

one thirty second inch = one foot
16
one sixteenth inch = one foot
16

ELECTRICAL LEGEND AND ABBREVIATIONS

SYMBOL	EQUIPMENT
	120/208 VOLT PANELBOARD WALL MOUNTED 6'-6" AFF TO TOP
	EQUIPMENT DESIGNATION, PANEL RPA1
	NON-FUSED DISCONNECT SWITCH, HP RATED FOR MOTOR LOAD WP = WEATHERPROOF ENCLOSURE
	FUSED DISCONNECT SWITCH HP RATED FOR MOTOR LOAD WP = WEATHERPROOF ENCLOSURE 100A = 100 AMPERE FRAME 90A = 90 AMPERE FUSES
	MOTOR CONTROLLER WITH HOA CONTROL SWITCH, UON 1 = INDICATES NEMA SIZE 1 STARTER
	COMBINATION MOTOR CONTROLLER AND MOTOR CIRCUIT PROTECTOR WITH HOA CONTROL SWITCH, UON 2 = INDICATES NEMA SIZE 2 STARTER
	VARIABLE FREQUENCY DRIVE
	ENCLOSED CIRCUIT BREAKER
	MOTOR CONNECTION 5 = INDICATES 5 HP MOTOR
	CEILING EXHAUST FAN WITH NORMAL LIGHT, NIGHT LIGHT AND HEAT LAMP
	GROUND CONNECTION

SYMBOL	RACEWAYS
	CONDUIT AND WIRES, CONCEALED IN CEILING SPACES AND WALLS
	CONDUIT AND WIRES, RUN UNDERGROUND
	CONDUIT AND WIRES, RUN EXPOSED
	INDIVIDUAL CONDUIT HOMERUN WITH WIRES TO DESIGNATED EQUIPMENT OR PANEL. NUMBER OF HASH MARKS INDICATE QUANTITY OF WIRES (MINIMUM #12 AWG WIRE SIZE. UON - #10 INDICATES #10 AWG WIRE SIZE). LONG MARK INDICATES NEUTRAL WIRE AND SHORT MARKS INDICATE PHASE WIRES. LP-1,3,5 INDICATES HOMERUN TO PANEL LP CIRCUITS 1,3,5.
	EMERGENCY POWER CONDUIT AND WIRES
	GROUND WIRE AND CONDUIT
	FIRE ALARM CONDUIT AND WIRES
	LOW VOLTAGE CONDUIT AND WIRES UON, SUBSCRIPT INDICATES: T = TELECOMMUNICATIONS SYSTEM S = PAGING SPEAKER SYSTEM N = NURSE CALL SYSTEM
	PRECAST HANDHOLE WITH COVER. INSCRIBE COVER WITH APPROPRIATE DESIGNATION TO SHOW WIRING IN HANDHOLE SUCH AS GROUND, LIGHTING, FIRE ALARM, TELECOMMUNICATIONS, POWER.
	PULL BOX, MOUNTING AS NOTED
	PRECAST UNDERGROUND PULL BOX WITH BOTTOM SLAB AND COVER. INSCRIBE COVER WITH APPROPRIATE DESIGNATION TO SHOW WIRING INSIDE PULL BOX. SUBSCRIPT INDICATES: E = ELECTRIC T = TELECOMMUNICATIONS F = FIRE ALARM S = SECURITY

SYMBOL	MISCELLANEOUS
	EQUIPMENT IDENTIFICATION (EXHAUST FAN NO. 1)
	DETAIL OR SECTION SHEET NUMBER
	NORTH ARROW (REFERENCE)
	KEYED NOTE

ABBREVIATIONS	
A AC AFF C CO CPT CTSM (E) FA G H-O-A HP KCMIL MCC MLO NEC NL NO (N) P P TV UON V W	AMPERE ABOVE COUNTER ABOVE FINISHED FLOOR CONDUIT CONDUIT ONLY CONTROL POWER TRANSFORMER CALIFORNIA STATE FIRE MARSHAL EXISTING FIRE ALARM GROUND HAND-OFF-AUTO HORSEPOWER THOUSAND CIRCULAR MILS MOTOR CONTROL CENTER MAIN LUGS ONLY NATIONAL ELECTRICAL CODE NIGHT LIGHT NUMBER NEW POLE PHASE TELEVISION TYPICAL UNLESS OTHERWISE NOTED VOLT WIRE

