

BOELTER HSSEAS - UNDER GRADUATE LAB 6541 RENOVATION

FACILITIES JOB NO.: FE105 WORK ORDER NO.: 2887623

UNIVERSITY OF CALIFORNIA, LOS ANGELES

PROJECT DIRECTORY

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BUILDING CODE REVIEW

OCCUPANCY GROUP: B (EDUCATIONAL LABORATORY)
OCCUPANCY LOAD: 30 OCCUPANTS (@ 50 SF/OCC. PER TABLE 1004.1.1)
TYPE OF CONSTRUCTION: TYPE I, FULLY FIRE SPRINKLERED (EXISTING)
2-HOUR RATED ENCLOSURE PER CFC 2703.8.3.2
ALLOWABLE BUILDING AREA: BASIC ALLOWABLE AREA (B, TYPE I) UNLIMITED PER CBC TABLE 503
MEANS OF EGRESS: 1 EXIT REQUIRED (<49 OCCUPANTS PER TABLE 1015.1)
2 EXITS PROVIDED (PANIC HARDWARE NOT REQUIRED)
FIRE EXTINGUISHERS: (NFPA 10)
MINIMUM RATED SINGLE EXTINGUISHER = 10LB. ABC
MAX. TRAVEL DISTANCE ALLOWED PER EXTINGUISHER = 75 FT.
MAX. FLOOR AREA ALLOWED PER EXTINGUISHER = 3,000 SF
S.F.M. REQUIRED: (1) 20# ABC, (1) 30# CLASS D TYPE 1, (1) 20# CO2
(PROVIDED IN CORRIDOR)
PLUMBING FIXTURE COUNTS & ACCESSIBLE UPGRADES: REFER TO PREVIOUSLY APPROVED PERMITS LISTED UNDER 'PROJECT INFORMATION'
ACCESSIBILITY UPGRADES: ALL WORK WITHIN THE 6541 WILL BE ADA ACCESSIBLE AS REQUIRED BY CODE. ALL OTHER ADA UPGRADES ARE BEING PERFORMED AS PART OF THE WORK FOR THE 5th/6th/7th FLOOR LABS (#942610.01).
CHEMICAL CONTROL AREAS: THE ENTIRE 6TH LEVEL WILL BE A CONTROL AREA PER 5th/6th/7th FLOOR LABS (#942610.01). THE MANAGEMENT OF CHEMICALS FOR THIS FLOOR WILL BE BY HSSEAS. THEREFORE 2-HOUR SEPARATION OF ROOM 6541 TO THE REST OF THE FLOOR IS NOT REQUIRED. REFER TO AOW HAZARDOUS MATERIALS INVENTORY STATEMENT REPORT DATED OCTOBER 12, 2011.

PROJECT INFORMATION

PROJECT LOCATION: UCLA BOELTER HALL - HENRY SAMUEL SCHOOL OF ENGINEERING & APPLIED SCIENCES (6TH FLOOR - ROOM 6541)
PROJECT DESCRIPTION: RENOVATION OF EXISTING SPACE INTO NEW EDUCATIONAL LABORATORY. ADDITION OF NEW FIRE RATED WALL. ENCLOSURE OF EXISTING CORRIDOR WALL TO MEET FIRE RATING. INSTALLATION OF LABORATORY EQUIPMENT & FURNITURE.
PREVIOUS PERMITS: 942610.01 BOELTER HALL LAB RENOVATIONS - 5th, 6th & 7th FLOORS 943940.01 BOELTER STUDENT CREATIVITY CENTER
IMPROVEMENT AREA: 1,480 SF
EXISTING USE: OFFICE
PROPOSED USE: EDUCATIONAL LABORATORY

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APPLICABLE CODES

BUILDING STANDARDS OF THE STATE OF CALIFORNIA
(CALIFORNIA CODE OF REGULATIONS, TITLE 24)
• 2010 CALIFORNIA ADMINISTRATIVE CODE (CAC), PART 1, TITLE 24 C.C.R.
• 2010 CALIFORNIA GREEN BUILDING STANDARDS CODE, TITLE 24 PART 11 (CALGREEN)
• 2010 CALIFORNIA BUILDING CODE (CBC), PART 2, VOLUMES 1 AND 2, TITLE 24 C.C.R. (2009 IBC AND 2010 CALIFORNIA AMENDMENTS)
• 2010 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 C.C.R. (2008 NEC AND 2010 CALIFORNIA AMENDMENTS)
• 2010 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 C.C.R. (2009 UNIFORM MECHANICAL CODE WITH 2010 CALIFORNIA AMENDMENTS)
• 2010 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 C.C.R. (2009 UNIFORM PLUMBING CODE WITH 2010 CALIFORNIA AMENDMENTS)
• 2010 CALIFORNIA ENERGY CODE (CEC), PART 6, TITLE 24 C.C.R.
• 2010 CALIFORNIA FIRE CODE, PART 9, TITLE 24 C.C.R. (2009 INTERNATIONAL FIRE CODE WITH 2010 CALIFORNIA AMENDMENTS)
• 2010 CALIFORNIA REFERENCED STANDARDS CODE, PART 12, TITLE 24 C.C.R.
AMERICANS WITH DISABILITIES ACT (ADA), TITLE II
2010 ADA STANDARDS FOR ACCESSIBLE DESIGN
PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS (CALIFORNIA CODE OF REGULATIONS, TITLE 19)
NFPA STANDARDS:
• 2010 NFPA 13, INSTALLATION OF SPRINKLER SYSTEMS
• 2007 NFPA 14, INSTALLATION OF STANDPIPES AND HOSE SYSTEMS
• 2010 NFPA 24, INSTALLATION OF PRIVATE FIRE SERVICE MAINS
• 2010 NFPA 72, NATIONAL FIRE ALARM CODE (CALIFORNIA AMENDED)

EXISTING BUILDING DATA

YEAR BUILT: 1959
ADDRESS: 580 PORTOLA PLAZA, LOS ANGELES, CA 90095
UCLA ZONING: P
CAAN: 4343
BUILDING CLASSIFICATION: GENERAL CAMPUS BUILDING
EXISTING BUILDING AREA: 373,904 GSF
EXISTING BUILDING HEIGHT: 8 STORIES ABOVE GRADE (10 STORIES TOTAL)
EXISTING OCCUPANCY TYPE: GROUP 'B' (BUSINESS) USES
EXISTING CONSTRUCTION TYPE: TYPE I-A
EXISTING FIRE PROTECTION: AUTOMATIC FIRE SPRINKLER SYSTEM
ALLOWABLE BUILDING AREA: BASIC ALLOWABLE AREA (B, TYPE I) UNLIMITED PER CBC TABLE 503

DPMO INTERNAL REVIEWS

Preliminary Fire Marshal Review: Joel Aplin & Ricardo Barboza (9-22-2011)
Plan-check OTC Fire Marshal Review: Joel Aplin & Ricardo Barboza - 1-hr. Rated Enclosure (10-3-2011)
Follow-Up Fire Marshal Review: Dana Johnson, Joel Aplin & Ricardo Barboza - No Rated Enclosure Req'd
Final Approval dependent on 5/6/7 Lab Control Area Approval (10-13-2011)

Space Inventory Room Assignment: Jill Quezada - Assigned 6541 (10-11-2011)

Energy Services & Building Operations Review: Jonathan Smithers - Comments (10-11-2011)

Door Hardware Review: Ron Hand - Reuse most hardware, replace door closer & latch (10-11-2011)

Client Review: Hal Montbouquette - Comments (10-12-2011)

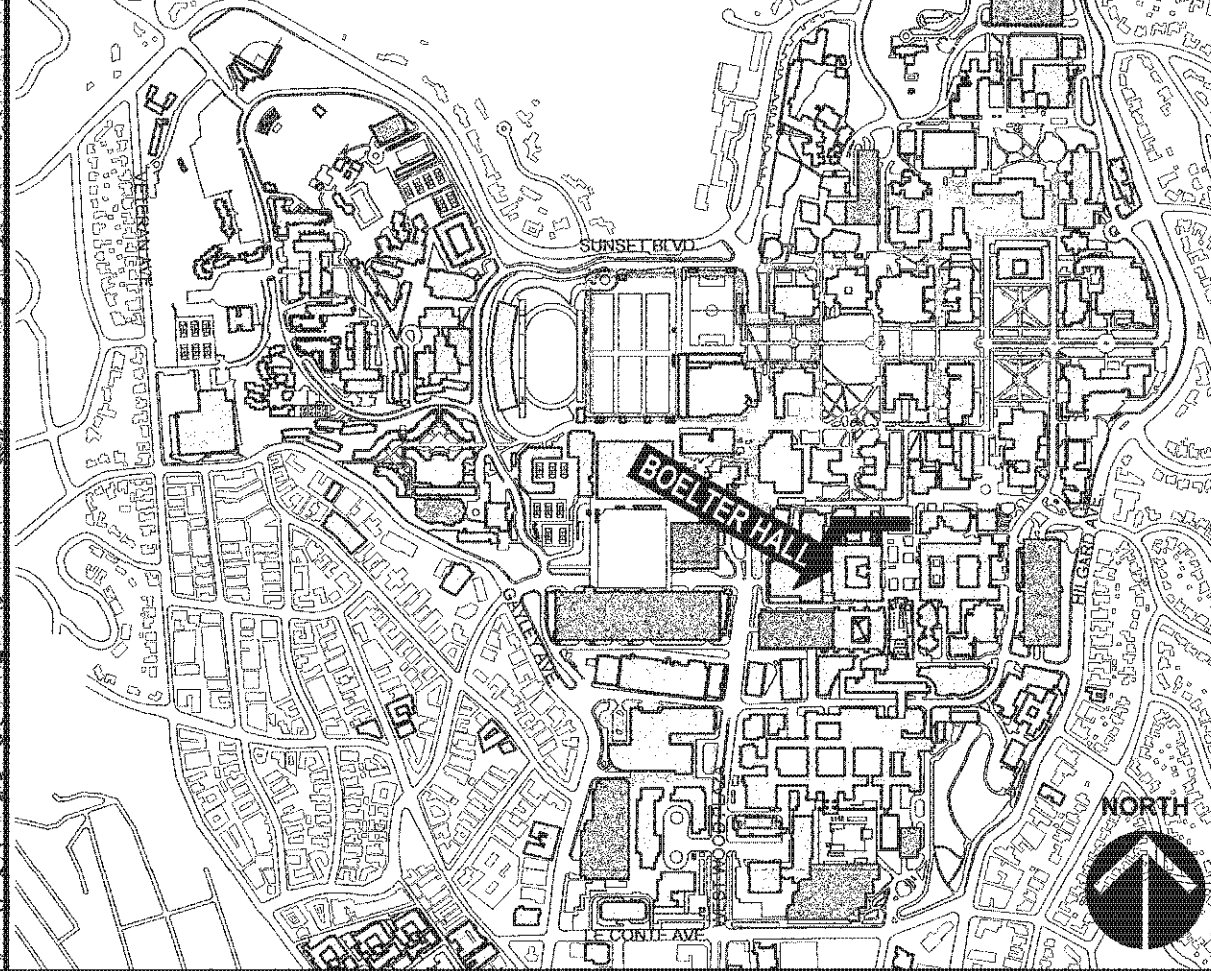
DPMO: Omar Newland (10-25/2011)

Environment, Health & Safety: No review required for the UG Lab project.
Ultimate review & approval tied to 5/6/7 Lab projects.

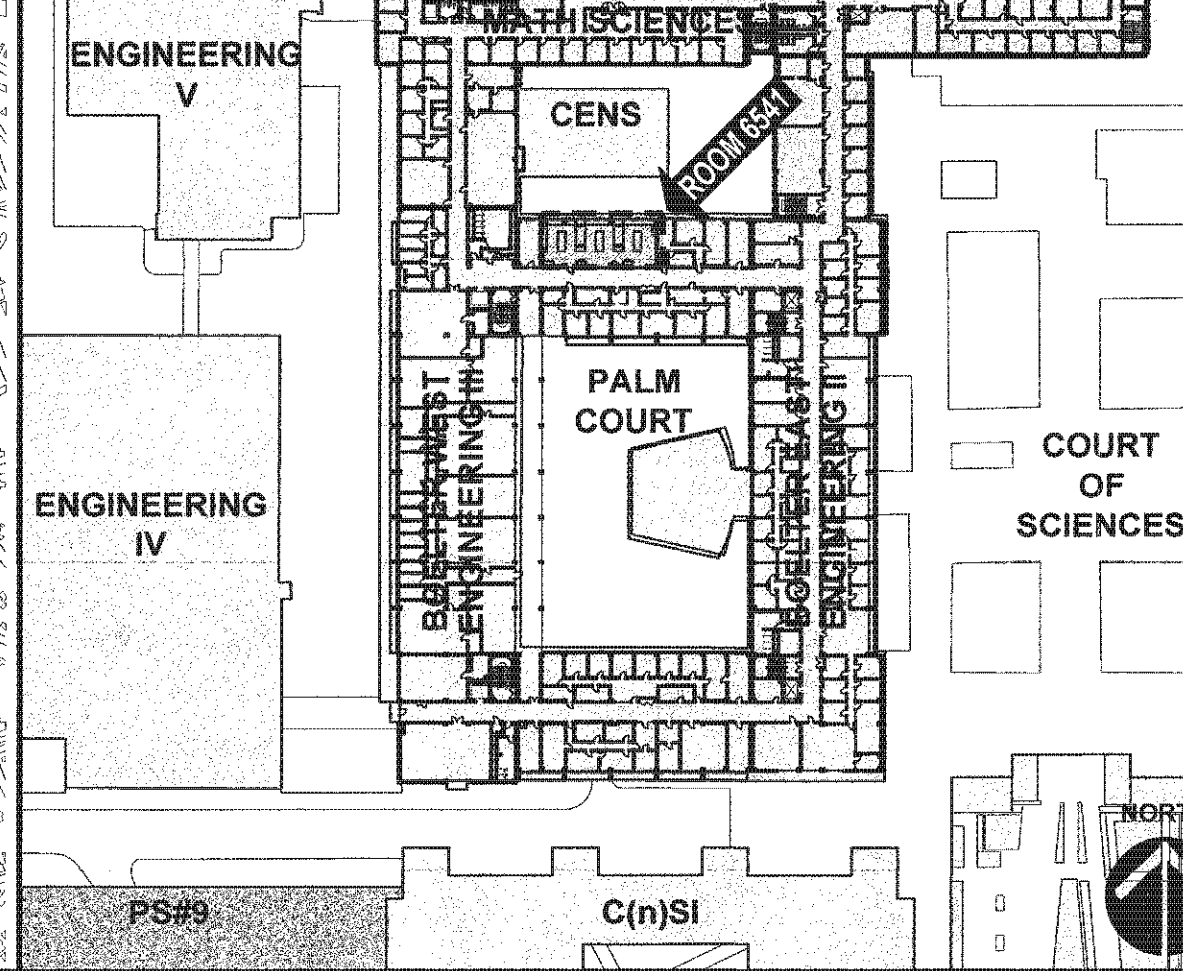
UCLA LOCATION MAP



UCLA & VICINITY MAP



PROJECT LOCATION MAP



REGULATORY REVIEW STAMPS

OFFICE OF STATE FIRE MARSHAL
APPROVED
Approval of this plan does not authorize or approve any omission or deviation from applicable regulations. Final approval is subject to field inspection. One set of approved plans shall be available on the project site at all times.
Reviewed by: [Signature]
[Stamp: UCLA CAMPUS BUILDING OFFICIAL APPROVED NOV 07 2011]
[Stamp: APPROVED FIRE AND PANIC ONLY NOV - 4 2011]
[Stamp: STATE FIRE MARSHAL SOUTHERN REGION]

NO.	REVISIONS/SUBMISSIONS	DATE
1	J. CHANG REVIEW COMMENTS	12/12/2010
2	REMOVE DEMOLITION	4/29/2011
3	REVISE DRAWINGS	9/22/2011
4	DESIGN DEVELOPMENT	9/29/2011
5	PRELIMINARY OTC REVIEW	10/4/2011
6	BACKCHECK OTC REVIEW	11/12/2011

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COVER PAGE, PROJECT & CODE DATA, DRAWING INDEX, VICINITY MAP

PROJECT MANAGER: ANDREAS FRICK
DESIGNED BY: ERIC HAGEN
PROJECT NUMBER: FE105 / WORK ORDER: 2887623
REFER TO PLOT/STAMP
SCALE: AS NOTED
DATE: 28 OCTOBER 2010

ARCHITECT: OMAR J. NEWLAND
C-21694
REN. 04/30/12
STATE OF CALIFORNIA

SHEET NUMBER
COVER

UCIA

ABBREVIATIONS

≈	ALMOST EQUAL	ENT.	ENTRANCE	(N)	NEW	V.B.	VINYL BASE or VAPOR BARRIER
~	APPROXIMATE or APPROXIMATELY	E.O.S.	EDGE OF SLAB	N.	NORTH or NITROGEN	V.C.T.	VINYL COMPOSITION TILE
∠	ANGLE	E.P./E-PNL	ELECTRICAL PANELBOARD	N2	NITROGEN	VENT.	VENTILATE or VENTILATION
<	LESS THAN	EQ.	EQUAL	N.A.	NOT APPLICABLE	VERT.	VERTICAL
>	GREATER THAN	EQUIP.	EQUIPMENT	NAT.	NATURAL	V.F.	VERIFY IN FIELD
Δ	DELTA or DIFFERENCE	EVAC.	EVACUATION	NAT.	NATURAL	VOL.	VOLUME
°	DEGREES	EW.	EYE-WASH	N.I.C.	NOT IN CONTRACT	V.T.	VINYL TILE
∅	DIAMETER	E.W.C.	ELECTRIC WATER COOLER	NO.	NUMBER	V.W.C.	VINYL WALL COVERING
±	PLUS/MINUS	EX / EXH.	EXHAUST	NOM.	NOMINAL	W.	WEST / WIDE / WIDTH / WATTS / WOMENS
—	CENTER LINE	EXP.	EXPANSION or EXPOSED	N.R.	NOT RATED	W/	WITH
—	FLOW LINE	EXT.	EXTERIOR	N.T.S.	NOT TO SCALE	W/C / W.C.	WATER CLOSET or WALL COVERING
—	PLATE or PROPERTY LINE					WD.	WOOD
#	NUMBER	F.A.	FIRE ALARM	O	OVER or OXYGEN	WDW.	WINDOW
A	COMPRESSED AIR	F.A.P.	FIRE ALARM PANEL	O2	OXYGEN	WG/L.	WIRE GLASS
A.A.	ANODIZED ALUMINUM	F.C.O.	FLOOR CLEAN-OUT	O.A.	OVERALL	W.H.	WATER HEATER
A.B.	ANCHOR BOLT	F.C.U.	FAN COIL UNIT	O.C.	ON CENTER	W.I.	WROUGHT IRON
ABV.	ABOVE	F.D.	FLOOR DRAIN / FIRE DAMPER / FIRE DEPT.	O.D.	OUTSIDE DIAMETER (DIMENSION)	W/O	WITHOUT
A.C.	ASPHALTIC CONCRETE	F.D.C.	FIRE DEPARTMENT CONNECTION	O.F.C.I.	OWNER FURNISHED, CONTRACTOR INSTALLED	W.O.	WHERE OCCURS
ACC.	ACCESSIBLE	FDN.	FOUNDATION	O.F.D.	OVERFLOW DRAIN	W/P / W.P.	WATERPROOF / WATERPROOFING
ACCUS.	ACCOUSTICAL	F.E.	FIRE EXTINGUISHER	O.F.O.I.	OWNER FURNISHED, OWNER INSTALLED	WR	WATER RESISTANT
A.C.T.	ACOUSTIC CEILING TILE	F.E.C.	FIRE EXTINGUISHER CABINET	OH or OH	OVERHANG or OVERHEAD	WS	WEATHERSTRIPPING
A.T.C.	ACOUSTIC TILE CEILING	F.F.	FINISH FLOOR or FACTORY FINISH	OPNS.	OPENING	WSCOT.	WAINSCOT
A.D.	AREA DRAIN	F.G.	FINISH GRADE	OPP.	OPPOSITE HAND	WT.	WEIGHT
A.D.A.	AMERICANS W/ DISABILITIES ACT	F.H.	FUME HOOD	OVHD.	OVERHEAD	W.W.F.	WELDED WIRE FABRIC
ADJ.	ADJUSTABLE or ADJACENT	F.H.C.	FIRE HOSE CABINET	PERF.	PERFORATED	X-FORM	TRANSFORMER
A.F.D.	AUTOMATIC FIRE DAMPER or AREA FLOOR DRAIN	FIN.	FINISHED	PERM.	PERIMETER	YD	YARD
A.F.F.	ABOVE FINISH FLOOR	FL.	FLOOR	PERIM.	PERIMETER		
AGGR.	AGGREGATE	FL.FLR.	FLOOR FINISH	P.L.	PLATE or PROPERTY LINE		
ALT.	ALTERNATE	FLDG.	FOLDING	P.LAM.	PLASTIC LAMINATE		
AL / ALUM.	ALUMINUM	FLEX	FLEXIBLE	PLAS.	PLASTER		
ANNUC.	ANNUNCIATE or ANNUNCIATION	FLG.	FLASHING or FLOORING	PLBG.	PLUMBING		
A.P.	ACCESS PANEL	FLUOR.	FLUORESCENT	PW/PLYWD.	PLYWOOD		
APPROX.	APPROXIMATE	F.O.	FINISHED OPENING	PNL.	PANEL		
AR	ARCHON	F.O.C.	FACE OF CONCRETE	P.O.C.	POINT OF CONNECTION		
ARCH.	ARCHITECT or ARCHITECTURAL	F.O.F.	FACE OF FINISH	PR.	PAIR		
ASPH.	ASPHALT or ASPHALTIC	F.O.S.	FACE OF STUD/SLAB	PREFAB.	PREFABRICATE or PREFABRICATED		
AUX.	AUXILIARY	F.P.	FIREPROOF	PREP.	PREPARATION		
AV	AUDIO VISUAL	F.P.	FIREPROOFING or FIRE PROTECTION	PROJ.	PROJECTION or PROJECT		
AVE.	AVENUE	FR.	FRAME	PROP.	PROPERTY		
		F.S.	FLOOR SINK	PSF.	POUNDS PER SQUARE FOOT		
		FT.	FEET/FOOT	PT.	POINT / PAINT / PRESSURE TREATED		
		FTG.	FOOTING	PTD.	PAINTED		
BAL.	BALANCE or BALANCED	FURN.	FURNISHED or FURNITURE	PTN/PART.	PARTITION		
BD.	BOARD	FURR.	FURRING/FURRED	Q.T.	QUARRY TILE		
BIT / BITUM.	BITUMINOUS	F.V.C.	FIRE VALVE CABINET	QTY.	QUANTITY		
BLDG.	BUILDING			(R)	REMOVE		
BLK.	BLOCK	G.	GAS (FUEL) or NATURAL GAS	R.	RADIUS or RISER		
BLKG.	BLOCKING	GA.	GAUGE/GAGE	R.A.	RETURN AIR		
BLVD.	BOULEVARD	GALV.	GALVANIZED	R.B.	RESILIENT or RUBBER WALL BASE		
BM.	BEAM	G.B.	GRAB BAR	R.C.P.	REFLECTED CEILING PLAN		
B.O.	BOTTOM OF	GEN.	GENERAL	R.D.	ROOF DRAIN or ROAD		
BOT.	BOTTOM	G.F/GFCI	GROUND FAULT INTERRUPT CIRCUIT	REC.	RECEPTACLE		
BRG.	BEARING	GL.	GLASS / GLAZING / GLAZED	RECT.	RECTANGULAR		
BSC	BIO-SAFETY CABINET	GND.	GROUND	REF.	REFER or REFERENCE		
BSL	BIO-SAFETY LEVEL	GR.	GRADE	REINF.	REINFORCING or REINFORCED		
BW / BTWN	BETWEEN	GSF.	GROSS SQUARE FEET	REQ. / REQD.	REQUIRED		
B.U.R.	BUILT-UP ROOFING	GSW.	GYPSON WALL BOARD	RET.	RETURN or RETAINING		
		GYP.	GYPSON	REV.	REVISED / REVISION or REVERSED		
CAB.	CABINET	H.	HIGH	REG.	REGISTER		
CAP.	CAPACITY	H.B.	HOSE BIBB	R.H.	RIGHT HAND		
C.C.	CENTER TO CENTER	H.C.	HOLLOW CORE	R.H.R.	RIGHT HAND REVERSE		
CEM.	CEMENT or CEMENTITIOUS	HD.	HEAD	R.H.R.A.	RIGHT HAND REVERSE ACTIVE		
CFCL.	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED	HOW.	HARDWARE	RM.	ROOM		
CFOL.	CONTRACTOR FURNISHED, OWNER INSTALLED	HST.	HEIGHT	RND.	ROUND		
C.F.M.	CUBIC FEET PER MINUTE or CHEMICAL FUME HOOD	H.M.	HOLLOW METAL	R.O.	ROUGH OPENING or REVERSE OSMOSIS		
C.G.	CORNER GUARD	HORIZ.	HORIZONTAL	R.O.W.	RIGHT OF WAY		
CHAN.	CHANNEL	H.P.	HIGH POINT	R.R.	RESTROOM		
CHW.	CHILLED WATER	HR.	HOUR	RT.	RIGHT		
CHWR.	CHILLED WATER RETURN	HT.	HEIGHT	RW.	RACEWAY		
CHWS.	CHILLED WATER SUPPLY	HVAC	HEATING, VENTILATION AND AIR CONDITIONING	S.	SOUTH		
C.I.	CAST IRON	H.W.	HOT WATER	S.A.	SUPPLY AIR or SINGLE ACTING		
C.I.P.	CAST IN PLACE	I.D.	INSIDE DIAMETER (DIM.)	S.C.	SOLID CORE		
C.J.	CONTROL JOINT or CONSTRUCTION JOINT	IN.	INCH or INCHES	SCHED.	SCHEDULE		
CLG.	CEILING	INCL.	INCLUSIVE or INCLUDED	SCR.	SCREEN		
CLK.	CLALK	INSUL.	INSULATION	S.D.	STORM DRAIN or STORM DRAINAGE		
CLKG.	CAULKING	INT.	INTERIOR	SEC. / SECT.	SECTION		
C.L/A	CENTER LINE	INTEG.	INTEGRATED/INTEGRAL	S.F.	SQUARE FEET		
CLO.	CLOSET	INTERM.	INTERMEDIATE	SHT.	SHEET		
CLR.	CLEAR or CLEARANCE	INV.	INVERT	SHTG.	SHEATHING		
C.M.U.	CONCRETE MASONRY UNIT	JAN.	JANITOR	SIM.	SIMILAR		
CNTR.	COUNTER	J.B.	JUNCTION BOX	SL.	SLOPE		
CO2	CARBON DIOXIDE	J.C.	JANITOR'S CLOSET	SLV.	SLEEVE		
COL.	COLUMN	JST.	JOIST	S.M.	SHEET METAL		
COMP.	COMPARTMENT or COMPUTER	JT.	JOINT	SPEC.	SPECIFICATION		
CONC.	CONCRETE	K.D.	KNOCK DOWN	SPKR.	SPEAKER		
COND.	CONDITION	K.O.	KNOCK OUT	SPRK.	SPRINKLER		
CONF.	CONFERENCE	K.P.	KICK PLATE	SQ.	SQUARE		
CONN.	CONNECT or CONNECTION	KV.	KILOVOLT	S.S.	STAINLESS STEEL / SANITARY SEWER / SAFETY SHOWER		
CONSTR.	CONSTRUCTION	L.	LENGTH/LONG	ST.	STONE or STREET		
CONT.	CONTINUOUS	LA	LABORATORY AIR or LOS ANGELES	STA.	STATION		
CONTR.	CONTRACTOR	LAM.	LAMINATED/LAMINATE	STAG.	STAGGERED		
COORD.	COORDINATE	LAV.	LAVATORY	STD.	STANDARD		
CORR.	CORRIDOR or CORRECTION	LB.	POUND	STL.	STEEL		
CPT.	CARPET	LDG.	LANDING	STM.	STEAM		
C.T.	CERAMIC TILE	L.F.	LINEAL FOOT	STN.	STAIN		
CTR.	CENTER	LFT.	LEFT	STOR.	STORAGE		
C.R.V.	CHEMICAL RESISTANT VINYL	L.G.S.	LEFT GAUGE STEEL	STR.	STRAIGHT		
C.W.	COLD WATER	LGT.	LIGHT	STRUCT.	STRUCTURAL		
CYL.	CYLINDER	L.H.	LEFT HAND	SURR.	SURROUND		
		L.H.R.	LEFT HAND REVERSE	SUSP.	SUSPENDED		
		L.H.R.A.	LEFT HAND REVERSE ACTIVE	S.V.	SHEET VINYL		
D.	DEEP/DEPTH	LN	LANE	SVC.	SERVICE		
D.A.	DISABLED ACCESS	LT.	LEFT or LIGHT	SW.	SWITCH		
DBL.	DOUBLE	LVL.	LEVEL	SYM.	SYMMETRICAL		
DEG.	DEGREES	LVR.	LOUVER	SYS.	SYSTEM		
DEP.	DEPRESSION	LW.	LIGHT WEIGHT	T. / TRD.	TREAD		
DEPT.	DEPARTMENT	M	MENS	T&G.	TONGUE AND GROOVE		
DET.	DETAIL	MACH.	MACHINE	T.D.	TRENCH DRAIN		
D.F.	DRINKING FOUNTAIN	MAS.	MASONRY	TEL.	TELEPHONE		
DI.	DIAMETER	MATL.	MATERIAL	TELECOM.	TELECOMMUNICATIONS		
DIA.	DIAGONAL	MAX.	MAXIMUM	TEMP.	TEMPERED or TEMPORARY		
DIAG.	DIFFUSER	MECH.	MECHANICAL	TERR. / TZ.	TERRAZO		
DIFF.	DIFFUSION	MEMB.	MEMBRANE	THK.	THICK/THICKNESS		
DIM.	DIMENSION	M.E.P.	MECHANICAL, ELECTRICAL AND PLUMBING	TH.	THRESHOLD		
DISP.	DISPENSER or DISPOSAL	MFR.	MANUFACTURER	T.O.C.	TOP OF CONCRETE or TOP OF CURB		
DN.	DOWN	M.H.	MAN HOLE	TOL.	TOLERANCE		
D.O.	DOOR OPENING or DO OVER	MIN.	MINIMUM / MINUTE	T.O.W.	TOP OF WALL		
D.P.	DAMP PROOFING	MISC.	MISCELLANEOUS	TYP.	TYPICAL		
DR.	DOOR	ML.	METAL LATH	U/C	UNDER COUNTER or UNDERCUT		
D.S.	DOWNSPOUT	MLD.	MOLDING	U.G.	UNDERGROUND		
DTL.	DETAIL	M.O.	MASONRY OPENING	UL	UNDERWRITERS LABORATORY		
DWG.	DRAWING	M.R.	MOISTURE RESISTANT	UNF.	UNFINISHED		
DW	DISHWASHER	MTD.	MOUNTED	U.N.O.	UNLESS NOTED OTHERWISE same as...		
(E)	EXISTING	MTG.	MOUNTING / MEETING	U.O.N.	UNLESS OTHERWISE NOTED		
E.	EAST	MTR.	METER	V	VOLT / VOLTAGE / VACUUM		
EA.	EACH	MUL.	MULLION	VAC	VACUUM		
E.J.	EXPANSION JOINT			VAR.	VARIES		
ELELEV.	ELEVATION						
ELEC.	ELECTRIC or ELECTRICAL						
EMER. / EM	EMERGENCY						
ENCL.	ENCLOSURE						
ENGR.	ENGINEER						

MATERIAL LEGEND

	COMPACT FILL
	EARTH
	SAND
CONCRETE AND MASONRY	
	CONCRETE
	BRICK
	CMU
	PLASTER MORTAR
METAL	
	IRON STEEL
	ALUMINUM
INSULATION	
	RIGID INSULATION
	BATT INSULATION
	SPRAY INSUL. FOAM INSUL.
WOOD	
	WOOD, ROUGH (FIRE RETARDANT) BLOCKING
	WOOD, SHIM
	PLYWOOD
	WOOD, FINISHED

ANNOTATION SYMBOL LEGEND

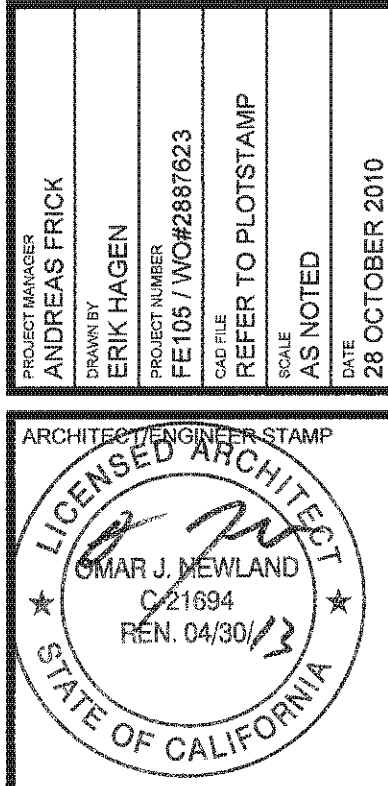
	STRUCTURAL COLUMN GRID CALL-OUT
	DETAIL CALL-OUT
	DRAWING NUMBER SUPPLEMENTAL NOTES SHEET NUMBER
	ELEVATION CALL-OUT
	DRAWING NUMBER SHEET NUMBER DIRECTION INDICATOR
	SECTION CALLOUT
	DRAWING NUMBER SHEET NUMBER DIRECTION INDICATOR
	INTERIOR ELEVATION CALL-OUT
	DRAWING NUMBER ELEVATION NUMBER SHEET NUMBER
	ROOM IDENTIFIER
	ROOM NAME ROOM NUMBER CEILING ELEVATION or ROOM AREA (ALT.)
	SPOT ELEVATION CALL-OUT
	HEIGHT/ELEVATION OF SURFACE SURFACE TYPE SURFACE LOCATION
	ELEVATIONS MARKER / WORK / DATUM POINT
	ELEVATION HEIGHT ELEVATION TYPE
	KEYNOTE REFERENCE
	DOOR TYPE/TAG CALL-OUT
	WALL TYPE/TAG CALL-OUT
	WINDOW / LOUVER TYPE IDENTIFIER
	EQUIPMENT IDENTIFIER
	FF&E IDENTIFIER
	REVISION CALLOUT



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NO.	REVISIONS/SUBMISSIONS	DATE
	J-CHANG REVIEW COMMENTS	12/1/2010
	REMOVE DEVOLUTION	4/29/2011
	REVISE DRAWINGS	6/22/2011
	DESIGN DEVELOPMENT	9/29/2011
	PRELIMINARY OTC REVIEW	10/4/2011
	BACKCHECK OTC REVIEW	11/1/2011

BOELTER HSSEAS - UNDER GRADUATE LAB 6541 RENOVATION
ABBREVIATIONS, SYMBOLS & LEGENDS
PROJECT: ANDREAS FRICK
DRAWING: ERIK HAGEN
PROJECT NUMBER: FE105 / WOP#2857623
CADD FILE: REFER TO PLOT/STAMP
AS NOTED
DATE: 28 OCTOBER 2010



SHEET NUMBER
A-0.1

CONTRACTOR DEFERRED SUBMITTALS
1. UCLA AND STATE FIRE MARSHAL REVIEW AND APPROVAL OF THESE CONTRACT DRAWINGS DOES NOT CONSTITUTE APPROVAL OF THE FIRE PROTECTION SYSTEM OR SERVICES.
2. CONTRACTOR IS RESPONSIBLE FOR ALL DEFERRED SUBMITTALS.
3. CONTRACTOR IS RESPONSIBLE FOR DESIGN AND ENGINEERING, PLAN CHECK AND APPROVAL, INSTALLATION, MODIFICATION, RELOCATION, CONNECTION AND TESTING OF BOTH FIRE ALARM AND FIRE SPRINKLER SYSTEMS AS REQUIRED.
4. FIRE SPRINKLER AND ALARM SYSTEMS: PRIOR TO SUBMITTAL TO THE AUTHORITY HAVING JURISDICTION, CONTRACTOR IS TO SUBMIT SYSTEM PLANS AND CALCULATIONS TO UNIVERSITY'S REPRESENTATIVE FOR REVIEW FOR GENERAL CONFORMANCE WITH THE PROJECT DESIGN. THE UNIVERSITY'S REPRESENTATIVE WILL FORWARD THE PLANS FOR REVIEW BY ENFORCING AGENCIES AND UCLA FIRE ALARM SHOP. INSTALLATION OF THE SYSTEMS SHALL NOT BEGIN UNTIL THE DRAWING PACKAGE HAS BEEN COMMENTED ON BY THE UCLA FIRE ALARM SHOP AND HAS BEEN APPROVED BY THE STATE FIRE MARSHAL.
5. SUBMITTED FIRE SPRINKLER DRAWINGS AND CALCULATIONS ARE TO BE SIGNED BY A CURRENTLY LICENSED C-16, C-34 OR C-36 SPECIALLY ENGINEER/CONTRACTOR, A CLASS "A" GENERAL CONTRACTOR, OR A FIRE PROTECTION ENGINEER, CIVIL ENGINEER OR MECHANICAL ENGINEER.
6. FIRE/SMOKE ALARM SUBMITTAL SHALL IDENTIFY THE TYPE OF EXISTING SYSTEM PRESENT IN THE BUILDING (IE. SEIMENS, SIMPLEX-GRIFFELL, ETC.) AND INCLUDE STATE FIRE MARSHAL LISTING NUMBER FOR ALL COMPONENTS. A SINGLE LINE DIAGRAM SHOWING PRIMARY POWER, EMERGENCY POWER RISER DIAGRAM, DETAILS OF TROUBLE SUPERVISION AND POWER LIMITED/NO-POWER LIMITED CIRCUITRY; FLOOR PLANS SHOWING LOCATION OF ALL COMPONENTS; AND METHOD OF ALARM TRANSMISSION AND SEQUENCE OF OPERATION TO FIRE DEPARTMENT.
7. CONTRACTOR TO CONFIRM WITH UNIVERSITY REPRESENTATIVE SUFFICIENT "X" VOT AVAILABILITY PRIOR TO COMMENCING THE WORK.
8. CONTRACTOR TO VERIFY POINT OF CONNECTION TO THE EXISTING FIRE ALARM SYSTEM. SHALL PROVIDE PROGRAMMING OF THE FIRE ALARM SYSTEM AS REQUIRED AND COORDINATE WITH THE UNIVERSITY'S REPRESENTATIVE.

MECHANICAL/PLUMBING INSTALLATION NOTES
1. EXCEPT WHERE SHOWN IN DIMENSIONAL DETAIL, THE LOCATION OF PLUMBING, MECHANICAL EQUIPMENT, DUCTS, PIPING AND FITTINGS ARE APPROXIMATE. THE EXACT LOCATION SHALL BE DETERMINED BY THE CONTRACTOR, SUBJECT TO THE CONDITIONS OF AESTHETIC CRITERIA NOTES ON THIS PAGE.
2. CONTRACTOR SHALL VERIFY SIZES AND LOCATIONS OF ALL MECHANICAL EQUIPMENT PADS AND BASES AS WELL AS POWER AND WATER OR DRAIN INSTALLATIONS WITH EQUIPMENT MANUFACTURERS.
3. MECHANICAL SUPPLY AND RETURN AIR SHAFTS SHALL BE AIRTIGHT AND SEALED.
4. REFER TO MECHANICAL DRAWINGS FOR MECHANICAL OPENING SIZES AND LOCATIONS, PIPING AND DUCTS PENETRATING STUD WALLS OR SHAFT WALLS SHALL BE PROVIDED WITH ADDITIONAL FRAMING, AND BRACING AS REQUIRED. APPLY ACOUSTICAL OR FIRESTOP SEALANT, AS APPLICABLE, AROUND THE OPENING.
5. CONTRACTOR SHALL NOTIFY THE UNIVERSITY REPRESENTATIVE OF ALL EQUIPMENT, VALVES, SWITCHES, PULL BOXES, ETC. REQUIRING ACCESS ABOVE GYPSUM BOARD CEILINGS. GENERAL CONTRACTOR TO PROVIDE ALL REQUIRED FLUSH ACCESS PANELS.
6. THE CONTRACTOR SHALL VERIFY ALL VERTICAL CLEARANCES, CORRECT CEILING TRIM AND AIR HANDLING REQUIREMENTS (IF ANY) FOR ALL FIXTURES PRIOR TO ORDERING.
7. PROVIDE FLEXIBLE CONNECTIONS WHERE SERVICES SUCH AS PIPES AND CONDUITS CROSS RESILIENTLY ISOLATED FRAMING ACCESSORIES.

ELECTRICAL INSTALLATION NOTES
1. NO BLANK ELECTRICAL JUNCTION BOX COVER PLATES ARE PERMITTED WITHIN PROJECT SCOPE UNLESS INSTRUCTED OTHERWISE BY UNIVERSITY REPRESENTATIVE.
2. OUTLETS AND SWITCHES ARE DIMENSIONED FROM CENTER LINE OF OUTLET OR SWITCH OR CLUSTER OF OUTLETS OR SWITCHES, UNLESS OTHERWISE NOTED.
3. MOUNT STANDARD WALL OUTLETS, SWITCHES AND THERMOSTATS AT HEIGHTS REQUIRED BY TITLE 24 AND GUIDELINES.
4. ALL ABANDONED ELECTRICAL SWITCH AND OUTLET JUNCTION BOXES SHALL BE REMOVED FROM WITHIN THE PROJECT LIMITS. ALL ABANDONED CONDUIT AND WIRE SHALL BE REMOVED ENTIRELY. LIVE WIRE AND CONDUIT THAT PASSES THROUGH AN ABANDONED OUTLET OR SWITCH BOX SHALL BE PULLED FROM THE POINT OF CONNECTION AND REROUTED, IN ORDER THAT THE ABANDONED JUNCTION BOX MAY BE REMOVED.
5. SWITCHES WITHIN PROXIMITY OF ONE ANOTHER (LOCATED ON THE SAME WALL) SHALL BE GANGED WITHIN A SINGLE JUNCTION BOX (UP TO FOUR SWITCHES). IN NO CIRCUMSTANCES SHALL TWO OR MORE SWITCHES LOCATED WITHIN PROXIMITY OF ONE ANOTHER BE PLACED IN SEPARATE JUNCTION BOXES.
6. ELECTRICAL OUTLETS WITHIN PROXIMITY OF ONE ANOTHER (LESS THAN 24") SHALL BE GANGED WITHIN A SINGLE JUNCTION BOX, UNLESS OTHERWISE NOTED.
7. EXISTING SINGLE SWITCH OR RECEPTACLE JUNCTION BOXES SHALL BE REMOVED AND REPLACED BY MULTI-GANG JUNCTION BOXES WHEN NEW SWITCHES OR RECEPTABLES ARE ADDED, SO THAT UPON PROJECT COMPLETION, ALL NEW AND EXISTING SWITCHES AND RECEPTABLES IN PROXIMITY SHALL BE GANGED.
8. ALL CONTROLS, SWITCHES & THERMOSTATS WITHIN A ROOM (INCLUDING THOSE ABOVE COUNTERTOPS) SHALL BE MOUNTED AT THE SAME HEIGHT WITH THE TOP OF THE OUTLET BOX AT 48" A.F.F. (CBC 11178.695.1). BEFORE INSTALLATION, FIELD VERIFY WITH THE UNIVERSITY REPRESENTATIVE THE LOCATION OF ALL THERMOSTATS. ANY THERMOSTAT LOCATED WITHOUT THE APPROVAL OF UNIVERSITY REPRESENTATIVE ARE SUBJECT TO RELOCATION AND REPAIR OF ADJACENT FINISHES AT NO ADDITIONAL COST.
9. PROVIDE LIGHT SWITCHING IN CONFORMANCE WITH TITLE 24 REQUIREMENTS. FOR ROOMS OF AREAS GREATER THAN 100 SQUARE FEET PROVIDE DOUBLE SWITCHES WITH EACH SWITCH CONTROLLING 50 SQUARE FEET.
10. ALL ELECTRICAL RECEPTACLE OUTLETS ON A BRANCH CIRCUIT OF 30 AMPERES OR LESS & COMMUNICATION SYSTEM RECEPTABLES SHALL BE LOCATED NOT LESS THAN 15" MEASURED FROM THE BOTTOM OF THE RECEPTACLE OUTLET BOX TO THE FINISH FLOOR (CBC 11178.695.2), UNLESS INDICATED OTHERWISE. ALL EXISTING OUTLETS THAT DO NOT MEET THIS REQUIREMENT WITHIN THE PROJECT AREA SCOPE MUST BE REMOVED AND REINSTALLED TO MEET THIS REQUIREMENT. ALL OUTLETS TO BE MOUNTED AT THE SAME CODE COMPLIANT ELEVATION, UNLESS INDICATED OTHERWISE.
11. INSTALL OUTLETS ON OPPOSITE SIDES OF PARTITIONS IN SEPARATE STUD CAVITIES. DO NOT INSTALL BACK-TO-BACK.
12. IDENTIFY DEDICATED OR ISOLATED GROUND ELECTRICAL OUTLETS PER THE ELECTRICAL SPECIFICATIONS.
13. CONTRACTOR TO PROVIDE ALL ROUGH-IN, J-BOXES, CONDUIT, ELECTRICAL, ETC. REQUIRED FOR INSTALLATION OF AUDIO VISUAL EQUIPMENT, DEVICES, EQUIPMENT AND WIRING BY OTHERS. VERIFY REQUIREMENTS WITH THE UNIVERSITY REPRESENTATIVE.
14. CONTRACTOR TO COORDINATE INSTALLATION OF TELECOMMUNICATIONS, DATA AND SECURITY SYSTEMS WITH UNIVERSITY REPRESENTATIVE AND TELECOMMUNICATIONS AND/OR SECURITY CONTRACTOR.
15. VERIFY EQUIPMENT SPECIFICATIONS, POWER AND INSTALLATION REQUIREMENTS WITH MANUFACTURER TO ENSURE PROPER FIT AND FUNCTION.

GENERAL NOTES
1. ALL CONSTRUCTION DOCUMENTS (DRAWINGS, SPECIFICATIONS, BULLETINS, CHANGE ORDERS, ETC.) SHALL BE APPROVED BY UCLA PRIOR TO ANY WORK BEING DONE.
2. CONTRACTOR TO REFER TO THE SPECIFICATIONS, DIVISION 1 - GENERAL REQUIREMENTS FOR INFORMATION ON FIELD CONDITIONS, STORAGE OF MATERIALS, BUSINESS AS USUAL POLICY, HOURS OF OPERATION/DELIVERIES, NOISE & DUST CONTROL, CONSTRUCTION BARRICADES & REFUSE ABATEMENT PROCEDURES, ACCESS TO EXISTING FACILITIES IN USE, ETC.
3. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS AND HE SHALL BE RESPONSIBLE FOR SAME. ANY DISCREPANCIES SHALL BE REPORTED IN WRITING TO THE UNIVERSITY REPRESENTATIVE PRIOR TO COMMENCEMENT OF WORK.
4. THE STRUCTURAL, MECHANICAL AND ELECTRICAL DRAWINGS ARE SUPPLEMENTARY TO THE ARCHITECTURAL DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO CHECK WITH THE ARCHITECTURAL DRAWINGS BEFORE THE INSTALLATION OF STRUCTURAL, MECHANICAL AND ELECTRICAL WORK. SHOULD THERE BE A DISCREPANCY BETWEEN THE ARCHITECTURAL DRAWINGS AND THE CONSULTING ENGINEER'S DRAWINGS, IT SHALL BE BROUGHT TO THE UNIVERSITY REPRESENTATIVE'S ATTENTION FOR CLARIFICATION. ANY WORK INSTALLED IN CONFLICT WITH ANY OF THE DRAWINGS SHALL BE CORRECTED BY THE GENERAL CONTRACTOR AT HIS OWN EXPENSE AND AT NO EXPENSE TO THE UNIVERSITY OR THE UNIVERSITY'S REPRESENTATIVE.
5. ALL SYMBOLS, ABBREVIATIONS, AND MATERIAL INDICATIONS USED IN THE DRAWINGS ARE CONSIDERED TO BE CONSTRUCTION STANDARDS. IF THE CONTRACTOR HAS QUESTIONS REGARDING SAME OR THEIR EXACT MEANINGS, THE CONTRACTOR SHALL REQUEST THE UNIVERSITY REPRESENTATIVE TO ISSUE CLARIFICATION.
6. DO NOT SCALE DRAWINGS. DIMENSIONS MISSING FROM PLANS OR NEEDED FOR EXECUTION OF WORK SHALL BE CLARIFIED OR PROVIDED BY UNIVERSITY REPRESENTATIVE BEFORE THE WORK IS INSTALLED. FAILURE TO COMPLY WITH THIS NOTE SHALL BE HANDLED AS INDICATED IN PARAGRAPH 3.
A. ALL DIMENSIONS ARE TO FACE OF CONCRETE, CENTER LINE OF COLUMNS, FACE OF CONCRETE BLOCK WALLS AND FACE OF STUDS, UNLESS OTHERWISE NOTED. B. FINISH FLOOR DIMENSIONS ARE TO TOP OF CONCRETE OR OTHER HARD SURFACE MATERIAL, UNLESS OTHERWISE NOTED. C. CEILING HEIGHT DIMENSIONS ARE TO FINISH SURFACES.
7. THE INTENT OF THE DRAWINGS AND SPECIFICATIONS FOR ALL RENOVATION WORK IS TO RECONSTRUCT THE BUILDING IN ACCORDANCE WITH CURRENT TITLE 24, CALIFORNIA BUILDING CODE. SHOULD ANY CONDITIONS DEVELOP NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH SAID TITLE 24, CALIFORNIA BUILDING CODE, THE UNIVERSITY SHALL BE NOTIFIED AND A CHANGE REQUEST SUBMITTED SO THAT A CHANGE ORDER DETAILING AND SPECIFYING THE REQUIRED WORK CAN BE PREPARED AND SUBMITTED TO AND APPROVED BY THE UNIVERSITY REPRESENTATIVE BEFORE PROCEEDING WITH THE WORK.
7. CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY AN ADDENDA OR A CHANGE ORDER (BY WAY OF CONTRACTOR REQUESTS FOR INFORMATION AND SUBSEQUENT ARCHITECTURAL SUPPLEMENTAL INSTRUCTIONS) APPROVED BY UCLA AS REQUIRED BY THE GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION AND AS LISTED IN SPECIFICATION DIVISION 1 GENERAL REQUIREMENTS.
8. A PROJECT INSPECTOR EMPLOYED BY THE UNIVERSITY SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN THE GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION.

TYP. CONSTRUCTION & MATERIALS
1. GYPSUM WALL BOARD SHALL BE 5/8" THICK TYPE "X", TYPICALLY U.O.N.. USE W.R. (WATER RESISTANT) TYPE WHERE INDICATED.
2. ALL WALLS THAT REQUIRE PROTECTED OPENINGS SHALL HAVE 5/8" THICK TYPE "X" GYPSUM BOARD ON BOTH SIDES U.O.N., CONTINUOUS FROM FLOOR TO UNDERSIDE OF DECK ABOVE.
3. GYPSUM PLASTER SHALL BE 1/2" THICK OVER 3/8" GYPSUM LATH.
4. CONSTRUCTION SHALL BE 1-HR. FIRE RESISTIVE CONSTRUCTION MINIMUM. INTERIOR PARTITIONS SHALL BE 5/8" TYPE "X" GYPSUM BOARD EACH SIDE OF STUDS MINIMUM.
5. BOX IN ALL RECESSED BOXES WITH GYPSUM BOARD OF THE THICKNESS AND TYPE PROVIDED BY THE WALL SYSTEM WHEN THEY ARE INSTALLED INTO FIRE RATED WALLS AND CEILINGS. EXCEPTION: BOXES NOT MORE THAN 16 SQ. IN. IN SURFACE AREA FOR A SUM TOTAL OF NOT MORE THAN 100 SQ. IN. IN ANY 100 SQ. FT. OF WALL SURFACE NEED NOT BE BOXED IN.
6. WHERE APPLICABLE, BOX IN ALL CEILING ELECTRICAL BOXES AND RECESSED CEILING LIGHT FIXTURES TO MAINTAIN THE ASSEMBLY INTEGRITY WHEN INSTALLED IN A FIRE RATED ASSEMBLY.
7. CONTRACTOR SHALL RELOCATE ANY NEW OR EXISTING LIGHT FIXTURES, ELECTRICAL OUTLETS, SWITCHES AND OTHER ITEMS THAT WOULD BE BEHIND NEW DOOR(S) WHEN OPEN.
8. NECESSARY WORK SUCH AS CUTTING HOLES, REPAIRING HOLES, ACCESS PANEL INSTALLATION, FINISH REPAIRS, PAINT TOUCH-UP AND THE LIKE, CAUSED BY PLUMBING, ELECTRICAL, SIGNAL SYSTEMS, AIR CONDITIONING, AND OTHER TRADES WHEN BRINGING UTILITY SERVICES AND THE LIKE FROM WITHIN THE EXISTING BUILDING, BEYOND THE AREA OF WORK OF THE ALTERATION AREA, SHALL BE INCLUDED AS PART OF THE WORK OF THIS CONTRACT.
9. DEMOLITION DRAWINGS ARE PROVIDED FOR GENERAL INFORMATION ONLY AND ARE NOT NECESSARILY COMPREHENSIVE NOR COMPLETE. EACH CONTRACTOR SHALL REVIEW THE DRAWINGS TO DEFINE THE SCOPE OF DEMOLITION INVOLVED TO ACCOMPLISH HIS WORK.
10. GLASS DOORS, ADJACENT GLAZED PANELS WITHIN 24" OF A DOOR AND ALL GLAZED OPENINGS WITHIN 18" OF THE FLOOR SHALL BE OF LABELED GLASS APPROVED FOR IMPACT HAZARD (TEMPERED OR WIRE GLASS) AS PER CBC 2406.3.

FIRE AND LIFE SAFETY REQUIREMENTS
1. PROVIDE EXTERIOR FIRE DEPARTMENT ACCESS IN ACCORDANCE WITH CFC CHAPTER 5.
2. ALL REFERENCES TO FIRE SPRINKLER AND ALARM SYSTEMS, UNDERGROUND FIRE SERVICE MAINS, STANDPIPE SYSTEMS, OR SPECIAL FIRE SUPPRESSION SYSTEMS ON THESE DRAWINGS SHALL BE USED FOR BIDDING PURPOSES ONLY AND SHALL NOT BE USED FOR CONSTRUCTION. REFER TO CONTRACTOR DEFERRED SUBMITTALS FOR MORE INFORMATION.
3. UPON COMPLETION OF THE INSTALLATION OF THE FIRE SPRINKLER AND ALARM SYSTEM, A SATISFACTORY TEST OF THE ENTIRE SYSTEM WILL BE PERFORMED IN THE PRESENCE OF THE ENFORCING AGENCY. STATE FIRE DEPARTMENT FINAL INSPECTION REQUIRED.
4. FIRE & SMOKE ALARM: A. DESIGN SHALL BE AN APPROVED FIRE ALARM SYSTEM IN ACCORDANCE WITH ARTICLE 760 OF THE CALIFORNIA ELECTRICAL CODE, SECTION 807 OF THE CALIFORNIA FIRE CODE AND NFPA 72 AND SHALL BE INTEGRATED WITH ANY EXISTING SYSTEMS. B. EMERGENCY ALARM SIGNAL SYSTEM SHALL BE MAINTAINED DURING CONSTRUCTION. C. INSTALLATION OF THE FIRE ALARM SYSTEM SHALL INCLUDE CONDUIT, JUNCTION BOXES, WIRING AND ANY OTHER COMPONENT REQUIRED FOR INSTALLATION. D. THE OPERABLE PART OF EACH MANUAL FIRE ALARM BOX SHALL BE BETWEEN 42" AND 54" ABOVE FLOOR LEVEL PER NFPA 72. E. EMERGENCY WARNING SYSTEM SHALL ACTIVATE A MEANS OF WARNING THE HEARING IMPAIRED. FLASHING VISUAL WARNING SHALL HAVE A FREQUENCY OF NOT MORE THAN 80 FLASHES PER MINUTE. DEVICES SHALL BE SYNCHRONIZED TO FLASH SIMULTANEOUSLY.
5. FIRE SPRINKLER SYSTEM: A. DESIGN - PROVIDE FULL COVERAGE OF ALL NEW AND RENOVATED AREAS IN ACCORDANCE WITH THE CALIFORNIA FIRE CODE, NFPA 13, STANDARDS FOR THE INSTALLATION OF SPRINKLER SYSTEMS. B. SUPPORT AND SEISMIC BRACING - DESIGN LOADS FOR THE ANCHORAGE TO BE COMPUTED USING STATE OF CALIFORNIA STANDARDS & REQUIREMENTS (CFC) & OR NFPA 13, CHAPTER 9 (WHICH EVER IS MORE STRINGENT). C. AUTOMATIC SPRINKLER SYSTEM SHALL BE SUPERVISED BY AN APPROVED CENTRAL, PROPRIETARY OF REMOTE STATION SERVICE OR A LOCAL ALARM, WHICH WILL GIVE AN AUDIBLE SIGNAL AT A CONSTANTLY ATTENDED LOCATION.
6. FIRE EXTINGUISHERS: A. TEMPORARY - CONTRACTOR SHALL PROVIDE JOB SITE WITH TEMPORARY PORTABLE FIRE EXTINGUISHERS, AND SHALL MAINTAIN THEM DURING THE COURSE OF CONSTRUCTION. EACH EXTINGUISHER SHALL BE 10 LB. CAPACITY, CAPABLE OF EXTINGUISHING CLASS A B C FIRES. ALL EXTINGUISHERS SHALL BE U.L. LABELED, AND SHALL BE DRY CHEMICAL TYPE. EXTINGUISHERS SHALL BE LOCATED AT APPROXIMATELY 150' INTERVALS AS APPROVED BY THE STATE FIRE MARSHAL. B. PERMANENT - EXTINGUISHERS SHALL BE SAME TYPE AS NOTED ABOVE AND SHALL BE WALL MOUNTED OR INSTALLED IN CABINETS. EXTINGUISHERS SHALL BE LOCATED A MAXIMUM DISTANCE OF 75' FROM ANY POINT ON ALL FLOORS. ADDITIONAL EXTINGUISHERS MAY BE REQUIRED AS DIRECTED BY THE STATE FIRE MARSHAL.
7. FIRE AND SMOKE DAMPERS: A. PROVIDE FIRE DAMPERS FOR ALL APPROVED DUCT PENETRATIONS THROUGH ALL FIRE RATED WALLS, FIRE RESISTIVE ELEMENTS AND ALL SHAFT PENETRATIONS. DUCTS PENETRATING THROUGH ELEMENTS OF FIRE RATED CORRIDOR WALLS SHALL BE EQUIPPED WITH COMBINATION SMOKE AND FIRE DAMPERS (EXCEPT STEEL DUCTS OF MINIMUM 26 GAUGE MATERIAL. DO NOT REQUIRE DAMPERS WHEN THE DUCT HAS NO OPENINGS INTO THE EXIT CORRIDOR PER CBC SECTION 716.5.2 B. PROVIDE COMBINATION SMOKE/FIRE DAMPERS AT ALL SMOKE BARRIER WALLS. THE SMOKE DETECTOR FOR THE SMOKE DAMPER SHALL BE LOCATED INSIDE THE DUCT AND SHALL CLOSE THE SMOKE DAMPER, SOUND THE FIRE ALARM AND SYSTEM AUDIBLE ALARM BE ANNOUNCED.
8. NO PENETRATIONS ARE PERMITTED INTO A 2-HOUR CORRIDOR WHICH IS AN EXTENSION OF AN EXIT STAIR ENCLOSURE.
9. MAINTAIN ACCESS AISLES OF AT LEAST 44" WIDE AT PUBLIC AREAS.
10. AN OCCUPANT LOAD SIGN SHALL BE POSTED IN EACH LOBBY AND ASSEMBLY ROOM IN "A" OR "B" OCCUPANCIES, OR OTHER ROOM WITH AN OCCUPANT LOAD OF 50 OR MORE.

GENERAL DEMOLITION NOTES
1. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONSTRUCTION RELATED CONDITIONS PRIOR TO STARTING DEMOLITION OR ANY NEW CONSTRUCTION. INFORMATION CONTAINED ON THESE DRAWINGS REGARDING EXISTING CONDITIONS IS PROVIDED FOR THE CONVENIENCE OF THE GENERAL CONTRACTOR IN EXECUTING THE WORK. THE ARCHITECT CANNOT AND DOES NOT GUARANTEE THE ACCURACY OF ANY SUCH INFORMATION AND ASSUMES NO LIABILITY THEREOF.
2. ALL DEMOLITION AND CONSTRUCTION ACTIVITIES SHALL BE COORDINATED WITH THE UNIVERSITY REPRESENTATIVE TO MINIMIZE DISRUPTION OF THE NORMAL DAILY FUNCTIONING OF THE UNIVERSITY'S OCCUPIED AREAS.
3. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT DAMAGE TO UNIVERSITY'S OCCUPIED AREAS ADJACENT TO NEW CONSTRUCTION OR OCCUPIED AREAS WHERE VARIOUS SYSTEM CONNECTIONS OR EXTENSIONS ARE REQUIRED, AND IS RESPONSIBLE FOR DAMAGE CAUSED BY RAIN AND WIND.
4. THE UNIVERSITY WILL RETAIN ALL SALVAGE THAT IS OF VALUE AS DESIGNATED BY THE UNIVERSITY REPRESENTATIVE. THE UNIVERSITY REPRESENTATIVE WILL DIRECT THE CONTRACTOR AS TO THE LOCATION OF STORAGE AREA FOR VARIOUS ITEMS. THE CONTRACTOR WILL BE RESPONSIBLE FOR REMOVING FROM THE BUILDING AND THE CONSTRUCTION SITE ALL CONSTRUCTION DEBRIS AND/OR ITEMS NOT RETAINED BY THE UNIVERSITY REPRESENTATIVE.
5. THE CONTRACTOR IS RESPONSIBLE FOR STORAGE AND PROTECTION OF ALL SALVAGED ITEMS WHICH WILL BE REUSED IN THIS PROJECT.
6. TEMPORARY BARRICADES AS PERTAINING TO THE CONTRACTOR'S ACTIVITIES SHALL BE INSTALLED ACCORDING TO DETAIL ON THIS SHEET TO PREVENT POSSIBLE INJURY TO PERSONS IN AND AROUND DEMOLITION AND CONSTRUCTION AREAS IN ACCORDANCE WITH CAL/OSHA REQUIREMENTS. COORDINATE WITH THE UNIVERSITY REPRESENTATIVE.
7. DUST PARTITIONS WILL BE INSTALLED BY THE CONTRACTOR. PARTITIONS MUST BE INSTALLED IN ACCORDANCE WITH FIRE PROTECTION AND EGRESS REQUIREMENTS.
8. WHERE REMOVAL OF FINISHED CEILING IS REQUIRED, A MINIMUM QUANTITY OF LIGHT FIXTURES AND ALL OTHER CEILING EQUIPMENT ARE TO BE REMOVED AND REPLACED ONLY WHERE ABSOLUTELY NECESSARY TO COMPLETE DEMOLITION. COORDINATE WITH THE UNIVERSITY REPRESENTATIVE.
9. WHERE REMOVAL OF FLOOR COVERINGS AND VINYL WALL BASE IS REQUIRED, REMOVE ONLY WHAT IS NECESSARY TO COMPLETE DEMOLITION. DEMOLITION INCLUDES REMOVAL OF ADHESIVES, GROUTING BEDS, ETC., AND REQUIRES REMAINING SURFACES TO BE PREPARED FOR NEW CONSTRUCTION.
10. ALL ACOUSTICAL CEILINGS AND RELATED SUPPORT SYSTEMS TO BE REMOVED SHALL INCLUDE CEILING TILES, LIGHT FIXTURES, GRILLES, DIFFUSERS, EXIT SIGNS, ELECTRICAL, COMMUNICATIONS, ETC.
11. WALLS TO BE REMOVED SHALL BE FROM FLOOR TO STRUCTURE AND SHALL INCLUDE ALL MECHANICAL, ELECTRICAL EQUIPMENT ETC. PREPARE ALL DISTURBED AREAS FOR NEW CONSTRUCTION, WHERE POSSIBLE REUSE EXISTING SYSTEMS.
12. REMOVE ALL MISCELLANEOUS EQUIPMENT (ATTACHED TO WALLS, FLOOR OR CEILING SUCH AS BACK BOARDS, CHALKBOARDS, SHELVING, CURTAIN TRACKS, TOILET PARTITIONS, ETC.). COORDINATE WITH THE UNIVERSITY REPRESENTATIVE FOR REMOVAL OR RELOCATION. SEE DEMOLITION PLANS.
13. ALL NON-ATTACHED ITEMS, SUCH AS FURNISHINGS, MOBILE EQUIPMENT, DESKS, BEDS, TABLES, CHAIRS, DRAPERIES, ETC. TO BE REMOVED BY THE UNIVERSITY REPRESENTATIVE PRIOR TO COMMENCEMENT OF DEMOLITION WORK. COORDINATE WITH THE UNIVERSITY REPRESENTATIVE FOR REMOVAL OR RELOCATION.
14. REMOVAL OF EXISTING PLUMBING FIXTURES TO INCLUDE PIPING, WASTE LINES, ETC. LINES TO BE CAPPED AS REQUIRED. SEE PLUMBING DEMOLITION DRAWINGS FOR FURTHER INFORMATION.
15. REMOVAL OF EXISTING HVAC TO INCLUDE DUCT WORK HANGERS, GRILLES, DIFFUSERS, THERMOSTATS, ETC. AS REQUIRED. SEE MECHANICAL DEMOLITION DRAWINGS FOR FURTHER INFORMATION, WHERE POSSIBLE REUSE EXISTING SYSTEM AND COMPONENTS.

