GENERAL NOTES

1. THE SEISMIC BRACING AND ANCHORAGE OF ELECTRICAL CONDUITS, AND WIREWAY SHALL BE IN ACCORDANCE WITH THE VA SEISMIC DESIGN REQUIREMENTS, H-18-8 AND THE SMACNA "GUIDELINES FOR SEISMIC RESTRAINTS OF MECHANICAL SYSTEMS AND PLUMBING PIPING SYSTEM", R-0120 UNISTRUT "SEISMIC BRACING SYSTEMS".

2. ALL ELECTRICAL EQUIPMENT SHALL BE BRACED OR ANCHORED TO RESIST A HORIZONTAL FORCE ACTING IN ANY DIRECTION USING THE FOLLOWING CRITERIA:
   FIXED EQUIPMENT ON GRADE 33% OF OPERATING WEIGHT
   FIXED EQUIPMENT ON STRUCTURE 50% OF OPERATING WEIGHT
   EMERGENCY POWER & COMMUNICATION EQUIPMENT ON GRADE 50% OF OPERATING WEIGHT
   EMERGENCY POWER & COMMUNICATION EQUIPMENT ON STRUCTURE 75% OF OPERATING WEIGHT
   FOR FLEXIBLY MOUNTED EQUIPMENT, USE 2 TIMES THE ABOVE VALUES. FOR SIMULTANEOUS VERTICAL FORCE, USE 1/3 TIMES THE HORIZONTAL FORCE. WHERE ANCHORAGE DETAILS ARE NOT INDICATED ON THE DRAWINGS, THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT AND THE FIELD INSPECTOR. WHERE ANCHORAGE IS INDICATED ON THE CONTRACT DOCUMENTS, ANCHORAGE SHALL BE AS PER THE CONTRACT DOCUMENTS.
3. ALL ELECTRICAL MATERIALS AND EQUIPMENT SHALL BE NEW AND SHALL BE LISTED BY UNDERWRITER'S LABORATORIES (UL) AND BEAR THEIR LABEL, OR LISTED AND CERTIFIED BY A NATIONALLY RECOGNIZED TESTING AUTHORITY WHERE UL DOES NOT HAVE A LISTING. CUSTOM MADE EQUIPMENT SHALL HAVE COMPLETE TEST DATA SUBMITTED BY THE MANUFACTURER ATTESTING TO ITS SAFETY. IN ADDITION, THE MATERIALS, EQUIPMENT, AND INSTALLATION SHALL COMPLY WITH THE REQUIREMENTS OF THE FOLLOWING:
   AMERICAN SOCIETY OF TESTING MATERIALS (ASTM)
   NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)
   AMERICAN STANDARD ASSOCIATION (ASA)
   NATIONAL FIRE PROTECTION AGENCY (NFPA)
   AMERICAN NATIONAL STANDARD INSTITUTE (ANSI)
   INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS (IEEE)
   WHERE THE CODES HAVE DIFFERENT LEVELS OF REQUIREMENTS, THE MOST STRINGENT RULE SHALL APPLY.
4. THE CONTRACTOR SHALL VISIT THE SITE INCLUDING ALL AREAS INDICATED ON THE DRAWINGS. HE SHALL THOROUGHLY FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS AND BY SUBMITTING A BID, ACCEPTS THE CONDITIONS UNDER WHICH HE SHALL BE REQUIRED TO PERFORM HIS WORK.
5. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES AT THE SITE. ANY COSTS TO INSTALL WORK TO ACCOMPLISH SAID COORDINATION WHICH DIFFERS FROM THE WORK AS SHOWN ON THE DRAWINGS SHALL BE INCURRED BY THE CONTRACTOR. ANY DISCREPANCIES, AMBIGUITIES OR CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT DURING BID TIME FOR CLARIFICATION. ANY SUCH CONFLICTS NOT CLARIFIED PRIOR TO BID SHALL BE SUBJECT TO THE INTERPRETATION OF THE ARCHITECT AT NO ADDITIONAL COST TO THE OWNER.
6. ALL INTERRUPTION OF ELECTRICAL POWER SHALL BE KEPT TO A MINIMUM. HOWEVER, WHEN AN INTERRUPTION IS NECESSARY, THE SHUTDOWN MUST BE COORDINATED WITH THE OWNER AND ENGINEER 14 DAYS PRIOR TO THE OUTAGE. ANY OVERTIME PAY SHALL BE INCLUDED IN THE CONTRACTOR'S BID. WORK IN EXISTING SWITCHBOARDS OR PANELBOARDS SHALL BE COORDINATED WITH THE OWNER PRIOR TO REMOVING ACCESS PANELS OR DOORS.
7. AFTER ALL REQUIREMENTS OF THE SPECIFICATIONS AND/OR THE DRAWINGS HAVE BEEN FULLY COMPLETED, REPRESENTATIVES OF THE OWNER WILL INSPECT THE WORK. THE CONTRACTOR SHALL PROVIDE COMPETENT PERSONNEL TO DEMONSTRATE THE OPERATION OF ANY ITEM OR SYSTEM TO THE FULL SATISFACTION OF EACH REPRESENTATIVE. FINAL ACCEPTANCE OF THE WORK WILL BE MADE BY THE OWNER AFTER RECEIPT OF APPROVAL AND RECOMMENDATION OF ACCEPTANCE FROM EACH REPRESENTATIVE.
8. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW AND TO COORDINATE WITH THE MECHANICAL, FIRE PROTECTION AND PLUMBING DRAWINGS FOR DUCTS, LINES AND EQUIPMENT.
9. ALL FINAL CONNECTIONS TO OWNER FURNISHED EQUIPMENT SHALL BE MADE BY THE CONTRACTOR.
10. CONNECTIONS TO VIBRATING EQUIPMENT AND SEISMIC SEPARATIONS:
    LIQUID-TIGHT FLEXIBLE STEEL CONDUIT IN DRY INTERIOR LOCATIONS.
    LIQUID-TIGHT FLEXIBLE STEEL CONDUIT IN AREAS EXPOSED TO WEATHER, DAMP LOCATIONS, CONNECTIONS TO TRANSFORMER ENCLOSURES, AND FINAL CONNECTIONS TO MOTORS.
    PROVIDE A SEPARATE INSULATED EQUIPMENT GROUNDING CONDUCTOR IN FLEXIBLE CONDUIT RUNS. MAXIMUM LENGTH SHALL BE SIX FEET UNLESS OTHERWISE NOTED.
11. ROUTE EXPOSED CONDUIT AND CONDUIT ABOVE ACCESSIBLE CEILING SPACES PARALLEL AND PERPENDICULAR TO WALLS AND ADJACENT PIPING. ARRANGE CONDUIT TO MAINTAIN HEADROOM AND TO PRESENT A NEAT APPEARANCE. REPATCH ALL PENETRATIONS WITH APPROVED MATERIAL.
