM C 94.

2. CEMENT SHALL CONFORM TO ASTM C 150 TYPE I OR II, LOW ALKALI.

3. FLYASH SHALL CONFORM TO ASTM C 618, CLASS F. FLYASH SHALL BE LIMITED TO NO MORE THAN THE FOLLOWING PERCENTAGES OF THE TOTAL WEIGHT OF CEMENTITIOUS MATERIALS IN THE CONCRETE, U.O.N.

SUSPENDED SLABS, BEAMS AND GIRDERS	15%
COLUMNS AND WALLS	20%
FOUNDATIONS	20%
SLABS ON GRADE	20%

4. CEMENT FOR SHRINKAGE-COMPENSATING CONCRETE SHALL CONFORM TO ASTM C 845. ALTERNATIVELY, WHEN APPROVED IN WRITING BY THE ENGINEER, SHRINKAGE COMPENSATING CONCRETE MAY BE ACHIEVED BY USE OF A SHRINKAGE-REDUCING CHEMICAL ADMIXTURE.

5. AGGREGATES FOR NORMAL WEIGHT CONCRETE SHALL CONFORM TO ASTM C 33.

6. NORMAL WEIGHT CONCRETE SHALL HAVE A MAXIMUM DRY DENSITY OF 150 pcf.

7. AGGREGATE FOR LIGHTWEIGHT CONCRETE SHALL BE EXPANDED SHALE TYPE AND CONFORM TO ASTM C 330.

8. LIGHT-WEIGHT CONCRETE SHALL HAVE A MAXIMUM DRY DENSITY OF 115 pcf.

9. CONCRETE MIXES SHALL BE DESIGNED BY A QUALIFIED TESTING LABORATORY AND APPROVED BY THE ENGINEER. MIX DESIGN IN ACCORDANCE WITH ACI 301, ARTICLE 4.2.3 SHALL BE USED TO PROPORTION CONCRETE.

10. MINIMUM CONCRETE COMPRESSIVE STRENGTHS AT 28 DAYS, MAXIMUM SLUMPS, AND MAXIMUM WATER/CEMENT RATIOS SHALL BE AS FOLLOWS:

2.3

DESCRIPTION	MIN 28 DAY f'c	SLUMP	MAX.W/C RATIO
SHALLOW FOUNDATIONS, CAST-IN-PLACE DEEP FOUNDATIONS	4.0 KSI	4" +/- 1"	0.52
SLAB ON GRADE	3.5 KSI	4" +/- 1"	0.45
CONC. COLUMNS	5.0 KSI	4" +/- 1"	0.45
ELEVATED SLABS	5.0 KSI	4" +/- 1"	0.45
LIGHT WEIGHT FILL ON COLD-FORMED STEEL DECK	4.0 KSI	4" +/- 1"	0.48
NORMAL WEIGHT FILL ON COLD-FORMED STEEL DECK	4.0 KSI	4" +/- 1"	0.48
OTHER CONCRETE	3.5 KSI	4" +/- 1"	0.50

11. ADMIXTURES SHALL BE APPROVED IN ADVANCE. ADMIXTURES CONTAINING CHLORIDE OR CHLORIDE SALTS SHALL NOT BE USED EXCEPT WHERE APPROVED IN WRITING BY THE ENGINEER.

12. SLUMPS INDICATED ARE PRIOR TO PLASTICIZER ADDITIVES.

13. DRYING SHRINKAGE OF CONCRETE IN ELEVATED SLABS, AND COLUMNS SHALL BE LIMITED TO 0.05 PERCENT AS VERIFIED BY TEST IN ACCORDANCE WITH ASTM C 157. THE PROCEDURES OF ASTM C 157 SHALL BE MODIFIED AS FOLLOWS (BASED ON SEAOC SUPPLEMENTARY RECOMMENDATIONS):
    A. THE CURING PERIOD SHALL BE 7 DAYS.
    B. FOLLOWING CURING, SPECIMENS SHALL BE AIR-STORED.
    C. COMPARATIVE MEASUREMENTS OF SPECIMENS SHALL BE MADE AFTER 4, 7, 14, 21 AND 28 DAYS OF AIR-STORAGE.

14. CONCRETE EXPOSED TO WEATHER SHALL BE AIR ENTRAINED.

15. CONCRETE FOR ELEVATED SLABS EXPOSED TO DIRECT RAINFALL SHALL CONTAIN FIBROUS FIBRILLATED POLYPROPYLENE REINFORCEMENT. FIBROUS FIBRILLATED POLYPROPYLENE CONCRETE REINFORCEMENT SHALL BE MANUFACTURED BY W.R. GRACE OR FIBERMESH COMPANY. ALTERNATE PRODUCTS SHALL BE APPROVED BY THE ENGINEER IN WRITING PRIOR TO SUBMISSION OF THE MIX DESIGN. THE VOLUME PER CUBIC YARD SHALL BE A MINIMUM OF 0.1% (1.5 POUNDS), FIBERS SHALL BE DISPERSED UNIFORMLY THROUGHOUT THE CONCRETE IN ACCORDANCE WITH ASTM C1116.

L. CONCRETE SLAB-ON-GRADE:

1. CONSTRUCTION OR CONTROL JOINTS IN SLABS-ON-GRADE SHALL BE PROVIDED AS INDICATED. THE LOCATIONS OF JOINTS NOT SPECIFICALLY INDICATED SHALL BE REVIEWED BY THE ENGINEER AND APPROVED BY THE ARCHITECT. JOINTS SHALL ALIGN WITH RE-ENTRANT CORNERS OF THE SLAB.

2. THE CONCRETE SLAB-ON-GRADE THICKNESS SHOWN IS THE MINIMUM REQUIRED THICKNESS. FLOORS SHALL BE MONITORED BY TRANSIT LEVEL OR LASER DURING PLACEMENT TO MAINTAIN LEVEL FLOOR.

M. CONCRETE FILL OVER COLD-FORMED STEEL DECK:

1. CONDUIT, PIPES OR DUCTS SHALL NOT BE PLACED IN CONCRETE TOPPING FILL UNLESS SPECIFICALLY INDICATED ON THE STRUCTURAL DRAWINGS OR APPROVED IN WRITING BY THE ENGINEER.

2. THE CONCRETE TOPPING FILL THICKNESS SHOWN IS THE MINIMUM REQUIRED THICKNESS. FLOORS SHALL BE MONITORED BY TRANSIT LEVEL OR LASER DURING PLACEMENT TO MAINTAIN LEVEL FLOOR

3. THE CONCRETE TOPPING SURFACE SHALL BE FINISHED SUCH THAT A GAP AT ANY POINT BETWEEN THE SURFACE AND AN UNLEVELED, FREESTANDING 10-FOOT LONG STRAIGHT EDGE DOES NOT EXCEED ¼ INCH WHEN THE STRAIGHT EDGE IS RESTING ON TWO HIGH POINTS.

4. IN FLOOR AREAS WHERE OCCUPANT PERCEPTION OR THE APPLICATION OF FINISHES DICTATES MORE STRINGENT PROFILES, A FLOOR-LEVELING AGENT MAY BE APPLIED (AVERAGE ALLOWABLE THICKNESS = ¾ INCH; MAXIMUM ALLOWABLE LOCAL THICKNESS = 1½ INCHES).

N. REINFORCED CONCRETE MASONRY (CMU):

1. MASONRY CONSTRUCTION SHALL CONFORM TO CHAPTER 21 OF THE BUILDING CODE AND ACI 530.1.

2. SPECIAL INSPECTION AND TESTING IS REQUIRED IN ACCORDANCE WITH SECTIONS 1704 AND 1705 OF THE BUILDING CODE AND THE "STATEMENT OF SPECIAL INSPECTIONS" ON THESE CONSTRUCTION DOCUMENTS.

3. CONCRETE MASONRY CONSTRUCTION SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF f'm= 2,000 psi, U.O.N.

4. CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C 90, MEDIUM WEIGHT, SINGLE OPEN-END UNITS, U.O.N.

5. MORTAR SHALL CONFORM TO ASTM C 270, TYPE "S".

6. GROUT SHALL CONFORM TO ASTM C 476. GROUT MIXES SHALL BE DESIGNED BY A QUALIFIED TESTING LABORATORY AND APPROVED BY THE ENGINEER.

7. ADMIXTURES IN GROUT SHALL BE APPROVED IN ADVANCE. ADMIXTURES CONTAINING CHLORIDE OR CHLORIDE SALTS SHALL NOT BE USED EXCEPT WHERE APPROVED IN WRITING BY THE ENGINEER.

8. STRENGTH VERIFICATION OF MASONRY SHALL BE BY THE UNIT STRENGTH METHOD IN ACCORDANCE WITH ACI 530.1, SECTION 1.4B.2.b. WHERE THE UNIT STRENGTH METHOD IS USED, MASONRY COMPONENTS SHALL HAVE THE FOLLOWING STRENGTHS:

MINIMUM COMPRESSIVE STRENGTH	f'm = 2,000 psi	f'm = 3,000 psi
MASONRY UNITS	2,000 psi	4,500 psi
GROUT	2,000 psi	3,000 psi

9. ALTERNATIVELY, STRENGTH VERIFICATION OF MASONRY PRIOR TO AND DURING CONSTRUCTION MAY BE BY THE PRISM TEST METHOD IN ACCORDANCE WITH ACI 530.1, SECTION 1.4B.3. WHERE THE PRISM TEST METHOD IS USED, MASONRY COMPONENTS SHALL BE OF SUFFICIENT STRENGTH SUCH THAT THE COMPLETED MASONRY WORK MEETS THE SPECIFIED MINIMUM COMPRESSIVE STRENGTH.