11. EMERGENCY EXIT SIGNS AND LIGHTING: A. EXIT WAY, CORRIDORS AND STAIRS SHALL BE ILLUMINATED BY AN EMERGENCY LIGHTING SYSTEM TO OPERATE WHEN NORMAL POWER IS INTERRUPTED. EMERGENCY LIGHTING SHALL PROVIDE A MIN. OF 5 FOOT CANDLE POWER AT FLOOR LEVEL FOR ALL OCCUPANCIES WHERE THE MEANS OF EGRESS SYSTEM SERVES AN OCCUPANT LOAD OF 100 OR MORE. B. EXIT SIGNS SHALL BE INTERNALLY OR EXTERNALLY ILLUMINATED AND CLEARLY INDICATE DIRECTION OF TRAVEL LEADING TO EXTERIOR WITH MINIMUM 6" HIGH LETTERS AT REQUIRED EXITS AND AT ALL CORRIDOR INTERSECTIONS AND CHANGES OF DIRECTION. ADDITIONAL EXIT SIGNS MAY BE REQUIRED BY THE FIRE DEPARTMENT FIELD INSPECTOR. THE EXIT SIGNS SHALL BE CONNECTED TO AN EMERGENCY ELECTRICAL SYSTEM PROVIDED FROM STORAGE BATTERIES, UNIT EQUIPMENT OR AN ON-SITE GENERATOR SET, AND THE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE ELECTRICAL CODE. C. WHENEVER THE BUILDING IS OCCUPIED, EXIT SIGNS SHALL BE LIGHTED SO THAT THEY ARE CLEARLY VISIBLE. WHEN THE FACE OF AN EXIT SIGN IS ILLUMINATED FROM AN EXTERNAL SURFACE, IT SHALL HAVE AN INTENSITY OF NOT LESS THAN 5-FOOT CANDLES FROM EITHER OF TWO ELECTRIC LAMPS. INTERNALLY ILLUMINATED SIGNS SHALL BE PROVIDE EQUIVALENT LUMINANCE AND BE LISTED FOR PURPOSE. D. GLASS DOORS, GLASS IN DOORS, ADJACENT GLASS PANELS WITHIN 24" OF DOORS AND ALL GLAZED OPENINGS WITHIN 18" OF THE ADJACENT FLOOR SHALL BE OF TEMPERED GLASS APPROVED FOR IMPACT HAZARD. E. EMERGENCY EXIT DOORS: A. ALL LEGAL EXIT DOORS SHALL BE OPERABLE FROM THE INSIDE WITHOUT THE USE OF A KEY, OR ANY SPECIAL KNOWLEDGE OR EFFORT. EXIT DOOR SHALL SWING IN THE DIRECTION OF EXIT OVER A LANDING NOT MORE THAN 1/2" BELOW THE THRESHOLD. SPECIAL LOCKING DEVICES SHALL BE OF A TYPE APPROVED BY THE AUTHORITY HAVING JURISDICTION. B. RATED DOOR ASSEMBLIES SHALL BE LISTED AND LABELED BY AN APPROVED TESTING AGENCY. RATED DOORS SHALL BE POSITIVE LATCHING. 20-MINUTE RATED ASSEMBLIES (UNLESS NOTED TO BE OF HIGHER RATING ELSEWHERE) SHALL BE PROVIDED WITH APPROVED GASKETING MATERIAL INSTALLED TO PROVIDE A SEAL WHERE THE DOOR MEETS THE STOP ON BOTH SIDES AND THE TOP. (CBC 716). MANUFACTURERS' INSTALLATION INSTRUCTIONS SHALL BE AVAILABLE ON THE JOB SITE FOR ALL RATED DOOR ASSEMBLIES. C. CONTRACTOR MAY NOT FIELD-CUT FIRE RATED DOORS. D. MOUNTING HEIGHT FOR EXIT HARDWARE & LEVER HANDLES TO BE BETWEEN 30" & 44" ABOVE FINISH FLOOR. E. THE MAXIMUM EFFORT TO OPERATE DOORS SHALL NOT EXCEED 5 POUNDS FOR EXTERIOR AND INTERIOR DOORS. THE MAXIMUM EFFORT TO OPERATE FIRE RATED EXIT DOORS MAY NOT EXCEED 15 POUNDS. F. PANIC HARDWARE SHALL BE PROVIDED ON EXIT DOORS SERVING ROOMS, CORRIDORS OR STAIRWAYS HAVING AN OCCUPANT CAPACITY OF 50 OR MORE PERSONS, AND SHALL BE LISTED AND LABELED BY AN APPROVED TESTING AGENCY. G. EVERY DOOR LOCATED IN AN ACCESSIBLE PATH OF TRAVEL SHALL BE INSTALLED SUCH THAT WHEN OPENED, THE CLEAR WIDTH OF THE OPENING IS NOT LESS THAN 32", MEASURED BETWEEN THE FACE OF THE DOOR (INCLUDING ANY INTERFERING HARDWARE) AND THE OPPOSITE DOOR STOP. FOR PAIRS OF DOORS, AT LEAST ONE OF THE LEAFS SHALL PROVIDE A CLEAR, UNOBSTRUCTED OPENING WIDTH OF 32" MINIMUM. H. INTERIOR FINISHES & MATERIALS: A. ALL INSULATION MATERIALS INSTALLED WITHIN FLOOR-CEILING ASSEMBLIES, ROOF CEILING ASSEMBLIES, WALLS, CRAWL SPACES, OR ATTICS SHALL HAVE A FLAME-SPREAD RATING NOT TO EXCEED 25 AND A SMOKE DENSITY NOT TO EXCEED 450 WHEN TESTED IN ACCORDANCE WITH ASTM E-84 OR UL 723 (CBC CHAPTER 8). B. INSULATION APPLIED TO THE EXTERIOR SURFACE OF DUCTS LOCATED IN BUILDINGS SHALL HAVE A FLAME SPREAD OF NOT MORE THAN 25 AND A SMOKE DEVELOPED RATING OF NOT MORE THAN 50 WHEN TESTED AS A COMPOSITE INSTALLATION INCLUDING INSULATION, FACING MATERIALS, TAPES AND ADHESIVES AS NORMALLY APPLIED. C. ALL EXPOSED FIBERGLASS INSULATION SHALL BE PROVIDED WITH A BACKING WITH A FLAME SPREAD RATING NOT GREATER THAN 25. D. INTERIOR WALL, CEILING AND FLOOR FINISHES SHALL COMPLY WITH CHAPTER 8 OF THE CBC & CHAPTER 10 OF NFPA 101 (WHICHEVER IS MOST RESTRICTIVE). E. ANY DECORATIONS USED SHALL BE NON-COMBUSTIBLE OR FLAME-PROOFED IN AN APPROVED MANNER. (CURTAIN, DRAPES, SHADES, HANGINGS, ETC.).
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14. FIRE RETARDANT TREATED WOOD: A. WHERE WOOD IS UTILIZED AS A PART OF THE PERMANENT CONSTRUCTION, PROVIDE FIRE RETARDANT WOOD IMPREGNATED WITH CHEMICALS BY A PRESSURE PROCESS OR OTHER MEANS DURING MANUFACTURE, AND WHICH, WHEN TESTED IN ACCORDANCE WITH ASTM E-84 OR UL 723 FOR A PERIOD OF 30 MINUTES, SHALL HAVE A FLAME SPREAD OF NOT OVER 25 AND SHOW NO EVIDENCE OF PROGRESSIVE COMBUSTION. IN ADDITION, THE FLAME FRONT SHALL NOT PROGRESS MORE THAN 10 1/2 FEET BEYOND THE CENTER LINE OF THE BURNER AT ANY TIME DURING THE TEST. B. ALL MATERIALS SHALL BEAR IDENTIFICATION SHOWING THE FIRE PERFORMANCE RATING THEREOF. SUCH IDENTIFICATIONS SHALL BE ISSUED BY AN APPROVED AGENCY HAVING A SERVICE FOR INSPECTION OF MATERIALS AT THE FACTORY
15. STORAGE, DISPENSING OR USE OF ANY FLAMMABLE OR COMBUSTIBLE LIQUIDS AND HAZARDOUS CHEMICAL SHALL COMPLY WITH CFC AND NFPA 30.
16. CONTRACTORS SUBMITTALS SHALL INCLUDE THE DESIGN NUMBER FOR ALL FIRE-RATED CEILING FLOOR, ROOF, WALL AND STRUCTURAL FRAME ASSEMBLIES. THE COMPONENTS AND INSTALLATION DETAILS SHALL BE IDENTIFIED IN THE SUBMITTAL. CONSTRUCTION SHALL CONFORM IN EVERY PARTICULAR ASPECT WITH THE DESIGN NUMBER SPECIFIED. CUSTOM DESIGNS WHICH COMBINE COMPONENTS FROM DIFFERENT APPROVED DESIGNS BUT HAVE NOT BEEN TESTED AS A COMPLETE ASSEMBLY WILL NOT BE ACCEPTABLE.

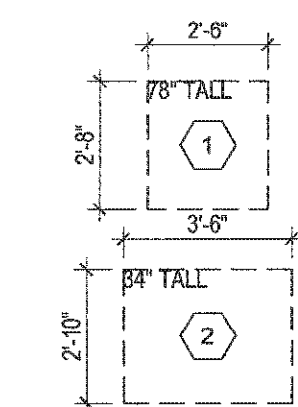
FIRE SAFETY DURING CONSTRUCTION
1. FIRE DEPARTMENT ACCESS SHALL BE ESTABLISHED AND MAINTAINED IN ACCORDANCE WITH CFC. SEC. 1410.1.
2. COMPLIANCE WITH NFPA-241 (2004) IS REQUIRED FOR ITEMS NOT SPECIFICALLY ADDRESSED HEREIN. (CFC SEC. 1401.1).
3. THE UNIVERSITY SHALL DESIGNATE A PERSON TO BE THE FIRE PREVENTION PROGRAM SUPERINTENDENT WHO SHALL BE RESPONSIBLE FOR THE FIRE PREVENTION PROGRAM TO ENSURE THAT IT IS CARRIED OUT THROUGHOUT COMPLETION OF THE PROJECT. (CFC SEC. 1408.1).
4. ALL FIRE PROTECTION SYSTEMS & EQUIPMENT SHALL BE MAINTAINED OPERATIONAL AT ALL TIMES DURING DEMOLITION & CONSTRUCTION. (CFC 1408.4).
5. SMOKE DETECTORS SHALL BE COVERED OR REMOVED DURING ALTERATIONS. COVERING PLACED ON OR OVER FIRE PROTECTION DEVICES TO PROTECT THEM FROM DAMAGE DURING CONSTRUCTION PROCESS SHALL BE IMMEDIATELY REMOVED UPON COMPLETION OF THE CONSTRUCTION PROCESS IN THE ROOM OR AREA IN WHICH THE DEVICES ARE INSTALLED. HEAT DETECTORS MAY BE SUBSTITUTED FOR SMOKE DETECTORS DURING ALTERATION. (CFC SEC. 1408.7).
6. REQUIRED EXITS SHALL BE MAINTAINED. THE CONTRACTOR SHALL MAKE CERTAIN THAT THE WORK OF NEW CONSTRUCTION WILL NOT OBSTRUCT FIRE DEPARTMENT ACCESS TO OTHER PORTIONS OF THE BUILDING. EXITS FROM SAID BUILDING WILL BE MAINTAINED FREE AND CLEAR OF ALL OBSTRUCTIONS. EXITS AND FIRE RATED CONSTRUCTION SHALL BE MAINTAINED DURING DEMOLITION AND CONSTRUCTION. UCLA FIRE MARSHAL AND LOCAL FIRE DEPARTMENT APPROVED TEMPORARY EXITS AND CONSTRUCTION BARRIERS SHALL BE PROVIDED BY THE CONTRACTOR. (CFC SEC. 1411.2).
7. FIRE RESISTIVE ASSEMBLIES & CONSTRUCTION SHALL BE MAINTAINED. (CFC 703.1).
8. OPERATIONS INVOLVING THE USE OF CUTTING AND WELDING SHALL BE DONE IN ACCORDANCE WITH THE GENERAL SAFETY RULES OF CFC CHAPTER 26 (CFC 1404.6).
9. THE USE OF TEMPORARY ENCLOSURES FOR DUST PROTECTION SHALL BE OF ONLY NON-COMBUSTIBLE PANELS, FLAME-RESISTANT TARPULINS, OR APPROVED MATERIALS OF EQUIVALENT FIRE RETARDANT CHARACTERISTICS. ANY OTHER FABRICS OR PLASTIC FILMS SHALL BE CERTIFIED AS CONFORMING TO THE REQUIREMENTS OF TEST METHOD #2 CONTAINED IN NFPA 701, STANDARD FOR FIRE TESTS FOR FLAME PROPAGATION OF TEXTILE AND FILMS. (NFPA 241 SECTIONS. 4.3.1 AND 4.3.2).

APPROVED
FIRE AND PANIC ONLY

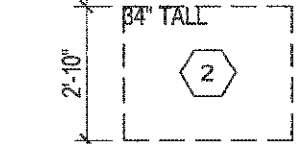
NOV - 4 2011

STATE FIRE MARSHAL
SOUTHERN REGION

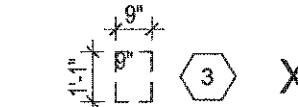
PROJECT BOELTER HSSEAS - UNDER GRADUATE LAB 6541 RENOVATION		DRAWING FIRE, LIFE & SAFETY REQUIREMENTS, GENERAL NOTES		731 charles e. young dr. south los angeles, ca 90024-1526 phone: (310) 206 - 5971 fax: (310) 206 - 8522					
PROJECT MANAGER ANDREAS FRICK DESIGNED BY ERIK HAGEN CHECKED BY FE 05 / W042897623		DATE FILED REFER TO PLOT/STAMP AS NOTED DATE 28 OCTOBER 2010		NO.		REVISIONS		DATE	
						J-CHANG REVIEW COMMENTS		12/12/2010	
						REMOVE DEMOLITION		4/29/2011	
						REVISE DRAWINGS		6/22/2011	
						DESIGN DEVELOPMENT		9/29/2011	
ARCHITECT OMAR A. NEWLAND PROJECT MANAGER ANTHONY J. LEE DESIGN/ENGINEERING LANDSCAPING & OPERATIONS ARCHITECTURAL SERVICES		FACILITIES MANAGEMENT UCLA		PRELIMINARY OTC REVIEW		10/4/2011			
				BACKCHECK OTC REVIEW		11/7/2011			
SHEET NUMBER		A-0.2							



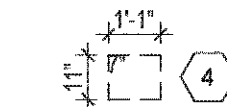
ISOTEMP - REFRIGERATOR
FLOOR - REQUIRES SEISMIC INSTALL



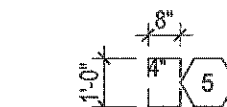
SEA RECOVERY - RO EXPERIMENT
REQUIRES DRAIN
LOCATION: _____



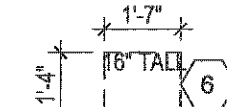
X2 MASTERFLEX - PERISTALTIC PUMP
LOCATION: _____



HP - OSCILLOSCOPE
REQUIRES CLEAN POWER
LOCATION: _____



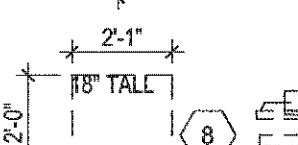
X14 ISOTEMP - HOTPLATE
LOCATION: _____



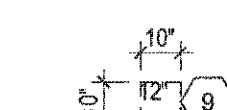
X6 ISOTEMP - HOT WATER BATH
LOCATION: _____



MERRIFIELD MANUFACTURING - REACTOR
REQUIRES DRAIN
LOCATION: _____



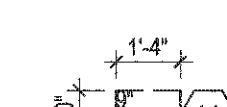
GATEWAY - REACTOR COMPUTER
LOCATION: _____



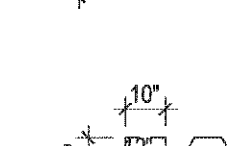
X4 OHAUS - BALANCE
LOCATION: _____



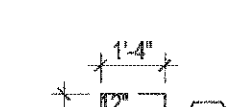
THERMOSPECTRIC - REFRACTOMETER
LOCATION: _____



SPECTRONIC - PHOTO SPECTROMETER
LOCATION: _____



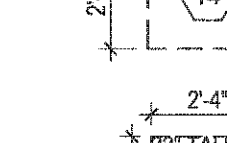
EPPENDORF - CENTRIFUGE
LOCATION: _____



BECKMAN - UV VIS
LOCATION: _____



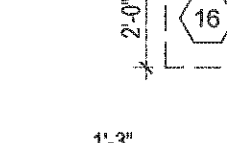
BECKMAN - CENTRIFUGE
NORTH COUNTER
REQUIRES 208V / 9A



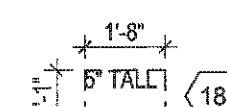
NEW BRUNSWICK - INCUBATOR/SHAKER
LOCATION: _____



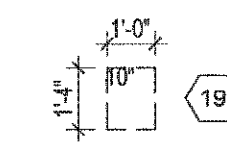
REFRIGERATOR
REQUIRES SEISMIC INSTALLATION
LOCATION: _____



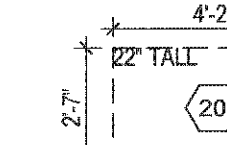
NEW BRUNSWICK - FERMENTER
LOCATION: _____



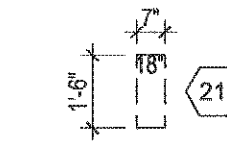
FISHER - UV VIEWER
LOCATION: _____



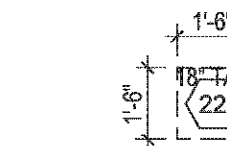
EPPENDORF - THERMOCYCLER
LOCATION: _____



MERRIFIELD MANUFACTURING -
TEMPERATURE CONTROL EXPERIMENT
REQUIRES WATER / DRAIN
LOCATION: _____



DELL - CONTROL COMPUTER
LOCATION: _____



CHEM E - CAR FRIDGE
REQUIRES SEISMIC INSTALLATION
LOCATION: _____



THERMO SCIENTIFIC - CONVECTION OVEN
REQUIRES SEISMIC INSTALLATION
LOCATION: _____



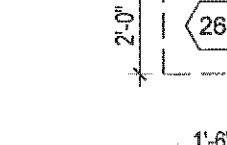
JE DRAKE - DISTILLATION COLUMN
REQUIRES WATER / DRAIN
ELEC. LOAD 75A
FLOOR - REQUIRES SEISMIC INSTALL



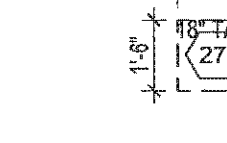
JE DRAKE - COLUMN CONTROLS
ELEC. LOAD 20A
LOCATION: _____
HOW IS THIS INCORPORATED INTO THE
DISTILLATION COLUMN?
MANITOWOC - ICEMAKER
FLOOR - REQUIRES SEISMIC INSTALL
ELEC. LOAD: 9A
REQUIRES WATER / DRAIN



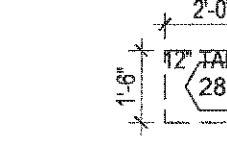
BIORAD - CHROMATOGRAPHY SYSTEM
LOCATION: _____



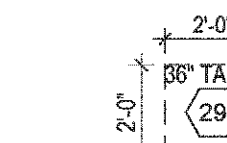
UNICO - SPECTROPHOTOMETER
LOCATION: _____



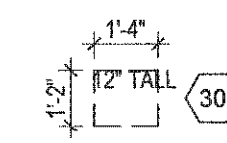
SUMMIT - FREEZER
LOCATION: _____



WHIRLPOOL - MICROWAVE
LOCATION: _____



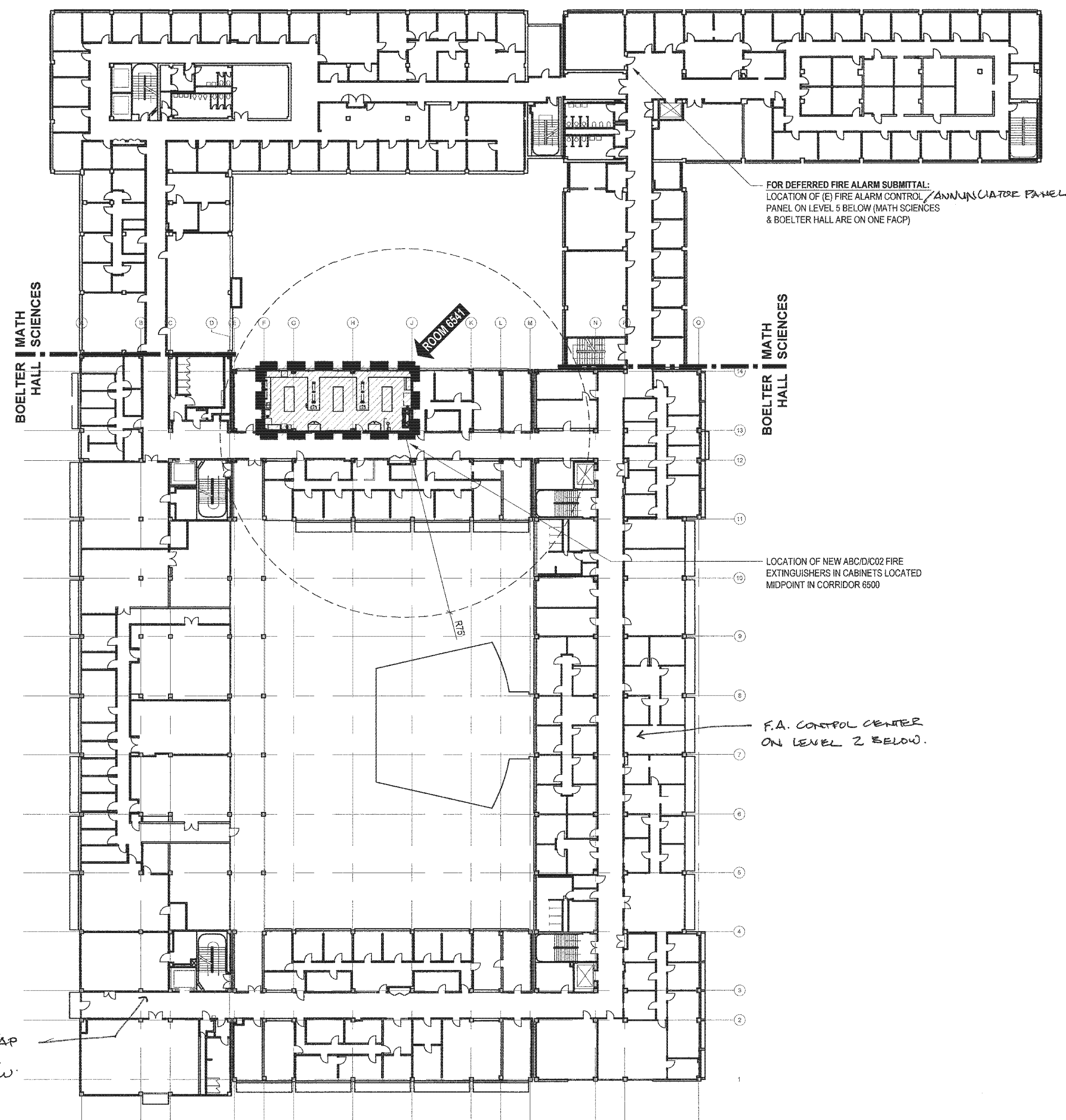
HIRAYAMA - AUTOCLAVE
FLOOR MOUNTED
REQUIRES 208V / 3KW



YAMATO - AUTOCLAVE
FLOOR MOUNTED
REQUIRES 208V / 3KW



KEWAUNEE SCIENTIFIC - FUME HOOD
FLOOR MOUNTED



EQUIPMENT BLOCKS & TAGS

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

2

OVERALL 6TH LEVEL FLOOR PLAN



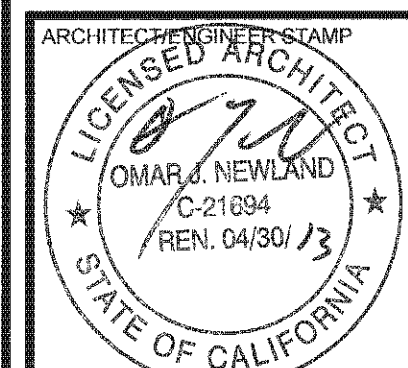
SCALE: 1" = 30'-0"

1

PROJECT
BOELTER HSSEAS - UNDER GRADUATE
LAB 6541 RENOVATION

DRAWING
OVERALL EXISTING LEVEL 6 FLOOR PLAN

DESIGNED BY
ANDREAS FRICK
DRAWN BY
ERIK HAGEN
PROJECT NUMBER
FE105 / W02887623
DATE
28 OCTOBER 2010



SHEET NUMBER

A-1.1

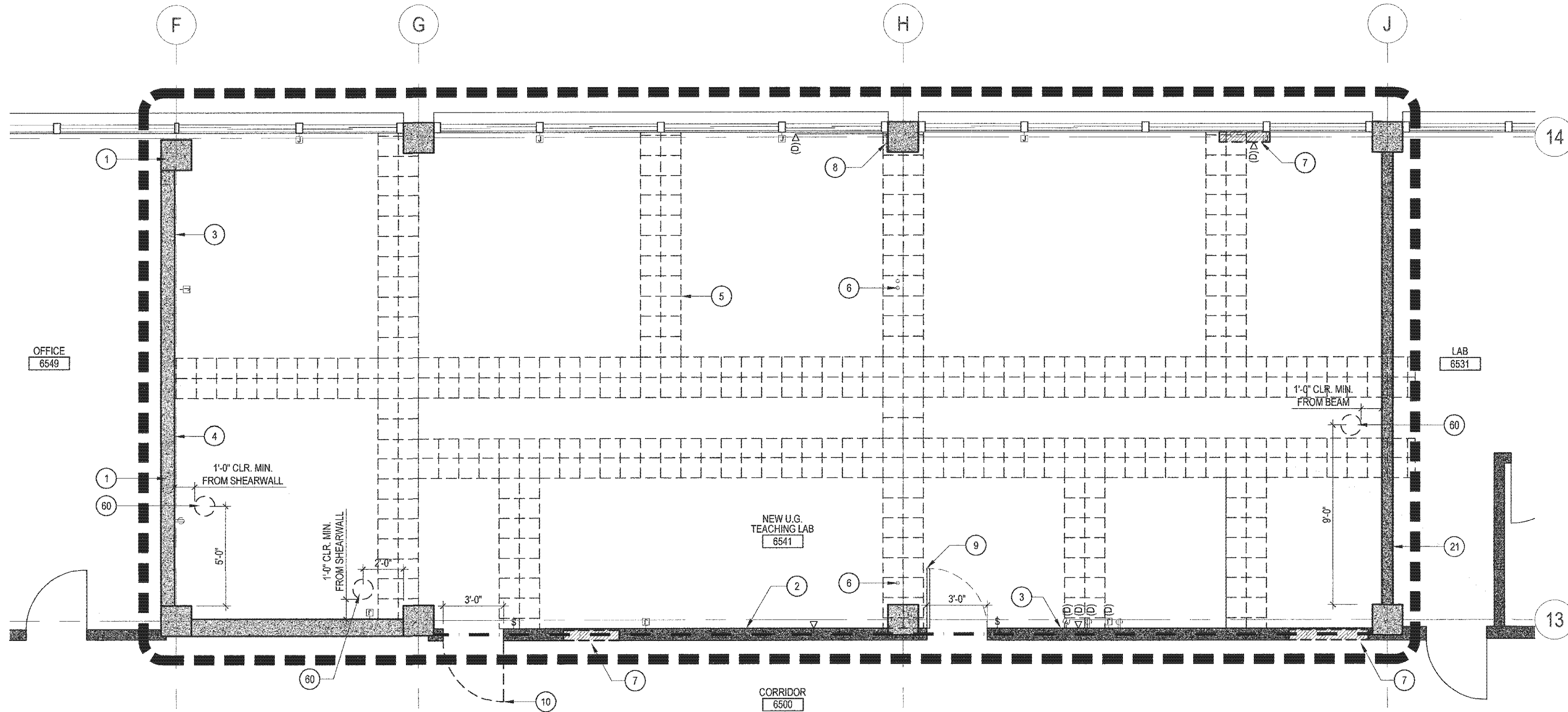
UCLA Facilities Management
dpmo
ARCHITECTURE
PROJECT MANAGEMENT
INTERIOR DESIGN
LANDSCAPING
& OPERATIONS
731 charles e. young dr. south
los angeles, ca 90024-1526
phone: (310) 206 - 5971
fax: (310) 206 - 9522

NO.	REVISIONS/SUBMISSIONS	DATE
1	J. CHANG REVIEW COMMENTS	12/12/2010
2	REMOVE DEVOLUTION	4/29/2011
3	REVISE DRAWINGS	6/22/2011
4	DESIGN DEVELOPMENT	9/29/2011
5	PRELIMINARY OTC REVIEW	10/4/2011
6	BACKCHECK OTC REVIEW	11/12/2011

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DEMOLITION REFLECTED CEILING PLAN



DEMOLITION FLOOR PLAN

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

KEYNOTES

1. CONCRETE SHEAR WALL &/OR COLUMN
2. PATCH & REPAIR ALL HOLES IN (E) FIRE RATED WALL WITH SAME TO MAINTAIN 1-HR RATING
3. REMOVE BLOCK/UNISTRUT FROM WALL
4. REMOVE ALL EXISTING WALL BASE
5. REMOVE DOUBLE-WIDE SWATH OF FLOOR TILES WHERE DAMAGED, PREP FOR REPLACEMENT, TYP. (ADDITIVE ALTERNATE #1: REMOVE ALL FLOORING)
6. GRIND DOWN CONDUIT/PIPE PENETRATIONS AND FILL IN W/ NON-SHRINK GROUT (3,000 PSI MIN.)
7. REMOVE STUDWALL / PORTION OF STUDWALL, PREP FOR NEW INSTALLATION
8. REMOVE SURFACE MOUNTED DATA CONDUIT
9. EXISTING (ADA ACCESSIBLE) DOOR TO REMAIN, CHECK OPERATING PRESSURE & CLOSING SPEED, ADJUST AS NECESSARY TO MEET ADA REQUIREMENTS
10. EXISTING DOOR & FRAME TO BE REMOVED, SALVAGE FOR RE-SWING INSTALLATION
11. REMOVE MECHANICAL DUCTS, EQUIPMENT, DIFFUSER, ETC. IN ENTIRETY
12. REMOVE GYP. BD. HEADER OVER WINDOWS, TYP.
13. REMOVE VERTICAL BLINDS & TRACK, FILL HOLES, SMOOTH & REFINISH, PREP FOR NEW INSTALL, TYP.
14. EXISTING EXIT SIGN TO REMAIN, CLEAN & REPLACE LAMP
15. EXISTING DATA CABLE-TRAY TO REMAIN
16. EXISTING FIRE SPRINKLER MAIN LINE, SUPPORTS & BRACING TO REMAIN
17. FIRE SPRINKLER HEADS, BRANCH LINES & SUPPORTS TO BE REMOVED (BY CONTRACTOR - UNDER SEPARATE PERMIT)
18. NEW FIRE SPRINKLER HEADS, BRANCH LINES & SUPPORTS (BY CONTRACTOR - UNDER SEPARATE PERMIT)
19. BRACING BLOCKING AS REQUIRED TO SEISMICALLY ANCHOR EQUIPMENT & FURNITURE, RE: 9.10&13/AS.1
20. NEW 4" RUBBER WALL BASE (ADDITIVE ALTERNATE #1: NEW SHEET VINYL COVE BASE)
21. (E) FULL HEIGHT METAL STUD WALL, CONTRACTOR TO ADD ADDITIONAL STUDS & BLOCKING AS REQ'D FOR EQUIP. MOUNTING, COVER WITH (1) LAYER 5/8" GYP. BD., RE: 3/AS.1 FOR COMPLETED ASSEMBLY
22. NEW 2 1/2" 20ga. FURRING W/ (1) LAYER 3/4" GYP. BD., FULL HEIGHT, RE: 4/AS.1
23. NEW VCT FLOORING TO MATCH EXISTING (ADDITIVE ALTERNATE #1: NEW SHEET VINYL THROUGHOUT)
24. NEW (ADA ACCESSIBLE) DOOR, FRAME, & HARDWARE. REUSE SILL, DOOR BOTTOM, LEVER HANDLE LOCK-SET W/ GUARD, HINGES & LITE. NEW STRIKE, & CLOSER TO MATCH EXISTING.
25. NEW FLOOR SINK, RE: PLUMBING & 14/AS.1
26. LAB BENCH - EPOXY RESIN WORK SURFACE COUNTER TOP
27. 5" (7" @ ADA) EPOXY RESIN BACKSPLASH (PART OF LAB BENCH)
28. BUILT-IN EPOXY RESIN SINK (PART OF LAB BENCH), RE: PLUMBING
29. ADA ACCESSIBLE BUILT-IN EPOXY RESIN SINK (PART OF LAB BENCH), RE: PLUMBING
30. AIR/VACUUM/GAS NOZZLES, BENCH TOP, (PART OF LAB BENCH), RE: PLUMBING
31. DUAL COMPARTMENT ALUMINUM RACEWAY (DUPLEX @ 24" o.c., DATA @ 48" o.c.), RE: ELECTRICAL
32. BASE CABINETS - BAKED ENAMEL METAL
33. LINE OF BASE CABINETS BELOW
34. ACCESSIBLE SINK BASE CABINET
35. REAGENT SHELF - 12"x96" EPOXY RESIN, SINGLE TIER, TYP.
36. DOUBLE-SIDED UTILITY UPRIGHT (PART OF REAGENT SHELF), TYP.
37. SINGLE-SIDED UTILITY UPRIGHT (PART OF REAGENT SHELF), TYP.
38. CONTINUOUS UNDER-COUNTER TASK LIGHTING (PART OF REAGENT SHELF), TYP.; RE: ELECTRICAL
39. STAINLESS STEEL PEG-BOARD, 30"x30" W/ DRIP PAN (PART OF LABORATORY CASEWORK)
40. MOVABLE 4'-10" EPOXY WORK BENCH WITH ADJUSTABLE METAL SUPPORTS, TYP. (PART OF LAB CSWK.)
41. MOVABLE 2'-5" EPOXY WORK BENCH WITH ADJUSTABLE METAL SUPPORTS (PART OF LAB CASEWORK)
42. 48"x84" STORAGE CABINET (PART OF LABORATORY CASEWORK), SEISMICALLY BRACE TO WALL, PROVIDE NEW WALL BACKING, RE: 9.10,13/AS.1
43. 6"x10" LONG BACK-PACK RACK, 3/4" EPOXY RESIN BACKER W/ 35 STAINLESS STEEL BACK-PACK HOOKS (PART OF LABORATORY CASEWORK), PROVIDE NEW WALL BACKING, RE: 9.10,13/AS.1
44. WALL RECESSED PULL-DOWN BARRIER-FREE EMERGENCY EYEWASH, RE: PLUMBING
45. ACCESSIBLE EMERGENCY SHOWER FULL HANDLE @ 48" A.F.F. IN OFF POSITION
46. EMERGENCY SHOWERHEAD, RE: PLUMBING
47. GAS CYLINDERS (OFCI) & MOUNTING BASEPLATE SEISMIC RESTRAINTS (OFCI)
48. NEW UNDER COUNTER DUPLEX RECEPTACLES (RECESS BUILT-IN TO LAB CASEWORK), RE: ELECTRICAL
49. NEW 18ga. BAKED ENAMEL 6"x12" UTILITY CHASE / UMBILICAL (PART OF LABORATORY CASEWORK) MOUNTED OVER LAB BENCH PEDESTAL. BRACE TO CEILING PER 15/AS.1
50. RELOCATED FLAMMABLES CABINET (OFCI), SEISMICALLY BRACED, RE: 9.10,13/AS.1
51. NEW AEROSHADE WINDOW COVERING (OFCI)
52. ADDITIVE ALTERNATE #2: (N) 4" WALL-TALKER, OR EQUAL, DRY-ERASE WALL COVERING, FULL WALL LENGTH, INCLUDING WALL PREPARATION
53. NEW 4" EXTRUDED ALUMINUM DRY-ERASE PEN SHELF, 10' LENGTH (PART OF ADDITIVE ALTERNATE #2)
54. NEW CEILING MOUNTED PROJECTOR SCREEN (OFCI), RE: 18/AS.1 (SEISMICALLY BRACE)
55. NEW CEILING MOUNTED PROJECTOR (OFCI), RE: 58/AS.1
56. NEW PROJECTOR CONNECTOR CONSOLE, WALL RECESSED (OFCI)
57. NEW 12" DIRECT/INDIRECT PENDANT FLUORESCENT LIGHT FIXTURE, RE: ELEC. SEISMICALLY BRACE W/ 3/4" AIRCRAFT CABLE TO WALLS, STATIC BUSHING CONNECTION @ PENDANTS, RE: 20/AS.1
58. NEW 120 / 208 V ELECTRICAL SUB-PANEL, RE: ELECTRICAL & 7/AS.1
59. NEW LIGHTING CONTROL PANEL, WALL RECESSED, RE: ELECTRICAL SHEETS
60. LOCATE REBAR & OTHER OBSTRUCTIONS VIA GROUND PENETRATING RADAR, SAW-OUT FOR NEW FLOOR SINK, RE: PLUMBING & 14/AS.1
61. NEW MECHANICAL / DUCT, RE: MECHANICAL
62. NEW SQUARE TRIM, SEMI-RECESSED, 1-HOUR RATED, FIRE EXTINGUISHERS / CABINETS (ABC/D/CO2), MAINTAIN FIRE RATING, RE: 7/AS.1
63. EXISTING LIVE ELECTRICAL PULLBOX (CEILING MOUNTED) & CONDUIT TO REMAIN

GENERAL NOTES & ABBREVIATIONS

ADDITIVE ALTERNATES:

- #1. REMOVE ALL EXISTING FLOORING IN EXCESS OF THAT INCLUDED IN BASE-BID. IN LIEU OF VCT, INSTALL ALL SHEET VINYL ARMSTRONG ROYAL "MIST GRAY" 83401, OR EQUAL. IN LIEU OF RUBBER BASE, COVE BASE SHEET VINYL ALL AROUND 4" HEIGHT W/ EXTRUDED ALUMINUM TERMINATION RAILCAP PIECE.
- #2. INSTALL 4" TALL "WALL-TALKER", OR EQUAL, DRY-ERASE WALL COVERING AS SHOWN ON ELEVATIONS, FULL LENGTH OF SOUTH WALL. INCLUDE 4" x 10' LONG EXTRUDED ALUMINUM PENEERASER TRAY.

WALL LEGEND:

- EXISTING CONCRETE SHEAR WALL &/OR COLUMN
- EXISTING BLACK-IRON (PENCIL-STUD) LATH & PLASTER WALL (NOT FULL HEIGHT)
- DEMARCATION OF EXISTING 1-HOUR RATED CORRIDOR TUNNEL CONSTRUCTION TO REMAIN
- EXISTING LIGHT-GAUGE FRAMED FULL-HEIGHT PARTITION WITH 3/8" GYP. BD. (OUTSIDE ONLY) CONTRACTOR TO ADD REQUIRED BLOCKING & (1) LAYER 5/8" GYP. BD. (INSIDE ONLY)
- NEW 2 1/2" FURRED-OUT WALL, W/ (1) LAYER 5/8" GYP. BD., FULL HEIGHT

GENERAL NOTES:

- A. ALL LABORATORY CASEWORK & ACCESSORY DESIGNATIONS ARE FISHER SCIENTIFIC PRODUCT NUMBERS, CONTRACTOR TO PROVIDE FISHER SCIENTIFIC PRODUCTS AS DESIGNATED, OR EQUAL.
- B. ALL EPOXY COUNTERS & SINKS TO BE BLACK
- C. ALL POWDER COATED METAL CASEWORK TO BE COLOR AS SELECTED BY THE UNIVERSITY'S REPRESENTATIVE FROM MANUFACTURERS STANDARD COLOR CHART.
- D. ALL ADJUSTABLE LEGS TO BE NATURAL METAL FINISH (I.E. NOT PAINTED).
- E. ALL FLOORING TO MATCH EXISTING, U.N.O.
- F. ALL WALLS TO BE PAINTED DUNN EDWARDS' SWISS COFFEE SEMI-GLOSS
- G. ALL WALL BASE TO BE 4" JOHNSONITE TIGHT-LOCK BLACK, U.N.O.
- H. ALL ELECTRICAL & DATA JUNCTION BOX & CONDUIT INSTALLATIONS BY CONTRACTOR.
- I. ALL ELECTRICAL WIRING INSTALLATION & IN-SUITE CONNECTIONS BY CONTRACTOR.
- J. ALL UTILITY CONNECTIONS WITHIN PROJECT AREA BY THE CONTRACTOR.
- K. ALL DATA WIRING & CONNECTIONS BY THE UNIVERSITY.
- L. ALL MAIN UTILITY LINE FINAL CONNECTIONS BY THE UNIVERSITY.
- M. WALL CABINET/EQUIP. ANCHORAGE, RE: 11/AS.1
- N. TYPICAL MOUNTING HEIGHTS, RE: 18/AS.1

APPROVED
FIRE AND PANIC ONLY
NOV - 4 2011
STATE FIRE MARSHAL
SOUTHERN REGION

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PROJECT MANAGEMENT
INTERIOR UTILITIES
LANDSCAPING & OPERATIONS
DESIGN, PROJECT MANAGEMENT
dpmo

NO.	REVISIONS/SUBMISSIONS	DATE
	J. CHANG REVIEW COMMENTS	12/12/10
	REMOVE DEMOLITION	4/29/2011
	REVISE DRAWINGS	6/22/2011
	DESIGN DEVELOPMENT	9/29/2011
	PRELIMINARY OTC REVIEW	10/4/2011
	BACKCHECK OTC REVIEW	11/12/2011

BOELTER HSSEAS - UNDER GRADUATE
LAB 6541 RENOVATION

DEMOLITION FLOOR & REFLECTED
CEILING PLANS

PROJECT
DRAWING

APPROVED
FIRE AND PANIC ONLY
NOV - 4 2011
STATE FIRE MARSHAL
SOUTHERN REGION

ARCHITECTURAL
PROJECT MANAGEMENT
INTERIOR UTILITIES
LANDSCAPING & OPERATIONS
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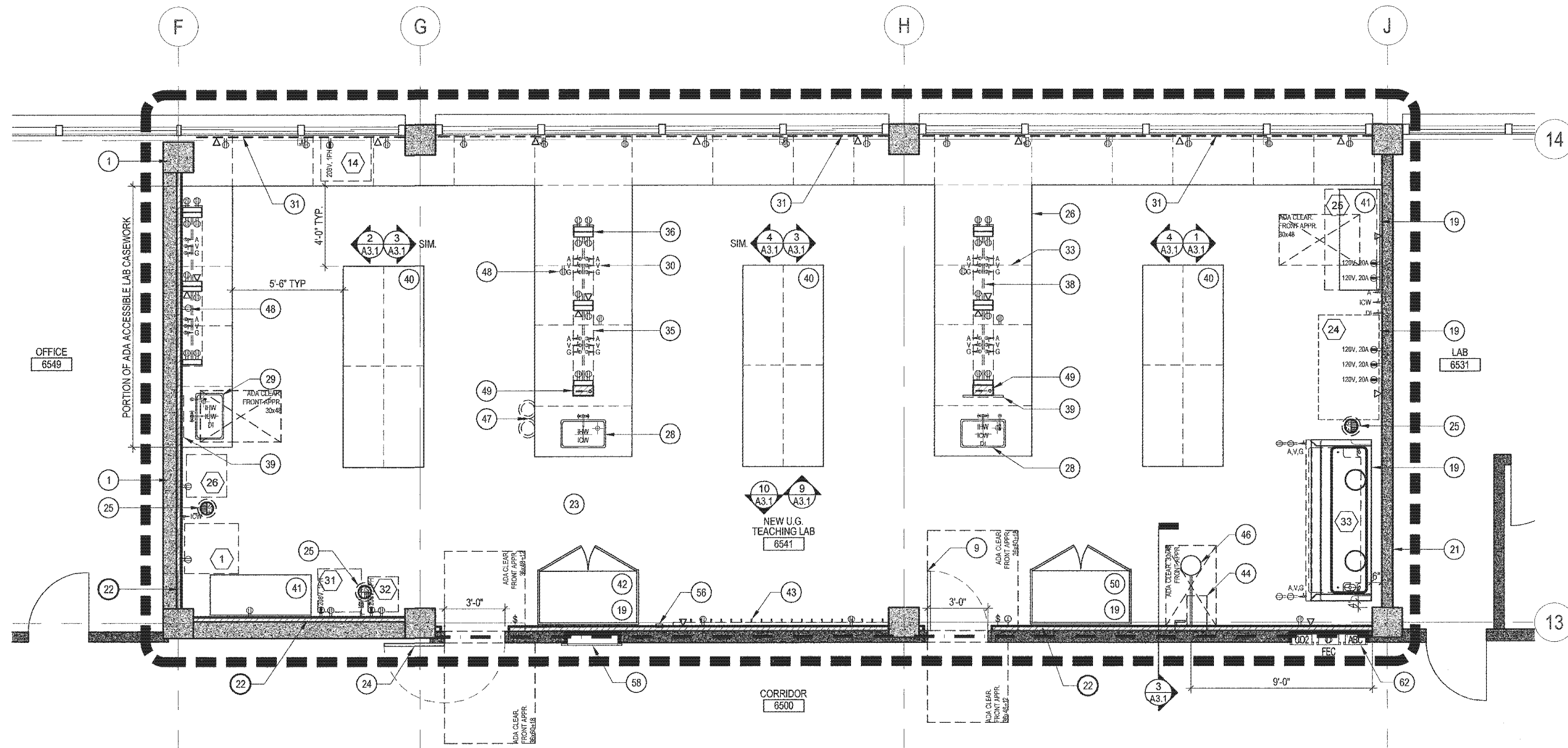
ARCHITECT
OMAR J. NEWLAND
C-21694
REN. 04/30/13
STATE OF CALIFORNIA

SHEET NUMBER
D-2.1

1:\Common\Projects\Boelter HSSEAS - Under Graduate\Lab 6541.dwg, 10/26/2011, 4:43:13 PM, dhsong, 11



PROPOSED REFLECTED CEILING PLAN



PROPOSED FLOOR PLAN

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

2

KEYNOTES

1. CONCRETE SHEAR WALL &/OR COLUMN
2. PATCH & REPAIR ALL HOLES IN (E) FIRE RATED WALL WITH SAME TO MAINTAIN 1-HR RATING
3. REMOVE BLOCKING/UNSTRUT FROM WALL
4. REMOVE ALL EXISTING WALL BASE
5. REMOVE DOUBLE-WIDE SWATH OF FLOOR TILES WHERE DAMAGED, PREP FOR REPLACEMENT, TYP. (ADDITIVE ALTERNATE #1: REMOVE ALL FLOORING)
6. GRIND DOWN CONDUIT/PIPE PENETRATIONS AND FILL IN W/ NON-SHRINK GROUT (3,000 PSI MIN.)
7. REMOVE STUDWALL / PORTION OF STUDWALL, PREP FOR NEW INSTALLATION
8. REMOVE SURFACE MOUNTED DATA CONDUIT
9. EXISTING (ADA ACCESSIBLE) DOOR TO REMAIN, CHECK OPERATING PRESSURE & CLOSING SPEED, ADJUST AS NECESSARY TO MEET ADA REQUIREMENTS
10. EXISTING DOOR & FRAME TO BE REMOVED, SALVAGE FOR RE-SWING INSTALLATION
11. REMOVE MECHANICAL DUCTS, EQUIPMENT, DIFFUSER, ETC. IN ENTIRETY
12. REMOVE GYP. BD. HEADER OVER WINDOWS, TYP.
13. REMOVE VERTICAL BLINDS & TRACK, FILL HOLES, SMOOTH & REFINISH, PREP FOR NEW INSTALL, TYP.
14. EXISTING EXIT SIGN TO REMAIN, CLEAN & REPLACE LAMP
15. EXISTING DATA CABLE-TRAY TO REMAIN
16. EXISTING FIRE SPRINKLER MAIN LINE, SUPPORTS & BRACING TO REMAIN
17. FIRE SPRINKLER HEADS, BRANCH LINES & SUPPORTS TO BE REMOVED (BY CONTRACTOR - UNDER SEPARATE PERMIT)
18. NEW FIRE SPRINKLER HEADS, BRANCH LINES & SUPPORTS (BY CONTRACTOR - UNDER SEPARATE PERMIT)
19. BRACING BLOCKING AS REQUIRED TO SEISMICALLY ANCHOR EQUIPMENT & FURNITURE, RE: 9.10&13/AS.1
20. NEW 4" RUBBER WALL BASE (ADDITIVE ALTERNATE #1: NEW SHEET VINYL COVE BASE)
21. (E) FULL HEIGHT METAL STUD WALL, CONTRACTOR TO ADD ADDITIONAL STUDS & BLOCKING AS REQ'D FOR EQUIP. MOUNTING, COVER WITH (1) LAYER 5/8" GYP. BD., RE: 3A/5.1 FOR COMPLETED ASSEMBLY
22. NEW 2 1/2" 20ga FURRING W/ (1) LAYER 5/8" GYP. BD., FULL HEIGHT, RE: 4/15.1
23. NEW VCT FLOORING TO MATCH EXISTING (ADDITIVE ALTERNATE #1: NEW SHEET VINYL THROUGHOUT)
24. NEW (ADA ACCESSIBLE) DOOR, FRAME, & HARDWARE. REUSE SILL, DOOR BOTTOM, LEVER HANDLE LOCK-SET W/ GUARD, HINGES & LITE. NEW STRIKE & CLOSER TO MATCH EXISTING.
25. NEW FLOOR SINK, RE: PLUMBING & 14/AS.1
26. LAB BENCH - EPOXY RESIN WORK SURFACE COUNTER TOP
27. 5" (7" @ ADA) EPOXY RESIN BACKSPASH (PART OF LAB BENCH)
28. BUILT-IN EPOXY RESIN SINK (PART OF LAB BENCH), RE: PLUMBING
29. ADA ACCESSIBLE BUILT-IN EPOXY RESIN SINK (PART OF LAB BENCH), RE: PLUMBING
30. AIR/VACUUM/GAS NOZZLES, BENCH TOP, (PART OF LAB BENCH), RE: PLUMBING
31. DUAL COMPARTMENT ALUMINUM RACEWAY (DUPLEX @ 24" o.c., DATA @ 48" o.c.), RE: ELECTRICAL
32. BASE CABINETS - BAKED ENAMEL METAL
33. LINE OF BASE CABINETS BELOW
34. ACCESSIBLE SINK BASE CABINET
35. REAGENT SHELF - 12"x36" EPOXY RESIN, SINGLE TIER, TYP.
36. DOUBLE-SIDED UTILITY UPRIGHT (PART OF REAGENT SHELF), TYP.
37. SINGLE-SIDED UTILITY UPRIGHT (PART OF REAGENT SHELF), TYP.
38. CONTINUOUS UNDER-COUNTER TASK LIGHTING (PART OF REAGENT SHELF), TYP., RE: ELECTRICAL
39. STAINLESS STEEL PEG-BOARD, 30"x30" W/ DRIP PAN (PART OF LABORATORY CASEWORK)
40. MOVABLE 4"x10" EPOXY WORK BENCH WITH ADJUSTABLE METAL SUPPORTS, TYP. (PART OF LAB CSWK)
41. MOVABLE 2"x5" EPOXY WORK BENCH WITH ADJUSTABLE METAL SUPPORTS, TYP. (PART OF LAB CASEWORK)
42. 48"x24" STORAGE CABINET (PART OF LABORATORY CASEWORK), SEISMICALLY BRACE TO WALL, PROVIDE NEW WALL BACKING, RE: 9.10,13/AS.1
43. 6"x10" LONG BACK-PACK RACK, 3/4" EPOXY RESIN BACKER W/ 36" STAINLESS STEEL BACK-PACK HOOKS (PART OF LABORATORY CASEWORK), PROVIDE NEW WALL BACKING, RE: 9.10,13/AS.1
44. WALL RECESSED PULL-DOWN BARRIER-FREE EMERGENCY EYEWASH, RE: PLUMBING
45. ACCESSIBLE EMERGENCY SHOWER FULL HANDLE @ 48" A.F.F. IN OFF POSITION
46. EMERGENCY SHOWERHEAD, RE: PLUMBING
47. GAS CYLINDERS (OFCI) & MOUNTING BASEPLATE SEISMIC RESTRAINTS (OFCI)
48. NEW UNDER COUNTER DUPLEX RECEPTACLES (RECESS BUILT-IN TO LAB CASEWORK), RE: ELECTRICAL
49. NEW 16ga BAKED ENAMEL 6"x12" UTILITY CHASE / UMBILICAL (PART OF LABORATORY CASEWORK) MOUNTED OVER LAB BENCH PEDESTAL. BRACE TO CEILING PER 15/AS.1
50. RELOCATED FLAMMABLES CABINET (OFCI), SEISMICALLY BRACED, RE: 9.10,13/AS.1
51. NEW AEROSHADE WINDOW COVERING (OFCI)
52. ADDITIVE ALTERNATE #2: (N) 4" WALL TALKER, OR EQUAL, DRY-ERASE WALL COVERING, FULL WALL LENGTH, INCLUDING WALL PREPARATION
53. NEW 4" EXTRUDED ALUMINUM DRY-ERASE PEN SHELF, 10" LENGTH (PART OF ADDITIVE ALTERNATE #2)
54. NEW CEILING MOUNTED PROJECTOR SCREEN (OFCI), RE: 18/2/AS.1 (SEISMICALLY BRACE)
55. NEW CEILING MOUNTED PROJECTOR (OFCI), RE: 58/AS.1
56. NEW PROJECTOR CONNECTOR CONSOLE, WALL RECESSED (OFCI)
57. NEW 12" DIRECT/INDIRECT PENDANT FLUORESCENT LIGHT FIXTURE, RE: ELEC, SEISMICALLY BRACE W/ 3/8" AIRCRAFT CABLE TO WALLS, STATIC BUSHING CONNECTION @ PENDANTS, RE: 20/AS.1
58. NEW 120 / 208 V ELECTRICAL SUB-PANEL, RE: ELECTRICAL & 7/AS.1
59. NEW LIGHTING CONTROL PANEL, WALL RECESSED, RE: ELECTRICAL SHEETS
60. LOCATE REBAR & OTHER OBSTRUCTIONS VIA GROUND PENETRATING RADAR, SAW-CUT FOR NEW FLOOR SINK, RE: PLUMBING & 14/AS.1
61. NEW MECHANICAL / DUCT, RE: MECHANICAL
62. NEW SQUARE TRIM, SEMI-RECESSED, 1-HOUR RATED, FIRE EXTINGUISHERS / CABINETS (ABC/D/CO2), MAINTAIN FIRE RATING, RE: 7/AS.
63. EXISTING LIVE ELECTRICAL PULLBOX (CEILING MOUNTED) & CONDUIT TO REMAIN

GENERAL NOTES & ABBREVIATIONS

ADDITIVE ALTERNATES:

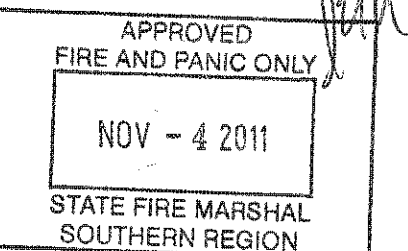
- #1. REMOVE ALL EXISTING FLOORING IN EXCESS OF THAT INCLUDED IN BASE-BID. IN LIEU OF VCT, INSTALL ALL SHEET VINYL ARMSTRONG ROYAL "MIST GRAY" 83401, OR EQUAL. IN LIEU OF RUBBER BASE, COVE BASE SHEET VINYL ALL AROUND 4" HEIGHT W/ EXTRUDED ALUMINUM TERMINATION RAIL/CAP PIECE.
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WALL LEGEND:

- EXISTING CONCRETE SHEAR WALL &/OR COLUMN
- EXISTING BLACK-IRON (PENCIL-STUD) LATH & PLASTER WALL (NOT FULL HEIGHT)
- DEMARCATION OF EXISTING 1-HOUR RATED CORRIDOR TUNNEL CONSTRUCTION TO REMAIN
- EXISTING LIGHT-GAUGE FRAMED FULL-HEIGHT PARTITION WITH 5/8" GYP. BD. (OUTSIDE ONLY) CONTRACTOR TO ADD REQUIRED BLOCKING & (1) LAYER 5/8" GYP. BD. (INSIDE ONLY)
- NEW 2 1/2" FURRED-OUT WALL, W/ (1) LAYER 5/8" GYP. BD., FULL HEIGHT

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 - C. ALL POWDER COATED METAL CASEWORK TO BE COLOR AS SELECTED BY THE UNIVERSITY'S REPRESENTATIVE FROM MANUFACTURERS STANDARD COLOR CHART.
 - D. ALL ADJUSTABLE LEGS TO BE NATURAL METAL FINISH (I.E. NOT PAINTED).
 - E. ALL FLOORING TO MATCH EXISTING, U.N.O.
 - F. ALL WALLS TO BE PAINTED DUNN EDWARDS "SWISS COFFEE" SEMI-GLOSS
 - G. ALL WALL BASE TO BE 4" JOHNSONITE TIGHT-LOCK BLACK, U.N.O.
 - H. ALL ELECTRICAL & DATA JUNCTION BOX & CONDUIT INSTALLATIONS BY CONTRACTOR.
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 - L. ALL MAIN UTILITY LINE FINAL CONNECTIONS BY THE UNIVERSITY.
 - M. WALL CABINET/EQUIP. ANCHORAGE, RE: 11/AS.1
 - N. TYPICAL MOUNTING HEIGHTS, RE: 16/AS.1
- D. ALL OPERABLE WINDOWS TO BE SERVED SHUT.



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ARCHITECTURAL
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DESIGN, PROJECT MANAGEMENT
& OPERATIONS

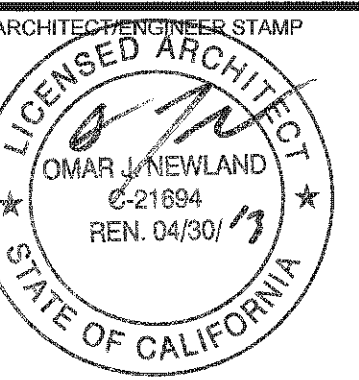
NO.	REVISIONS/SUBMISSIONS	DATE
1	J CHANG REVIEW COMMENTS	12/12/2010
2	REMOVE DEMOLITION	4/29/2011
3	REVISE DRAWINGS	6/22/2011
4	DESIGN DEVELOPMENT	9/29/2011
5	PRELIMINARY OTC REVIEW	10/4/2011
6	BACKCHECK OTC REVIEW	11/12/2011

BOELTER HSSEAS - UNDER GRADUATE
LAB 6541 RENOVATION

ENLARGED FLOOR & REFLECTED CEILING
PLANS

PROJECT
DRAWING
DATE
28 OCTOBER 2010

PROJECT MANAGER ANDREAS FRICK	DRAWN BY ERIK HAGEN
PROJECT NUMBER FE105 / WOP#2887623	CAP FILE REFER TO PLOT/STAMP
AS NOTED	DATE



SHEET NUMBER
A-2.1

GENERAL NOTES & ABBREVIATIONS

ADDITIVE ALTERNATES:

#1. REMOVE ALL EXISTING FLOORING IN EXCESS OF THAT INCLUDED IN BASE-BID. IN LIEU OF VCT, INSTALL ALL SHEET VINYL ARMSTRONG ROYAL, MIST GRAY 83401, OR EQUAL. IN LIEU OF RUBBER BASE, COVE BASE SHEET VINYL ALL AROUND 4" HEIGHT W/ EXTRUDED ALUMINUM TERMINATION RAIL/CAP PIECE.

#2. INSTALL 4" TALL "WALL-TALKER", OR EQUAL, DRY-ERASE WALL COVERING AS SHOWN ON ELEVATIONS, FULL LENGTH OF SOUTH WALL. INCLUDE 4" x 10" LONG EXTRUDED ALUMINUM PENERASER TRAY.