12. COORDINATE REQUIRED ACCESS DOORS IN NON-ACCESSIBLE CEILINGS TO SUIT FIELD CONDITIONS. THE EXACT SIZES AND PHYSICAL LOCATIONS SHALL SUIT ACCESSIBILITY AND CONSTRUCTION CONDITIONS. ACCESS DOORS SHALL BE PROVIDED IN OTHER SECTIONS OF THE SPECIFICATIONS. ACCESS DOORS SHALL HAVE A FIRE RATING EQUAL TO THE CEILING ASSEMBLY IN WHICH THEY ARE INSTALLED.
13. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY TYPE OF CEILING SYSTEMS AND TO FURNISH APPROVED LIGHTING FIXTURES OF THE TYPE REQUIRED FOR MOUNTING IN SUBJECT CEILING. WHERE FIXTURES ARE RECESSED IN PLASTER OR DRYWALL CEILINGS, THEY SHALL BE COMPLETE WITH NECESSARY MOUNTING HARDWARE AND PLASTER FRAMES.
14. UTILITY PENETRATIONS OF ANY KIND IN FIRE AND SMOKE PARTITIONS AND CEILING ASSEMBLIES, SHALL BE FIRESTOPPED AND SEALED WITH AN APPROVED MATERIAL SECURELY INSTALLED. REFER TO ARCHITECTURAL DRAWINGS
15. MAXIMUM NUMBER OF CONDUCTORS IN OUTLET OR JUNCTION BOXES SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE - 2011, ARTICLE 370-6, BUT IN NO CASE SHALL CONTAIN MORE THAN THE FOLLOWING NUMBER OF #12 AWG CONDUCTORS FOR THE SIZE OF BOX INDICATED. THE MINIMUM SIZE OUTLET OR JUNCTION BOX PERMITTED IN A WALL IS FOUR INCHES SQUARE BY 1-1/2 INCHES DEEP.
    SQ. BY 1-1/2" D = 9 CONDUCTORS
    SQ. BY 2-1/8" D = 13 CONDUCTORS
    SQ. BY 1-1/2" D = 11 CONDUCTORS
    SQ. BY 2-1/8" D = 18 CONDUCTORS
    ALL OUTLET BOXES CONTAINING MORE THAN ONE DEVICE SHALL BE GANGED. TWO DEVICES DOUBLE GANGED, MINIMUM.
16. THE EQUIPMENT GROUNDING CONDUCTOR SHOWN ON CONDUIT RUNS SHALL RUN CONTINUOUS FROM PANEL TO LAST OUTLET. THIS WIRE SHALL BE PIGTAILED IN EACH OUTLET FOR CONNECTION TO BOX AND DEVICE SO THAT IF DEVICE IS REMOVED, GROUND WILL NOT BE INTERRUPTED. ALL EQUIPMENT GROUNDING CONDUCTORS SHALL BE INSULATED GREEN CONDUCTORS - ALTERNATE METHODS OF IDENTIFICATION SHALL NOT BE USED. CONTRACTOR SHALL NOTIFY ELECTRICAL ENGINEER TO EXAMINE CONDUCTOR INSTALLATION PRIOR TO INSTALLATION OF DEVICES.
17. DRAWINGS ARE DIAGRAMMATIC ONLY. ROUTING OF RACEWAYS SHALL BE AT THE OPTION OF THE CONTRACTOR UNLESS OTHERWISE NOTED AND SHALL BE COORDINATED WITH OTHER SECTIONS. DO NOT SCALE THE ELECTRICAL DRAWINGS FOR LOCATIONS OF ANY ELECTRICAL, ARCHITECTURAL, STRUCTURAL, CIVIL, OR MECHANICAL ITEMS OR FEATURES.
18. ALL CONDUCTORS INSIDE THE ELECTRICAL BOX SHALL BE LABELED IDENTIFYING CIRCUIT NUMBERS.
19. ALL ELECTRICAL PANELS, DISCONNECT SWITCHES, CONTROLS AND EQUIPMENT SHALL BE LABELED TO MATCH EXISTING.

