

DENTAL SIMULATION LAB FOR CHABOT LAS POSITAS COMMUNITY COLLEGE DISTRICT AT CHABOT COLLEGE 25555 HESPERIAN BOULEVARD HAYWARD, CALIFORNIA

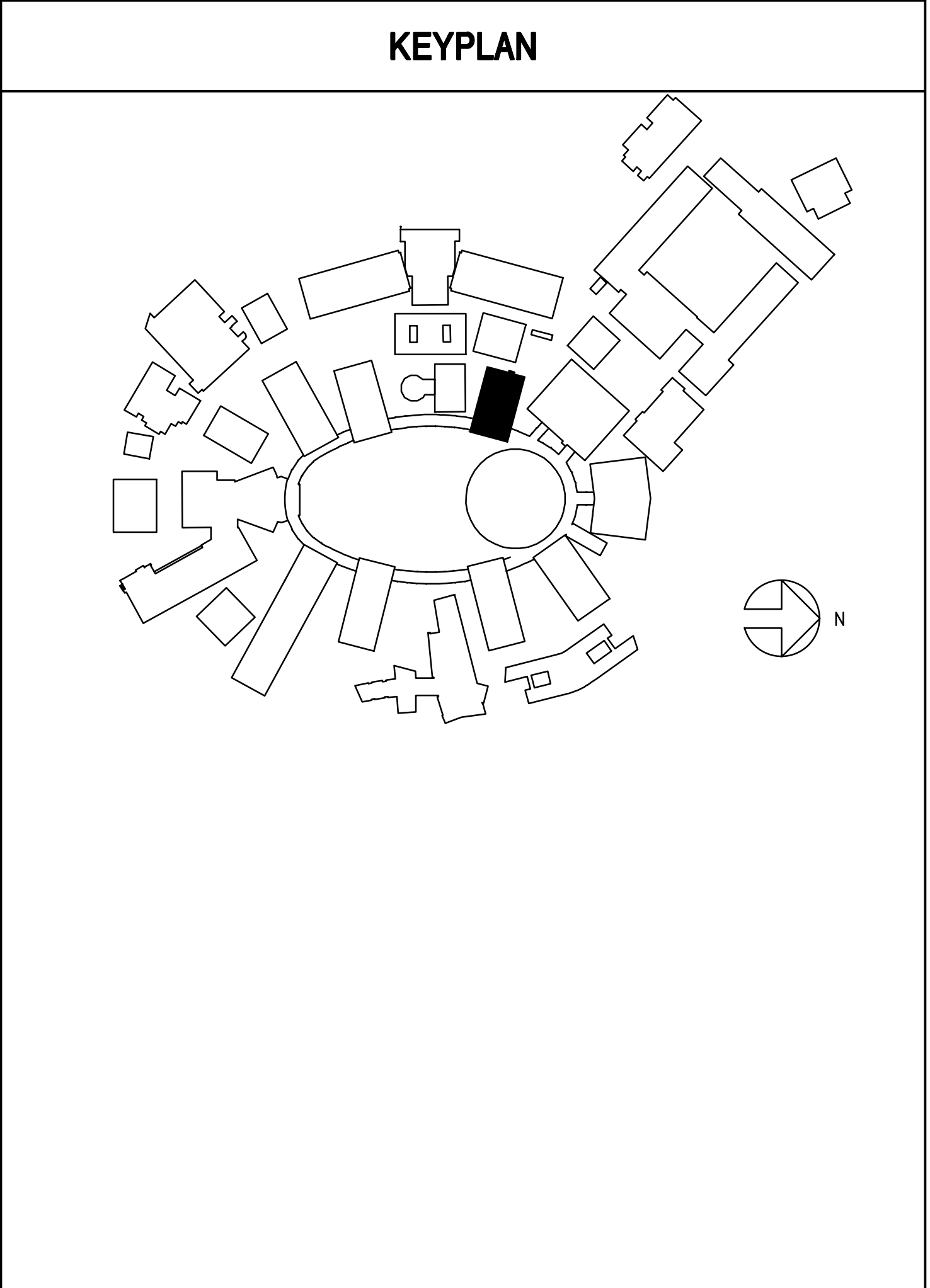
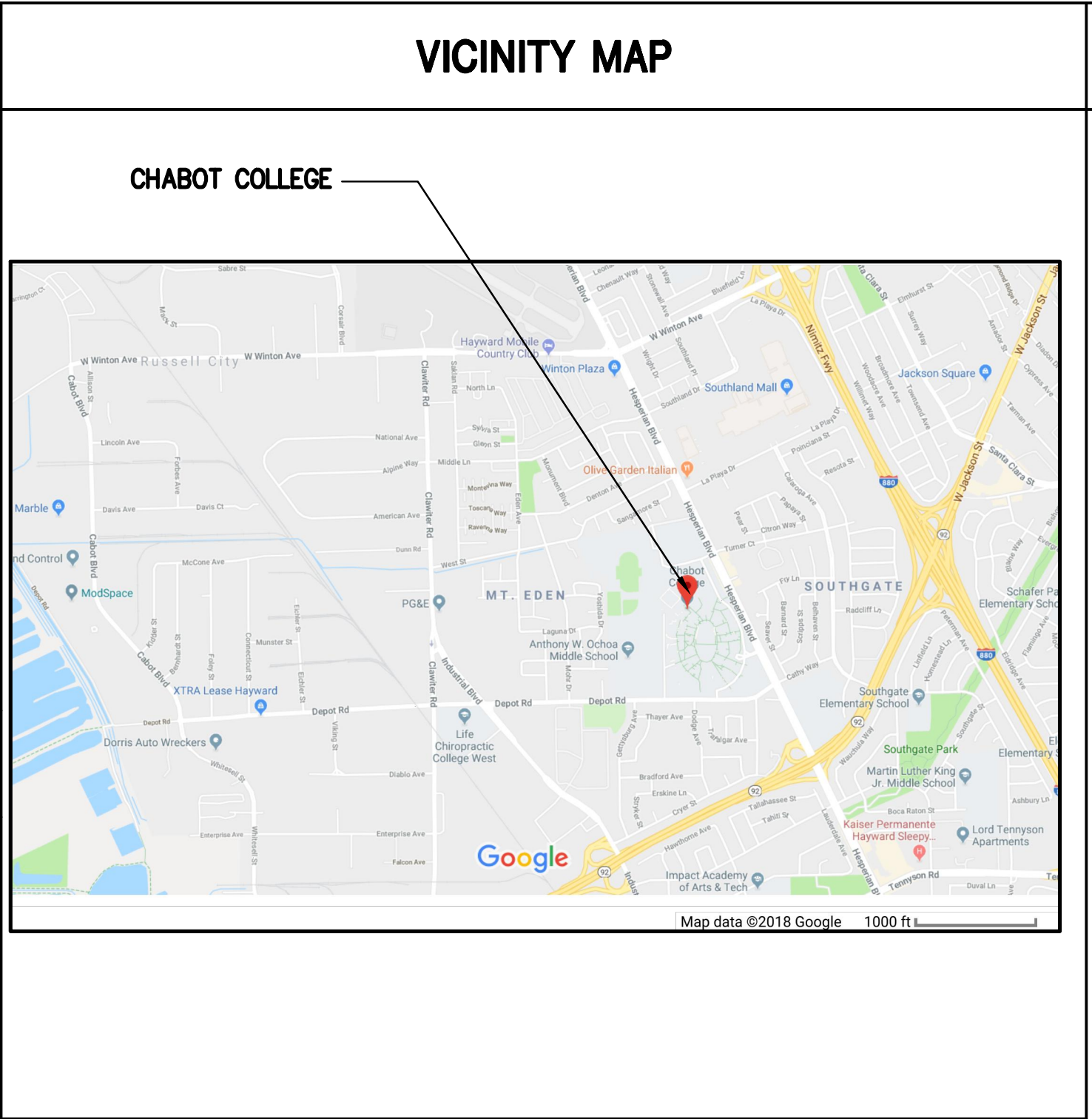
NO.	REVISION	DATE

WKM
Electrical Consultants Incorporated
3397 Mt. Diablo Blvd., Suite C
Lafayette, CA 94549
Tel: 925.385.0649
20-009

APPLICABLE BUILDING CODES
2019 CALIFORNIA BUILDING STANDARDS ADMINISTRATIVE CODE (PART 1, TITLE 24, CCR) 2019 CALIFORNIA BUILDING CODE, VOLUMES 1 AND 2 (PART 2, TITLE 24, CCR) (2012 EDITION INTERNATIONAL BUILDING CODE WITH 2016 CALIFORNIA AMENDMENTS) 2019 CALIFORNIA ELECTRICAL CODE (PART 3, TITLE 24, CCR) (2011 EDITION NATIONAL ELECTRICAL CODE WITH 2016 CALIFORNIA AMENDMENTS) 2019 CALIFORNIA MECHANICAL CODE (PART 4, TITLE 24, CCR) (2012 EDITION NATIONAL MECHANICAL CODE WITH 2016 CALIFORNIA AMENDMENTS) 2019 CALIFORNIA PLUMBING CODE (PART 5, TITLE 24, CCR) (2012 EDITION IAPMO UNIFORM PLUMBING CODE WITH 2016 CALIFORNIA AMENDMENTS) 2019 CALIFORNIA ENERGY CODE (PART 6, TITLE 24, CCR) 2019 CALIFORNIA FIRE CODE (PART 9, TITLE 24, CCR) 2019 CALIFORNIA REFERENCED STANDARDS CODE (PART 12, TITLE 24, CCR) TITLE 19 PUBLIC SAFETY - STATE FIRE MARSHAL (CCR)
NATIONAL REFERENCE STANDARDS
ASD (AISC) MANUAL OF STEEL CONSTRUCTION, 9TH EDITION ACI-318-95 CODE & COMMENTARY NFPA 72, NATIONAL FIRE ALARM CODE, 2016 EDITION (AS AMENDED BY SFM) NFPA 13, AUTOMATIC SPRINKLER SYSTEMS, 2016 EDITION NFPA 14, STANDPIPE SYSTEMS, 2016 EDITION NFPA 17A - WET CHEMICAL SYSTEMS, 2016 EDITION NFPA 24 - PRIVATE FIRE MAINS, 2016 EDITION
SCOPE OF WORK
1. PROVIDE AND INSTALL NEW ELECTRICAL, LOW VOLTAGE AND PLUMBING SYSTEMS TO NEW DENTAL SIMULATION EQUIPMENT.
OCCUPANCY
TYPE B OCCUPANCY.