SYMBOL	FIRE ALARM
	MANUAL PULL STATION, WALL MOUNTED 48" AFF TO CENTERLINE OF STATION M1 = INDICATES DEVICE ADDRESS
	COMBINATION HORN AND STROBE NOTIFICATION APPLIANCE WALL MOUNTED 80" AFF TO BOTTOM OF STROBE H1 = INDICATES DEVICE ADDRESS
	STROBE NOTIFICATION APPLIANCE WALL MOUNTED 80" AFF TO BOTTOM OF STROBE V1 = INDICATES DEVICE ADDRESS
	SPACE SMOKE DETECTOR, CEILING MOUNTED D1 = INDICATES DEVICE ADDRESS
	HEAT DETECTOR, CEILING MOUNTED D2 = INDICATES DEVICE ADDRESS
	DUCT MOUNTED SMOKE DETECTOR D3 = INDICATES DEVICE ADDRESS
	DUCT MOUNTED SMOKE DETECTOR WITH AIR SAMPLING PROBES, NEMA 3R CABINET FOR OUTDOOR LOCATION
	FIRE ALARM CONTROL PANEL WALL MOUNTED 72" AFF
	FIRE ALARM ANNUNCIATOR PANEL WALL MOUNTED 66" AFF

SYMBOL	WIRING DEVICES
	DUPLEX RECEPTACLE, HALF-SWITCHED, 20A, 125V, 2-POLE, 3-WIRE GROUNDING, WALL MOUNTED 18" AFF UON
	DUPLEX RECEPTACLE, 20A, 125V, 2-POLE, 3-WIRE GROUNDING, WALL MOUNTED 18" AFF UON SUBSCRIPTS INDICATE 15 = CIRCUIT NUMBER '15' C = MOUNTED 9" ABOVE COUNTER G, GFI = WITH GROUND FAULT INTERRUPTER D = DEDICATED CIRCUIT (USE 20A RECEPTACLE)
	DOUBLE DUPLEX RECEPTACLE, 20A, 125V, 2-POLE, 3-WIRE GROUNDING, WALL MOUNTED 18" AFF UON D = DEDICATED CIRCUIT (USE 20A RECEPTACLE)
	DUPLEX RECEPTACLES, FLUSH FLOOR MOUNTED, POKE-THRU FIRE RATED FITTING WITH FLEX CONDUIT TO WORK STATION.
	SPECIAL PURPOSE SINGLE RECEPTACLE, RATING AS SHOWN, WALL MOUNTED 18" AFF UON SUBSCRIPTS INDICATE 2 = CIRCUIT NUMBER 20A = 20 AMPERE, 208V, 2-POLE, 3-WIRE GROUNDING, STRAIGHT BLADE, NEMA 6-20R
	SWITCH, TOGGLE TYPE, 15A, 125/277V, 1-POLE, WALL MOUNTED 48" AFF UON SUBSCRIPTS INDICATE g = CONTROLS OUTLET 'g' 3 = 3-WAY SWITCH 4 = 4-WAY SWITCH P = WITH PILOT LIGHT WP = WEATHERPROOF TYPE
	OCCUPANCY SENSOR, WALL MOUNTED +48".
	MULTIPLE SWITCHES IN COMMON OUTLET BOX, WALL MOUNTED 48" AFF UON. NOTE: WHERE SWITCH IS SHOWN THAT IS SUPPLIED FROM STAND-BY OR EMERGENCY - PROVIDE WITH OWN OUTLET BOX.
	SWITCH WITH THERMAL OVERLOAD DEVICE, WALL MOUNTED 48" AFF UON
	LOW VOLTAGE SWITCH WALL MOUNTED 48" AFF UON
	CEILING MOUNTED MOTION OCCUPANCY SENSOR WITH RELAY PACK FOR LIGHTING