DEMOLITION NOTES

1. IN GENERAL, THE DEMOLITION PLAN SHOWS ALL EXISTING EQUIPMENT TO BE REMOVED; HOWEVER, ELECTRICAL EQUIPMENT, WHETHER SHOWN ON THIS DRAWING OR NOT THAT IS LOCATED IN REMOVED WALLS, FLOORS OR CEILINGS, SHALL BE REMOVED UNLESS OTHERWISE NOTED.
2. IT SHALL BE THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO DISCONNECT AND REMOVE ALL EXISTING LIGHTING FIXTURES, RECEPTACLES, ELECTRICAL EQUIPMENT, ETC., AFFECTED BY THE REMODELED AREA. THIS WILL INCLUDE REROUTING, OR THE EXTENSION OF EXISTING CONDUIT AND FEEDERS WHERE NECESSARY TO MAINTAIN THE CONTINUITY OF EXISTING EQUIPMENT TO REMAIN.
3. ALL CIRCUIT NUMBERS AND EXISTING CONDUIT HOMERUNS SHOWN ON THESE DRAWINGS WERE TAKEN FROM EXISTING RECORD DRAWINGS. IT IS THIS CONTRACTOR'S RESPONSIBILITY TO VERIFY LOCATIONS OF HOMERUNS AND ADJUST CIRCUIT NUMBERS ACCORDING TO EXISTING CONDITIONS IF REQUIRED.
4. EXISTING CONDUIT FEED UP THROUGH FLOOR SHALL BE CUT OFF AND PLUGGED. FLUSH WITH FLOOR WHERE EXISTING WALL, ETC., ARE REMOVED. REMOVE CONDUCTORS FROM THIS POINT BACK TO LAST OUTLET REMAINING IN SERVICE.
5. EXISTING CONDUIT FEED UP THROUGH FLOOR SHALL BE CUT OFF AND PLUGGED. FLUSH WITH FLOOR WHERE EXISTING WALL, ETC., ARE REMOVED. REMOVE CONDUCTORS FROM THIS POINT BACK TO LAST OUTLET REMAINING IN SERVICE.
6. WHERE EXISTING WALLS HAVE BEEN REMOVED, AND THERE ARE EXISTING CONDUIT FEEDS WHICH HAVE BEEN CUT-OFF AND CAPPED FLUSH WITH FLOOR. IT IS THE CONTRACTOR'S RESPONSIBILITY TO IDENTIFY AND DIMENSION ALL SUCH CONDUIT ON THE "AS-BUILT" DRAWINGS UNLESS OTHERWISE NOTED.
7. IT SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR TO MAINTAIN CONTINUITY OF ALL ELECTRICAL SYSTEMS, EQUIPMENT, ETC., REMAINING IN OPERATION WHICH ARE BEING FED BY AN ABANDONED OUTLET. MAINTAINING CONTINUITY SHALL CONSIST OF REROUTING CONDUIT, WIRING, ETC., AS REQUIRED.
8. ALL ELECTRICAL FIXTURES, OUTLETS, DEVICES, ETC., THAT ARE REMOVED, SHALL BE REMOVED COMPLETELY, INCLUDING CONDUIT AND WIRING BACK TO THE LAST FIXTURE, OUTLET, DEVICE, ETC., REMAINING IN SERVICE.
9. EXISTING CIRCUITS WHICH ARE REMOVED AND NOT REUSED SHALL BE IDENTIFIED ON THE PANEL SCHEDULE AS "SPARE".
10. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE OWNER PRIOR TO REMOVAL OF EXISTING ELECTRICAL EQUIPMENT AND TURN OVER REMOVED EQUIPMENT THAT THE OWNER REQUESTS IN AN "AS-FOUND" CONDITION. EQUIPMENT THAT IS TO BE TURNED OVER SHALL BE BOXED AND TAGGED TO IDENTIFY THE SPECIFIC EQUIPMENT.
11. EXISTING CONDUIT MAY BE REUSED IF ADEQUATELY SIZED, BUT IN NO CASE SHALL ANY EXISTING CONDUCTORS BE REUSED.
12. IN SOME INSTANCES, IT MAY BE NECESSARY FOR THE ELECTRICAL CONTRACTOR TO TEMPORARILY RELOCATE, REROUTE, ETC., EXISTING ELECTRICAL EQUIPMENT. THIS SHALL BE DONE SO THAT THE SYSTEMS IN ALL PHASES (THOSE COMPLETED AND THOSE YET TO BEGIN), ARE IN COMPLETE, OPERABLE CONDITION AS CONSTRUCTION BEGINS IN THE ADJACENT PHASE.
13. DURING EACH PHASE OF THE DEMOLITION, ALL CIRCUITS FROM EXISTING PANELS WHICH FEED AREAS OUTSIDE THE BOUNDARIES OF THAT PHASE, SHALL BE MAINTAINED.
14. ALL ABANDONED OUTLETS INCLUDING LIGHT, RECEPTACLES, TELEPHONE, ETC., SHALL BE COVERED AND PATCHED TO MATCH THE FINISH OF SURROUNDING WALL OR CEILING TO THE SATISFACTION OF THE OWNER.
15. INFORMATION SHOWN ARE BASED ON AS-BUILT DRAWINGS. FURTHER FIELD INVESTIGATION WILL BE REQUIRED.
16. FIRE ALARM CONTRACTOR REMOVING THE INITIATING DEVICES AND NOTIFICATION APPLIANCES AS A RESULT OF THIS PROJECT SHALL MAINTAIN THE CONTINUITY OF THE NEARBY CIRCUITS AND MUST BE IN AN OPERATIONAL SYSTEM.
17. FIELD VERIFY EXISTING FIRE ALARM SYSTEM CONDITIONS PRIOR TO SUBMITTING A BID.
18. IF OVERTIME IS REQUIRED TO COMPLY WITH NOTE ABOVE, IT SHALL BE INCLUDED AS PART OF THE BID.