WALL LEGEND:

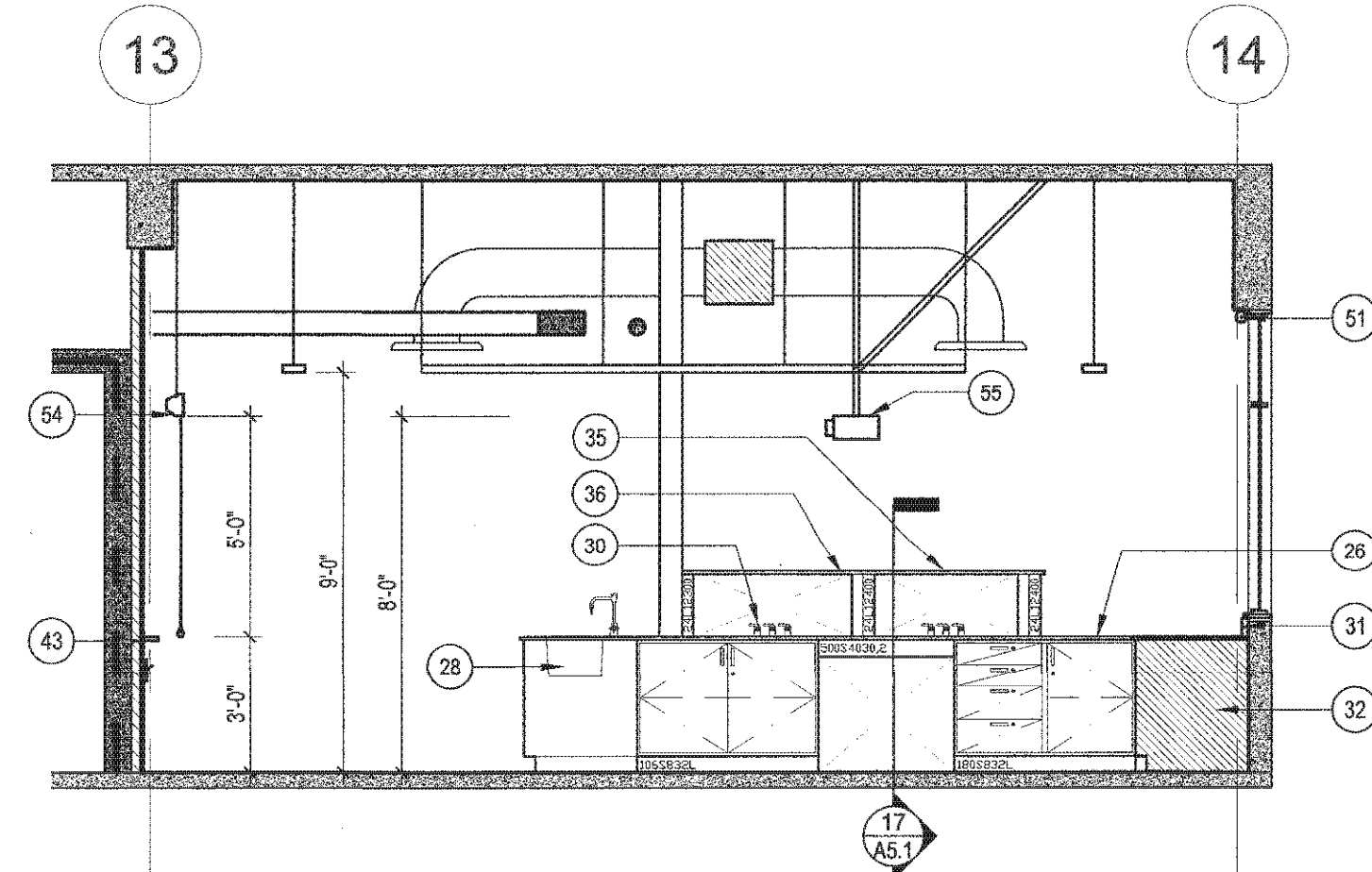
- EXISTING CONCRETE SHEAR WALL &/OR COLUMN
- EXISTING BLACK-IRON (PENCIL-STUD) LATH & PLASTER WALL (NOT FULL HEIGHT)
- DEMARCATION OF EXISTING 1-HOUR RATED CORRIDOR TUNNEL CONSTRUCTION TO REMAIN
- EXISTING LIGHT-GAUGE FRAMED FULL-HEIGHT PARTITION WITH 5/8" GYP. BD. (OUTSIDE ONLY) CONTRACTOR TO ADD REQUIRED BLOCKING & (1) LAYER 5/8" GYP. BD. (INSIDE ONLY)
- NEW 2 1/2" FURRED-OUT WALL, W/ (1) LAYER 5/8" GYP. BD., FULL HEIGHT

GENERAL NOTES:

- A. ALL LABORATORY CASEWORK & ACCESSORY DESIGNATIONS ARE FISHER SCIENTIFIC PRODUCT NUMBERS, CONTRACTOR TO PROVIDE FISHER SCIENTIFIC PRODUCTS AS DESIGNATED, OR EQUAL.
- B. ALL EPOXY COUNTERS & SINKS TO BE BLACK
- C. ALL POWDER COATED METAL CASEWORK TO BE COLOR AS SELECTED BY THE UNIVERSITY'S REPRESENTATIVE FROM MANUFACTURERS STANDARD COLOR CHART.
- D. ALL ADJUSTABLE LEGS TO BE NATURAL METAL FINISH (I.E. NOT PAINTED).
- E. ALL FLOORING TO MATCH EXISTING, U.N.O.
- F. ALL WALLS TO BE PAINTED DUNN EDWARDS 'SWISS COFFEE' SEMI-GLOSS
- G. ALL WALL BASE TO BE 4" JOHNSONITE TIGHT-LOCK BLACK, U.N.O.
- H. ALL ELECTRICAL & DATA JUNCTION BOX & CONDUIT INSTALLATIONS BY CONTRACTOR.
- I. ALL ELECTRICAL WIRING INSTALLATION & IN SUITE CONNECTIONS BY CONTRACTOR.
- J. ALL UTILITY CONNECTIONS WITHIN PROJECT AREA BY THE CONTRACTOR.
- K. ALL DATA WIRING & CONNECTIONS BY THE UNIVERSITY.
- L. ALL MAIN UTILITY LINE FINAL CONNECTIONS BY THE UNIVERSITY.
- M. WALL CABINET/EQUIP. ANCHORAGE, RE: 11A5.1
- N. TYPICAL MOUNTING HEIGHTS, RE: 16A5.1

KEYNOTES

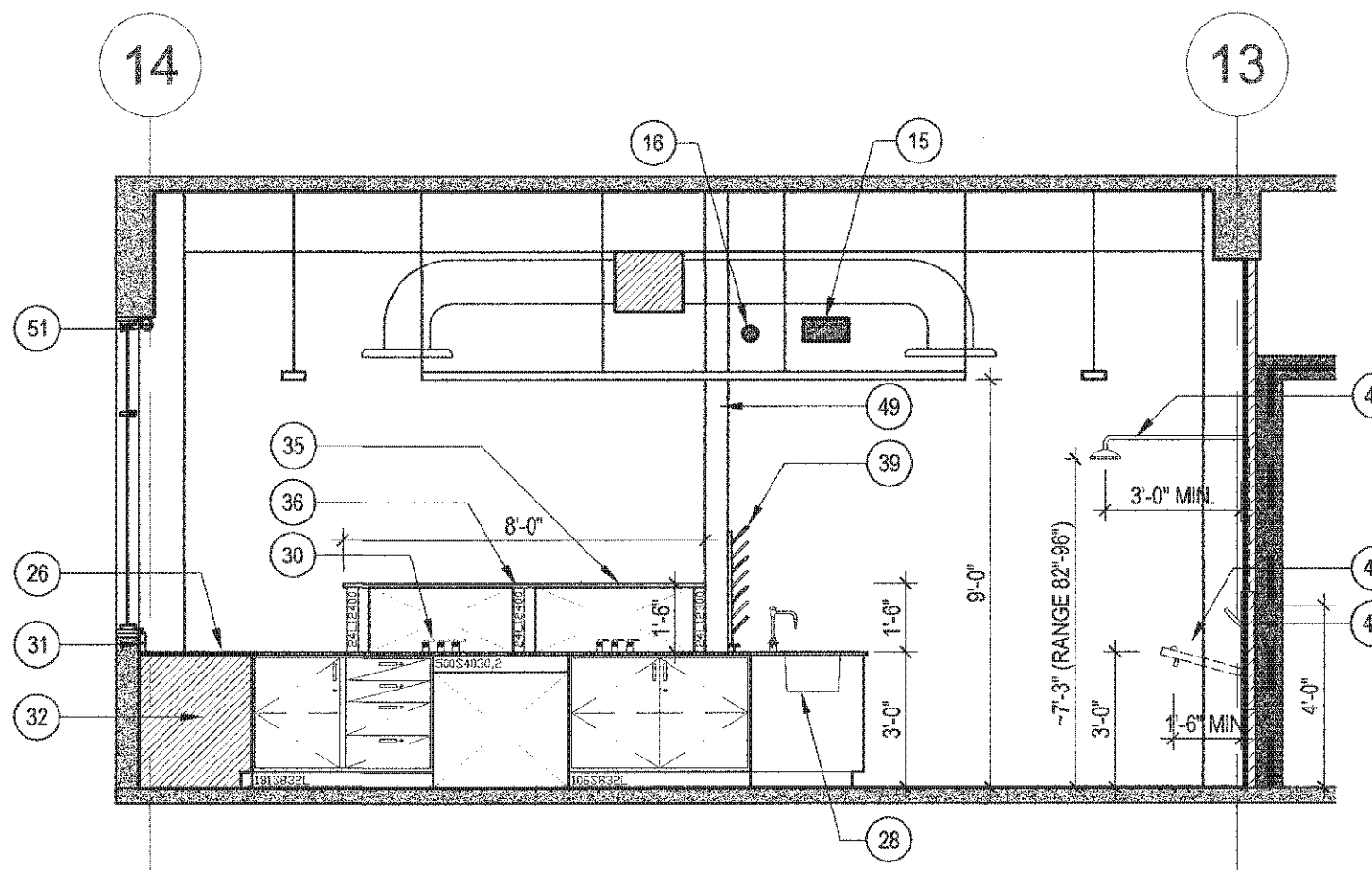
- CONCRETE SHEAR WALL &/OR COLUMN
- PATCH & REPAIR ALL HOLES IN (E) FIRE RATED WALL WITH SAME TO MAINTAIN 1-HR RATING
- REMOVE BLOCKING/UNISTRUT FROM WALL
- REMOVE ALL EXISTING WALL BASE
- REMOVE DOUBLE-WIDE SWATH OF FLOOR TILES WHERE DAMAGED, PREP FOR REPLACEMENT, TYP. (ADDITIVE ALTERNATE #1: REMOVE ALL FLOORING)
- GRIND DOWN CONDUIT/PIPE PENETRATIONS AND FILL IN W/ NON-SHRINK GROUT (3,000 PSI MIN.)
- REMOVE STUDWALL / PORTION OF STUDWALL, PREP FOR NEW INSTALLATION
- REMOVE SURFACE MOUNTED DATA CONDUIT
- EXISTING (ADA ACCESSIBLE) DOOR TO REMAIN, CHECK OPERATING PRESSURE & CLOSING SPEED, ADJUST AS NECESSARY TO MEET ADA REQUIREMENTS
- EXISTING DOOR & FRAME TO BE REMOVED, SALVAGE FOR RE-SWING INSTALLATION
- REMOVE MECHANICAL DUCTS, EQUIPMENT, DIFFUSER, ETC. IN ENTIRETY
- REMOVE GYP. BD. HEADER OVER WINDOWS, TYP.
- REMOVE VERTICAL BLINDS & TRACK, FILL HOLES, SMOOTH & REFINISH, PREP FOR NEW INSTALL, TYP.
- EXISTING EXIT SIGN TO REMAIN, CLEAN & REPLACE LAMP
- EXISTING DATA CABLE TRAY TO REMAIN
- EXISTING FIRE SPRINKLER MAIN LINE, SUPPORTS & BRACING TO REMAIN
- FIRE SPRINKLER HEADS, BRANCH LINES & SUPPORTS TO BE REMOVED (BY CONTRACTOR - UNDER SEPARATE PERMIT)
- NEW FIRE SPRINKLER HEADS, BRANCH LINES & SUPPORTS (BY CONTRACTOR - UNDER SEPARATE PERMIT)
- BRACING BLOCKING AS REQUIRED TO SEISMICALLY ANCHOR EQUIPMENT & FURNITURE, RE: 9,10,13A5.1
- NEW 4" RUBBER WALL BASE (ADDITIVE ALTERNATE #1: NEW SHEET VINYL COVE BASE)
- (E) FULL HEIGHT METAL STUD WALL, CONTRACTOR TO ADD ADDITIONAL STUDS & BLOCKING AS REQ'D FOR EQUIP. MOUNTING, COVER WITH (1) LAYER 5/8" GYP. BD., RE: 3A5.1 FOR COMPLETED ASSEMBLY
- NEW 2 1/2" 20ga. FURRING W/ (1) LAYER 5/8" GYP. BD., FULL HEIGHT, RE: 4H5.1
- NEW VCT FLOORING TO MATCH EXISTING (ADDITIVE ALTERNATE #1: NEW SHEET VINYL THROUGHOUT)
- NEW (ADA ACCESSIBLE) DOOR, FRAME, & HARDWARE. REUSE SILL, DOOR BOTTOM, LEVER HANDLE
- LOCK-SET W/ GUARD, HINGES & LITE. NEW STRIKE, & CLOSER TO MATCH EXISTING.
- NEW FLOOR SINK, RE: PLUMBING & 14A5.1
- LAB BENCH - EPOXY RESIN WORK SURFACE COUNTER TOP
- 5" (7" @ ADA) EPOXY RESIN BACKSPLASH (PART OF LAB BENCH)
- BUILT-IN EPOXY RESIN SINK (PART OF LAB BENCH), RE: PLUMBING
- ADA ACCESSIBLE BUILT-IN EPOXY RESIN SINK (PART OF LAB BENCH), RE: PLUMBING
- ARRIVAL/UMSAS NOZZLES, BENCH TOP, (PART OF LAB BENCH), RE: PLUMBING
- DUAL COMPARTMENT ALUMINUM RACEWAY (DUPLEX @ 24" o.c., DATA @ 48" o.c.), RE: ELECTRICAL
- BASE CABINETS - BAKED ENAMEL METAL
- LINE OF BASE CABINETS BELOW
- ACCESSIBLE SINK BASE CABINET
- REAGENT SHELF - 12"x36" EPOXY RESIN, SINGLE TIER, TYP.
- DOUBLE-SIDED UTILITY UPRIGHT (PART OF REAGENT SHELF), TYP.
- SINGLE-SIDED UTILITY UPRIGHT (PART OF REAGENT SHELF), TYP.
- CONTINUOUS UNDER-COUNTER TASK LIGHTING (PART OF REAGENT SHELF), TYP.; RE: ELECTRICAL
- STAINLESS STEEL PEG-BOARD, 30"x30" W/ DRIP PAN (PART OF LABORATORY CASEWORK)
- MOVEABLE 4x10" EPOXY WORK BENCH WITH ADJUSTABLE METAL SUPPORTS, TYP. (PART OF LAB CSWK)
- MOVEABLE 2x5" EPOXY WORK BENCH WITH ADJUSTABLE METAL SUPPORTS (PART OF LAB CASEWORK)
- 48"x84" STORAGE CABINET (PART OF LABORATORY CASEWORK), SEISMICALLY BRACE TO WALL, PROVIDE NEW WALL BACKING, RE: 9,10,13A5.1
- 6"x10" LONG BACK-PACK RACK, 3/2" EPOXY RESIN BACKER W/ 35 STAINLESS STEEL BACK-PACK HOOKS (PART OF LABORATORY CASEWORK), PROVIDE NEW WALL BACKING, RE: 9,10,13A5.1
- WALL RECESSED PULL-DOWN BARRIER-FREE EMERGENCY EYEWASH, RE: PLUMBING
- ACCESSIBLE EMERGENCY SHOWER PULL HANDLE @ 48" A.F.F. IN OFF POSITION
- EMERGENCY SHOWERHEAD, RE: PLUMBING
- GAS CYLINDERS (OFCO) & MOUNTING BASEPLATE SEISMIC RESTRAINTS (OFCO)
- NEW UNDER COUNTER DUPLEX RECEPTACLES (RECESS BUILT-IN TO LAB CASEWORK), RE: ELECTRICAL
- NEW 18ga. BAKED ENAMEL 6"x12" UTILITY CHASE / UMBILICAL (PART OF LABORATORY CASEWORK) MOUNTED OVER LAB BENCH PEDESTAL. BRACE TO CEILING PER 15A5.1
- RELOCATED FLAMMABLES CABINET (OFCO), SEISMICALLY BRACED, RE: 9,10,13A5.1
- NEW AEROSHADE WINDOW COVERING (OFCO)
- ADDITIVE ALTERNATE #2: (N) 4" WALLTALKER, OR EQUAL, DRY-ERASE WALL COVERING, FULL WALL LENGTH, INCLUDING WALL PREPARATION
- NEW 4" EXTRUDED ALUMINUM DRY-ERASE PEN SHELF, 10" LENGTH (PART OF ADDITIVE ALTERNATE #2)
- NEW CEILING MOUNTED PROJECTOR SCREEN (OFCO), RE: 182A5.1 (SEISMICALLY BRACE)
- NEW CEILING MOUNTED PROJECTOR (OFCO), RE: 586A5.1
- NEW PROJECTOR CONNECTOR CONSOLE, WALL RECESSED (OFCO)
- NEW 12 DIRECT/INDIRECT PENDANT FLUORESCENT LIGHT FIXTURE, RE: ELEC., SEISMICALLY BRACE W/ 1/2" AIRCRAFT CABLE TO WALLS, STATO BUSHING CONNECTION @ PENDANTS, RE: 20A5.1
- NEW 120 / 208 V ELECTRICAL SUB-PANEL, RE: ELECTRICAL & 7A5.1
- NEW LIGHTING CONTROL PANEL, WALL RECESSED, RE: ELECTRICAL SHEETS
- LOCATE REBAR & OTHER OBSTRUCTIONS VIA GROUND PENETRATING RADAR, SAW-CUT FOR NEW FLOOR SINK, RE: PLUMBING & 14A5.1
- NEW MECHANICAL DUCT, RE: MECHANICAL
- NEW SQUARE TRIM, SEMI-RECESSED, 1-HOUR RATED, FIRE EXTINGUISHERS / CABINETS (ABC/D/CO2), MAINTAIN FIRE RATING, RE: 7A5
- EXISTING LIVE ELECTRICAL PULLBOX (CEILING MOUNTED) & CONDUIT TO REMAIN



INTERIOR LAB BENCH ELEVATION (EAST FACE)

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

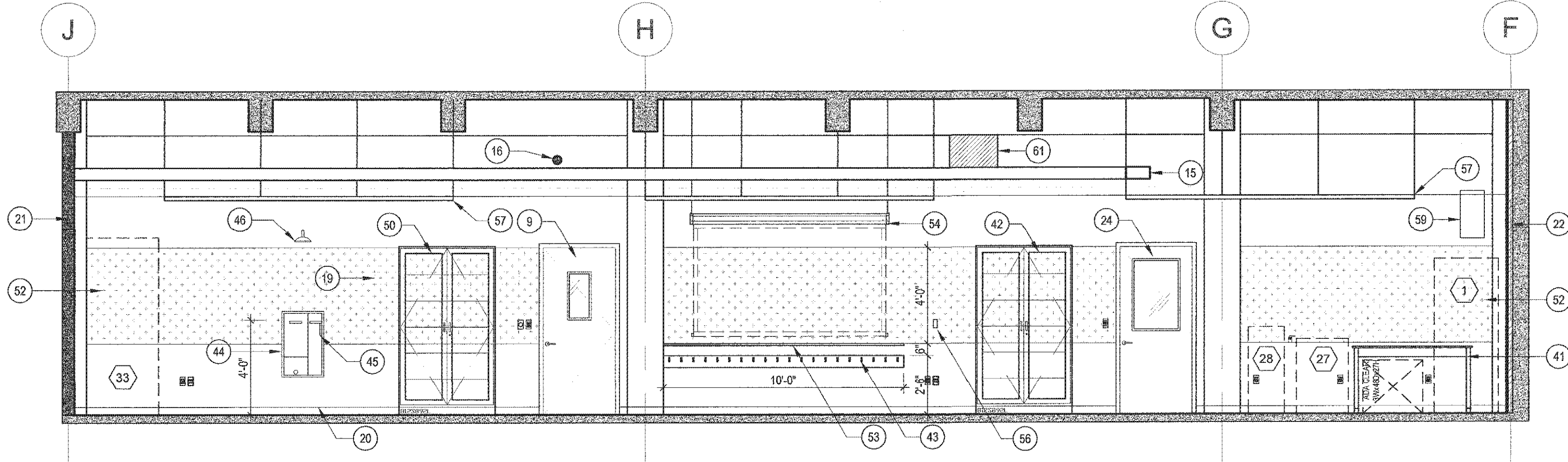
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INTERIOR LAB BENCH ELEVATION (WEST FACE)

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

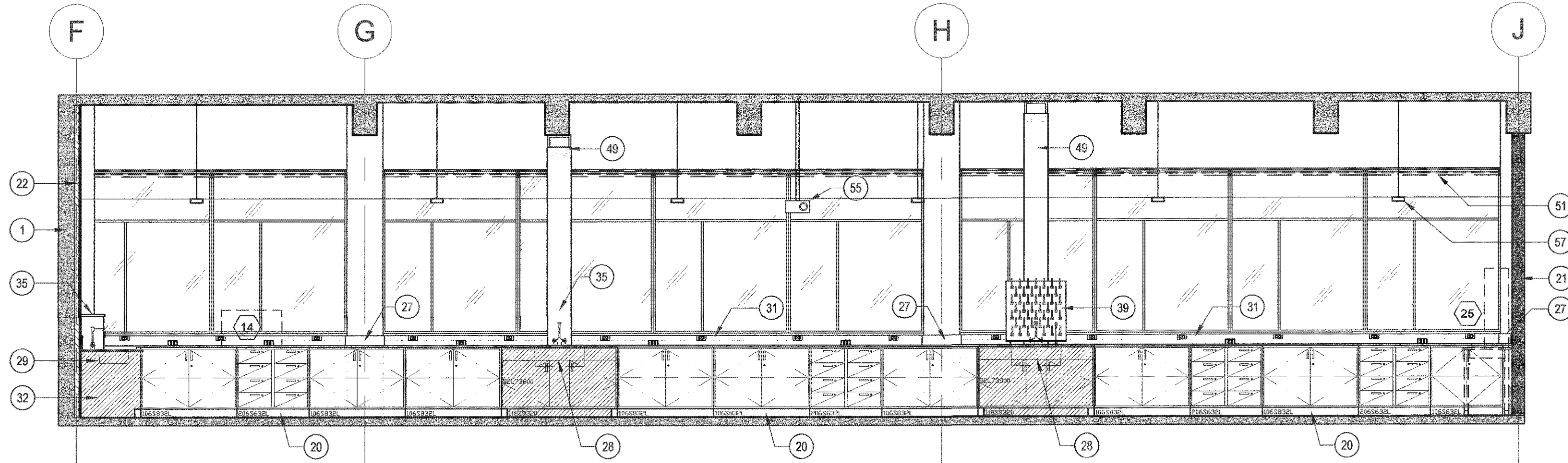
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INTERIOR SOUTH ELEVATION (INTERIOR CORRIDOR WALL)

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

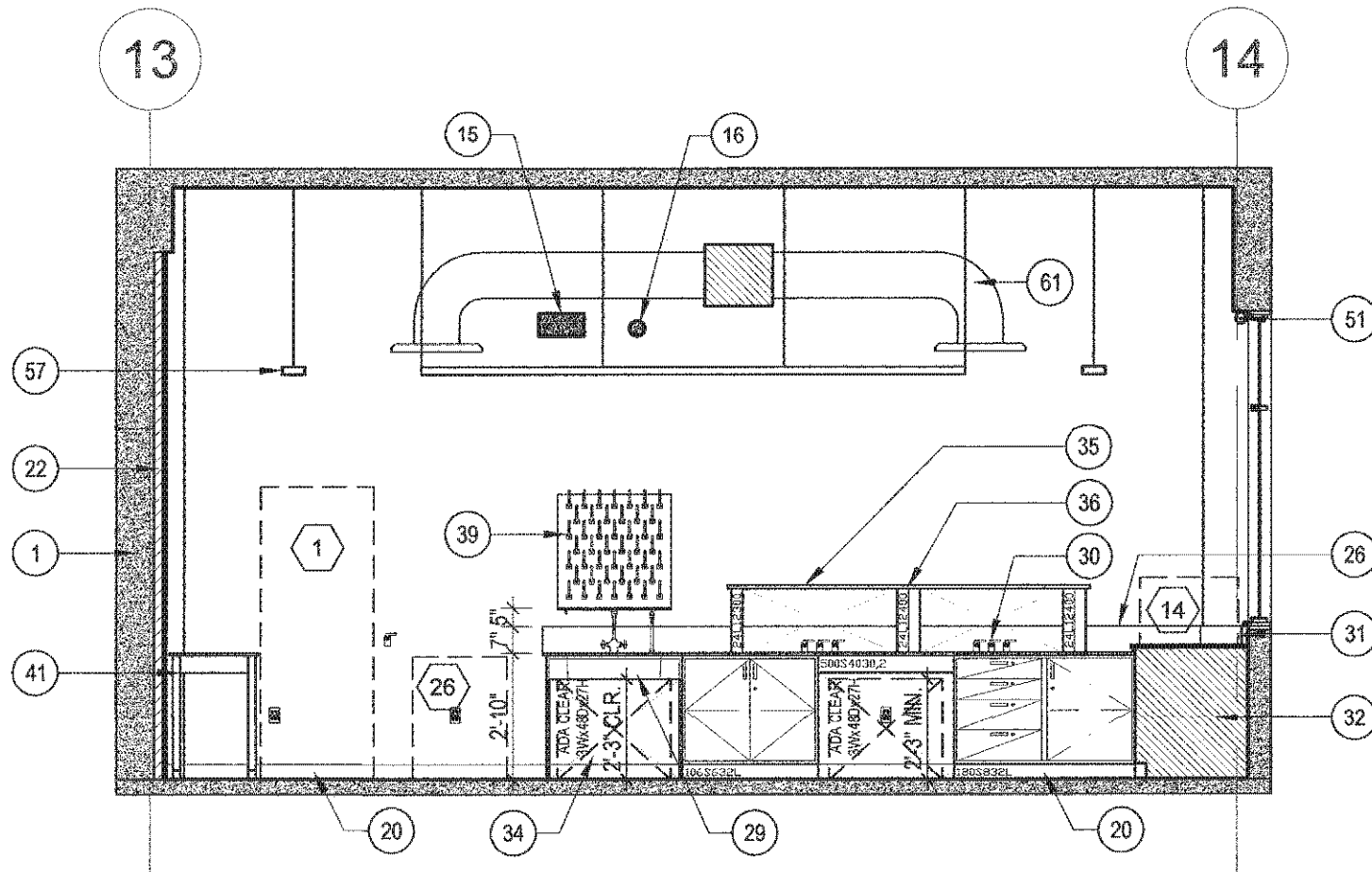
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INTERIOR NORTH ELEVATION (EXTERIOR WINDOW WALL)

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

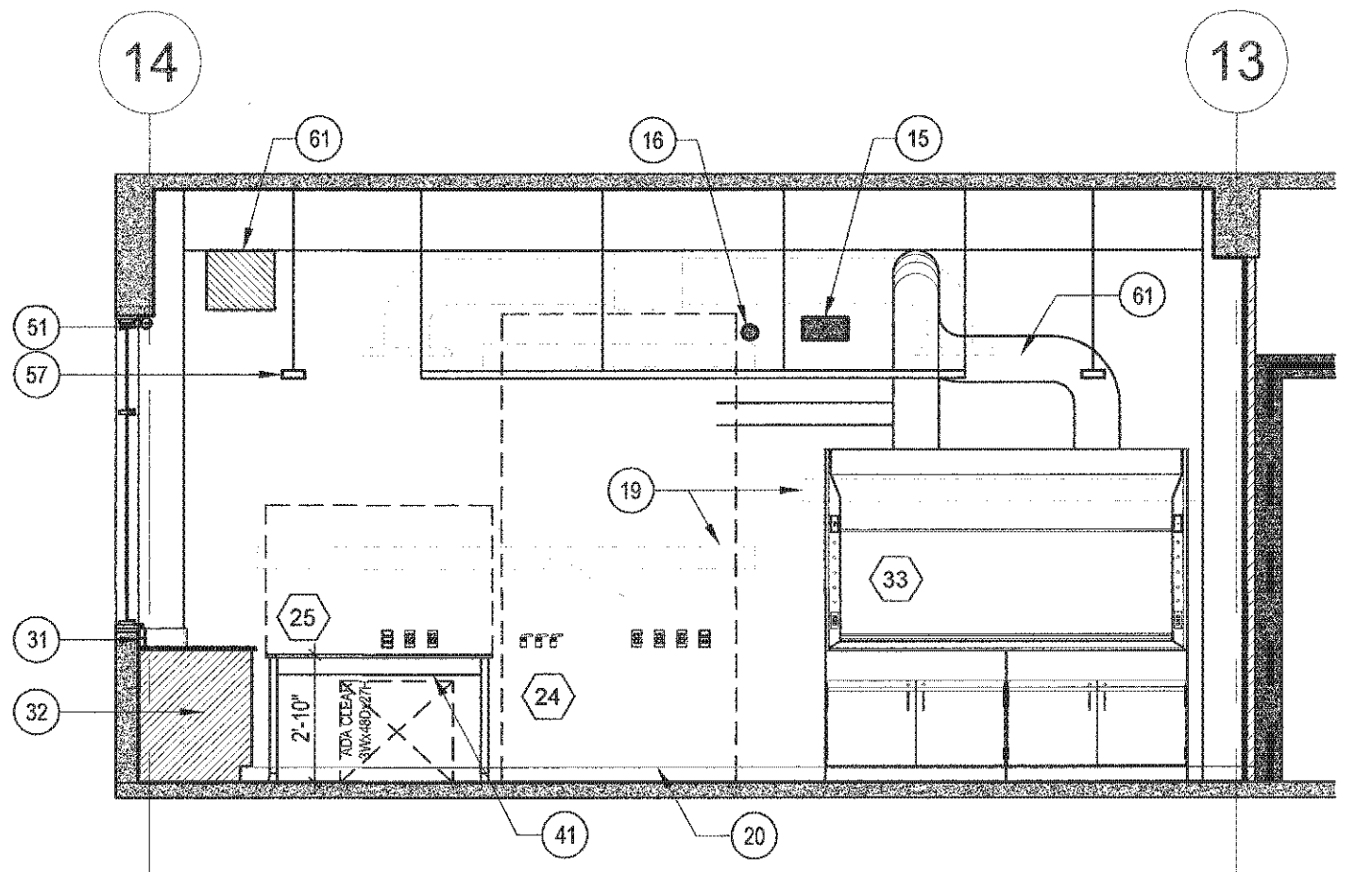
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INTERIOR WEST ELEVATION (CONCRETE SHEAR WALL)

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

2



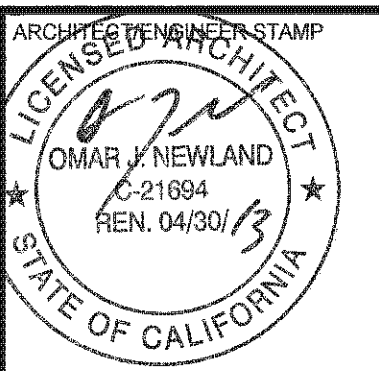
INTERIOR EAST ELEVATION (NEW WALL)

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

1

NO.	REVISIONS/SUBMISSIONS	DATE
	J. CHANG REVIEW COMMENTS	12/1/2010
	REMOVE DEMOLITION	4/29/2011
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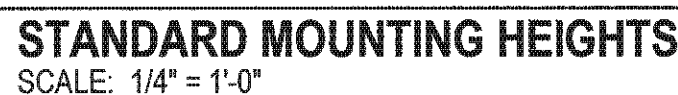
DESIGNED BY ANDREAS ERCK	DRAWN BY ERIK HAGEN
PROJECT NUMBER FE105 / WCM#287623	CAD FILE REFER TO PLOT/STAMP
AS NOTED	DATE 28 OCTOBER 2010



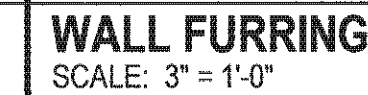
SHEET NUMBER

A-3.1

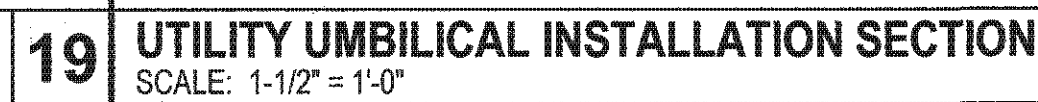




METAL STUD / TRACK SCHEDULE
SCALE: 3" = 1'-0"



- 1-HOUR ON
- SLOPE BASE CO
- WALLS PROVIDE FINIS



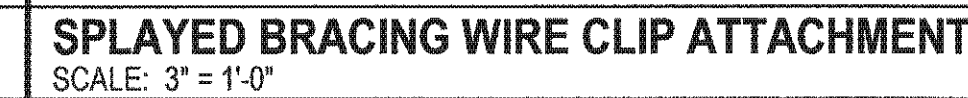
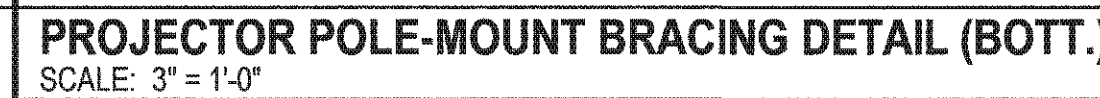
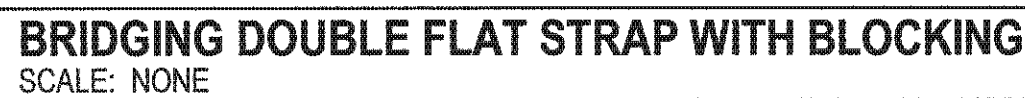
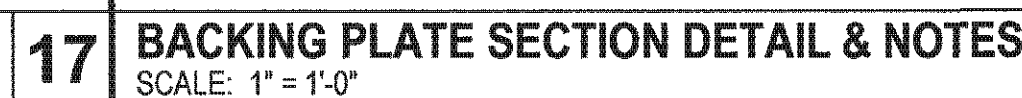
- NOTES:**

1. MAXIMUM PENETRATION / CORE DRILL 12" SQ. OR DIA.
2. NO OVER-CUT PERMITTED, PRE-DRILL CORNERS.
3. LOCATE REBAR IN EXISTING SLAB WITH GROUND PENETRATING REBAR
4. DO NOT CUT MORE THAN 1 REBAR IN BOTH DIRECTIONS.



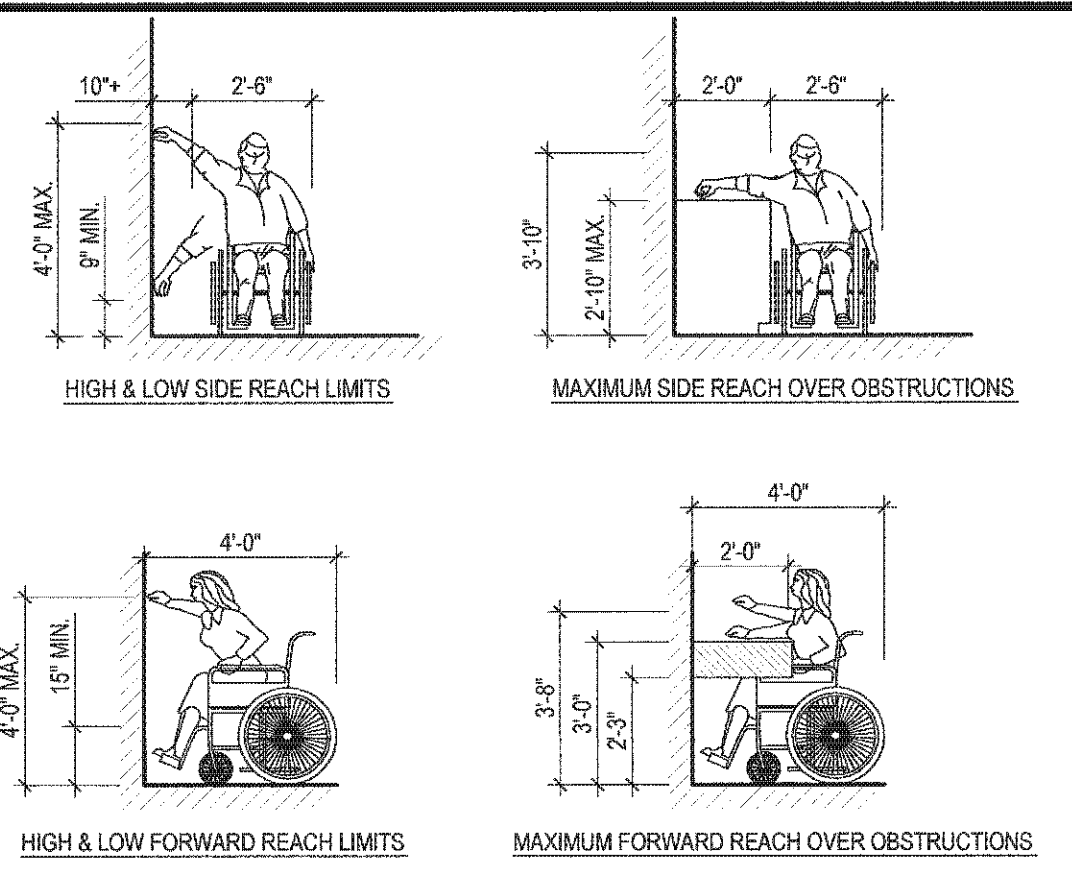
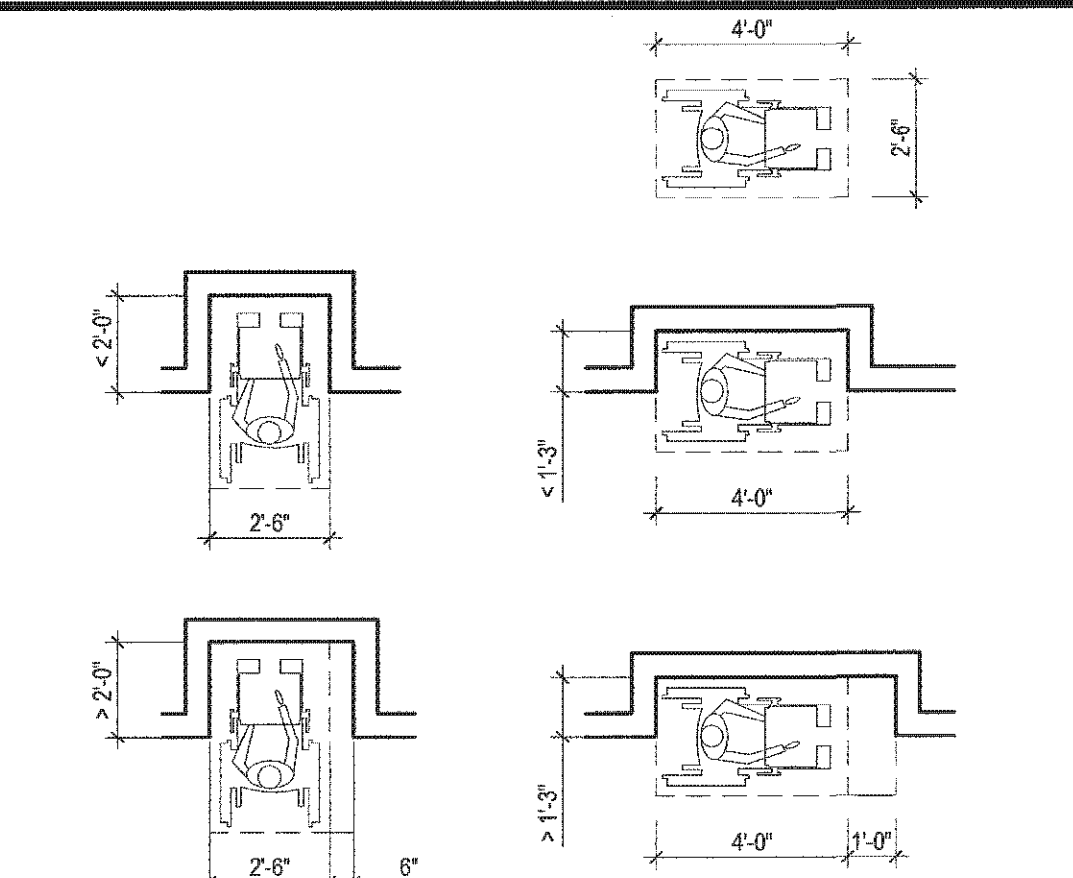
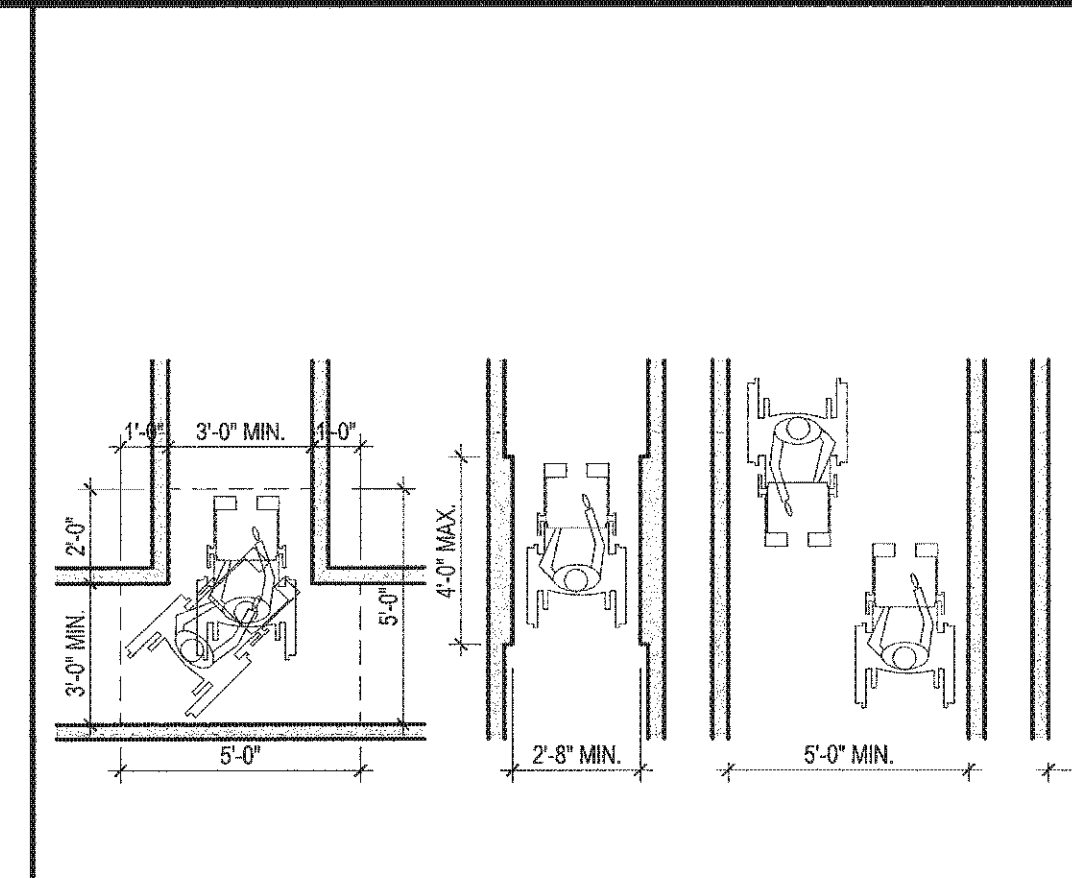
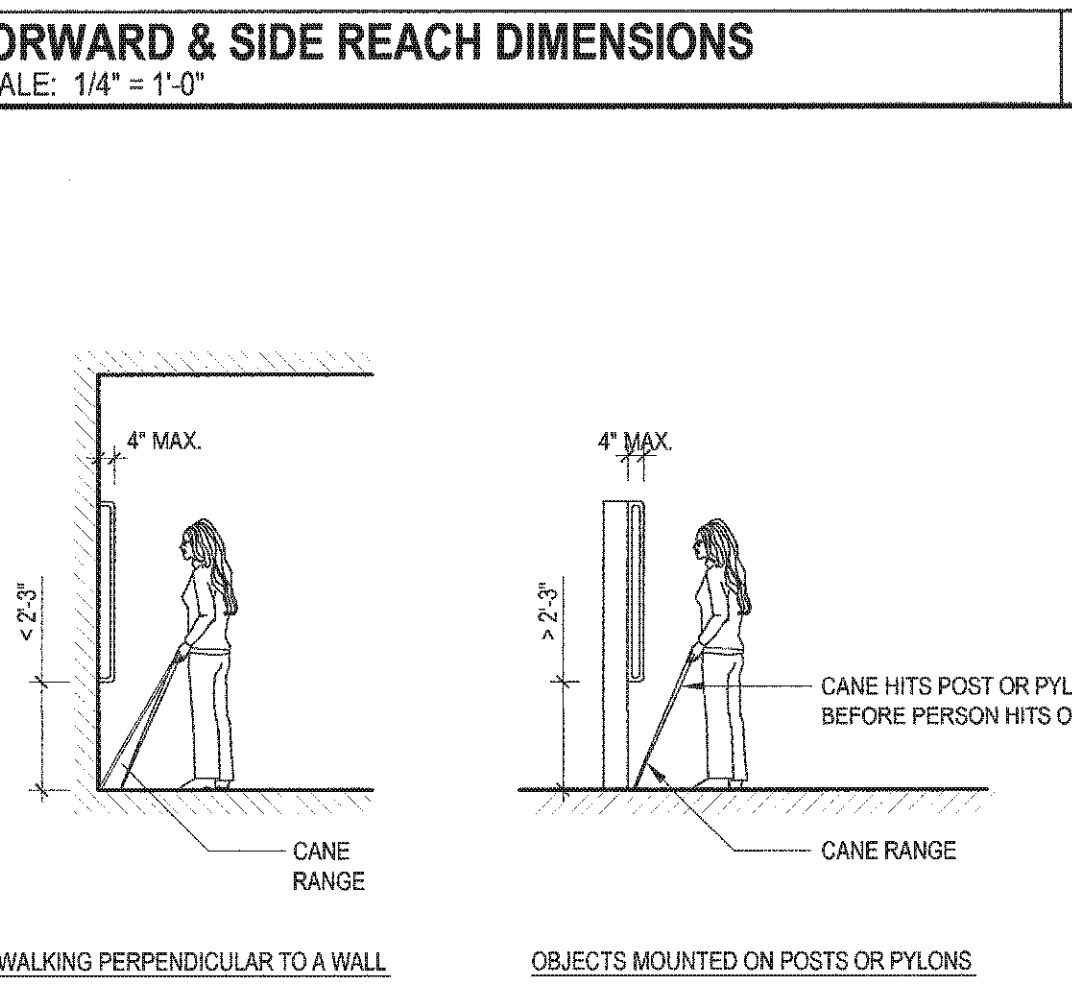
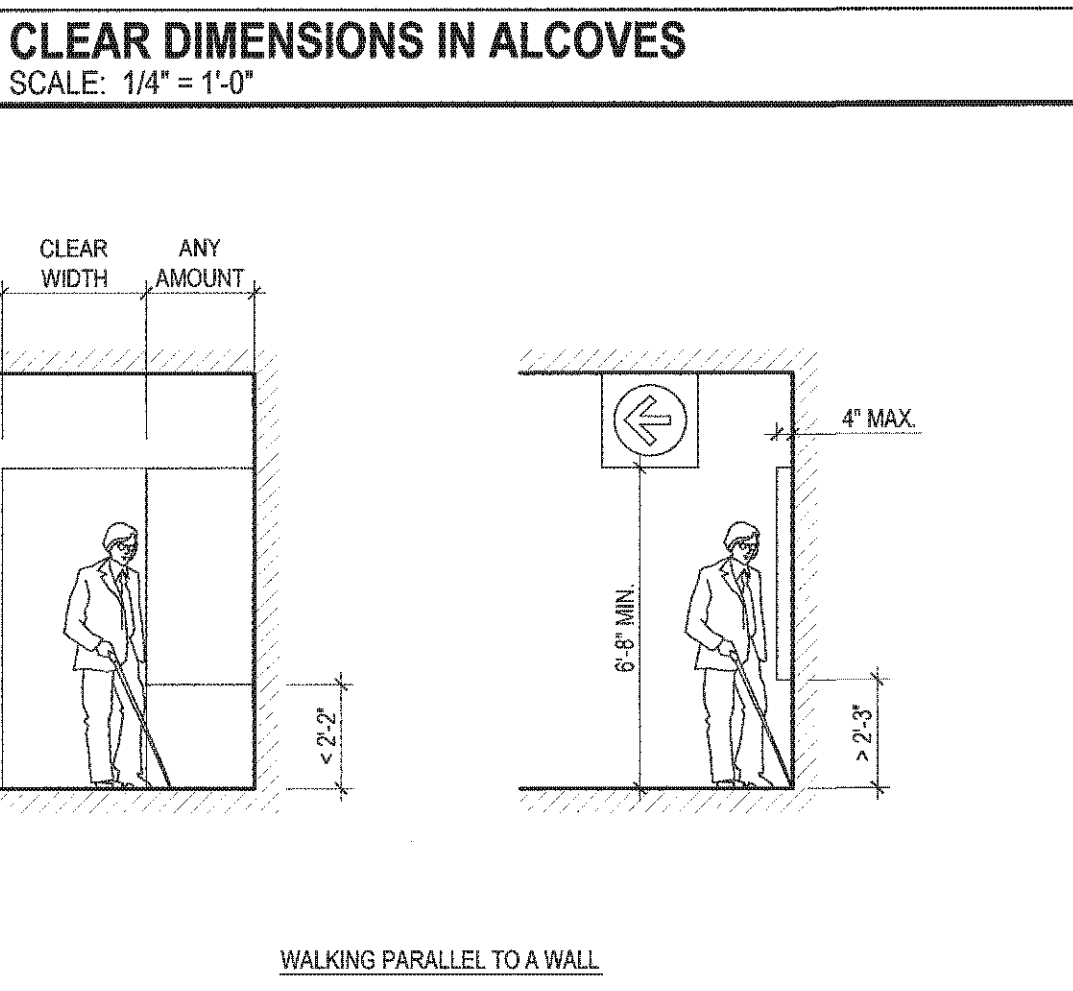
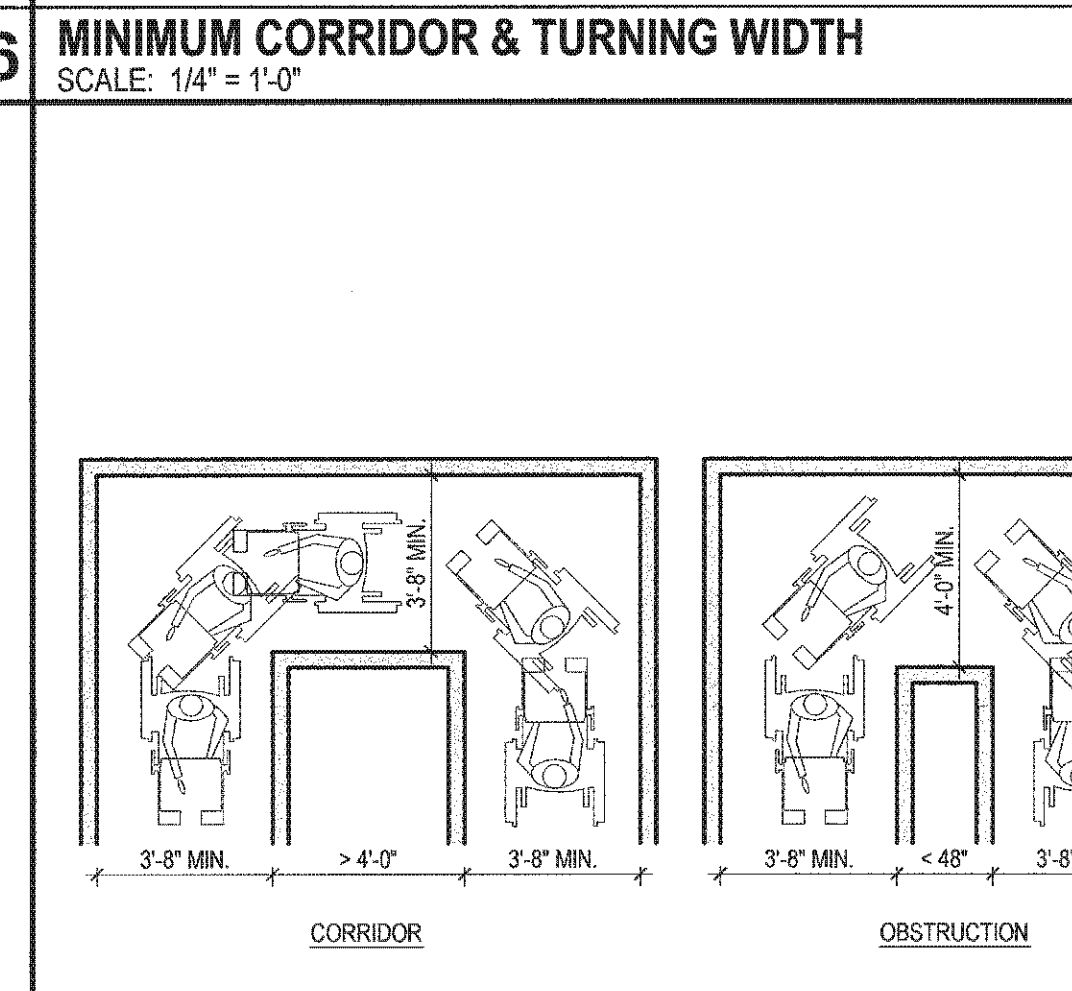
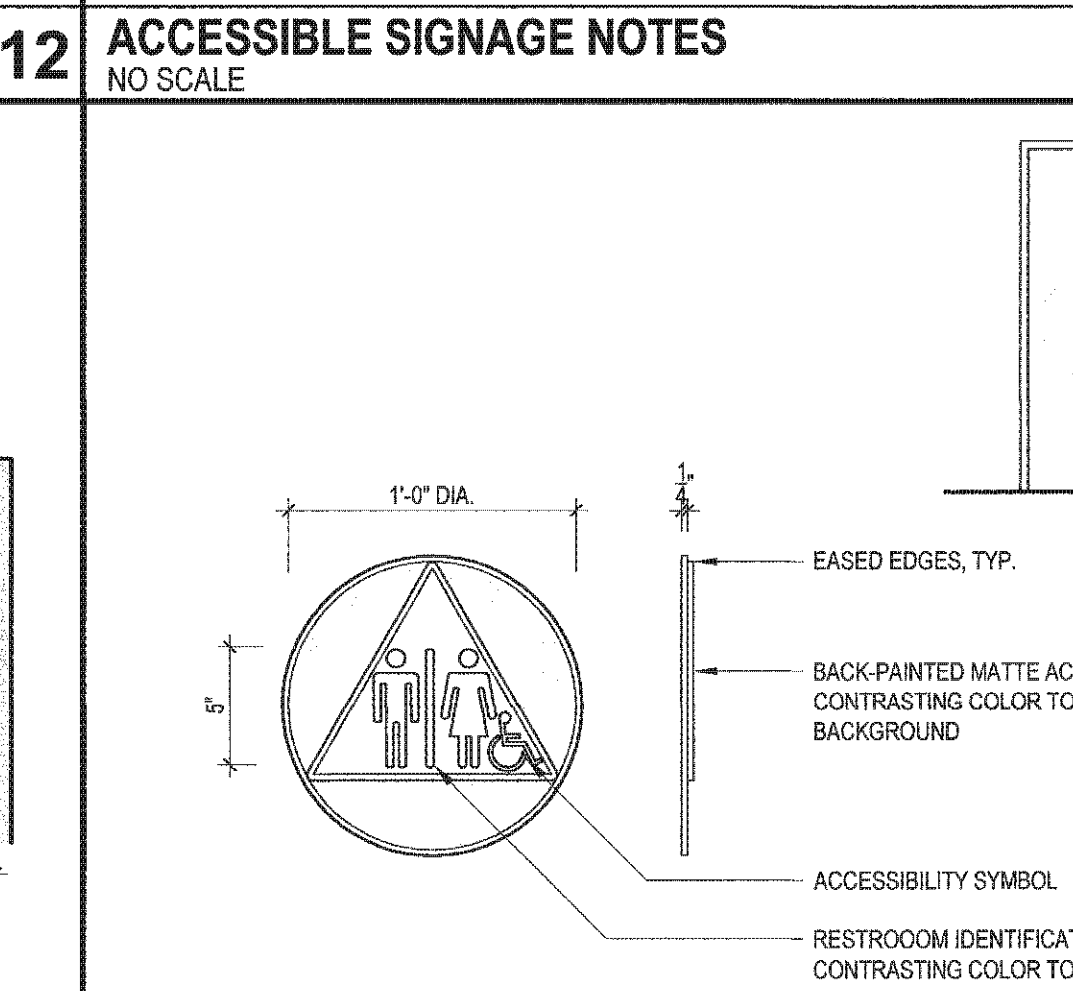
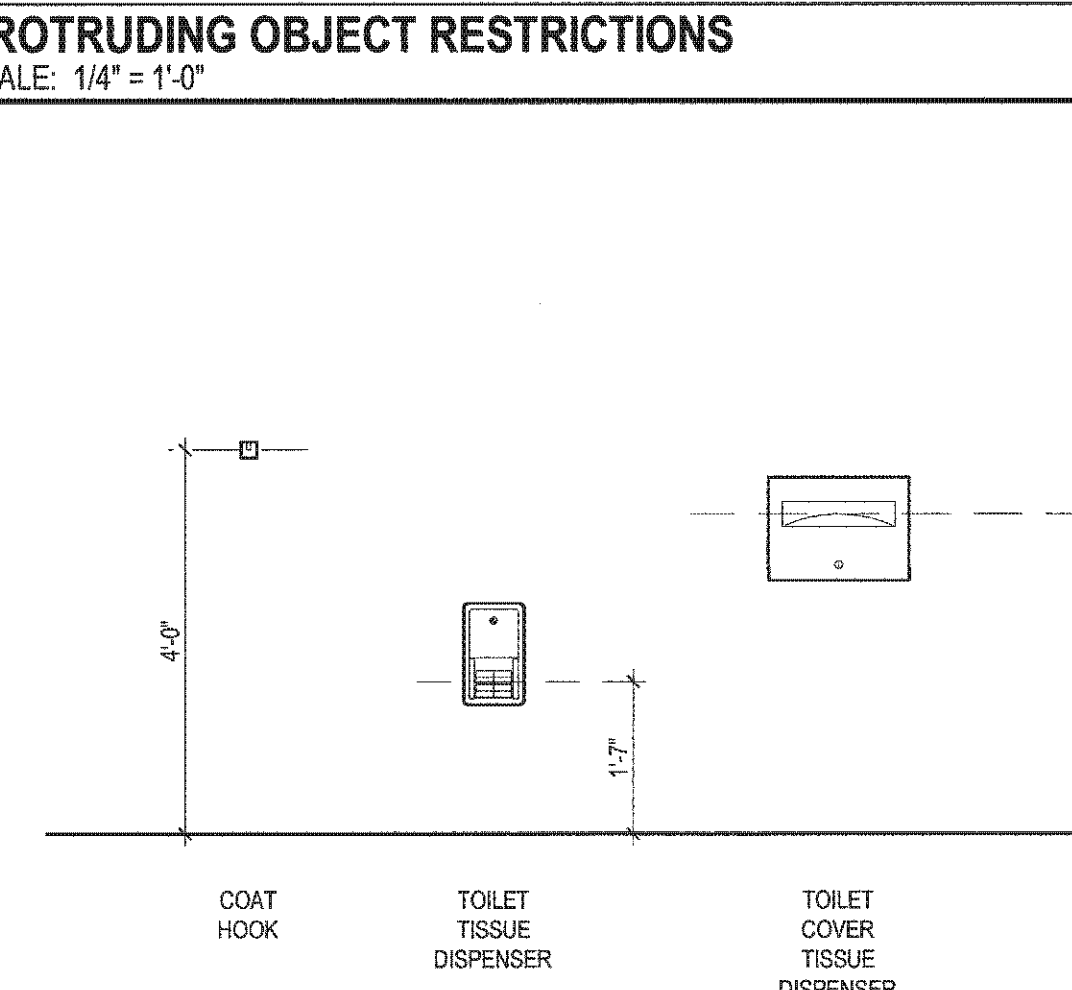
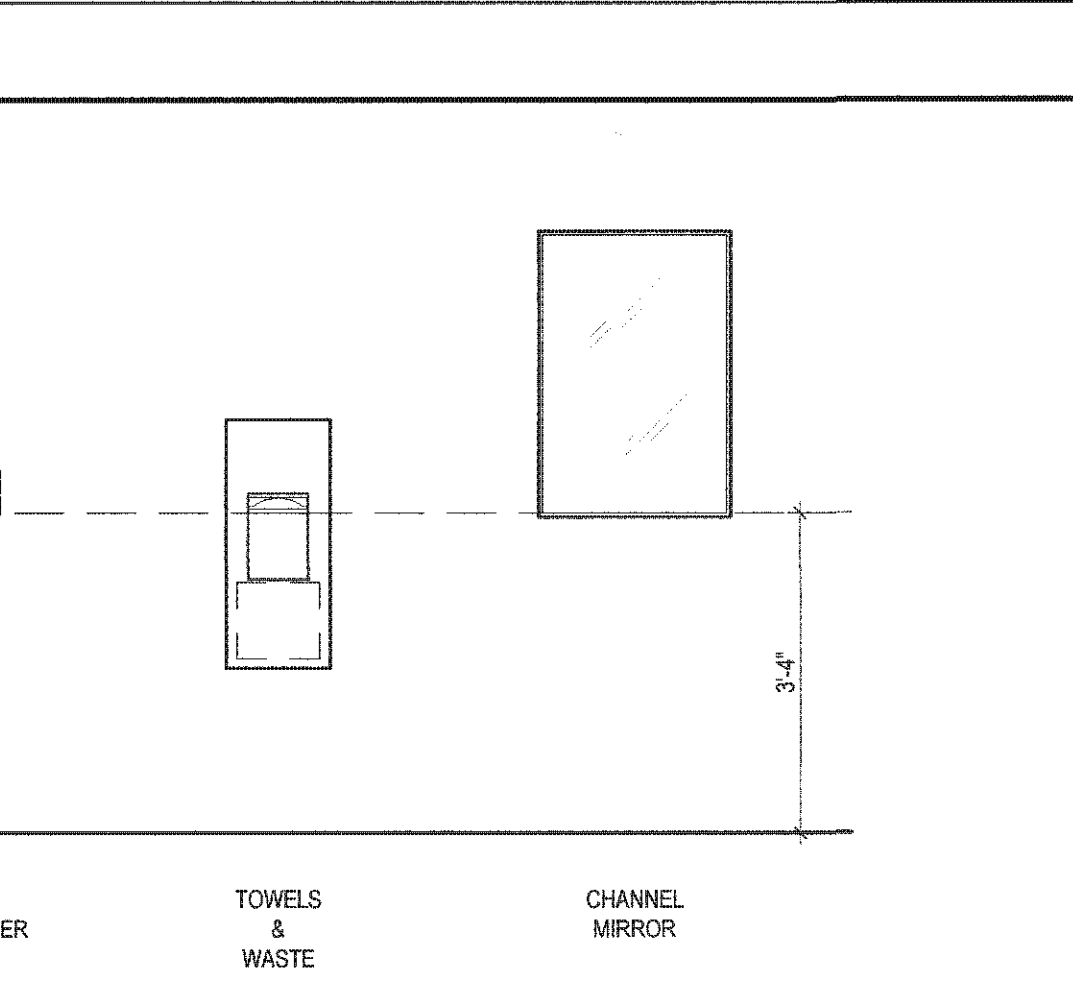
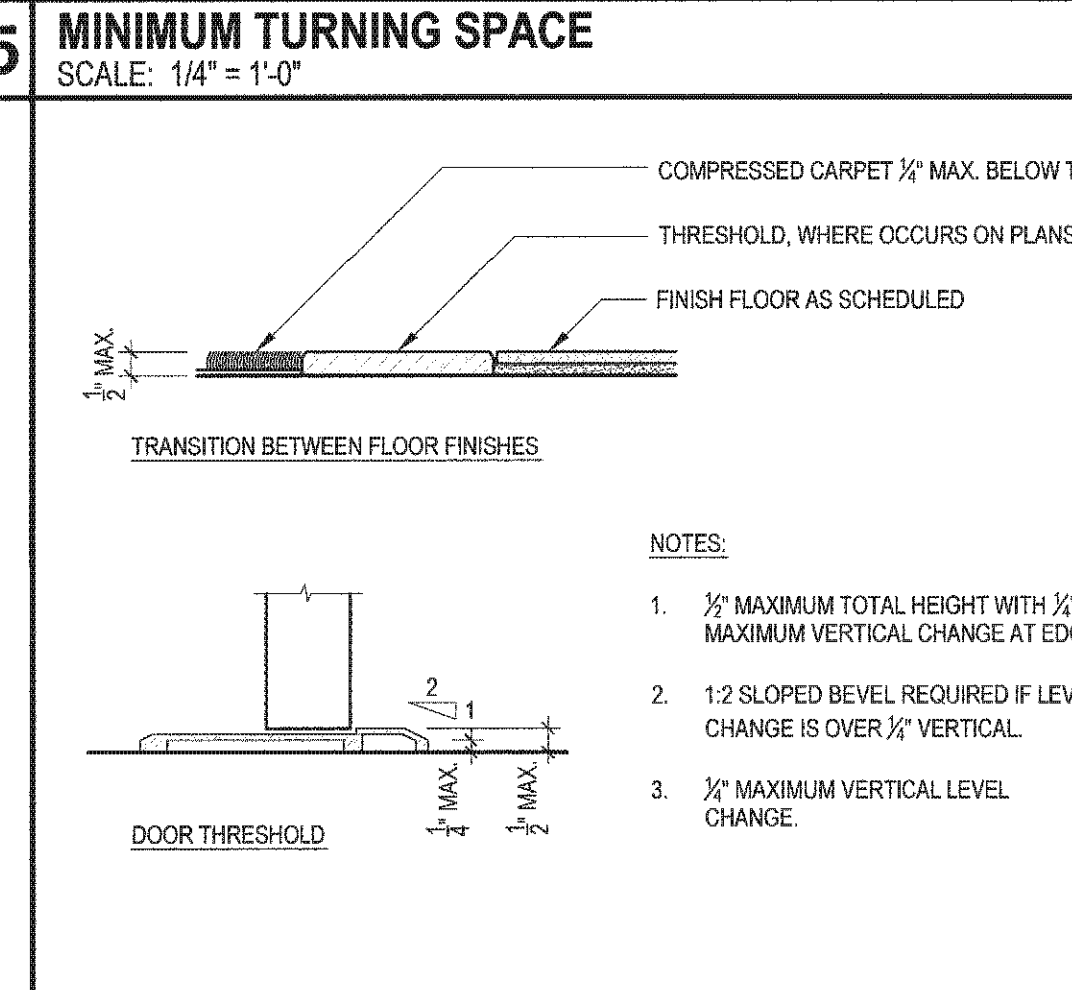
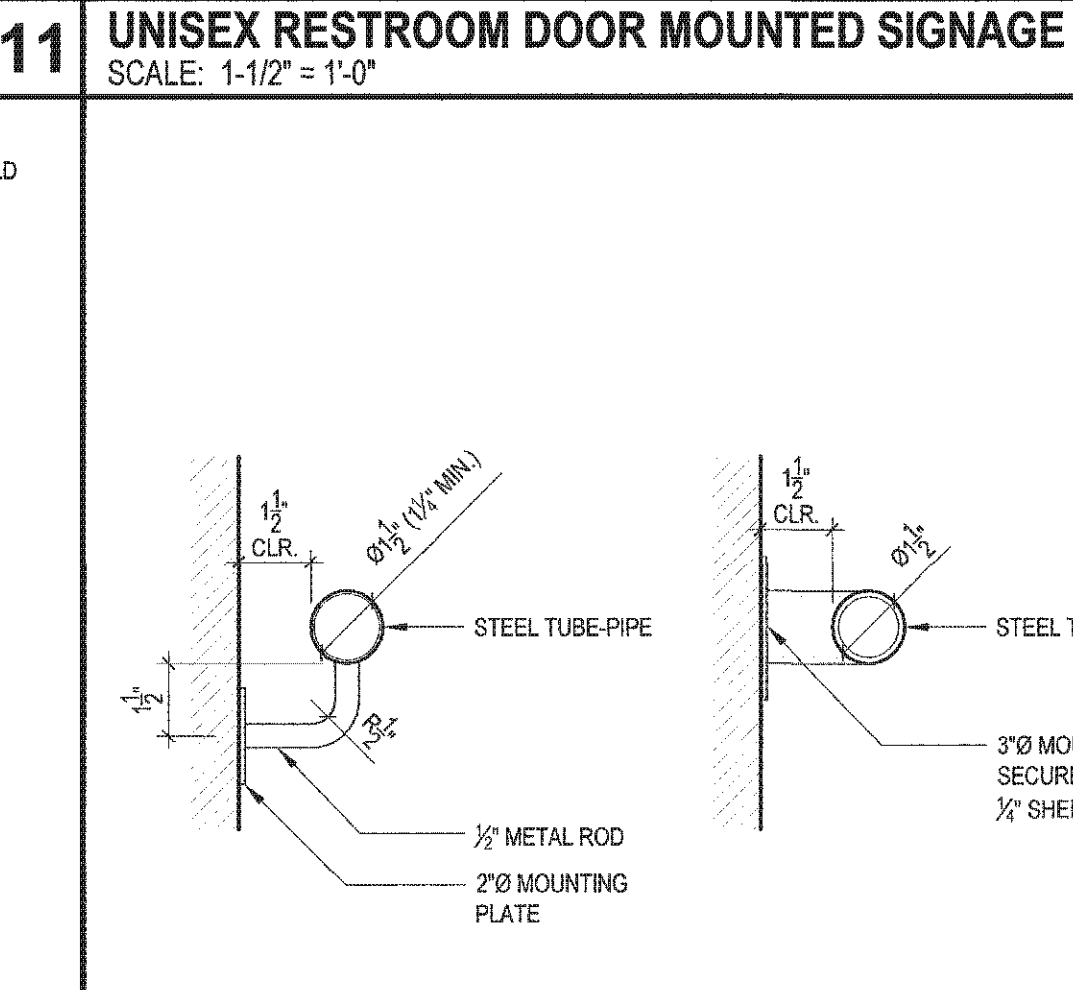
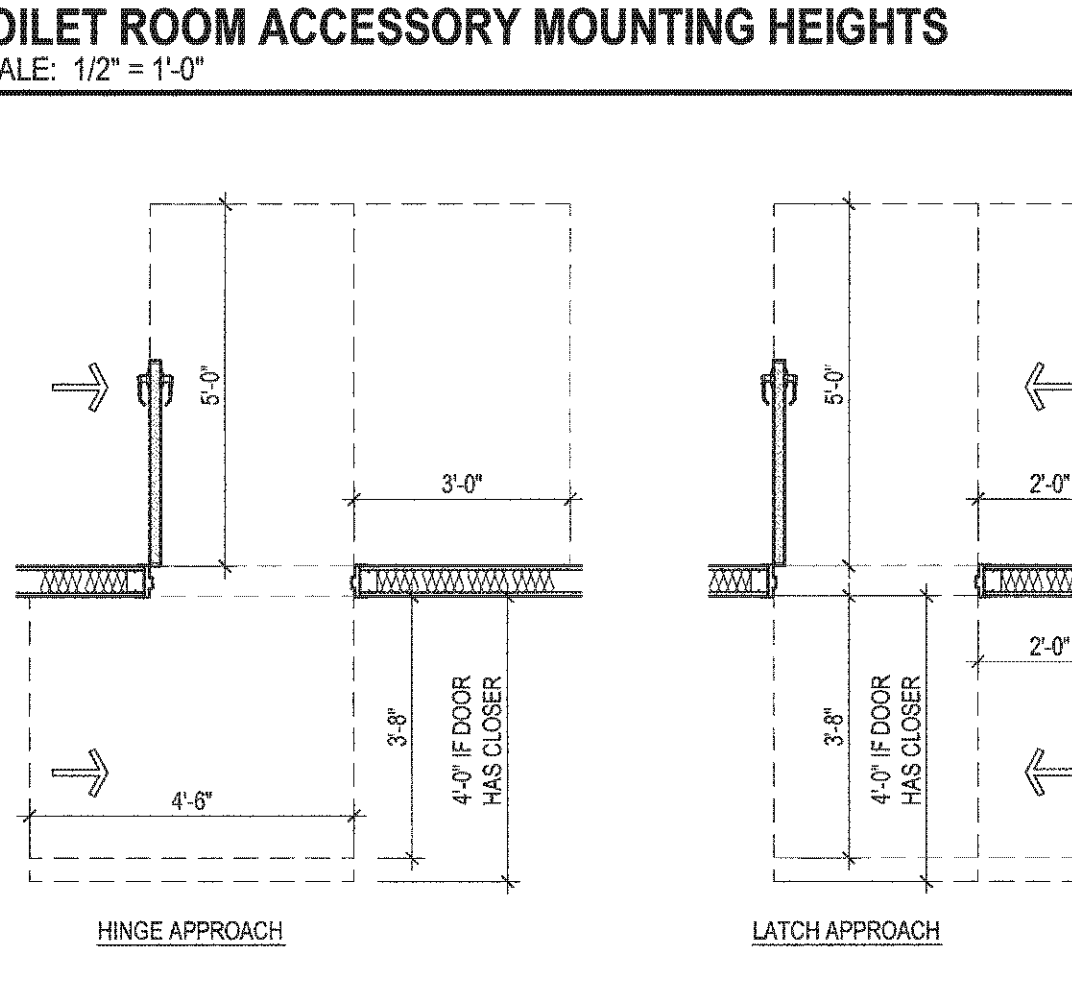
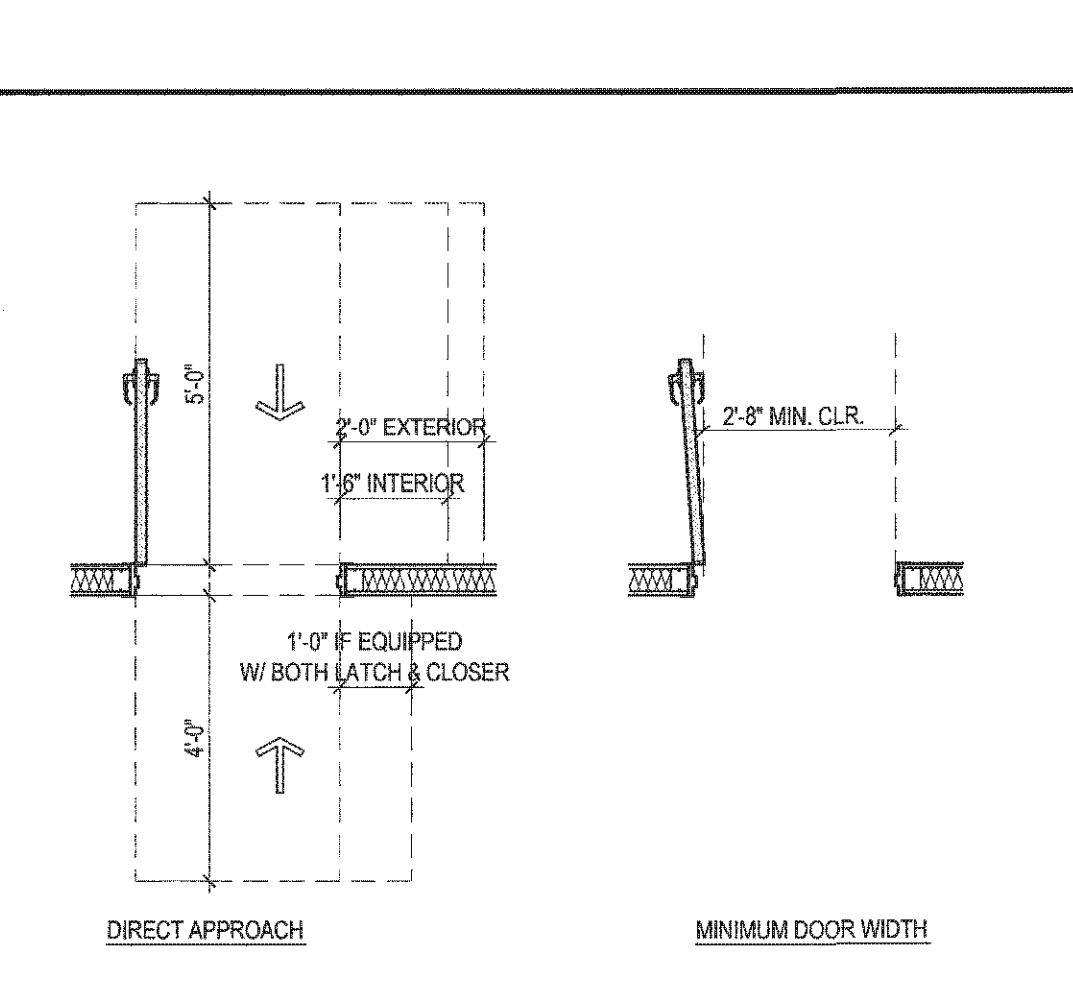
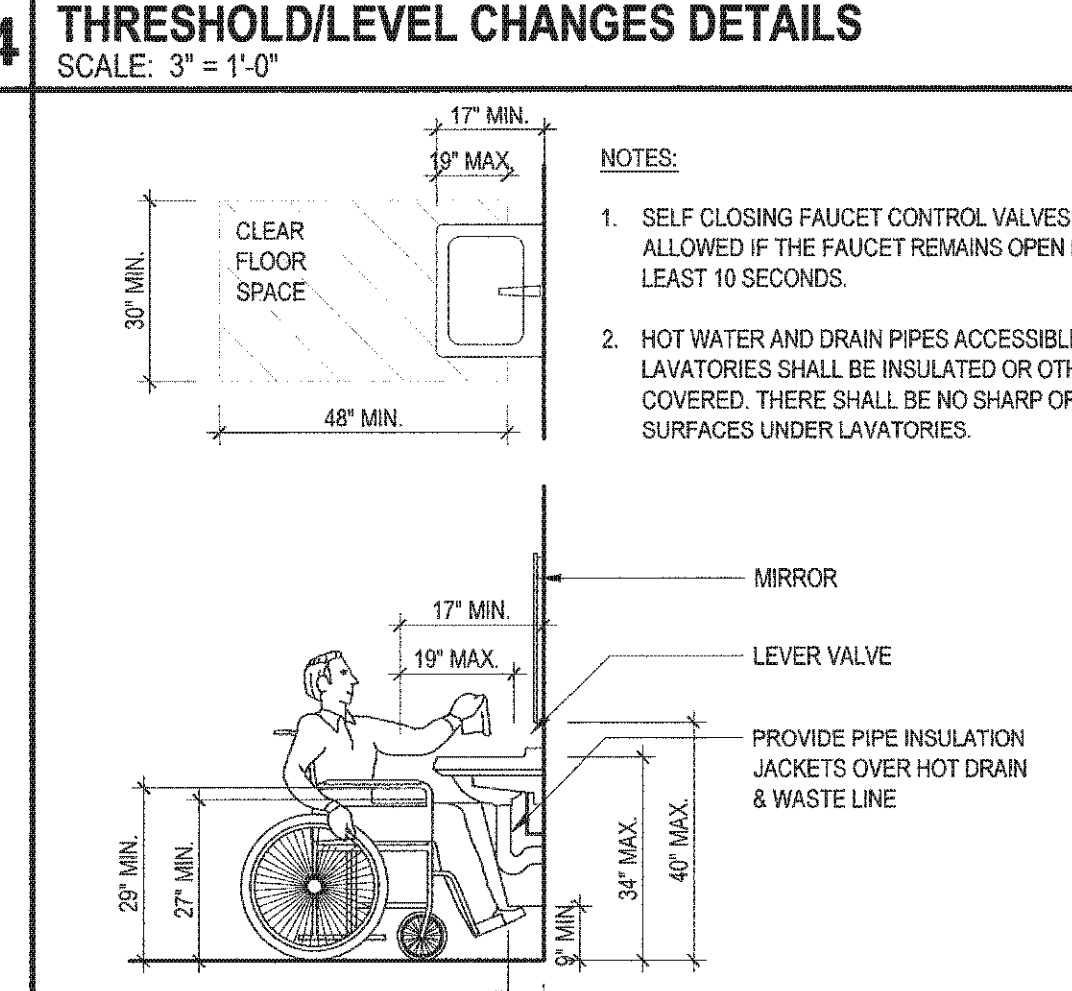
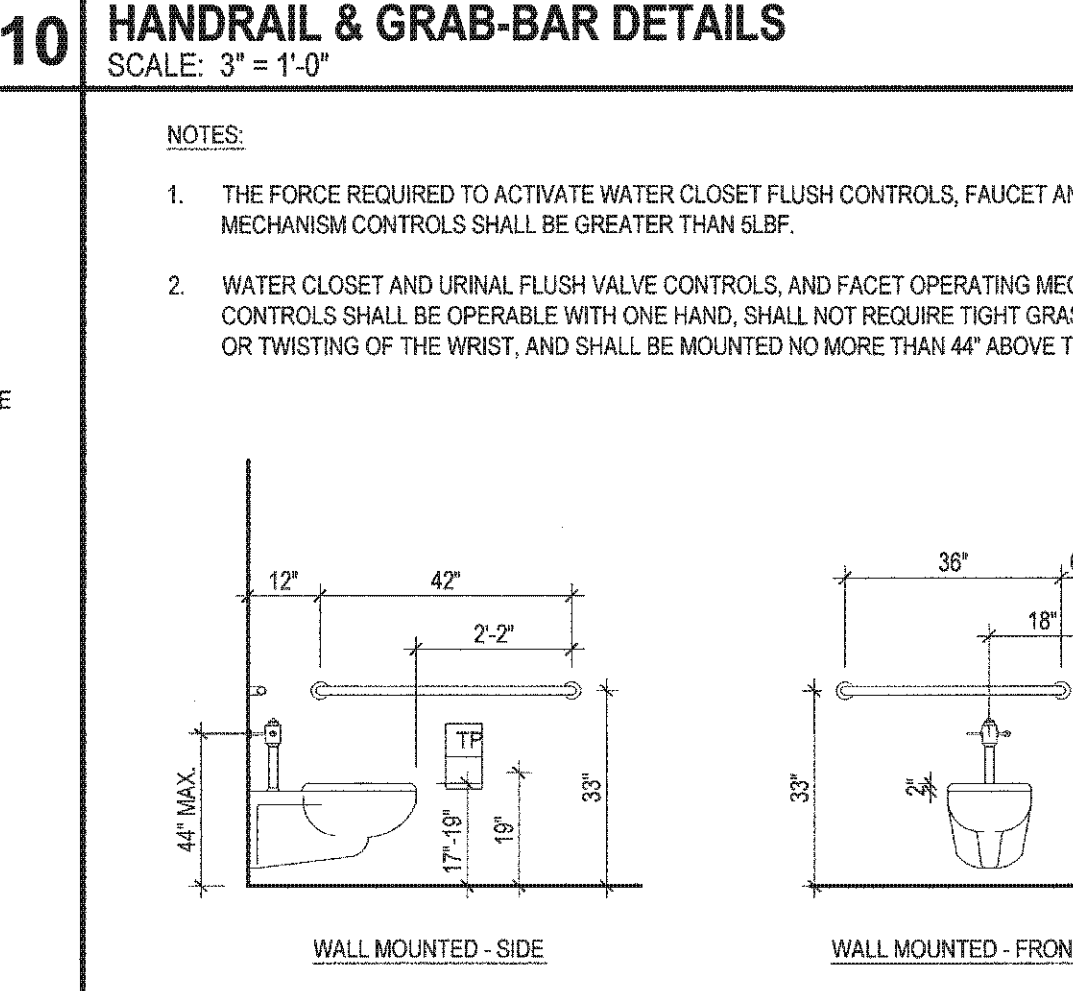
- NOTES:**

