

ELECTRICAL SYMBOLS

060023

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|--|--|--|--|
| | SHEET NOTE IDENTIFIER | | BRANCH CIRCUIT HOMERUN |
| | LIGHTING FIXTURE IDENTIFIER | | WIRES IN CONDUIT, CONCEALED UNDER FLOOR OR UNDERGROUND |
| | FEEDER SIZE IDENTIFIER | | WIRES IN CONDUIT, CONCEALED ABOVE CEILING OR IN WALLS |
| | DUPLX RECEPTACLE (# INDICATES CIRCUIT, TYPICAL) GFI TYPE | | EXISTING CONDUIT/WIRING TO BE REMOVED |
| | DUPLX RECEPTACLE D = DEDICATED | | EMERGENCY CIRCUIT |
| | OUTLET CONNECTED TO UPS | | FIRE ALARM SYSTEM |
| | OUTLET CONNECTED TO EMERGENCY PANEL | | TELEPHONE SYSTEM CONDUIT |
| | FOURPLEX RECEPTACLE | | SECURITY SYSTEM |
| | ISOLATED GROUND DUPLX RECEPTACLE PROVIDE (1) #12 AWG, INSULATED, ISOLATED GROUND (IG) WIRE IN ADDITION TO EQUIPMENT GROUND WIRE | | GROUND WIRING |
| | SPECIAL RECEPTACLE L = TWIST LOCK | | WIREMOLD |
| | JUNCTION BOX | | CONDUIT SEAL |
| | WALL MOUNTED JUNCTION BOX | | CONDUIT RUN DROP |
| | SWITCH, SINGLE POLE (LETTER INDICATES SWITCH LEG) | | CONDUIT RUN RISE |
| | SWITCH, 3-WAY (LETTER INDICATES SWITCH LEG, TYPICAL) | | CONDUIT STUB OUT |
| | DIMMER SWITCH | | FLOOR MOUNTED TRANSFORMER, UON |
| | SWITCH, 4-WAY | | HVAC SHUTDOWN MANUAL PULL STATION. PROVIDE RED ENGRAVED LAMACOID IDENTIFICATION "FOR HVAC SHUTDOWN" |
| | TIME SWITCH (LETTER INDICATES SWITCH LEG) | | SEISMIC SWITCH |
| | MANUAL MOTOR STARTER WITH THERMAL OVERLOAD PROTECTION | | TOXIC GAS SHUTDOWN MANUAL PULL STATION |
| | SWEEPING SWITCH (SENTRY SWITCH) | | GAS MONITORING SENSOR |
| | LOW VOLTAGE SWITCH | | CEILING-MOUNTED OCCUPANCY SENSOR |
| | TRANSFER SWITCH | | POWER PACK FOR USE W/OCCUPANCY SENSOR |
| | HP-RATED MANUAL DISCONNECT SWITCH | | WALL SWITCH OCCUPANCY SENSOR |
| | HP-RATED MANUAL DISCONNECT SWITCH, FUSED | | MAGNETIC DOOR HOLD OPEN DEVICE |
| | COMBINATION MOTOR STARTER NEMA SIZE AS INDICATED | | PUSHBUTTON STATION |
| | MOTOR STARTER | | CARD READER |
| | POWER POLE | | HEAT DETECTOR - AREA |
| | DATA/TELEPHONE OUTLET | | FIRE ALARM MANUAL PULL STATION |
| | DATA COM JACK 4 PORT WITH RING AND PULL STRING | | FIRE ALARM STROBE (ONLY) |
| | TEMPERATURE MONITORING/ALARM OUTLET | | FIRE ALARM BELL - GONG |
| | CEILING MOUNTED LIGHT FIXTURE | | FIRE ALARM HORN |
| | CEILING MOUNTED LIGHT FIXTURE (EMERGENCY CIRCUIT) | | FIRE ALARM HORN WITH STROBE |
| | UPLIGHT FIXTURE | | LIFE SAFETY ALARM HORN WITH STROBE |
| | UPLIGHT FIXTURE (EMERGENCY CIRCUIT) | | LIFE SAFETY STROBE ONLY |
| | WALL MOUNTED LIGHT FIXTURE (EMERGENCY CIRCUIT) | | FIRE/SMOKE DAMPER |
| | FLUORESCENT STRIP FIXTURE | | SMOKE DETECTOR - DUCT |
| | 2' x 4' FLUORESCENT FIXTURE ON EMERGENCY | | FIRE SENSOR |
| | OR UNSWITCHED "NIGHT LIGHT" CIRCUIT | | SMOKE DETECTOR - AREA |
| | FLUORESCENT FIXTURE | | SMOKE DETECTOR WITH RELAY BASE |
| | FLUORESCENT FIXTURE ON EMERGENCY CIRCUIT | | WATER FLOW SWITCH |
| | 2' x 2' FLUORESCENT FIXTURE ON EMERGENCY | | WATER FLOW TAMPER SWITCH |
| | OR UNSWITCHED "NIGHT LIGHT" CIRCUIT | | POST INDICATOR VALVE |
| | CEILING MOUNTED EXIT LIGHT DARKENED SEGMENT INDICATES FACE OF SIGN, ARROWS AS INDICATED | | MOTOR OUTLET (# INDICATES MOTOR HP) |
| | WALL MOUNTED EXIT LIGHT DARKENED SEGMENT INDICATES FACE OF SIGN, ARROWS AS INDICATED | | AMMETER |
| | FIRE ALARM CONTROL PANEL | | GENERATOR |
| | | | THERMOSTAT |
| | | | VOLTMETER |
| | | | GROUNDING ELECTRODE |
| | | | COPPERWELD GROUND ROD |
| | | | GROUND ROD AND INSPECTION WELL |
| | | | THERMAL OVERLOAD |
| | | | RELAY COIL (X INDICATES RELAY DESIGNATION) |
| | | | RELAY CONTACT (X INDICATES RELAY DESIGNATION) |
| | | | CIRCUIT BREAKER (TRIP AMPS/FRAME SIZE AMPS) |
| | | | CIRCUIT BREAKER WITH COMPLETE DRAWOUT ASSEMBLY |
| | | | SWITCH |
| | | | FUSE |