10. VERTICAL BARS IN WALLS SHALL BE PLACED IN THE CENTER OF THE WALL UNLESS OTHERWISE INDICATED. VERTICAL BARS SHALL BE TIED OR OTHERWISE FIXED IN POSITION AT THE TOP AND BOTTOM AND AT INTERVALS OF NOT MORE THAN 200 BAR DIAMETERS.

11. HORIZONTAL BARS SHALL BE PLACED IN BOND BEAM UNITS.

12. CONDUITS OR PIPES SHALL NOT OCCUR IN SAME CELL AS REINFORCING BARS.

13. MASONRY UNITS SHALL BE PLACED IN A RUNNING BOND PATTERN, U.O.N.

14. CONSTRUCTION OR CONTROL JOINTS IN CONCRETE MASONRY SHALL BE PROVIDED AS INDICATED. THE LOCATIONS OF JOINTS NOT SPECIFICALLY INDICATED SHALL BE REVIEWED BY THE ENGINEER AND APPROVED BY THE ARCHITECT.

15. MASONRY CELLS SHALL BE SOLID GROUTED, U.O.N.

16. A GROUT POUR SHALL BE THE TOTAL HEIGHT OF MASONRY THAT IS GROUTED PRIOR TO THE ERECTION OF ADDITIONAL MASONRY. A GROUT POUR SHALL NOT EXCEED THE HEIGHT LIMITS GIVEN IN ACI 530.1, TABLE 7 AND MAY CONSIST OF ONE OR MORE GROUT LIFTS.

17. A GROUT LIFT SHALL BE THE HEIGHT OF GROUT THAT IS PLACED IN A SINGLE, CONTINUOUS OPERATION BEFORE CONSOLIDATION OF GROUT. GROUT LIFTS SHALL NOT EXCEED 5'-4" IN HEIGHT UNLESS THE FOLLOWING CONDITIONS ARE MET:
    A. MASONRY IS ALLOWED TO CURE FOR A MINIMUM OF 4 HOURS PRIOR TO GROUTING
    B. GROUT SLUMP IS MAINTAINED BETWEEN 10 AND 11 INCHES AS VERIFIED BY TESTING
    C. LIFTS ARE LIMITED TO A HEIGHT BETWEEN HORIZONTAL BOND BEAMS, OR A MAXIMUM OF 12'-8".

18. GROUT SHALL BE CONSOLIDATED BY MECHANICAL VIBRATION. WHERE LIFTS EXCEED 12 INCHES, GROUT SHALL BE RE-CONSOLIDATED BY MECHANICAL VIBRATION AFTER INITIAL WATER LOSS AND SETTLEMENT.

19. INSPECTION AND CLEAN OUT HOLES SHALL BE PROVIDED AT THE BASE OF GROUTED CELLS WHERE A GROUT POUR EXCEEDS 5'-4" IN HEIGHT. HOLE SPACING SHALL NOT EXCEED 32 INCHES ON CENTER.

20. WHEN GROUTING IS STOPPED FOR ONE HOUR OR LONGER, HORIZONTAL CONSTRUCTION JOINTS SHALL BE FORMED BY STOPPING THE GROUT POUR 1-1/2" BELOW TOP OF THE UPPERMOST UNIT.

O. STRUCTURAL STEEL:

1. STRUCTURAL STEEL WORK SHALL BE PERFORMED IN ACCORDANCE WITH CHAPTER 22 OF THE BUILDING CODE, AISC 360 "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" AND AISC 303 "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES".

2. SPECIAL INSPECTION AND TESTING IS REQUIRED IN ACCORDANCE WITH SECTIONS 1704 AND 1705 OF THE BUILDING CODE AND THE "STATEMENT OF SPECIAL INSPECTIONS" ON THESE CONSTRUCTION DOCUMENTS.

3. FOR SPECIAL MOMENT FRAME STEEL REQUIREMENTS, SEE SHEET 2S-202.

4. STRUCTURAL STEEL STRENGTHS AND GRADES SHALL BE AS FOLLOWS, U.O.N.

DESCRIPTION	YIELD Fy,ksi	ASTM GRADE
WF AND WT SHAPES	50 ksi	A992, GR 50
OTHER ROLLED SHAPES	36 ksi	A36
RECTANGULAR HSS SECTIONS	46 ksi	A500, GR B/C
ROUND HSS SECTIONS	42 ksi	A500, GR B
STRUCTURAL PIPE SECTIONS	35 ksi	A53, GR B
PLATES IN FRAMES	50 ksi	A572, GR 50
BASE PLATES IN FRAMES GREATER THAN 4 INCHES	42 ksi	A527, GR 42
OTHER PLATES	36 ksi	A36

5. HOLLOW STRUCTURAL STEEL (HSS) MEMBERS SHALL BE SEAL WELDED IN DRY CONDITION IN THE SHOP. PROVIDE WEEP HOLES AT THE LOW END OF ALL HOLLOW MEMBERS IN EXTERIOR CONDITIONS, AND SEAL WELD AROUND ALL MATING SURFACES IN EXTERIOR CONDITIONS WHETHER COVERED OR OPEN. CONCEAL WELD SEAM FROM VIEW WHERE PRACTICAL.

6. ANCHOR RODS SHALL CONFORM TO ASTM F 1554, GRADE 36, UNLESS OTHERWISE NOTED. NUTS FOR ANCHOR RODS SHALL CONFORM TO ASTM A 563, GRADE A HEX (HEAVY HEX WHERE ANCHOR ROD DIAMETER IS GREATER THAN 1 1/2").

7. MAIN MEMBERS SHALL HAVE HIGH STRENGTH BOLTS CONFORMING TO AISC SPECS FOR ASTM A 325N BOLTS, U.O.N. OTHER BOLTS SHALL CONFORM TO ASTM A 307. NUTS FOR HIGH STRENGTH BOLTS SHALL BE HEAVY HEX GRADE C CONFORMING TO ASTM A 563.

8. TIGHTEN ASTM A 325N BOLTS TO "SNUG-TIGHT" CONDITION PER AISC SPECIFICATION FOR STRUCTURAL JOINTS. TEST ASTM A 325SC BOLTS WITH A CALIBRATED WRENCH UNLESS LOAD INDICATOR BOLTS ARE USED.

9. EXTERIOR STRUCTURAL STEEL PERMANENTLY EXPOSED TO THE WEATHER SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A 123, G60 U.O.N. GALVANIZED SURFACES DAMAGED BY SUBSEQUENT WELDING AND OTHER WORK SHALL BE REPAIRED IN ACCORDANCE WITH ASTM A 780.

10. FIRE PROTECTION FOR STRUCTURAL STEEL SHALL BE AS REQUIRED BY CHAPTER 6 OF THE BUILDING CODE. SPRAY-APPLIED FIRE PROTECTION ON STRUCTURAL STEEL SHALL BE MONOKOTE MK6/HY AS MANUFACTURED BY GCP APPLIED TECHNOLOGIES, INC. (UL #ER 4339-02).

11. STEEL INDICATED AS 'AESS' SHALL MEET THE REQUIREMENTS FOR ARCHITECTURALLY EXPOSED STRUCTURAL STEEL IN THE AISC CODE OF STANDARD PRACTICE.

P. STEEL STAIRS:

1. STEEL COMPONENTS SHALL COMPLY WITH THE APPLICABLE NOTES UNDER "STRUCTURAL STEEL."

2. WELDING SHALL COMPLY WITH THE APPLICABLE NOTES UNDER "WELDING."

3. POST-INSTALLED ANCHORS SHALL COMPLY WITH THE APPLICABLE NOTES UNDER "POST-INSTALLED MECHANICAL ANCHORS" OR "POST-INSTALLED ADHESIVE ANCHORS."

4. SPECIAL INSPECTION AND TESTING IS REQUIRED IN ACCORDANCE WITH SECTIONS 1704 AND 1705 OF THE BUILDING CODE AND THE "STATEMENT OF SPECIAL INSPECTIONS" ON THESE CONSTRUCTION DOCUMENTS.

5. MEMBER SIZES INDICATED ARE THE MINIMUM SIZES THAT SHALL BE USED FOR CONSTRUCTION. MEMBER SIZES USED SHALL BE OF THE SAME NOMINAL SHAPE AND DIMENSION INDICATED.

6. VERTICAL AND HORIZONTAL DIMENSIONS SHALL BE VERIFIED WITH THE ARCHITECTURAL DRAWINGS AND EXISTING CONDITIONS PRIOR TO FABRICATION. THE ARCHITECT SHALL BE NOTIFIED OF ANY FIELD CONDITIONS NOT COVERED BY THE CONTRACT DOCUMENTS PRIOR TO FABRICATION.

7. CONNECTIONS TO THE STRUCTURE SHALL INCLUDE STABILIZING ELEMENTS SUCH AS BRACES, STIFFENER PLATES, ETC., SO AS TO NOT IMPOSE ECCENTRIC LOADING, TWISTING, OR WARPING TO STRUCTURAL MEMBERS. PROVIDE MATERIAL AND INSTALL STABILIZING ELEMENTS. NECESSARY STABILIZING ELEMENTS SHALL BE INSTALLED AT NO ADDITIONAL COST TO THE OWNER.

Q. STEEL STAIRS, (DEFERRED APPROVAL):

1. STEEL STAIRS SHALL BE DEFERRED APPROVAL EXCEPT WHERE SPECIFICALLY DETAILED ON THE STRUCTURAL DRAWINGS. DEFERRED APPROVAL STEEL STAIRS SHALL COMPLY WITH ANY DETAILS PROVIDED. NOTES BELOW APPLY TO DEFERRED APPROVAL STEEL STAIRS ONLY.

2. DESIGN OF STAIRS, INCLUDING FRAMING MEMBERS, CONNECTIONS (INCLUDING THOSE TO BUILDING STRUCTURE), CHECKERED PLATES, STEPS, HANDRAILS, ETC., SHALL PROVIDE FOR LATERAL RESTRAINT AND COMPLY WITH THE CONTRACT DOCUMENTS AND THE BUILDING CODE.