1. DO NOT FASTEN SCREWS DIRECTLY INTO FLANGE OF PENCIL STUDES.
2. DO NOT CUT FLANGE BAW SUPPORTS.
3. EXTEND MIN. ONE STUD BEYOND SUPPORT
4. SEE PLAN FOR CASEWORK LAYOUT FOR BACKING PLATE LOCATIONS & HEIGHTS.
5. CONFIRM MOUNTING HEIGHTS IN FIELD W/ CASEWORKER MANUFACTURER BEFORE MOUNTING BACKING PLATES.
6. 6"x18ga. UNPUNCHED TRACK PROPERTIES:
 $A = 0.476 \text{ IN}^2$
 $S = 0.748 \text{ IN}^3$
 $I = 2.282 \text{ IN}^4$
7. VERTICAL STUDS TO BE FULL-HEIGHT, ATTACHED TO SLAB BELOW & DECK ABOVE WITH 1/2" EXPANSION ANCHOR BOLTS, 1/2" MIN. EMBEDMENT (V.I.F.)



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	BACK-CHECK OTC REVIEW	11/1/2011

PROJECT MANAGER	DATE
ANDREAS FRICK	28 OCTOBER 2010
DRAWN BY	
ERIK HAGEN	
PROJECT NUMBER	
FE105 / WO#2887623	
CAD FILE	
REFER TO PLOTSTAMP	
SCALE	
AS NOTED	

 FORWARD & SIDE REACH DIMENSIONS SCALE: 1/4" = 1'-0"		 CLEAR DIMENSIONS IN ALCOVES SCALE: 1/4" = 1'-0"		 MINIMUM CORRIDOR & TURNING WIDTH SCALE: 1/4" = 1'-0"		LETTERS AND NUMBERS: - CONTRAST CHARACTERS AND SYMBOLS WITH BACKGROUND. - WIDTH TO HEIGHT RATIO BETWEEN 3 : 5 AND 1 : 1. - STROKE WIDTH TO HEIGHT BETWEEN 1 : 5 AND 1 : 10. SIGNS / PICTOGRAMS: - SIGNS / PICTOGRAMS SHALL BE INSTALLED ON THE WALL ADJACENT TO DOOR LEADING TO THE ROOM OR SPACE THEY DESCRIBE AT 60" A.F.F. TO CENTERLINE OF SIGN (ENSURING A PERSON MAY APPROACH WITHIN 2' OF SIGNAGE WITHOUT ENCOUNTERING PROTRUDING OBJECTS OR STANDING WITHIN THE DOOR SWING AREA). - WHEN PERMANENT IDENTIFICATION IS PROVIDED FOR ROOMS AND SPACES, RAISED LETTERS SHALL BE PROVIDED AND SHALL BE ACCOMPANIED BY BRAILLE. - CHARACTERS AND BACKGROUNDS SHALL BE OF NON-GLARE CONTRASTING COLORS. - PICTOGRAMS / PICTORIAL SYMBOL SIGNS SHALL BE ACCOMPANIED BY THE EQUIVALENT VERBAL DESCRIPTION PLACED DIRECTLY BELOW THE PICTOGRAM. - THE BORDER DIMENSION SHALL BE 6" MINIMUM HEIGHT. - VERTICAL CLEARANCE AT SUSPENDED SIGNS WITH MINIMUM HEADROOM OF 80" REQUIRED. - CHARACTERS AND NUMBERS SHALL BE SIZED ACCORDING TO VIEWING DISTANCE FROM WHICH READ. MINIMUM 3" CHARACTER HEIGHT MEASURED BY USING UPPERCASE "X". - LOWER CASE CHARACTERS PERMITTED. SIGN LOCATIONS: - ADDITIONAL DIRECTIONAL SIGNS ALONG ACCESSIBLE PATH OF TRAVEL ARE REQUIRED. - ALL ACCESSIBLE ENTRANCES IDENTIFIED WITH MINIMUM OF ONE STANDARD SIGN. INTERNATIONAL SYMBOL OF ACCESSIBILITY: - WHEN ENFORCING AGENCY DETERMINES, IF APPROPRIATE, SPECIAL DESIGNS AND COLORS MAY BE APPROVED. - WHITE FIGURE ON BLUE BACKGROUND, COLOR # 15690 ON FEDERAL STANDARD # 595B. - STANDARD USED TO IDENTIFY ACCESSIBLE FACILITIES. BRAILLE: - DOTS RAISED MINIMUM 0.025 INCH ABOVE BACKGROUND. 0.2 INCH SPACE BETWEEN CELLS. - USE CONTRASTED GRADE 2 BRAILLE. DOTS TO BE 0.1 INCH ON CENTER IN EACH CELL.	
 PROTRUDING OBJECT RESTRICTIONS SCALE: 1/4" = 1'-0"		 MINIMUM TURNING SPACE SCALE: 1/4" = 1'-0"		 UNISEX RESTROOM DOOR MOUNTED SIGNAGE SCALE: 1-1/2" = 1'-0"		 UNISEX RESTROOM WALL MOUNTED SIGNAGE SCALE: 1-1/2" = 1'-0"	
 TOILET ROOM ACCESSORY MOUNTING HEIGHTS SCALE: 1/2" = 1'-0"		 THRESHOLD/LEVEL CHANGES DETAILS SCALE: 3" = 1'-0"		 HANDRAIL & GRAB-BAR DETAILS SCALE: 3" = 1'-0"		 INTERNATIONAL ACCESSIBILITY SYMBOL NO SCALE	
 DOOR OPENING AND APPROACH CLEARANCES SCALE: 3/8" = 1'-0"		 LAVATORY CLEARANCES SCALE: 3/8" = 1'-0"		 WALL MOUNTED TOILET CLEARANCES SCALE: 3/8" = 1'-0"		 RESTROOM FIXTURE CLEARANCES SCALE: 3/8" = 1'-0"	

U:\Common\Projects\Boelter HSSEAS - UNDER GRADUATE LAB 6541 RENOVATION\6541 Lab A-71 Schedule.dwg, 10/26/2011 3:43:33 PM, d:\apen, L1

Room #	Common/Trade Name	Chemical Name, Components & Concentration	Chemical Abstract Service #	NFPA Category/Hazard Class				Physical State	Quantity In Use/Open System	Quantity In Use/Closed System	Quantity Storage	Container Size & Count
				Health	Fire	Reactivity	Other					
6541	2-Butanone		78-93-9	1	3	0		l			800ml	1@1L
6541	2-mercapoethanol		1313-13-9					l			125ml	1@250ml
6541	Acetic acid		64-19-7					l			50ml	1@2.5L
6541	Acetone		67-64-1	1	3	0		l			1L	1@4L
6541	Acid fuchsin		3244-88-0	1	0	0		s			25g	1@25g
6541	Agar										825g	3@50g 1@lb
6541	agarose							s			350g	1@100g 2@500
6541	Aluminum pellets		7429-90-5					s			25g	1@50g
6541	Ammonium chloride		12125-02-9	1	0	0		l			500g	2@500g 1@1kg
6541	Ammonium hydroxide		1336-21-6					l			150ml	1@500ml
6541	Amgicillin sodium salt		69-52-3	2	0	0		l			5ml	1@25ml
6541	Aniline		62-53-3	3	2	0		l			900ml	2@500ml
6541	Bleach		7681-52-9					l			0.5	1@1gal
6541	Boric acid		10043-35-3					s			700g	1@1kg
6541	Buffer pH 4.0										2L	1@4L
6541	Buffer pH 7.0	sodium hypochlorite soln	(None)					l			2L	1@4L
6541	butyl alcohol		78-93-9	2	3	0		l			400ml	1@500ml
6541	Casamino		65072-00-6	0	1	0		s			60g	1@100g
6541	Charcoal, activated		7440-44-0					s			3#	1@5#
6541	Christys Red Hot Blue Glue		108-94-1	3	3	1		l			2pt	4@1pt
6541	Cobalt sulfate heptahydrate		(None)					s			1/3#	1@1#
6541	Copper (II) Sulfate pentahydrate		7758-99-8	2	0	0		s			350g	1@500g
6541	Copper sulfate sol'n 0.01M										1L	1@1L
6541	Cupric chloride		7447-39-4					s			30g	1#100g
6541	DC protein assay reagent A		(None)	1	0	0		l			150ml	1@250ml
6541	dC protein assay reagent B		(None)	0	0	0		l			803ml	1@5ml 1@1L
6541	DEAE		9013-34-7					l			20ml	1@100ml
6541	Dextrose		50-99-7	0	1	0		s			500g	2@500g
6541	EDTA		60-00-4	2	1	0		s			75g	2@100g
6541	Ethidium bromide		1239-45-8	4	1	0		s			1g	
6541	Ethyl acetate	141-78-6						l			250ml	1@500ml
6541	Ethyl alcohol (100%)		64-17-5	2	3	0		l			7.5gal	8@1gal
6541	Ethyl alcohol (70%)	Ethanol									3qt	2@1gal
6541	Ferric Chloride		7705-09-0	3	0	2		s			100g	1@500g
6541	Fuller's Earth	Ethylenediaminetetraacetic acid	8031-18-3	1	0	0		s			200g	1@1kg
6541	Glycerine		56-81-5	1	1	0		l			3.8L	1@1pt 1@4L
6541	Glycerol		56-81-5	1	1	0		l			650ml	1@1L
6541	HEPES		7385-45-9	1	1	0		s			25g	1@100g
6541	Hydrochloric acid		7647-01-0					l			260ml	1@2.5L 2@500ml
6541	Hydrogen peroxide		7722-84-1					l			2.5L	5@500ml
6541	Isobutyl alcohol		78-83-1	2	3	0		l			1.5L	1@4L
6541	Kaolin										1kg	1@500g 1@1kg
6541	Kerosene							l			50ml	1@500ml
6541	Luria broth base		8008-20-6					s			13kg	4@5kg
6541	Magnesium Chloride hexahydrate		7791-18-6					s			250mg	2@500mg
6541	Magnesium sulfate heptahydrate		10034-99-8	1	0	0		s			1.1kg	1@500g 1@1kg
6541	Mercury		7439-97-6					l	In high sensitivity thermometer/barometer		125ml	various
6541	Methanol		67-56-1					l			3L	1@4L
6541	Methylene blue	Methyl alcohol	61-73-4	2	1	0		s			25g	1@25g
6541	Nickel hydroxide		12054-46-7								150g	1@250g
6541	Nickel II chloride		231-743-0								40g	1@50g
6541	Nitric Acid		7727-37-9	4	0	0		l			200ml	1@500ml
6541	Nitrogen		7697-37-2					g	Compressed		1 cylinder	
6541	Nonidat P-40		9016-45-9	2	1	0		l			1L	1@1L
6541	Peptone		73049-73-7	1	0	0		s			700g	4@500g
6541	Phenolphthalein		77-09-8					s			650g	9@100g
6541	Potassium chloride		7447-40-7	2	0	0		s			250g	1@500g
6541	Potassium hydroxide		1310-58-3					s			1.2kg	1@1kg 1@500g
6541	Potassium iodide		7681-11-0					s			100g	2@500g
6541	Potassium phosphate dibasic		7758-11-0	1	0	0		s			60g	1@100g
6541	Potassium phosphate monobasic		7778-77-0	1	0	0		s			100g	2@100g
6541	Red Gauge Oil							l			10ml	2@5ml
6541	Saa Salt										100g	1@500g
6541	Silicon carbide	Carbonundum	409-21-2					s	Boiling chips		8oz	1@8oz
6541	Sodium Bicarbonate										700g	1@1kg
6541	Sodium chloride		7647-14-5					s			9.8kg	8@500g 6@1kg
6541	Sodium dihydrogen phosphate	Sodium hyposulfate	409-21-2					s			200g	2@250g
6541	Sodium hydroxide		10049-21-5	3	0	1		s			9kg	12@1kg
6541	Sodium phosphate dibasic		7780-85-0								2.3kg	1@500g 1@2.5kg
6541	Sodium thiosulfate pentahydrate		1310-73-2	1	0	0		s			250g	1@500g
6541	Starch										30g	1@250g
6541	Sulfuric acid		766-93-9					l			425ml	1@1L 1@500ml
6541	Tris(hydroxymethyl) aminmethane		1185-53-1					s			400g	2@500g
6541	Tryptone		76-03-9	1	1	0		l			250g	3@500g
6541	Tween 20		9005-64-54								25ml	1@50ml
6541	Vacuum pump oil										3.2L	4@1L
6541	Viscosity Standards							l			5pt	5@1pt
6541	Yeast Extract		2232731					s			1500gm	6@500g 8@1kg
6541	Zinc		231-175-3					s			350g	1@500g
6541	Zinc Oxide		1314-13-2					s			30g	1@50g
6541	Zinc sulfate										200g	1@500g
6541	Zinc Sulfate Heptahydrate		7446-20-0					s			300g	1@500g

CHEMICAL LIST DEFINITIONS:

CALIFORNIA FIRE CODE 2007, ARTICLE 80 - HAZARDOUS MATERIALS.
CALIFORNIA FIRE CODE 2007, SECTION 222 DEFINES SYSTEMS:

- CLOSED SYSTEM:
"IS USE OF A SOLID OR LIQUID HAZARDOUS MATERIAL IN A CLOSED VESSEL OR SYSTEM THAT REMAINS CLOSED DURING NORMAL OPERATIONS WHERE VAPORS EMITTED BY THE PRODUCT ARE NOT LIBERATED OUTSIDE OF THE VESSEL OR SYSTEM AND THE PRODUCT IS NOT EXPOSED TO THE ATMOSPHERE DURING NORMAL OPERATIONS, AND ALL USES OF COMPRESSED GASES. EXAMPLES OF CLOSED SYSTEMS FOR SOLIDS AND LIQUIDS INCLUDE REACTION PROCESS OPERATIONS AND PRODUCT CONVEYED THROUGH A PIPING SYSTEM INTO A CLOSED VESSEL, SYSTEM OR PIECE OF EQUIPMENT."
- OPEN SYSTEM:
"IS USE OF A SOLID OR LIQUID HAZARDOUS MATERIAL IN A VESSEL OR SYSTEM THAT IS CONTINUOUSLY OPEN TO THE ATMOSPHERE DURING NORMAL OPERATIONS AND WHERE VAPORS ARE LIBERATED, OR THE PRODUCT IS EXPOSED TO THE ATMOSPHERE DURING NORMAL OPERATIONS. EXAMPLES OF OPEN SYSTEMS FOR SOLIDS AND LIQUIDS INCLUDE DISPENSING FROM OR INTO OPEN BEAKERS OR CONTAINERS, AND DIP TANK AND PLATING OPERATIONS."

CHEMICAL CONTROL AREAS:

THE ENTIRE 6TH LEVEL WILL BE A CONTROL AREA PER 5th/6th/7th FLOOR LABS (#942810.01). THE MANAGEMENT OF CHEMICALS FOR THIS FLOOR WILL BE BY HSSEAS. THEREFORE 2-HOUR SEPARATION OF ROOM 6541 TO THE REST OF THE FLOOR IS NOT REQUIRED.
REFER TO AON HAZARDOUS MATERIALS INVENTORY STATEMENT REPORT DATED OCTOBER 12, 2011

HAZARDOUS CHEMICAL INVENTORY

NO SCALE

9

ROOM FINISHES

NO SCALE

4

1

								Dimensions (Inches)				Utilities				Power				
Equip. ID	QTY	Rooms No.	Description	Manufacturer	Seismic Anchor	Model No.	WT (lbs)	W	H	D	Water	DI/RO	Drain	Gas	Volts	Amps	Clean	Regular	Plug type	
1	1	6541	Refrigerator	Fisher isotemp	✓		300	30	78	32					110			✓	3-prong	
2	1	6541	RO Experiment	Sea Recovery		Aqua Whisper	100	42	34	34			✓		110			✓	3-prong	
3	2	6541	Peristaltic Pump	Masterflex			5	9	9	13					110			✓	3-prong	
4	1	6541	Ocilloscope	HP		54603B	2	13	7	11					110			✓	3-prong	
5	14	6541	Hot Plate	Fisher Isolemp			2	8	4	12					110			✓	3-prong	
6	6	6541	Hot Water Bath	Fisher Isolemp		3006P	20	19	16	16					110			✓	3-prong	
7	1	6541	Reactor	Merrifield Manufacturing		Mark II	45	23	40	27					110			✓	3-prong	
8	1	6541	PC	Gateway			15	25	18	24					110			✓	3-prong	
9	4	6541	Balance	Ohaus			3	10	12	10					110			✓	3-prong	
10	1	6541	Refractometer	Thermospectric			30	24	18	20					110			✓	3-prong	
11	1	6541	Spectrophotometer	Spectronic		20D+	20	16	9	12					110			✓	3-prong	
12	1	6541	Centrifuge	Eppendorf		5415D	50	10	12	10					110			✓	3-prong	
13	1	6541	Spectrophotometer	Beckman		DU520	15	16	12	16					110			✓	3-prong	
14	1	6541	Centrifuge	Beckman		Allegra X15R	200+	30	18	26					208	9			oddball	
15	1	6541	Incubator/shaker	New Brunswick		C24	100	28	22	26					110			✓	3-prong	
16	1	6541	Refrigerator		✓			21	33	24					110			✓	3-prong	
17	1	6541	Fermenter	New Brunswick		Bioflo 115	150	15	27	15					110			✓	3-prong	
18	1	6541	Gel UV Viewer	Fisher			25	20	5	13					110			✓	3-prong	
19	1	6541	Thermocycler	Eppendorf		Master Cycle	10	12	10	16					110			✓	3-prong	
20	1	6541	Temp. Control Experiment	Merrifield Manufacturing		Mark II	150	50	22	31	✓		✓		110			✓	3-prong	
21	4	6541	PC	Dell			20	7	18	18					110			✓	3-prong	
22	1	6541	Chem E Car Fridge		✓		35	18	18	18					110			✓	3-prong	
23	1	6541	Convection Oven	Thermo Scientific	✓		20	18	24	15					110			✓	3-prong	
24	1	6541	Distillation Column	J.E. Drake & Co.	✓	Mark 1	400+	50	125	38	✓		✓		110	75		✓	3-prong	
25	1	6541	Column Controls	J.E. Drake & Co.		Mark 2	100	60	40	31						20		✓	3-prong	
26	1	6541	Ice Maker	Manitowoc	✓	QD0212A		24.5	33	24	✓		✓		110	9		✓	3-prong	
27	1	6541	Chromatography System	BioRad		QD0212A	25	18	18	18					110			✓	3-prong	
28	1	6541	Spectrophotometer	Unico		SQ-2800	25	24	12	18					110			✓	3-prong	
29	1	6541	Freezer	Summit		FS-60	25	24	36	24					110			✓	3-prong	
30	1	6541	Microwave	Whirlpool			10	16	12	14					110			✓	3-prong	
31	1	6541	Autoclave	Hirayama		HVA-95	200	26	38	26					220	3 kW*			oddball	
32	1	6541	Autoclave	Yamato		SM510	200	18	44	21					220	3 kW*			oddball	
33	1	6541	Fume Hood	Kewaunee Scientific	✓	Supreme Air LV	96	90	40	36	✓	✓	✓	✓						

GENERAL NOTES		ABBREVIATIONS		SYMBOL LIST		MECHANICAL DRAWING LIST			
1. ENTIRE INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE FOLLOWING CODES: 2010 EDITION OF CALIFORNIA MECHANICAL CODE, CALIFORNIA BUILDING CODE, AND ALL OTHER APPLICABLE CODES AND REGULATIONS, INCLUDING 2008 EDITION CALIFORNIA ENERGY COMMISSION BUILDING ENERGY EFFICIENCY STANDARDS AND TITLE 24 REGULATIONS. 2. EXACT LOCATIONS OF ALL CEILING DIFFUSERS, REGISTERS AND GRILLES ARE DETAILED ON THE ARCHITECTURAL REFLECTED CEILING PLANS AND INTERIOR ELEVATIONS. 3. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS. 4. MANUAL VOLUME DAMPERS SHALL BE PROVIDED IN ALL DUCT BRANCHES TO INDIVIDUAL DIFFUSERS, GRILLES AND REGISTERS, WHETHER THEY ARE SHOWN ON THE DRAWINGS OR NOT. PROVIDE REMOTE DAMPER OPERATORS SUCH AS YOUNG'S REGULATOR OR EQUAL WHEN DAMPERS ARE LOCATED ABOVE INACCESSIBLE CEILINGS. 5. ALL DUCTWORK SHALL BE CONSTRUCTED, ERECTED AND TESTED IN ACCORDANCE WITH THE LOCAL REGULATIONS AND PROCEDURES DETAILED IN THE APPLICABLE STANDARDS ADOPTED BY THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION (SMACNA). ALL FUME HOOD EXHAUST DUCTS SHALL BE #316L STAINLESS STEEL AND WELDED CONSTRUCTION. 6. PENETRATIONS OF PIPES, CONDUITS, ETC. IN WALLS REQUIRING PROTECTED OPENINGS SHALL BE FIRE STOPPED. FIRE STOP MATERIAL SHALL BE A UL-LISTED ASSEMBLY APPROVED BY THE FIRE MARSHAL. 7. DUCT/PIPE INSULATION AND DUCT LINING MATERIAL SHALL HAVE A FLAME SPREAD OF NOT MORE THAN 25 AND SMOKE DEVELOPED RATING OF NOT MORE THAN 50 WHEN TESTED AS A COMPOSITE INSTALLATION INCLUDING INSULATION, FACING MATERIALS, TAPES AND ADHESIVES AS NORMALLY APPLIED. DUCT AND PIPE LABELS LOCATED IN THE CEILING SPACE USED AS A RETURN AIR PLENUM SHALL COMPLY WITH THE SAME REQUIREMENTS. 8. PROVIDE AND MAINTAIN ACCESS AND WORKING SPACE NEAR MECHANICAL, ELECTRICAL, AND CONTROL EQUIPMENT TO PERMIT READY AND SAFE OPERATION, EXAMINATION AND MAINTENANCE. 9. DESIGN DRAWINGS ARE DIAGNOSTIC AND DO NOT SHOW ALL OFFSETS, BENDS ELBOWS OR OTHER ELEMENTS WHICH MAY BE REQUIRED. CONTRACTOR SHALL PROVIDE ALL ACCESSORIES AS NECESSARY FOR A COMPLETE INSTALLATION, WITH NO ADDITIONAL COST TO THE OWNER. 10. CONTRACTOR SHALL REFER TO ALL OTHER DOCUMENTS FOR COORDINATION, REFERENCE DATA AND VERIFICATION PURPOSES. COORDINATE WORK WITH OTHER TRADES AND ALL JOB CONDITIONS. 11. PRIOR TO START UP EACH PIECE OF EQUIPMENT COMPRISING PART OF MECHANICAL SYSTEM SHALL BE CHECKED FOR PROPER LUBRICATION, DRIVE ROTATION, BELT TENSION, PROPER CONTROL SEQUENCE AND ANY OTHER CONDITION WHICH MAY CAUSE IMPROPER EQUIPMENT OPERATION, DAMAGE TO EQUIPMENT OR ENDANGER PERSONNEL. 12. ALL SPACE CONDITIONING AND VENTILATION SYSTEMS SHALL BE BALANCED TO THE QUANTITIES SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS. 13. ALL SUPPLY AND EXHAUST AIR EQUIPMENT SHALL INCORPORATE DAMPERS THAT AUTOMATICALLY CLOSE DURING PERIODS OF NON-USE. THE DAMPERS SHALL BE EITHER MOTORIZED OR OF THE GRAVITY TYPE AS INDICATED ON DRAWINGS OR SPECIFIED. 14. DUCT SIZES INDICATED ON DRAWINGS REPRESENT NET INSIDE DIMENSIONS. 15. PROVIDE SMOKE DETECTORS AS REQUIRED FOR AIR HANDLING UNITS SUPPLYING OVER 2,000 CFM. HARD WIRE THESE SMOKE DETECTORS TO THE FIRE ALARM SYSTEM FOR AUTOMATIC SHUTDOWN OF AHU (CMC 605).		AV AUTOMATIC AIR VENT AD ACCESS DOOR AF AFTER FILTER AFM ABOVE FINISHED FLOOR AFR ABOVE FINISHED ROOF AFV AUTOMATIC FLOW CONTROL VALVE AHU AIR HANDLING UNIT AL ALUMINUM AMS AMBIENT AP ACCESS PANEL B BOILER BOP BACKDRAFT DAMPER BHP BRINE HORSE POWER BOD BOTTOM OF DUCT BOP BOTTOM OF PIPE BRT BLACK ROOF BT BUTTERFLY VALVE BTY BROWN THERMAL UNIT PER HOUR BV BALL VALVE BWC BALL VALVE WITH HOSE CONNECTOR CA COMMISSIONING AGENCY CAI CONSTRUCTION ADMINISTRATION CAV CONSTANT AIR VOLUME CB CHILLED BEAM CC COOLING COIL CD CEILING DIFFUSER CF CHEMICAL FEED CFH CUBIC FEET PER HOUR CFM CUBIC FEET PER MINUTE CH CHILLER CHV CHECK VALVE CHW CHILLED WATER CHWU CHILLED WATER RETURN COP COEFFICIENT OF PERFORMANCE CPF CHEMICAL POT FEEDER CPAC COMPUTER ROOM AIR CONDITIONER CSC CIRCUIT SETTER WITH TEST PORTS CT COOLING TOWER CV CONSTANT VOLUME CET 24-HOUR ELECTRONIC CONTROL VALVE CW CONDENSER WATER CWP CONDENSER WATER PUMP D CONDENSATE DRAIN DB DECEASED DBB DRY-BULB DD DISPLACEMENT DIFFUSER DDC DIRECT DIGITAL CONTROL DEF DEFLECTION DI DEIONIZED WATER DN DRAIN DN DISCHARGE PLENUM DP DIFFERENTIAL PRESSURE STATION DS DUCT SENSOR DWB DRAINAGE EA EXHAUST AIR EER ENERGY EFFICIENT RATIO EFP EXHAUST FAN EFF EFFICIENCY EG EXHAUST GRILLE/REGISTER EMCS ENERGY MANAGEMENT AND CONTROL SYSTEM ENT ENTRENCHING ERH ELECTRIC RADIANT HEAT ESP EXTERNAL STATIC PRESSURE EQ EQUAL F DEGREE FAHRENHEIT FC FLEXIBLE CONNECTION FD FLOOR DIFFUSER/FIRE DAMPER FEV FUME HOOD EXHAUST VALVE F.G. FIBERGLASS FLA FULL LOAD AMP FM FLOW METER FMS FLOW MEASURING STATION FPI FPM PER INCH FPM FEET PER MINUTE FRC FROSTION FS FLOOR SINK/ FLOW SWITCH FSF FULL STREAM FILTER FT W.C. FEET WATER COLUMN G GAS LINE GAL GALLON GEV GENERAL EXHAUST VALVE GLV GLOBE VALVE GPM GALLONS PER HOUR GPM GALLONS PER MINUTE GV GRAVITY VENTILATORY GATE VALVE HC HEATING COIL HWH HEATING HOT WATER HWHC HEATING HOT WATER RETURN HWHP HEATING HOT WATER PUMP HWHW HIGH TEMPERATURE CHILLED WATER HWHW HIGH TEMPERATURE CHILLED WATER RETURN HWHW HIGH TEMPERATURE HOT WATER HWHWP HIGH TEMPERATURE HOT WATER RETURN HP HORSEPOWER HX HEAT EXCHANGER HZ HERTZ IN INCHES IN W.C. INCHES WATER COLUMN ICW INDUSTRIAL COLD WATER IPV INTEGRATED PART-LOAD VALVE ISOL ISOLATOR KW KILOWATTS KVA KILOVOLT AMPS LBS POUNDS LBS ACUSTIC LINING LD LINEAR DIFFUSER LFD LAMINAR FLOW DIFFUSER LR LINEAR RETURN LTHW LOW TEMPERATURE CHILLED WATER LTHWR LOW TEMPERATURE CHILLED WATER RETURN LTHW LOW TEMPERATURE HOT WATER LTHWR LOW TEMPERATURE HOT WATER RETURN LW LEAVING MAU MAKE-UP AIR UNIT MAV MANUAL AIR VENT MAVW MAXIMUM MD MOTORIZED DAMPER MCA MINIMUM CIRCUIT AMP MCC MOTOR CONTROL CENTER MNL MINIMUM MOP MAX. OVER CURRENT PROTECTION MTL METAL MND MANUAL VOLUME DAMPER NC NOISE CRITERIA NPLV NON-STANDARD PART LOAD VALVE NV NEEDLE VALVE O.A. OUTSIDE AIR O.C. ON CENTER OPENING P PUMP PA PIPE ANCHOR PAC PACKAGED AIR CONDITIONING UNIT PWS PROCESS CHILLED WATER SUPPLY P.D. PRESSURE DROP PF PRE-FILTER PG PRESSURE GAUGE WITH NEEDLE VALVE/ PIPE GAGE PHWS PROCESS HOT WATER SUPPLY PLM PLUMBING POC POINT OF CONNECTION POD POINT OF DISCONNECTION PRESS PRESSURE PRESS PRESSURE REDUCING VALVE/ PRESS PRESSURE REGULATING VALVE PS PRESSURE SWITCH PSD POUNDS PER SQUARE INCH GAUGE PTTP PRESSURE AND TEMPERATURE TEST PLUG PWL SOUND POWER LEVEL QTY. QUANTITY RA RETURN AIR REF REFERENCE RF RETURN FAN RFM RADIANT FLOOR MANFOLD RH RELATIVE HUMIDITY RH REHEAT COIL RLA RATED LOAD AMP RCS REVERSED CONDENS RP RADIANT PANEL RPH RADIANT PANEL HEADER RPM REVOLUTION PER MINUTE RTO REQUIRED RV SAFETY PRESSURE RELIEF VALVE S MOTOR STARTER SA SUPPLY AIR / SOUND ATTENUATOR SHE SUPPLY AIR TERMINAL SFD COMBINATION FIRE SMOKE DAMPER WITH ACCESS DOOR SCFM STANDARD AIR CUBIC FEET PER MINUTE SSF SIDE STREAM FILTER SF SUPPLY FAN SG SUPPLY GRILLE SHT SHEET SN SEISMIC JOINT SN SUPPLY AIR NOZZLE DIFFUSER SPECIFICATIONS S.P. SPECIFICATIONS SQ SQUARE SS STAINLESS STEEL TA TRANSFER AIR TAB TESTING ADJUSTING AND BALANCING T/A TO ABOVE T/B TO BELOW TES THERMAL ENERGY STORAGE TC TRANSFER GRILLE/ TEMPERATURE GAUGE TS TEMPERATURE SENSOR TSP TOTAL STATIC PRESSURE TYP TYPICAL UH UNIT HEATER UON UNLESS OTHERWISE NOTED UTR UP THROUGH ROOF V VALVE/ VENT VAV VARIABLE AIR VOLUME VFM VENTUR FLOW METER VEL VELOCITY VFD VARIABLE FREQUENCY DRIVE VTR VENT THROUGH ROOF W WATTS WB WEI-BULB WF WATER FILTRATION WL WALL LOUVER WMS WIRE MESH SCREEN W/ WITH W/O WITHOUT		GENERAL SYMBOLS SYMBOL DESCRIPTION POINT OF CONNECTION POINT OF DISCONNECTION DETAIL DESIGNATION SHEET NUMBER DETAIL REFERENCE KEY NOTE REVISION TAG SECTION NO. SHEET NO. WHERE SECTION DRAWN PIPING SYMBOLS SYMBOL DESCRIPTION CAPPED PIPE ELBOW UP ELBOW UP AND DOWN ELBOW DOWN TEE UP AND AND DOWN TEE UP TEE DOWN STRAINER UNION WITH BALL VALVE AND HOSE CONNECTION FLANGE WITH BALL VALVE AND HOSE CONNECTION ECCENTRIC REDUCER CONCENTRIC REDUCER SEISMIC JOINT PRESSURE GAUGE WITH NEEDLE VALVE TEMPERATURE GAUGE TEMPERATURE SENSOR BRANDED PIPE HOSE PRESSURE AND TEMPERATURE TEST PLUG FLEXIBLE CONNECTION PIPE ANCHOR PIPE GUIDE FLOW MEASURING STATION FLOW SWITCH FLOW METER PRESSURE SWITCH BACK PRESSURE REGULATOR BALL VALVE BUTTERFLY VALVE VALVE CHECK VALVE SAFETY PRESSURE RELIEF VALVE PRESSURE REDUCING VALVE SUCTION DIFFUSER CIRCUIT SETTER W/ TEST PORTS 2-WAY ELECTRONIC CONTROL VALVE 3-WAY ELECTRONIC CONTROL VALVE VENTURI FLOW METER AUTOMATIC FLOW CONTROL VALVE NEEDLE VALVE REDUCER GLOBE VALVE PRESSURE REGULATING VALVE AUTOMATIC AIR VENT MANUAL AIR VENT METER DIFFERENTIAL PRESSURE STATION PRESSURE SENSOR		DUCTWORK SYMBOLS SYMBOL DESCRIPTION DOUBLE SINGLE DUCT ROUND DUCT 22 INCHES IN DIAMETER (SIZE INDICATES CLEAR INTERNAL DIMENSION) RECTANGULAR DUCT 24 INCHES WIDE 10 INCHES DEEP (SIZE INDICATES CLEAR INTERNAL DIMENSION) DUCT WITH INTERNAL LINING (SIZE INDICATES CLEAR INTERNAL DIMENSION) TRANSITION - RECTANGULAR TO RECTANGULAR OR ROUND TO ROUND TRANSITION - RECTANGULAR TO ROUND ELBOW WITH TURNING VANES RADIUS ELBOW WITH TURNING VANES THROAT SIZE IN INCHES TRANSFER AIR BOOT SOUND ATTENUATOR RECTANGULAR DUCT BRANCH TO MAIN CONNECTION DUCT RISE DUCT DROP COMBINATION FIRE SMOKE DAMPER WITH ACCESS DOOR FIRE DAMPER MOTORIZED DAMPER MANUAL VOLUME DAMPER BACKDRAFT DAMPER FLEXIBLE DUCT CONNECTOR AIRTIGHT CAPPED DUCTWORK CONICAL TAP W/ MANUAL VOLUME DAMPER CONICAL TAP FLEXIBLE DUCT 4-WAY CEILING SUPPLY AIR DIFFUSER 3-WAY CEILING SUPPLY AIR DIFFUSER CEILING RETURN AIR REGISTER/GRILLE CEILING EXHAUST AIR REGISTER/GRILLE SIDE WALL SUPPLY AIR REGISTER/GRILLE SIDE WALL RETURN AIR REGISTER/GRILLE SIDE WALL EXHAUST AIR REGISTER/GRILLE LENGTH, LINEAR SLOT DIFFUSER, CFM LENGTH, LINEAR BAR DIFFUSER, CFM SUPPLY AIR DUCT - SECTION RETURN AIR DUCT - SECTION EXHAUST AIR DUCT - SECTION ROUND DUCT OR RISER - SECTION AIR TERMINAL UNIT, SINGLE DUCT (WITHOUT REHEAT AND ATTENUATOR) AIR TERMINAL UNIT, SINGLE DUCT (WITH REHEAT AND ATTENUATOR) AIR TERMINAL UNIT, SINGLE DUCT (WITH REHEAT, WITHOUT ATTENUATOR) GENERAL OR FUME HOOD EXHAUST VALVE (SINGLE BODY) SPACE TEMPERATURE SENSOR CO2 SENSOR CARBONE MONOXIDE SENSOR SPACE PRESSURE SENSOR RELATIVE HUMIDITY SENSOR DUCT MOUNTED SMOKE DETECTOR WALL LOUVER UNDERCUT DOOR DOOR LOUVER CEILING ACCESS PANEL INDIRECT DRAIN VENT COIL DEMOLISH EXISTING DUCT TO REMAIN RETURN / EXHAUST AIR FLOW DIRECTION		1. M-0.1 MECHANICAL GENERAL NOTES, LEGEND, SYMBOLS AND ABBREVIATIONS 2. M-0.2 MECHANICAL SCHEDULES 3. M-0.3 MECHANICAL PROPOSED PLAN 4. M-0.4 MECHANICAL DEMOLITION PLAN 5. M-0.5 MECHANICAL DETAILS 6. M-0.6 MECHANICAL DETAILS 7. M-0.7 MECHANICAL CONTROLS	
DEMOLITION NOTES 1. PRIOR TO ANY DEMOLITION WORK, THE CONTRACTOR SHALL FIELD MEASURE S-8, S-9, AH-10, AH-11 AND AH-12 AIR HANDLING UNITS PERFORMANCE CHARACTERISTICS INCLUDING SUPPLY/RETURN MAXIMUM AIR FLOW, TOTAL AND EXTERNAL STATIC PRESSURE, FAN BHP, CHILLED WATER GPM, HOT WATER GPM AT THE FLOOR MAIN BRANCHES. SUBMIT WRITTEN REPORT FOR THE OWNER'S REPRESENTATIVE'S REVIEW. MEASURE AND TABULATE EXISTING SUPPLY AIR FLOW FOR ALL AREAS CONNECTED TO THE LISTED ABOVE AIR HANDLING UNITS. 2. ALL POWER SUPPLIES TO EXISTING EQUIPMENT TO BE REMOVED SHALL BE ISOLATED AND MADE SAFE PER NEC PRIOR TO START OF DEMOLITION. 3. THE PIPEWORK AND ASSOCIATED EQUIPMENT TO BE DEMOLISHED SHALL BE REMOVED FROM SITE. 4. ALL EQUIPMENT TO BE REUSED SHALL BE CAREFULLY REMOVED PRIOR TO DEMOLITION, AND STORED IN A PROTECTED AREA ON SITE READY FOR LATER RE-INSTALLATION. EQUIPMENT TO REMAIN IN PLACE SHALL BE WELL PROTECTED FROM DAMAGE OR DUST. 5. ANY DAMAGE TO EXISTING EQUIPMENT DURING DEMOLITION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. 6. ALL INSULATION ON PIPEWORK/VALVES IS TO BE REMOVED AND REAPPLIED TO COMPLY WITH THE SPECIFICATION REQUIREMENTS FOR EXTEND OF INSULATION WORK PLEASE SEE PIPING DEMOLITION AND REDEMOLITION PLANS. 7. CONTRACTOR SHALL REMOVE CONSTRUCTION DEBRIS AND VACUUM CLEAN ALL REMAINED EQUIPMENT (INTERNAL AND EXTERNAL) - PRIOR TO TEST AND BALANCE.		ADA REQUIREMENT NOTE: ALL NEW DEVICES, OUTLETS, SWITCHES, CONTROLS, ETC. SHALL BE INSTALLED WITH CONCERN FOR ALIGNMENT WITH WORK OF OTHER TRADES. PROVIDE VERTICAL AND HORIZONTAL ALIGNMENT WITH EQUAL SPACING BETWEEN CENTER LINES. IF DOCUMENTS DO NOT INDICATE ALIGNMENT AND/OR SPACING CONSULT WITH ARCHITECT PRIOR TO BEGIN.							

NO.	REVISIONS/SUBMISSIONS	DATE
	DESIGN DEVELOPMENT	9/29/2011
	PRELIMINARY OTC REVIEW	10/4/2011
	BACKCHECK OTC REVIEW	11/7/2011

PROJECT MANAGER	PROJECT NUMBER
DRAWN BY	11-103
CHECKED BY	11-103
DATE	28 OCTOBER 2011

FUME HOOD EXHAUST VALVES											
ITEM	MANUFACTURER AND MODEL NO.	ROOM SERVED	ASSOCIATED FAN SYSTEM	VALVE SIZE	NO. VALVE BODY	INLET SIZE (IN.)	AIRFLOW		MAX. PRESSURE DROP (IN. W.C.)	OPERATING WEIGHT (LBS)	NOTES
							MAXIMUM (CFM)	MINIMUM (CFM)			
FEV/8-03	SIEMENS LSE500RT14MS	UC LAB 6531	EF-39, EF-40	14	SINGLE	14	1,150	630	0.6	16	FOR FUME HOOD.

GENERAL EXHAUST VALVES											
ITEM	MANUFACTURER AND MODEL NO.	ROOM SERVED	ASSOCIATED FAN SYSTEM	VALVE SIZE	NO. VALVE BODY	INLET SIZE (IN.)	AIRFLOW		MAX. PRESSURE DROP (IN. W.C.)	OPERATING WEIGHT (LBS)	NOTES
							MAXIMUM (CFM)	MINIMUM (CFM)			
GEV/8-08	SIEMENS LSE500RT14MS	UC LAB 6531	EF-37, EF-38	14	SINGLE	14	1,670	1,550	0.6	18	-

SUPPLY AIR TERMINALS																							
ITEM	MANUFACTURER AND MODEL NO.	ROOM SERVED	ASSOCIATED FAN SYSTEM	VALVE SIZE	INLET SIZE (IN.)	AIRFLOW		MAX. PRESSURE DROP (IN. W.C.)	HEATING COIL													OPERATING WEIGHT (LBS)	NOTES
						MAXIMUM (CFM)	MINIMUM (CFM)		TOTAL HEATING (MBH)	HEATING AIRFLOW (CFM)	EMT (FT)	LWT (FT)	EAT (FT)	LAT (FT)	FLOW RATE (GPM)	MAX. PRESSURE LOSS		NO. ROWS	BRANCH PIPE SIZE (IN.)				
																AIR (IN. W.C.)	WATER (FT. W.C.)						
SAT/8-02	SIEMENS LSS505RT14MSB	UC LAB 6531	AH-10	14	14	2,100	1,500	0.3	80.4	2,400	200	160	55	95	4.0	-	-	-	-	-	115	ADD OR REPLACE HEATING COIL AS SCHEDULED.	

SUPPLY AIR DIFFUSER SCHEDULE							
ITEM	MANUFACTURER AND MODEL NO.	TYPE	MOUNTING	OVERALL DIMENSION IN X IN	NECK SIZE IN X IN	MAX P.D. IN WC	MAXIMUM CFM
CD-01	PRICE ASPD SERIES OR EQUAL	SQUARE PLATINE	HARD CEILING	24X24	12	0.02	420

① MAXIMUM NOISE LEVEL FROM EACH DIFFUSER SHALL NOT EXCEED NC20.