GENERAL NOTES

060028A

- ALL ELECTRICAL WORK SHALL COMPLY WITH 2005 NATIONAL ELECTRICAL CODE, AS AMENDED BY 2007 CALIFORNIA ELECTRICAL CODE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE ELECTRICAL CODE REQUIREMENTS WITH THE AUTHORITY HAVING JURISDICTION.
- THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, PERMITS, FEES AND EQUIPMENT SPECIFIED, INDICATED OR IMPLIED IN THESE DOCUMENTS TO ACCOMPLISH THE CONSTRUCTION IN A PROFESSIONAL, WORKMANLIKE MANNER. ANY DISCREPANCIES BETWEEN THE CONSTRUCTION TASKS INDICATED AND BOB AND LOCAL CODES AND/OR ORDINANCES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF OWNER'S REPRESENTATIVE FOR RESOLUTION BEFORE PROCEEDING WITH THE WORK AT ISSUE.
- ANY WORK INSTALLED INCORRECTLY, OR BEFORE APPROVAL HAS BEEN OFFICIALLY GRANTED FOR THOSE ITEMS AT ISSUE, SHALL BE CORRECTED BY THE ELECTRICAL CONTRACTOR AT NO CHARGE AND BEFORE SUBSEQUENT WORK SHALL PROCEED.
- ALL MATERIALS AND EQUIPMENT FURNISHED BY THE CONTRACTOR SHALL BE NEW AND COMPLETELY SERVICEABLE UNLESS OTHERWISE SPECIFIED.
- CONTRACTOR SHALL COORDINATE ROUGH-IN AND FINAL CONNECTION REQUIREMENTS WITH THE OWNER, USER, EQUIPMENT SUPPLIERS, AND OTHER BUILDING BUILDING TRADES. BEFORE PROCEEDING WITH ANY FURTHER RELATED WORK, INSTALLATIONS SHALL BE IN FULL ACCORDANCE WITH EQUIPMENT MANUFACTURER'S RECOMMENDATIONS AND REQUIRED CODES. CONFLICTS AND INTERFERENCES SHALL BE RESOLVED IMMEDIATELY.
- CONTRACTOR SHALL VERIFY FINAL PLACEMENT AND CONNECTION REQUIREMENTS PRIOR TO ROUGHING-IN EQUIPMENT UTILITIES.
- FINAL ACCEPTANCE OF WORK IN PLACE SHALL BE SUBJECT TO APPROVAL BY OWNER'S REPRESENTATIVE. INSTALLATION APPROVAL SHALL BE BASED ON APPROVED BOB AND LOCAL INSPECTION.
- THE FINAL CORRECTED RECORD DRAWINGS, O&M MANUALS, GUARANTEES & WARRANTIES, AND INDOCTRINATION OF OWNER'S REPRESENTATIVE SHALL BE COMPLETED WITHIN TWO WEEKS AFTER THE FINAL JOB WALK-THRU.
- CONTRACTOR SHALL KEEP PREMISES OF WORK AREA CLEAN DAILY, BROOM CLEAN AT PROJECT COMPLETION, AND SHALL REMOVE ALL REFUSE FROM SITE. ALL REMOVED MATERIALS, REFUSE, AND DEBRIS SHALL BE PROPERLY DISPOSED OF, COORDINATE WITH OWNER'S REPRESENTATIVE BEFORE HAULING FROM SITE.
- THE CONTRACTOR SHALL INSPECT JOB SITE TO VERIFY FIELD CONDITIONS PRIOR TO THE START OF WORK. NOT ALL EXISTING CONDITIONS ARE INDICATED ON PLANS. CONCEALED CONDITIONS SHALL BE ADDRESSED WITH DUE CAUTION SUCH THAT UTILITIES AND ARE PROTECTED.
- CONTRACTOR SHALL CUT AND PATCH HOLES IN EXISTING CONSTRUCTION AS REQUIRED WITH DUE CAUTION SUCH THAT STRUCTURAL INTEGRITY IS MAINTAINED. OBTAIN DIRECTION FROM STRUCTURAL ENGINEER PRIOR TO SAW CUTTING OR BORING HOLES IN CONCRETE WALLS AND FLOORS AND OTHER STRUCTURAL MEMBERS.
- CONTRACTOR SHALL WARRANTY ALL NEW WORK FOR A PERIOD OF ONE (1) YEAR FROM DATE OF ACCEPTANCE AND SHALL REPAIR OR REPLACE ANY DEFECTIVE WORK INCLUDING MATERIAL, LABOR AND EQUIPMENT AT AN ADDITIONAL COST TO THE OWNER DURING THIS TIME IF SAME IS FOUND TO BE DEFECTIVE.
- ALL WORK SHOWN ON DRAWINGS IS IN PART SCHEMATIC, INTENDED TO CONVEY SCOPE OF WORK AND GENERAL LAYOUT. VERIFY ALL EXISTING CONDITIONS AND MAKE ADJUSTMENTS AS REQUIRED.
- COMPLY WITH OWNER'S PROCEDURE TO SCHEDULE POWER OUTAGE. SUCH REQUEST SHALL DELINEATE THE PARTICULAR CIRCUIT, EQUIPMENT IN QUESTION, TIME OF DAY AND THE NUMBER OF HOURS THE POWER SHALL BE OFF. THE DURATION OF OUTAGE SHALL BE KEPT TO A MINIMUM.
- CONTRACTOR SHALL PROVIDE TYPED UPDATED/CORRECTED PANEL DIRECTORIES WITHIN EACH PANELBOARD PRIOR TO FINAL ACCEPTANCE OF WORK IN PLACE.
- RESPONSE TO THE FINAL WALK-THRU PUNCH LIST SHALL BE PROVIDED WITHIN A WEEK AFTER THE WALK-THRU.
- SYMBOLS AND ABBREVIATIONS ARE SHOWN FOR REFERENCE ONLY. NOT ALL OF THEM MAY BE USED OR SHOWN ON THE DRAWING.
- LABEL ALL NEW WIRING DEVICES WITH PANEL BOARD AND CIRCUIT NUMBER ON COVER PLATE. USE FLEXIBLE LAMINATED TAPE WITH LETTER PRINTED ON TAPE BY MACHINE.
- UNLESS OTHERWISE NOTED FOR ALL NEW WORK, ROUTE CONDUIT IN CEILING SPACES OR CONCEALED IN WALLS. WHERE APPROPRIATE, EXPOSED CONDUIT SHALL BE ROUTED AT RIGHT ANGLES, PLUMB AND PERPENDICULAR TO HORIZONTAL SURFACES, AND PARALLEL TO WALL LINES, DUCTS, FIXTURES, AND OTHER LINEAR EDGES AND OBJECTS.
- FIELD DETERMINE EXACT ROUTING OF NEW CONDUIT AND PROVIDE PULL BOXES AS REQUIRED.
- ALL NEW INTERIOR OUTLET, FOR ALL NEW WORK JUNCTION AND PULL BOXES SHALL BE METALLIC, SIZED PER CODE FOR THE NUMBER OF CONDUCTORS THEREIN. CIRCUIT NUMBERS/PANEL NUMBERS SHALL BE WRITTEN IN 1/4" HIGH LETTERS WITH INDELIBLE INK ON THE BOX COVER. USE PREPRINTED, ADHESIVE BACKED CLOTH MARKERS TO IDENTIFY EACH UNGROUNDED CIRCUIT CONDUCTOR AT EACH BOX OR PANEL LOCATION.
- NEW WIRE SPLICES SHALL BE MADE WITH INSULATED, SPRING-TYPE CONNECTORS FOR COPPER CONDUCTORS #8 AWG AND SMALLER (3M "SCOTCHLOK", IDEAL "WING-NUT", OR APPROVED EQUAL).
- ALL NEW CONDUCTORS FOR POWER AND LIGHTING BRANCH CIRCUITS SHALL BE #12 AWG MINIMUM.
- SEAL ALL NEW PENETRATIONS THROUGH FIRE RATED CORRIDOR AND/OR ROOM WALLS, WITH SUITABLE FIRESTOP MATERIAL TO MATCH EXISTING FIRE RATING.
- ALL MATERIAL EXPOSED TO THE WEATHER SHALL BE OF WEATHERPROOF CONSTRUCTION.
- ALL BUILDING WIRE SHALL BE COPPER, STRANDED, INSULATED. INSULATION COLOR CODING SHALL MATCH EXISTING.
- FIRE ALARM SYSTEM IS DESIGN-BUILD BY ELECTRICAL CONTRACTOR. THE FA SYSTEM TO INCLUDE BUT NOT LIMITED TO SMOKE DETECTORS, PULL STATIONS, HORN/STROBES AND OTHER DEVICES AS NEEDED. ALSO SEE HVAC, PLUMBING AND ARCHITECTURAL DRAWINGS FOR ADDITIONAL REQUIREMENT. SUBMIT ALL DRAWINGS AND CALCULATIONS TO THE CITY FIRE MARSHALL AND OBTAIN APPROVAL PRIOR TO CONSTRUCTION. PERFORM PERFORMANCE/ACCEPTANCE TEST AT COMPLETION.
- MOUNTING HEIGHT OF DEVICES SUCH AS SWITCHES, WALL CONVENIENCE OUTLETS TO MATCH EXISTING.
- A NATIONALLY RECOGNIZED TESTING LABORATORY SHALL LIST ALL EQUIPMENT IN COMPLIANCE WITH 05 NEC ARTICLE 113.3
- ALL ELECTRICAL SWITCHBOARD AND PANELBOARD SHALL BE MARKED WARNING QUALIFIED PERSONNELS OF POTENTIAL ELECTRIC ARC FLASH HAZARDS, PER 05 NEC ART 110-16 AND NFPA-70E-2000. PROVIDE ARC FLASH CALCULATION.
- DO NOT RUN CONDUITS IMMEDIATELY ABOVE LIGHT FIXTURES.
- LOCATE CONDUITS IN CEILING SPACE AT MINIMUM 8" ABOVE TILES. COORDINATE WITH OTHER TRADES.
- UPON TRACING OUT ALL CIRCUITS TO REMAIN, COORDINATE WITH DIVISION-15 & LABEL ALL CB'S CLEARLY INDICATING THE LOAD SERVED. DO NOT START DEMOLITION UNTIL THIS TASK IS COMPLETED. SUBMIT UPDATED ONE-LINE DIAGRAM FOR OWNER REVIEW.
- ELECTRICAL RECEPTACLES AND SWITCHES SHALL BE AT 15" MINIMUM AND 48" MAXIMUM FROM FLOOR RESPECTIVELY PER CBC-1117B.6.
- PROVIDE EQUIPMENT GROUNDINGS CONDUCTOR FOR ALL PANELS AND EQUIPMENT IN ACCORDANCE WITH CEC TABLE 250.122.