3. CALCULATIONS SHALL CLEARLY IDENTIFY LOADS IMPOSED ON THE BUILDING STRUCTURE.

4. STEEL COMPONENTS SHALL COMPLY WITH THE APPLICABLE NOTES UNDER "STRUCTURAL STEEL."

5. WELDING SHALL COMPLY WITH THE APPLICABLE NOTES UNDER "WELDING."

6. POST-INSTALLED ANCHORS SHALL COMPLY WITH THE APPLICABLE NOTES UNDER "POST-INSTALLED MECHANICAL ANCHORS" OR "POST-INSTALLED ADHESIVE ANCHORS."

7. SPECIAL INSPECTION AND TESTING IS REQUIRED IN ACCORDANCE WITH SECTIONS 1704 AND 1705 OF THE BUILDING CODE AND THE "STATEMENT OF SPECIAL INSPECTIONS" ON THESE CONSTRUCTION DOCUMENTS.

8. VERTICAL AND HORIZONTAL DIMENSIONS SHALL BE VERIFIED WITH THE ARCHITECTURAL DRAWINGS AND EXISTING CONDITIONS PRIOR TO FABRICATION. THE ARCHITECT SHALL BE NOTIFIED OF ANY FIELD CONDITIONS NOT COVERED BY THE CONTRACT DOCUMENTS PRIOR TO FABRICATION.

9. CONNECTIONS TO THE STRUCTURE SHALL INCLUDE STABILIZING ELEMENTS SUCH AS BRACES, STIFFENER PLATES, ETC., SO AS TO NOT IMPOSE ECCENTRIC LOADING, TWISTING, OR WARPING TO STRUCTURAL MEMBERS. PROVIDE MATERIAL AND INSTALL STABILIZING ELEMENTS. NECESSARY STABILIZING ELEMENTS SHALL BE INSTALLED AT NO ADDITIONAL COST TO THE OWNER.

CHARLES B. HOPE JR.
No. 40784
Exp. 3-31-19
SIGNED: 08/08/2017
NO: 216188.20

CP-2
VOLUME 1

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PROJECT NO. 16148

REV NO.	DATE ISSUED	REASON
	04.25.17	DESIGN DEVELOPMENT
	04.25.17	STRUCT. STEEL BID SET
	08.08.17	CITY SUBMITTAL SET
2.1	08.29.17	ADDENDUM #2.1
2.3	11.20.17	ASI 2.1/IFC

CITY SUBMITTAL SET
08.08.17

Sheet Title
STRUCTURAL NOTES

Sheet No.
2S-010

STRUCTURAL NOTES

S. DRYPACK / NON-SHRINK GROUT:

1. NON-SHRINK GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF 6,000 psi IN ACCORDANCE WITH ASTM C 109.
2. NON-SHRINK GROUT SHALL BE INSTALLED UNDER A COLUMN BASE PLATE AFTER THE COLUMN HAS BEEN PLUMBED AND PRIOR TO PLACING CONCRETE FILL ON THE STRUCTURE.

T. COLD-FORMED STEEL DECK:

1. COLD-FORMED STEEL DECK SHALL BE OF THE TYPE AND GAUGE AS INDICATED ON THE DRAWINGS AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND PUBLISHED EVALUATION REPORT.
2. COLD-FORMED STEEL DECK AND ACCESSORIES SHALL BE FORMED FROM STEEL SHEETS CONFORMING TO ASTM A 653 SS DESIGNATION, GRADE 50 MINIMUM, WITH GALVANIZED COATING DESIGNATION G60.
3. SPECIAL INSPECTION AND TESTING IS REQUIRED IN ACCORDANCE WITH SECTIONS 1704 AND 1705 OF THE BUILDING CODE AND THE "STATEMENT OF SPECIAL INSPECTIONS" ON THESE CONSTRUCTION DOCUMENTS.
4. COLD-FORMED STEEL FLOOR AND ROOF DECK SHALL BE FACTORY VENTED WHERE STRUCTURAL CONCRETE FILL OCCURS, U.O.N.
5. COLD-FORMED STEEL DECK SHALL BE CONTINUOUS OVER THREE SPANS WHEREVER POSSIBLE. SHORE DECK IF RECOMMENDED BY THE MANUFACTURER. MINIMUM BEARING AT ENDS IS 2".
6. WHERE 3/4" DIAMETER SHEAR STUDS ARE TO BE WELDED TO SUPPORTS, 18 GAUGE (OR THICKER) DECKING SHALL NOT BE LAPPED.
7. CONTRACTOR SHALL CUT DECK PER STRUCTURAL DETAILS AT ALL OPENINGS, COLUMNS, AND REQUIRED PENETRATIONS AND SHALL SUPPLY NECESSARY ACCESSORY ITEMS SUCH AS CLOSURES, CLIPS, ETC.
8. HANGERS SUPPORTED BY COLD-FORMED STEEL DECK WITH STRUCTURAL CONCRETE FILL SHALL BE INSTALLED USING ANCHORAGE SYSTEMS THAT CARRY AN INDEPENDENT EVALUATION APPROVAL. SUCH HANGERS SHALL BE USED TO SUPPORT DUCTWORK (15" X 16" MAX.), PIPING (4" ROUND MAX.), OR CEILINGS. MAXIMUM WEIGHT PER HANGER SHALL NOT EXCEED 250 LBS. HANGERS MUST BE AT LEAST TWO FLUTES APART ON THE SAME DECK SPAN. LARGER DUCTWORK AND PIPING SHALL BE SUPPORTED BY STRUCTURAL BEAMS OR COLUMNS.

U. SHEAR CONNECTORS (WELDED STUDS):

1. SPECIAL INSPECTION AND TESTING IS REQUIRED IN ACCORDANCE WITH SECTIONS 1704 AND 1705 OF THE BUILDING CODE AND THE "STATEMENT OF SPECIAL INSPECTIONS" ON THESE CONSTRUCTION DOCUMENTS.
2. SHEAR CONNECTORS SHALL COMPLY WITH ICC #ESR-2856, NELSON SHEAR CONNECTOR STUDS, OR EQUAL. SHEAR CONNECTORS SHALL BE MADE FROM COLD ROLLED STEEL CONFORMING TO ASTM A 108, GRADES 1015-1020 WITH A MINIMUM TENSILE STRENGTH 60,000 psi. STUD WELDING INSPECTING AND TESTING SHALL CONFORM TO AWS D1.1.
3. WHERE USED WITH 3" DEEP COLD-FORMED STEEL DECK, SHEAR CONNECTORS SHALL NOT BE LESS THAN 4-1/2" INCHES IN LENGTH IN PLACE, U.O.N.
4. SHEAR STUDS SHALL HAVE NOT LESS THAN 3/4 INCH OF CONCRETE COVER.
5. USE SHORTER SHEAR STUDS WHERE CONCRETE SURFACE IS REDUCED IN THICKNESS DUE TO FLOOR DEPRESSIONS. STUD LENGTH SHALL BE EQUAL TO THE STRUCTURAL FLOOR THICKNESS, MINUS 3/4" FOR COVER.
6. STUDS SHALL BE AUTOMATICALLY END WELDED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS IN SUCH A MANNER AS TO PROVIDE COMPLETE FUSION BETWEEN THE END OF THE STUD AND THE PLATE. THERE SHOULD BE NO POROSITY OR EVIDENCE OF LACK OF FUSION BETWEEN THE WELDED END OF THE STUD AND THE PLATE. THE STUD SHALL DECREASE IN LENGTH DURING WELDING APPROXIMATELY 1/8" FOR 5/8" DIAMETER AND UNDER, AND 3/16" FOR OVER 5/8" DIAMETER. WELDING SHALL BE DONE ONLY BY QUALIFIED WELDERS APPROVED BY THE WELDING INSPECTOR.
7. NUMBER OF 3/4" DIA. HEADED STUD SHEAR CONNECTORS ARE SHOWN ON FRAMING PLANS. SPACE SHEAR CONNECTORS EQUALLY ALONG LENGTH OF BEAM. IF DECK FLUTES PREVENT EQUAL SPACING, STUDS SHALL BE SPACED CLOSER NEAR ENDS OF BEAMS OR STUDS MAY BE SPACED TWO PER FLUTE NEAR ENDS IF TOTAL NUMBER EXCEEDS NUMBER OF FLUTES. A SINGLE NUMBER INDICATES UNIFORM SPACING FROM END TO END, MULTIPLE NUMBERS INDICATE NUMBER OF STUDS TO BE SPACED UNIFORMLY BETWEEN BEAM REACTION POINTS AND/OR ENDS OF BEAM. MINIMUM SPACING IN A SINGLE ROW SHALL BE 6x STUD DIAMETER.
8. INSTALL STUDS IN SINGLE ROW DIRECTLY OVER BEAM WEBS. WHERE OBSTRUCTIONS PREVENT PLACEMENT DIRECTLY OVER WEB PLACE STUDS CLOSE TO WEB AS POSSIBLE.
9. WHERE SHEAR STUDS AND DECK WELDING LOCATION COINCIDE, THE SHEAR STUD WELDED THROUGH THE DECK MAY REPLACE THE DECK WELDING.
10. WHEN WELDING THROUGH TWO THICKNESSES OF COLD-FORMED STEEL DECK OR WHERE A LAP JOINT IS REQUIRED, BURN A 3/4" DIAMETER HOLE THROUGH THE DECK TO ALLOW PROPER SEATING OF STUD ON BEAM.
11. WHEN DECK IS PARALLEL TO DIRECTION OF BEAM SPAN, DECK POSITION SHALL BE SUCH THAT A VALLEY OCCURS OVER BEAM CENTERLINE OR DECK MUST BE SEPARATED AT BEAM CENTERLINE TO PERMIT SHEAR STUD ATTACHMENT DIRECTLY TO BEAM FLANGE.