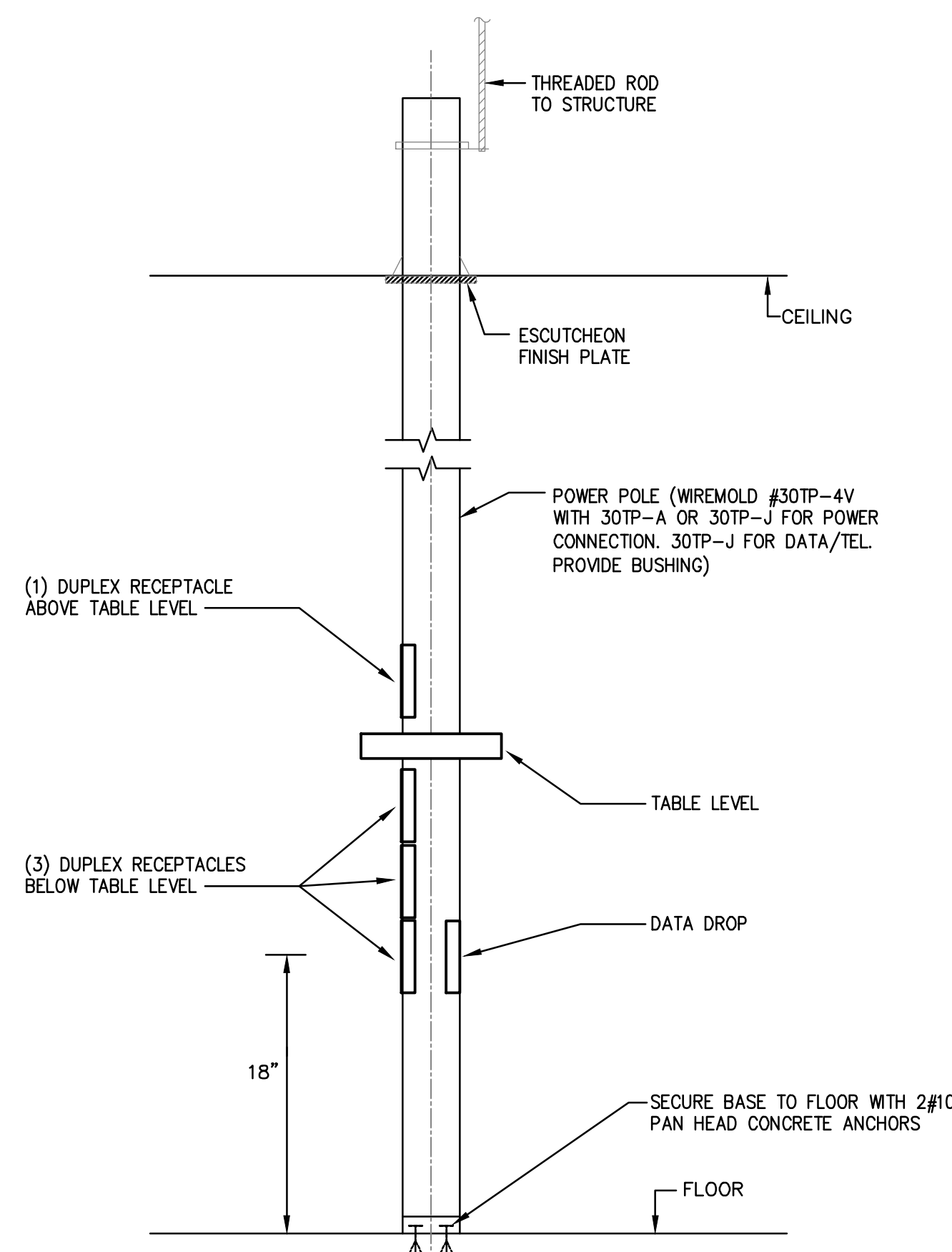
GENERAL NOTES
1. A COPY OF PARTS 1 & 2, TITLE 24 SHALL BE KEPT ON THE JOBSITE AT ALL TIMES. 2. COORDINATE ELECTRICAL OUTLET LOCATIONS WITH ARCHITECTURAL ELEVATIONS (I.E. CABINETS). AVOID ALL COUNTER SUPPORTS, AND LOCATIONS BEHIND INACCESSIBLE FIXED CABINETS. 3. INSPECTOR TO BE APPROVED BY DSA. INSPECTOR TO BE IN ACCORDANCE WITH SECTION 4-333(B). THE DUTY OF THE INSPECTOR SHALL BE IN ACCORDANCE WITH SECTION 4-342. 4. SUPERVISION OF CONSTRUCTION BY DSA IN ACCORDANCE WITH SECTION 4-334. 5. THE ENGINEER SHALL PERFORM THEIR DUTIES IN ACCORDANCE WITH SECTION 4-333(A) AND 4-341. 6. THE CONTRACTOR SHALL PERFORM HIS DUTIES IN ACCORDANCE WITH SECTION 4-343. THE INTENT OF THE CONTRACT DOCUMENTS IS TO UPGRADE THE FIRE ALARM SYSTEM OF THE SCHOOL BUILDINGS. 7. SHOULD ANY CONDITIONS DEVELOP NOT COVERED BY THE CONTRACT DOCUMENTS, A CHANGE ORDER DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY ORS (THE OFFICE OF REGULATION SERVICES) BEFORE PROCEEDING WITH THE WORK. 8. THE CONTRACTOR AND SUBCONTRACTORS SHALL VISIT THE SITE PRIOR TO SUBMITTING BIDS. 9. THE CONTRACTOR AND SUBCONTRACTOR'S WORK SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE OR LOCAL BUILDING CODES. 10. ALL CONDUITS WHICH PENETRATE ROOFS OR EXTERIOR WALLS ARE TO BE PROPERLY SLEEVED, FLASHED AND COUNTER FLASHED FOR A COMPLETE WATER TIGHT ASSEMBLY AND SHALL BE COMPLETED BY CERTIFIED INSTALLERS. ANY ROOF WORK MUST BE PERFORMED BY A SHARNFLI CERTIFIED INSTALLER. 11. ALL ROOFING MATERIALS (AS NOTED ON DRAWINGS) SHALL BE APPLIED IN STRICT CONFORMANCE WITH THE MANUFACTURER'S WRITTEN RECOMMENDATIONS AND THE CALIFORNIA BUILDING CODE, BUILDING CODE. 12. ALL CONSTRUCTION SHALL COMPLY WITH THE 2019 UBC, & CALIFORNIA BUILDING CODE 2019. 13. INCONSISTENCIES WHICH OCCUR IN DRAWINGS AND/ OR GENERAL NOTES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE WORK AND ORDERING MATERIALS. 14. WRITTEN DIMENSIONS SHALL HAVE PRECEDENCE OVER SCALED MEASUREMENTS AND DETAILS SHALL HAVE PRECEDENCE OVER GENERAL DRAWINGS. 15. EXISTING CONDITIONS AT THE BUILDING SITE SHALL BE VERIFIED AND EXAMINED BY THE CONTRACTOR AND/ OR SUBCONTRACTOR, AND SIGNING OF THE CONTRACT WITH THE OWNER SHALL BE PRESUMPTIVE EVIDENCE THAT THE CONTRACTOR IS THOROUGHLY FAMILIAR WITH ALL OBSERVABLE PROJECT CONDITIONS AND PECULIARITIES. 16. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL REQUIRED PENETRATIONS THROUGH EXISTING WALLS (INTERIOR/EXTERIOR) WOOD STUD OR MASONRY, AND ROOF STRUCTURES AS REQUIRED FOR THE EXECUTION OF ALL NEW MECHANICAL, ELECTRICAL, PLUMBING, STRUCTURAL, AND ARCHITECTURAL WORK. REVIEW THE CONTRACT DOCUMENTS AND SITE CONDITIONS PRIOR TO BIDDING TO DETERMINE THE ENTIRE SCOPE OF WORK. 17. THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS THAT THE WORK OF THE ALTERATION, REHABILITATION OR RECONSTRUCTION IS TO BE IN ACCORDANCE WITH TITLE 24, CALIFORNIA CODE REGULATIONS. SHOULD ANY EXISTING CONDITIONS SUCH AS DETERIORATION OR NONCOMPLYING CONSTRUCTION BE DISCOVERED, WHICH IS NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH THE TITLE 24, CALIFORNIA CODE OF REGULATIONS, A CHANGE ORDER OR A SEPARATE SET OF PLANS AND SPECIFICATIONS, DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BEFORE PROCEEDING THE WORK. 18. ELECTRICAL CONTRACTOR IS TO PROVIDE LABOR, MATERIALS, TRANSPORTATION, EQUIPMENT, RELATED HAND TOOLS, SPECIAL AND OCCASIONAL SERVICES TO CONSTRUCT AND INSTALL THE COMPLETE ELECTRICAL SYSTEM AS SPECIFIED AND SHOWN ON THE PLANS. 19. MOUNTING HEIGHTS SHOWN (I.E. +48") ARE FROM FINISHED FLOOR TO CENTERLINE OUTLET. ALL MOUNTING HEIGHTS SHALL BE AS SHOWN ON SYMBOL LIST UNLESS OTHERWISE NOTED ON DRAWINGS. 20. BONDING JUMPERS SHALL BE INSTALLED TO INSURE CONTINUITY WHERE CONDUIT CONNECTIONS AT CONCENTRIC KNOCKOUTS ARE TO SERVE AS A GROUND. 21. THE ELECTRICIAN SHALL CHECK THE TIGHTNESS OF PANELBOARD BUSES AND CIRCUIT BREAKER LUGS ON PANELS WHERE ELECTRICAL MODIFICATIONS ARE MADE. COMPLETELY VACUUM AND CLEAN INTERIOR OF EQUIPMENT PRIOR TO PLACING SERVICE INTO OPERATION. 22. ALL EQUIPMENT SHALL BE U.L. LISTED AND INSTALLED AS PER LISTING OR LABELING (I.E. MAX FUSE SIZES MEAN FUSE PROTECTION REQUIRED). 23. CONTRACTOR TO COORDINATE ALL NEW WORK WITH EXISTING CONDITIONS. REMOVE OR REPLACE CONDUIT OR WIREMOLD RACEWAYS AS INDICATED ON PLANS. ALL NEW CONDUIT SHALL BE POWDERCOATED WHITE OR AS OTHERWISE SPECIFIED BY DISTRICT. 24. ALL ELECTRICAL CONDUIT AND ELECTRICAL EQUIPMENT SHALL BE BRACED OR ANCHORED TO RESIST HORIZONTAL FORCES AS REQUIRED BY SECTION 1630A AND TABLE 16A-4, TITLE 24, CALIFORNIA ADMINISTRATIVE CODE, PART 2, WHERE ANCHORAGE DETAILS ARE NOT SHOWN ON DRAWINGS THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER. 25. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGES TO ALL WALLS, FLOORS AND CEILINGS INCURRED DURING ELECTRICAL CONSTRUCTION. IF DAMAGE OCCURS DURING ELECTRICAL CONSTRUCTION, THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH GENERAL CONTRACTOR TO PATCH, PAINT AND REPAIR TO MATCH EXISTING CONDITIONS. 26. COORDINATE EQUIPMENT LOCATIONS AND ELECTRICAL REQUIREMENTS OF ALL EQUIPMENT REQUIRING ELECTRICAL HOOK-UP WITH CONTRACTOR RESPONSIBLE FOR PROVIDING EQUIPMENT AND EQUIPMENT MANUFACTURER DATA SHEETS.