DRAWING INDEX

060022

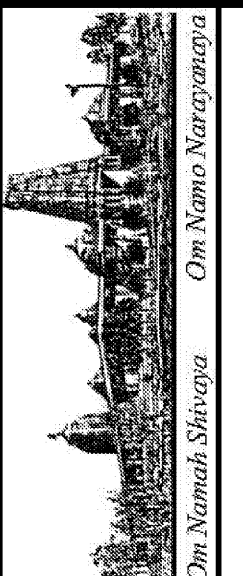
| ELECTRICAL | |
|------------|-------------------------------|
| SHEET NO. | TITLE |
| E0.0 | SYMBOLS AND GEN. NOTES |
| E-1 | LIGHTING FLOOR PLAN |
| E-2 | POWER FLOOR PLAN |
| E-3 | ROOF POWER PLAN |
| E-4 | SINGLE LINE & PANEL SCHEDULES |

ABBREVIATIONS

NOT ALL ABBREVIATIONS HAVE BEEN USED

| | | | |
|------|--|--------|---|
| A | AMPERE | MH | METAL HALIDE |
| AC | ABOVE COUNTER | MIN | MINIMUM |
| AF | ABOVE FINISHED FLOOR | MLO | MAIN LUG ONLY |
| AFG | ABOVE FINISHED GRADE | MTD | MOUNTED |
| AIC | AMPERE INTERRUPTING CAPACITY | MTG | MOUNTING |
| AL | ALUMINUM | MTG HT | MOUNTING HEIGHT |
| AMPS | AMPERES | <N> | NEW |
| AWG | AMERICAN WIRE GAGE | NC | NORMALLY CLOSED |
| BCC | BARE COPPER CONDUCTORS | NEC | NATIONAL ELECTRICAL CODE |
| BKR | BREAKER | NECA | NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION |
| BLDG | BUILDING | NEMA | NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION |
| C | CONDUIT | CA | CALIFORNIA ADMINISTRATIVE CODE |
| CAC | CALIFORNIA ADMINISTRATIVE CODE | CB | CIRCUIT BREAKER |
| CE | CALIFORNIA ELECTRICAL CODE | CH | CHAIN |
| CEC | CALIFORNIA ELECTRICAL CODE | CKT | CIRCUIT |
| CH | CHAIN | CLG | CEILING |
| CKT | CIRCUIT | CO | CONDUIT ONLY |
| CLG | CEILING | CT | CURRENT TRANSFORMER |
| CO | CONDUIT ONLY | CU | COPPER |
| CT | CURRENT TRANSFORMER | DIAG | DIAGRAM |
| CU | COPPER | DIV | DIVISION |
| DIAG | DIAGRAM | D | DEEP |
| DIV | DIVISION | <E> | EXISTING |
| D | DEEP | EL | ELEVATOR |
| <E> | EXISTING | ELEC | ELECTRICAL |
| EL | ELEVATOR | EMER | EMERGENCY |
| ELEC | ELECTRICAL | EMT | ELECTRICAL METALLIC TUBING |
| EMER | EMERGENCY | EOL | END OF LINE |
| EMT | ELECTRICAL METALLIC TUBING | EPO | EMERGENCY POWER OFF |
| EOL | END OF LINE | EOPT | EQUIPMENT |
| EPO | EMERGENCY POWER OFF | <F> | FUTURE |
| EOPT | EQUIPMENT | FA | FIRE ALARM |
| <F> | FUTURE | FACP | FIRE ALARM CONTROL PANEL |
| FA | FIRE ALARM | FBO | FURNISHED BY OTHERS |
| FACP | FIRE ALARM CONTROL PANEL | FLA | FULL LOAD AMPERES |
| FBO | FURNISHED BY OTHERS | FLX | FIXTURE |
| FLA | FULL LOAD AMPERES | GFI | GROUND FAULT INTERRUPTER |
| FLX | FIXTURE | GND | GROUND |
| GFI | GROUND FAULT INTERRUPTER | GRSC | GALVANIZED RIGID STEEL CONDUIT |
| GND | GROUND | HID | HIGH INTENSITY DISCHARGE |
| GRSC | GALVANIZED RIGID STEEL CONDUIT | HOB | HAND/OFF/AUTO |
| HID | HIGH INTENSITY DISCHARGE | HP | HORSE POWER |
| HOB | HAND/OFF/AUTO | HVC | HEATING VENTILATING & AIR CONDITIONING |
| HP | HORSE POWER | ISC | INTERRUPTING SHORT CIRCUIT CAPACITY |
| HVC | HEATING VENTILATING & AIR CONDITIONING | JBX | JUNCTION BOX |
| ISC | INTERRUPTING SHORT CIRCUIT CAPACITY | KV | KILOVOLT |
| JBX | JUNCTION BOX | KVA | KILOVOLT AMPERE |
| KV | KILOVOLT | KVAR | KILOVOLT AMPERE REACTIVE |
| KVA | KILOVOLT AMPERE | M | MOTOR |
| KVAR | KILOVOLT AMPERE REACTIVE | MAX | MAXIMUM |
| M | MOTOR | MCC | MOTOR CONTROL CENTER |
| MAX | MAXIMUM | MCCB | MOLDED CASE CIRCUIT BREAKER |
| MCC | MOTOR CONTROL CENTER | MCM | THOUSAND CIRCULAR MILLS (KCMIL) |
| MCCB | MOLDED CASE CIRCUIT BREAKER | MCS | MOLDED CASE SWITCH |
| MCM | THOUSAND CIRCULAR MILLS (KCMIL) | MCP | MOTOR CIRCUIT PROTECTOR |
| MCS | MOLDED CASE SWITCH | MECH | MECHANICAL |
| MCP | MOTOR CIRCUIT PROTECTOR | MFG | MANUFACTURING |
| MECH | MECHANICAL | MFR | MANUFACTURER |
| MFG | MANUFACTURING | | |
| MFR | MANUFACTURER | | |