V. COLD-FORMED STEEL FRAMING, DEFERRED APPROVAL:

1. COLD-FORMED STEEL FRAMING SHALL BE DEFERRED APPROVAL EXCEPT WHERE SPECIFICALLY DETAILED ON THE STRUCTURAL DRAWINGS. DEFERRED APPROVAL COLD-FORMED STEEL FRAMING SHALL COMPLY WITH ANY DETAILS PROVIDED. NOTES BELOW APPLY TO DEFERRED APPROVAL COLD-FORMED STEEL FRAMING ONLY.
2. DESIGN OF COLD-FORMED STEEL FRAMING, INCLUDING FRAMING MEMBERS AND CONNECTIONS (INCLUDING THOSE TO BUILDING STRUCTURE), SHALL PROVIDE FOR LATERAL RESTRAINT AND COMPLY WITH THE CONTRACT DOCUMENTS AND THE BUILDING CODE.
3. CALCULATIONS SHALL CLEARLY IDENTIFY LOADS IMPOSED ON THE BUILDING STRUCTURE.
4. COLD-FORMED STEEL FRAMING SHALL BE FROM A STEEL STUD MANUFACTURERS ASSOCIATION (SSMA) APPROVED SUPPLIER, AND CONFORM TO ICC #ER-3064P.
5. COLD-FORMED STEEL FRAMING SHALL BE GALVANIZED (G60), AND CONFORM TO ASTM A 653.
6. COLD-FORMED STEEL FRAMING SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE AISI SPECIFICATION FOR DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS.
7. STRUCTURAL STEEL COMPONENTS SHALL COMPLY WITH THE APPLICABLE NOTES UNDER "STRUCTURAL STEEL."
8. WELDING SHALL COMPLY WITH THE APPLICABLE NOTES UNDER "WELDING."
9. POST-INSTALLED ANCHORS SHALL COMPLY WITH THE APPLICABLE NOTES UNDER "POST-INSTALLED MECHANICAL ANCHORS" OR "POST-INSTALLED ADHESIVE ANCHORS."
10. SPECIAL INSPECTION AND TESTING IS REQUIRED IN ACCORDANCE WITH SECTIONS 1704 AND 1705 OF THE BUILDING CODE AND THE "STATEMENT OF SPECIAL INSPECTIONS" ON THESE CONSTRUCTION DOCUMENTS.
11. VERTICAL AND HORIZONTAL DIMENSIONS SHALL BE VERIFIED WITH THE ARCHITECTURAL DRAWINGS AND EXISTING CONDITIONS PRIOR TO FABRICATION. THE ARCHITECT SHALL BE NOTIFIED OF ANY FIELD CONDITIONS NOT COVERED BY THE CONTRACT DOCUMENTS PRIOR TO FABRICATION.
12. COLD-FORMED FRAMING DESIGN SHALL ALLOW FOR 1/2 INCH LIVE LOAD DEFLECTION OF FLOOR OR ROOF BEAMS WITHOUT ADVERSELY IMPACTING COLD-FORMED FRAMING,, CLADDING ELEMENTS OR CONNECTIONS.
13. CONNECTIONS TO THE STRUCTURE SHALL INCLUDE STABILIZING ELEMENTS SUCH AS BRACES, STIFFENER PLATES, ETC., SO AS TO NOT IMPOSE ECCENTRIC LOADING, TWISTING, OR WARPING TO STRUCTURAL MEMBERS. PROVIDE MATERIAL AND INSTALL STABILIZING ELEMENTS. NECESSARY STABILIZING ELEMENTS SHALL BE INSTALLED AT NO ADDITIONAL COST TO THE OWNER.

W. POST-INSTALLED MECHANICAL ANCHORS:

1. SPECIAL INSPECTION AND TESTING IS REQUIRED IN ACCORDANCE WITH SECTIONS 1704 AND 1705 OF THE BUILDING CODE AND THE "STATEMENT OF SPECIAL INSPECTIONS" ON THESE CONSTRUCTION DOCUMENTS.
2. MECHANICAL ANCHORS FOR INSTALLATION IN SOLID NORMAL-WEIGHT OR LIGHT-WEIGHT CONCRETE SHALL BE HILTI KB-TZ (ICC #ESR-1917) OR DEWALT POWER-STUD+ SD2 (ICC #ESR-2502). ALTERNATE PRODUCTS SHALL CARRY AN EVALUATION APPROVAL THAT IS BASED ON TESTING IN ACCORDANCE WITH ICC ACCEPTANCE CRITERIA AC193 AND SHALL BE APPROVED BY THE ENGINEER IN WRITING PRIOR TO DELIVERY TO THE JOBSITE.
3. MECHANICAL ANCHORS FOR INSTALLATION IN NORMAL-WEIGHT OR LIGHT-WEIGHT CONCRETE FILL OVER COLD-FORMED STEEL DECK SHALL BE HILTI KB-TZ (ICC #ESR-1917) OR DEWALT POWER-STUD+ SD2 (ICC #ESR-2502). ALTERNATE PRODUCTS SHALL CARRY AN EVALUATION APPROVAL THAT IS BASED ON TESTING IN ACCORDANCE WITH ICC ACCEPTANCE CRITERIA AC193 AND SHALL BE APPROVED BY THE ENGINEER IN WRITING PRIOR TO DELIVERY TO THE JOBSITE.
4. MECHANICAL ANCHORS FOR OVERHEAD INSTALLATION THRU COLD-FORMED STEEL DECK, INTO NORMAL-WEIGHT OR LIGHT-WEIGHT CONCRETE FILL SHALL BE HILTI KB-TZ (ICC #ESR-1917) OR DEWALT POWER-STUD+ SD2 (ICC #ESR-2502). ALTERNATE PRODUCTS SHALL CARRY AN EVALUATION APPROVAL THAT IS BASED ON TESTING IN ACCORDANCE WITH ICC ACCEPTANCE CRITERIA AC193 AND SHALL BE APPROVED BY THE ENGINEER IN WRITING PRIOR TO DELIVERY TO THE JOBSITE.
5. MECHANICAL ANCHORS FOR INSTALLATION IN CONCRETE MASONRY SHALL BE HILTI KB3 (ICC #ESR-1385) OR DEWALT POWER-STUD+ SD1 (ICC #ESR-2966). ALTERNATE PRODUCTS SHALL CARRY AN EVALUATION APPROVAL THAT IS BASED ON TESTING IN ACCORDANCE WITH ICC ACCEPTANCE CRITERIA AC01 AND SHALL BE APPROVED BY THE ENGINEER IN WRITING PRIOR TO DELIVERY TO THE JOBSITE.
6. ANCHORS SHALL BE OF THE TYPE, DIAMETER, AND MINIMUM DIMENSIONAL REQUIREMENTS (EMBEDMENT, SPACING AND EDGE DISTANCE) AS INDICATED ON THE DRAWINGS.
7. ANCHORS SHALL BE INSTALLED IN HOLES DRILLED WITH DRILLING EQUIPMENT OF THE TYPE REQUIRED IN THE MANUFACTURER'S PUBLISHED EVALUATION REPORT. HOLES SHALL BE CLEANED IN CONFORMANCE WITH THE ANCHOR MANUFACTURER'S INSTRUCTIONS.
8. WHEN INSTALLING ANCHORS IN EXISTING REINFORCED CONCRETE OR MASONRY, AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS.

X. POST-INSTALLED SCREW ANCHORS:

1. SPECIAL INSPECTION AND TESTING IS REQUIRED IN ACCORDANCE WITH SECTIONS 1704 AND 1705 OF THE BUILDING CODE AND THE "STATEMENT OF SPECIAL INSPECTIONS" ON THESE CONSTRUCTION DOCUMENTS.
2. SCREW ANCHORS FOR INSTALLATION IN SOLID NORMAL-WEIGHT OR LIGHT-WEIGHT CONCRETE SHALL BE HILTI KWIK HUS-EZ (ICC #ESR-3027) OR DEWALT SCREW-BOLT+ (ICC #ESR-3889). ALTERNATE PRODUCTS SHALL CARRY AN EVALUATION APPROVAL THAT IS BASED ON TESTING IN ACCORDANCE WITH ICC ACCEPTANCE CRITERIA AC193 AND SHALL BE APPROVED BY THE ENGINEER IN WRITING PRIOR TO DELIVERY TO THE JOBSITE.
3. SCREW ANCHORS FOR INSTALLATION IN NORMAL-WEIGHT OR LIGHT-WEIGHT CONCRETE FILL OVER COLD-FORMED STEEL DECK SHALL BE HILTI KWIK HUS-EZ (ICC #ESR-3027) OR DEWALT SCREW-BOLT+ (ICC #ESR-3889). ALTERNATE PRODUCTS SHALL CARRY AN EVALUATION APPROVAL THAT IS BASED ON TESTING IN ACCORDANCE WITH ICC ACCEPTANCE CRITERIA AC193 AND SHALL BE APPROVED BY THE ENGINEER IN WRITING PRIOR TO DELIVERY TO THE JOBSITE.
4. SCREW ANCHORS FOR OVERHEAD INSTALLATION THRU COLD-FORMED STEEL DECK, INTO NORMAL-WEIGHT OR LIGHT-WEIGHT CONCRETE FILL SHALL BE HILTI KWIK HUS-EZ (ICC #ESR-3027) OR DEWALT SCREW-BOLT+ (ICC #ESR-3889). ALTERNATE PRODUCTS SHALL CARRY AN EVALUATION APPROVAL THAT IS BASED ON TESTING IN ACCORDANCE WITH ICC ACCEPTANCE CRITERIA AC193 AND SHALL BE APPROVED BY THE ENGINEER IN WRITING PRIOR TO DELIVERY TO THE JOBSITE.
5. SCREW ANCHORS FOR INSTALLATION IN CONCRETE MASONRY SHALL BE HILTI KWIK HUS-EZ (ICC #ESR-3056) OR DEWALT WEDGE-BOLT+ (ICC #ESR-1678). ALTERNATE PRODUCTS SHALL CARRY AN EVALUATION APPROVAL THAT IS BASED ON TESTING IN ACCORDANCE WITH ICC ACCEPTANCE CRITERIA AC106 AND SHALL BE APPROVED BY THE ENGINEER IN WRITING PRIOR TO DELIVERY TO THE JOBSITE.
6. ANCHORS SHALL BE OF THE TYPE, DIAMETER, AND MINIMUM DIMENSIONAL REQUIREMENTS (EMBEDMENT, SPACING AND EDGE DISTANCE) AS INDICATED ON THE DRAWINGS.
7. ANCHORS SHALL BE INSTALLED IN HOLES DRILLED WITH DRILLING EQUIPMENT OF THE TYPE REQUIRED IN THE MANUFACTURER'S PUBLISHED EVALUATION REPORT. HOLES SHALL BE CLEANED IN CONFORMANCE WITH THE ANCHOR MANUFACTURER'S INSTRUCTIONS.
8. WHEN INSTALLING ANCHORS IN EXISTING REINFORCED CONCRETE OR MASONRY, AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS.