PROJECT TEAM
OWNER: CHABOT-LAS POSITAS COMMUNITY COLLEGE DISTRICT 7600 DUBLIN BLVD, 3RD FLOOR DUBLIN, CA 94568
ELECTRICAL ENGINEER: WKM ELECTRICAL CONSULTANTS INCORPORATED 3397 MT. DIABLO BLVD, SUITE C LAFAYETTE, CA 94549 (925) 385-0649
MECHANICAL ENGINEER: H&M MECHANICAL GROUP 8517 EARHART RD, SUITE 230 OAKLAND, CA 94621 (510) 569-2000



DRAWING INDEX																	
<table border="1"> <thead> <tr> <th>SHEET #</th> <th>TITLE</th> </tr> </thead> <tbody> <tr><td>TO.1</td><td>ELECTRICAL TITLE SHEET</td></tr> <tr><td>EO.1</td><td>ELECTRICAL SYMBOLS, NOTES AND DETAILS</td></tr> <tr><td>EO.2</td><td>ELECTRICAL SIM LAB MANUFACTURER DETAILS</td></tr> <tr><td>E1.1</td><td>ELECTRICAL SITE PLAN</td></tr> <tr><td>E1.2</td><td>ELECTRICAL PLANS BUILDING 2200 FIRST FLOOR</td></tr> <tr><td>PD.1</td><td>PLUMBING LEGEND AND NOTES</td></tr> <tr><td>PI.1</td><td>PLUMBING FLOOR PLAN AND DETAILS</td></tr> </tbody> </table>	SHEET #	TITLE	TO.1	ELECTRICAL TITLE SHEET	EO.1	ELECTRICAL SYMBOLS, NOTES AND DETAILS	EO.2	ELECTRICAL SIM LAB MANUFACTURER DETAILS	E1.1	ELECTRICAL SITE PLAN	E1.2	ELECTRICAL PLANS BUILDING 2200 FIRST FLOOR	PD.1	PLUMBING LEGEND AND NOTES	PI.1	PLUMBING FLOOR PLAN AND DETAILS	<p style="text-align: center;">CHABOT COLLEGE DENTAL SIMULATION LAB 25555 HESPERIAN BLVD HAYWARD, CA 94545</p> <p style="text-align: center;">ELECTRICAL TITLE SHEET</p> <p>Date 03-26-21 Scale AS NOTED Drawn TLK/DM Job 20-009 Sheet T0.1 Of Sheets</p>
SHEET #	TITLE																
TO.1	ELECTRICAL TITLE SHEET																
EO.1	ELECTRICAL SYMBOLS, NOTES AND DETAILS																
EO.2	ELECTRICAL SIM LAB MANUFACTURER DETAILS																
E1.1	ELECTRICAL SITE PLAN																
E1.2	ELECTRICAL PLANS BUILDING 2200 FIRST FLOOR																
PD.1	PLUMBING LEGEND AND NOTES																
PI.1	PLUMBING FLOOR PLAN AND DETAILS																

C:\USERS\DMOR\WORK\CONSULTING\DRPBOX\CAD\2020\20-009 CHABOT DENTAL LAB\00_20009 TD-LDW 03/26/21 11:14:04 AM



(E) PANEL 22RC - SECTION 2 ELEC/MECH ROOM

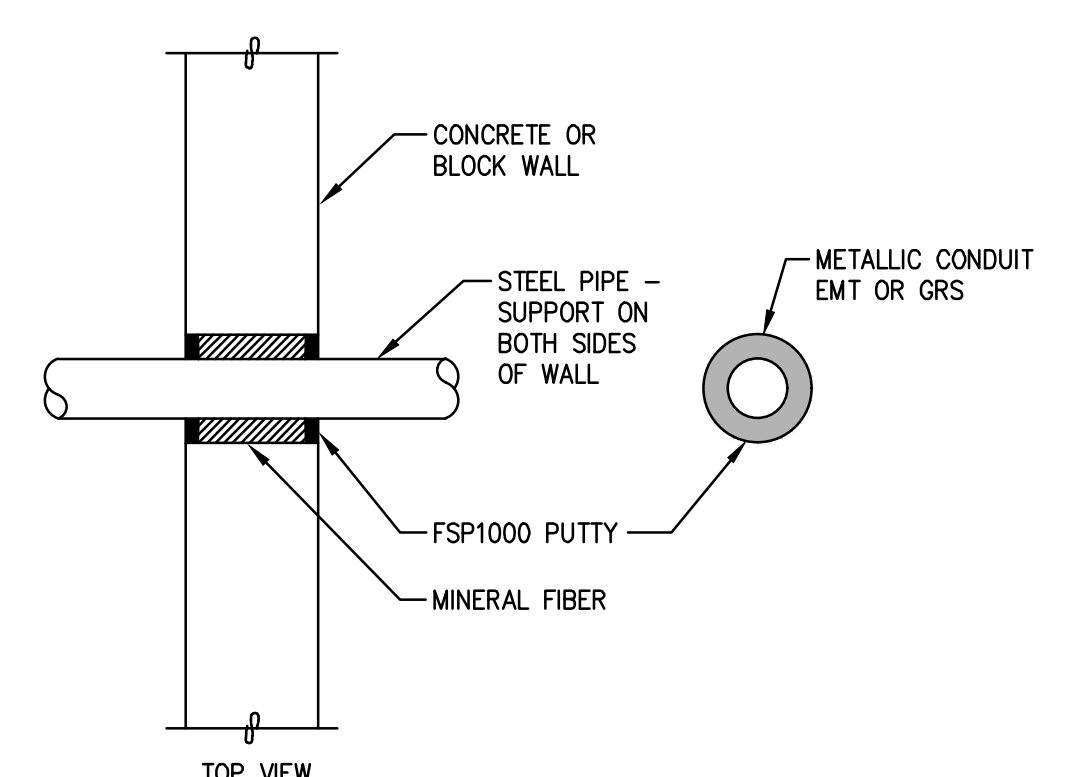
DESCRIPTION	LOAD (KVA)				CB	CKT	SN	CB	LOAD (KVA)				DESCRIPTION
	LTG.	REC.	RES.	MOT.					LTG.	REC.	RES.	MOT.	
(E) VACUUM PUMP				8.50	40/3	43	*	44	20/1				(N) DENTAL SIM POWER
						45	*	46	20/1				(N) DENTAL SIM POWER
						47	*	48	20/1				(N) DENTAL SIM POWER
OUTSIDE LIGHTS	1.00				20/1	49	*	50	20/1				(N) DENTAL SIM POWER
OUTSIDE LIGHTS	1.00				20/1	51	*	52	20/1				(N) DENTAL SIM POWER
OUTSIDE LIGHTS	1.00				20/1	53	*	54	20/1				(N) DENTAL SIM POWER
AIR DRYER		0.60			20/1	55	*	56	20/1				(N) DENTAL SIM POWER
EXT. RECEPT		0.36			20/1	57	*	58	20/1				(N) DENTAL SIM POWER
SPACE						59	*	60	20/1				(N) DENTAL SIM POWER
SPACE						61	*	62	20/1				(N) DENTAL SIM POWER
SPACE						63	*	64	20/1				(N) DENTAL SIM POWER
SPACE						65	*	66	20/1				(N) DENTAL SIM POWER
SPACE						67	*	68					SPACE
SPACE						69	*	70					SPACE
SPACE						71	*	72					SPACE
SPACE						73	*	74					SPACE
SPACE						75	*	76					SPACE
SPACE						77	*	78					SPACE
SPACE						79	*	80	80/3				SPACE
SPACE						81	*	82					SPACE
SPACE						83	*	84					SPACE
TOTAL	3.00	0.96		8.50						15.00			

VOLTS: 120/208V, 3Ø, 4W MTG: SURFACE
 BUS: 225 AMP TYPE: NGOD PRL1A SECTION 1 KVA: 29.40 TOTAL KVA: 56.86
 MAIN: 225 AMP MLO KAIC: (E) SECTION 2 KVA: 27.46 CONNECTED AMPS: 157.94

PANEL NOTE:
 ① INSTALL 20A/1P BREAKER IN EXISTING SPACE.
 ② EXISTING COMPRESSOR CIRCUIT TO BE REMOVED AND BREAKER LEFT AS SPARE.