| REVISIONS | BY |
|--------------------------------|----|
| 05-24-10 ISSUED FOR PLAN CHECK | SR |

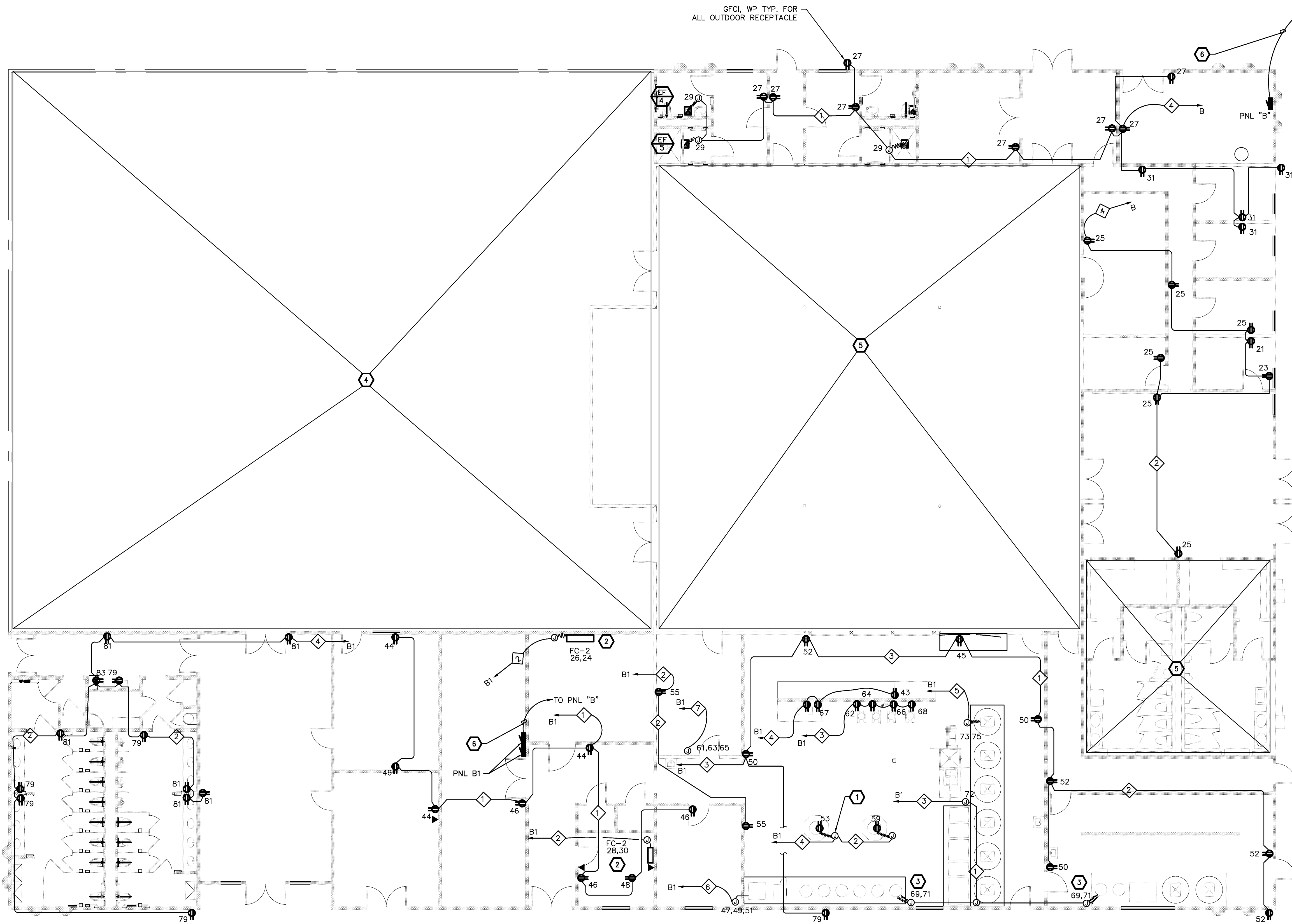


HINDU COMMUNITY and CULTURAL CENTER
1232 ARROWHEAD AVE. LIVERMORE, CA 94551

ELECTRICAL SYMBOLS AND GEN. NOTES
PHASE 1A

| | |
|-----------|-----------|
| DATE | 8/12/09 |
| SCALE | AS NOTED |
| DRAWN BY: | RL/ssm |
| PROJECT: | ARROWHEAD |

E-0.0



GENERAL NOTES:

- A. REFER TO KITCHEN EQUIPMENT SCHEDULE FOR ADDITIONAL INFORMATION.
- B. ALL CONVENIENCE OUTLETS LOCATED IN KITCHEN AND REST ROOMS SHALL BE GFI TYPE.
- C. ALL WIRING SHALL BE CONCEALED UNLESS NOTED OTHERWISE.
- D. ALL OUTDOOR RECEPTACLES SHOWN SHALL BE GFCI TYPE OF WEATHER PROOF CONSTRUCTION.

SHEET NOTES:

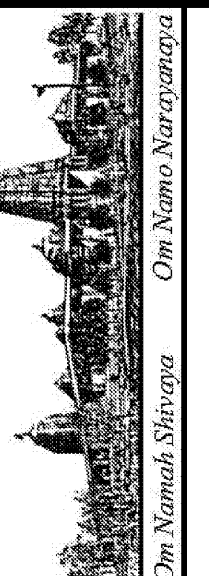
- ① SEE DETAIL 1 ON SHEET-4 FOR PENDANT MOUNTED RECEPTACLE.
- ② COORDINATE WITH DIV 15 CONTRACTOR FOR LOCATION OF UNIT AND POINT OF CONNECTION.
- ③ CONNECT TO HOOD LIGHTS AND POWER FOR FIRE EXTINGUISHING SYSTEM CONTROLS POWER. COORDINATE WITH THE HOOD INSTALLER.
- ④ FUTURE CONSTRUCTION NOT IN CONTRACT.
- ⑤ CONNECT EXISTING ELECTRICAL OUTLETS TO PANEL B. MATERIAL AND METHOD TO MATCH EXISTING. USE EXISTING CONDUIT TO THE EXTENT POSSIBLE. PROVIDE NEW AS REQUIRED.
- ⑥ SEE ONE-LINE DIAGRAM ON SHEET E-4 FOR CONDUIT/WIRE INFORMATION.

CONDUIT AND WIRE SCHEDULE:

- ① 3/4" C, 3 # 12, 1 # 12 GND
- ② 3/4" C, 2 # 12, 1 # 12 GND
- ③ 3/4" C, 5 # 12, 1 # 12 GND
- ④ 3/4" C, 4 # 12, 1 # 12 GND
- ⑤ 3/4" C, 2 # 10, 1 # 10 GND
- ⑥ 3/4" C, 3 # 10, 1 # 10 GND
- ⑦ 1" C, 3 # 8, 1 # 10 GND

1 **ELECTRICAL POWER FLOOR PLAN-COSTRUCTION**
 E-2 SCALE: 1/8"=1'-0"

| REVISIONS | BY |
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| 05-24-10 ISSUED FOR PLAN CHECK | SR |
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ELECTRICAL POWER FLOOR PLAN
 PHASE 1A

| | |
|-----------|-----------|
| DATE | 8/12/09 |
| SCALE: | AS NOTED |
| DRAWN BY: | RL/ssm |
| PROJECT: | ARROWHEAD |

| REVISIONS | BY |
|--------------------------------|----|
| 05-24-10 ISSUED FOR PLAN CHECK | SR |

GENERAL NOTES:

1. CONFIRM WITH MECHANICAL (DIVISION 15) FOR MOTOR H.P. AND MINIMUM CIRCUIT AMPS PRIOR TO ROUGH-IN.
2. PROVIDE MOTOR H.P. RATED DISCONNECT SWITCH AS NOTED IN ACCORDANCE WITH ART. 430-101 AND 113 OF CEC. PROVIDE FUSES.
3. LOCATE GFI OUTLET WITH IN 25' OF HVAC UNITS.
4. ALL WIRING AND EQUIPMENT EXPOSED TO WEATHER SHALL BE WEATHER PROOF CONSTRUCTION.