Y. POST-INSTALLED ADHESIVE ANCHORS:

1. SPECIAL INSPECTION AND TESTING IS REQUIRED IN ACCORDANCE WITH SECTIONS 1704 AND 1705 OF THE BUILDING CODE AND THE "STATEMENT OF SPECIAL INSPECTIONS" ON THESE CONSTRUCTION DOCUMENTS.
2. ADHESIVE ANCHOR INSTALLERS SHALL BE TRAINED BY A QUALIFIED REPRESENTATIVE OF THE ADHESIVE MANUFACTURER ON THE PROPER PROCEDURES AND TECHNIQUES FOR INSTALLATION.
3. ADHESIVE SHALL BE STORED ON THE JOBSITE IN A COOL, DRY LOCATION IN CONFORMANCE WITH THE MANUFACTURER'S REQUIREMENTS.
4. ADHESIVE ANCHORS FOR INSTALLATION IN SOLID NORMAL-WEIGHT CONCRETE SHALL BE HILTI HIT RE500-V3 (ICC #ESR-3814) OR DEWALT PURE 110+ (ICC #ESR-3298). ALTERNATE PRODUCTS SHALL CARRY AN EVALUATION APPROVAL THAT IS BASED ON TESTING IN ACCORDANCE WITH ICC ACCEPTANCE CRITERIA AC308 AND SHALL BE APPROVED BY THE ENGINEER IN WRITING PRIOR TO DELIVERY TO THE JOBSITE.
5. ADHESIVE ANCHORS FOR INSTALLATION IN NORMAL-WEIGHT CONCRETE FILL OVER COLD-FORMED STEEL DECK SHALL BE HILTI HIT RE500-V3 (ICC #ESR-3814) OR DEWALT PURE 110+ (ICC #ESR-3298). ALTERNATE PRODUCTS SHALL CARRY AN EVALUATION APPROVAL THAT IS BASED ON TESTING IN ACCORDANCE WITH ICC ACCEPTANCE CRITERIA AC308 AND SHALL BE APPROVED BY THE ENGINEER IN WRITING PRIOR TO DELIVERY TO THE JOBSITE.
6. ADHESIVE ANCHORS SHALL NOT BE USED FOR OVERHEAD INSTALLATION THRU COLD-FORMED STEEL DECK, INTO CONCRETE FILL.
7. ADHESIVE ANCHORS FOR INSTALLATION IN CONCRETE MASONRY SHALL BE HILTI HIT HY70 (ICC #ESR-2682) OR DEWALT AC100+GOLD (ICC #ESR-3200). ALTERNATE PRODUCTS SHALL CARRY AN EVALUATION APPROVAL THAT IS BASED ON TESTING IN ACCORDANCE WITH EVALUATION ACCEPTANCE CRITERIA AC58 AND SHALL BE APPROVED BY THE ENGINEER IN WRITING PRIOR TO DELIVERY TO THE JOBSITE.
8. ANCHORS SHALL BE OF THE TYPE, DIAMETER, AND MINIMUM DIMENSIONAL REQUIREMENTS (EMBEDMENT, SPACING AND EDGE DISTANCE) AS INDICATED ON THE DRAWINGS.
9. ANCHORS SHALL BE INSTALLED IN HOLES DRILLED WITH DRILLING EQUIPMENT OF THE TYPE REQUIRED IN THE MANUFACTURER'S PUBLISHED EVALUATION REPORT. HOLES SHALL BE CLEANED IN CONFORMANCE WITH THE ANCHOR MANUFACTURER'S INSTRUCTIONS.
10. WHEN INSTALLING ANCHORS IN EXISTING REINFORCED CONCRETE OR MASONRY, AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS.

Z. GLAZED CURTAIN WALLS, DEFERRED APPROVAL:

1. GLAZED CURTAIN WALLS SHALL BE DEFERRED APPROVAL EXCEPT WHERE SPECIFICALLY DETAILED ON THE STRUCTURAL DRAWINGS. DEFERRED APPROVAL GLAZED CURTAIN WALLS SHALL COMPLY WITH ANY DETAILS PROVIDED.
2. DESIGN OF GLAZED CURTAIN WALLS, INCLUDING FRAMING MEMBERS AND CONNECTIONS (INCLUDING THOSE TO BUILDING STRUCTURE), SHALL PROVIDE FOR LATERAL RESTRAINT AND COMPLY WITH THE CONTRACT DOCUMENTS AND THE BUILDING CODE.
3. CALCULATIONS SHALL CLEARLY IDENTIFY LOADS IMPOSED ON THE BUILDING STRUCTURE.
4. GLAZED CURTAIN WALL AND CLADDING SYSTEM DESIGN SHALL ALLOW FOR 1/2 INCH LIVE LOAD DEFLECTION OF FLOOR OR ROOF BEAMS WITHOUT ADVERSELY IMPACTING CURTAIN WALL, CLADDING ELEMENTS OR CONNECTIONS.
5. GLAZED CURTAIN WALL WEIGHT SHALL NOT EXCEED 20 PSF.
6. SPECIAL INSPECTION AND TESTING IS REQUIRED IN ACCORDANCE WITH SECTIONS 1704 AND 1705 OF THE BUILDING CODE AND THE "STATEMENT OF SPECIAL INSPECTIONS" ON THESE CONSTRUCTION DOCUMENTS.
7. VERTICAL AND HORIZONTAL DIMENSIONS SHALL BE VERIFIED WITH THE ARCHITECTURAL DRAWINGS AND EXISTING CONDITIONS PRIOR TO FABRICATION. THE ARCHITECT SHALL BE NOTIFIED OF ANY FIELD CONDITIONS NOT COVERED BY THE CONTRACT DOCUMENTS PRIOR TO FABRICATION.
8. CONNECTIONS TO THE STRUCTURE SHALL INCLUDE STABILIZING ELEMENTS SUCH AS BRACES, STIFFENER PLATES, ETC., SO AS TO NOT IMPOSE ECCENTRIC LOADING, TWISTING, OR WARPING TO STRUCTURAL MEMBERS. PROVIDE MATERIAL AND INSTALL STABILIZING ELEMENTS. NECESSARY STABILIZING ELEMENTS SHALL BE INSTALLED AT NO ADDITIONAL COST TO THE OWNER.