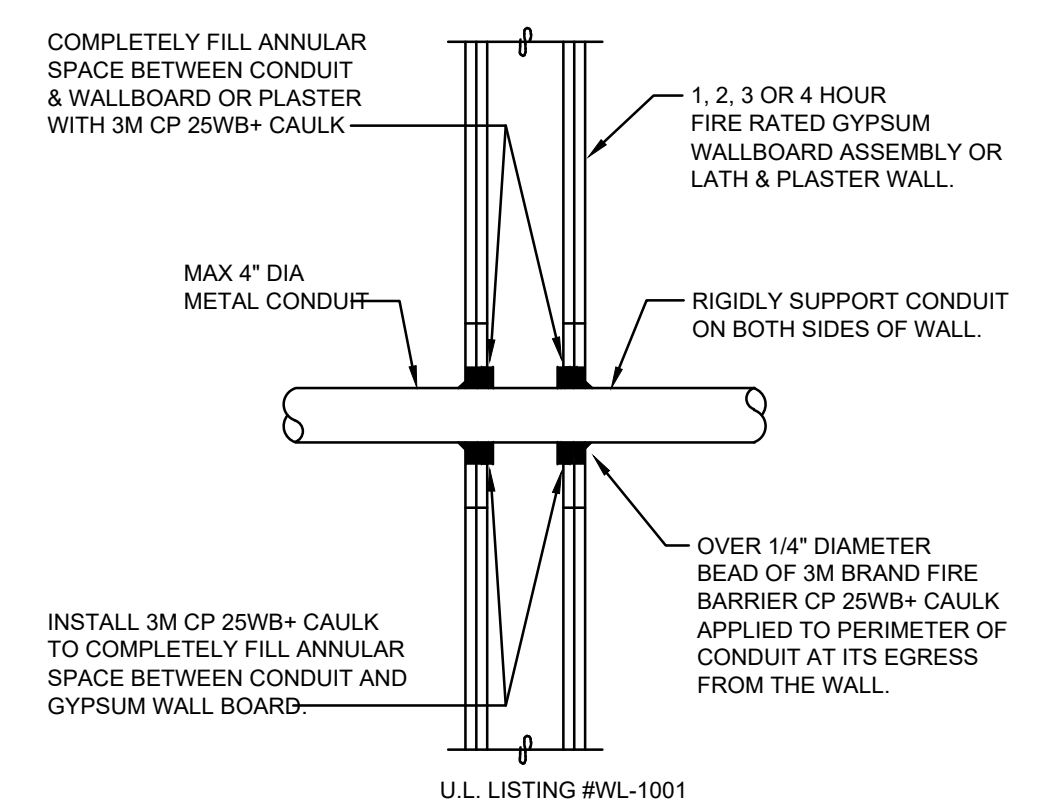
DETAIL NOTE:
 1. LOWER RECEPTACLES SHALL BE ON (1) CIRCUIT SHOWN ON PLAN. (2) UPPER RECEPTACLES SHALL BE ON SECOND CIRCUIT SHOWN ON PLANS.

POWER/DATA POLE NTS 1

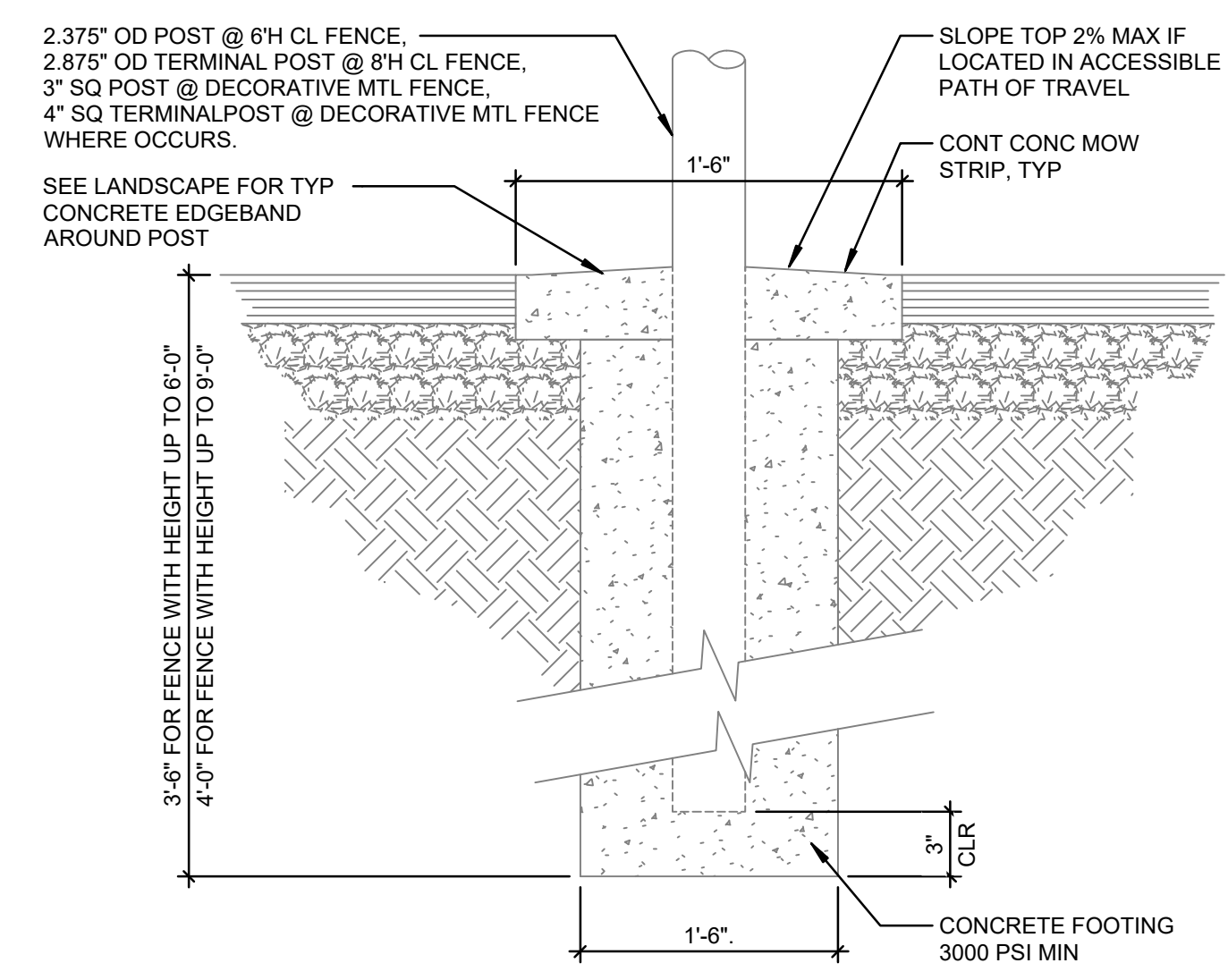


NOTES:
 1. SYSTEM DESIGN EVALUATED TO THE TIME TEMPERATURE REQUIREMENTS OF ASTM E119.
 2. DESIGN BASED UPON UL CLASSIFIED SYSTEM NO. C-AJ-1023 EVALUATED TO UL STANDARD 1479 (ASTM E814).
 3. INSTALL FIRESTOP COMPOUND TO A DEPTH OF 1/2" MINIMUM (BOTH SIDES).
 4. MINIMUM ANNULAR SPACE (BETWEEN PIPE AND SIDE OF OPENING) 3/16".

PENETRATION THRU FIRE RATED MASONRY/CONCRETE WALL NTS 2



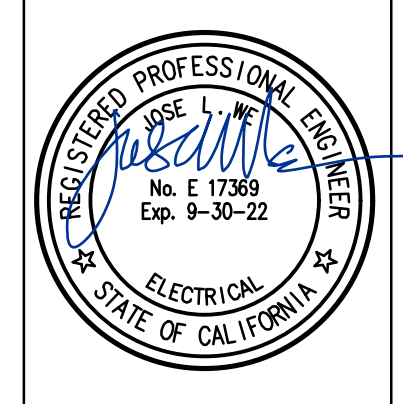
CHAINLINK FENCE AT BUILDING NTS 5



CHAINLINK SWING SINGLE GATE NTS 7

NO.	REVISION	DATE

WORM
 Electrical Consultants Incorporated
 3397 Mt. Diablo Blvd., Suite C
 Lafayette, CA 94549
 Tel: 925.385.0649
 Fax: 925.385.0649