RETURN/EXHAUST GRILLE SCHEDULE							
ITEM	MANUFACTURER AND MODEL NO.	TYPE	MOUNTING	OVERALL DIMENSION IN X IN	NECK SIZE IN X IN	MAX P.D. IN WC	MAXIMUM CFM
EG-01	PRICE 80 SERIES OR EQUAL	EGG CRATE	HARD CEILING	24X24	-	0.02	1500

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UTILITIES
LANDSCAPE
ARCHITECTURE
INTERIOR DESIGN
RECYCLING SYSTEMS
PROJECT MANAGEMENT

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NO.	REVISIONS/SUBMISSIONS	DATE
	DESIGN DEVELOPMENT	9/29/2011
	PRELIMINARY OTC REVIEW	10/4/2011
	BACKCHECK OTC REVIEW	11/1/2011

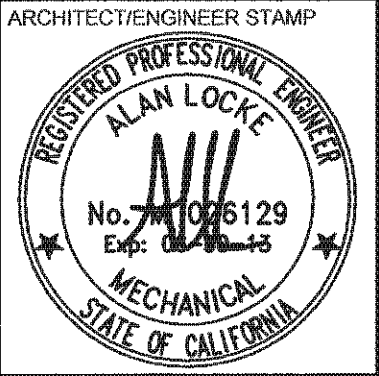
PROJECT

BOELTER HSSEAS - UNDER GRADUATE
LAB 6541 RENOVATION

DRAWING

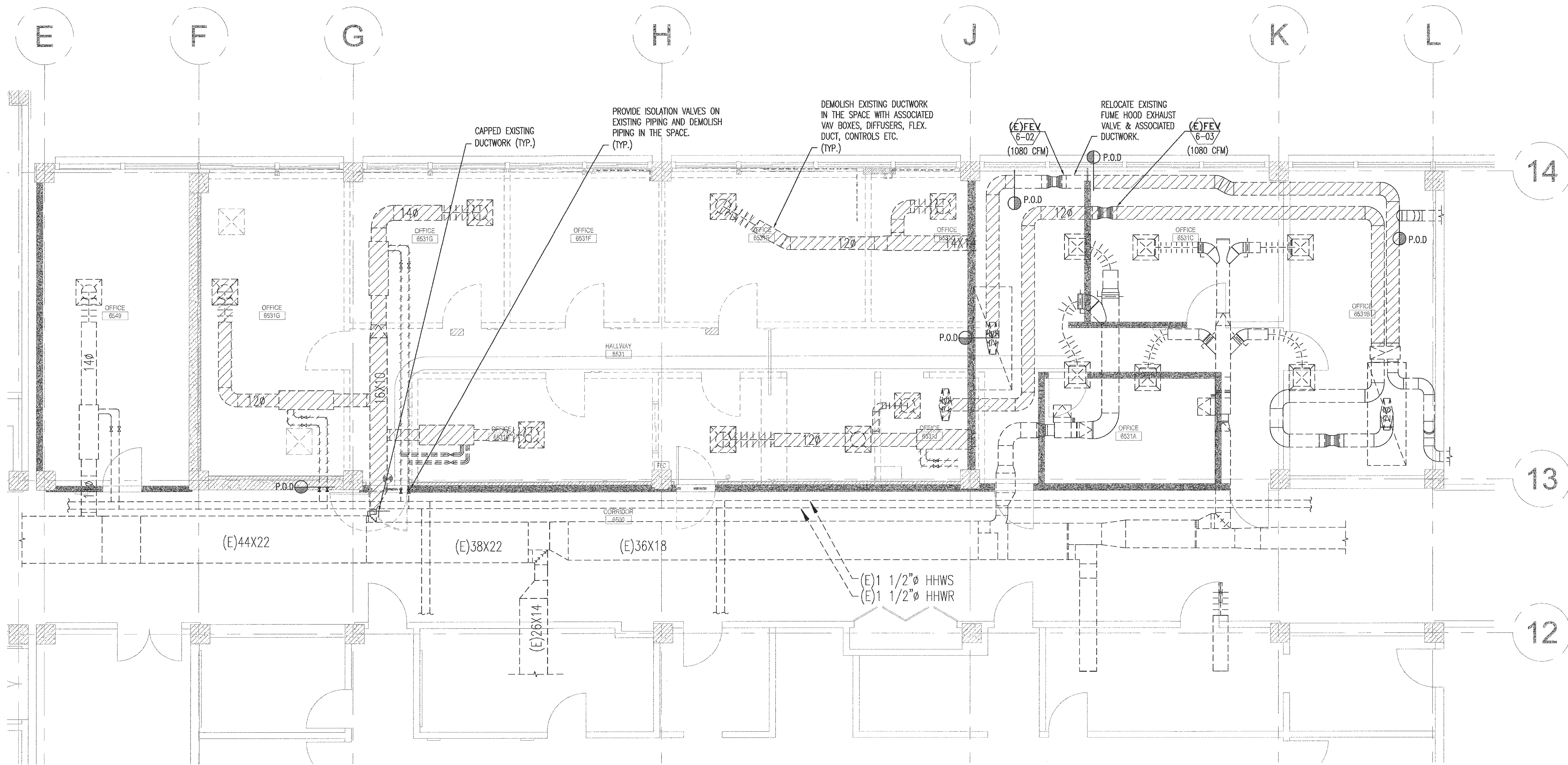
MECHANICAL SCHEDULE

PROJECT MANAGER	DRAWN BY
PROJECT NUMBER	111-1059
REFER TO PLOT STAMP	SCALE
DATE	28 OCTOBER 2011



SHEET NUMBER

M-0.2



MECHANICAL DEMOLITION PLAN_1/4"=1'-0"

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RECYCLING SYSTEMS
PROJECT MANAGEMENT & OPERATIONS

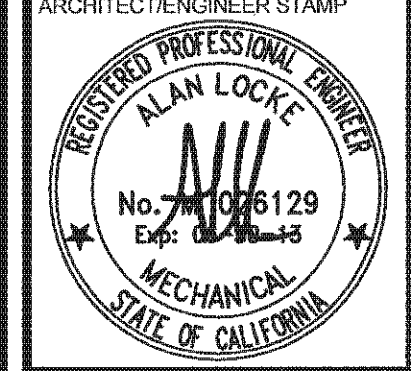
731 charles e. young dr. south
los angeles, ca 90085-1526
phone: (310) 206-5871
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NO.	REVISIONS/SUBMISSIONS	DATE
	DESIGN DEVELOPMENT	9/29/2011
	PRELIMINARY OTC REVIEW	10/4/2011
	BACKCHECK OTC REVIEW	11/2/2011

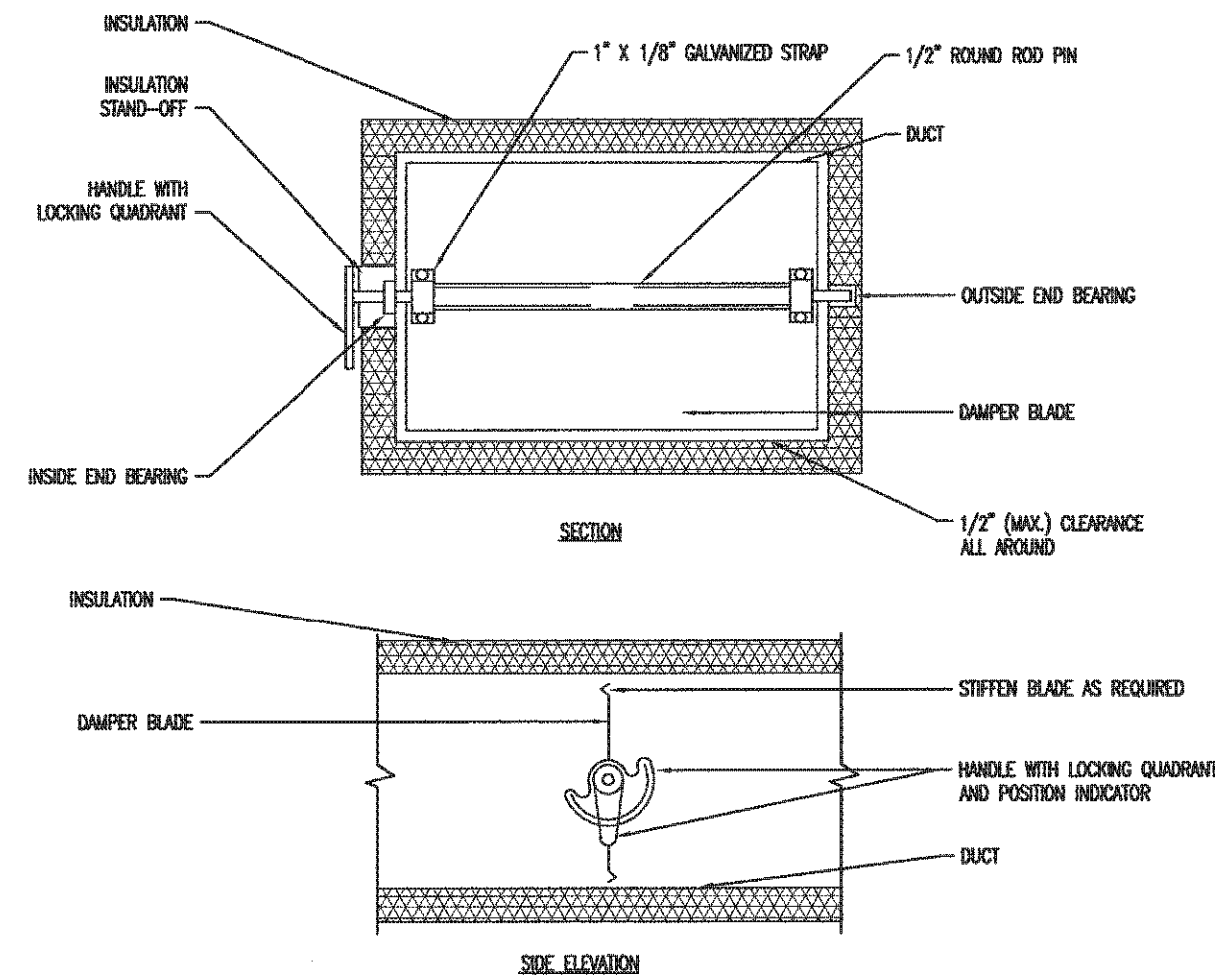
PROJECT
BOELTER HSSEAS - UNDER GRADUATE
LAB 6541 RENOVATION

DRAWING
MECHANICAL
DEMOLITION PLANS

PROJECT MANAGER	DATE
DRAWN BY	28 OCTOBER 2011
PROJECT NUMBER	
11-1038	
DATE FILED	
REFER TO PLOT STAMP	

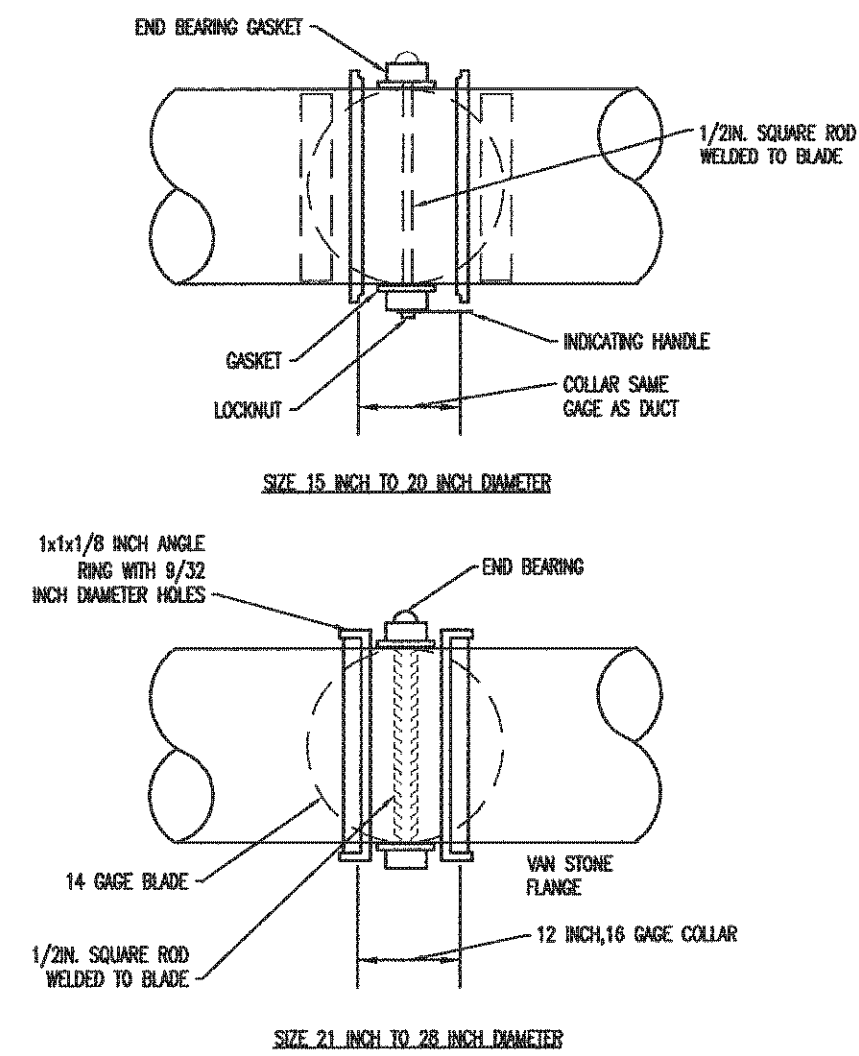


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MD-2.1

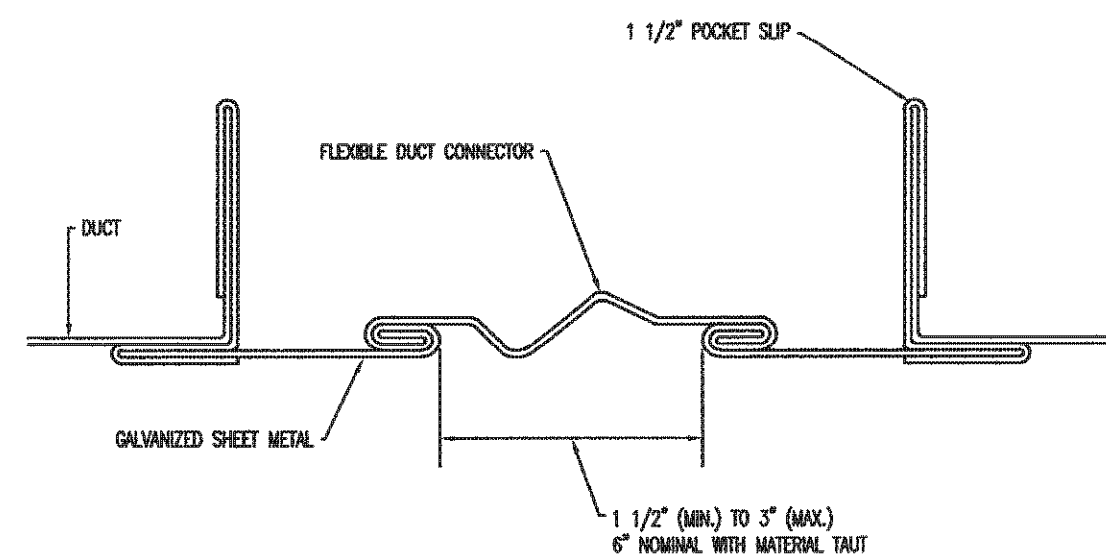


- NOTES:
1. DELETE INSULATION STAND-OFF ON DUCTWORK WITHOUT EXTERIOR INSULATION.
 2. DETAIL SHOWS SINGLE BLADE DAMPER. MULTI-BLADE DAMPERS INSTALLATIONS SHALL BE SIMILAR.
 3. LOCK DAMPER DURING AIR BALANCE AND MARK QUADRANT TO RECORD AIR BALANCED DAMPER POSITION.
 4. PROVIDE "TAP" SECTION AT QUADRANT FOR ALL EXTERNALLY INSULATED DUCTWORK.
 5. PROVIDE FLUORESCENT COLORED MARKERS ON CEILING AT ALL VOLUME DAMPERS LOCATIONS.

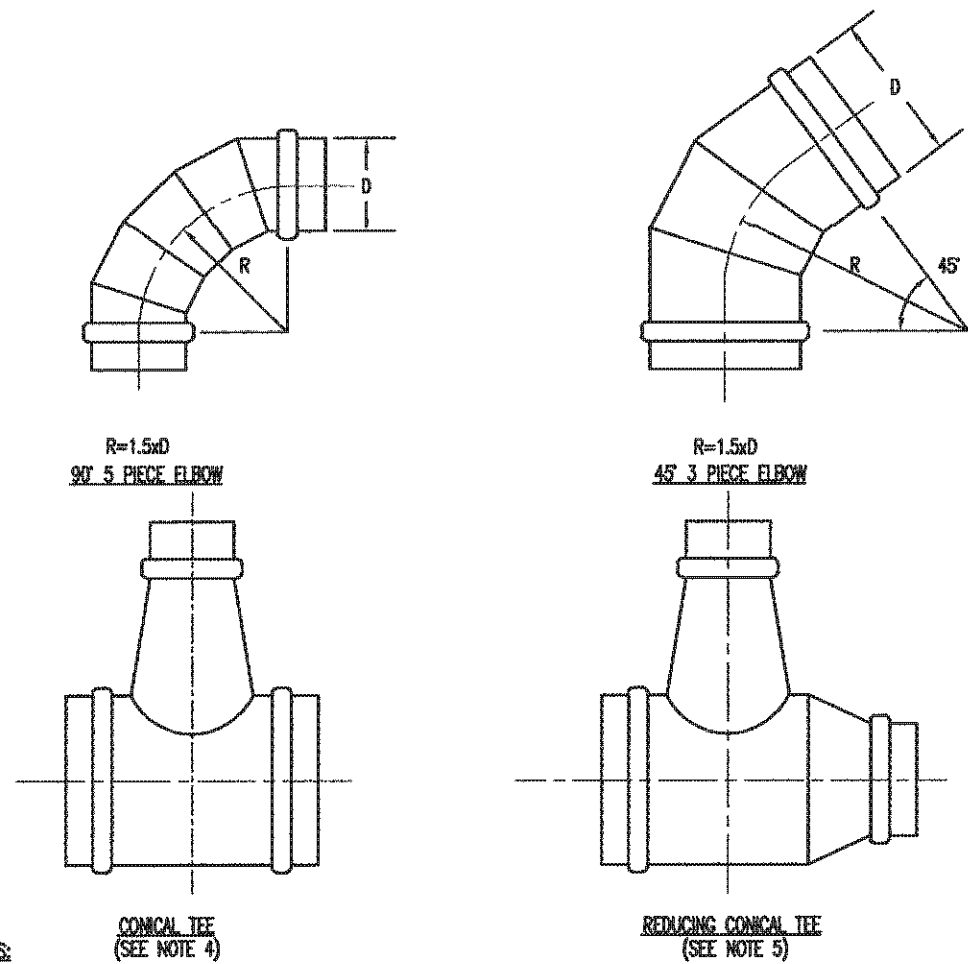
RECTANGULAR MANUAL VOLUME DAMPER
SCALE: NTS



ROUND VOLUME DAMPER LARGER THAN 14 IN. DIAMETER
SCALE: NTS

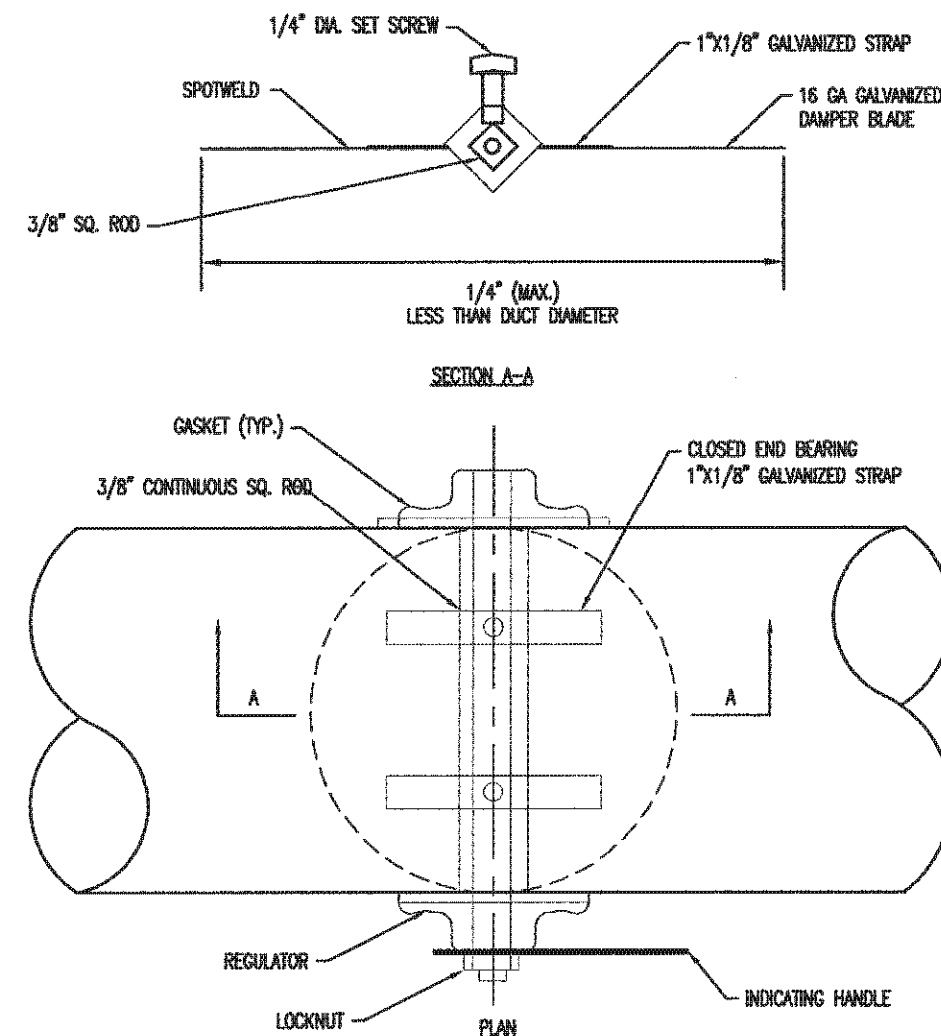


FLEXIBLE DUCT CONNECTOR
SCALE: NTS



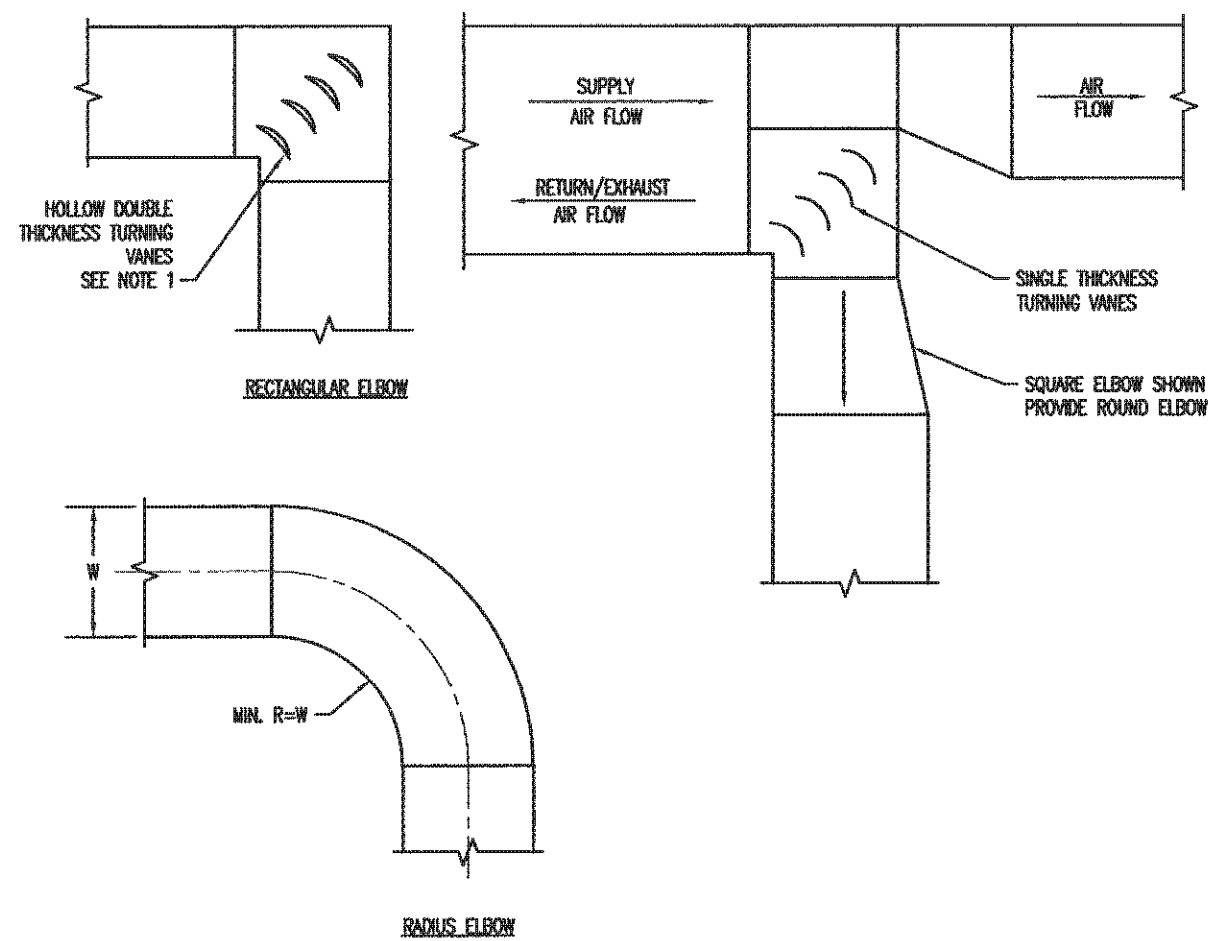
- NOTES:
1. FITTINGS TO BE 2 GAGES HEAVIER THAN CONNECTED DUCT.
 2. ADJUSTABLE ELBOWS WILL BE PERMITTED FOR DUCT CONSTRUCTION OF 2\"/>

ROUND DUCT FITTING DETAILS
SCALE: NTS



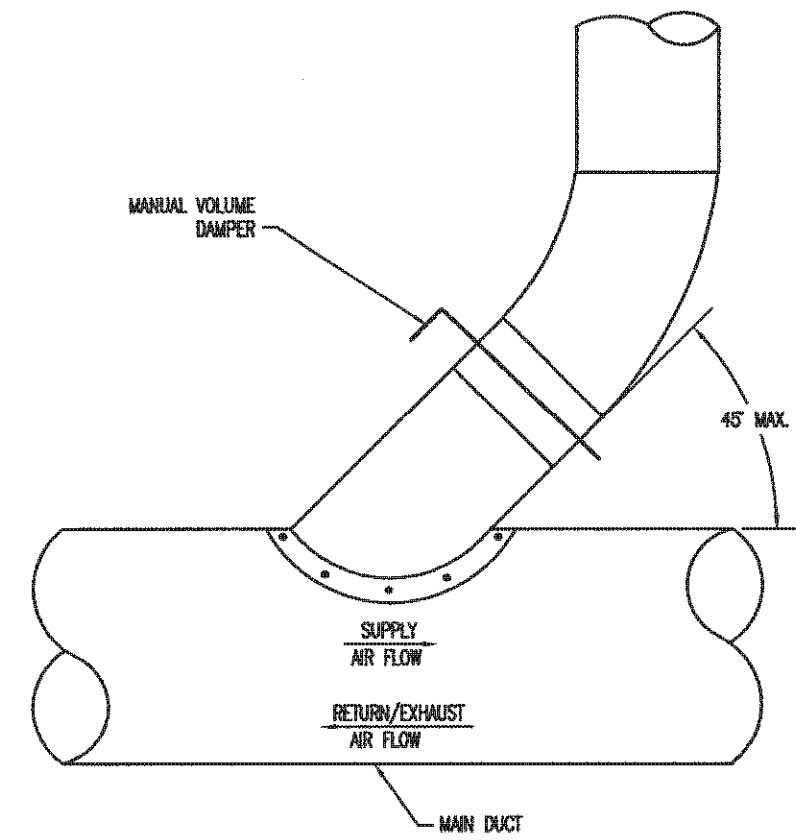
- NOTES:
1. LOCK DAMPER DURING AIR BALANCE AND MARK QUADRANT TO RECORD AIR BALANCED DAMPER POSITION.
 2. PROVIDE "TAP" SECTION AT QUADRANT FOR ALL EXTERNALLY INSULATED DUCTWORK.
 3. PROVIDE FLUORESCENT COLORED MARKERS AT ALL VOLUME DAMPERS LOCATIONS.

ROUND VOLUME DAMPER UP TO 14 IN. DIAMETER
SCALE: NTS



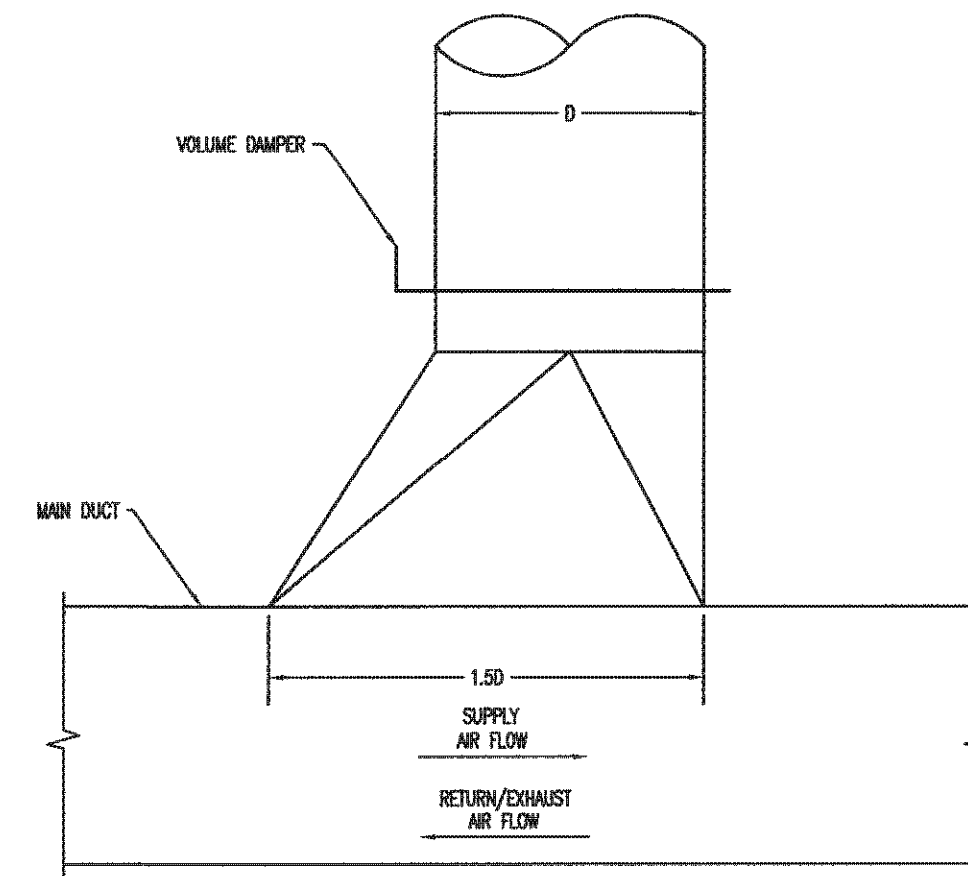
- NOTES:
1. FOR DUCT WIDTH LESS THAN 18\"/>

RECTANGULAR DUCT FITTINGS AND TAKE-OFF
SCALE: NTS



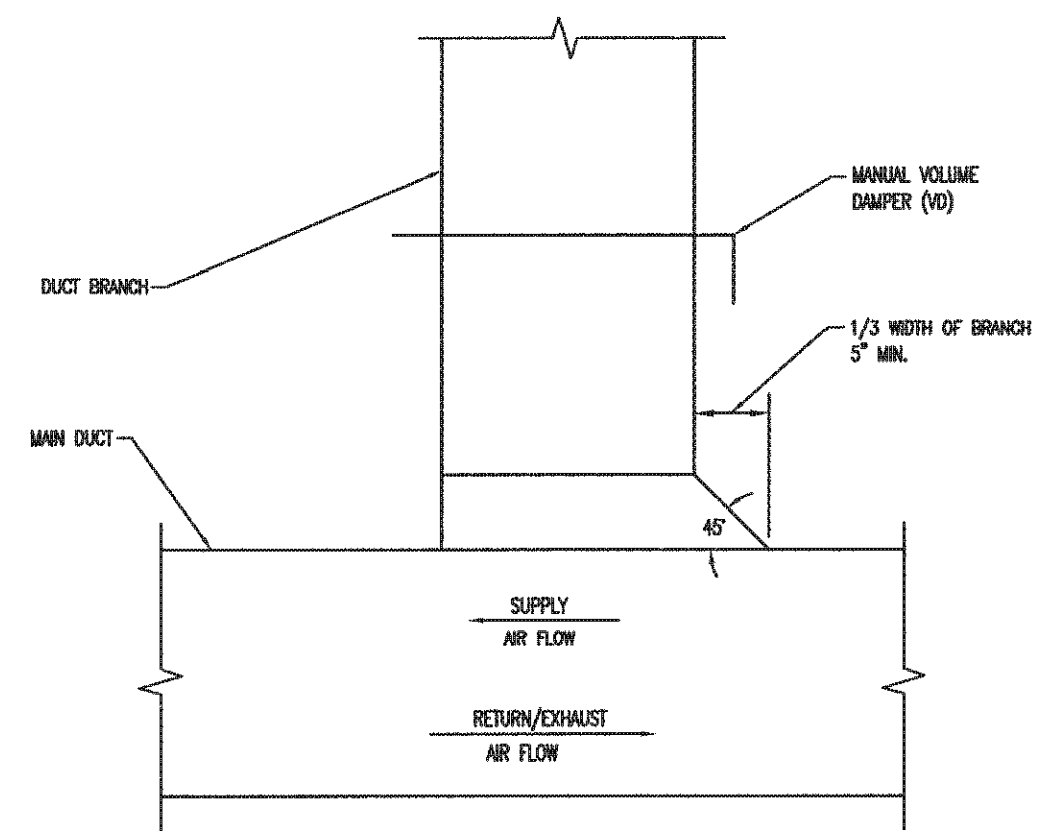
- NOTES:
1. FURNISH LATERAL TEE CONNECTION FOR BRANCHES WHEN SINGLE LINE DUCTWORK IS INDICATED AS THIS.
 2. FOR MANUAL VOLUME DAMPER SEE DET. 7 AND 8 M-601.

ROUND DUCT BRANCH TO ROUND MAIN CONNECTION
SCALE: NTS



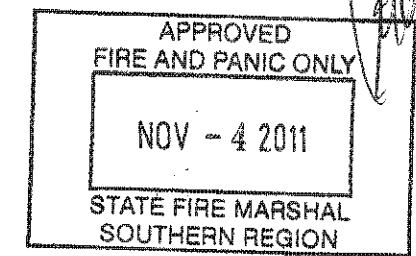
- NOTES:
1. FURNISH THIS TYPE CONNECTION WHEN SINGLE-LINE DUCTWORK IS INDICATED AS THIS. FOR BRANCHES WITH LESS THAN 25% OF TOTAL AIR FLOW.
 2. PROVIDE FLUORESCENT COLORED MARKERS ON CEILING AT ALL MANUAL VOLUME DAMPER LOCATION.

ROUND DUCT BRANCH TO MAIN RECTANGULAR CONNECTION
SCALE: NTS



- NOTES:
1. FURNISH THIS TYPE OF CONNECTION WHEN SINGLE-LINE DUCTWORK IS INDICATED AS THIS. FOR BRANCHES WITH LESS THAN 25% OF THE TOTAL AIR FLOW, OR WHERE INDICATED ON DRAWINGS.
 2. FOR MANUAL VOLUME DAMPER SEE DETAIL 7/M-601.
 3. SLIP-IN VOLUME DAMPER HOUSING WILL NOT BE ALLOWED.

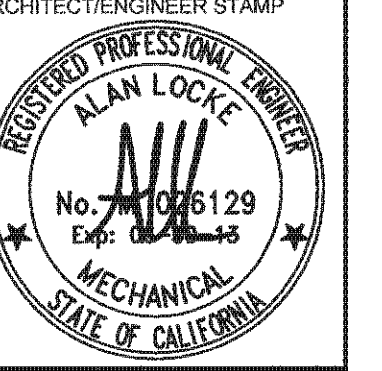
RECTANGULAR DUCT BRANCH TO MAIN CONNECTION
SCALE: NTS

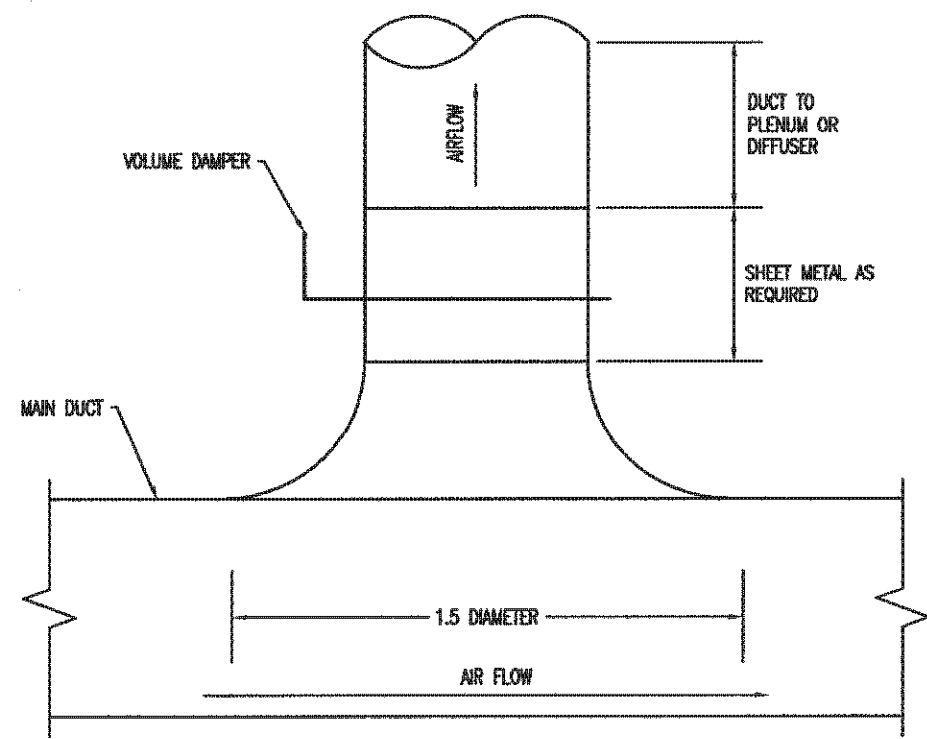


NO.	REVISIONS/SUBMISSIONS	DATE
	DESIGN DEVELOPMENT	9/29/2011
	PRELIMINARY OTC REVIEW	10/4/2011
	BACKCHECK OTC REVIEW	11/12/2011

PROJECT	BOELTER HSSEAS - UNDER GRADUATE LAB 6541 RENOVATION
DRAWING	MECHANICAL DETAILS

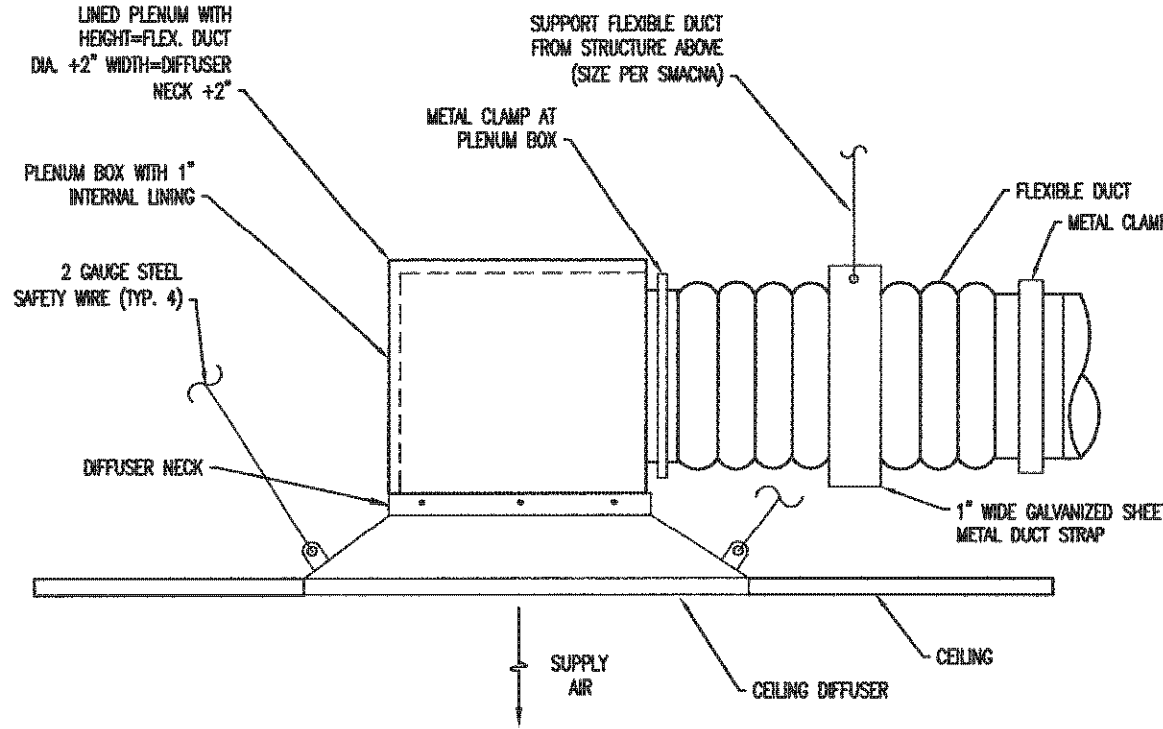
PROJECT MANAGER	DRIVEN BY
PROJECT NUMBER	11-1039
DATE	28 OCTOBER 2011





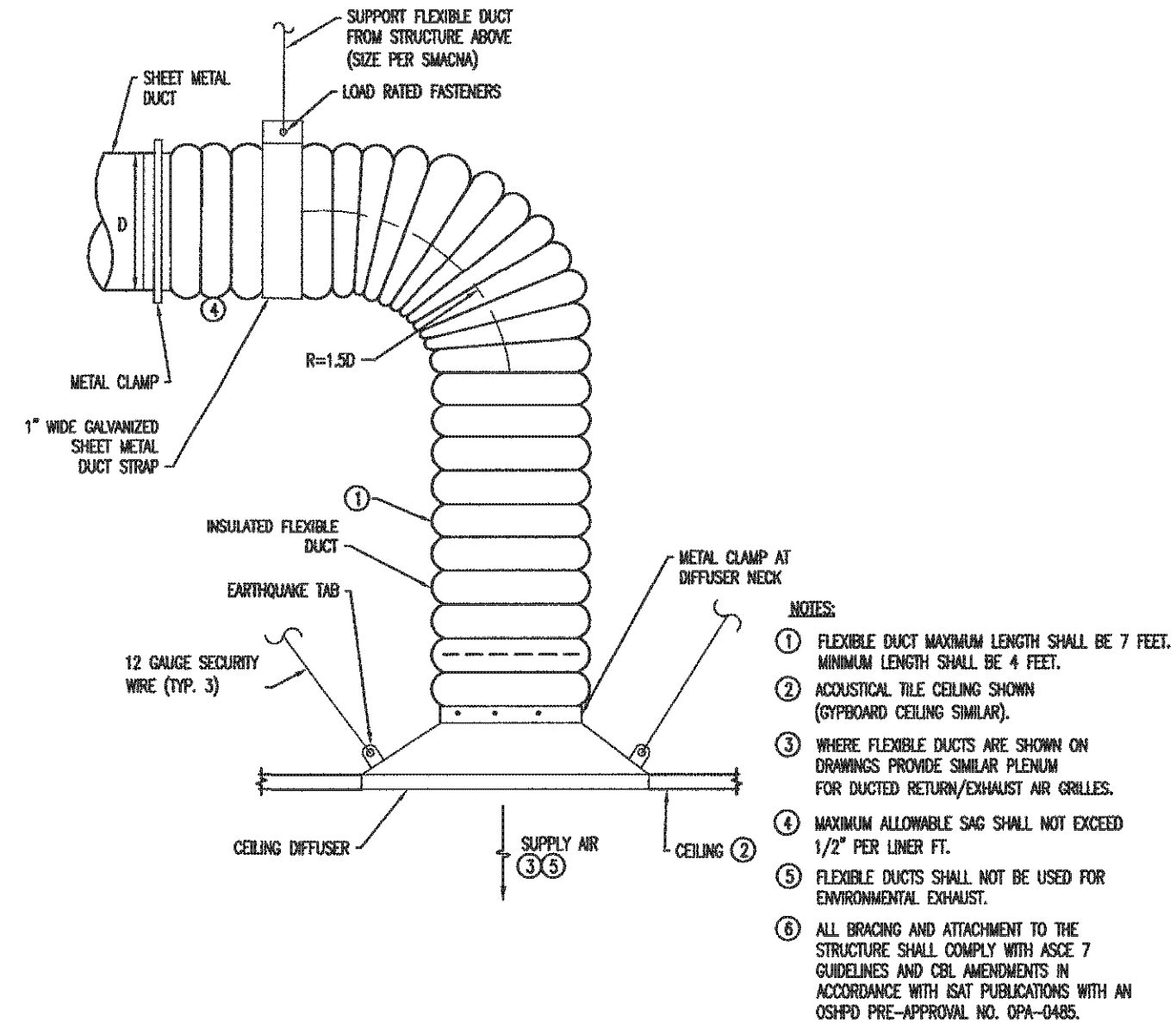
NOTE:
FURNISH THIS TYPE CONNECTION WHEN SINGLE-LINE
DUCTWORK IS INDICATED AS THIS — FOR BRANCHES
WITH MORE THAN 25% OF TOTAL AIR FLOW.

ROUND SUPPLY DUCT BRANCH CONNECTION DETAIL
SCALE: NTS **7**



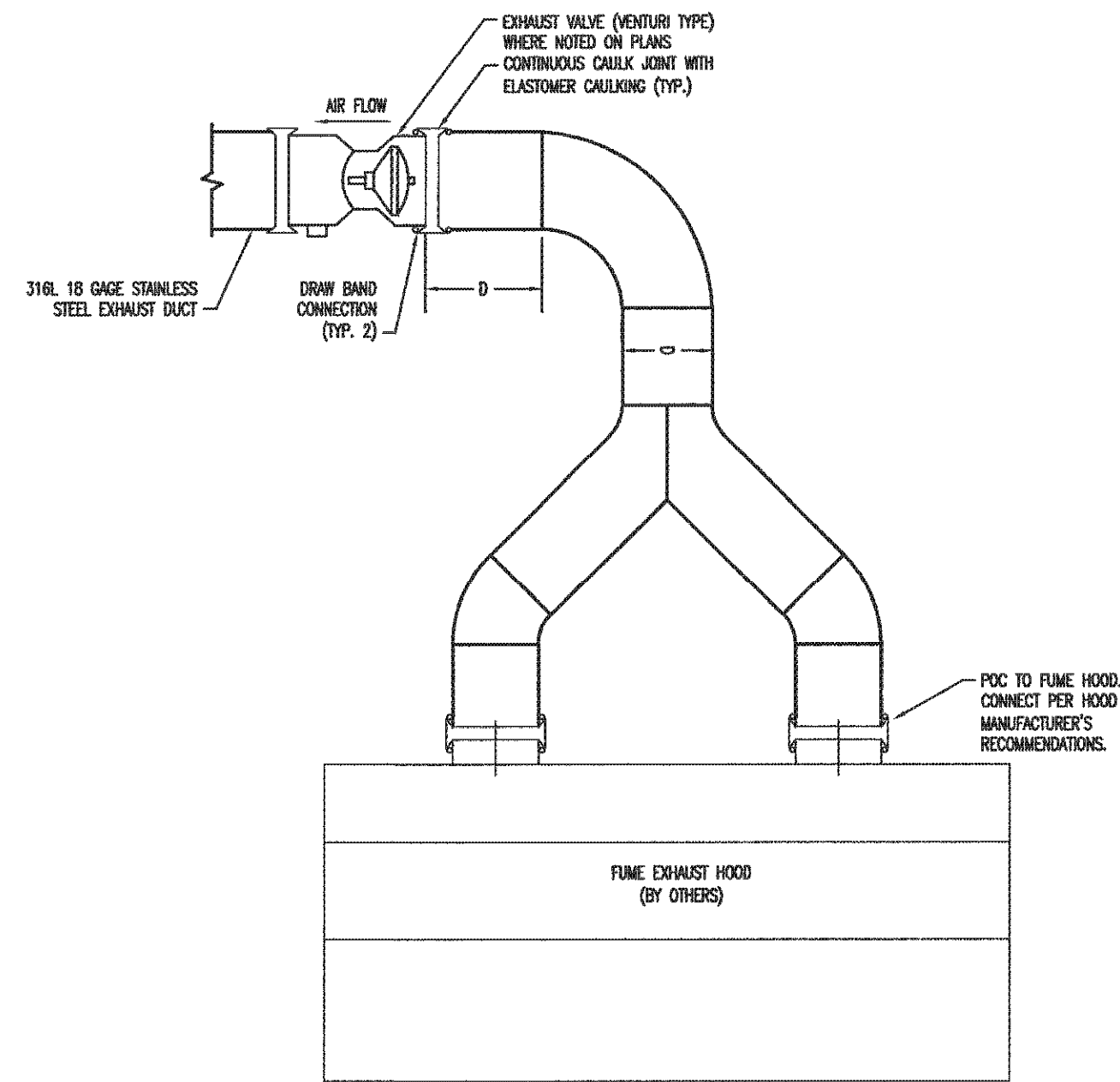
NOTE:
1. FLEXIBLE DUCT MAXIMUM LENGTH SHALL BE 7 FEET, MINIMUM LENGTH SHALL BE 4'-0".

SUPPLY DIFFUSER SIDE CONNECTION
SCALE: NTS **4**



NOTES:
① FLEXIBLE DUCT MAXIMUM LENGTH SHALL BE 7 FEET, MINIMUM LENGTH SHALL BE 4 FEET.
② ACoustical TILE CEILING SHOWN (HYPERBOARD CEILING SIMILAR).
③ WHERE FLEXIBLE DUCTS ARE SHOWN ON DRAWINGS PROVIDE SIMILAR PLENUM FOR DUCTED RETURN/EXHAUST AIR GRILLES.
④ MAXIMUM ALLOWABLE SAG SHALL NOT EXCEED 1/2" PER LINEAR FT.
⑤ FLEXIBLE DUCTS SHALL NOT BE USED FOR ENVIRONMENTAL EXHAUST.
⑥ ALL BRACING AND ATTACHMENT TO THE STRUCTURE SHALL COMPLY WITH ASCE 7 GUIDELINES AND CSE AMENDMENTS IN ACCORDANCE WITH CBT PUBLICATIONS WITH AN OSFPD PRE-APPROVAL NO. OPA-0485.

CEILING SUPPLY AIR DIFFUSER CONNECTION DETAILS
SCALE: NTS **1**



FUME HOOD EXHAUST CONNECTION DETAIL
SCALE: NTS **2**

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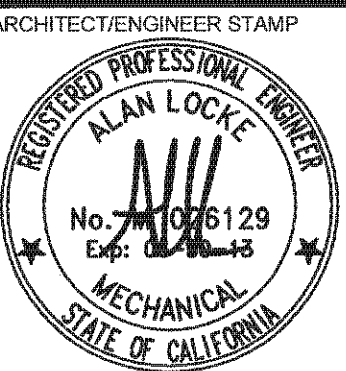
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NO.	REVISIONS/SUBMISSIONS	DATE
	DESIGN DEVELOPMENT	9/29/2011
	PRELIMINARY OTC REVIEW	10/4/2011
	BACKCHECK OTC REVIEW	11/7/2011

PROJECT
**BOELTER HSSEAS - UNDER GRADUATE
LAB 6541 RENOVATION**

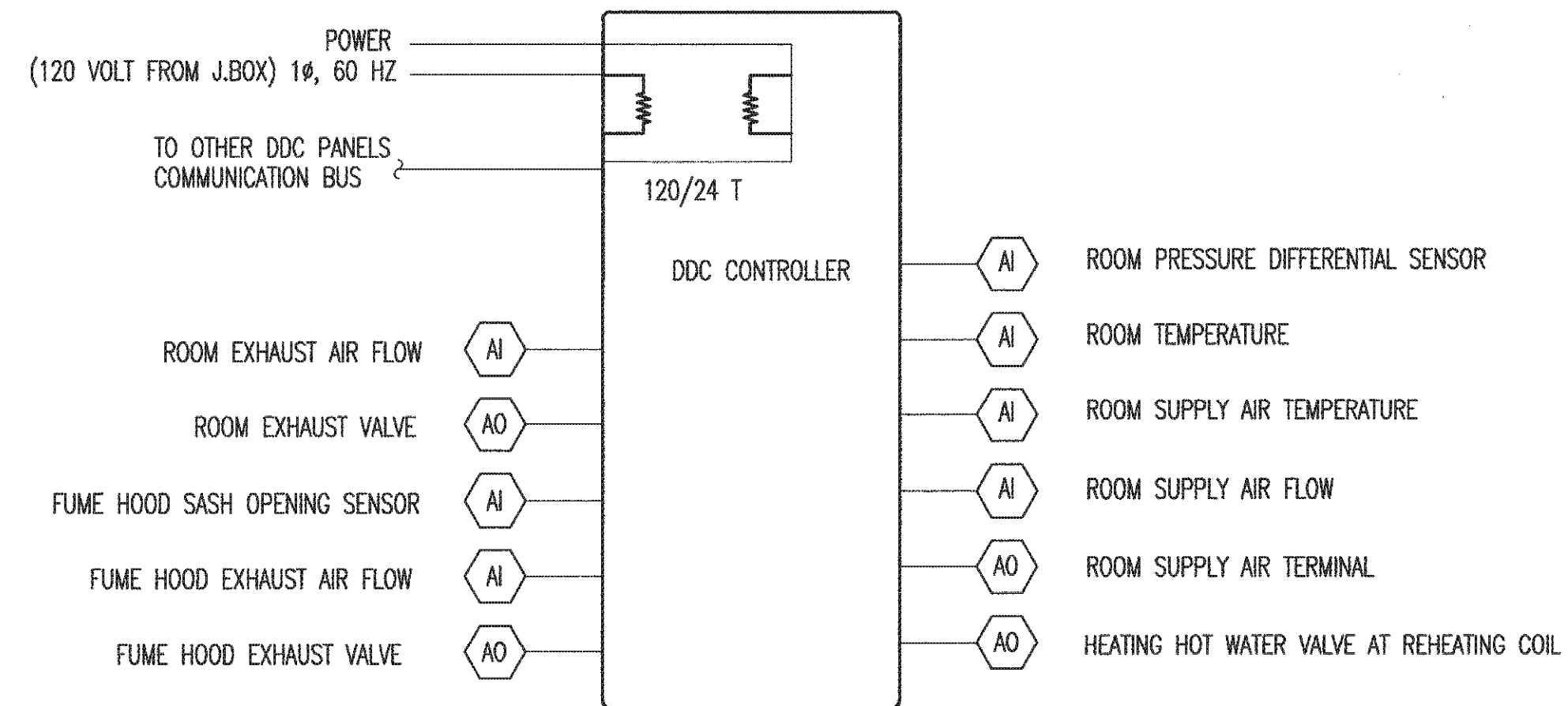
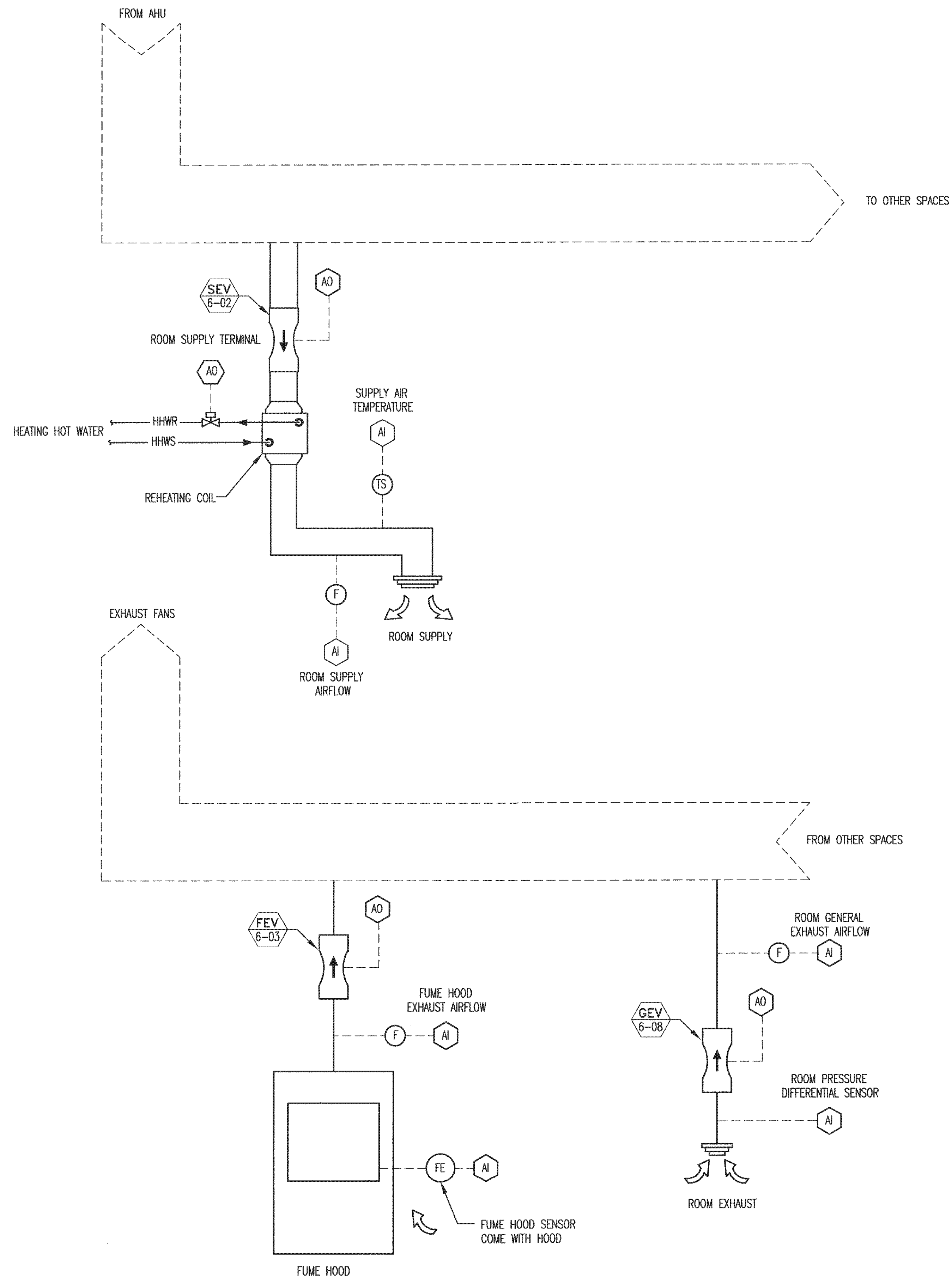
DRAWING
MECHANICAL DETAILS

PROJECT MANAGER	DATE
DRAWN BY	28 OCTOBER 2011
PROJECT NUMBER	
11-1039	
SHEET NUMBER	
REFER TO PLOT STAMP	



SHEET NUMBER

M-6.2



SEQUENCE OF OPERATION

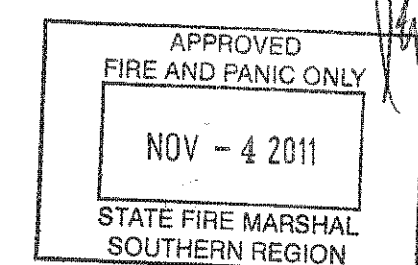
THE HVAC SYSTEM SHALL CONSIST OF FUME HOODS WITH ASSOCIATED EXHAUST VALVE, ROOM GENERAL EXHAUST VALVE, ROOM SUPPLY TERMINAL, AND ASSOCIATED CONTROLS.

FUME HOOD EXHAUST VALVE WILL CONTROLLED THE FUME HOOD EXHAUST AIRFLOW THROUGH FUME HOOD SENSOR TO MAINTAIN CONSTANT AIRFLOW VELOCITY THROUGH THE FACE OF SASH OPENING. ROOM GENERAL EXHAUST WILL TRACE THE CHANGE OF THE FUME HOOD EXHAUST AIRFLOW AND AIR VOLUME AT SUPPLY TERMINAL. THE GENERAL EXHAUST VALVE WILL ADJUST TO MAINTAIN ROOM ALWAYS AT NEGATIVE PRESSURE TO ADJACENT CORRIDOR (0.05"WG ADJUSTABLE)

ROOM SUPPLY TERMINAL WILL ADJUST AIR FLOW TO THE ROOM BASED ON REQUIREMENT OF ROOM THERMOSTAT AND SHALL NOT BE LESS THAN 1CFM PER SQUARE FOOT (1,500CFM). RE-HEATING COIL AT SUPPLY TERMINAL WILL ENSURE THE ROOM COMFORT.

GENERAL NOTES

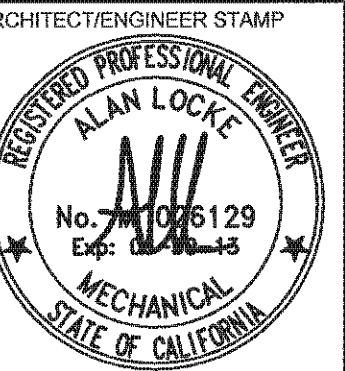
- COORDINATE WITH CAMPUS DDC SHOP FOR POINT NAMING NOMENCLATURE AND CONTROL GRAPHICS STANDARD TO PRODUCE CONTROL SHOP DRAWING.
- DDC CONTROLLER SHALL BE SIEMENS TO MATCH EXISTING CAMPUS SYSTEM.