SYMBOL LIST

POWER & LIGHTING PLAN

- MOTOR, THREE-PHASE
- EARTH GROUND
- JUNCTION BOX
- BRANCH CIRCUIT HOMERUN. LINES INDICATE NUMBER OF CIRCUITS, NEUTRAL, AND SWITCH LEG CONDUCTORS. ONE SEPARATE GREEN GROUNDING CONDUCTOR SHALL BE PROVIDED FOR EACH HOMERUN; NOT SHOWN
- PANELBOARD CABINET, SURFACE MOUNTED
- DISCONNECT SWITCH, FUSED
- (A) CEILING RECESSED MOUNTED FLUORESCENT LIGHT FIXTURE. LETTER "A" INDICATED FIXTURE TYPE.

DEMOLITION POWER PLAN

- E — EQUIPMENT WITH "E" ADJACENT IS EXISTING TO REMAIN.
- R — EQUIPMENT WITH "R" ADJACENT IS EXISTING TO BE COMPLETELY DISCONNECTED AND REMOVED.
- —E— EXISTING CONDUIT RUN TO REMAIN. EXISTING CONDUCTORS TO REMAIN UNLESS NOTED OTHERWISE ON DRAWINGS.
- —R— EXISTING CONDUIT AND WIRE RUN TO BE COMPLETELY DISCONNECTED AND REMOVED BACK TO LAST REMAINING OUTLET OR DEVICE.
- E — EQUIPMENT/DEVICE WITH "E" ADJACENT IS EXISTING TO REMAIN INCLUDING POWER CONNECTION AND SHALL BE PROTECTED DURING CONSTRUCTION.
- RR — EQUIPMENT/DEVICE WITH "RR" ADJACENT IS EXISTING TO BE DISCONNECTED, REMOVED AND RELOCATED TO NEW OR REINSTALL AT THE SAME LOCATION, AND TO BE RECONNECTED AS REQUIRED.
- ER — EQUIPMENT/DEVICE WITH "ER" ADJACENT WAS RELOCATED OR REINSTALLED AS SHOWN IN NEW LOCATION OR THE SAME LOCATION. RESTORE ALL POWER CONNECTION TO COMPLETE CIRCUITRY.