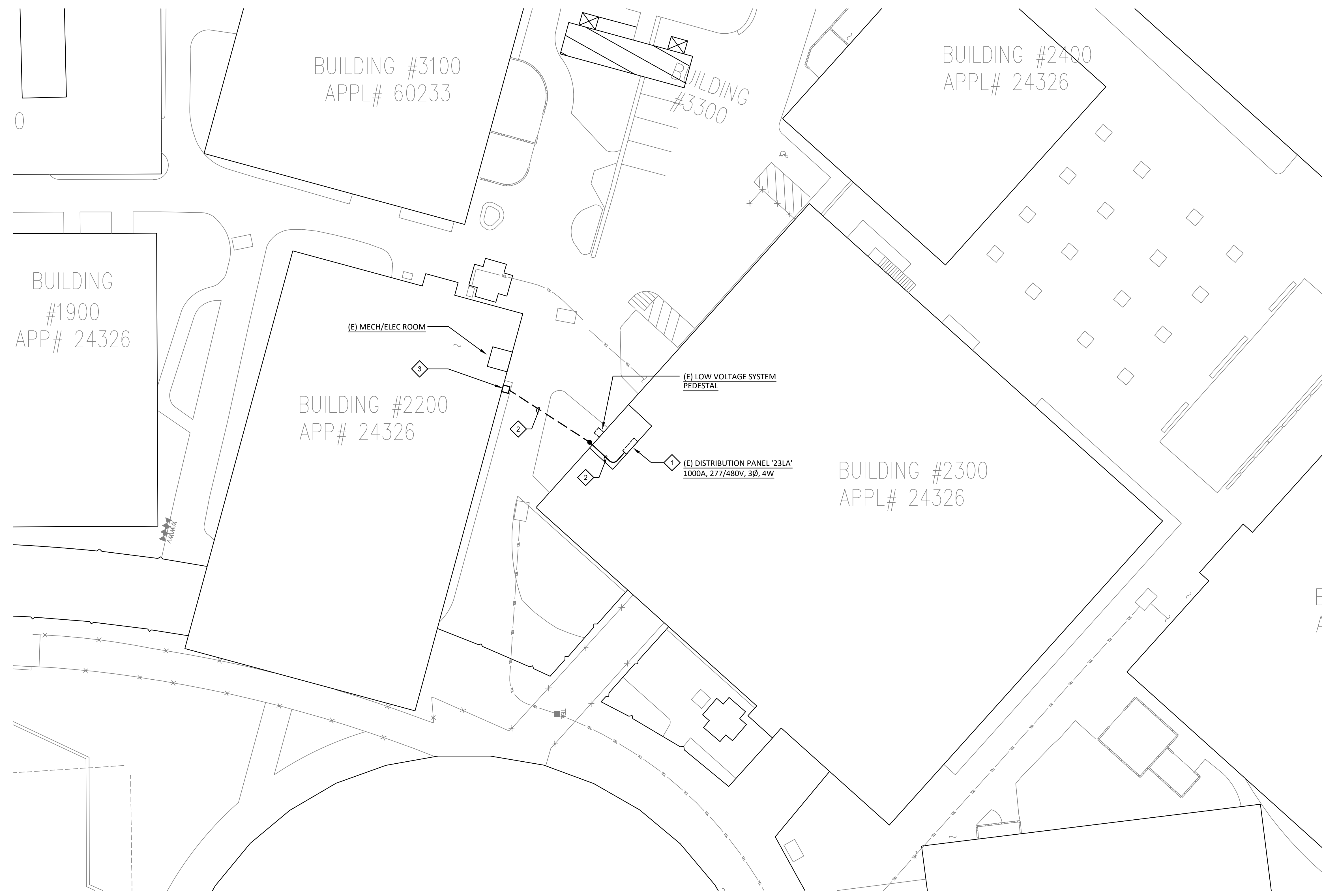


CHABOT COLLEGE
 DENTAL SIMULATION LAB
 29555 HESPARIAN BLVD
 HAYWARD, CA 94545

ELECTRICAL SYMBOLS, NOTES AND DETAILS

Date: 03-26-21
 Scale: AS NOTED
 Drawn: TLK/DM
 Job: 20-009
 Sheet: E0.1 of 1

C:\USERS\DMOR\WORK\CONSULTING\DRPBOX\CAD\2020\20-009 CHABOT DENTAL LAB\01_2009 EP-L.DWG 03/26/21 11:14:09 AM



SHEET NOTES		
NO.	REVISION	DATE
1	PROVIDE AND INSTALL (2) 35A/3P BREAKERS IN EXISTING SPACES FOR NEW COMPRESSOR MOTORS.	
2	(2) 1" CONDUITS EACH WITH 3#8 PLUS GROUND TO DISCONNECTS SHOWN ON SHEET E1.2. COORDINATE EXACT ROUTING IN FIELD WITH DISTRICT.	
3	NEW COMPRESSOR ENCLOSURE. SEE SHEET E1.2.	

WORM
Electrical Consultants Incorporated
3397 Mt. Diablo Blvd., Suite C
Lafayette, CA 94549
Tel: 925.385.0649
20-009

CHABOT COLLEGE
DENTAL SIMULATION LAB
26565 HESPARIAN BLVD
HAYWARD, CA 94545

ELECTRICAL SITE PLAN

Date **03-26-21**
Scale **AS NOTED**
Drawn **TLK/DM**
Job **20-009**
Sheet **E11**
of 1 Sheets

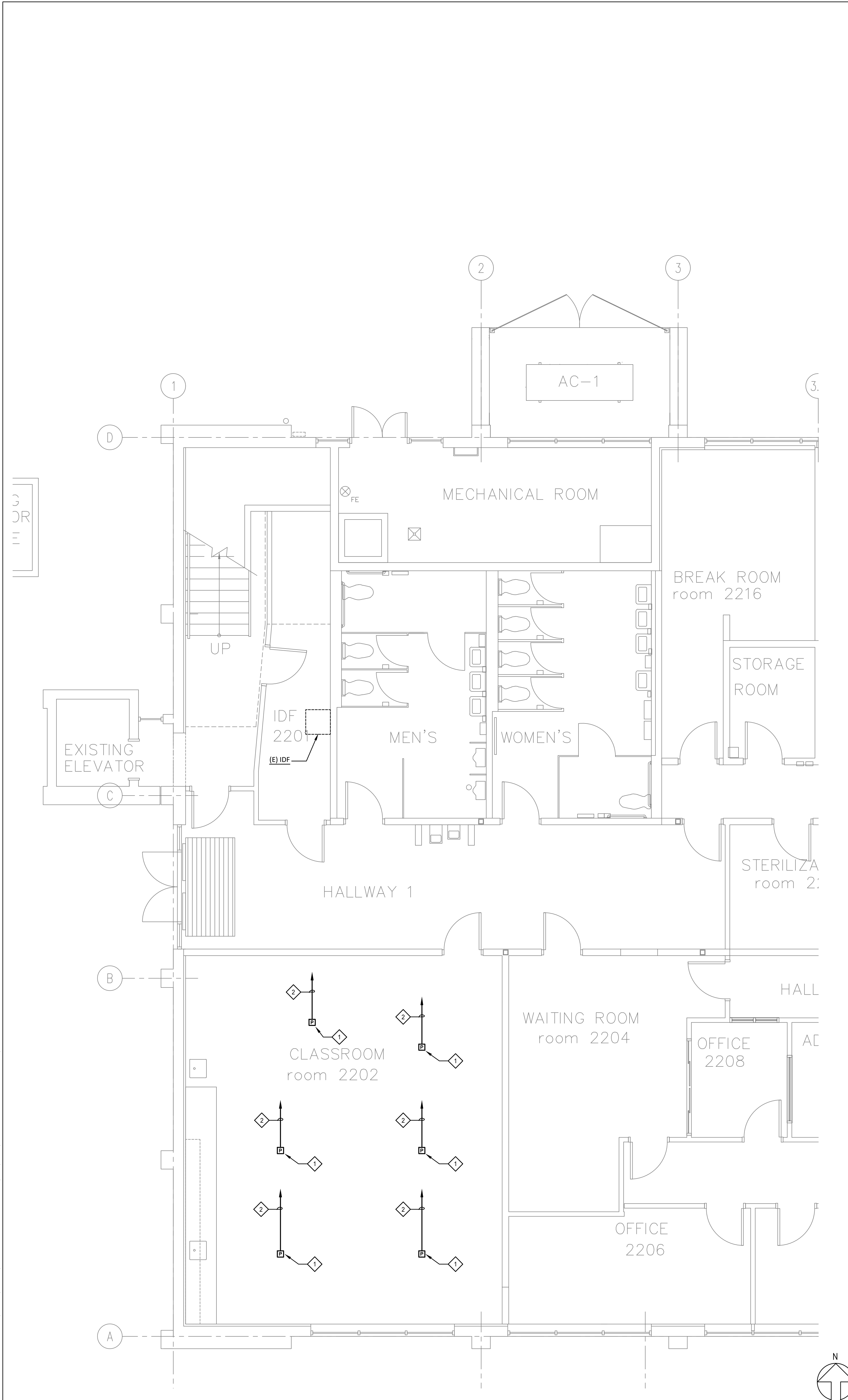
03/26/21 11:14:28 AM C:\USERS\DMOR\My Documents\Projects\20-009\20-009 CHABOT DENTAL LAB\02-2009 E1-1.DWG

- ◆ NEW POWER/DATA POLE PER 1/E0.1.
- ◆ NEW CAT 6A CABLE TO IDF RUN ON J-HOOKS ABOVE SUSPENDED CEILING.
- ◆ CONDUIT AND CONDUCTORS ABOVE SUSPENDED CEILING TO PANEL '22RC'.
- ◆ EXISTING ELECTRICAL CONNECTIONS, CONDUIT AND CONDUCTORS TO EXISTING COMPRESSOR AND AIR DRYER TO BE DISCONNECTED AND REMOVED.
- ◆ 1" CONDUIT WITH 3#8 PLUS GROUND TO PANEL '23LA' IN BUILDING 2300. SEE SHEET E1.1.
- ◆ PROVIDE (2) 35A/3P DISCONNECTS FOR DUAL COMPRESSOR MOTORS.