SPECIAL INSPECTION AND TESTING PROGRAM

A. GENERAL:

1. NOTICE TO THE APPLICANT, OWNER, OWNER'S AGENT, ARCHITECT OR ENGINEER OF RECORD:
   BY USING THESE PERMITTED CONSTRUCTION DRAWINGS FOR CONSTRUCTION OR INSTALLATION OF THE WORK SPECIFIED HEREIN, YOU AGREE TO COMPLY WITH THE REQUIREMENTS OF THE BUILDING OFFICIAL FOR SPECIAL INSPECTIONS, STRUCTURAL OBSERVATIONS, CONSTRUCTION MATERIAL TESTING AND OFF-SITE FABRICATION OF BUILDING COMPONENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTIONS AND AS REQUIRED BY CALIFORNIA CONSTRUCTION CODES.
2. NOTICE TO THE CONTRACTOR, BUILDER, INSTALLER, SUBCONTRACTOR OR OWNER-BUILDER:
   BY USING THESE PERMITTED CONSTRUCTION DRAWINGS FOR CONSTRUCTION OR INSTALLATION OF THE WORK SPECIFIED HEREIN, YOU ACKNOWLEDGE THAT YOU ARE AWARE OF THE REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTIONS. YOU AGREE TO COMPLY WITH THE REQUIREMENTS OF THE BUILDING OFFICIAL FOR SPECIAL INSPECTIONS, STRUCTURAL OBSERVATIONS, CONSTRUCTION MATERIAL TESTING AND OFF-SITE FABRICATION OF BUILDING COMPONENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTIONS AND AS REQUIRED BY CALIFORNIA CONSTRUCTION CODES.
3. THE OWNER OR OWNER'S AGENT, OTHER THAN THE CONTRACTOR, SHALL EMPLOY SPECIAL INSPECTION AND TESTING AGENCIES TO PROVIDE INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF WORK LISTED IN THE STATEMENT OF SPECIAL INSPECTIONS.
4. SPECIAL INSPECTION SHALL BE PERFORMED IN ADDITION TO INSPECTION BY THE BUILDING OFFICIAL AS REQUIRED IN SECTION 110 OF THE BUILDING CODE. SPECIAL INSPECTION SHALL NOT BE A SUBSTITUTE FOR INSPECTION BY THE BUILDING OFFICIAL.
5. WHEN WORK IN MORE THAN ONE CATEGORY OF WORK REQUIRING SPECIAL INSPECTION OR TESTING IS TO BE PERFORMED SIMULTANEOUSLY, OR THE GEOGRAPHIC LOCATION OF THE WORK IS SUCH THAT IT CANNOT BE OBSERVED IN ACCORDANCE WITH THE STATEMENT OF SPECIAL INSPECTIONS AND SECTION 1704 OF THE BUILDING CODE, IT SHALL BE THE SPECIAL INSPECTION AGENCY'S RESPONSIBILITY TO EMPLOY A SUFFICIENT NUMBER OF INSPECTORS TO ASSURE THAT THE REQUIRED WORK IS INSPECTED.
6. THE SPECIAL INSPECTION AGENCY SHALL BE APPROVED BY THE BUILDING OFFICIAL FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION.
   EXCEPTIONS:
   A. SOILS INSPECTIONS SHALL BE PERFORMED BY THE GEOTECHNICAL ENGINEER OF RECORD.
   B. SMOKE CONTROL SYSTEM INSPECTIONS SHALL BE PERFORMED BY THE MECHANICAL ENGINEER OF RECORD.
   C. WHEN THIS REQUIREMENT FOR AGENCY APPROVAL IS WAIVED BY THE BUILDING OFFICIAL.
7. THE CONSTRUCTION MATERIALS TESTING AGENCY SHALL BE APPROVED BY THE BUILDING OFFICIAL FOR THE TESTING OF MATERIALS, SYSTEMS, COMPONENTS AND EQUIPMENT.
8. PRIOR TO THE START OF CONSTRUCTION, THE SPECIAL INSPECTION AND TESTING AGENCIES SHALL SUBMIT DOCUMENTATION TO THE BUILDING OFFICIAL DEMONSTRATING THE COMPETENCE AND RELEVANT EXPERIENCE OR TRAINING OF THE SPECIAL INSPECTORS WHO WILL PERFORM THE SPECIAL INSPECTIONS AND TESTS DURING CONSTRUCTION.
9. EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF THE MAIN WIND- OR SEISMIC-FORCE-RESISTING SYSTEM, DESIGNATED SEISMIC SYSTEM, OR WIND- OR SEISMIC-RESISTING COMPONENT LISTED IN THE STATEMENT OF SPECIAL INSPECTIONS SHALL SUBMIT A STATEMENT OF RESPONSIBILITY TO THE OWNER (OR OWNER'S DESIGNATED AGENT) AND BUILDING OFFICIAL PRIOR TO COMMENCEMENT OF WORK. THE CONTRACTOR'S STATEMENT OF RESPONSIBILITY SHALL CONTAIN ACKNOWLEDGEMENT OF AWARENESS OF THE SPECIAL REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTIONS AND TESTING.
10. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE SPECIAL INSPECTION OR TESTING AGENCIES AT LEAST ONE WORKING DAY PRIOR TO PERFORMING ANY WORK THAT REQUIRES SPECIAL INSPECTION.
11. WORK REQUIRING SPECIAL INSPECTION OR TESTING THAT IS INSTALLED OR COVERED WITHOUT THE APPROVAL OF THE BUILDING OFFICIAL IS SUBJECT TO REMOVAL OR EXPOSURE AT THE CONTRACTOR'S EXPENSE.

B. REQUIRED REPORTS:

1. A SOILS INSPECTION REPORT, SIGNED, STAMPED AND DATED BY THE GEOTECHNICAL ENGINEER OF RECORD, SHALL BE SUBMITTED TO AND APPROVED BY THE BUILDING OFFICIAL PRIOR TO THE CONTRACTOR REQUESTING A BUILDING DEPARTMENT FOUNDATION INSPECTION OR THE PLACEMENT OF FOUNDATION CONCRETE. THE REPORT SHALL STATE THAT:
   A. THE BUILDING PAD WAS PREPARED IN ACCORDANCE WITH THE SOILS REPORT.
   B. THE UTILITY TRENCHES HAVE BEEN PROPERLY BACKFILLED AND COMPACTED.
   C. THE FOUNDATION EXCAVATIONS COMPLY WITH THE INTENT OF THE SOILS REPORT.
2. THE SPECIAL INSPECTION AGENCY SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE.
3. SPECIAL INSPECTION REPORTS SHALL INDICATE WHETHER THE WORK INSPECTED WAS, OR WAS NOT PERFORMED IN CONFORMANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.
4. THE CONSTRUCTION MATERIALS TESTING AGENCY SHALL FURNISH REPORTS TO THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE.
5. MATERIAL TESTING REPORTS SHALL INDICATE WHETHER THE TESTED MATERIALS CONFORM, OR DO NOT CONFORM, TO THE REQUIREMENTS OF THE APPROVED CONSTRUCTION DOCUMENTS.
6. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION.
7. IF DISCREPANCIES ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE PRIOR TO COMPLETION OF THAT PHASE OF WORK.
8. A FINAL REPORT DOCUMENTING THE REQUIRED SPECIAL INSPECTIONS, MATERIAL TESTING AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS SHALL BE SUBMITTED AT A POINT IN TIME AGREED UPON, PRIOR TO THE START OF WORK, BY THE PERMIT APPLICANT AND THE BUILDING OFFICIAL.

C. CONTINUOUS AND PERIODIC SPECIAL INSPECTIONS:

1. WHERE CONTINUOUS SPECIAL INSPECTION IS REQUIRED, THE SPECIAL INSPECTOR SHALL CONTINUOUSLY PROVIDE FULL-TIME INSPECTION OF THE WORK.
2. WHERE PERIODIC SPECIAL INSPECTION IS REQUIRED, THE SPECIAL INSPECTOR NEED NOT BE CONTINUOUSLY PRESENT DURING THE WORK WHERE PERIODIC INSPECTION IS INDICATED. AS A MINIMUM, PERIODIC SPECIAL INSPECTION SHALL OCCUR DAILY.

D. OFF-SITE FABRICATION:

1. SPECIAL INSPECTION AND TESTING IS REQUIRED FOR THE OFF-SITE FABRICATION OF STRUCTURAL LOAD-BEARING OR LATERAL LOAD RESISTING MEMBERS, REINFORCING AND ASSEMBLIES, UNLESS THE FABRICATION IS PERFORMED BY AN APPROVED FABRICATOR.
2. AN APPLICATION FOR OFF-SITE FABRICATION MUST BE SUBMITTED TO THE BUILDING OFFICIAL FOR APPROVAL PRIOR TO COMMENCING ANY FABRICATION WORK REQUIRING SPECIAL INSPECTION OR TESTING.
3. A CERTIFICATE OF COMPLIANCE FOR OFF-SITE FABRICATION MUST BE SUBMITTED BY THE FABRICATOR TO THE SPECIAL INSPECTION OR TESTING AGENCY PRIOR TO FABRICATION, AND SUBMITTED TO THE BUILDING OFFICIAL PRIOR TO ERECTION OF PREFABRICATED COMPONENTS.
4. SPECIAL INSPECTION SHALL INCLUDE VERIFICATION THAT THE FABRICATOR MAINTAINS DETAILED FABRICATION AND QUALITY CONTROL PROCEDURES THAT PROVIDE A BASIS FOR INSPECTION CONTROL OF WORKMANSHIP AND THE FABRICATOR'S ABILITY TO CONFORM TO THE APPROVED CONSTRUCTION DOCUMENTS AND REFERENCED STANDARDS.
5. SPECIAL INSPECTION SHALL INCLUDE REVIEW OF THE PROCEDURES FOR COMPLETENESS AND ADEQUACY RELATIVE TO THE REQUIREMENTS OF THE BUILDING CODE.

E. STRUCTURAL OBSERVATIONS:

1. STRUCTURAL OBSERVATIONS ARE REQUIRED IN ACCORDANCE WITH SECTION 1704.5 OF THE BUILDING CODE.
2. THE OWNER SHALL EMPLOY THE ENGINEER RESPONSIBLE FOR THE STRUCTURAL DESIGN TO PERFORM VISUAL OBSERVATION OF THE STRUCTURAL SYSTEM FOR GENERAL CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS.
3. PRIOR TO COMMENCEMENT OF OBSERVATIONS, THE STRUCTURAL OBSERVER SHALL SUBMIT TO THE BUILDING OFFICIAL A WRITTEN STATEMENT IDENTIFYING THE FREQUENCY AND EXTENT OF STRUCTURAL OBSERVATIONS.
4. CONTRACTOR SHALL NOTIFY THE STRUCTURAL OBSERVER AT LEAST 2 WORKING DAYS AHEAD OF THE CONSTRUCTION STAGES INDICATED AND AHEAD OF COMPLETION OF THE STRUCTURAL SYSTEM.
5. STRUCTURAL OBSERVATION DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR SPECIAL INSPECTION NOR INSPECTION BY THE BUILDING OFFICIAL.
6. OBSERVED DEFICIENCIES SHALL BE REPORTED IN WRITING TO THE OWNER, SPECIAL INSPECTION AGENCY, CONTRACTOR AND BUILDING OFFICIAL.
7. AT THE CONCLUSION OF WORK, THE STRUCTURAL OBSERVER SHALL SUBMIT TO THE BUILDING OFFICIAL A WRITTEN STATEMENT THAT THE STRUCTURAL OBSERVATIONS HAVE BEEN MADE AND IDENTIFYING ANY REPORTED DEFICIENCIES, WHICH, TO THE BEST OF THE OBSERVER S KNOWLEDGE, HAVE NOT BEEN RESOLVED.
8. THE FOLLOWING STRUCTURAL OBSERVATIONS ARE REQUIRED BY THE ENGINEER OF RECORD:
   A. VISUALLY OBSERVE MOMENT FRAME CONNECTIONS PRIOR TO PLACEMENT OF CONCRETE OR ANY FINISHES THAT WOULD HINDER VISIBILITY.
   B. CONFINEMENT OF BOUNDARY ELEMENTS OF THE PAVER PEDESTAL SYSTEM AT THE GREEN ROOF