DEMOLITION NOTES:

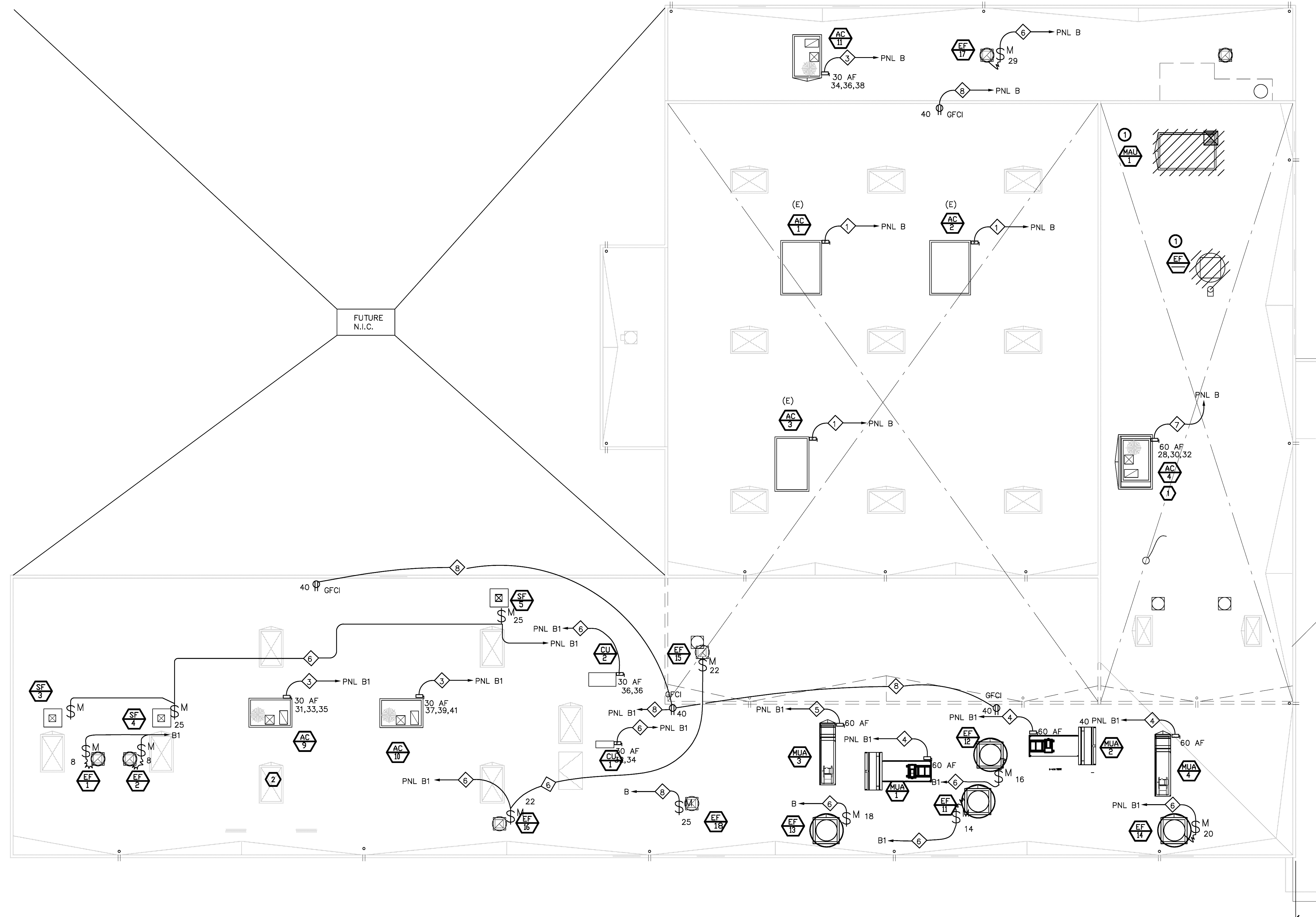
- ① REMOVE ELECTRICAL POWER TO THE (E) MAKE-UP AIR UNIT AND EXHAUST FAN. SCHEDULE THE REMOVAL OF POWER WITH CONSTRUCTION MANAGER.
- ② ALSO SEE DWG. S-1 FOR GENERAL DEMOLITION WORK AND NOTES.

CONSTRUCTION NOTES:

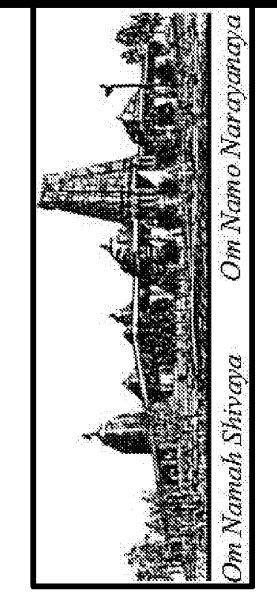
- ① REMOVE (E) UNIT AND REPLACE WITH (N) UNIT AS SCHEDULED ON DWG. M0.1.
- ② INSTALL (N) UNIT AS SCHEDULED ON DWG. M0.1. COORDINATE WITH ELECTRICAL PLANS FOR POWER AND STRUCTURAL/ARCHITECTURAL FOR EXACT LOCATION.

CONDUIT AND WIRE SCHEDULE:

- ① 1-1/2" C, 3 # 2, 1 # 6 GND
- ② 1-1/4" C, 3 # 4, 1 # 8 GND
- ③ 1" C, 3 # 8, 1 # 10 GND
- ④ 1" C, 2 # 4, 1 # 8 GND
- ⑤ 1" C, 2 # 8, 1 # 10 GND
- ⑥ 3/4" C, 2 # 10, 1 # 10 GND
- ⑦ 3/4" C, 3 # 6, 1 # 10 GND
- ⑧ 3/4" C, 2 # 12, 1 # 12 GND



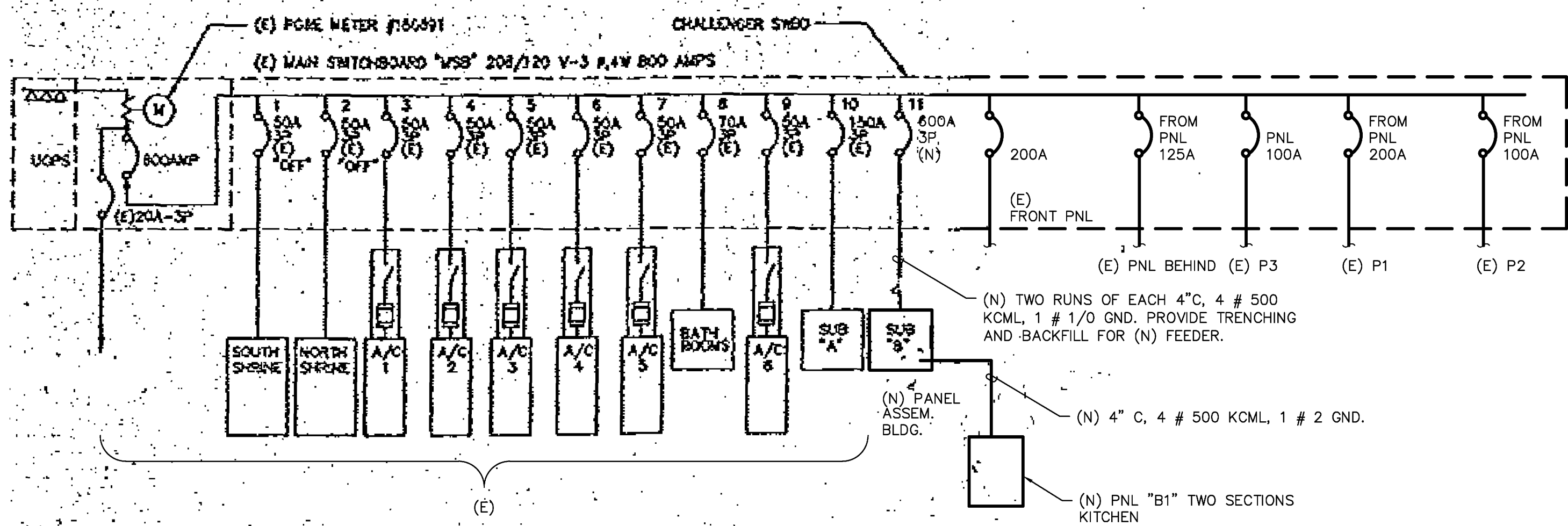
1 ELECTRICAL ROOF POWER PLAN-DEMOLITION AND COSTRUCTION
E-3 SCALE: 1/8"=1'-0"