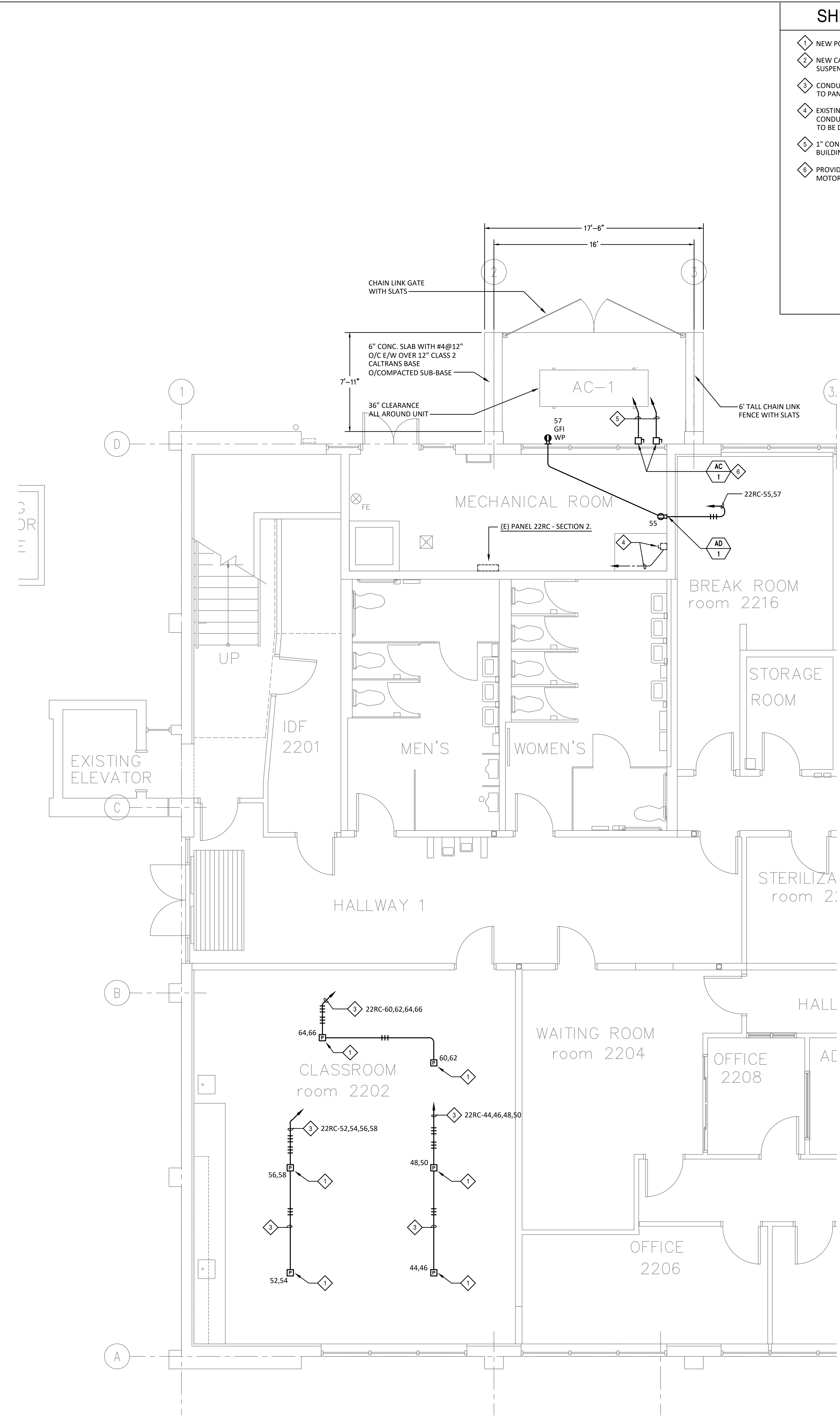
NO.	REVISION	DATE

WORM
 Electrical Consultants Incorporated
 3397 Mt. Diablo Blvd., Suite C
 Lafayette, CA 94549
 Tel: 925.385.0649
 20-009

REGISTERED PROFESSIONAL ELECTRICAL ENGINEER
 STATE OF CALIFORNIA
 No. E 17369
 Exp. 8-30-22



ELECTRICAL DATA PLAN | 1/4" = 1'-0" | 1



ELECTRICAL POWER PLAN | 1/4" = 1'-0" | 2

CHABOT COLLEGE
 DENTAL SIMULATION LAB
 25555 HESPARIAN BLVD
 HAYWARD, CA 94545

ELECTRICAL PLANS
 BUILDING 2200
 FIRST FLOOR

Date: 03-26-21
 Scale: AS NOTED
 Drawn: TLK/DM
 Job: 20-009
 Sheet: E12 of 2

03/26/21 11:14:33 AM C:\USERS\DMOR\My Documents\Projects\20-009\20-009 CHABOT DENTAL LAB\02-2009 E1-2.DWG

AIR COMPRESSOR SCHEDULE								
TAG	AREA SERVED	*FSCURTIS* MODEL	NORMAL PRESSURE (PSI)	NORMAL WORKING AIR (CFM)	INLET/OUTLET SIZE (INCH)	HP	ELECT V/PHZ	WEIGHT (LBS)
AC-1	DENTAL CLINIC	OL-15 DUPEX TANK MOUNTED	100	104	1" / 1"	(2) 15	460/3/60	2300

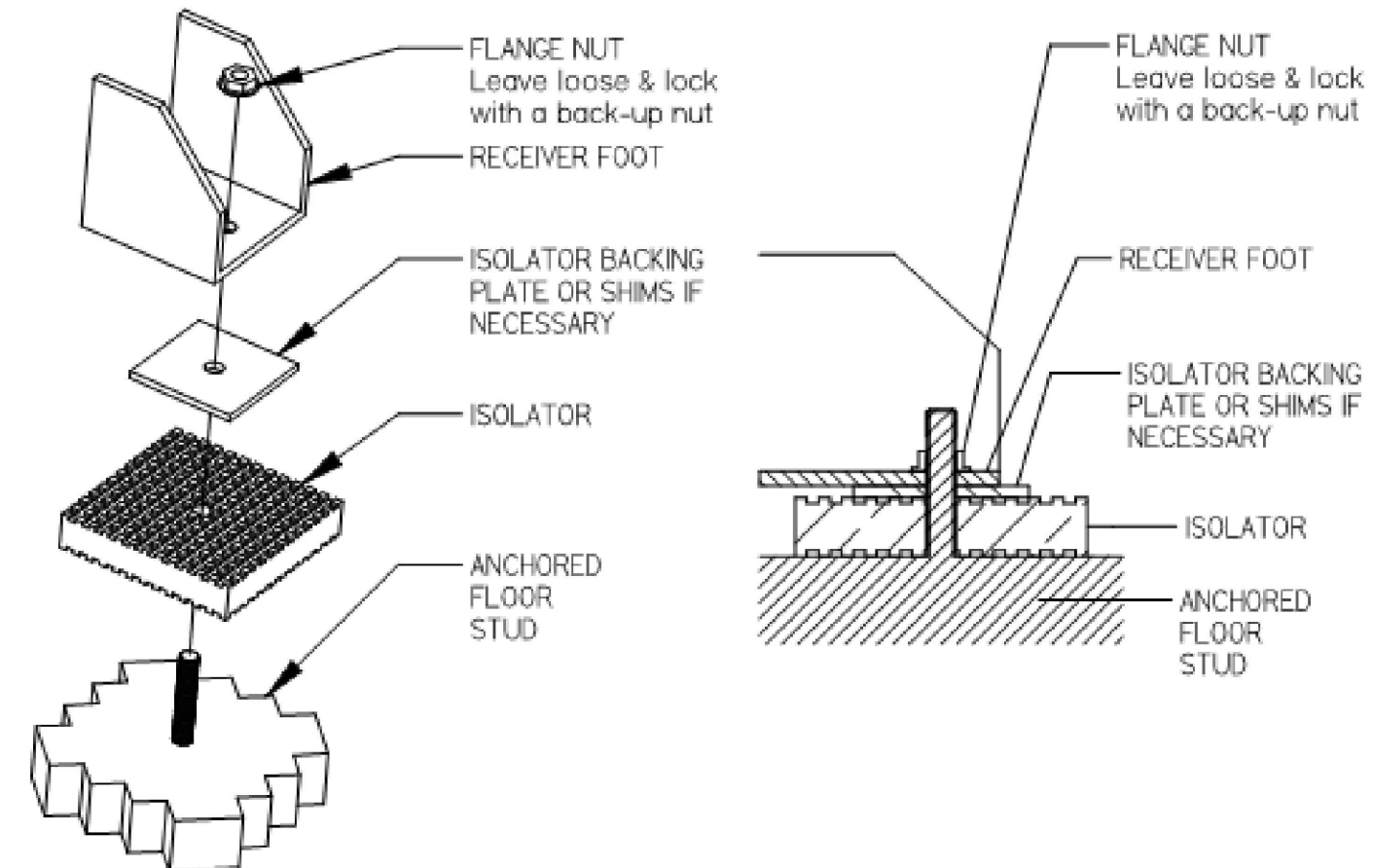
ACCESSORIES:
1. ELECTRIC DRAIN
2. AIR FILTER
3. NEMA-4R ENCLOSURE FOR OUTDOOR.
4. COMPLETE CONTROL SYSTEM.
5. EPOXY RECEIVER