STATEMENT OF SPECIAL INSPECTIONS AND TESTING

DESCRIPTION OF TYPE OF INSPECTION REQUIRED, REFERENCE DETAIL	CONTINUOUS	PERIODIC	REFERENCE
SOIL			
SOIL MATERIAL BELOW FOUNDATIONS FOR ADEQUACY TO ACHIEVE DESIGN BEARING CAPACITY		×	
EXCAVATIONS EXTEND TO PROPER DEPTH AND BEARING STRATA		×	
CLASSIFICATION AND TESTING OF CONTROLLED FILL MATERIAL		×	
SUBGRADE AND SITE PREPARATION PRIOR TO PLACEMENT OF CONTROLLED FILL		×	
PLACEMENT AND COMPACTION OF CONTROLLED FILL: INCLUDING RELATIVE DENSITY	×		
SOIL EXPANSION TEST RESULTS: INCLUDING EXPANSION INDEX, RECOMMENDATIONS FOR FOUNDATION AND FLOOR SLAB DESIGN.		×	
CAST-IN-PLACE DEEP FOUNDATIONS			
DRILLING OPERATION AND RECORD-KEEPING FOR EACH ELEMENT	×		FOOTNOTE 1
ELEMENT PLACEMENT LOCATION AND PLUMBNESS	×		
CONCRETE			
SHAPE, LOCATION AND DIMENSION OF CONCRETE FORMWORK PRIOR TO PLACEMENT OF REINFORCING		×	
REINFORCING STEEL MATERIAL		×	
PLACEMENT OF REINFORCING STEEL PRIOR TO CLOSING OF FORMS OR DELIVERY OF CONCRETE		×	
PLACEMENT OF CAST-IN ANCHORS PRIOR TO CLOSING OF FORMS OR DELIVERY OF CONCRETE		×	
PLACEMENT OF CAST-IN STEEL ASSEMBLIES FOR STRUCTURAL CONNECTIONS PRIOR TO CLOSING OF FORMS OR DELIVERY OF CONCRETE		×	
CONCRETE MIX VERIFICATION AT TIME OF DELIVERY		×	
SAMPLING OF FRESH CONCRETE	×		FOOTNOTES 2 & 3
TESTING OF CONCRETE STRENGTH FOR CONFORMANCE WITH THE CONSTRUCTION DRAWING REQUIREMENTS		×	FOOTNOTES 2 & 3
TESTING OF CONCRETE DRYING SHRINKAGE FOR CONFORMANCE WITH THE CONSTRUCTION DRAWING REQUIREMENTS		×	FOOTNOTES 2 & 3
APPLICATION TECHNIQUES OF CONCRETE PLACEMENT	×		
MAINTENANCE OF REQUIRED CURING TEMPERATURE AND TECHNIQUES		×	
MEASUREMENT OF CONCRETE SURFACE PROFILE (FLATNESS AND LEVELNESS) IN ACCORDANCE WITH ASTM E 1155		×	
MASONRY (ACI 530 LEVEL B QUALITY ASSURANCE)			
CERTIFICATES OF MATERIALS COMPLIANCE PRIOR TO THE START OF WORK		×	
MASONRY CONSTRUCTION AT THE START OF WORK		×	FOOTNOTE 4
REINFORCING STEEL MATERIAL		×	
PLACEMENT OF REINFORCING STEEL PRIOR TO DELIVERY OF GROUT		×	
PLACEMENT OF CAST-IN ANCHORS PRIOR TO DELIVERY OF GROUT		×	
PLACEMENT OF CAST-IN STEEL ASSEMBLIES FOR STRUCTURAL CONNECTIONS PRIOR TO DELIVERY OF GROUT		×	
MASONRY CONSTRUCTION DURING COURSE OF WORK		×	FOOTNOTE 5
MASONRY CONSTRUCTION PRIOR TO GROUTING		×	FOOTNOTE 6
GROUT PLACEMENT	×		
GROUT SLUMP DURING GROUT PLACEMENT (IF LIFTS GREATER THAN 5'-0" ARE USED)	×		
PREPARATION OF GROUT SPECIMENS DURING CONSTRUCTION (IF USING UNIT STRENGTH METHOD)		×	
TESTING OF GROUT STRENGTH DURING CONSTRUCTION (IF USING UNIT STRENGTH METHOD)		×	
STRUCTURAL STEEL			
STRUCTURAL STEEL MATERIAL		×	
ANCHOR RODS AND OTHER EMBEDMENTS SUPPORTING STRUCTURAL STEEL IN ACCORDANCE WITH AISC 360, SECTION N5.7		×	
STRUCTURAL STEEL FRAMING, BRACING AND CONNECTIONS CONFIGURATION IN ACCORDANCE WITH AISC 360, SECTION N5.7		×	
REDUCED BEAM SECTIONS OF SPECIAL MOMENT FRAMES IN ACCORDANCE WITH AISC 341, SECTION J8 AND TABLE J8-1		×	
PROTECTED ZONES IN ELEMENTS OF THE SEISMIC FORCE RESISTING SYSTEM IN ACCORDANCE WITH AISE 341, SECTION J8 AND TABLE J8-1		×	
STRUCTURAL STEEL CONNECTIONS AT SPECIAL MOMENT RESISTING FRAMES			SHEET 2S-202
WELDING OF STRUCTURAL STEEL			
QUALITY ASSURANCE INSPECTIONS PRIOR TO WELDING IN ACCORDANCE WITH AISC 360, SECTION N5.4 AND TABLE N5.4-1			FOOTNOTE 7
QUALITY ASSURANCE INSPECTIONS DURING WELDING IN ACCORDANCE WITH AISC 360, SECTION N5.4 AND TABLE N5.4-2			FOOTNOTE 7
QUALITY ASSURANCE INSPECTIONS AFTER WELDING IN ACCORDANCE WITH AISC 360, SECTION N5.4 AND TABLE N5.4-3			FOOTNOTE 7
NONDESTRUCTIVE TESTING AFTER WELDING IN ACCORDANCE WITH AISC 360, SECTION N5.5			FOOTNOTE 7
QUALITY ASSURANCE INSPECTIONS OF THE SEISMIC FORCE RESISTING SYSTEM PRIOR TO WELDING IN ACCORDANCE WITH AISC 341, SECTION J6.1 AND TABLE J6-1			FOOTNOTE 8
QUALITY ASSURANCE INSPECTIONS OF THE SEISMIC FORCE RESISTING SYSTEM DURING WELDING IN ACCORDANCE WITH AISC 341, SECTION J6.1 AND TABLE J6-2			FOOTNOTE 8
QUALITY ASSURANCE INSPECTIONS OF THE SEISMIC FORCE RESISTING SYSTEM AFTER WELDING IN ACCORDANCE WITH AISC 341, SECTION J6.1 AND TABLE J6-3			FOOTNOTE 8
NONDESTRUCTIVE TESTING OF THE SEISMIC FORCE RESISTING SYSTEM AFTER WELDING IN ACCORDANCE WITH AISC 341, SECTION J6.2			FOOTNOTE 8
HIGH-STRENGTH BOLTING			
QUALITY ASSURANCE INSPECTIONS PRIOR TO BOLTING IN ACCORDANCE WITH AISC 360, SECTION N5.6 AND TABLE N5.6-1			FOOTNOTE 7
QUALITY ASSURANCE INSPECTIONS DURING BOLTING IN ACCORDANCE WITH AISC 360, SECTION N5.6 AND TABLE N5.6-2			FOOTNOTE 7
QUALITY ASSURANCE INSPECTIONS AFTER BOLTING IN ACCORDANCE WITH AISC 360, SECTION N5.6 AND TABLE N5.6-3			FOOTNOTE 7
QUALITY ASSURANCE INSPECTIONS OF THE SEISMIC FORCE RESISTING SYSTEM PRIOR TO BOLTING IN ACCORDANCE WITH AISC 341, SECTION J7 AND TABLE J7-1			FOOTNOTE 8
QUALITY ASSURANCE INSPECTIONS OF THE SEISMIC FORCE RESISTING SYSTEM DURING BOLTING IN ACCORDANCE WITH AISC 341, SECTION J7 AND TABLE J7-2			FOOTNOTE 8
QUALITY ASSURANCE INSPECTIONS OF THE SEISMIC FORCE RESISTING SYSTEM AFTER BOLTING IN ACCORDANCE WITH AISC 341, SECTION J7 AND TABLE J7-3			FOOTNOTE 8
COLD-FORMED STEEL DECK			
QUALITY ASSURANCE INSPECTIONS PRIOR TO DECK PLACEMENT IN ACCORDANCE WITH SDI QA/QC STANDARD TABLE 1.1.			FOOTNOTE 9
QUALITY ASSURANCE INSPECTIONS AFTER DECK PLACEMENT IN ACCORDANCE WITH SDI QA/QC STANDARD TABLE 1.2.			FOOTNOTE 9
QUALITY ASSURANCE INSPECTIONS PRIOR TO DECK WELDING IN ACCORDANCE WITH SDI QA/QC STANDARD TABLE 1.3.			FOOTNOTE 9
QUALITY ASSURANCE INSPECTIONS DURING DECK WELDING IN ACCORDANCE WITH SDI QA/QC STANDARD TABLE 1.4.			FOOTNOTE 9
QUALITY ASSURANCE INSPECTIONS AFTER DECK WELDING IN ACCORDANCE WITH SDI QA/QC STANDARD TABLE 1.5.			FOOTNOTE 9
QUALITY ASSURANCE INSPECTIONS PRIOR TO DECK MECHANICAL FASTENING IN ACCORDANCE WITH SDI QA/QC STANDARD TABLE 1.6.			FOOTNOTE 9
QUALITY ASSURANCE INSPECTIONS DURING DECK MECHANICAL FASTENING IN ACCORDANCE WITH SDI QA/QC STANDARD TABLE 1.7.			FOOTNOTE 9
QUALITY ASSURANCE INSPECTIONS AFTER DECK MECHANICAL FASTENING IN ACCORDANCE WITH SDI QA/QC STANDARD TABLE 1.8.			FOOTNOTE 9
POST-INSTALLED ANCHORS			
INSTALLATION OF MECHANICAL ANCHORS		×	FOOTNOTE 10
INSTALLATION OF SCREW ANCHORS		×	FOOTNOTE 10
JOBSITE STORAGE OF ADHESIVE PRIOR TO INSTALLATION FOR CONFORMANCE WITH MANUFACTURER'S REQUIREMENTS		×	FOOTNOTE 10
INSTALLATION OF ADHESIVE ANCHORS IN HORIZONTALLY OR UPWARDLY-INCLINED ORIENTATIONS	×		FOOTNOTE 10
INSTALLATION OF ADHESIVE ANCHORS IN DOWNWARD VERTICAL ORIENTATIONS		×	FOOTNOTE 10
PLUMBING, MECHANICAL AND ELECTRICAL COMPONENTS			
THE FOLLOWING SYSTEMS ARE DESIGNATED SEISMIC SYSTEMS AS DEFINED IN SECTION 202 OF THE BUILDING CODE. REQUIRED CERTIFICATION AND INSPECTIONS APPLY TO EACH OF THESE SYSTEMS:			
A. FIRE SUPPRESSION SYSTEMS		×	
B. EMERGENCY OR STANDBY POWER SYSTEMS		×	
B. OTHER ELECTRICAL SYSTEMS IN STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY E OR F		×	
C. PIPING SYSTEMS INTENDED TO CARRY FLAMMABLE, COMBUSTIBLE OR HIGHLY TOXIC CONTENTS		×	
D. EQUIPMENT AND DUCTWORK CONTAINING HAZARDOUS MATERIALS		×	
E. VIBRATION ISOLATION SYSTEMS WHERE THE REQUIRED CLEARANCE BETWEEN EQUIPMENT SUPPORT FRAME AND RESTRAINT IS ¼ INCH OR LESS		×	
MANUFACTURER'S CERTIFICATE OF COMPLIANCE FOR TESTING, ANALYSIS OR EXPERIENCE OF COMPONENTS, MOUNTING SYSTEMS OR ANCHORAGE		×	
INSTALLED EQUIPMENT LABEL AND ANCHORAGE (OR MOUNTING) CONFORMS TO MANUFACTURER'S CERTIFICATE OF COMPLIANCE		×	
OTHER NON-STRUCTURAL COMPONENTS			
WELDING AT THE BASE OF CANTILEVERED STEEL RAILING SYSTEMS AS SPECIFIED ABOVE FOR "WELDING OF STRUCTURAL STEEL" (NOT REQUIRED FOR REMAINDER OF RAIL SYSTEM WELDS)			FOOTNOTE 7
ANCHORAGE OF STORAGE RACKS, 8 FEET IN HEIGHT OR TALLER		×	FOOTNOTE 11
ERECTION AND FASTENING OF EXTERIOR CURTAINWALL SYSTEMS EXCEEDING 30 FT ABOVE ADJACENT GRADE		×	FOOTNOTE 11
ERECTION AND FASTENING OF EXTERIOR CLADDING OR VENEER WEIGHING MORE THAN 5 PSF AND EXCEEDING 30 FT ABOVE ADJACENT GRADE		×	FOOTNOTE 11
ERECTION AND FASTENING OF INTERIOR PARTITION SYSTEMS WEIGHING MORE THAN 15 PSF AND EXCEEDING 30 FEET IN HEIGHT		×	FOOTNOTE 11
ATTACHMENT OF ROOF COVERING (WHERE WIND EXPOSURE CATEGORY IS C OR D)		×	
ATTACHMENT OF EXTERIOR WALL COVERING (WHERE WIND EXPOSURE CATEGORY IS C OR D)		×	
ACOUSTICAL CEILING SUSPENSION ASSEMBLIES			ICC ESR-1308
FIRE RESISTANCE			
SPRAY-APPLIED FIRE PROTECTION MATERIALS IN ACCORDANCE WITH SECTION 1705.14 OF THE BUILDING CODE AND UL #ER 4339-02		×	
FIRE-RESISTANT MASTIC AND INTUMESCENT COATINGS IN ACCORDANCE WITH SECTION 1705.15 OF THE BUILDING CODE		×	
FIRE-RESISTANT PENETRATION FIRESTOPS IN ACCORDANCE WITH SECTION 1705.17 OF THE BUILDING CODE		×	
FIRE-RESISTANT JOINT SYSTEMS IN ACCORDANCE WITH SECTION 1705.17 OF THE BUILDING CODE		×	