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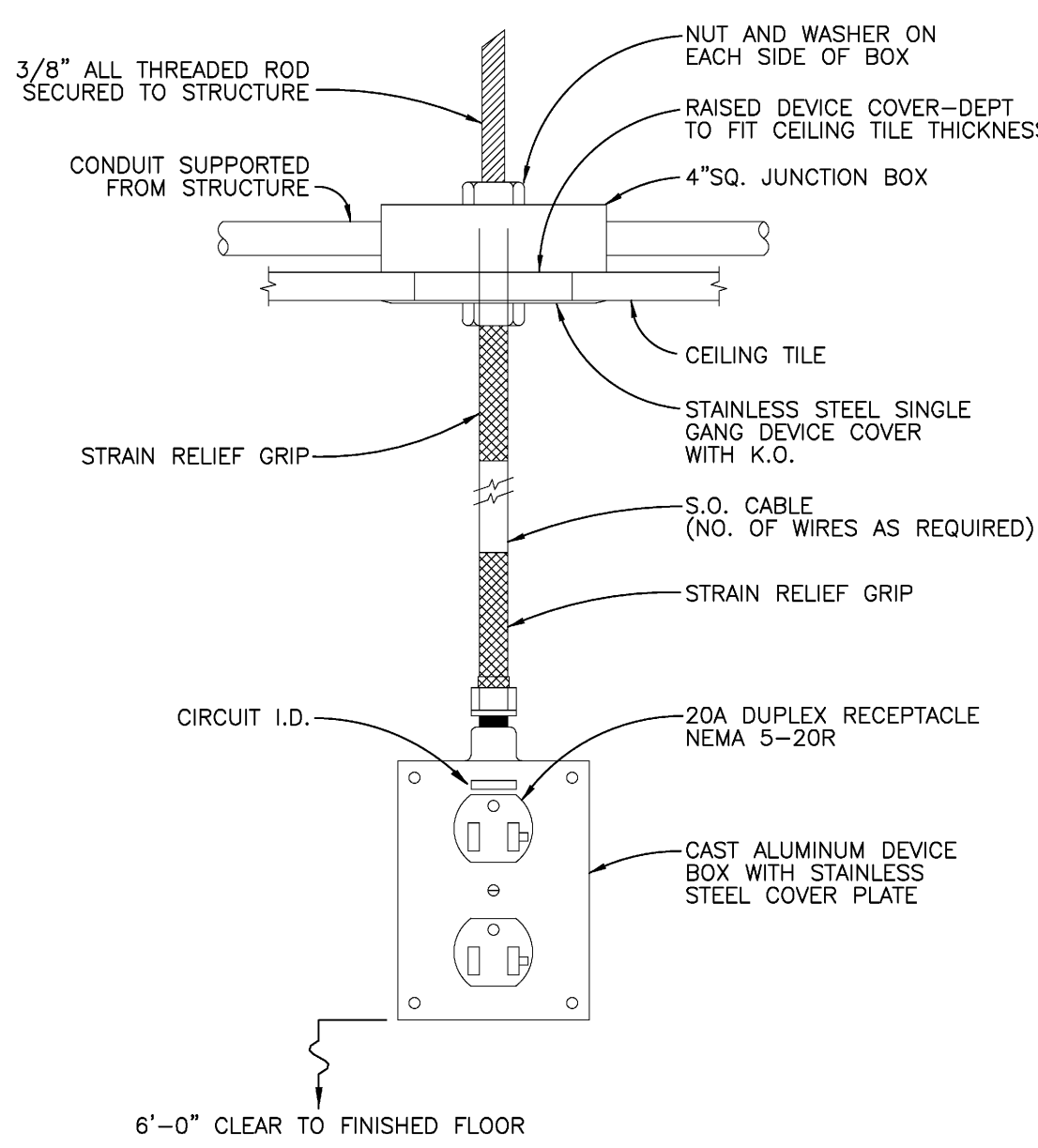
ELECTRICAL
 ROOF POWER PLAN
 PHASE 1A

| | |
|-----------|-----------|
| DATE | 8/12/09 |
| SCALE: | AS NOTED |
| DRAWN BY: | RL/ssm |
| PROJECT: | ARROWHEAD |



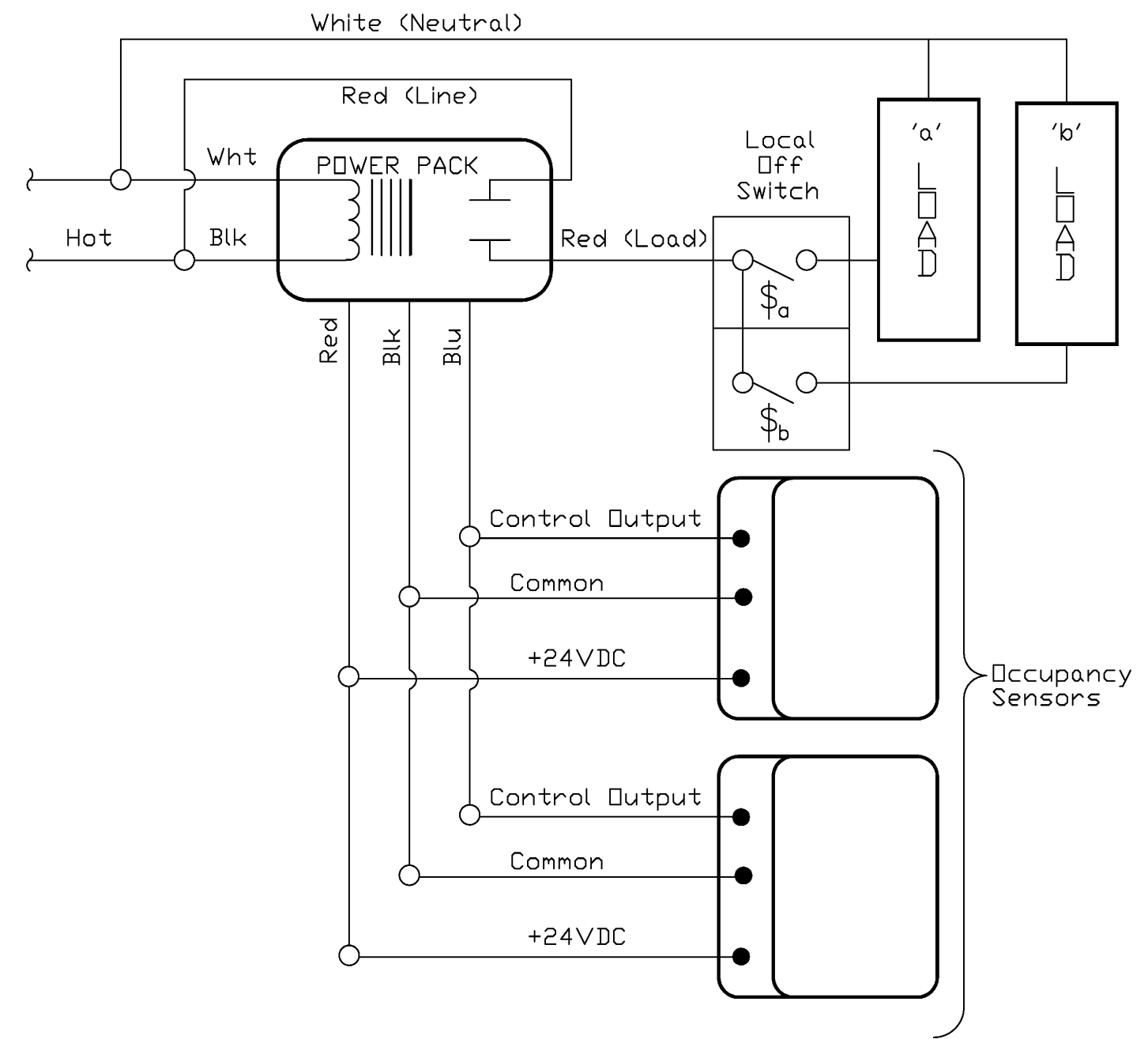
SINGLE LINE DIAGRAM

E-4 SCALE: N.T.S.