SYMBOL	LIGHTING
	FLUORESCENT FIXTURE, CEILING MOUNTED. FIXTURE TYPE AS SHOWN. SUBSCRIPTS INDICATE F1 = FIXTURE TYPE 'F1' 2 = CIRCUIT NUMBER '2' o = CONTROLLED BY SWITCH 'o'
	FLUORESCENT FIXTURE, CEILING MOUNTED
	FLUORESCENT FIXTURE, WALL MOUNTED, 6'-8" AFF TO BOTTOM OF FIXTURE UON
	DOWNLIGHT, CEILING MOUNTED, ON EMERGENCY CIRCUIT SUBSCRIPTS INDICATE F7 = FIXTURE TYPE 'F7' 2 = CIRCUIT NUMBER '2' o = CONTROLLED BY SWITCH 'o'
	DOWNLIGHT, CEILING MOUNTED, ON EMERGENCY CIRCUIT
	FLUORESCENT FIXTURE, CEILING MOUNTED, ONE LAMP ON EMERGENCY CIRCUIT
	ILLUMINATED EXIT SIGN WITH DIRECTIONAL ARROW, MOUNTED ON STEEL REINFORCED CONCRETE BASE
	OUTDOOR LIGHT STANDARD, SINGLE OR DOUBLE LUMINAIRE POLE MOUNTED ON STEEL REINFORCED CONCRETE BASE
	OUTDOOR BOLLARD LIGHT FIXTURE, POLE MOUNTED ON STEEL REINFORCED CONCRETE BASE
	LIGHT FIXTURE DESIGNATION WITHIN THE ROOM OR AREA F1 = INDICATES FIXTURE TYPE. REFER TO FIXTURE SCHEDULE FOR DETAILS
	EMERGENCY LIGHT UNIT, CEILING OR WALL MOUNTED 82" AFF AS SHOWN

SYMBOL	TELECOMMUNICATIONS
	TELEPHONE OUTLET BOX WITH 3/4" C AND CABLES, WALL MOUNTED 18" AFF UON SUBSCRIPT INDICATE W = MOUNTED 48" AFF
	TELEPHONE AND DATA OUTLET BOX WITH 3/4" CONDUIT AND CABLES, WALL MOUNTED 18" AFF UON
	DATA OUTLET BOX WITH 3/4" CONDUIT AND CABLES
	TV OUTLET BOX +18" WITH 3/4" C AND RG6U COAX CABLE TO TERMINAL CABINET

DRAWING INDEX	
E000	ELECTRICAL - LEGEND, SPECIFICATIONS, ABBREVIATIONS, AND DRAWING INDEX
E101	ELECTRICAL - BUILDING 9 AND 10 BASEMENT FLOOR PLANS
E102	ELECTRICAL - BUILDING 9 AND 10 FIRST FLOOR PLANS