ABBREVIATIONS

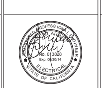
1PH	SINGLE-PHASE
1P	SINGLE POLE
3PH	THREE-PHASE
4W	FOUR-WIRE
AC	ALTERNATING CURRENT OR ARMORED CABLE
AF	AMPERE FRAME
AFu	AMPERE FUSE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AIC	AMPERE INTERRUPTING CAPACITY
AMP	AMPERE
ARCH	ARCHITECT
AS	AMPERE SWITCH
AT	AMPERE TRIP
BFF	BELOW FINISH FLOOR
BLDG	BUILDING
BRKR	BREAKER
C	CONDUIT
CALC	CALCULATE
CKT	CIRCUIT
CKT BRKR	CIRCUIT BREAKER
CLG	CEILING
CONC	CONCRETE
CONT	CONTINUE
CU	COPPER
DEMO	DEMOLITION
DIAG	DIAGRAM
DISC	DISCONNECT
DS	DISCONNECT SWITCH
DWG	DRAWING
EG	EQUIPMENT GROUND
ELEC	ELECTRIC OR ELECTRICAL
ELEV	ELEVATOR
EMER	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
ENCL	ENCLOSURE
EXIST	EXISTING
FIXT	FIXTURE
FT	FEET OR FOOT
G OR GND	GROUND OR GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
HP	HORSEPOWER
HT	HEIGHT
HZ	HERTZ
J-BOX	JUNCTION BOX
kV	KILOVOLT
kVA	KILOVOLT AMPERE
kVAH	KILOVOLT AMPERE PER HOUR
kVAR	KILOVOLT AMPERE REACTIVE
kW	KILOWATT
LF	LINEAR FEET (FOOT)
LRA	LOCKED ROTOR AMPS
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPS
MCB	MAIN CIRCUIT BREAKER
MIN	MINIMUM
MOCP	MAXIMUM OVERCURRENT PROTECTION
MLO	MAIN LUGS ONLY
MT	MOUNT
MTD	MOUNTED
MTG	MOUNTING
NA	NOT APPLICABLE
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NEUT OR N	NEUTRAL
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OL	OVERLOAD
PB	PANELBOARD, PULL BOX, OR PUSHBUTTON
PH	PHASE
PNL	PANEL
PWR	POWER
REC	RECESSED
RECPT	RECEPTACLE
RGS	RIGID GALVANIZED STEEL
RM	ROOM
REQD	REQUIRED
SF	SQUARE FOOT (FEET)
SHT	SHEET
SPEC	SPECIFICATION
SPST	SINGLE POLE, SINGLE THROW
SURF	SURFACE
SW	SWITCH
TYP	TYPICAL
UGND, UG	UNDERGROUND
UL	UNDERWRITERS LABORATORY
UON	UNLESS OTHERWISE NOTED
UTIL	UTILITY
V	VOLT
VA	VOLT AMPERE
VAR	VOLT AMPERE REACTIVE
VOLT	VOLTAGE
W	WATT
WH	WATER HEATER
WP	WEATHERPROOF
XFMR	TRANSFORMER

DRAWING INDEX

SHT. NO.	SHEET TITLE
E0.1	GENERAL, DEMOLITION NOTES, SYMBOL LIST, ABBREVIATIONS, SHEET INDEX
E1.1	ELECTRICAL BASEMENT OVERALL PLAN, PANEL SCHED. & ONE LINE DIAG.
ED2.1	ELECTRICAL ENLARGED BASEMENT DEMOLITION POWER PLAN
EE2.1	ELECTRICAL ENLARGED BASEMENT RENOVATION POWER PLAN

Revisions:	Date

ARCHITECT/ENGINEERS
Schwab
Engineering & Management
A Certified SB/DVBE Firm
1000 E. Walnut Street, Suite 227, Pasadena, CA 91106
t: 888.900.3823 f: 626.463.2739 www.schwabeng.com
Project No.: 0213.228.00



Drawing Title: GENERAL NOTES, DEMOLITION NOTES SYMBOL LIST, ABBREVIATIONS SHEET INDEX

Project Title: B138 SITE PREP FOR REPLACEMENT OF CAGE WASHER

Project Number: 600-13-137

Building Number: 138

Approved: Project Engineer/Architect

Chief, Project Section

Location: 5901 EAST SEVENTH ST. LONG BEACH, CA 90822

Date: FEBRUARY 21, 2014 | Checked: RT | Drawn: JB

Drawing Number: E0.1

Dwg. 14 of 21

Office of Facilities Management

Department of Veterans Affairs