PENDANT MOUNTED RECEPTACLE FOR GRID CEILING INSTALLATION

1 SCALE: NONE



CEILING MOUNTED OCCUPANCY SENSORS

2 SCALE: NONE

SITE SERVICE LOAD CALCULATION

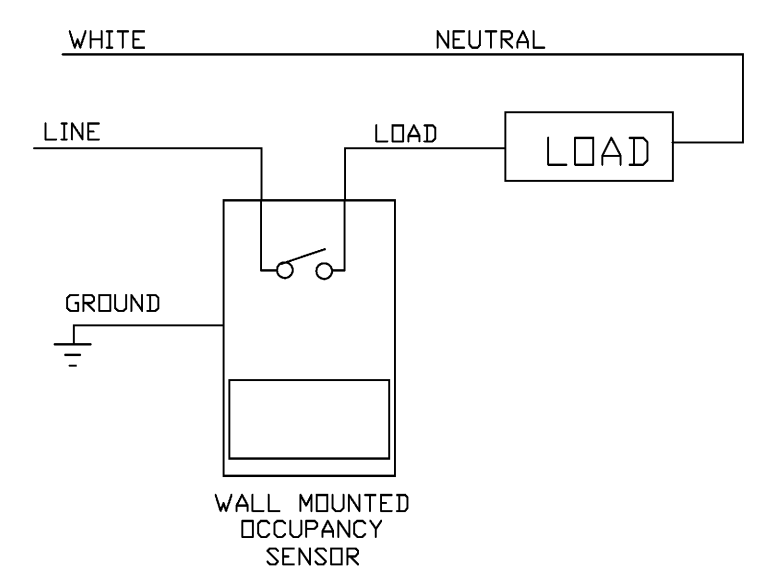
HINDU COMMUNITY AND CULTURAL CENTER SERVICE 120/208V 800 AMPS

| | | | |
|--|--------|-----------|---|
| EXISTING DEMAND FROM PG&E 12 MONTH RECORD: | 110 KW | 122 KVA | |
| PER NEC ARTICLE 220.87 ADD 25% | | 31 KVA | |
| EXISTING ASSEMBLY BUILDING B DEMAND | | 27 KVA | FROM DEMAND MONITORING 10/22/09 TO 10/27/09 |
| NEW LOADS INCL PANEL B1 DEMAND | | 100.8 KVA | |
| TOTAL PROJECTED DEMAND FOR THE SITE | | 281 KVA | |
| TOTAL PROJECTED MAXIMUM AMPS | | 780 AMPS | |
| EXISTING SERVICE MAIN | 800 | AMPS | |

LIGHTING FIXTURE SCHEDULE

| FIXTURE TYPE | DESCRIPTION OF FIXTURE | VOLTAGE | COMMENTS |
|--------------|--|---------|---|
| A | MARK MD 24 2 LAMPS T8HO EBPR | 120 | NOTE 1 |
| A1 | MARK MD 24 2 LAMPS T8HO ADEZ | 120 | WITH DIMMING BALLAST |
| A2 | MARK MD 24 3 LAMPS T8HO EBPR | 120 | NOTE 1 |
| A3 | SAME AS A EXCEPT WITH BATTERY PACK | 120 | NOTE 1 |
| B | LITHONIA 2PSPB 3 LAMPS 32W T8 2'x4' A12125 | 120 | LENSED FIXTURE WITH GASKET. ALSO SEE NOTE 1 |
| B1 | SAME AS B EXCEPT WITH EL 14 BATTERY PACK | 120 | LENSED FIXTURE WITH GASKET. ALSO SEE NOTE 1 |
| B2 | SAME AS B EXCEPT WITH EL 2 LAMPS | 120 | LENSED FIXTURE WITH GASKET. ALSO SEE NOTE 1 |
| B3 | SAME AS B2 EXCEPT WITH BATTERY PACK | 120 | LENSED FIXTURE WITH GASKET. ALSO SEE NOTE 1 |
| C | LITHONIA SURFACE CEILING HUNG/WALL MTD WITH ACYLIC LENS L2-32 MVOLT-GE2-2 LAMPS-1015-SSR | 120 | WITH FROSTED BOROSILICATE GLASS. ALSO SEE NOTE 1 |
| D1 | MEDUSA ADJUSTABLE (4) 50W MR16 | 120 | |
| E | PEACH TREE WALL WASHER 5"X9" W; (1) 26W PLT | 120 | |
| G | GOTHAM COMPACT FLUORESCENT DOWNLITE 6" ROUND LGF 1/26TRT 6RW T73 | 120 | |
| G1 | SAME AS G EXCEPT WITH BATTERY PACK | 120 | |
| O | SIERRA FULL CUTOFF WALL PACK SIFCM WB 100W MH WITH PHOTO CELL | 120 | MOUNT AT MIN 10' AFF AS DIRECTED |
| W | PRUDENTIAL 4' (1) T5 LAMP HCA D4W DISTRIBUTION WITH WALL BRACKET | 120 | SINGLE CIRCUIT. FINISH PER ARCHITECT. MOUNT ABOVE MIRROR AS DIRECTED. |
| X | EXIT FIXTURE UNIVERSAL MOUNT MATCH EXISTING | 120 | |

NOTE 1 VERIFY CEILING TYPE PRIOR TO ORDER
 NOTE 2 PROVIDE BATTERY PACK.



WALL MOUNTED OCCUPANCY SENSOR, SINGLE LEVEL SWITCHING WIRING DIAGRAM

3 SCALE: NONE

GENERAL NOTE:

1 VERIFY HVAC AND MECHANICAL EQUIPMENT POWER REQUIREMENTS PRIOR TO ORDERING PANEL BOARDS.

2 THE BATTERY PACK FOR LIGHT FIXTURES IN THE SCHEDULE ABOVE SHALL PROVIDE POWER FOR MINIMUM 90 MINUTES FROM BATTERIES AND THE ILLUMINATION SHALL MEET AN AVERAGE OF 1 F.C. AND MINIMUM OF 0.1 F.C.