GENERAL NOTES	
G1.	PLANS ARE PREPARED WITH REQUIRED BRANCH CIRCUITS INDICATED BY CIRCUIT NUMBER. PROVIDE AND INSTALL ALL CONDUITS, BOXES, MISCELLANEOUS FITTINGS FOR A COMPLETE AND OPERABLE SYSTEM (HOMERUN SHOWN). BRANCH CIRCUIT INSTALLATION SHALL COMPLY WITH SPECIFICATIONS AND NATIONAL ELECTRICAL CODE.
G2.	CONCEALED CONDUIT ROUTING SHOWN IS ESSENTIALLY DIAGRAMMATIC. CONTRACTOR SHALL LAY OUT RUNS TO SUIT FIELD CONDITIONS AND THE COORDINATION REQUIREMENTS OF UTILITIES AND OTHER TRADES. ANY EXPOSED CONDUIT ROUTING (EXCEPT IN MECHANICAL OR ELECTRICAL ROOMS) SHALL BE APPROVED BY THE ARCHITECT PRIOR TO INSTALLATION.
G3.	INSTALL AND CONNECT A CODE SIZED INSULATED COPPER GROUNDING CONDUCTOR IN ALL CONDUITS, BRANCH CIRCUITS AND FEEDERS. INCREASE CONDUIT SIZED WHERE REQUIRED TO INCLUDE THIS WIRE. THESE GROUND CONDUCTORS ARE NOT INDICATED ON THE PLANS. ANY CHANGES IN SIZES SHALL BE APPROVED BY ENGINEER.
G4.	MOUNTING HEIGHTS SHOWN ARE FROM FINISHED FLOOR TO THE CENTERLINE OF THE DEVICE, U.O.A. ALL MOUNTING HEIGHTS SHALL BE AS SHOWN ON THE SYMBOLS LIST UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS.
G5.	ALL CONDUIT AND RACEWAY PENETRATIONS THROUGH FIRE RATED WALLS AND FLOORS SHALL BE SEALED WITH A MATERIAL CAPABLE OF PREVENTING THE PASSAGE OF FLAMES AND HOT GASES WHEN SUBJECTED TO THE REQUIREMENTS OF THE TEST STANDARD SPECIFIC OF THE FIRE STOPS ASTM-E-814. PROVIDE A UL THROUGH PENETRATION FIRE STOP SYSTEM NUMBER PER UL FIRE RESISTANCE DIRECTORY. PENETRATIONS OF PIPES, CONDUITS, ETC., IN WALLS REQUIRING PROTECTED OPENINGS SHALL BE FIRE STOPPED. FIRE STOP MATERIAL SHALL BE A TESTED ASSEMBLY APPROVED BY THE AUTHORITY HAVING JURISDICTION.
G6.	CONTRACTOR SHALL EXTEND WIRING FROM ALL JUNCTION BOXES, RECEPTACLES, SWITCHES, ETC. AND MAKE FINAL CONNECTION AS REQUIRED TO ALL BUILDING EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS.
G7.	CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL WALL OUTLET BOXES FOR SWITCHES, HORNS, FIRE ALARM DEVICES, RECEPTACLES ETC. WITH CABINETS, FURNITURE, EQUIPMENT ETC. TO AVOID CONFLICT. REFER TO ARCHITECTURAL ELEVATIONS FOR EXACT LOCATION OF WALL MOUNTED DEVICES.
G8.	ALL EXTERIOR ELECTRICAL DEVICES AND EQUIPMENT SHALL BE WEATHERPROOF TYPE, NEMA 3R.
G9.	SPECIAL RECEPTACLES CONFIGURATION SHALL BE COORDINATED WITH OWNER AND EQUIPMENT MANUFACTURER.

CONSULTANTS:	
STRUCTURAL:	DEGENSOLB ENGINEERS; 235 MONGOMERY STREET., SUITE 500; SAN FRANCISCO, CA 94104
MECHANICAL:	HTC ENGINEERS; 1529 CYPRESS ST., SUITE 103; WALNUT CREEK, CA 94596
ELECTRICAL:	BAY AREA CONSULTING ENGINEERS; 311 CALIFORNIA STREET, SUITE 720; SAN FRANCISCO, CA 94104
CIVIL ENGINEER:	GHD CIVIL ENGINEERS; 2235 MERCURY WAY, SUITE 150; SANTA ROSA, CA 95407
ESTIMATING:	CUMMING CORPORATION; 1970 BROADWAY, SUITE 630; OAKLAND, CA 94612
SURVEYORS:	MARTIN M. RON ASSOCIATES, INC.; 859 HARRISON ST., SUITE 200; SAN FRANCISCO, CA 94107
UTILITY LOCATORS:	CRUZ BROTHERS LOCATORS; P.O. BOX 66768; SCOTTS VALLEY, CA 95067
Revisions:	Date

ARCHITECT/ENGINEERS:

Architecture | Engineering | Planning
Hamm, Green and Abramson, Inc.
445 Bush Street - Fourth Floor
San Francisco, California USA 94108
Telephone 415.962.2592
Facsimile 415.962.2598

REGISTERED PROFESSIONAL ARCHITECT
No. E11374
Exp. Dec. 31, 2013
STATE OF CALIFORNIA

U.P.
N TRUE

Drawing Title LEGENDS, ABBREVIATIONS, AND DRAWING INDEX Scale: NONE	Project Title VA Medical Center Seismic Replacement And Retrofit	Project Number 2941-001-00	Office of Facilities Management
Approved: Project Director	Location San Francisco, CA	Building Number 9 & 10	
	Date 10 / 22 / 2012	Drawing Number E000	
	Checked AEM	Drawn BAC	