NOTE: SEE DETAIL 1 THIS SHEET FOR MOUNTING DETAIL

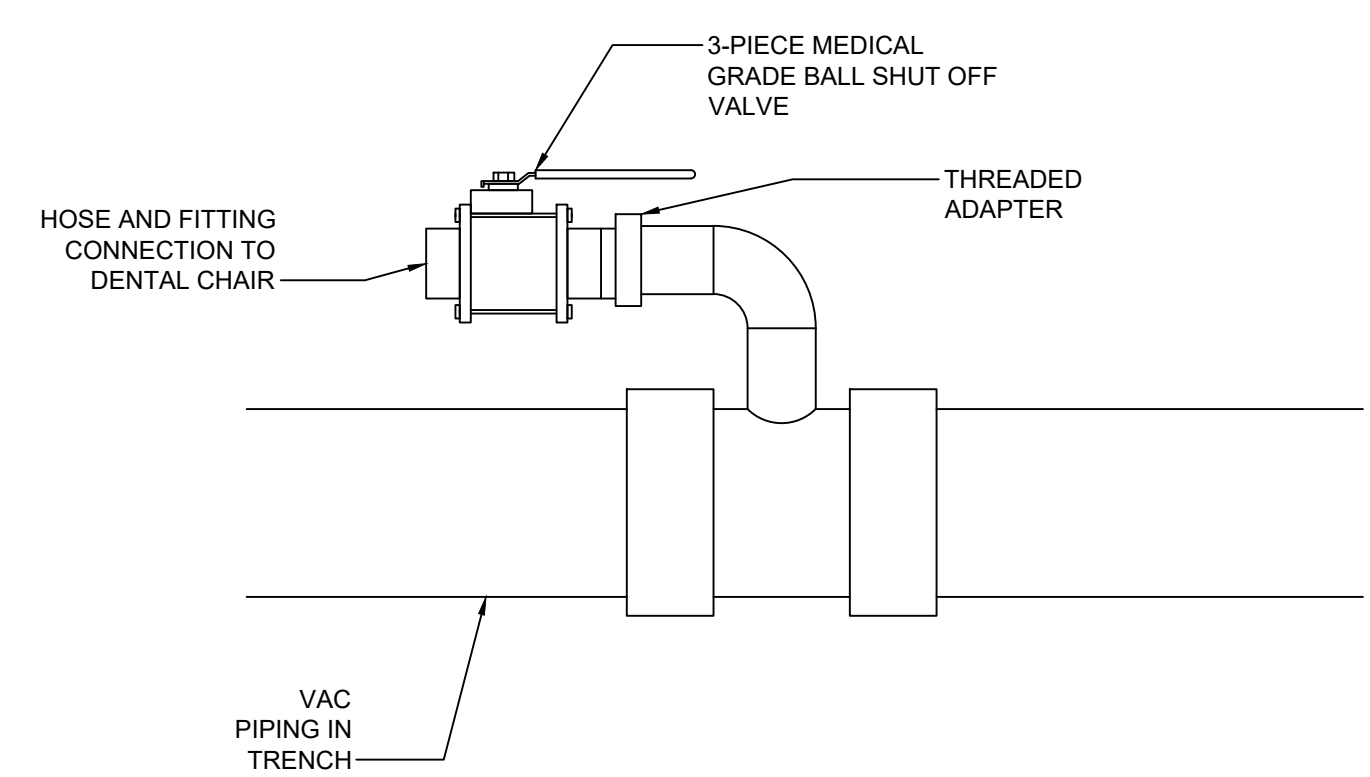
AIR DRYER SCHEDULE							
TAG	*FSCURTIS* MODEL	PRESSURE DROP (PSI)	INLET FLOW (SCFM)	INLET/OUTLET SIZE (INCH)	KW	ELECT V/PHZ	WEIGHT (LBS)
AD-1	RES100	3.0	100	1" / 1"	0.62	115/1/60	147

ACCESSORIES:
1. FILTRATION PACKAGE

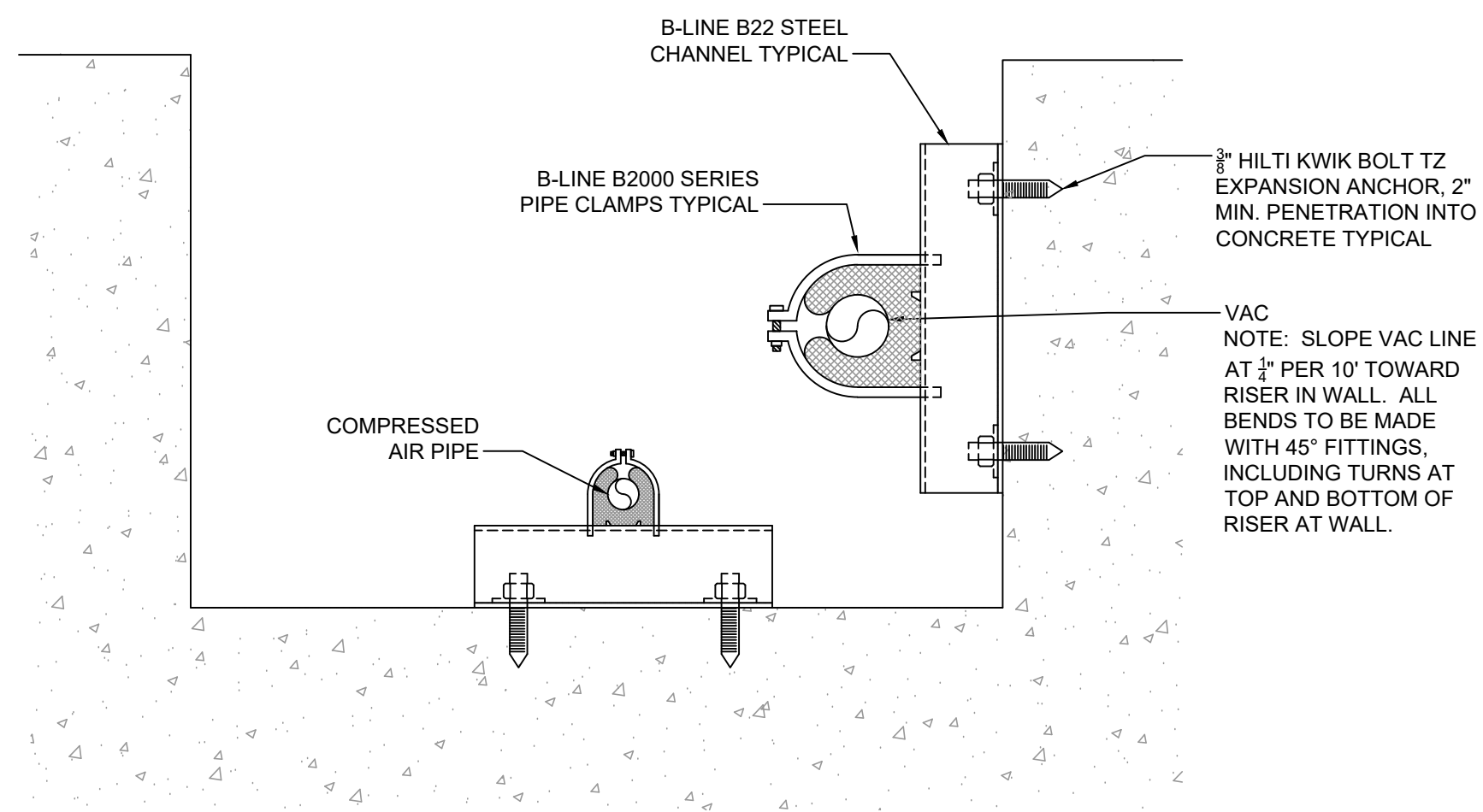
NOTE: SEE DETAIL 1 THIS SHEET FOR MOUNTING DETAIL