PROJECT
**BOELTER HSSEAS - UNDER GRADUATE
LAB 6541 RENOVATION**

DRAWING
MECHANICAL CONTROLS

PROJECT MANAGER	DATE
DRAWN BY	9/29/2011
PROJECT NUMBER	104/2011
DATE	11/1/2011
SCALE	
EXETER TO PLOT STAMP	



SHEET NUMBER

M-7.1

UCLA Facilities Management
dpmo
UTILITIES
LANDSCAPE ARCHITECTURE
INTERIOR DESIGN
RECYCLING SYSTEMS
PROJECT MANAGEMENT

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NO.	REVISIONS/SUBMISSIONS	DATE
	DESIGN DEVELOPMENT	9/29/2011
	PRELIMINARY OTC REVIEW	10/4/2011
	BACKCHECK OTC REVIEW	11/1/2011

GENERAL NOTES

- A. COORDINATE ALL LOCATIONS, SIZES AND ELEVATIONS OF ALL SLEEVES THROUGH STRUCTURE WITH THE UNIVERSITY REPRESENTATIVE.
- B. COORDINATE AND VERIFY EXACT LOCATION, SIZE, POINT OF CONNECTIONS AND ELEVATIONS OF UTILITY SERVICE PIPING BEFORE TRENCHING OR INSTALLATION.
- C. COORDINATE ALL PIPING AND EQUIPMENT LOCATIONS WITH OTHER TRADES.
- D. ALL VALVES SHALL BE LOCATED TO BE READILY ACCESSIBLE. ACCESS PANELS SHALL BE PROVIDED FOR VALVES INSTALLED WITHIN WALLS OR ABOVE HARD CEILING. RATED ACCESS PANEL SHALL BE PROVIDED WHERE REQUIRED BY CODE & FIRE MARSHAL.
- E. DESIGN DRAWING ARE DIAGRAMMATIC AND DO NOT SHOW ALL OFFSETS, BENDS ELBOWS OR OTHER ELEMENTS WHICH MAY BE REQUIRED DUE TO THE FIELD CONDITIONS. BEFORE PROCEEDING WITH THE JOB, THE CONTRACTOR SHALL CAREFULLY CHECK AND VERIFY ALL DIMENSIONS, SIZES, REQUIRED OFFSETS, CLEARANCES AND SHALL ASSUME FULL RESPONSIBILITY FOR COMPLETE COORDINATION REQUIRED WITH OTHER PARTS OF THE WORK AND WITH THE WORK OF OTHER TRADES. CONTRACTOR SHALL PROVIDE ALL ACCESSORIES AS NECESSARY FOR A COMPLETE INSTALLATION, WITH NO ADDITIONAL COST TO THE UNIVERSITY.
- F. THE ENTIRE INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE 2007 UNIFORM PLUMBING CODE, 2007 CALIFORNIA FIRE CODE, 2007 CALIFORNIA PLUMBING CODE, 2007 CALIFORNIA BUILDING CODE, THE 2007 NFPA CODES AND ALL OTHER APPLICABLE CODES & REGULATIONS.
- G. SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF ALL EQUIPMENT AND PLUMBING FIXTURES.
- H. COORDINATE WITH ARCHITECTURAL DRAWINGS FOR WALL AND PARTITION CONSTRUCTION AND THICKNESS WHERE PLUMBING PIPING, VALVES OR EQUIPMENT IS INDICATED.
- I. ALL VALVES SHALL BE LOCATED TO BE READILY ACCESSIBLE. ACCESS PANELS SHALL BE INSTALLED WHERE VALVES ARE INSTALLED WITHIN OR BEHIND WALLS OR NON-REMOVABLE CEILINGS.
- J. NO PIPING SHALL BE HUNG FROM THE METAL ROOF DECK. PROVIDE PIPE CLAMPS SECURED TO STRUCTURAL STEEL FRAMING. REFER TO ARCHITECTURAL ROOF PLANS AND DETAILS
- K. ALL FLOOR SINKS SHALL HAVE THE TOP RIM SET FLUSH WITH CONCRETE FLOOR SURFACE.
- L. PROVIDE CARBON FILTRATION VENT CAPS ON ALL SANITARY AND LAB VENT PIPING PENETRATIONS THRU ROOF FOR ODOR CONTROL.
- M. ALL VENT PENETRATIONS THRU ROOF SHALL BE MINIMUM OF 2" & SHALL EXTEND AT LEAST 12" ABOVE FINISHED ROOF AND 10'-0" AWAY FROM FRESH AIR INTAKE.
- N. COMPLIANCE TO ASSEMBLY BILL 1953 AND SECTION 116875 OF HEALTH & SAFETY CODE FOR LEAD CONTENT.
1. ALL PLUMBING PIPES, FITTINGS, FIXTURES, VALVES, SOLDER, FLUX OR INSTALLATION SHALL BE FURNISHED LEAD FREE.
2. ALL PLUMBING SUBMITTALS SHALL HAVE DOCUMENTATION INDICATING LEAD FREE MANUFACTURING AND CONTENT.
- I. CONTRACTOR SHALL DESIGN AND INSTALL FLEXIBLE CONNECTORS AND ANCHORING FOR ALL NEW PIPING CROSSING OVER BUILDING SEISMIC SEPARATION JOINTS. SUBMIT SHOP DRAWINGS FOR REVIEW.
- GENERAL SEISMIC NOTES:
- A. CONTRACTOR TO PROVIDE COMPLETE SEISMIC ANCHORAGE AND BRACING FOR ALL MECHANICAL EQUIPMENT AND REQUIRED PIPING.
- B. PRIOR TO EQUIPMENT INSTALLATION, SUBMIT COMPLETE SEISMIC ANCHORAGE AND BRACING CALCULATIONS AND DETAILS SHOWING EQUIPMENT WEIGHTS AND CENTERS OF GRAVITY, LOCATION, QUANTITIES, SIZES AND METHOD OF ANCHORAGE AND BRACING WITH A CHECK FOR COMBINED SHEAR AND TENSION BASED ON UNIFORM BUILDING CODE, CHAPTER 23, USING THE FOLLOWING CRITERIA:
1. FIXED EQUIPMENT ON GRADE : 50% OF OPERATING WEIGHT.
2. FIXED EQUIPMENT ON STRUCTURE : 75% OF OPERATING WEIGHT.
3. FLEXIBLY MOUNTED EQUIPMENT : 4 TIMES THE ABOVE VALUES.
4. SIMULTANEOUS VERTICAL FORCE : 1/3 X THE HORIZONTAL FORCE.
- ALL CALCULATIONS AND DETAILS WILL BE STAMPED BY A CALIFORNIA STRUCTURAL PROFESSIONAL ENGINEER.
- REFER TO CAC TITLE 24, CALIFORNIA BUILDING CODE (PART 2, TITLE 24, COR), TABLE 23P, FOR APPLICABLE FORCE FACTOR "Cp". CONSIDER THE AFFECT OF TEMPERATURE CHANGE IN PREPARATION OF ANCHORAGE AND BRACING DETAILS.
- THE INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE UNIVERSITY REPRESENTATIVE.
- C. ALL CONCRETE EXPANSION TYPE ANCHOR BOLTS SHALL BE PHILLIPS RED- HEAD WEDGE OR HILTI KWIK-BOLT TYPE TZ (LOADED IN EITHER PULLOUT OR SHEAR), OR EQUAL AND SHALL HAVE 50 PERCENT OF THE BOLTS (ALTERNATE BOLTS IN ANY GROUP ARRANGEMENT) PROOF TESTED IN TENSION IN THE PRESENCE OF THE UNIVERSITY REPRESENTATIVE, AT THE VALUES INDICATED IN THE FOLLOWING TABLE, EXCEPT WHERE SHOWN OTHERWISE ON THE DRAWINGS. IF THERE ARE ANY FAILURES, THE IMMEDIATELY ADJACENT BOLTS MUST THAN ALSO BE TESTED. ANCHOR CAPACITIES SHALL NOT EXCEED 80% OF THE VALUES GIVEN IN THE PUBLISHED ICBO REPORT. THE VALUES SHOWN IN THE TABLE BELOW ARE REDUCED.
- | ANCHOR BOLT DIAMETER | 1 | 3/8" | 1/2" | 5/8" | 3/4" |
|----------------------|-----|------|-------|------|-------|
| CONCRETE TYPE | HR | LR | HR | LR | HR |
| ANCHOR CAPACITY | 2 | | | | |
| IN TENSION | 440 | 210 | 700 | 420 | 1,150 |
| IN SHEAR | 780 | 600 | 1,060 | 800 | 2,180 |
- TYPE OF TEST
- | | 1,100 | 525 | 1,750 | 1,050 | 2,875 | 1,600 | 4,025 | 2,250 |
|--|-------|--------|-------|--------|-------|-------|-------|-------|
| MINIMUM EMBEDMENT | 3 | 2-1/4" | 3" | 3-3/4" | | | | |
| 1. ALL ANCHORS TO BE INSTALLED WITH SPECIAL INSPECTION. | | | | | | | | |
| 2. THE TABULATED VALUES ARE FOR ANCHORS INSTALLED A MINIMUM OF TWELVE (12) BOLT DIAMETERS ON CENTER AND A MINIMUM EDGE DISTANCE OF TEN (10) BOLT DIAMETERS FOR 100 PERCENT ANCHOR EFFICIENCY. SPACING AND EDGE DISTANCE MAY BE REDUCED TO SIX (6) BOLT DIAMETERS AND FIVE (5) BOLT DIAMETERS PROVIDED THE VALUES ARE REDUCED FIFTY PERCENT. LINEAR INTERPOLATION MAY BE USED FOR INTERMEDIATE SPACINGS AND EDGE MARGINS. | | | | | | | | |
| 3. WHEN INSTALLING DRILLED-IN ANCHORS IN NON-PRESTRESSED REINFORCED CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE REINFORCING BARS. | | | | | | | | |
| D. THE SEISMIC BRACING AND ANCHORAGE OF PIPING AND DUCTWORK SHALL CONFORM TO THE CURRENT EDITION OF THE "GUIDELINES FOR SEISMIC RESTRAINTS OF MECHANICAL AND PLUMBING SYSTEMS" PUBLISHED BY SMACNA. ANCHORAGE OF ALL PIPING IS SUBJECT TO THE APPROVAL OF THE UNIVERSITY REPRESENTATIVE. | | | | | | | | |

FIRE PROTECTION NOTES

1. THE FIRE SPRINKLER CONTRACTOR SHALL PREPARE COMPLETE FIRE SPRINKLER DRAWINGS, CALCULATIONS AND SUBMIT TO THE UNIVERSITY REPRESENTATIVE SHOP DRAWINGS SUBMITTALS PRIOR TO THE SUBMITTAL AND APPROVAL OF THE ADMINISTRATIVE AUTHORITIES HAVING JURISDICTION AND START OF CONSTRUCTION. THE SPRINKLER SYSTEM SHALL MEET THE INSURANCE UNDERWRITER AND ALL OTHER AUTHORITIES HAVING JURISDICTION REQUIREMENTS.
2. REMOVE ALL EXISTING AUTOMATIC SPRINKLER HEADS, AND PROVIDE NEW HEADS THROUGHOUT TO CONFORM WITH NEW ARCHITECTURAL LAYOUT. HEADS SHALL BE CONCEALED-TYPE, HIDDEN FROM VIEW WITH WHITE CEILING COVER PLATES.
3. SPACING AND DETAILS OF THE SUPPORT AND BRACING OF FIRE SPRINKLER PIPING SHALL COMPLY WITH THE LATEST EDITION OF NFPA13. PROVIDE ANCHORAGE DETAIL AND CALCULATIONS FOR THE CONNECTION OF SWAY BRACING TO THE STRUCTURE. DESIGN LOADS FOR THE ANCHORAGE MAY BE COMPUTED PER TABLE 4-5.4.3.5.1(a) & (b) OF THE LATEST NFPA 13.
4. REFER TO ARCHITECTURAL & MECHANICAL DRAWINGS FOR CEILING ARRANGEMENT. REMOVE/REROUTE ALL EXISTING SPRINKLER BRANCH PIPING AND MAINS AS REQUIRED TO SUIT NEW CEILING AND DUCT LAYOUT.
5. THE SYSTEM SHALL EMPLOY THE USE OF U.L. LISTED AND F.M. APPROVED MATERIALS AND DEVICES.
6. THE SYSTEM PIPING SHALL BE HYDROSTATICALLY TESTED AT 200 PSI FOR TWO HOURS OR AT 50 PSI ABOVE THE SYSTEM OPERATING PRESSURE, WHICHEVER IS GREATER.

EXISTING CONDITIONS

1. THE INFORMATION ON THESE DRAWINGS WAS OBTAINED FROM THE BEST SOURCES AVAILABLE BUT IT IS NOT TO BE ASSUMED CORRECT IN ALL RESPECTS.
2. THE CONTRACTOR SHALL VERIFY IN THE FIELD ALL EXISTING CONDITIONS. NOTIFY THE UNIVERSITY REPRESENTATIVE OF ANY DISCREPANCIES OR CONFLICTS PRIOR TO COMMENCING WORK. DO NOT PROCEED WITHOUT APPROVAL BY THE UNIVERSITY REPRESENTATIVE, FOR ANY CHANGES, IF REQUIRED.
3. PLEASE BE ADVISED THAT THIS IS AN ALTERATION TO AN EXISTING STRUCTURE AND IT IS THE RESPONSABILITY OF THE CONTRACTOR TO VERIFY THE CONDITION OF THE EXISTING PLUMBING. REPAIR ALL DAMAGES, CLEAN ALL PIPES & BRING THE ENTIRE SYSTEM-EXISTING & NEW TO FULL COMPLIANCE WITH CODES AND GOOD OPERATING CONDITION.
4. THOSE DRAWINGS MAY NOT INCLUDE ALL NECESSARY SAFETY REQUIREMENTS. CONTRACTOR TO COMPLY WITH SAFETY STANDARDS SET FORTH BY THE LOCAL AUTHORITIES HAVING JURISDICTION.
5. CONTRACTOR SHALL VISIT SITE PRIOR TO SUBMITTAL OF BID & FAMILIARIZE HIMSELF W/EXISTING CONDITIONS. SUBMITTAL OF BID SHALL BE ONLY AFTER THE CONTRACTOR HAS VISITED THE SITE.
6. ALL EXISTING PLUMBING LINES WHICH ARE NO LONGER IN USE SHALL BE PLUGGED OR CAPPED ABOVE FINISHED CEILING OR BEHIND FINISHED WALL.
7. ALL EXISTING PLUMBING LINES WHICH REMAIN IN USE AND ARE IN THE WAY OF CONSTRUCTION WORK SHALL BE REROUTED AS REQUIRED.
8. ALL (E) BUILDING PIPING NOT INDICATED ON PLANS SHALL REMAIN AS IS IN SERVICE.

DEMOLITION NOTES

1. THE CONTRACTOR SHALL VISIT THE SITE AND MAKE HIMSELF THOROUGHLY FAMILIAR WITH THE EXISTING CONDITIONS PRIOR TO BIDDING. INFORMATION GIVEN ON THESE DRAWINGS ABOUT THE EXISTING INSTALLATION HAS BEEN OBTAINED FROM THE EXISTING AS-BUILT DRAWINGS BUT CANNOT BE GUARANTEED ACCURATE IN ALL RESPECTS. VERIFY ALL SUCH INFORMATION BEFORE PROCEEDING WITH ANY NEW WORK THAT MAY BE AFFECTED. INCLUDE AS PART OF THE CONTRACT ALL WORK REQUIRED TO PRODUCE THE INDICATED RESULT.
2. UPON SUBMITTING A BID THE CONTRACTOR SHALL BE HELD TO HAVE MADE SUCH HIS EXAMINATIONS OF THE SITE AND NO ALLOWANCE FOR EXTRAS WILL BE ALLOWED FOR ANY ERROR OR OVERSIGHT RESULTING FORM THE CONTRACTOR'S UNFAMILIARITY WITH THE SITE OR EXISTING CONDITIONS.
3. CONTRACTOR SHALL NOT SCALE DRAWINGS. DIMENSIONS MISSING FROM PLANS OR NEEDED FOR EXECUTION OF WORK SHALL BE CLARIFIED OR PROVIDED BY THE UNIVERSITY REPRESENTATIVE BEFORE WORK IS INSTALLED.
4. INTERRUPTION OF EXISTING SERVICES: THE CONTRACTOR'S ATTENTION IS CALLED TO THE PRESENCE OF EXISTING, CONDUIT, PIPING, ETC. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE PROPER AND APPROVED REPAIR OF ANY AND ALL DAMAGE CAUSED BY HIM OR HIS WORK TO EXISTING BUILDING. ANY INTERRUPTIONS REQUIRED SHALL BE SCHEDULED TO MINIMIZE INCONVENIENCE TO THE UNIVERSITY, AND AT TIMES AS APPROVED IN ADVANCE BY THE UNIVERSITY REPRESENTATIVE. NEW WORK AND INSTALLATIONS SHALL NOT IMPAIR THE PROPER FUNCTIONING OF THE EXISTING FACILITY. THE COMPLETED PROJECT SHALL BE A PROPERLY FUNCTIONING ENTITY THROUGHOUT. FURNISH ALL LABOR AND MATERIALS REQUIRED TO RELOCATE, REMOVE, REINSTALL, RECONNECT, REPLACE, ETC. ANY EXISTING PIPING TO ACCOMMODATE THE WORK. CONTRACTOR SHOULD CONSIDER IN HIS BID ANY EXTRA WORK REQUIRED TO MINIMIZE SHUTDOWN TIME.
5. EQUIPMENT FIXTURE, PIPING ETC. THAT ARE TO BE REMOVED/DEMOLISHED SHALL BE THE PROPERTY OF THIS CONTRACTOR UNLESS NOTED FOR SALVAGE BY UNIVERSITY AND SHALL BE REMOVED IN ITS ENTIRELY FROM THE PREMISES.
6. WHERE EQUIPMENT AND PIPING IS NOTED AND/OR SHOWN TO BE REMOVED, THIS REMOVAL SHALL INCLUDE ALL SUPPORTING STRUCTURES FOR THE ITEM AND ALL ANCILLARY DEVICES CONSIDERED TO BE A FUNCTIONING PART OF THE ITEM.
7. BEFORE DEMOLITION COMMENCES ON SITE, ALL EXISTING EQUIPMENT TO BE RETAINED AND REUSED WILL BE SURVEYED AND VALIDATED TO ESTABLISH CONDITION AND CAPACITIES. ANY EXISTING DAMAGE TO EQUIPMENT IS TO BE RECORDED AT THIS STAGE BY THE CONTRACTOR AND A FULL WRITTEN REPORT SUBMITTED TO THE UNIVERSITY REPRESENTATIVE FOR REVIEW. THE REPORT WILL INCLUDE PHOTOGRAPHIC EVIDENCE OF DAMAGE.
8. ALL POWER SUPPLIES TO EXISTING EQUIPMENT TO BE ISOLATED AND MADE SAFE (REFER TO DIVISION 16 FOR SPECIFIC DETAILS) BEFORE DEMOLITION STARTS.
9. ALL FIXTURE & EQUIPMENT TO BE REUSED IS TO BE CAREFULLY PROTECTED FROM DEMO & RENOVATION WORKS.
10. ANY DAMAGE TO EXISTING FIXTURE & EQUIPMENT DURING DEMO WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
11. ALL DAMAGED/MISSING INSULATION ON PIPEWORK/VALVES IS TO BE REPLACED/RENEWED AS NECESSARY.
12. CONTRACTOR TO ALLOW FOR A COMPLETE CLEAN-UP OF ALL RETAINED FIXTURE OR EQUIPMENT PRIOR TO RE-INSTALLATION.
13. CONTRACTOR TO CROSS REFERENCE DEMOLITION & NEW CONSTRUCTION DRAWINGS TO ENSURE CONSISTENCY IN DESIGN INTENT BEFORE PROCEEDING WITH ANY DEMOLITION WORK. ANY PIPE, VALVE, EQUIPMENT THAT IS MISTAKENLY DEMOLISHED SHALL BE RESTORED AT CONTRACTOR'S COST.
14. CONTRACTOR TO PERFORM CORING ABOVE OCCUPIED SPACE DURING OFF HOURS.
15. ABANDONED PIPING TO REMAIN.

PLUMBING LEGEND

SYMBOL	ABBREV.	DESCRIPTION
	CO/FCO/WCO	CLEANOUT/FLOOR CLEANOUT/WALL CLEANOUT
	S OR W	SOIL OR WASTE ABOVE GRADE OR FLOOR
	S OR W	SOIL OR WASTE BELOW GRADE OR FLOOR
	LW	LAB WASTE
	LV	LAB WASTE VENT
	V	VENT
	CW	COLD WATER
	HW	HOT WATER
	HWR	HOT WATER RETURN
	G	LOW PRESSURE NATURAL GAS
	ICW	INDUSTRIAL COLD WATER
	IHW	INDUSTRIAL HOT WATER
	IHWR	INDUSTRIAL HOT WATER RETURN
	DI/DIS/DIR	DEIONIZED WATER/SUPPLY/RETURN
	A	COMPRESSED AIR
	VAC	VACUUM
	F	FIRE PIPE
		PIPE TO BE DEMOLISHED
	BC	BALANCING VALVE OR COCK
	BV	BALL VALVE
	CHV	CHECK VALVE
	GV/SOV	GATE VALVE OR SHUT-OFF VALVE
	U	UNION
	DN	PIPE DROPPING DOWN
	UP	PIPE RISING UP
	TEE	PIPE DROPPING DOWN OFF BOTTOM OF PIPE
		FLOW METER
		CAP/PLUG PIPE
	FS	FLOOR SINK WITH GRATE AS SHOWN
	FD	FLOOR DRAIN
	POC	POINT OF CONNECTION
	POD	POINT OF DISCONNECTION

CORE SPACING REQUIREMENTS

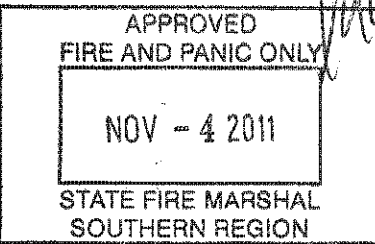
1. PIPES UP TO 3" DIAMETER, CORE SPACE AT 6" CENTER TO CENTER.
2. PIPES 4" TO 6" MAXIMUM DIAMETER, CORE SPACE AT 12" CENTER TO CENTER.
3. CONTRACTOR SHALL LOCATE THE REINFORCING STEEL IN THE CONCRETE BEAMS/WALLS TO PREVENT THE REBAR FROM BEING DAMAGED.

ABBREVIATIONS

ABBREV.	DEFINITION	ABBREV.	DEFINITION
AB	ABOVE	(N)	NEW
AD	AREA DRAIN	NC	NORMALLY CLOSED
AFF	ABOVE FINISHED FLOOR	NIC	NOT IN CONTRACT
AP	ACCESS PANEL	NO	NORMALLY OPEN
BEL	BELOW	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
CD	CONDENSATE DRAIN	NFPA	NATIONAL FIRE PROTECTION ASSOC.
CFCI	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED	NT	NEUTRALIZING TANK
CLG	CEILING	O.D.	OVERFLOW STORM DRAIN
CONN	CONNECTION	O.F.D.	OVERFLOW DRAIN
CONT	CONTINUATION	O.F.C.I.	OWNER FURNISHED, CONTRACTOR INSTALLED
COTG	CLEAN OUT TO GRADE		OWNER FURNISHED, OWNER INSTALLED
CPC	CALIFORNIA PLUMBING CODE	O.F.O.I.	POST INDICATOR VALVE
CRP	CIRCULATING PUMP	PIV	PLUMBING
CS	CUP SINK	PLBG	PLUGGED OUTLET
CSP	COMBINATION STANDPIPE	PO	POINT OF CONNECTION
C/W	COMPLETE WITH	POD	POINT OF DISCONNECTION
DWM	DOMESTIC WATER METER	PROV	PROVIDE (FURNISH & INSTALL)
DF	DRINKING FOUNTAIN	PVTR	PROCESSED VENT THROUGH ROOF
DIA	DIAMETER	PRESS	PRESSURE
DN	DOWN	PSI	POUNDS PER SQUARE INCH
DH	DRENCH HOSE	PVB	PRESSURE VACUUM BREAKER
DS	DOWN SPOUT	RCV	RISER CONTROL VALVE
DWG	DRAWING	RCIP	RECTANGULAR CAST
EL/ELEV	ELEVATION	R.D.	ROOF DRAIN IRON PIPE
ELEC	ELECTRICAL	R.R.	ROOF RECEPTOR
(E)/EXIST	EXISTING	RI & C	ROUGH IN & CONNECT
EOP	EQUIPMENT	RPM	REVOLUTIONS PER MINUTE
EW	SAFETY SHOWER AND EYEWASH	RVB	RECESSED VALVE BOX
EWC	ELECTRIC WATER COOLER	SA	SAME AS
FDC	FIRE DEPARTMENT CONNECTION	S.D.	STORM DRAIN
FH	FUME HOOD	SE	SEWAGE EJECTOR
FTG	FITTING	SF	SQUARE FOOT
FL	FLOW LINE	S, SK	SINK
FLR	FLOOR	SH	SHOWER
FUT	FUTURE	S/S	STAINLESS STEEL
FU	FIXTURE UNITS	SSD	SUB SOIL DRAINAGE
FV	FLUSH VALVE	S.O.V.	SHUT-OFF-VALVE
GAL	GALLONS	SPKR	SPRINKLER
GPM	GALLONS PER MINUTE	SP	SUMP PUMP
ACC	ACCESSIBLE	SPEC	SPECIFICATIONS
HDR	HEADER	SPX	SIMPLEX
HPD	HIGH PURIFIED WATER	S=	SLOPE
HPDR	HIGH PURIFIED WATER RETURN	TDL	TOTAL DEVELOPED LENGTH
HZ	HERTZ	TMV	THERMOSTATIC MIXING VALVE
IE	INVERT ELEVATION	TP	TRAP PRIMER
IN	INCHES	TYP	TYPICAL
INST	INSTALL	UNO	UNLESS NOTED OTHERWISE
IRR.	IRRIGATION	UR	URINAL
IW	INDIRECT WASTE	UTR	UP THROUGH ROOF
JC	JANITOR'S CLOSET	VBF	VENT BELOW FLOOR
LAV	LAVATORY	VTR	VENT THROUGH ROOF
LS	LAB SINK	W/	WITH
KW	KILOWATT	WC	WATER CLOSET
MAX	MAXIMUM	WHA	WATER HAMMER ARRESTOR
M	METER	WSP	WET STANDPIPE
MIN	MINIMUM	Y.B.	YARD BOX
MH	MAN HOLE		
MS	MOP SINK		
MTD	MOUNTED		

PLUMBING DRAWING LIST

- P-0.1 PLUMBING LEGENDS, SYMBOLS & NOTES
- P-0.2 PLUMBING SCHEDULES
- PD-2.1 PLUMBING DEMOLITION PLAN
- P-2.1 PLUMBING PROPOSED PLAN
- P-5.1 PLUMBING DETAILS
- P-5.2 PLUMBING DETAILS



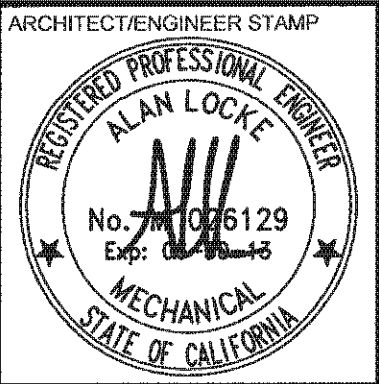
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NO.	REVISIONS/SUBMISSIONS	DATE
	DESIGN DEVELOPMENT	9/29/2011
	PRELIMINARY OTC REVIEW	10/4/2011
	BACKCHECK OTC REVIEW	11/7/2011

BOELTER HSSEAS - UNDER GRADUATE
LAB 6541 RENOVATION

PLUMBING
LEGENDS, SYMBOLS & NOTES

PROJECT MANAGER	DESIGNED BY	PROJECT NUMBER	DATE
		11-1039	28 OCTOBER 2011
REFER TO PLOT STAMP			



SHEET NUMBER

P-0.1

PLUMBING FIXTURE CONNECTION SCHEDULE														
CODE	DESCRIPTION	LOCATION	ACCESSIBLE	WASTE	VENT	LAB WASTE	TRAP	LAB VENT	COLD WATER	HOT WATER	INDUSTRIAL COLD WATER	INDUSTRIAL HOT WATER	DI WATER	REMARKS
S-1	LABORATORY SINK	LABORATORY	--	-	-	2"	1 1/2"	1 1/2"	-	-	3/4"	3/4"	3/4"	EPOXY RESIN DROP-IN SINK & FAUCET: WITH CHICAGO #1017 LOOSE KEY ANGLE STOPS (OR EQUAL) AND GLASS DRUM TRAP. DI FAUCET:
S-1A	LABORATORY SINK	LABORATORY	YES	-	-	2"	1 1/2"	1 1/2"	-	-	3/4"	3/4"	3/4"	ACCESSIBLE EPOXY RESIN DROP-IN SINK & FAUCET: WITH CHICAGO #1017 LOOSE KEY ANGLE STOPS (OR EQUAL) AND GLASS DRUM TRAP. COVER TRAP & HW SUPPLY WITH ONE PIECE INSULATION. DI FAUCET:
GV-1	GAS VALVE	LABORATORY	--	-	-	-	-	-	-	-	-	-	-	COUNTER TYPE, DUAL OUTLETS, FOR VACUUM, AIR OR GAS:
GV-2	GAS VALVE	LABORATORY	--	-	-	-	-	-	-	-	-	-	-	WALL TYPE, SINGLE OUTLET, FOR VACUUM, AIR OR GAS:
EEWS-1	EMERGENCY EYEWASH & SHOWER	LABORATORY	YES	-	-	-	-	-	1"	-	-	-	-	BARRIER-FREE RECESSED SHOWER & EYE/FACE WASH WITH WALL MOUNTED SHOWER HEAD:
FS-1	LAB FLOOR SINK	AS NOTED	-	-	-	2"	2"	1 1/2"	-	-	-	-	-	ZURN MODEL Z-1960-NH-KC-P-2, 8"DIAMETER, W/ ACID RESISTING PORCELAIN ENAMEL INTERIOR & TOP. WITH TRAP PRIMER CONNECTION, W/ 6" SUMP DEPTH. (OR EQUAL)
TP-1	ELECTRONIC TRAP PRIMER	AS NOTED	-	-	-	-	-	-	-	-	1/2"	-	-	PPP MODEL MPB-500-115V, MINI-PRIME W/ BOX ELECTRONIC TRAP PRIMING MANIFOLD, DIMENSIONS: 12x12x4DEPTH. (OR EQUAL)
HB-1	HOSE BIBB	AS NOTED	-	-	-	-	-	-	-	-	3/4"	-	-	WOODFORD MODEL #24, WALL HYDRANT WITH VACUUM BREAKER

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SOUTHERN REGION

UCLA Facilities Management

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UTILITIES
LANDSCAPE
ARCHITECTURE
INTERIOR DESIGN
RECYCLING SYSTEMS
PROJECT MANAGEMENT & OPERATIONS

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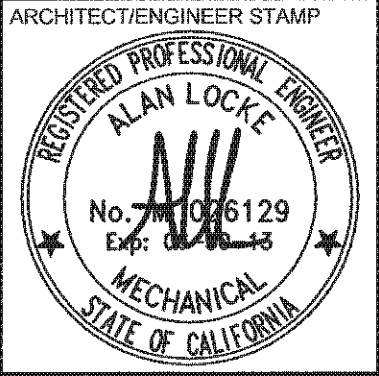
PROJECT

BOELTER HSSEAS - UNDER GRADUATE
LAB 6541 RENOVATION

DRAWING

PLUMBING SCHEDULES

PROJECT MANAGER	DATE
DRAWN BY	28 OCTOBER 2011
PROJECT NUMBER	
SHEET NUMBER	
DATE	
SCALE	
DATE	
SCALE	
DATE	
SCALE	



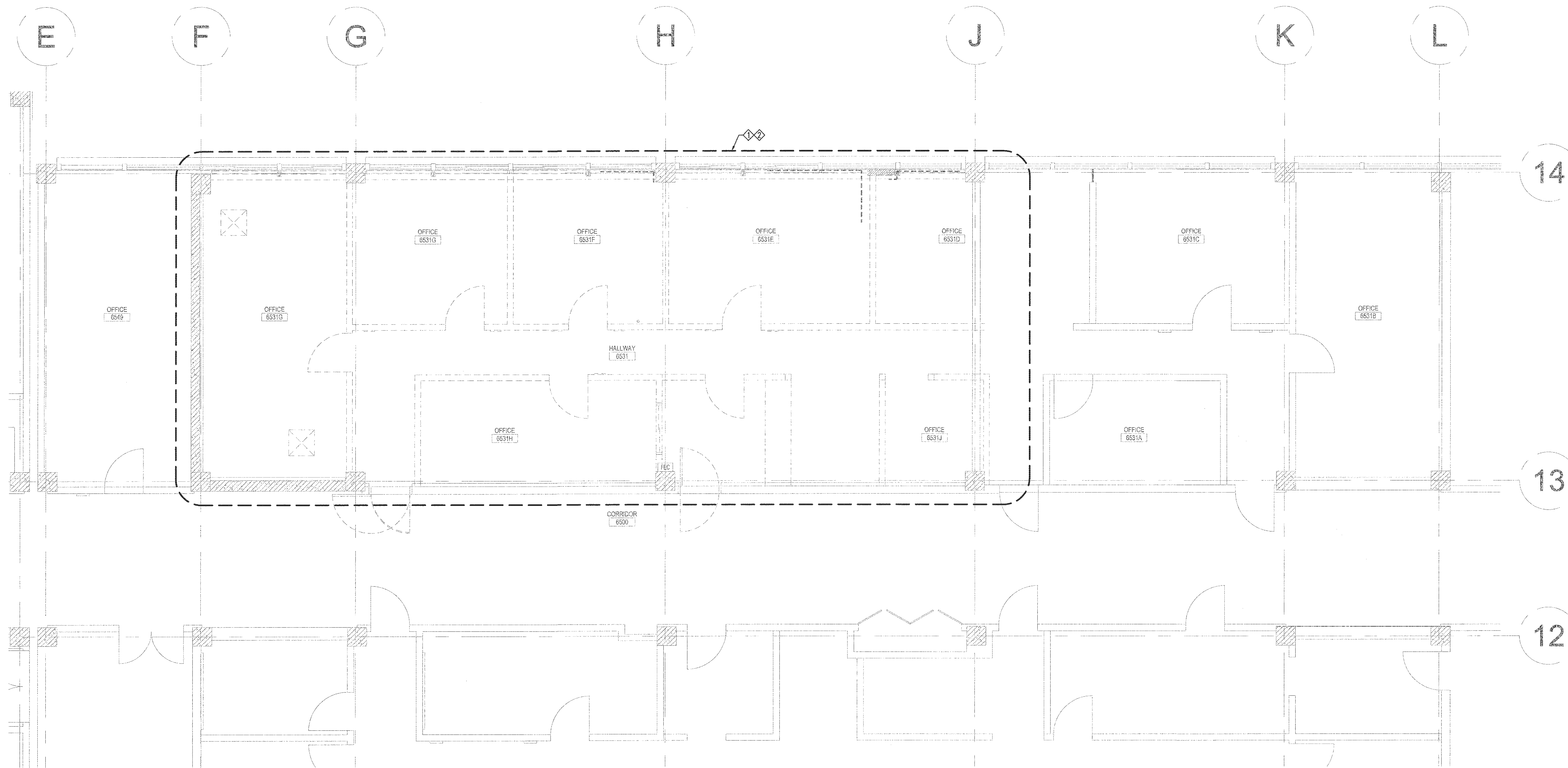
SHEET NUMBER

P-0.2

DEMOLITION REFERENCE DESIGN NOTES

- ALL EXISTING ABANDONED PLUMBING PIPING IN ROOM TO BE DEMOLISHED. CAP & PLUG ABV. CLG & BEL. FLR. FIELD VERIFY EXACT LOCATION.
- EXISTING FIRE SPRINKLER PIPING TO REMAIN AND TO BE PROTECTED IN PLACE. MODIFY EXISTING FIRE SPRINKLER PIPING AND PROVIDE NEW SPRINKLER HEADS TO PROVIDE COMPLETE COVERAGE AS REQUIRED FOR NEW ROOM LAYOUT.

GENERAL NOTES:
1. REFER TO P-0.1 FOR GENERAL "EXISTING CONDITIONS" & "DEMOLITION NOTES" REQUIREMENTS AS APPLIED TO DESIGN INTENT INDICATED ON DRAWINGS.



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PLUMBING DEMOLITION PLAN 1/4"=1'-0"

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INTERIOR DESIGN
RECYCLING SYSTEMS
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PROJECT
BOELTER HSSEAS - UNDER GRADUATE
LAB 6541 RENOVATION

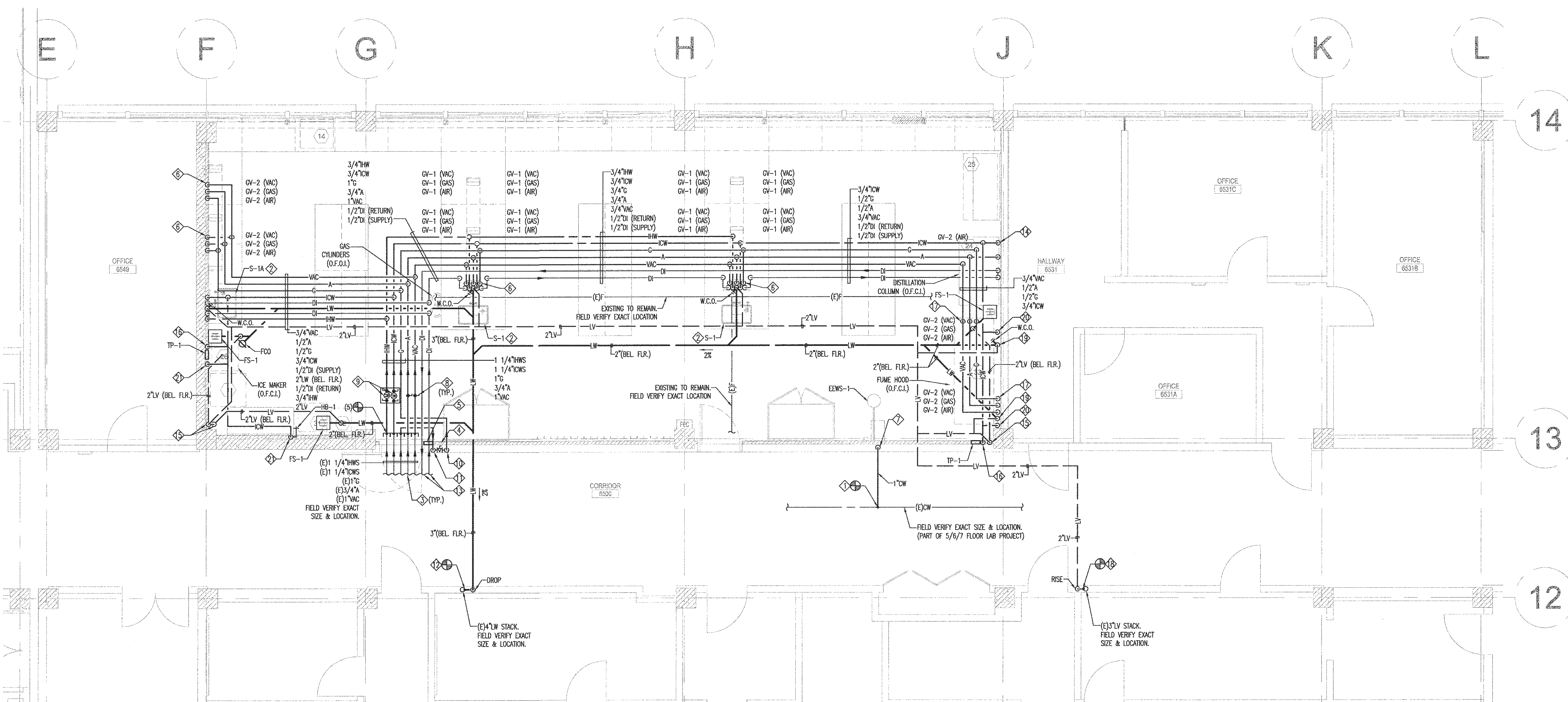
DRAWING
PLUMBING
DEMOLITION PLAN

PROJECT MANAGER	DATE
DRAWN BY	28 OCTOBER 2011
PROJECT NUMBER	
11-103	
REFER TO PLOT STAMP	
SCALE	

ARCHITECT/ENGINEER STAMP
REGISTERED PROFESSIONAL ENGINEER
ALAN LOCKE
No. 7106129
Exp. 01/01/15
MECHANICAL
STATE OF CALIFORNIA

SHEET NUMBER

PD-2.1



- REFERENCE DESIGN NOTES
- 1. POC, CONNECT (N)1\"/>

GENERAL NOTES:
1. CONTRACTOR TO PROVIDE 3/4\"/>

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PLUMBING PROPOSED PLAN_1/4\"/>

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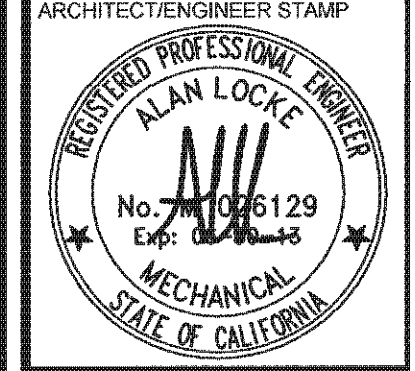
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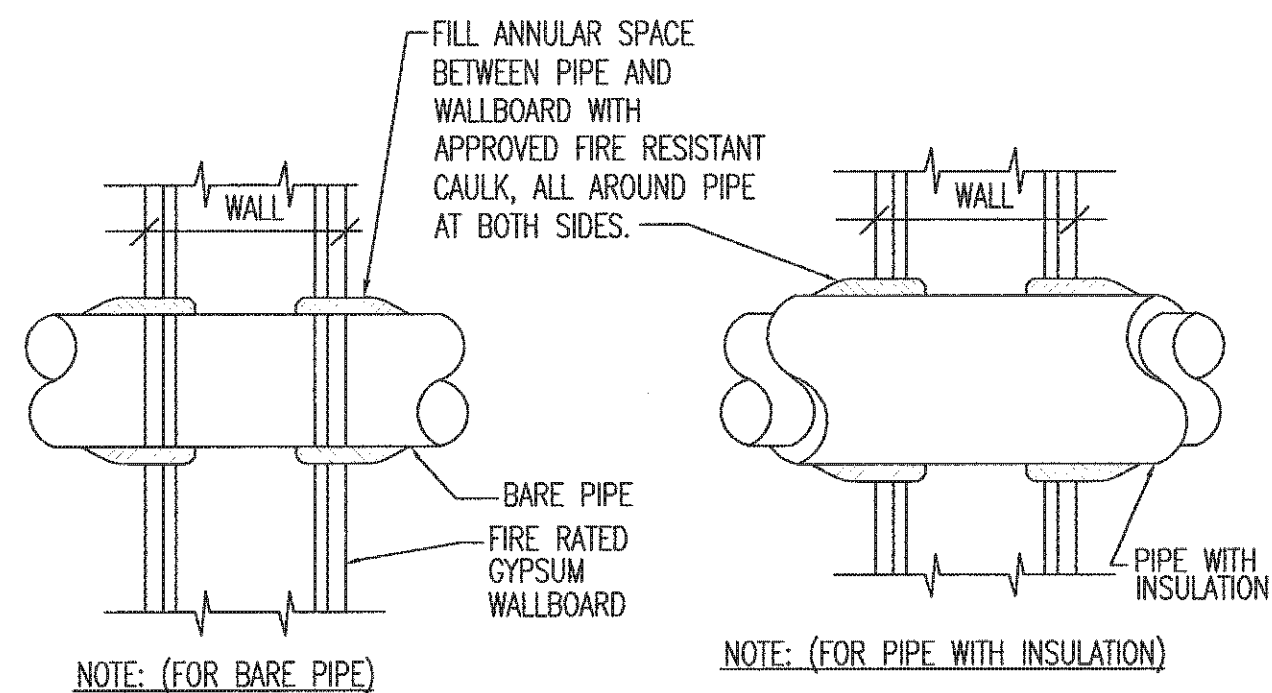
PROJECT
**BOELTER HSSEAS - UNDER GRADUATE
LAB 6541 RENOVATION**

DRAWING
**PLUMBING
PROPOSED PLAN**

PROJECT MANAGER	DRAWN BY
PROJECT NUMBER 11-1039	DATE 28 OCTOBER 2011
DATE 28 OCTOBER 2011	DATE 28 OCTOBER 2011



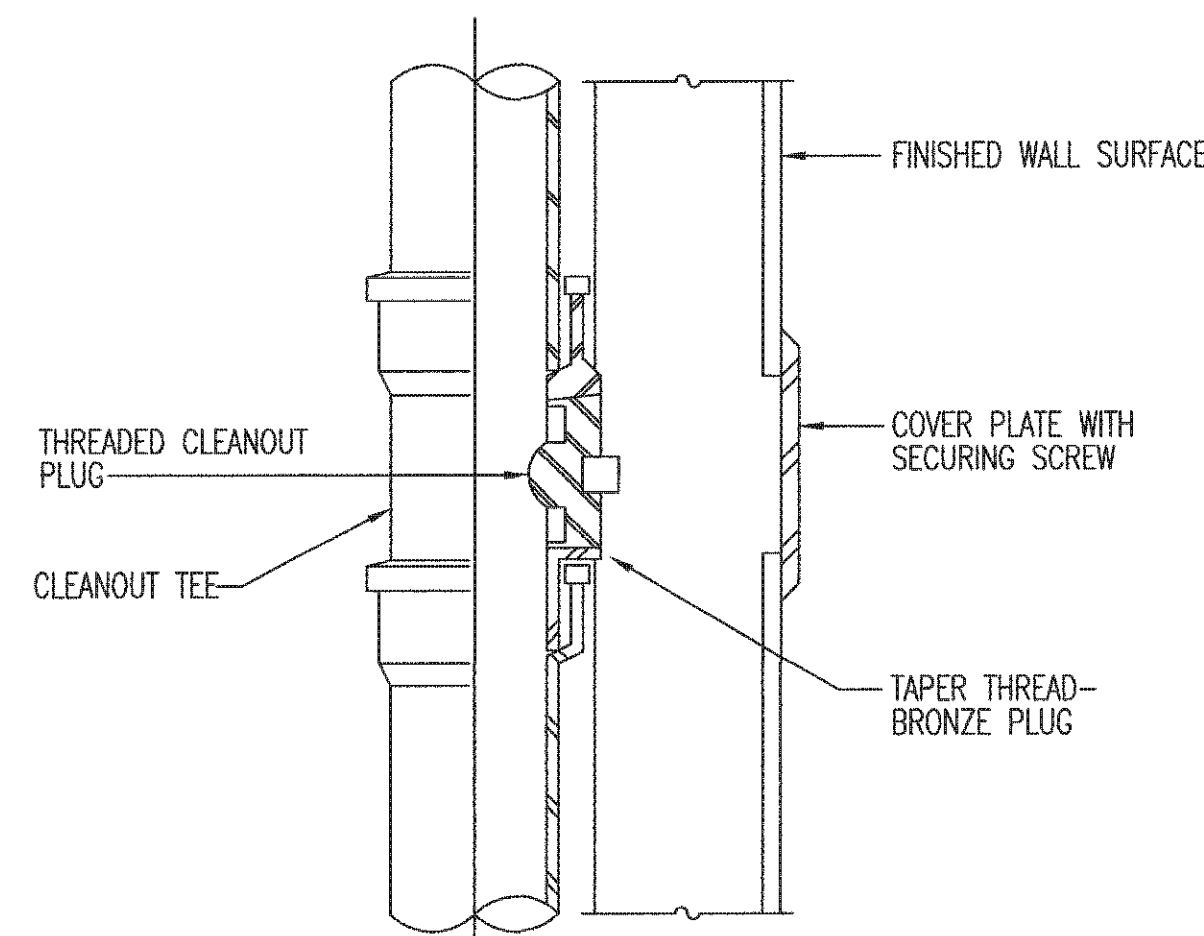
SHEET NUMBER
P-2.1



- NOTE: (FOR BARE PIPE)**
- PIPE PENETRATION THROUGH FIRE RATED WALLS SHALL BE SEALED IN COMPLIANCE WITH U.L. FIRE RESISTANCE DIRECTORY SYSTEMS WL1001, WL1002 OR WL1003 AS APPLICABLE. FOR CONCRETE FLOOR OR WALL PENETRATIONS SYSTEMS CAJ1001 OR AS APPLICABLE SHALL BE USED. WL1001 SHOWN
- NOTE: (FOR PIPE WITH INSULATION)**
- PIPE PENETRATION THROUGH FIRE RATED WALLS SHALL BE SEALED IN COMPLIANCE WITH U.L. FIRE RESISTANCE DIRECTORY SYSTEMS WL5001, OR WL5002 AS APPLICABLE. FOR CONCRETE FLOOR OR WALL PENETRATIONS SYSTEMS CAJ5001, CAJ5002, CAJ5003 OR CAJ5005 AS APPLICABLE SHALL BE USED. WL5001 SHOWN

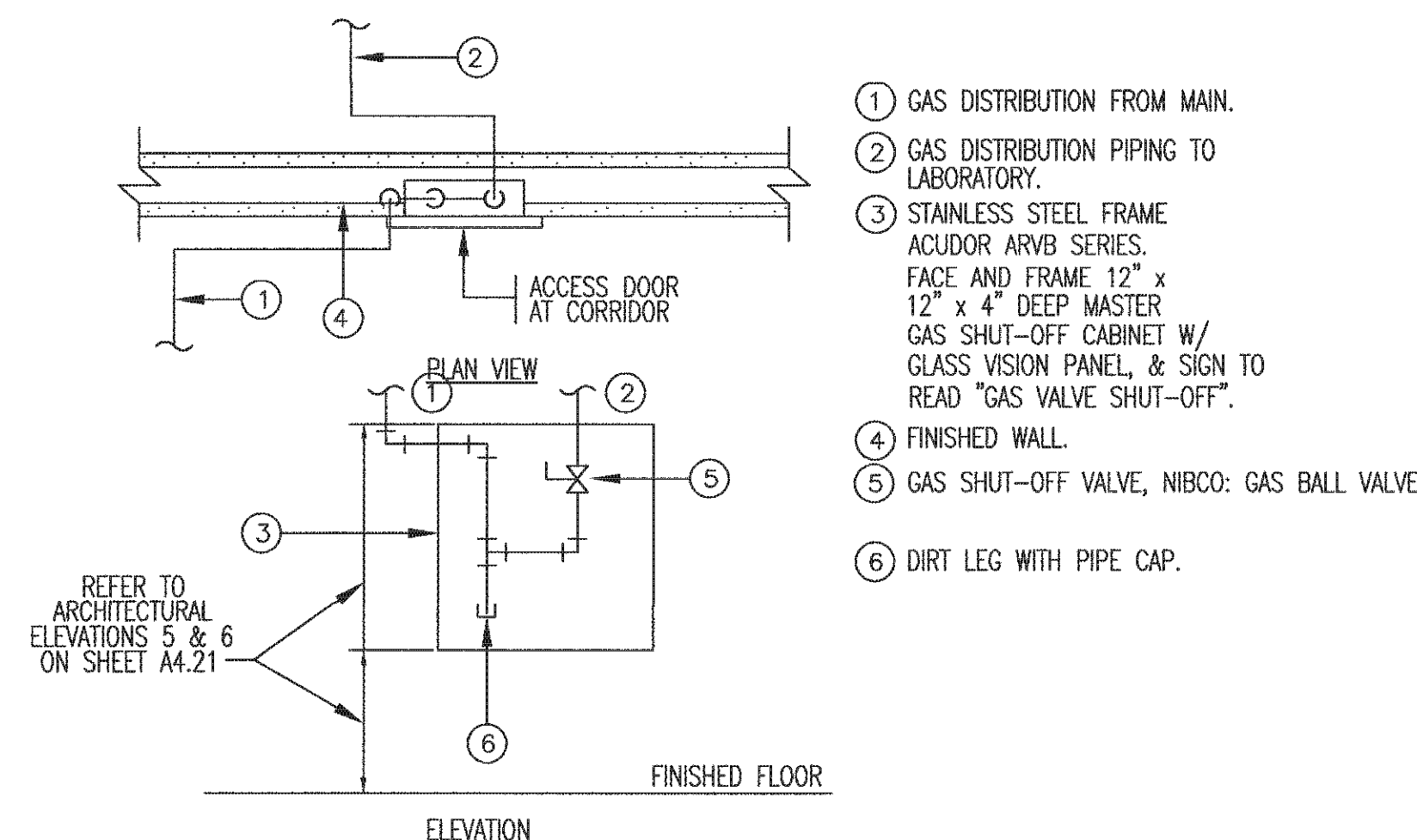
4 WALL PENETRATION DETAIL

P-5.1 SCALE: NONE



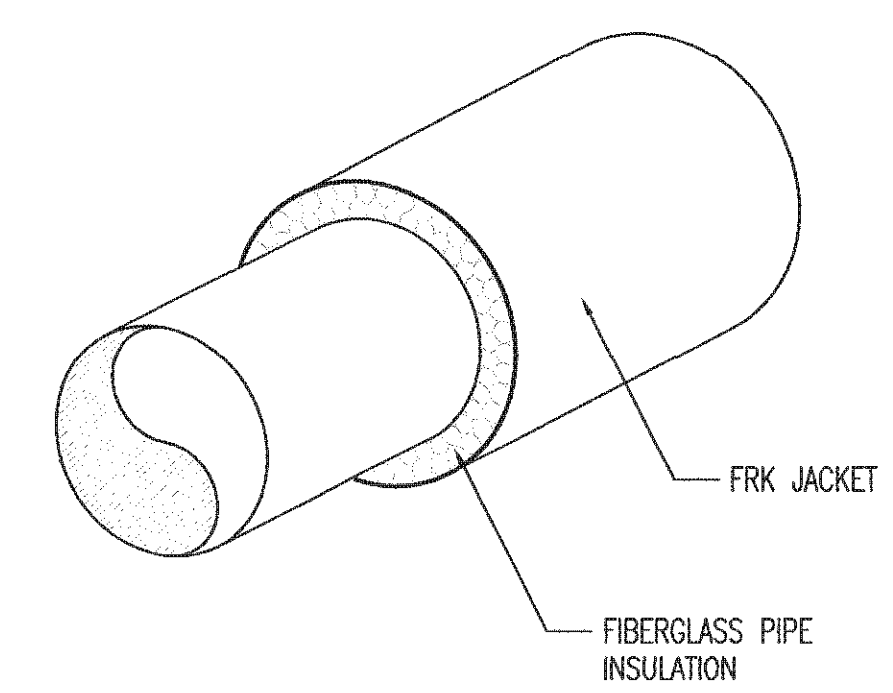
3 WALL CLEANOUT

P-5.1 SCALE: NONE



2 ROOM GAS SHUT-OFF VALVE ASSEMBLY

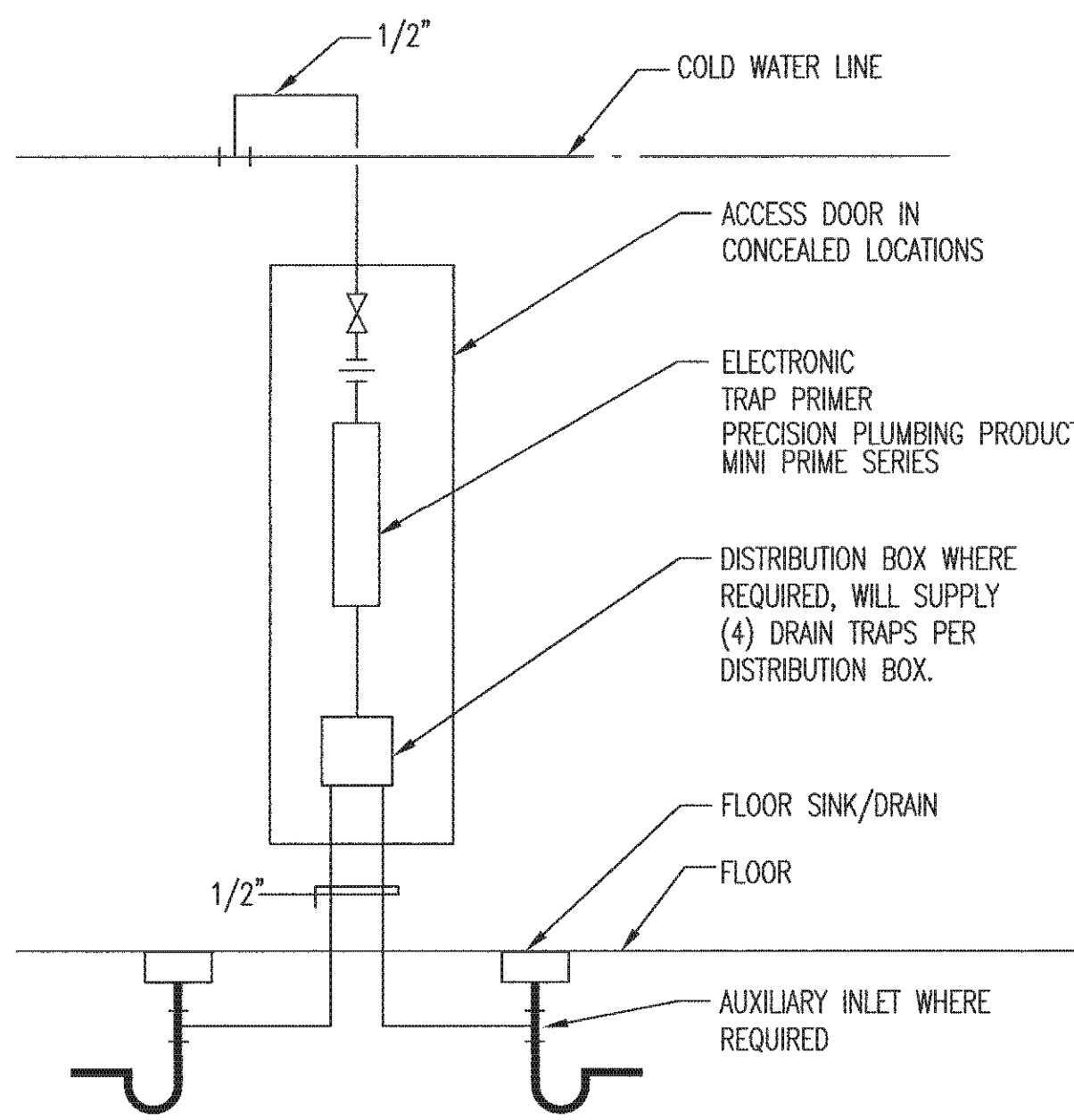
P-5.1 SCALE: NONE



NOTE:
PRODUCT EQUAL TO OWENS/CORNING ASJ-SSL-II
PIPE SECTION.

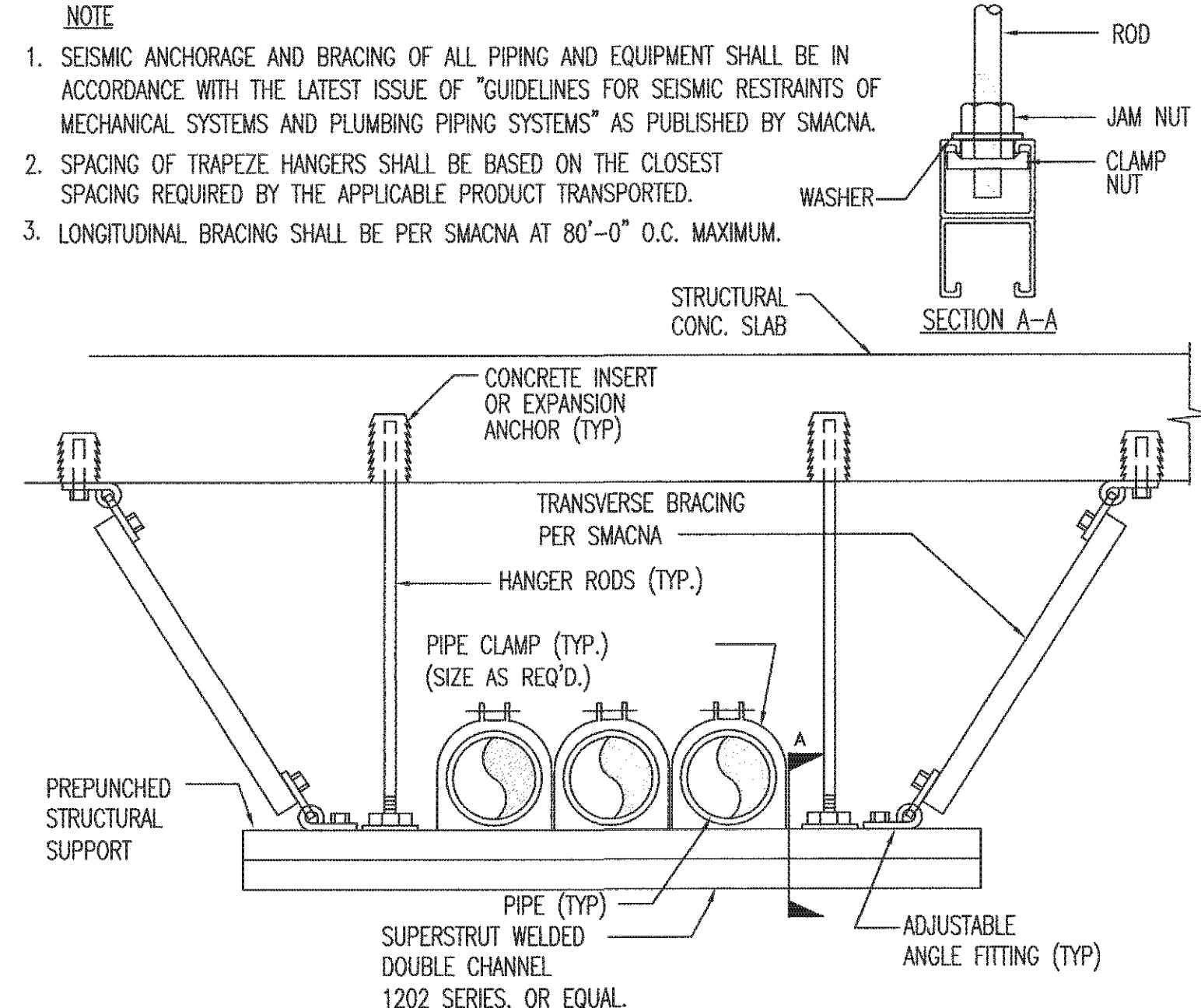
1 TYPE FPI ACOUSTICAL PIPE WRAPPING

P-5.1 SCALE: NONE



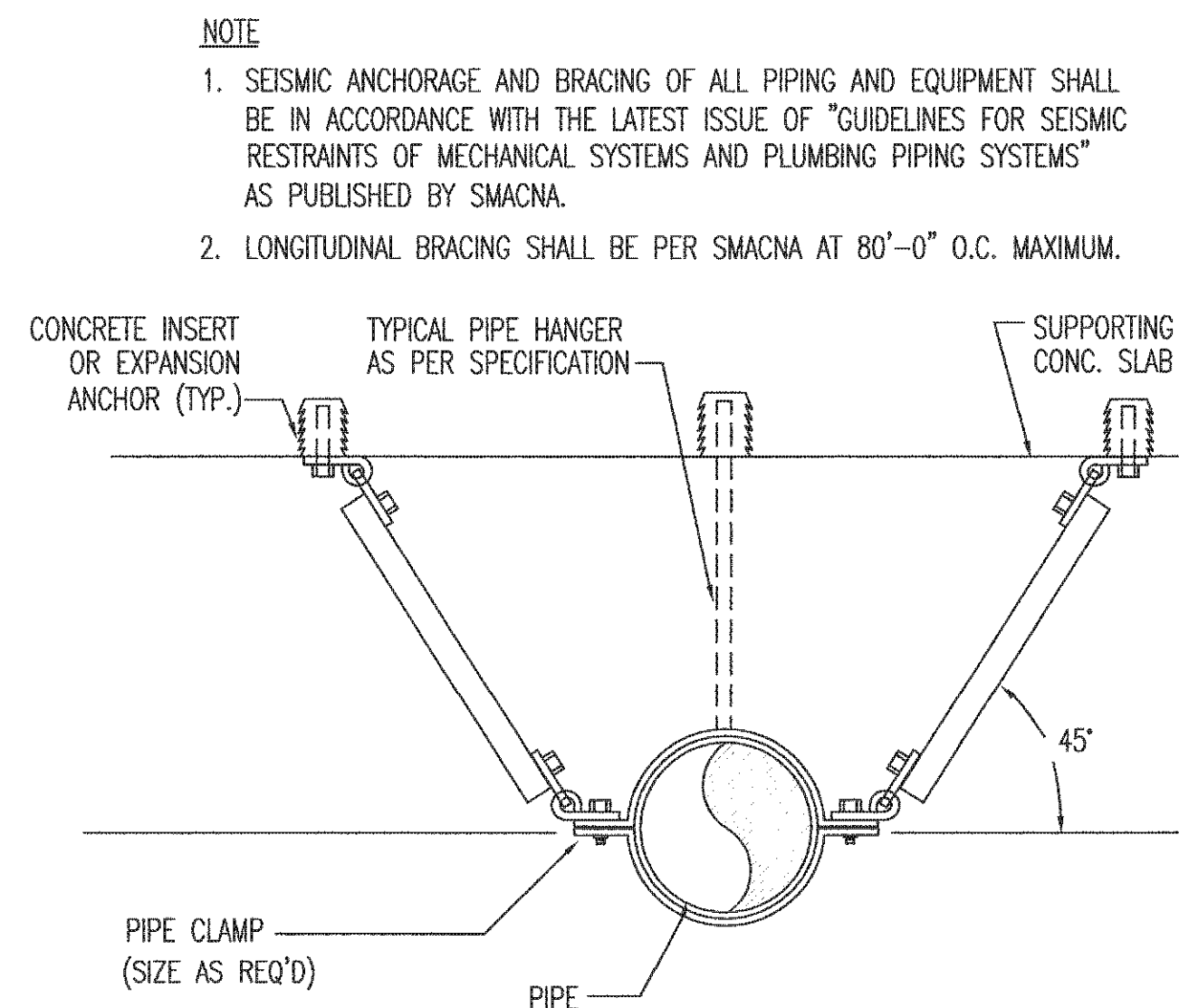
8 TRAP PRIMER DETAIL

P-5.1 SCALE: NONE



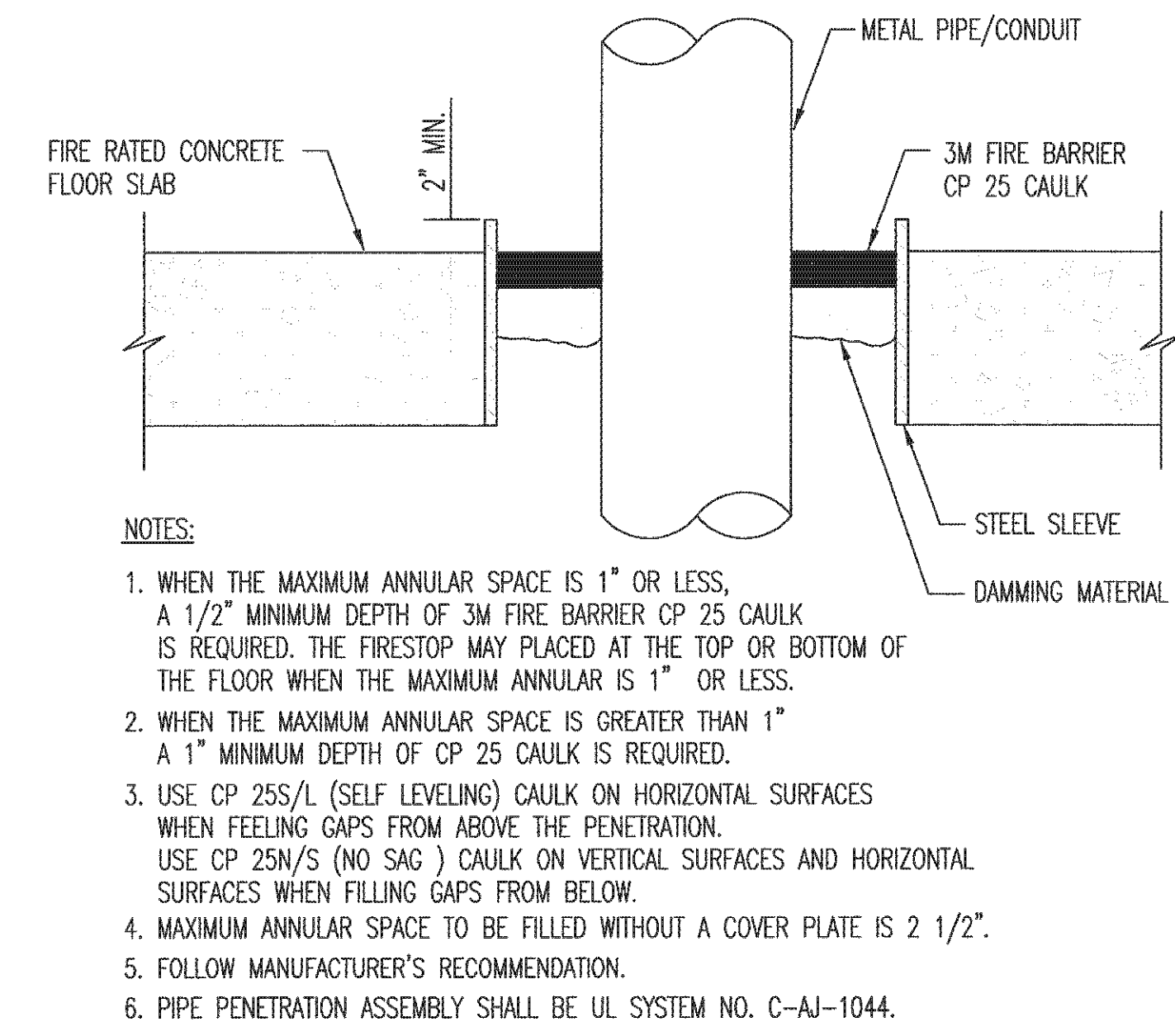
7 MULTIPLE PIPE SUPPORT/SWAY BRACING DETAIL