FOOTNOTES FOR STATEMENT OF SPECIAL INSPECTIONS:

1. AT TIME OF ELEMENT DRILLING, RECORD THE FOLLOWING:
   A. ELEMENT DIAMETER
   B. BELL DIAMETER (IF APPLICABLE)
   C. ELEMENT LENGTH AND EMBEDMENT INTO FORMATIONAL MATERIAL (IF APPLICABLE)
   D. DETERMINE ADEQUATE END BEARING STRATA TO ACHIEVE DESIGN CAPACITY
2. AT TIME OF CONCRETE SAMPLING:
   A. FABRICATE SPECIMENS FOR STRENGTH TESTS
   B. FABRICATE SPECIMENS FOR DRYING SHRINKAGE TESTS WHERE REQUIRED
   C. PERFORM SLUMP AND AIR CONTENT TESTS
   D. DETERMINE CONCRETE TEMPERATURE
3. TEST SPECIMENS SHALL BE MADE FOR EACH SEPARATE CONCRETE MIX USED. AS A MINIMUM SPECIMENS SHALL BE TAKEN FOR EACH 150 CUBIC YARDS, OR PORTION THEREOF AND SHALL BE TAKEN AT LEAST ONCE PER DAY.
4. AT THE BEGINNING OF MASONRY CONSTRUCTION, INSPECT THE FOLLOWING:
   A. TYPE AND GRADE OF MASONRY UNITS
   B. PROPORTIONS OF SITE-PREPARED MORTAR
   C. CONSTRUCTION OF MORTAR JOINTS
   D. SIZE, GRADE, TYPE AND LOCATION OF REINFORCING STEEL, CONNECTIONS AND ANCHORAGES
5. DURING THE COURSE OF MASONRY CONSTRUCTION, INSPECT THE FOLLOWING:
   A. SIZE AND LOCATION OF STRUCTURAL ELEMENTS
   B. TYPE, SIZE AND LOCATION OF ANCHORS, INCLUDING ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS AND OTHER CONSTRUCTION
   C. SIZE, GRADE, TYPE AND LOCATION OF REINFORCING STEEL
   D. PREPARATION, CONSTRUCTION AND PROTECTION OF MASONRY DURING COLD WEATHER (BELOW 40° F) OR HOT WEATHER (ABOVE 90° F)
6. PRIOR TO GROUTING, INSPECT THE FOLLOWING:
   A. GROUT SPACE IS CLEAN
   B. PLACEMENT OF REINFORCEMENT, CONNECTORS AND ANCHORAGES
   C. PROPORTIONS OF SITE-PREPARED GROUT
   D. CONSTRUCTION OF MORTAR JOINTS
7. SEE REFERENCED SECTION AND / OR TABLE IN AISC 360 FOR INSPECTION PROCEDURES NOTED AS OBSERVE (O), OR PERFORM (P).
8. SEE REFERENCED SECTION AND / OR TABLE IN AISC 341 FOR INSPECTION PROCEDURES NOTED AS OBSERVE (O), PERFORM (P) OR DOCUMENT (D).
9. SEE REFERENCED TABLE IN THE SDI QA/QC STANDARD FOR QUALITY CONTROL AND QUALITY ASSURANCE FOR INSTALLATION OF STEEL DECK FOR INSPECTION PROCEDURES NOTED AS OBSERVE (O), OR PERFORM (P).
10. SPECIAL INSPECTION FOR POST-INSTALLED ANCHORS SHALL COMPLY WITH THE REQUIREMENTS SPECIFIED IN THE EVALUATION APPROVAL FOR THE SPECIFIC PRODUCT.
11. VERIFICATION OF OTHER NON-STRUCTURAL COMPONENTS SHALL BE SATISFIED BY ONE OF THE FOLLOWING METHODS:
    A. SPECIAL INSPECTION AND TESTING OF COMPONENTS AND CONNECTIONS AS SPECIFIED WITHIN THIS STATEMENT OF SPECIAL INSPECTIONS AND TESTING.
    B. FOR PROPRIETARY COMPONENTS OR SYSTEMS, SUBMITTAL OF THE MANUFACTURER'S CERTIFICATION THAT THE COMPONENT OR SYSTEM IS SEISMICALLY QUALIFIED BY (A) ANALYSIS, (B) TESTING, OR (C) EXPERIENCE DATA IN ACCORDANCE WITH ASCE 7 SECTION 13.2.1.

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CP-2
VOLUME 1

PROJECT NO. 16148

REV NO.	DATE ISSUED	REASON
	04.25.17	DESIGN DEVELOPMENT
	04.25.17	STRUCT. STEEL BID SET
	08.08.17	CITY SUBMITTAL SET
2.3	11.20.17	ASI 2.1/IFC

CITY SUBMITTAL SET
08.08.17

Sheet Title
STRUCTURAL NOTES

Sheet No.
2S-011

DPR Issued Sheet 2017-11-20
Link to the Sheet - 2G-002