EQUIPMENT MOUNTING DETAIL NTS 1



VALVE STUB-OUT DETAIL AT TRENCH NTS 2



PIPING MOUNTING DETAIL AT TRENCH NTS 3

GENERAL NOTES

- BEFORE COMMENCEMENT OF WORK, THE CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS, ELEVATIONS AND CHARACTERISTICS OF ALL UTILITIES AND PIPING, AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT OF ANY DISCREPANCIES.
- EXACT LOCATIONS AND MOUNTING HEIGHTS OF PLUMBING FIXTURES SHALL BE OBTAINED FROM THE ARCHITECTURAL DRAWINGS.
- SEE ARCHITECTURAL DRAWINGS FOR ADA FIXTURE LOCATIONS AND MOUNTING HEIGHTS. (INSULATE ALL EXPOSED HOT AND COLD WATER AND DRAIN PIPING BELOW ADA LAVATORIES AND SINKS AND OFFSET P-TRAP AGAINST WALL. ALSO, ALL FLUSH VALVES SHALL BE TO WIDE SIDE OF STALL.)
- ALL PLUMBING WORK SHALL BE INSTALLED SO AS TO AVOID INTERFERENCE WITH ELECTRICAL AND MECHANICAL EQUIPMENT AND STRUCTURAL FRAMING.
- THE CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL CEILING ACCESS PANELS WITH THE REFLECTED CEILING PLANS AND THE ELEC. LIGHTING LAYOUT.
- THE PLUMBING CONTRACTOR SHALL PROVIDE THE VAC AND CA SYSTEMS TO A POINT OF CONNECTION SHOWN ON FLOOR PLANS AND SHALL MEET THE INVERT ELEVATION AS FIELD VERIFIED WHILE MAINTAINING REQUIRED PIPE GRADE.
- ANY ALTERATIONS TO A STRUCTURAL MEMBER, SUCH AS CUTTING, BORING, BRAZING, DRILLING, WELDING, ETC. SHALL HAVE PRIOR WRITTEN APPROVAL OF ARCHITECT AND STRUCTURAL ENGINEER.
- ALL VALVES, UNIONS, ETC. TO BE SAME SIZE AS PIPE UNLESS OTHERWISE INDICATED ON DRAWINGS.
- CONTRACTOR SHALL COORDINATE LAYOUT OF ALL BELOW GRADE PIPING AND COMPONENTS WITH GENERAL CONTRACTOR PRIOR TO BID TO DETERMINE EXTENT OF REQUIRED SAW CUTTING, EXCAVATION, AND SUBSEQUENT REPAIR/RESTORATION OF ALL AFFECTED HARDSCAPE AND SOFTSCAPE SURFACES. ALL SUCH ITEMS SHALL BE INCLUDED IN BID.
- BEFORE FABRICATION OR INSTALLATION THE CONTRACTOR SHALL VERIFY EXACT LOCATIONS OF ALL MECHANICAL EQUIPMENT AND EQUIPMENT PROVIDED UNDER ANOTHER SECTION OF SPECIFICATIONS. EXACT ROUGH-IN LOCATIONS AND REQUIREMENTS SHALL BE COORDINATED IN FIELD.
- ALL POINTS OF CONNECTION SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR PRIOR TO BID.
- CONNECTION BETWEEN INCOMPATIBLE MATERIALS ABOVE GRADE AND INSIDE BUILDING SHALL BE MADE WITH TWO (2) DIELECTRIC UNIONS SEPARATED BY A SIX INCH (6") SECTION OF RED BRASS PIPE.
- THE CONTRACTOR SHALL VERIFY THE EXACT ELEVATIONS AND LOCATION OF EXISTING DRAINAGE SYSTEM PIPING PRIOR TO CONNECTION OF ANY PIPING.
- ALL HORIZONTAL PIPING LINES EXTENDED AND CONNECTED TO EQUIPMENT SHALL BE RUN AT THE HIGHEST POSSIBLE ELEVATIONS AND NOT LESS THAN 6" ABOVE THE FLOOR TO PROVIDE CLEARANCE FOR CLEANING. AT WALL OR COLUMN LOCATIONS, PIPING ROUGH-IN SHALL BE STUBBED IN WALLS WHENEVER POSSIBLE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PATCHING AND REPAIRING ALL AREAS WHICH ARE DAMAGED BY HIS OPERATIONS. IN ADDITION, THE CONTRACTOR SHALL RESTORE TO THEIR ORIGINAL CONDITION ALL EXISTING TO REMAIN STRUCTURE AND NEW CONSTRUCTION DAMAGED BY HIS OPERATIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PATCHING AND REPAIRING ALL PAVED AREAS WHICH ARE EXCAVATED AND/OR DAMAGED BY HIS OPERATIONS. IN ADDITION, THE CONTRACTOR SHALL RESTORE TO THEIR ORIGINAL CONDITION ALL PLANTED AREAS DAMAGED BY HIS OPERATIONS.
- ALL PATCHING AND REPAIRING OF CONCRETE PAVING AND/OR WALKS SHALL BE UNDER ANOTHER SECTION OF THE SPECIFICATIONS.
- ALL EXISTING PIPING DAMAGED DURING EXCAVATION SHALL BE REPAIRED WITH MATERIALS TO MATCH EXISTING BY THE CONTRACTOR AT NO COST TO THE OWNER.
- ALL CUTTING OF EXISTING PAVING, WALKS AND/OR FLOORS SHALL BE BY MACHINE SAW CUTTING. HOLES FOR PIPES IN CONCRETE WALLS OR FLOORS SHALL BE DONE BY CORE DRILLING EQUIPMENT.
- ALL PIPING, EXCEPT PIPING OF NONFERROUS MATERIAL, INSTALLED WITHIN THE GROUND SHALL BE PROTECTED AGAINST CORROSION BY A PROTECTIVE COVERING SUITABLE FOR THE PURPOSE AND SUBJECT TO THE APPROVAL OF THE BUILDING OFFICIAL. ANY PIPING SUBJECT TO UNDUE CORROSIVE ACTION SHALL BE PROTECTED IN A MANNER SUITABLE FOR THE PURPOSE AND SUBJECT TO THE APPROVAL OF THE BUILDING OFFICIAL.
- ALL PENETRATIONS AND OPENINGS IN PARTY WALLS AND ROOF/FLOOR/CEILING ASSEMBLIES DUE TO PLUMBING WORK SHALL BE SEALED LINED, INSULATED OR OTHERWISE TREATED TO MAINTAIN THE REQUIRED FIRE AND SOUND RATING.

SUBSTITUTION OF MATERIALS

- EQUALS: THE DESIGN HAS BEEN BASED ON THE MANUFACTURER'S NAME AND PRODUCT LISTED ON THE DRAWINGS. OTHER MANUFACTURER'S NAMES LISTED IN THE SPECIFICATIONS MAY BE SELECTED AND CONSIDERED 'AS EQUAL' FOR QUALITY ONLY, HOWEVER, THEY MUST MATCH THE PERFORMANCE, CONSTRUCTION, FIT AND FEATURES OF THOSE SELECTED FOR DESIGN. THE ACCEPTANCE OF THESE DOES NO RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR PROVIDING THE REQUIRED MATERIALS AND PROVIDING A WORKABLE SYSTEM. THOSE ITEMS NOTED AS 'NO SUBSTITUTIONS' SHALL BE FURNISHED WHEN SPECIFIED.
- TO SUBSTITUTE EQUIPMENT OR MATERIAL OTHER THAN THOSE CONSIDERED FOR THE BASIS OF DESIGN, SUBMIT INFORMATION AS CALLED FOR IN THE 'REQUEST FOR SUBSTITUTION' SPECIFICATIONS, AND SUBMIT REQUIRED INFORMATION FOR BOTH THE SPECIFIED OR SCHEDULED ITEM AND THE SUBSTITUTE ITEM. THESE SUBMITTALS MUST SHOW THAT BOTH THE SPECIFIED AND THE SUBSTITUTE MATERIAL MATCH IN QUALITY, PERFORMANCE, CONSTRUCTION, FIT AND FEATURES OF THOSE SELECTED FOR DESIGN. ANY EQUIPMENT OR MATERIAL SUBMITTED FOR SUBSTITUTION WITHOUT THE COMPARISON INFORMATION WILL NOT BE REVIEWED OR ACCEPTABLE.
- LIABILITY OF SUBSTITUTIONS: PERFORMANCE OF SUBSTITUTIONS MUST BE EQUAL TO THE ITEM SPECIFIED. SHOULD THE SUBSTITUTED ITEM FAIL TO PERFORM ACCORDING TO SPECIFICATIONS, REPLACE WITH THE ORIGINALLY SPECIFIED ITEM WITHOUT EXTRA COMPENSATION ON REQUEST OF THE ARCHITECT ANY TIME WITHIN THE GUARANTEE PERIOD.

M/E/P COMPONENT ANCHORAGE NOTES

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. WHERE NO DETAIL IS INDICATED, THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN 2019 CBC, SECTIONS 1616A.1.18 THROUGH 1616A.1.26 AND ASCE 7-10 CHAPTER 13, 26 AND 30.

- ALL PERMANENT EQUIPMENT AND COMPONENTS
- TEMPORARY OR MOVABLE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER.
- MOVABLE EQUIPMENT WHICH IS STATIONED IN ONE PLACE FOR MORE THAN 8 HOURS AND HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT ARE REQUIRED TO BE ANCHORED WITH TEMPORARY ATTACHMENTS.

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT THE ATTACHMENT NEED NOT BE DETAILED ON THE PLANS. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING AND CONDUIT.

- COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.
- COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

FOR THOSE ELEMENTS THAT DO NOT REQUIRE DETAILS ON THE APPROVED DRAWINGS, THE INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND THE DSA DISTRICT STRUCTURAL ENGINEER. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS.

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-10 SECTION 13.3 AS DEFINED IN ASCE 7-10 SECTION 13.6.5.6, 13.6.7, 13.6.8, AND 2019 CBC SECTION 1617A.1.24, 1617A.1.25 AND 1617A.1.26

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PRE-APPROVED INSTALLATION GUIDE (E.G., SMACNA OR OSHPD OPM) COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND THE BRACE LOADS.

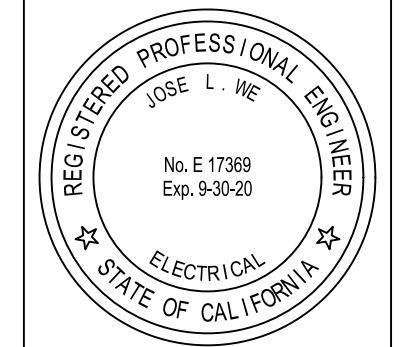
PLUMBING PIPING (PP)
PP DETAILED ON THE APPROVED DRAWINGS AND PROJECT SPECIFIC NOTES AND DETAILS
COPIES OF THE OPM MANUAL(S) SHALL BE ON THE JOBSITE PRIOR TO START OF HANGING AND BRACING OF THE DUCTWORK AND PIPE DISTRIBUTION SYSTEMS.

PLUMBING LEGEND

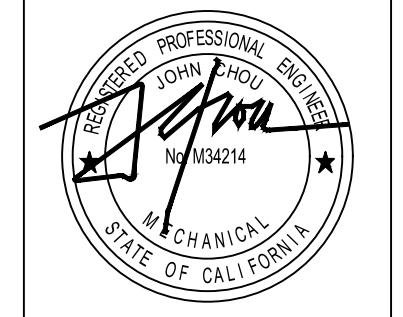
SYMBOL	ABBREVIATION	DESCRIPTION
CA	CA	COMPRESSED AIR PIPING
VAC	VAC	VACUUM AIR PIPING
C		PIPE GOING DOWN
O		PIPE GOING UP
∩		TEE
Φ	FCO	FLOOR CLEANOUT/CLEANOUT TO GRADE
CC		P-TRAP
⊕	POC	POINT OF CONNECTION
∩	WCO	WALL CLEANOUT
□		PIPE CAP
⊘	SOV	SHUT-OFF VALVE
CONT.		CONTINUED/CONTINUATION
DFM		DISTANCE FROM METER
FR.		FROM
BEL.		BELOW
DN.		DOWN
VTR		VENT THROUGH ROOF
AP		ACCESS DOOR
NIC		NOT IN CONTRACT
REF.		REFERENCE
S.A.D.		SEE ARCHITECTURAL DRAWINGS
S.M.D.		SEE MECHANICAL DRAWINGS
S.C.D.		SEE CIVIL DRAWINGS
S.S.D.		SEE STRUCTURAL DRAWINGS
SF		SQUARE FEET

NO.	REVISION	DATE

WJRM
Electrical Consultants Incorporated
3397 Mt. Diablo Blvd., Suite C
Lafayette, CA 94549
Tel: 925.385.0649
20-009



HM MECHANICAL GROUP
9517 Eastmont Road, Suite 230
Oakland, CA 94603
(510) 436-0900



CHABOT COLLEGE
DENTAL SIMULATION LAB
25555 HESPARIAN BLVD
HAYWARD, CA 94545

PLUMBING LEGENDS AND NOTES

04-09-20
AS NOTED
TLK/DM
20-009

P0.1