P-5.1 SCALE: NONE



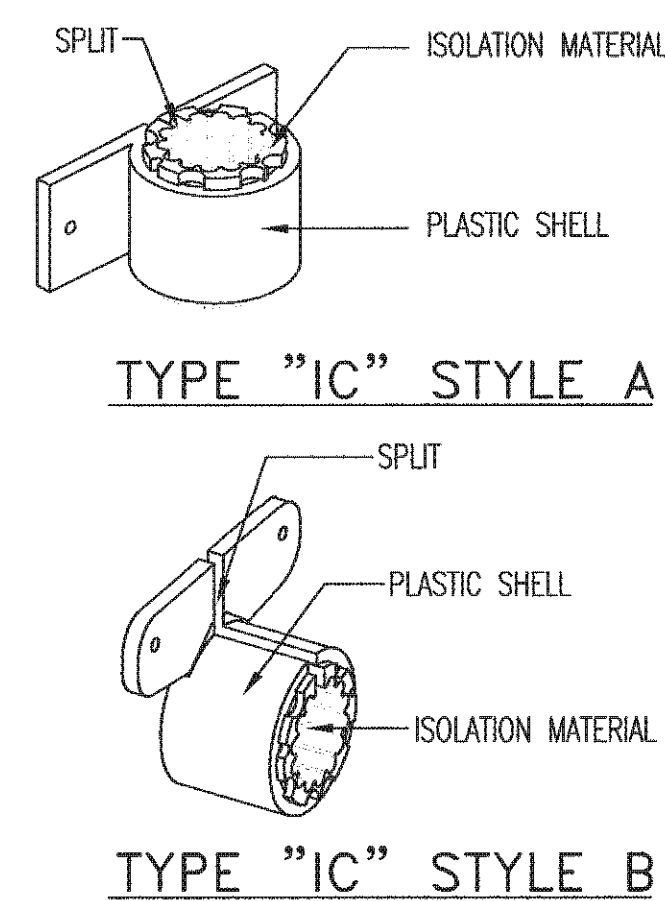
6 SINGLE PIPE SUPPORT/SWAY BRACING DETAIL

P-5.1 SCALE: NONE



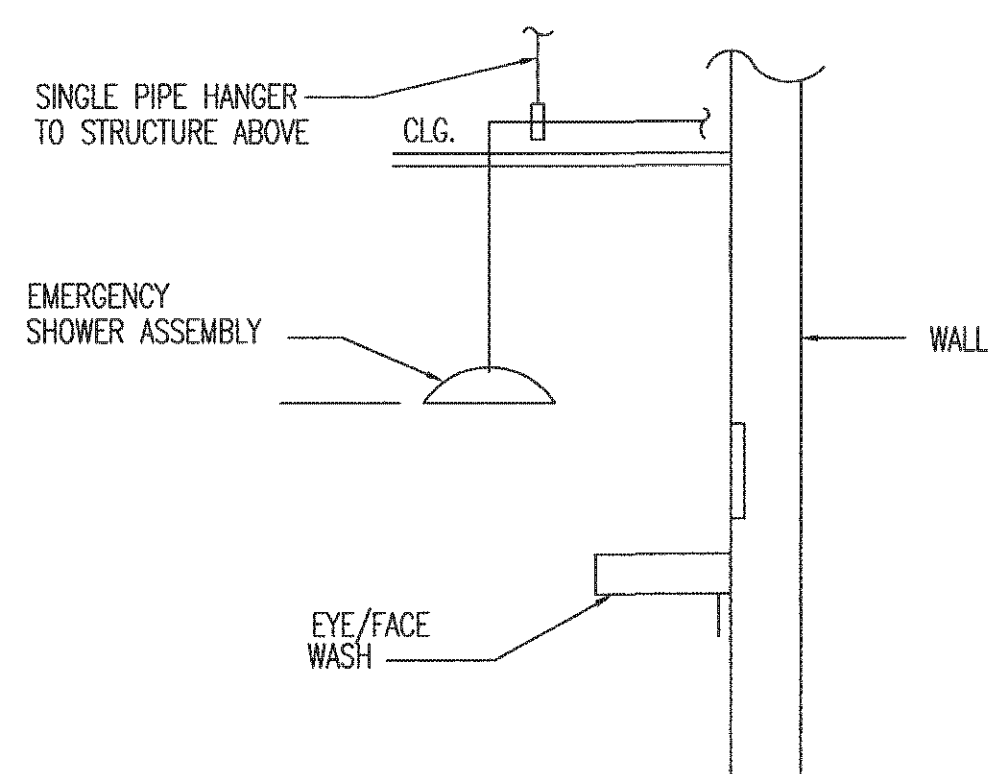
5 FLOOR PENETRATION DETAIL

P-5.1 SCALE: NONE



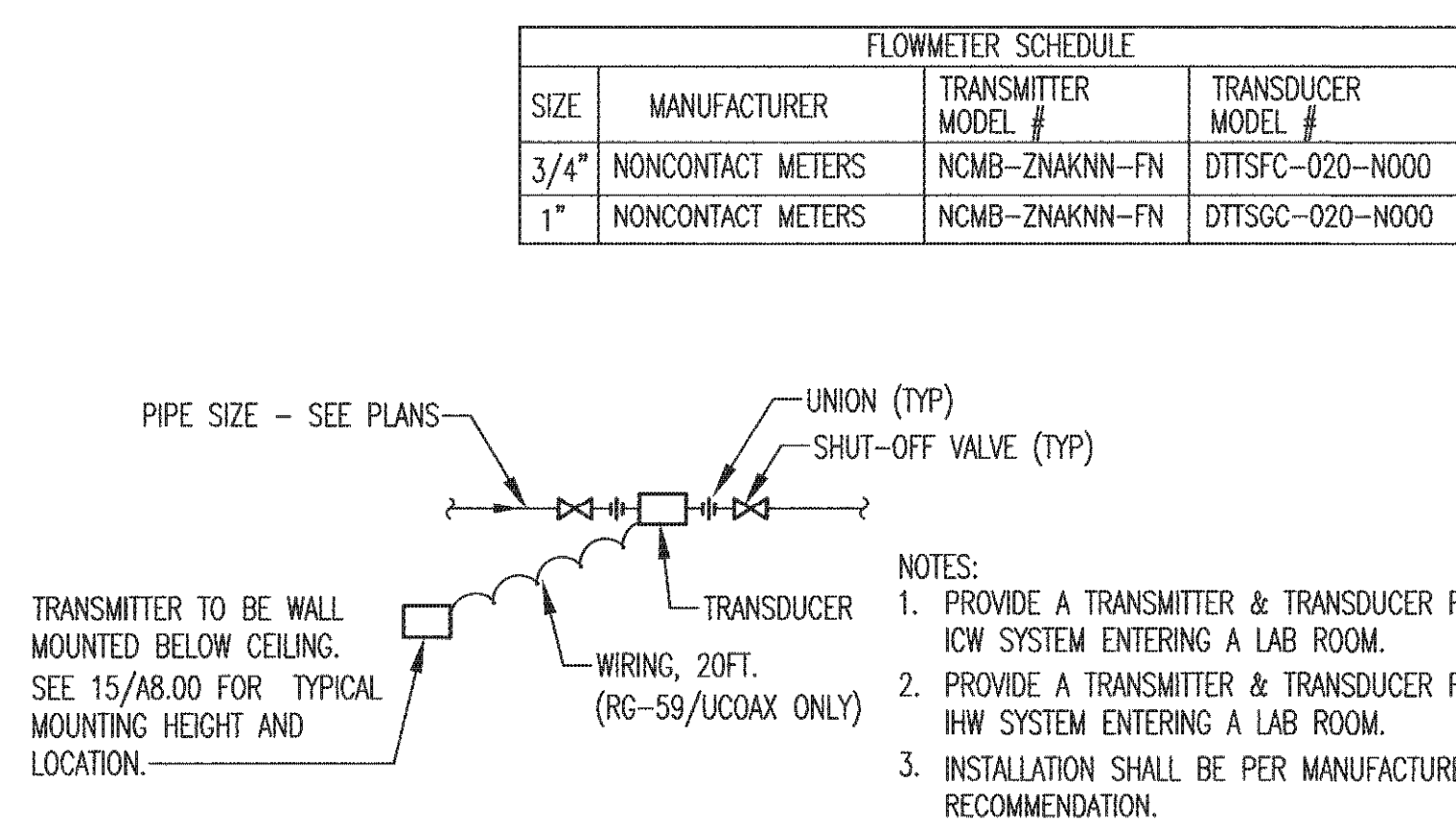
12 ISOLATING PIPE CLAMP

P-5.1 SCALE: NONE



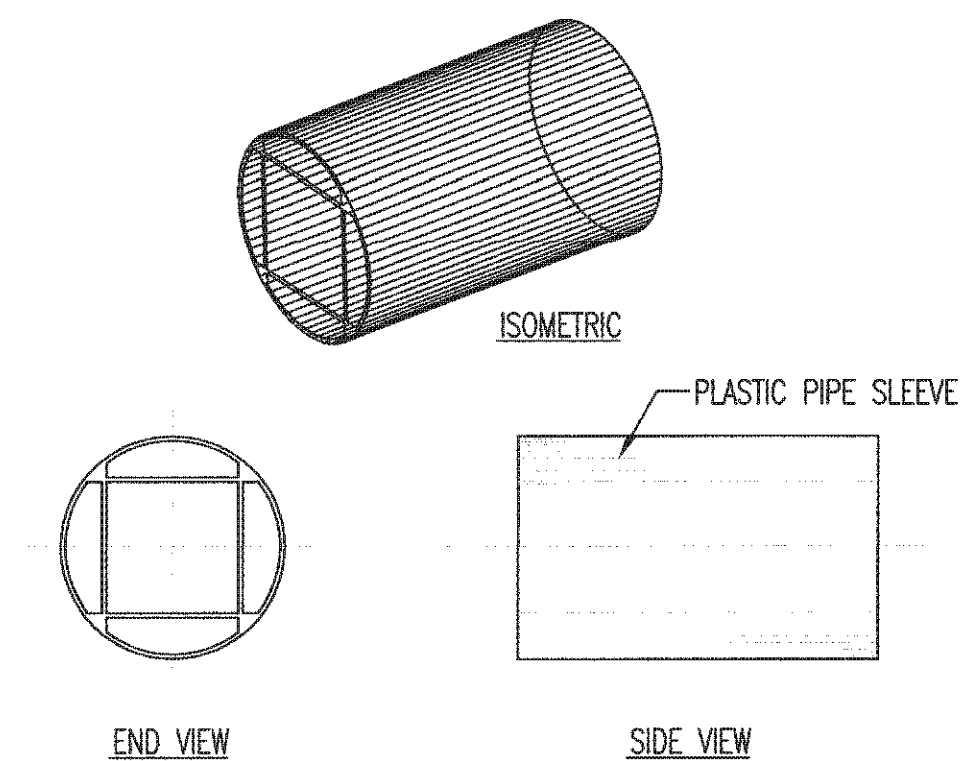
11 EMERGENCY SHOWER & EYEWASH PIPING DETAIL

P-5.1 SCALE: NONE



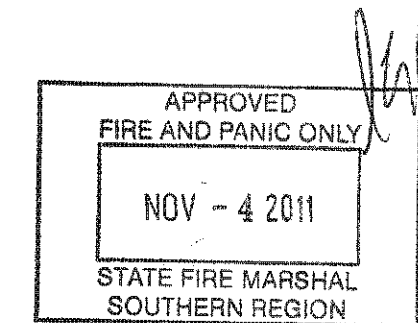
10 FLOW METER DETAIL

P-5.1 SCALE: NONE



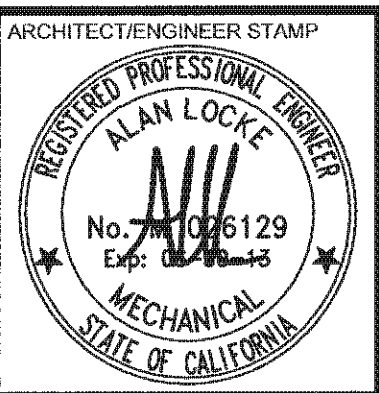
9 TYPE ISL ISOLATING PIPE SLEEVE

P-5.1 SCALE: NONE



NO.	REVISIONS/SUBMISSIONS	DATE
	DESIGN DEVELOPMENT	9/29/2011
	PRELIMINARY OTC REVIEW	10/4/2011
	BACKCHECK OTC REVIEW	11/7/2011

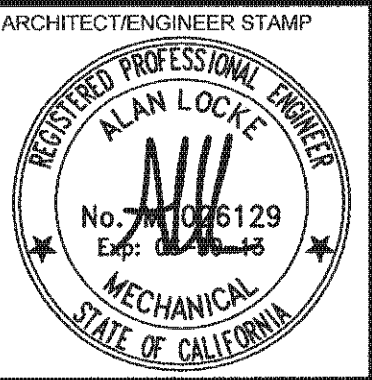
PROJECT NUMBER	11-109
DRAWN BY	REFER TO PLOT STAMP
CHECKED BY	DATE
DATE	28 OCTOBER 2011



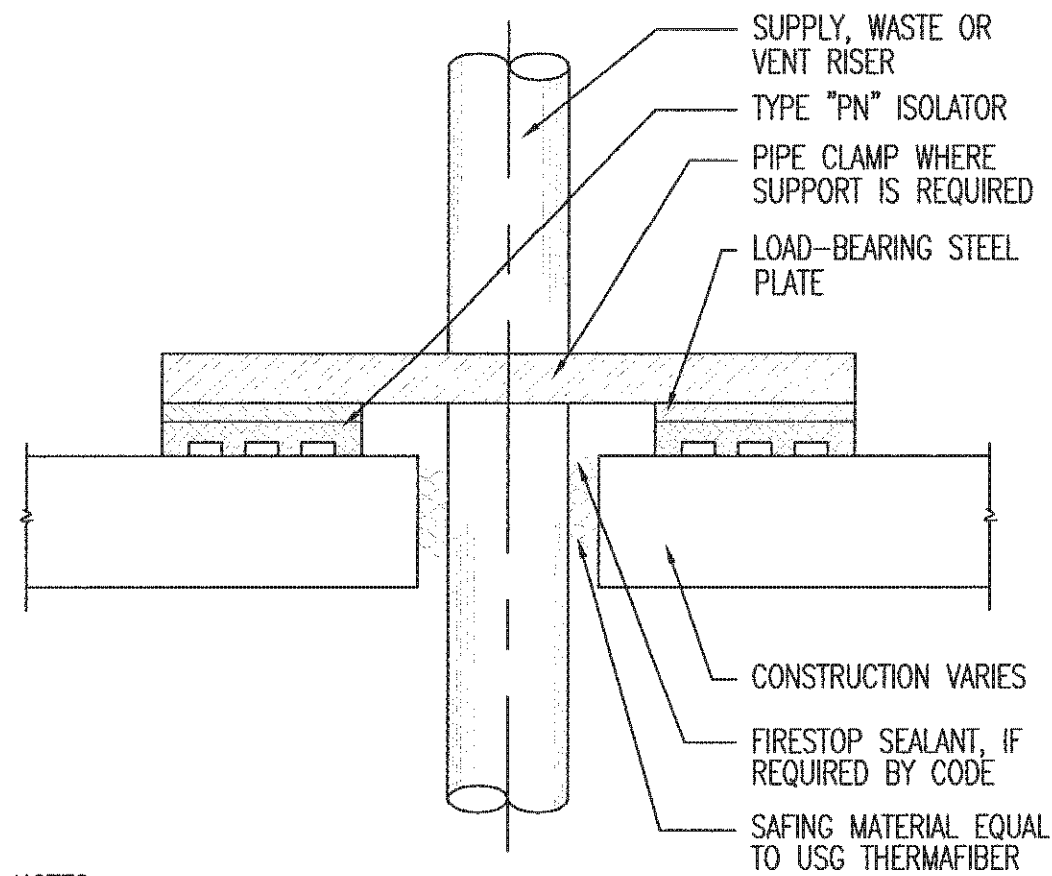
NO.	REVISIONS/SUBMISSIONS	DATE
	DESIGN DEVELOPMENT	9/29/2011
	PRELIMINARY OTC REVIEW	10/4/2011
	BACKCHECK OTC REVIEW	11/1/2011

PROJECT	BOELTER HSSEAS - UNDER GRADUATE LAB 6541 RENOVATION
DRAWING	PLUMBING DETAILS

PROJECT MANAGER	DATE
DRAWN BY	28 OCTOBER 2011
PROJECT NUMBER	
11-1039	
SCALE	
ENTER TO PLOT STAMP	



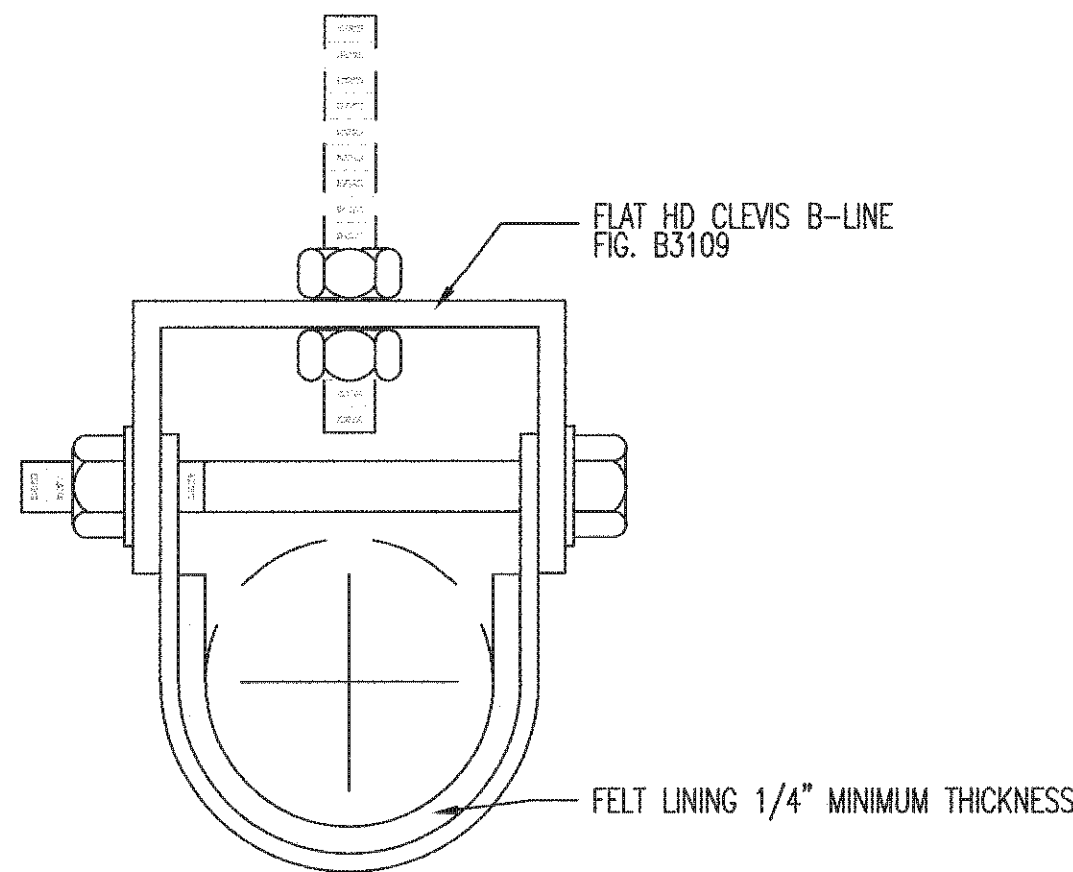
SHEET NUMBER
P-5.2



- NOTES:
1. NO CONTACT BETWEEN PIPE CLAMP AND STUDS OR GYPSUM BOARD.

1 ISOLATION OF PLUMBING RISERS

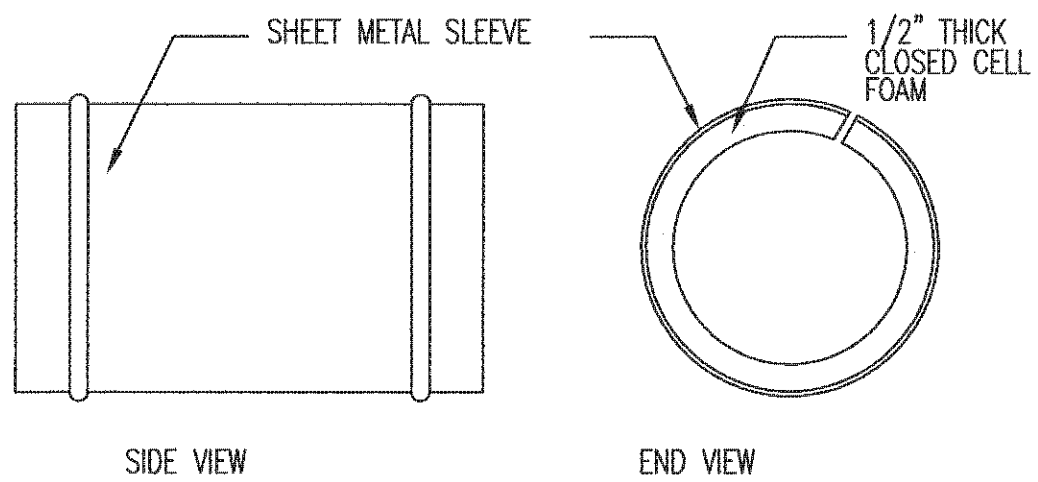
P-5.2 SCALE: NONE



- NOTES:
1. EQUAL TO TOLCO CLEVIS HANGER WITH FELT LINING.

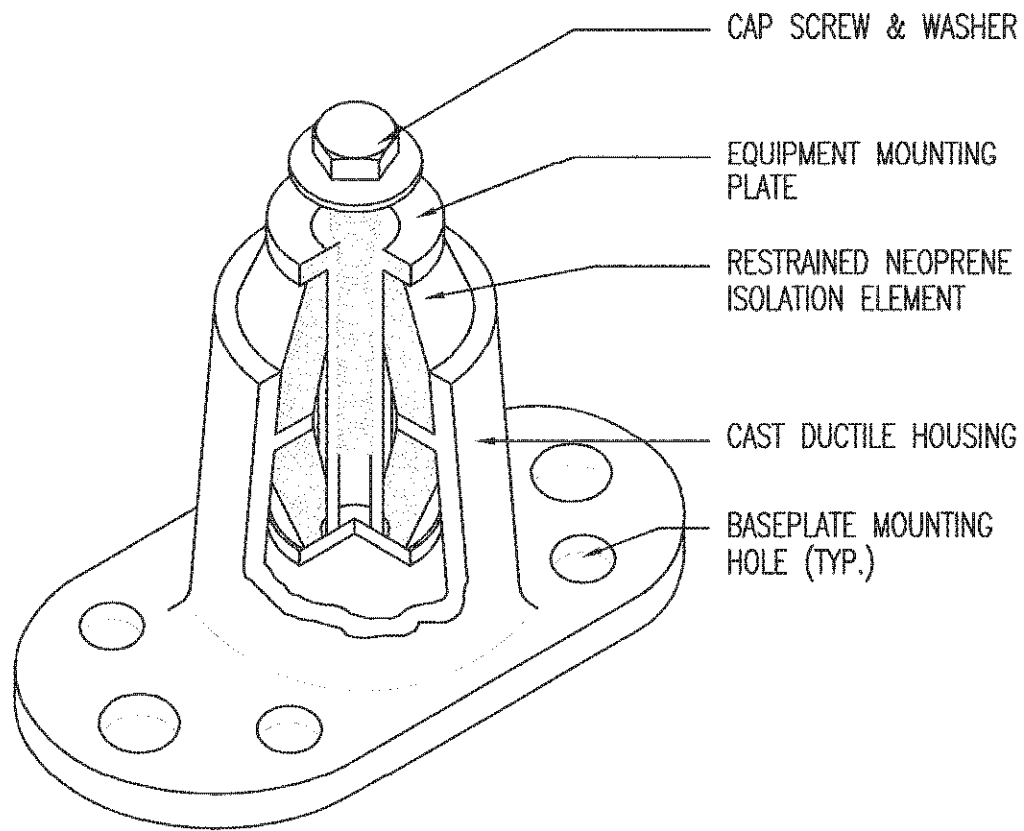
5 TYPE CHF, ISOLATOR

P-5.2 SCALE: NONE



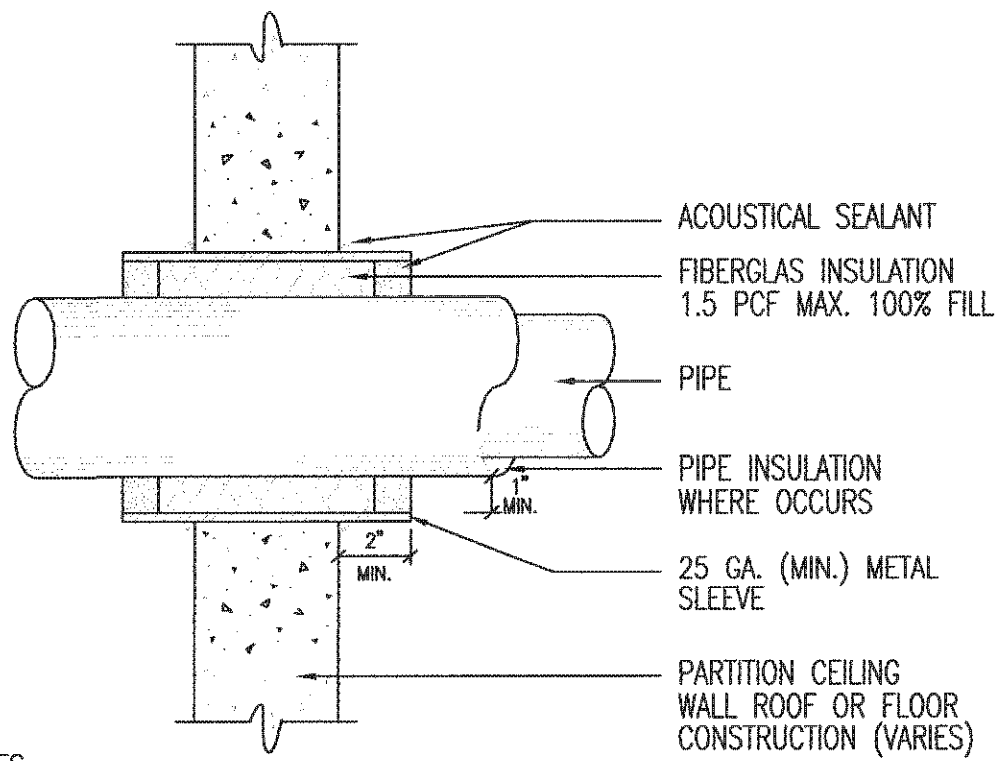
2 TYPE "T" TRISOLATOR

P-5.2 SCALE: NONE



6 TYPE HMN VIBRATION ISOLATOR

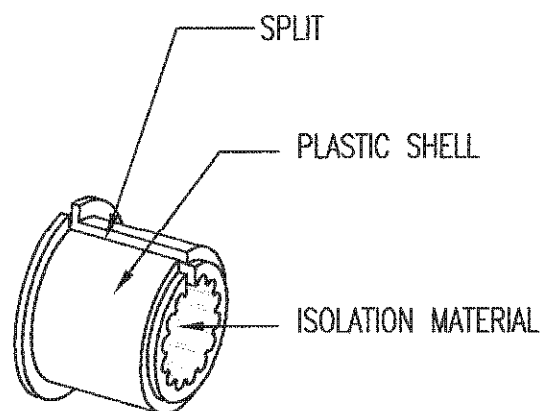
P-5.2 SCALE: NONE



- NOTES:
1. PROVIDE PITCH POCKET CONSTRUCTION, ADDITIONAL FLASHING OR WEATHER CAP AS REQUIRED FOR WATER PROOF CONSTRUCTION. DO NOT MECHANICALLY TIE PIPE TO STRUCTURE IN ANY WAY.
 2. SPACE BETWEEN PIPE AND SLEEVE SHALL BE FREE OF ANY FOREIGN MATERIALS.
 3. PIPE SHALL NOT CONTACT STRUCTURE AT ANY TIME. WEDGES SHALL NOT BE USED TO MAINTAIN PIPE IN POSITION.
 4. PIPE MUST BE APPROXIMATELY CENTERED IN OPENING. PROVIDE ADDITIONAL CLEARANCE FOR POSITIONAL CHANGE OF PIPE DUE TO LOADING OF PIPE OR OPERATION OF SYSTEM.

3 ISOLATED PIPE PENETRATION

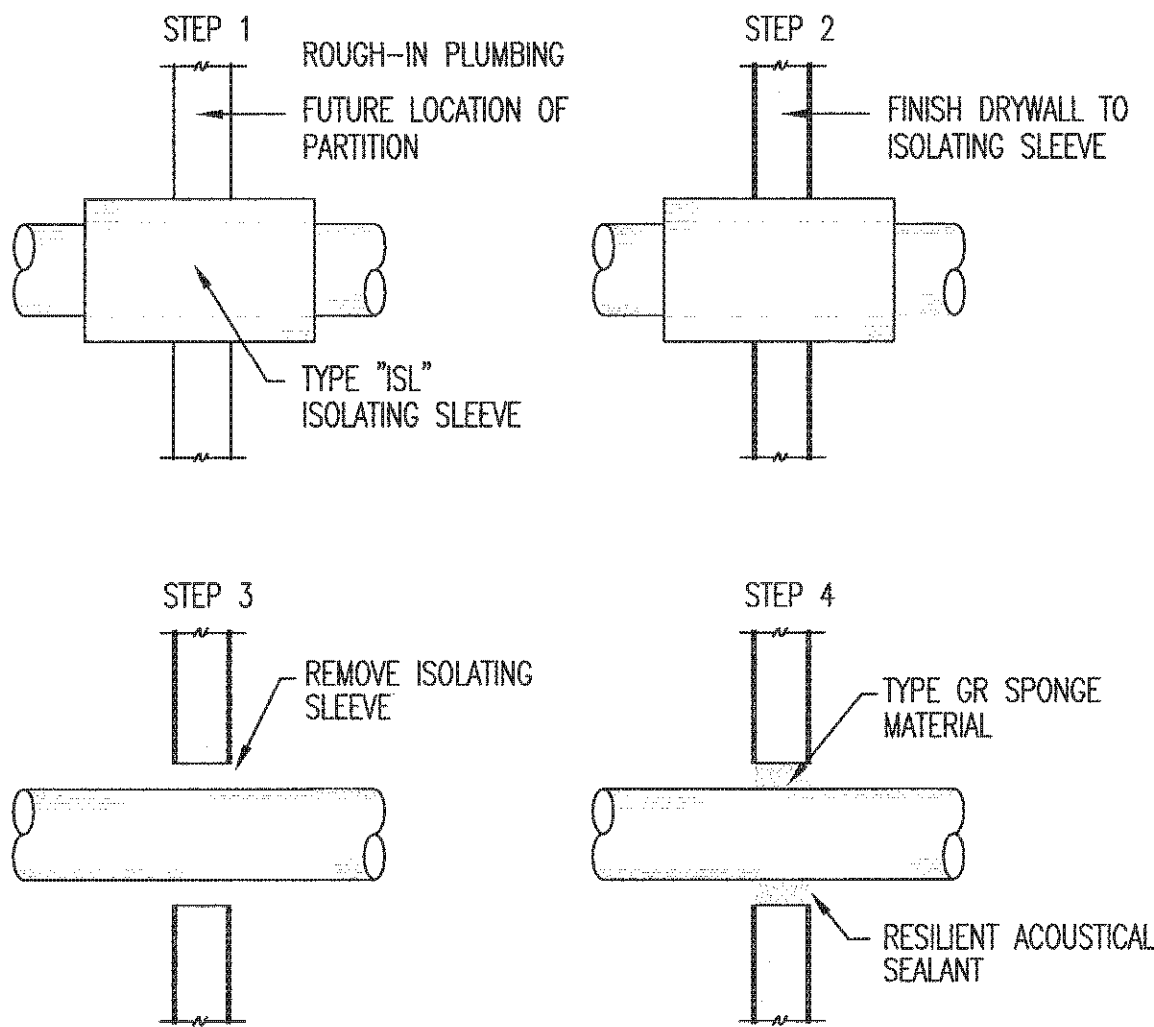
P-5.2 SCALE: NONE



TYPE "IS"

7 ISOLATING PIPE SLEEVE

P-5.2 SCALE: NONE



ISOLATION OF DRYWALL OR PLASTER @ PIPE PENETRATION USING TYPE ISL PRODUCTCS

P-5.2 SCALE: NONE

GENERAL NOTES		ABBREVIATIONS		LEGEND		LEGEND CONTINUED																																																																																			
A. IT IS THE INTENT OF THESE PLANS AND SPECIFICATIONS THAT A COMPLETE AND WORKABLE ELECTRICAL INSTALLATION BE PROVIDED FOR ALL THE EQUIPMENT DESCRIBED OR SHOWN AS BEING IN THIS CONTRACT. TOWARD THIS END, CONTRACTOR SHALL FURNISH ALL LABOR AND TOOLS NECESSARY, FURNISH AND INSTALL ALL APPARATUS, MATERIALS, AND EQUIPMENT IN A MANNER COMPLYING WITH ALL APPLICABLE CODES, INCLUDING ITEMS REQUIRED BUT NOT NECESSARILY SHOWN, SUCH AS LAMPS, COUPLINGS, HANGERS, BRACKETS, CLAMPS, BOXES, CONNECTORS, AND HARDWARE. B. ALL WORKS SHALL COMPLY WITH THE C.E.C. C. BEFORE SUBMITTING THE BID PROPOSAL, CONTRACTOR SHALL VISIT THE JOB SITE TO FULLY FAMILIARIZE HIMSELF WITH THE SITE CONDITIONS, REQUIREMENTS, INCLUDING ALL NECESSARY ADDITIONAL SCOPE OF WORK, WHETHER SHOWN ON DRAWING(S) OR NOT, BUT REQUIRED FOR PROVIDING A COMPLETE AND FUNCTIONING ELECTRICAL SYSTEM. D. CONTRACTOR SHALL REFER TO MECHANICAL DRAWINGS AND WIRING DIAGRAMS FOR ITEMS AND DEVICES TO BE FURNISHED, INSTALLED AND/OR CONNECTED FOR A COMPLETE AND OPERABLE HEATING, VENTILATION AND AIR CONDITIONING (HVAC) SYSTEM. VERIFY EXACT LOCATION OF HVAC EQUIPMENT AND CONDUIT TERMINATION AT EQUIPMENT. E. THE ELECTRICAL DRAWINGS ARE DIAGRAMMATIC IN NATURE AND INDICATE THE LOCATION OF OUTLETS AND EQUIPMENT THOUGH NOT NECESSARILY INDICATING THE ACTUAL ROUTES OF CONDUITS, THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS PROPER COORDINATION WITH THE WORK OF OTHER TRADES AND SPACE WILL PERMIT. SIMPLYIFY INSTALLATION WHEREVER POSSIBLE BUT SUBJECT TO APPROVAL OF UNIVERSITY REPRESENTATIVE FOR VISUAL AND STRUCTURAL REASONS. IT IS NOT WITHIN THE SCOPE OF THE DRAWINGS TO SHOW ALL NECESSARY OFFSETS, BENDS, PULL BOXES AND OBSTRUCTIONS. THE DRAWINGS ARE NOT INTENDED TO BE SEALED AND THE CONTRACTOR SHALL REFER TO THE GENERAL CONSTRUCTION DRAWINGS FOR DIMENSIONS. F. CONTRACTOR SHALL ERECT AND MAINTAIN SUITABLE BARRIERS, PROTECTIVE DEVICES, LIGHTS AND WARNING SIGNS WHERE REQUIRED FOR THE PROTECTION OF THE PUBLIC AND EMPLOYEES ABOUT THE BUILDING. G. CONTRACTOR SHALL PROVIDE TEMPORARY ELECTRICAL SERVICE FOR CONSTRUCTION POWER AND ILLUMINATION FOR ALL TRADES. ALL COSTS OF LABOR AND COST MATERIAL REQUIRED FOR THE TEMPORARY ELECTRICAL SERVICE SHALL BE INCLUDED IN THE CONTRACT. H. PROVIDE A CODE APPROVED DISCONNECT SWITCH OR BREAKER WITHIN SIGHT OF EVERY MOTOR. FOR LOCATION OF DISCONNECT SWITCH, COORDINATE ON SITE TO DETERMINE THE BEST LOCATION WHILE SITE REMAINING ACCESSIBLE. I. CONTRACTOR SHALL TEST ALL WIRING AND CONNECTIONS FOR CONTINUITY, GROUNDS, SHORT CIRCUITS, AND OTHER DEFECTS BEFORE ANY EQUIPMENT OR FIXTURES ARE CONNECTED THERETO. CABLES SHALL BE CHECKED FOR CONTINUITY, SHORTS, INSULATION RESISTANCE, AND PROPER PHASING. J. PROVIDE PULL ROPE IN ALL EMPTY CONDUITS. K. COORDINATE ROUTING OF RACEWAYS FEEDERS AND HOMERUNS IN COOPERATION WITH THE WORK OF OTHER TRADES. L. INSTALL EXPOSED CONDUITS PARALLEL AND AT RIGHT ANGLES TO THE NEARBY SURFACES AND STRUCTURAL MEMBERS. IN PUBLIC AREAS, GROUP RACEWAYS IN MINIMUM GROUPS OF THREE RACEWAYS ON A COMMON SUPPORT SYSTEM. M. PROVIDE EQUIPMENT GROUNDING CONDUCTOR IN ALL LIGHTING AND POWER CONDUITS. N. LIGHTING: I. ALL LIGHTING FIXTURES SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS II. CONTRACTOR SHALL VERIFY THE TYPE OF CEILING, COORDINATE WITH ARCHITECTURAL DRAWINGS BEFORE ORDERING FIXTURES. CONTRACTOR IS FULLY RESPONSIBLE FOR PROVIDING ALL FIXTURES MOUNTING HARDWARE TO FIT CEILING CONDITIONS AT NO EXTRA COST TO THE UNIVERSITY. III. SEE ARCHITECTURAL CEILING PLANS FOR EXACT DIMENSIONS, CEILING CONFIGURATION, LIGHTING PLACEMENT AND QUANTITIES. IV. SEE ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND MOUNTING HEIGHT OF WALL MOUNTED LIGHTING FIXTURES. O. NO MORE THAN THREE CIRCUITS PER HOME RUN. DO NOT COMBINE HOMERUNS WITHOUT PRIOR APPROVAL. P. NO INTERMEDIATE SPLICING OF FEEDERS OR BRANCH CIRCUITS SHALL BE DONE WITHOUT PRIOR APPROVAL. Q. POWER: I. THE LOCATION OF ALL OUTLETS SHALL BE COORDINATED WITH ARCHITECTURAL PLANS BY THE CONTRACTOR PRIOR TO INSTALLATION. MOUNTING HEIGHTS OF RECEPTACLES, SWITCHES, WIRING DEVICES AND DEDICATED EQUIPMENT OUTLETS SHALL BE COORDINATED WITH OTHER TRADES PRIOR TO INSTALLATION. II. ALL DISCONNECT SWITCHES SHALL BE PAD-LOCKABLE IN THE "OFF" POSITION. III. ALL FEEDER LENGTH SHOWN ON SINGLE LINE DIAGRAM ARE FOR VOLTAGE DROP CALCULATION ONLY. DO NOT USE FOR ANY OTHER PURPOSES. IV. VERIFY AND COORDINATE EXACT LOCATION, POWER REQUIREMENTS AND METHOD OF CONNECTION OF ALL MECHANICAL EQUIPMENT AND PERTINENT ITEMS AND DEVICES PRIOR TO INSTALLATION OF ELECTRICAL SYSTEM. V. PROVIDE A MINIMUM OF 12" SEPARATION BETWEEN POWER AND COMMUNICATION CONDUITS, WHERE THEY ARE INSTALLED IN PARALLEL OR IN THE SAME TRENCH. VI. LABEL ALL RECEPTACLES, J-BOXES, DISCONNECT SWITCHES AND CONTROL DEVICES WITH THEIR SERVING CIRCUIT NUMBERS. LABELS SHALL BE PER THE SPECIFICATION. VII. PROVIDE A MINIMUM 24" HORIZONTAL SEPARATION THAT USUALLY APPLIES BETWEEN BOXES INSTALLED ON OPPOSITE SIDES OF THE WALL IN ORDER TO MAINTAIN THE FIRE-RESISTIVE RATING OF ASSEMBLIES WHERE PENETRATION OR OPENINGS ARE MADE. R. GROUNDING: I. THE EQUIPMENT GROUNDING CONDUCTOR SHALL RUN CONTINUOUS FROM PANEL TO LAST OUTLET. THIS WIRE SHALL BE PIGTAILED TO BOX AND DEVICE. ALL EQUIPMENT GROUNDING CONDUCTORS SHALL BE INSULATED GREEN CONDUCTORS. S. PENETRATIONS IN WALLS REQUIRING PROTECTED OPENINGS MUST BE FIRESTOPPED WITH AN APPROVED MATERIAL. SPACE BETWEEN PENETRATING MATERIALS (DESCRIBED BELOW) MUST BE DESIGNED TO PREVENT THE SPREAD OF HOT FLAME OR GASES. I. COPPER OR FERROUS PIPES OR CONDUITS MAY PENETRATE THE WALLS OR PARTITIONS, PROVIDED THEY ARE FIRESTOPPED. II. OPENINGS FOR STEEL ELECTRICAL OUTLET BOXES NOT EXCEEDING 16 SQUARE INCHES ARE PERMITTED PROVIDED OPENINGS DO NOT AGGREGATE MORE THAN 100 SQUARE INCHES OR 100 SQUARE FEET OF WALL OF PARTITIONS. OUTLET BOXES ON OPPOSITE SIDES OF WALLS OR PARTITIONS MUST BE SEPARATED BY A HORIZONTAL DISTANCE OF 24 INCHES. T. AESTHETIC CRITERIA NOTES: I. ALL EXPOSED CONDUIT, RACEWAYS AND BOXES SHALL BE INSTALLED PARALLEL OR PERPENDICULAR TO ADJACENT BUILDING ELEMENTS AND FASTENED NEATLY AND CONSISTENTLY. II. MANUFACTURERS LABELS SHALL BE TURNED AWAY FROM PUBLIC VIEW. NO CONSTRUCTION NOTATIONS SHALL BE VISIBLE IN AREAS EXPOSED TO PUBLIC VIEW. III. ALL NEW DEVICES, OUTLETS, SWITCHES, CONTROLS, ECT. SHALL BE INSTALLED WITH CONCERN FOR ALIGNMENT WITH WORK OF OTHER TRADES. PROVIDE VERTICAL AND HORIZONTAL ALIGNMENT WITH EQUAL SPACING BETWEEN CENTER LINES. IF DOCUMENTS DO NOT INDICATE ALIGNMENT AND/OR SPACING CONSULT WITH THE UNIVERSITY REPRESENTATIVE PRIOR TO ROUGH IN. U. ACOUSTICAL NOTES: I. ALL PENETRATIONS INTO SOUND RATED PARTITIONS OR FLOOR-CEILING ASSEMBLIES WILL BE SEALED, LINED OR INSULATED WITH APPROVED PERMANENT RESILIENT ACOUSTIC SEALANT AND FIRE CAULK (WHERE APPLIES). II. ALL RIGID CONDUIT LOCATED IN SOUND ASSEMBLIES WILL BE ISOLATED FROM THE BUILDING CONSTRUCTION BY MEANS OF RESILIENT SLEEVES, MOUNTS OR MINIMUM 1/4" THICK APPROVED RESILIENT MATERIAL. III. ELECTRICAL OUTLETS BOXES IN OPPOSITE FACES OF SEPARATION WALLS WILL BE SEPARATED HORIZONTALLY BY 24" AND NOTE THAT BACK AND SIDES OF BOXES WILL BE SEALED WITH 1/8" RESILIENT SEALANT AND BACKED BY MINIMUM OF 2" THICK MATERIAL FIBER INSULATION. (TV, TELEPHONE AND INTERCOM OUTLETS MUST BE INSTALLED IN BOXES ACCORDINGLY).		A AMPERE AC AMP AF AMPERE FRAME AFC AMPERE FUSE AFT ABOVE FINISHED CEILING AFC ABOVE FINISHED FLOOR AFC ABOVE FINISHED GRADE AIC AMPERE INTERRUPTING CAPACITY ANN ANNUNCIATOR AS AMPERE SWITCH AT AMPERE TRIP ATS AUTOMATIC TRANSFER SWITCH AWG AMERICAN WIRE GAUGE BATT BATTERY BC BARE COPPER BCW BARE COPPER WIRE BKED BACKBOARD BKR BREAKER BLDG BUILDING C CONDUIT CATV CABLE TELEVISION CB CIRCUIT BREAKER CEC CALIFORNIA ELECTRICAL CODE CF CONTRACTOR FURNISHED CKT CIRCUIT CLG CEILING CO CONDUIT ONLY COM COMMON COMM COMMUNICATIONS CONN CONNECT CONT CONTINUE CT CURRENT TRANSFORMER CU COPPER DB DIRECT BURIED DEF DUAL ELEMENT FUSE DISC DISCONNECT DIST DISTRIBUTION DN DOWN DIP DOUBLE-POLE DOUBLE-THROW DPDT DOUBLE-POLE SINGLE-THROW DWG DRAWING ELEC ELECTRICAL EM EMERGENCY EMER EMERGENCY EMT ELECTRICAL METALLIC TUBING ENCL ENCLOSURE EPO EMERGENCY POWER OFF EQUIP EQUIPMENT EX EXISTING EXIST EXISTING F FUSE(D) FA FIRE ALARM FACP FIRE ALARM CONTROL PANEL FATC FIRE ALARM TERMINAL CABINET FLA FULL LOAD AMPERES FLEX FLEXIBLE FLR FLOOR G GALV GALVANIZED(D) GEN GENERATOR GFI GROUND FAULT CIRCUIT INTERRUPTER GND GROUND HID HIGH INTENSITY DISCHARGE HOA HAND-OFF-AUTOMATIC HP HORSEPOWER, HEAT PUMP HPT HIGH POWER FACTOR HPS HIGH PRESSURE SODIUM HV HIGH VOLTAGE HVAC HEATING, VENTILATING AND AIR CONDITIONING HERTZ IC INTERRUPTING CAPACITY IN AMPS RMS IG ISOLATED GROUND J JUNCTION BOX JB JUNCTION BOX KA THOUSAND AMPERES KCMIL THOUSAND CIRCULAR MILS KW KILOWATT KWH KILOWATT-HOUR KVAR KILOWATT-HOUR LCL LONG CONTINUOUS LOAD LRA LOCKED ROTOR AMP LTG LIGHTING M MAGNETIC STARTER COIL MAX MAXIMUM MC METAL CLAD CABLE MCB MAIN CIRCUIT BREAKER MCC MOTOR CONTROL CENTER MCM THOUSAND CIRCULAR MILS MDP MAIN DISTRIBUTION PANEL MFR MANUFACTURER MH METAL HALIDE MI MINERAL INSULATED MIN MINIMUM MLO MAIN LUGS ONLY MTD MOUNTED MTR MOTOR MTR MANUAL TRANSFER SWITCH N, (N) NEW, NEUTRAL NEC NATIONAL ELECTRIC CODE NF NON-FUSED NIC NOT IN CONTRACT NO NORMALLY OPEN NC NORMALLY CLOSED NTS NOT TO SCALE O OWNER INSTALLED P POLE(S) PF POWER FACTOR PANEL PRI PRIMARY PT POTENTIAL TRANSFORMER PWR POWER PH PHASE R RELOCATE OR REMOVE RECP RECEPTACLE RIGID GALVANIZED STEEL CONDUIT R RELOCATE OR REMOVE RM ROOM RMS ROOMS RT RADOTOUCH SYSTEM SCA SHORT CIRCUIT AMPS SEC SECONDARY SEC STD SMOKE-FIRE DAMPER SPKR SPEAKER SQ FT SQUARE FEET SUSP SUSPEND(ED) SW SWITCH SWBD SWITCHBOARD SWGR SWITCHGEAR TC TIME CLOCK TEL TELEPHONE TEMP TEMPORARY TTB TELECOMMUNICATIONS BACKBOARD TELECOMMUNICATIONS MANHOLE TMH TELECOMMUNICATIONS TRANSF TRANSFORMER TYP TYPICAL TVSS TRANSIENT VOLTAGE SUPPRESSION SYSTEM UG UNDERGROUND UON UNLESS OTHERWISE NOTED UNO UNLESS NOTED OTHERWISE V VOLT, VOLTS VA VOLT-AMPERES VAV VARIABLE AIR VOLUME VFD VARIABLE FREQUENCY DRIVE WT WATERTIGHT WATT OR WIRE W WITH WP WEATHER PROOF XMR TRANSFORMER	EXISTING/DEMOLITION EXISTING EQUIPMENT/ RACEWAYS TO REMAIN. EXISTING EQUIPMENT/ RACEWAYS TO BE REMOVED. NEW EQUIPMENT / RACEWAYS EXISTING TO REMAIN. EXISTING TO BE REMOVED. NEW EQUIPMENT, LIGHTING FIXTURE OR DEVICE SINGLE LINE DIAGRAM TRANSFORMER, AS NOTED ON SINGLE LINE DIAGRAM. SPECIAL TRANSFORMER, AS NOTED ON SINGLE LINE DIAGRAM. CIRCUIT BREAKER, 3 POLE UNLESS NOTED OTHERWISE. MOTOR STARTER WITH OVERCURRENT PROTECTION, 3 POLE UNLESS NOTED OTHERWISE. MOTOR STARTER WITH OVERCURRENT PROTECTION, 3 POLE UNLESS NOTED OTHERWISE. CIRCUIT BREAKER WITH GROUND FAULT RELAY AND SHUNT TRIP RELAY CIRCUIT BREAKER WITH SHUNT TRIP RELAY DRAW-OUT CIRCUIT BREAKER NON-FUSED DISCONNECT SWITCH, 30 AMP, 3P UNLESS NOTED OTHERWISE. FUSED DISCONNECT SWITCH, 3 POLE UNLESS NOTED OTHERWISE. DEMAND TYPE KWH METER. PROVISION FOR UTILITY COMPANY KWH METER KIRK-KEY INTERLOCK BETWEEN DEVICES AUTOMATIC TRANSFER SWITCH WITH GENERATOR STARTING AND TRANSFER SWITCH STATUS CONTACTS. TRANSFER SWITCH STATUS CONTACTS. AMMETER ELECTRONIC METER, CUTLER HAMMER IQ ANALYZER CAT. NO. IQ46430 SEPARABLE CONNECTOR(S) GROUND EMERGENCY GENERATOR, AS NOTED ON SINGLE LINE DIAGRAM.	FREE STANDING SWITCHBOARD, MOTOR CONTROL CENTER OR DISTRIBUTION BOARD. FIRE TREATED PLYWOOD BACKBOARD 3/4"x96" HIGH X LENGTH AS INDICATED. ELECTRICAL EQUIPMENT DESIGNATION DESIGNED "EQ01" REFERENCE TO NOTE "A" OR NOTE "1" ON SAME SHEET. LIGHTING FIXTURE DESIGNATION FA = FIXTURE TYPE 75 = FIXTURE WATTAGE MECHANICAL EQUIPMENT DESIGNATION "P-1" INDICATED. EQUIPMENT NAME OR NUMBER MOUNTING HEIGHT FROM FINISHED FLOOR TO CENTERLINE OF OUTLET OR EQUIPMENT. MOUNTING HEIGHT FROM FINISHED FLOOR TO BOTTOM OF OUTLET OR EQUIPMENT. DETAIL REFERENCE DETAIL "#1" ON DRAWING "E-6". SECTION OR ELEVATION REFERENCE DETAIL "1" ON DRAWING "E-6". INDICATES HOMERUN WITH THREE CIRCUITS AND A COMMON NEUTRAL. INDICATES HOMERUN WITH THREE CIRCUITS AND A SEPARATE NEUTRALS.	<table><tr><th>FLOOR</th><th>WALL</th><th>CEILING</th><th>RACEWAYS AND WIRING</th></tr><tr><td>---</td><td>---</td><td>---</td><td>CONDUIT CONCEALED IN CEILING OR WALL SPACE.</td></tr><tr><td>---</td><td>---</td><td>---</td><td>CONDUIT RUN EXPOSED</td></tr><tr><td>---</td><td>---</td><td>---</td><td>CONDUIT RUN UNDERGROUND OR CONCEALED IN FLOOR SPACE</td></tr><tr><td>---</td><td>---</td><td>---</td><td>EXISTING CONDUIT TO REMAIN.</td></tr><tr><td>---</td><td>---</td><td>---</td><td>CONDUIT RISING UP FROM RUN</td></tr><tr><td>---</td><td>---</td><td>---</td><td>CONDUIT DROPPING DOWN FROM RUN</td></tr><tr><td>---</td><td>---</td><td>---</td><td>HOMERUN TO PANELBOARD, CABINET OR TERMINAL BACKBOARD AS INDICATED</td></tr><tr><td>---</td><td>---</td><td>---</td><td>HOMERUN TO SWITCHBOARD OR MCC AS INDICATED. REFER TO SINGLE LINE DIAGRAM FOR CONDUIT AND WIRE SIZES.</td></tr><tr><td>---</td><td>---</td><td>---</td><td>HOMERUN TO PANEL VIA INDICATED LIGHTING CONTROL RELAY CABINET. REFER TO INDICATED RELAY CABINET SCHEDULE FOR ADDITIONAL INFORMATION AND CONTROL REQUIREMENTS.</td></tr><tr><th>FLOOR</th><th>WALL</th><th>CEILING</th><th>RECEPTACLES / POWER</th></tr><tr><td>---</td><td>---</td><td>---</td><td>MULTI-OUTLET RACEWAY WITH PREWIRED RECEPTACLES MOUNTED 12" ON CENTER UNLESS OTHERWISE NOTED. NUMBER IN (X) PARENTHESES INDICATES DISTANCE BETWEEN DEVICES. 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NO.	REVISIONS/SUBMISSIONS	DATE
	DESIGN DEVELOPMENT	9/29/2011
	PRELIMINARY OTC REVIEW	10/4/2011
	BACKCHECK OTC REVIEW	11/1/2011

BOELTER HSSEAS - UNDER GRADUATE
LAB 6541 RENOVATION

PROJECT

ARCHITECT/ENGINEER STAMP

STATE OF CALIFORNIA

SHEET NUMBER

E-0.1

LIGHTING FIXTURE SCHEDULE

LIGHTING FIXTURE SCHEDULE								
Type	Description	Location	Catalog Number	Lamp	Ballast	Watts	Volts	Remarks
F1	12" Direct suspended linear fluorescent fixture with 3 ballast, Aluminum extrusion, aluminium end plates	Typical	Light A1-12-D-U-A-D-S-W OR EQUAL	(6) F28T5	Electronic	198	120	Fixtures indicated on drawings to provided with emergency provide (1) ballast for emergency and (2) for normal power.
	Wall mount plug-in linear fluorescent task light fixture.	Typical	bartco linear BFL293 OR EQUAL	VARIES	Electronic	VARIES	120	Provide to be hardwired. Fixture to be provided with peninsula.

NOTE: NOT ALL SYMBOLS AND ABBREVIATIONS ARE USED IN THIS PROJECT.

LEGEND CONTINUED

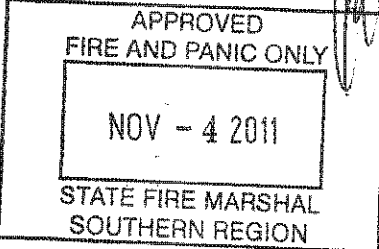
FLOOR	WALL	CEILING	TELECOMMUNICATIONS
--T--	--T--	--T--	1" TELEPHONE / DATA CONDUIT
--T+-	--T+-	--T+-	1 1/2" TELEPHONE / DATA CONDUIT
--T#--	--T#--	--T#--	1 1/2" TELEPHONE / DATA CONDUIT
--T##--	--T##--	--T##--	2" TELEPHONE / DATA CONDUIT
			MULTI-OUTLET RACEWAY WITH PROVISIONS FOR COMMUNICATIONS RECEPTACLES MOUNTED ON 12" CENTER UNLESS OTHERWISE NOTED. NUMBER IN (X) PARENTHESIS INDICATES DISTANCE BETWEEN DEVICES.
			COMBINATION TELEPHONE DATA OUTLET. PROVIDE 1" CONDUIT STUBBED INTO ACCESSIBLE CEILING SPACE UNLESS NOTED OTHERWISE. "W" INDICATES WALL MOUNTED @ +48".
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			SYSTEM FURNITURE COMBINATION TELEPHONE DATA FEED, REFER TO DETAILS FOR RACEWAY AND BOX REQUIREMENTS.
--AV#--	--AV#--	--AV#--	1 1/2" CONDUIT ONLY FOR AUDIO / VIDEO
FLOOR	WALL	CEILING	LIGHTING
			FLUORESCENT RECESSED, PENDANT OR SURFACE MOUNTED LIGHTING FIXTURE. REFER TO FIXTURE SCHEDULE FOR FIXTURE DESCRIPTION, MOUNTING AND LAMP INFORMATION. SHADED FIXTURE SYMBOLS INDICATE FIXTURE IS CONNECTED TO THE LIFE SAFETY SYSTEM.
			SURFACE LIGHTING FIXTURE. REFER TO FIXTURE SCHEDULE FOR FIXTURE DESCRIPTION, MOUNTING AND LAMP INFORMATION. SHADED FIXTURE SYMBOLS INDICATE FIXTURE IS CONNECTED TO THE LIFE SAFETY SYSTEM.
			EXIT SIGN; SHADED PORTION INDICATES ILLUMINATED FACE. DIRECTIONAL ARROWS AS INDICATED ON PLANS.
			TRACK LIGHTING, SURFACE PENDANT OR CEILING MOUNTED AS INDICATED BY TYPE. PROVIDE CONFIGURATION AND NUMBER OF FIXTURES AS INDICATED ON ARCHITECTURAL DOCUMENTS, OR SPECIFICATIONS, WHICHEVER IS GREATER.
FLOOR	WALL	CEILING	SWITCHING
	Sm		MANUAL MOTOR STARTER WITH THERMAL OVERLOAD NUMBER OF POLES AS REQUIRED.
	Sx		SWITCH, SUBSCRIPT INDICATES: X=NONE - SINGLE POLE X=3 - THREE WAY X=A,B,C - OUTLET CONTROLLED X=Z - DOUBLE POLE X=KP - KEY OPERATED WITH PILOT LIGHT X=P - PILOT LIGHT X=R - MOMENTARY RELAY ON/OFF X=T - TIMER SWITCH
	Sab		2-SINGLE POLE SWITCHES, UNDER COMMON PLATE, +42" U.O.N.
	Subc		3-SINGLE POLE SWITCHES, UNDER COMMON PLATE, +42" U.O.N.
	X33 SRobc		LOW VOLTAGE LIGHTING CONTROL WITH MINIMUM 3 BUTTONS 'a', 'b' AND 'c' NUMBER IN ELONGATED HEXAGON INDICATES CONTROL IDENTIFICATION. REFER TO RELAY CABINET OR DIMMING SCHEDULES FOR ADDITIONAL INFORMATION, + 42" U.O.N.
			DIMMER WITH INTEGRAL SWITCH, +42" U.O.N. '600' INDICATES RATING IN WATTS.
			ROOM TYPE OCCUPANCY SENSOR, ARROW INDICATES DIRECTION OR ORIENTATION, SUBSCRIPT INDICATES SWITCH LEG OR CIRCUIT TO BE CONTROLLED.
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			CORRIDOR TYPE OCCUPANCY SENSOR, ARROW INDICATES DIRECTION OR ORIENTATION, SUBSCRIPT INDICATES SWITCH LEG OR CIRCUIT TO BE CONTROLLED.
			PUSH-BUTTON STATION, +42" U.O.N.
NUMBER OF CONDUCTORS AND CONDUIT SIZE			
3#12.3/4"	10	3#10.3/4"	
4#12.3/4"	10	4#10.3/4"	
5#12.3/4"	10	5#10.3/4"	
6#12.3/4"	10	6#10.3/4"	
7#12.3/4"	10	7#10.3/4"	
8#12.3/4"	10	8#10.1"	
9#12.3/4"	10	9#10.3/4"	
CONDUCTOR COUNT INCLUDES GROUNDING CONDUCTORS THAT ARE NOT INDICATED IN THE HATCH COUNT. PROVIDE EQUIPMENT GROUNDING CONDUCTOR SIZED PER CEC 250.122. CONDUIT SIZES ARE MINIMUM AND MAY BE INCREASED AT CONTRACTOR'S OPTION FOR LONG OR DIFFICULT RUNS.			

FIRE ALARM GENERAL NOTES

- A. FIRE ALARM SYSTEM SHALL BE DESIGN BUILD CONTRACT DOCUMENT, REFER TO SPECIFICATION 16720 FOR DESIGN BUILD SPECIFICATION. THE DETAILED ENGINEERED FIRE ALARM DRAWINGS SHALL BE APPROVED AND STAMPED BY THE UCLA FIRE MARSHAL PRIOR TO INSTALLATION. SHOULD THERE BE A CONFLICT BETWEEN THE REQUIREMENTS OF THE FIRE MARSHAL AND THE CODE REQUIREMENTS THE MOST STRINGENT SHALL APPLY AT NO COST TO THE UCLA. CONTRACTOR SHALL PROVIDE CONDUITS (MIN. 3/4") JUNCTION BOXES AND 120V POWER AS REQUIRED FOR THE FIRE ALARM SYSTEM. CONTRACTOR SHALL PROVIDE ENGINEERED SHOP DRAWINGS COMPLETE WITH LAYOUT OF THE FIRE ALARM DEVICES, DETAILED WIRING DIAGRAM, SEQUENCE OF OPERATION, ALL CALCULATIONS SUCH AS VOLTAGE DROP, BATTERY CALCULATION, LIST OF THE FIRE ALARM DEVICES, INCLUDING CALIFORNIA STATE FIRE MARSHAL LISTING, CABLE SCHEDULE, ETC. THE SHOP DRAWING SHALL BE PROVIDED, BASED ON THE FIRE ALARM SPECIFICATION, ALL APPLICABLE CODES AND THESE NOTES. THE FIRE ALARM SHOP DRAWINGS SHALL COMPLY WITH NFPA 72, ELEVATOR SAFETY CODE, NATIONAL ELECTRICAL CODE (NEC), CALIFORNIA FIRE CODE (CFC), ALL OTHER APPLICABLE CODES, ADA REQUIREMENTS AND UCLA FIRE MARSHAL REQUIREMENTS.
- B. THE EXISTING FIRE ALARM SHALL BE RE-PROGRAMMED TO HANDLE THE AREAS THAT ARE BEING REMODELED.
- C. PROVIDE SYNCHRONIZING MODULES TO SYNCHRONIZE 2 OR MORE STROBES. PER ADA AND NFPA 72 REQUIREMENTS.
- D. THE FIRE ALARM SYSTEM SHALL ACTIVATE A MEANS OF WARNING THE HEARING IMPAIRED. FLASHING VISUAL WARNINGS SHALL HAVE A FREQUENCY OF NOT LESS THAN 60 FLASHES PER MINUTE, AND NOT MORE THAN 120 FLASHES PER MINUTE. STROBE SIGNALING DEVICES FOR THE HEARING IMPAIRED SHALL BE STATE FIRE MARSHAL APPROVED AND LISTED (NFPA PAMPHLET 72).
- E. AUDIBLE (HORN) INDICATING DEVICES OF A FIRE ALARM SYSTEM INTENDED TO ALERT ALL OCCUPANTS SHALL BE SO LOCATED AND UNOBSTRUCTED AS TO CAUSE A LEVEL OF AUDIBILITY OF NOT LESS THAN 15dBA ABOVE AMBIENT NOISE LEVELS MEASURED 48" ABOVE THE FLOOR, BUT NOT LESS THAN 75dBA AT 10 FEET, OR MORE THAN 110dBA IN TOTAL THROUGHOUT. AMBIENT NOISE LEVEL MEANS THE LEVEL WHICH CAN NORMALLY BE ACCEPTED WHEN THE FACILITY, BUILDING, ROOM OR AREA IS FUNCTIONING UNDER NORMAL OPERATING OR WORKING CONDITIONS (NFPA 72.) AUDIBLE DEVICES SHALL SOUND THE CALIFORNIA UNIFORM FIRE ALARM SIGNAL IN TEMPORAL MODE.
- F. PENETRATIONS OF A FIRE-RATED WALLS SHALL BE PROTECTED IN ACCORDANCE WITH CALIFORNIA BUILDING CODE (CBC), PART 2, CHAPTER 7, TITLE 24.
- G. WIRE TYPE:
I) WIRE SIZE SHALL BE MINIMUM # 14 AWG OR HIGHER AS NEEDED
II) WIRE SHALL BE LISTED FOR USE AS REQUIRED BY TITLE 24/CBC ARTICLE 760
III) TYPE "THINW" OR EQUAL SHALL BE USED IN WET LOCATIONS PER TITLE 24/CBC ARTICLE 310-8
IV) ALL WIRES SHALL BE IN CONDUIT.
- H. UPON COMPLETION OF FIRE ALARM SYSTEM INSTALLATION, THE SYSTEM SHALL BE TESTED IN THE PRESENCE OF AND IN A MANNER ACCEPTABLE TO THE UCLA FIRE MARSHAL AND A CERTIFICATE OF COMPLIANCE SHALL BE PROVIDED.
- I. WIRING SHALL NOT BE LOOPED THROUGH DEVICES; WIRE MUST BE CUT FOR IN AND OUT.
- J. POINT AND COMMON ANNUNCIATION - ADDRESSABLE LOOP - OK TO T-TAP.
- K. ALL FIRE ALARM WIRING MUST TEST FREE OF OPENS, SHORTS AND GROUNDS.
- L. JUNCTION/BACK BOXES ARE NOT TO BE USED FOR UNRELATED WIRING.
- M. ALL DEVICES OF THE FIRE ALARM SYSTEM SHALL BE APPROVED AND LISTED BY THE CALIFORNIA STATE FIRE MARSHAL.
- N. A STAMPED SET OF APPROVED FIRE ALARM PLANS SHALL BE ON THE JOB SITE AND USED FOR INSTALLATION. ANY DEVIATION FROM APPROVED PLANS, INCLUDING THE SUBSTITUTION OF DEVICES SHALL BE APPROVED BY THE FIRE MARSHAL.
- O. DETECTORS SHALL NOT BE LOCATED IN A DIRECT AIRFLOW, NOT CLOSER THAN 3 FEET (900mm) FROM AN AIR SUPPLY DIFFUSER. INSTALL DETECTORS IN SMOOTH CEILING SPACING AS REQUIRED PER NFPA 72 PARAGRAPH 2.2.4.1
- P. THE FIRE ALARM SYSTEM IS AUTOMATIC AND MANUAL SYSTEM WITH LOCAL ALARM.
- Q. THE FIRE ALARM SYSTEM SHALL BE COMPATIBLE WITH THE EXISTING UCLA BOELTER HALL FIRE ALARM SYSTEM AND NETWORK.
- R. THE EXISTING FIRE ALARM SYSTEM IS SIMPLEX GRINNELL AUTOCALL AC2 WITH A 4100U DGP (DATA GATHERING PANEL).

TELE/DATA GENERAL NOTES

- A. FOR THE TELEPHONE/DATA SYSTEM INSTALLATION REQUIREMENTS SEE LEGEND OF SYMBOLS SHEET ED.01.
- B. THE AREA OF WORK IS CURRENTLY SERVED BY COMMUNICATIONS CABLING, PROTECT IN PLACE, EXISTING CABLING WILL BE RE-FEED TO NEW WORK. PROVIDE A JUNCTION BOX WITH A CONDUIT STUBBED TO THE NEAREST ACCESSIBLE CEILING AT ALL DATA PORT LOCATIONS.



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NO.	REVISIONS/SUBMISSIONS	DATE
	DESIGN DEVELOPMENT	9/29/2011
	PRELIMINARY OTC REVIEW	10/4/2011
	BACKCHECK OTC REVIEW	11/7/2011

PROJECT: BOELTER HSSEAS - UNDER GRADUATE LAB 6541 RENOVATION
DRAWING: ELECTRICAL LEGENDS AND LOW VOLTAGE GENERAL NOTES

PROJECT NUMBER	DRAWN BY	PROJECT NUMBER	DATE
		11-1039	28 OCTOBER 2011

ARCHITECT/ENGINEER STAMP
PROFESSIONAL ENGINEER
STATE OF CALIFORNIA
NOV 30, 2012

SHEET NUMBER
E-0.2

CERTIFICATE OF COMPLIANCE (Part 1 of 4) LTG-1C
Project Name: UCLA Boelter Hall 6th Floor Undergraduate Lab
Date: 10/24/2011
Project Address: 731 Charles E Young Drive South, Los Angeles, CA 90095-1526
General Information: Building Type: Academic, Phase of Construction: New Construction, Method of Construction: Conventional, Documentation Author's Declaration Statement: I hereby declare that this Certificate of Compliance was prepared in accordance with the requirements of the California Building Code, and that the information provided is true and correct to the best of my knowledge and belief.

CERTIFICATE OF COMPLIANCE (Part 2 of 4) LTG-1C
Project Name: UCLA Boelter Hall 6th Floor Undergraduate Lab
Date: 10/24/2011
INDOOR LIGHTING SCHEDULE and FIELD INSPECTION ENERGY CHECKLIST
Installation Certificate, LTG-1-INST (Retain a copy and verify form is completed and signed.)
Field Inspector: [Signature]
Certification of Acceptance, LTG-2A (Retain a copy and verify form is completed and signed.)
Field Inspector: [Signature]
A separate Lighting Schedule Must Be Filled Out for Conditioned and Unconditioned Spaces Installed Lighting Power listed on this Lighting Schedule is only for:

CERTIFICATE OF COMPLIANCE (Part 3 of 4) LTG-1C
Project Name: UCLA Boelter Hall 6th Floor Undergraduate Lab
Date: 10/24/2011
INDOOR LIGHTING SCHEDULE and FIELD INSPECTION ENERGY CHECKLIST
Mandatory Lighting Controls - Field Inspection Energy Checklist
Special Features Inspection Checklist (See Page 2 of 4 of LTG-1C)
Field Inspector's Notes or Discrepancies:

CERTIFICATE OF COMPLIANCE (Part 4 of 4) LTG-1C
Project Name: UCLA Boelter Hall 6th Floor Undergraduate Lab
Date: 10/24/2011
CONDITIONED AND UNCONDITIONED SPACE LIGHTING MUST NOT BE COMBINED FOR COMPLIANCE
Installed Lighting Power for Conditioned Spaces: 10,000 Watts
Installed Lighting Power for Unconditioned Spaces: 10,000 Watts
Required Acceptance Tests: Designer: [Signature]
Enforcement Agency: [Signature]
Controls for Credits: [Table with columns for Credits, Description, and Amount]

LIGHTING CONTROLS CREDIT WORKSHEET (Part 1 of 2) LTG-2C
Project Name: UCLA Boelter Hall 6th Floor Undergraduate Lab
Date: 10/24/2011
POWER ADJUSTMENT FACTORS (PAF) FOR NON-DAYLIGHT CONTROLS
A Separate PAF Worksheet Must Be Filled Out for Conditioned and Unconditioned Spaces. Control Credits Based on this schedule are only for:

INDOOR LIGHTING POWER ALLOWANCE LTG-3C
Project Name: UCLA Boelter Hall 6th Floor Undergraduate Lab
Date: 10/24/2011
ALLOWED LIGHTING POWER (Choose One Method)
Complex Building Method: [Table with columns for Building Area, Watts per sq ft, and Allowed Watts]
Area Category Method: [Table with columns for Building Area, Watts per sq ft, and Allowed Watts]
Tailored Method: [Table with columns for Building Area, Watts per sq ft, and Allowed Watts]

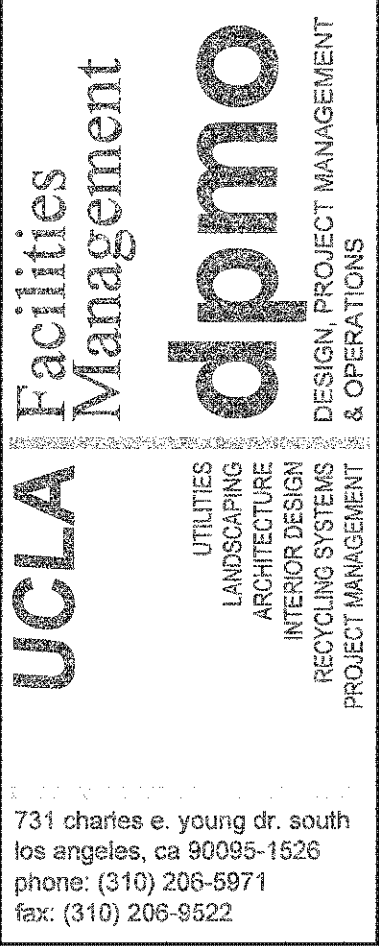
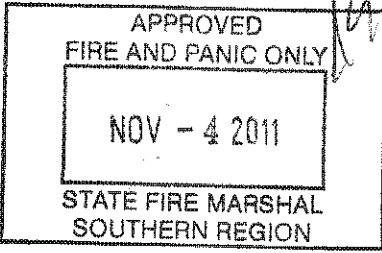
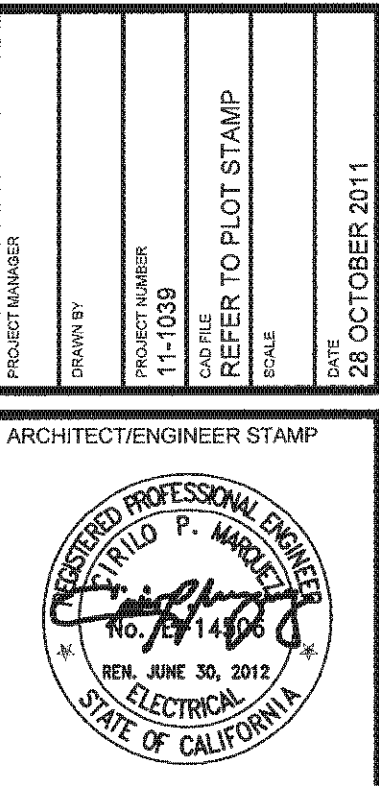
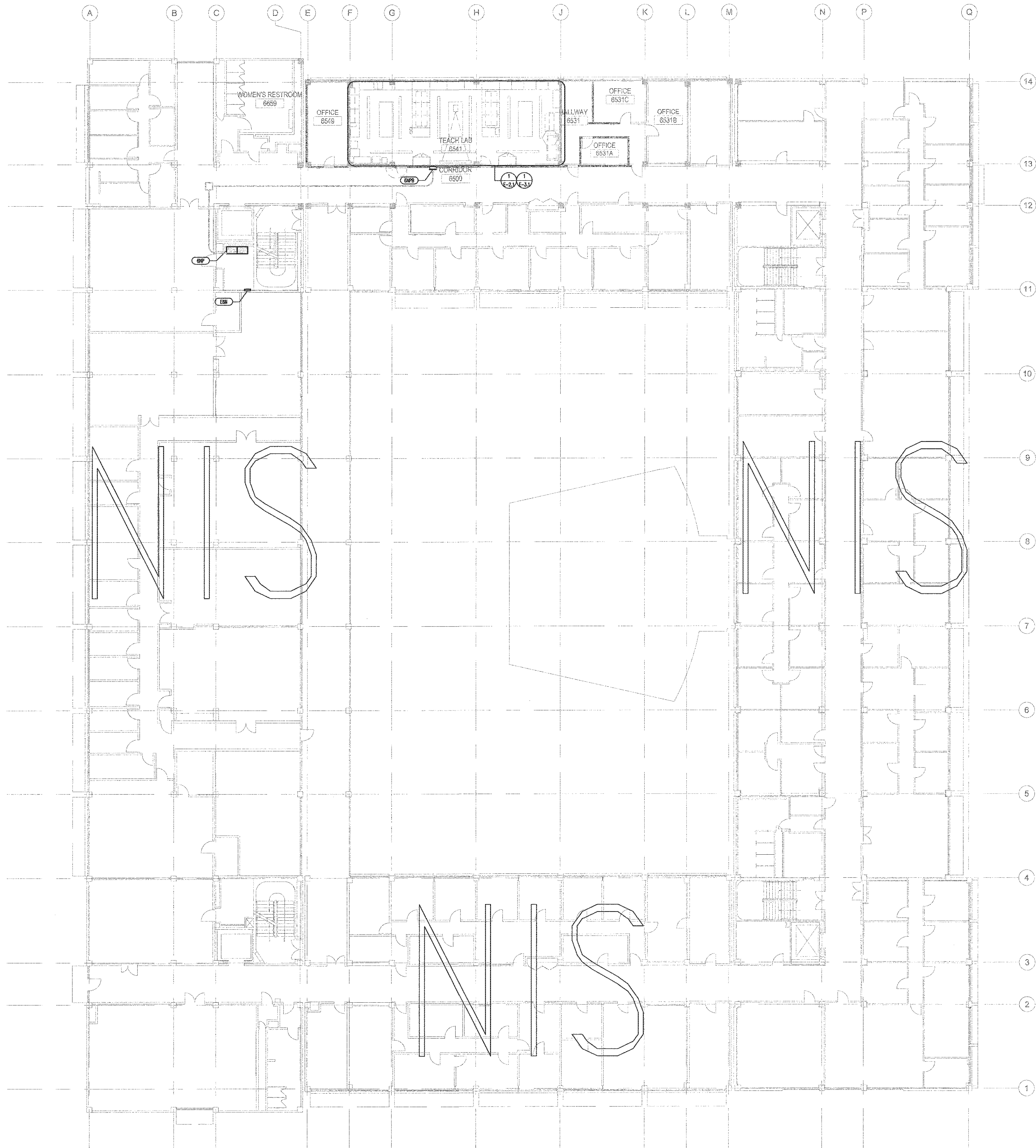


Table with 2 columns: NO., DATE, and 2 rows of dates: 9/29/2011, 10/4/2011, 11/7/2011

BOELTER HSSEAS - UNDER GRADUATE LAB 6541 RENOVATION
TITLE 24 CALCULATION
PROJECT NUMBER: 11-1039
DATE: 28 OCTOBER 2011



E-0.3



GENERAL NOTE:

- A. THE CONDUIT ROUTING SHOWN ON THE DRAWING IS THE APPROXIMATELY CONDUIT ROUTING.
B. EXTEND THE EXISTING CONDUIT TO THE NEW LAB PANELS LOCATION.

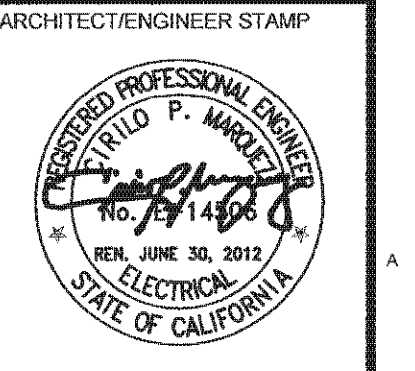
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INTERIOR DESIGN
RECYCLING SYSTEMS
PROJECT MANAGEMENT & OPERATIONS

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NO.	REVISION/SUBMISSIONS	DATE
	DESIGN DEVELOPMENT	9/29/2011
	PRELIMINARY OTC REVIEW	10/4/2011
	BACKCHECK OTC REVIEW	11/1/2011

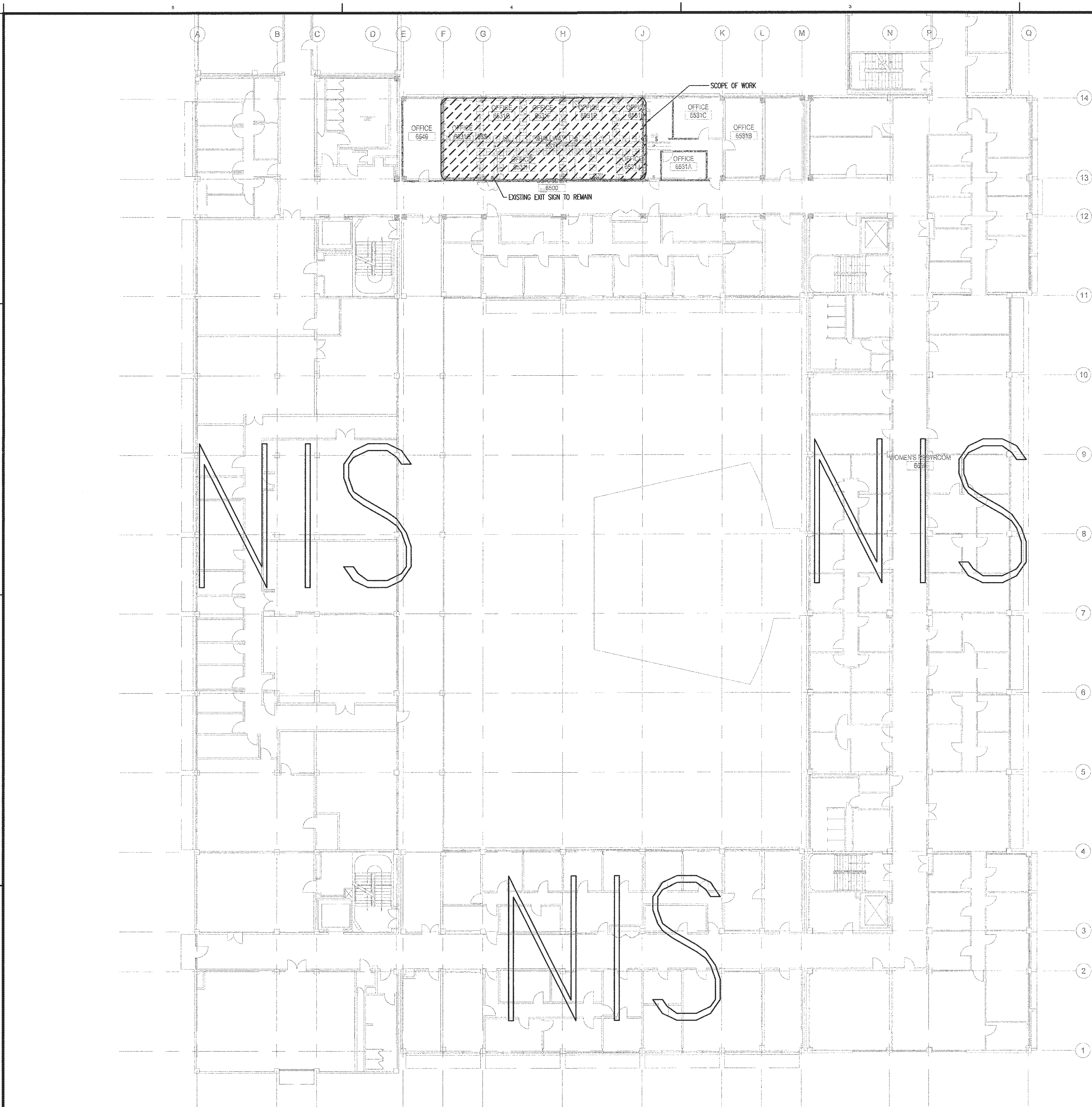
**BOELTER HSSEAS - UNDER GRADUATE
LAB 6541 RENOVATION**
**ELECTRICAL
OVERALL PLAN**

PROJECT NUMBER	DATE
DRAWN BY	28 OCTOBER 2011
PROJECT NUMBER	
1-1039	
REFER TO PLOT STAMP	
SCALE	



SHEET NUMBER
E-1.0





- GENERAL NOTE:
- A. UNIVERSITY WILL OCCUPY PORTIONS OF BUILDING IMMEDIATELY ADJACENT TO SELECTIVE DEMOLITION AREA. CONDUCT SELECTIVE DEMOLITION SO UNIVERSITY'S OPERATIONS WILL NOT BE DISRUPTED.
 - B. VERIFY THAT UTILITIES HAVE BEEN DISCONNECTED AND CAPPED BEFORE STARTING SELECTIVE DEMOLITION OPERATIONS.
 - C. REVIEW RECORD DOCUMENTS OF EXISTING CONSTRUCTION PROVIDED BY UNIVERSITY. UNIVERSITY DOES NOT GUARANTEE THAT EXISTING CONDITIONS ARE SAME AS THOSE INDICATED IN RECORD DOCUMENTS.
 - D. SURVEY EXISTING CONDITIONS AND CORRELATE WITH REQUIREMENTS INDICATED TO DETERMINE EXTENT OF SELECTIVE DEMOLITION REQUIRED.
 - E. WHEN UNANTICIPATED MECHANICAL, ELECTRICAL, OR STRUCTURAL ELEMENTS THAT CONFLICT WITH INTENDED FUNCTION OR DESIGN ARE ENCOUNTERED, INVESTIGATE AND MEASURE THE NATURE AND EXTENT OF CONFLICT. PROMPTLY SUBMIT A WRITTEN REPORT TO UNIVERSITY'S REPRESENTATIVE.
 - F. DEMOLISH AND REMOVE EXISTING CONSTRUCTION ONLY TO THE EXTENT REQUIRED BY NEW CONSTRUCTION AND AS INDICATED. USE METHODS REQUIRED TO COMPLETE THE WORK WITHIN LIMITATIONS OF GOVERNING REGULATIONS AND AS FOLLOWS:
 - G. PROCEED WITH SELECTIVE DEMOLITION SYSTEMATICALLY, FROM HIGHER TO LOWER LEVEL. COMPLETE SELECTIVE DEMOLITION OPERATIONS ABOVE EACH FLOOR OR TIER BEFORE DISTURBING SUPPORTING MEMBERS ON THE NEXT LOWER LEVEL.
 - H. NEATLY CUT OPENINGS AND HOLES PLUMB, SQUARE, AND TRUE TO DIMENSIONS REQUIRED. USE CUTTING METHODS LEAST LIKELY TO DAMAGE CONSTRUCTION TO REMAIN OR ADJOINING CONSTRUCTION. USE HAND TOOLS OR SMALL POWER TOOLS DESIGNED FOR SAWING OR GRINDING, NOT HAMMERING AND CHIPPING, TO MINIMIZE DISTURBANCE OF ADJACENT SURFACES. TEMPORARILY COVER OPENINGS TO REMAIN. CUT OR DRILL FROM THE EXPOSED OR FINISHED SIDE INTO CONCEALED SURFACES TO AVOID MARRING EXISTING FINISHED SURFACES.
 - I. DO NOT USE CUTTING TORCHES UNTIL WORK AREA IS CLEARED OF FLAMMABLE MATERIALS. AT CONCEALED SPACES, SUCH AS DUCT AND PIPE INTERIORS, VERIFY CONDITION AND CONTENTS OF HIDDEN SPACE BEFORE STARTING FLAME-CUTTING OPERATIONS. MAINTAIN FIRE WATCH AND PORTABLE FIRE-SUPPRESSION DEVICES DURING FLAME-CUTTING OPERATIONS.
 - J. MAINTAIN ADEQUATE VENTILATION WHEN USING CUTTING TORCHES.
 - K. LOCATE SELECTIVE DEMOLITION EQUIPMENT AND REMOVE DEBRIS AND MATERIALS SO AS NOT TO IMPOSE EXCESSIVE LOADS ON SUPPORTING WALLS, FLOORS, OR FRAMING.
 - L. DISPOSE OF DEMOLISHED ITEMS AND MATERIALS PROMPTLY. COMPLY WITH REQUIREMENTS IN SECTION "CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL."
 - M. REMOVE ALL ELECTRICAL PANELBOARDS, LIGHTING AND POWER CONDUIT, RACEWAYS, BOXES, LIGHTING CONTROLS, LIGHTING FIXTURES AND CONDUCTORS IN DEMOLITION AREA. WHERE CIRCUITS EMANATING FROM PANELS OR DEVICES OUTSIDE THE DEMOLITION AREA, REMOVE RACEWAYS AND CONDUCTORS BACK TO FIRST DOWN STREAM DEVICE TO REMAIN. MAINTAIN EXISTING UTILITIES INDICATED TO REMAIN IN SERVICE AND PROTECT THEM AGAINST DAMAGE DURING SELECTIVE DEMOLITION OPERATIONS. WHERE CONDUITS OR RACEWAYS ENTER OR EXIT FLOORS OR WALLS TO REMAIN CUT RACEWAYS FLUSH WITH FINISHED SURFACE AND PREPARE FOR PATCH TO ORIGINAL FINISH.
 - N. SURVEY EXISTING CONDITIONS, INVENTORY AND RECORD THE CONDITION OF ITEMS TO BE REMOVED AND REINSTALLED.
 - O. RECORD EXISTING CONDITION BY USE OF MEASURED DRAWINGS, PRECONSTRUCTION PHOTOGRAPHS AND/OR VIDEO TAPES. RECORD CONDITION OF AREAS ADJACENT TO DEMOLITION IN ADDITION TO AREAS TO BE DEMOLISHED.
 - P. WHERE RACEWAYS ARE DEMOLISHED REMOVE RACEWAY AND CONDUCTORS BACK TO SOURCE OR FIRST UP-STREAM DEVICE TO REMAIN IN SERVICE.
 - Q. REMOVE ALL ABANDONED RACEWAY, CABLES AND EQUIPMENT FROM AREAS TO BE DEMOLISHED/REMODELED UNLESS NOTED OTHERWISE. DEMOLITION TO INCLUDE POWER, LIGHTING FIRE ALARM DEVICES AND RACEWAYS, COMMUNICATION DEVICES AND RACEWAYS, LOW VOLTAGE AND CONTROL SYSTEMS.
 - R. MAINTAIN EXISTING CABLETRAY AND PROTECT TELECOM/DATA CABLEING IN PLACE.

ELECTRICAL DEMOLITION PLAN

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

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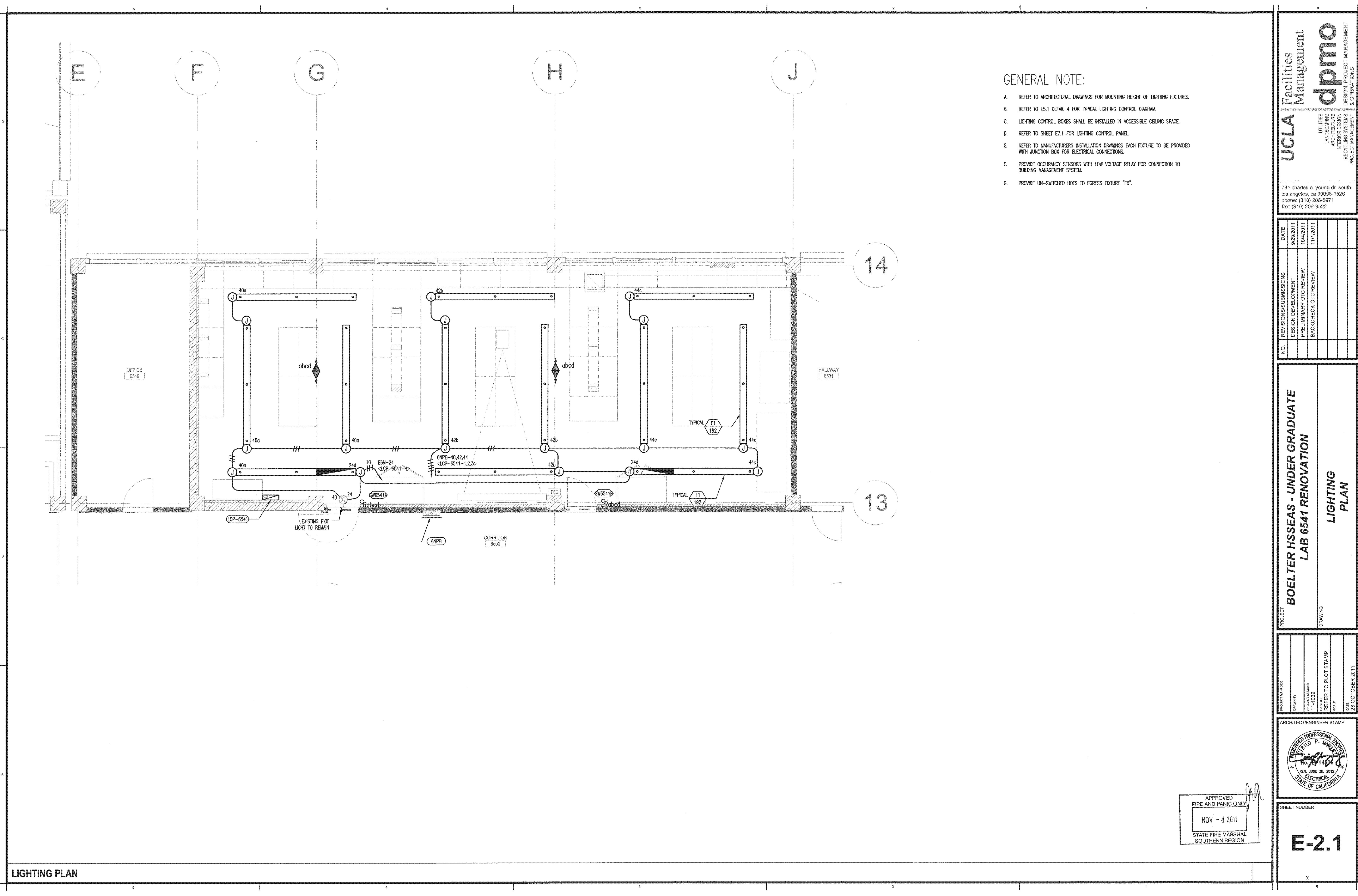
NO.	REVISIONS/SUBMISSIONS	DATE
	DESIGN DEVELOPMENT	9/29/2011
	PRELIMINARY OTC REVIEW	10/4/2011
	BACKCHECK OTC REVIEW	11/1/2011

PROJECT	BOELTER HSSEAS - UNDER GRADUATE LAB 6541 RENOVATION
DRAWING	ELECTRICAL DEMOLITION PLAN

PROJECT NUMBER	11-039
DRAWN BY	REFER TO LOT STAMP
DATE	28 OCTOBER 2011



SHEET NUMBER
ED-1.0



GENERAL NOTE:

- A. REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHT OF LIGHTING FIXTURES.
- B. REFER TO E5.1 DETAIL 4 FOR TYPICAL LIGHTING CONTROL DIAGRAM.
- C. LIGHTING CONTROL BOXES SHALL BE INSTALLED IN ACCESSIBLE CEILING SPACE.
- D. REFER TO SHEET E7.1 FOR LIGHTING CONTROL PANEL.
- E. REFER TO MANUFACTURERS INSTALLATION DRAWINGS EACH FIXTURE TO BE PROVIDED WITH JUNCTION BOX FOR ELECTRICAL CONNECTIONS.
- F. PROVIDE OCCUPANCY SENSORS WITH LOW VOLTAGE RELAY FOR CONNECTION TO BUILDING MANAGEMENT SYSTEM.
- G. PROVIDE UN-SWITCHED HOTS TO EGRESS FIXTURE "FX".

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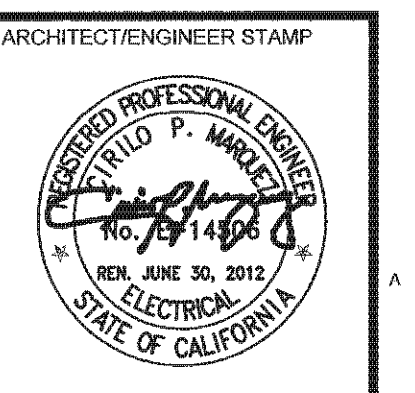
NO.	REVISIONS/SUBMISSIONS	DATE
	DESIGN DEVELOPMENT	9/29/2011
	PRELIMINARY OTC REVIEW	10/4/2011
	BACKCHECK OTC REVIEW	11/7/2011

**BOELTER HSSEAS - UNDER GRADUATE
LAB 6541 RENOVATION**

LIGHTING PLAN

PROJECT: BOELTER HSSEAS - UNDER GRADUATE LAB 6541 RENOVATION
DRAWING: LIGHTING PLAN

PROJECT NUMBER	11-1039
DRAWN BY	REFER TO PLOT STAMP
CHECKED BY	DATE
DATE	28 OCTOBER 2011



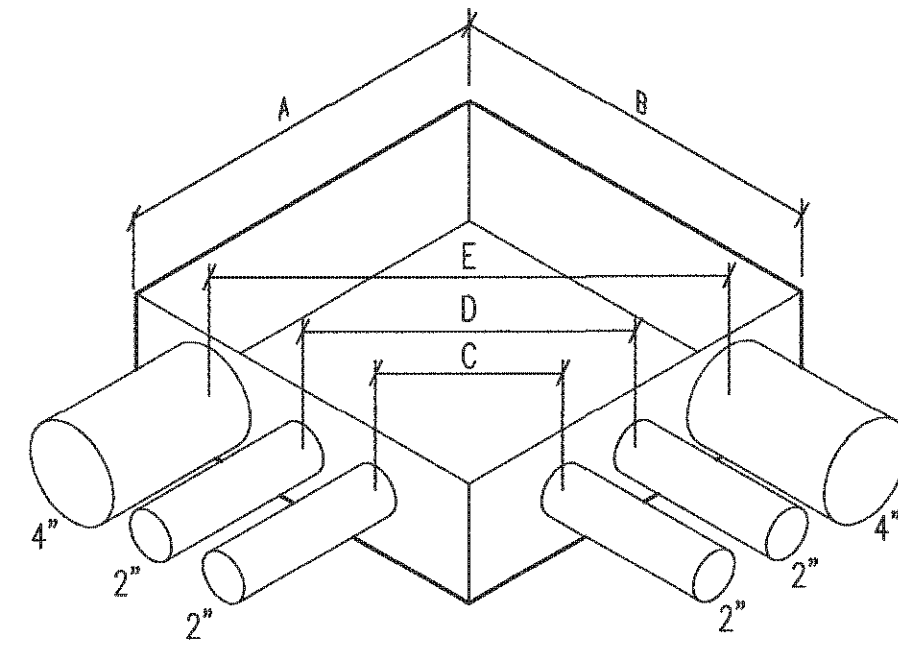
SHEET NUMBER

E-2.1

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SOUTHERN REGION



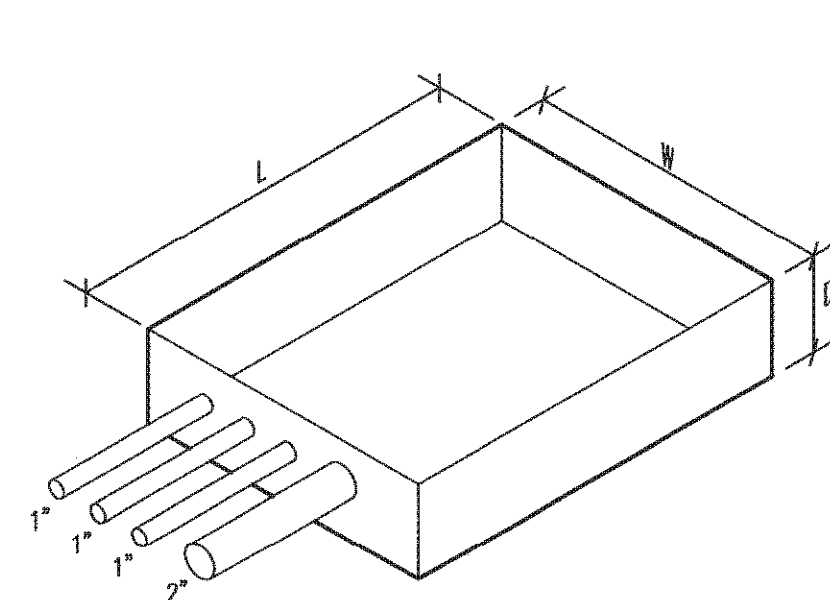
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EXAMPLE:
 $A = (6 \times 4'') + 2' + 2' = 28'$
 $B = (6 \times 4'') + 2' + 2' = 28'$
 $C = (6 \times 2'') = 12'$ MINIMUM
 $D = (6 \times 2'') = 12'$ MINIMUM
 $E = (6 \times 4'') = 24'$

NOTE:
 COMPLY WITH CEC 314.28 FOR PULL BOX SIZING. IF MORE THAN (3) 90 DEGREE BENDS ARE IN CONDUIT RUN, PROVIDE PULLBOX.

4 PULL BOX SIZING ("L" PULLS) LESS THAN 600V DETAIL
 E# SCALE: NOT TO SCALE

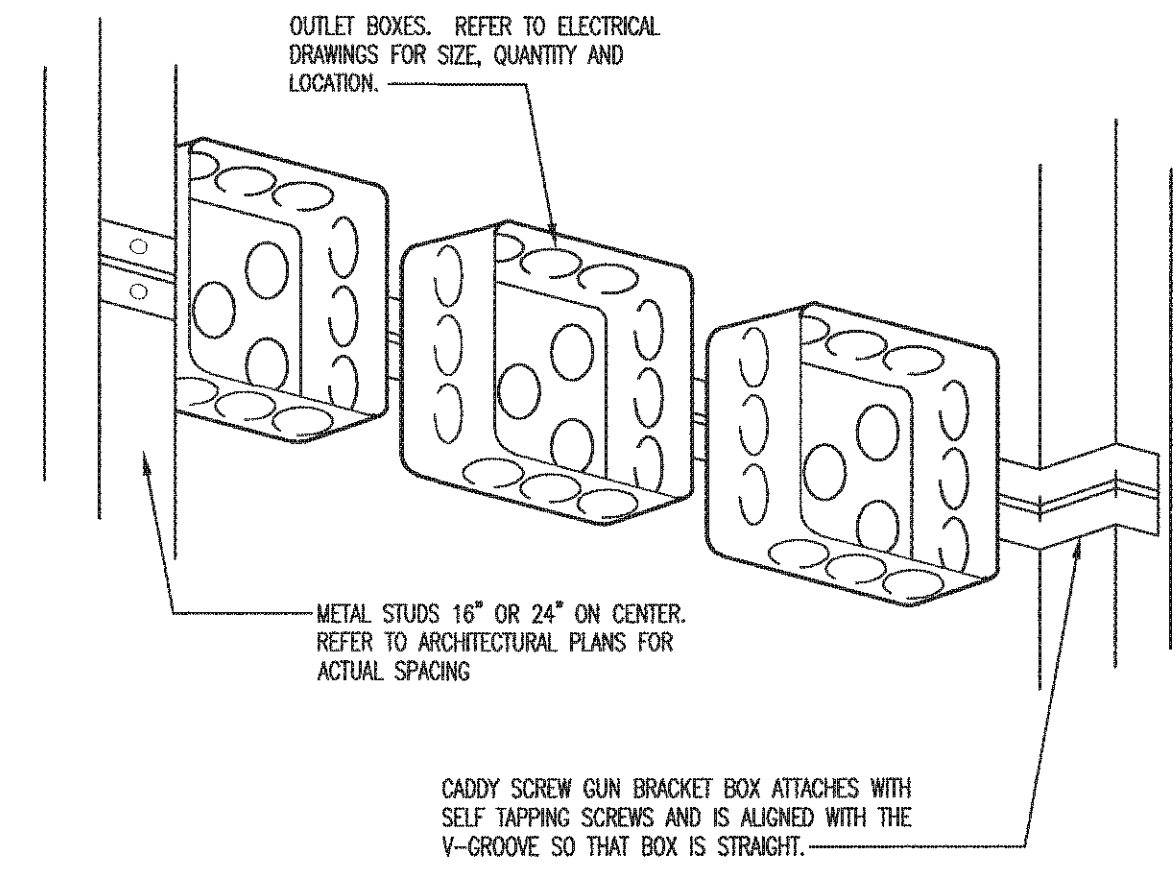


EXOTHERMIC SIZING JUNCTION BOXES FOR "U" PULLS
 $L =$ LARGEST RACEWAY $\times$ 6 + DIAMETER OF ALL OTHER RACEWAYS IN ONE ROW
 $W =$ TOTAL DIAMETER OF ALL RACEWAYS IN ONE ROW IN THAT ROW $\times$ 2
 $D =$ LARGEST RACEWAY IN EACH ROW $\times$ 1.5

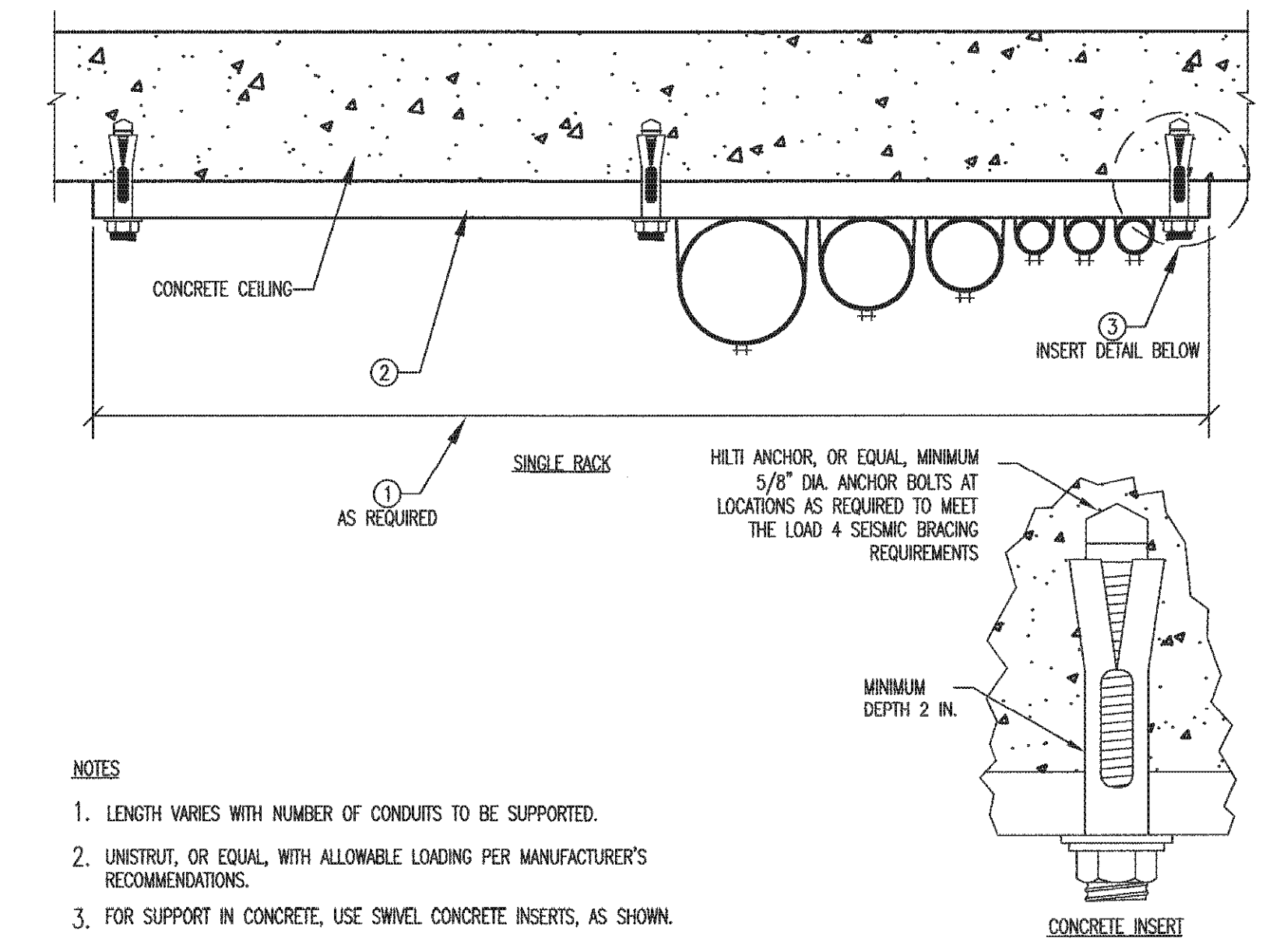
EXAMPLE:
 $L = 6 \times 2' = 12' + 1' + 1' + 1' = 15'$
 $W = 2' + 1' + 1' + 1' = 5 \times 2 = 10'$
 $D = 2' \times 1.5 = 3'$

NOTE:
 COMPLY WITH CEC 314.28 FOR PULL BOX SIZING. IF MORE THAN (3) 90 DEGREE BENDS ARE IN CONDUIT RUN, PROVIDE PULLBOX.

3 PULL BOX SIZING ("U" PULLS) LESS THAN 600V DETAIL
 E# SCALE: NOT TO SCALE



2 TYPICAL BOX INSTALLATION BETWEEN STUDS
 E# SCALE: NOT TO SCALE



NOTES
 1. LENGTH VARIES WITH NUMBER OF CONDUITS TO BE SUPPORTED.
 2. UNISTRUT, OR EQUAL, WITH ALLOWABLE LOADING PER MANUFACTURER'S RECOMMENDATIONS.
 3. FOR SUPPORT IN CONCRETE, USE SWIVEL CONCRETE INSERTS, AS SHOWN.

1 CONDUIT CEILING SUPPORT DETAILS
 E# SCALE: NOT TO SCALE

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NO.	REVISIONS/SUBMISSIONS	DATE
	DESIGN DEVELOPMENT	9/29/2011
	PRELIMINARY OTC REVIEW	10/4/2011
	BACK-CHECK OTC REVIEW	11/1/2011

PROJECT	BOELTER HSSEAS - UNDER GRADUATE LAB 6541 RENOVATION
DRAWING	ELECTRICAL DETAILS

PROJECT MANAGER	DATE
DRAWN BY	28 OCTOBER 2011
PROJECT NUMBER	
1-1-1039	
REFER TO PLOT STAMP	
SCALE	

ARCHITECT/ENGINEER STAMP
 REGISTERED PROFESSIONAL ENGINEER
 FIELD P. MALE
 No. 14506
 EXPI. DATE 06/30/2012
 ELECTRICAL
 STATE OF CALIFORNIA

SHEET NUMBER
E-5.1

NO.	REVISIONS/SUBMISSIONS	DATE
	DESIGN DEVELOPMENT	9/29/2011
	PRELIMINARY OTC REVIEW	10/4/2011
	BACKCHECK OTC REVIEW	11/1/2011

**BOELTER HSSEAS - UNDER GRADUATE
LAB 6541 RENOVATION**

ELECTRICAL DETAILS

PROJECT _____

DRAWING _____

PROJECT MANAGER	DRAWN BY	PROJECT NUMBER	DATE
		11-1039	28 OCTOBER 2011
SCALE		CAD FILE	
REFER TO PLOT STAMP			

ARCHITECT/ENGINEER STAMP



SHEET NUMBER

E-5.2

[illegible]

NOTES

THE LC&D GR2404 MicroPanel PROVIDES 12VDC. OCCUPANCY SENSORS
REQUIRING 24VAC REQUIRE AN ALTERNATE POWER SUPPLY SOURCE.

CONNECTIONS WITH WIRE RUNS BEYOND 200 FEET REQUIRE THE USE OF SHIELDED CABLE TO AVOID SIGNAL INTERFERENCE.

PLEASE REFER TO THE MANUFACTURER'S INSTALLATION GUIDE FOR ANY OTHER PERTINENT INFORMATION THAT MAY BE REQUIRED FOR INSTALLATION OF THEIR PRODUCT. LIGHTING CONTROL & DESIGN CANNOT BE HELD LIABLE FOR CHANGES OR ANY OTHER ISSUES IN RELATION TO ANY PRODUCT MANUFACTURED BY OTHERS.

THE MODEL SHOWN IS FOR DIAGRAMATIC PURPOSES ONLY. THIS CAN BE USED AS
WIRING GUIDE. PLEASE CONTACT LC&D FACTORY FOR MORE INFORMATION.

IF THERE IS ANY CONCERN FOR ANY REASON REGARDING DISCREPANCIES BETWEEN THE DETAILS SHOWN HERE AND THOSE OF THE ACTUAL EQUIPMENT, WE HIGHLY RECOMMEND YOU CONTACT LC&D TECH SUPPORT PRIOR TO PROCEEDING.

PROVIDE THE OCCUPANCY SENSORS WITH A LOW VOLTAGE RELAY TO CONNECT TO BUILDING MANAGEMENT SYSTEM.

NOTES:

1. SWITCH BUTTONS ARE FACTORY ENGRAVED. 2 LINES, 8 CHARACTERS PER LINE.
2. PUSH BUTTONS MAY CONTROL ANY RELAY(S)/DIMMER(S) IN ANY COMBINATION.
3. LED PILOT LIGHTS INDICATE STATUS.

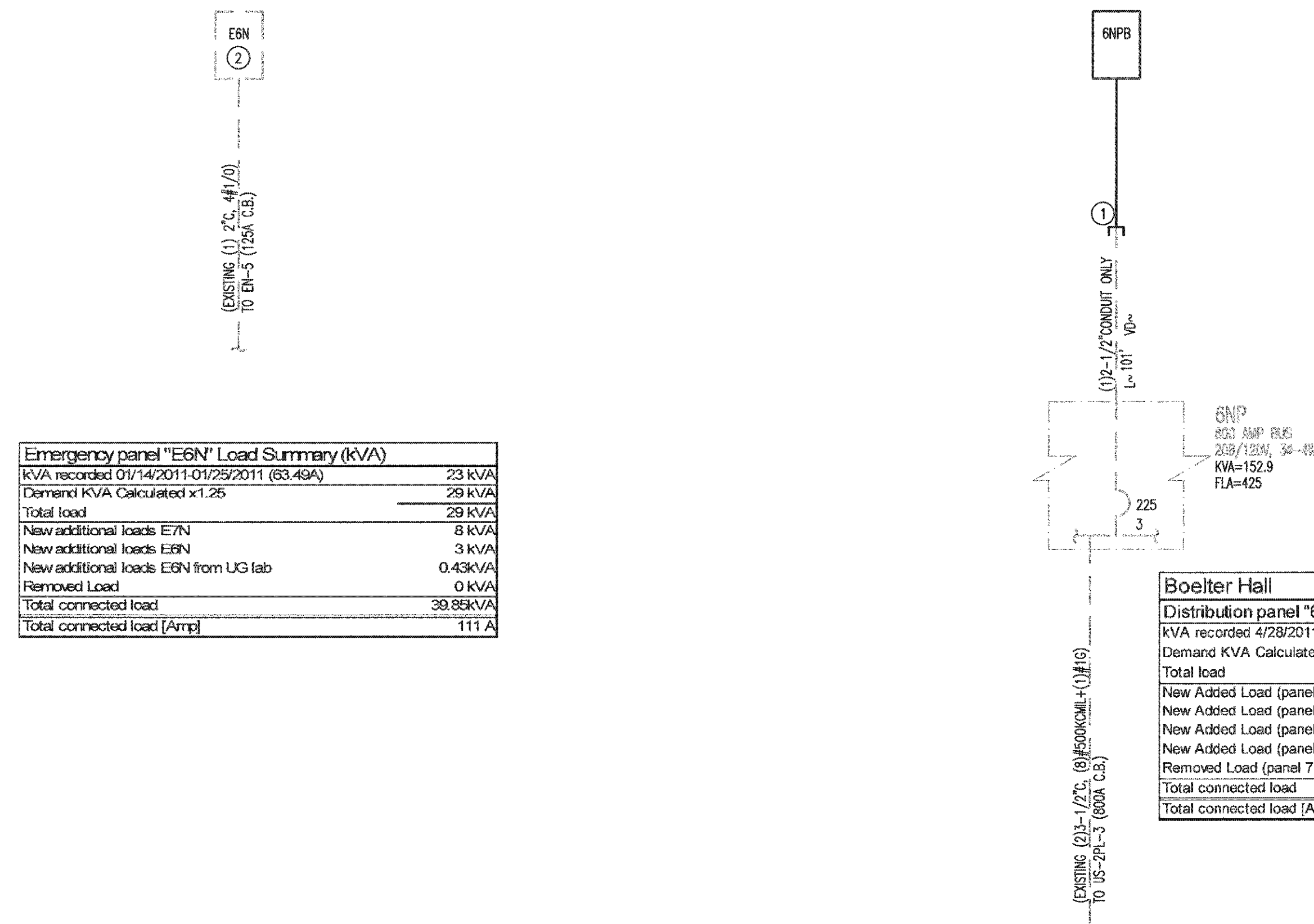
 TYPICAL LABORATORY LAYOUT

1	LIGHTING CONTROL DIAGRAM
E#	SCALE: NOT TO SCALE

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- A. ALL EXISTING FEEDERS AND EQUIPMENT SHOWN IN THIN DASHED LINES.
- B. ALL NEW FEEDERS AND EQUIPMENT SHOWN IN BOLD LINES.
- C. ALL NEW PANELS SHALL BE PROVIDED WITH COBBER BUS.
- D. ALL NEW PANELS SHALL BE PROVIDED WITH TERMINATIONS 75C.
- E. ALL NEW FEEDERS SHALL BE PROVIDED IN COPPER.

- ① EXTEND EXISTING CONDUIT CAPPED ABOVE CEILING TO NEW PANELBOARD LOCATION AND PROVIDE NEW FULLY RATED CONDUCTORS (4)4/0 & (1)1/4" EGC BACK TO SERVING DISTRIBUTION PANEL 6NP IN ELECTRICAL ROOM.
- ② PROVIDE NEW 20A, 1-PHASE GE CIRCUIT BREAKER (NO KNOWN EQUAL) TO MATCH EXISTING CIRCUIT BREAKERS.



Emergency panel "E6N" Load Summary (kVA)		
kVA recorded 01/14/2011 01/25/2011 (63.49A)		23 kVA
Demand kVA Calculated x1.25		29 kVA
Total load		29 kVA
New additional loads E7N		8 kVA
New additional loads E6N		3 kVA
New additional loads E6N from UC lab		0.43kVA
Removed Load		0 kVA
Total connected load		39.65kVA
Total connected load [Amps]		111

Boelter Hall	
Distribution panel "6NP" Load Summary (kVA)	
kVA recorded 4/28/2011-5/6/2011 (152A)	55 kVA
Demand kVA Calculated x1.25	68 kVA
Total load	68 kVA
New Added Load (panel 6PA)	65 kVA
New Added Load (panel 6NPA)	5 kVA
New Added Load (panel 6NPC)	28 kVA
New Added Load (panel 6NBP)	35.4 kVA
Removed Load (panel 7NP existing)	50 kVA
Total connected load	160.95kVA
Total connected load [Amp]	419 A

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**BOELTER HSSEAS - UNDER GRADUATE
LAB 6541 RENOVATION**

PARTIAL ELECTRICAL SINGLE LINE DIAGRAM

PROJECT	DRAWING
PROJECT MANAGER	GDS FILE
DOWN BY	REFER TO PLOT STAMP
PROJECT NUMBER	SCALE
11-1039	DATE
	28 OCTOBER 2011

ARCHITECT/ENGINEER STAMP



REGISTERED PROFESSIONAL ENGINEER
VIRILO P. MARCELLINO
No. E7 14506
REN. JUNE 30, 2012
ELECTRICAL
STATE OF CALIFORNIA

SHEET NUMBER

E-6.1

Y

208/120 VOLTS 3 PHASE 4 WIRE			PANEL LOCATION KAIC KSCA			E6N (EXISTING) LEVEL 6 NORTH ELECTRICAL ROOM 6564A —			125A & DOUBLE LUGS 100 AMP BUSSING 100% NEUTRAL BUS WITHOUT IG BUS			MAIN BREAKER					
LOCATION		VA			LTG REC MIS CIR BKR			BKR CIR MIS REC LTG			VA			LOCATION			
		Φ A	Φ B	Φ C								Φ A	Φ B	Φ C			
EXISTING CORRIDOR LTG		0			—	—	—	1	20-1	20-1	2	—	—	0	EXISTING LTG 2656		
EXISTING EXIT SIGNS			0		—	—	—	3	20-1	20-1	4	—	—	0	EXISTING LTG		
EXISTING LTG 6564				0	—	—	—	5	20-1	20-1	6	—	—	0	EXISTING MECH RM LOAD		
EXISTING MON DOOR		0			—	—	—	1	20-1	20-1	8	—	—	0	EXISTING REC BELOW PNL		
EXISTING REC 6564 MECH RM			0		—	—	—	9	20-1	20-1	10	1	—	300	LAB 6678 FUMEHOOD		
EXISTING MECH RM LOAD				0	—	—	—	11	20-1	20-1	12	1	—	300	TEACH LAB 6531 FUMEHOOD		
LAB 6678 LIGHTING		330			5	—	—	15	20-1	20-1	14	1	—	300	LAB 6549 FUMEHOOD		
LAB 6678 A/B HVAC CONTROL			300		—	—	3	15	20-1	20-1	16	1	—	300	LAB 6531 FUMEHOOD		
LAB 6549, 6531, 6514, 6513 LTG				396	6	—	—	17	20-1	20-1	18	1	—	300	LAB 6514 FUMEHOOD		
SPACE		0			—	—	—	19	—	20-1	20	5	—	500	LAB 6549, 31, 14, 13A&B HVAC		
SPACE			0		—	—	—	21	—	—	22	—	—	0	SPACE		
SPACE				0	—	—	—	23	—	20-1	24	—	—	2	128 LAB 6531 LIGHTING		
SPACE		0			—	—	—	25	—	—	26	—	—	0	SPACE		
SPACE			0		—	—	—	27	—	—	28	—	—	0	SPACE		
SPACE				0	—	—	—	29	—	—	30	—	—	0	SPACE		
Φ A= 1130 VA		Φ B= 900 VA			Φ C= 1124 VA												
TOTAL CONNECTED LOAD:		3154			WATTS OR			8.8 AMPS @			208 VOLTS — 3 Φ						
LCL: 854 VA x 25% = 214 VA																	
FDL: 3368 VA OR 9.4 AMPS																	

RELAY CABINET	LAB 6541		
LOCATION	LAB 6541	FEEDER TYPE	NORMAL/EMER
CONTROL	DESCRIPTION	CIRCUIT	RLY
SW-6541A&B, OS	WINDOW ROW	6NPB-X	1
SW-6541A&B, OS	WINDOW ROW	6NPB-X	2
SW-6541A&B, OS	DOOR ROW	6NPB-X	3
SW-6541A&B, OS	EMERGENCY FIXTURES	E6N-X	4
CONTROL LEGEND			
SW: MASTER	TC: TIMECLOCK	DL: DAYLIGHT PHOTOCELL	
SW: LOCAL LV SWITCH	OS: OCCUPANCY SENSOR		
PC: PHOTOCELL	PH: PHONE		

208/120 VOLTS 3 PHASE 4 WIRE			PANEL LOCATION KAIC KSCA			6NPB CORR A6500 -			MLO MAIN BREAKER 225 AMP BUSSING 100% NEUTRAL BUS WITHOUT IG BUS													
LOCATION		VA			LTG	REC	MIS	CIR	BKR		BKR	CIR	MIS	REC	LTG	VA			LOCATION			
		Φ A	Φ B	Φ C												Φ A	Φ B	Φ C				
LAB 6541 BENCH		720			-	4	-	1	20-1	●	20-1	2	-	-	0				SPARE			
LAB 6541 BENCH			540		-	3	-	3	20-1	●	20-1	4	-	-			0		SPARE			
LAB 6541 WALL SMR (NORTH)				540	-	3	-	5	20-1	●	20A	6	1	-	-		1620		LAB 6541 OFCI <CENTRIFUGE>			
LAB 6541 WALL SMR (NORTH)		360			-	2	-	7	20-1	●	2P	8	-	-	-	1620			W/ CKT 8			
LAB 6541 WALL SMR (NORTH)			540		-	3	-	9	20-1	●	20-1	10	1	-	-		300		LAB 6541 TRAP PRIMER			
LAB 6541 WALL SMR (NORTH)				540	-	3	-	11	20-1	●	20-1	12	-	4	-		720		LAB 6541 CONV			
LAB 6541 WALL SMR (NORTH)		720			-	4	-	13	20-1	●	20-1	14	1	-	-	600			LAB 6541 SENSORS			
LAB 6541 WALL SMR (NORTH)			720		-	4	-	15	20-1	●	20-1	16	-	1	-		1600		LAB 6541 RECEPTACLE			
LAB 6541 WALL SMR (NORTH)				540	-	3	-	17	20-1	●	20-1	18	-	1	-		1600		LAB 6541 RECEPTACLE			
LAB 6541 WALL SMR (NORTH)		540			-	3	-	19	20-1	●	20-1	20	-	1	-	1600			LAB 6541 RECEPTACLE			
LAB 6541 <PROJ>/<SCREEN>			600		-	2	21	20-1	20-1	●	20-1	22	-	1	-		1600		LAB 6541 RECEPTACLE			
SPARE				0	-	-	-	23	20-1	●	20-1	24	-	1	-		1600		LAB 6541 RECEPTACLE			
LAB 6541 OFCI <ICE MAKER>		600			-	-	1	25	20-1	●	20-1	26	1	-	-	500			LAB 6541 COLUMN CONTROLS			
LAB 6541 OFCI <REF>			1080		-	-	1	27	20-1	●	20-1	28	1	-	-		1600		LAB 6541 OFCI<DISTIL COLUMN>			
LAB 6541 TRAP PRIMER				300	-	-	1	29	20-1	●	20-1	30	-	3	-		540		LAB 6541 BENCH			
LAB 6541 CONV		360			-	2	-	31	20-1	●	20-1	32	-	2	-	360			LAB 6541 BENCH			
LAB 6541 OFCI <AUTOCLAVE>			1500		-	-	1	33	20A	●	20-1	34	-	2	-		360		LAB 6541 BENCH			
W/ CKT 33				1500	-	-	-	35	2P	●	20-1	36	-	2	-		360		LAB 6541 BENCH			
LAB 6541 OFCI <AUTOCLAVE>		1500			-	-	1	37	20A	●	20-1	38	1	-	-	150			LAB 6541 BENCH TASK LTG			
W/ CKT 37			1500		-	-	-	39	2P	●	20-1	40	-	-	4		792		LAB 6541 LIGHTING			
LAB 6541 BENCH				540	-	3	-	41	20-1	●	20-1	42	-	-	4		792		LAB 6541 LIGHTING			
LAB 6541 BENCH		360			-	2	-	43	20-1	●	20-1	44	-	-	4	792			LAB 6541 LIGHTING			
LAB 6541 BENCH			360		-	2	-	45	20-1	●	20-1	46	-	-	-		0		SPARE			
LAB 6541 BENCH				180	-	1	-	47	20-1	●	20-1	48	-	-	-		0		SPARE			
LAB 6541 BENCH TASK LTG		150			-	-	1	49	20-1	●	20-1	50	-	-	-	0			SPARE			
SPARE			0		-	-	-	51	20-1	●	20-1	52	-	-	-		0		SPARE			
SPARE				0	-	-	-	53	20-1	●	20-1	54	-	-	-		0		SPARE			
Φ A= 10932 VA Φ B= 13092 VA Φ C= 11372 VA																						
TOTAL CONNECTED LOAD:		35396			WATTS OR			98.3			AMPS @			208			VOLTS -			3 Φ		
LCL: 2376 VA x 25% = 594 VA																						
FDL: 35990 VA OR 100.0 AMPS																						

RECEPTACLE LOAD: 60 x 180 = 10800 VA GENERAL LOAD: 22220 VA

GENERAL NOTES:

A. HATCHED AREAS INDICATE EXISTING CIRCUITS TO REMAIN.

REFERENCE NOTES:

① PROVIDE 20-1 CIRCUIT BREAKER IN EXISTING SPACE POSITION.

E6N	6NPB
LCP-6541	
APPROVED FIRE AND PANIC ONLY NOV - 4 2011 STATE FIRE MARSHAL SOUTHERN REGION	