PANEL B DIRECTORY

| CIRC NO. | TRIP AMPS | NO. POLE | LOAD SERVED | PHASE LOAD VA | | | LOAD SERVED | NO. POLE | TRIP AMPS | CIRC NO. |
|----------|-----------|----------|---------------------|---------------|-------|-------|-----------------------|----------|-----------|-----------------|
| | | | | A | B | C | | | | |
| 1 | 90 | 3 | (E) AC-1 | 6720 | | | (E) 20A CONV. OUTLETS | 1 | 20 | 2 |
| 3 | 90 | 3 | (E) AC-1 | 6720 | | | (E) 20A CONV. OUTLETS | 1 | 20 | 4 |
| 5 | 90 | 3 | (E) AC-1 | 6720 | | 6720 | (E) 20A CONV. OUTLETS | 1 | 20 | 6 |
| 7 | 90 | 3 | (E) AC-2 | 6720 | | 800 | (E) R- STAGE | 1 | 30 | 8 |
| 9 | 90 | 3 | (E) AC-2 | 1500 | | | (E) R- STAGE | 1 | 30 | 10 |
| 11 | 90 | 3 | (E) AC-2 | 6720 | | 1500 | (E) R- SIDEWALL | 1 | 30 | 12 |
| 13 | 70 | 3 | (E) AC-3 | 5880 | | | (R) R - SIDEWALL | 1 | 30 | 14 |
| 15 | 70 | 3 | (E) AC-3 | 1500 | | | (E) LIGHTS | 1 | 20 | 16 |
| 17 | 70 | 3 | (E) AC-3 | 5880 | | 1000 | LIGHTS | 1 | 20 | 18 |
| 19 | 20 | 1 | (E) FANS- ASSY AREA | 500 | | | LIGHTS | 1 | 30 | 20 |
| 21 | 20 | 1 | SERVER ROOM | 1000 | | 400 | EMER. FIXTURES | 1 | 30 | 22 |
| 23 | 20 | 1 | SERVER ROOM | 600 | | 400 | SPARE | 1 | 20 | 24 |
| 25 | 20 | 1 | (E) CONV. OUTLETS | 400 | | | SPARE | 1 | 20 | 26 |
| 27 | 20 | 1 | (E) CONV. OUTLETS | 400 | | 3600 | (E) AC-4 | 3 | 40 | 28 |
| 29 | 20 | 1 | EX FANS 4, 5 | | | 400 | (E) AC-4 | 3 | 40 | 30 |
| 31 | 20 | 1 | CON. OUTLETS | 600 | | 3600 | (E) AC-4 | 3 | 40 | 32 |
| 33 | 20 | 1 | SPARE | | | 2500 | AC-11 | 3 | 30 | 34 |
| 35 | 20 | 1 | SPARE | | | 2500 | AC-11 | 3 | 30 | 36 |
| 37 | 400 | 3 | SUB PNL B1 | 37001 | | 2500 | AC-11 | 3 | 30 | 38 |
| 39 | 400 | 3 | SUB PNL B1 | 29655 | | 400 | ROOF CONV. OUTLETS | 1 | 20 | 40 |
| 41 | 400 | 3 | SUB PNL B1 | 24883 | | | | | | 42 |
| TOTAL | | | | 67721 | 59175 | 54403 | | | | 100 % DIVERSITY |

VOLTS 208 (E) MAX DEMAND FOR PNL B 28988 VA 75 AMPS FROM DEMAND READING
 PHASE 3 (N) PNL B LOAD & PNL B1 DEMAND 100839 VA 280 MOUNTED SURFACE
 WIRE 4 GND MAIN BREAKER 800 LOCATED ELEC. RM
 RATED 800 A MINIMUM AIC 10KA FED FROM MSB

TOTAL DEMAND FOR PANEL B INCLUDES EXISTING DEMAND PLUS NEW LOADS (75+280) AMPS = 355 AMPS

PANEL B1 SEC-1 DIRECTORY

| CIRC NO. | TRIP AMPS | NO. POLE | LOAD SERVED | PHASE LOAD VA | | | LOAD SERVED | NO. POLE | TRIP AMPS | CIRC NO. |
|----------|-----------|----------|------------------|---------------|-------|-------|--------------------|----------|-----------|-----------------|
| | | | | A | B | C | | | | |
| 1 | 40 | 3 | SPARE | 0 | | | SPARE | 3 | 30 | 2 |
| 3 | 40 | 3 | SPARE | 0 | | | SPARE | 3 | 30 | 4 |
| 5 | 40 | 3 | SPARE | 0 | | | SPARE | 3 | 30 | 6 |
| 7 | 60 | 2 | MUA1 | 4300 | | 0 | EF1, EF2, EF3, EF6 | 1 | 20 | 8 |
| 9 | 60 | 2 | MUA1 | 600 | | 4300 | SPARE | 1 | 20 | 10 |
| 11 | 60 | 2 | MUA2 | | | 4300 | EF18 | 1 | 20 | 12 |
| 13 | 60 | 2 | MUA2 | 4300 | | 2300 | EF11 | 1 | 30 | 14 |
| 15 | 40 | 2 | MUA3 | | | 2730 | EF11 | 1 | 30 | 16 |
| 17 | 40 | 2 | MUA3 | | | 2300 | EF 12 | 1 | 30 | 18 |
| 19 | 60 | 2 | MUA4 | 4300 | | 1200 | EF13 | 1 | 20 | 20 |
| 21 | 60 | 2 | MUA4 | 2300 | | | EF14 | 1 | 30 | 22 |
| 23 | 20 | 1 | SPARE | 4300 | | 600 | EF15, EF16 & EF17 | 2 | 20 | 24 |
| 25 | 20 | 1 | SF-3, SF-4, SF-5 | 1200 | | 80 | FC1 | 2 | 20 | 26 |
| 27 | 30 | 1 | SPARE | 80 | | | FC1 | 2 | 20 | 28 |
| 29 | 30 | 1 | SPARE | | | 120 | FC2 | 2 | 20 | 30 |
| 31 | 30 | 3 | AC-9 | 2520 | | 120 | CU1 | 2 | 20 | 32 |
| 33 | 30 | 3 | AC-9 | 866 | | | CU1 | 2 | 20 | 34 |
| 35 | 30 | 3 | AC-9 | 2520 | | 2520 | CU2 | 2 | 20 | 36 |
| 37 | 30 | 3 | AC-10 | 2520 | | 1250 | CU2 | 2 | 20 | 38 |
| 39 | 30 | 3 | AC-10 | 2520 | | 600 | ROOF CONV. OUTLETS | 1 | 20 | 40 |
| 41 | 30 | 3 | AC-10 | | | 2520 | | | | 42 |
| TOTAL | | | | 28536 | 20256 | 16420 | | | | 100 % DIVERSITY |

VOLTS 208 3 PH DEMAND POWER 63212 VA 175 AMPS
 PHASE 3 3 PH CONNECTED LOAD 63212 VA 175 MOUNTED SURFACE
 WIRE 4 GND MAIN BREAKER MLD LOCATED SEE PLAN
 RATED 400 A MINIMUM AIC 10KA FED FROM B

PANEL B1 SEC-2 DIRECTORY

| CIRC NO. | TRIP AMPS | NO. POLE | LOAD SERVED | PHASE LOAD VA | | | LOAD SERVED | NO. POLE | TRIP AMPS | CIRC NO. |
|----------|-----------|----------|------------------------|---------------|-------|-------|---------------------|----------|-----------|----------------|
| | | | | A | B | C | | | | |
| 43 | 20 | 1 | PROOF-HOT CABINET | 1920 | | | CON OUTLETS | 1 | 20 | 44 |
| 45 | 20 | 1 | REFRIG WORK TABLE | 1500 | | | CON OUTLETS | 1 | 20 | 46 |
| 47 | 30 | 3 | STEAMER | 600 | | 2760 | OFFICE | 1 | 20 | 48 |
| 49 | 30 | 3 | STEAMER | 2760 | | 500 | CON OUTLETS | 1 | 20 | 50 |
| 51 | 30 | 3 | STEAMER | 600 | | 2760 | CON OUTLETS | 1 | 20 | 52 |
| 53 | 20 | 1 | RICE MIXER | | | 1000 | LIGHTING | 1 | 20 | 54 |
| 55 | 20 | 1 | GARBAGE DISPOSER | 960 | | 1300 | OUTLETS KIT, OFFICE | 1 | 20 | 56 |
| 57 | 20 | 1 | FRYER | | | 100 | OUTLETS KIT, OFFICE | 1 | 20 | 58 |
| 59 | 20 | 1 | RICE MIXER | | | 960 | LIGHTING | 1 | 20 | 60 |
| 61 | 40 | 3 | DISH WASHER | 3600 | | 600 | PLANETARY MIXER | 1 | 20 | 62 |
| 63 | 40 | 3 | DISH WASHER | 600 | | 3600 | PLANETARY MIXER | 1 | 20 | 64 |
| 65 | 40 | 3 | DISH WASHER | 600 | | 3600 | PLANETARY MIXER | 1 | 20 | 66 |
| 67 | 20 | 1 | AUTO IDL DISPOSER | 960 | | 600 | PLANETARY MIXER | 1 | 20 | 68 |
| 69 | 20 | 1 | HOOD LIGHTS | 600 | | 600 | PLANETARY MIXER | 1 | 20 | 70 |
| 71 | 20 | 1 | HOOD FIRE EXT SYSTEM | | | 200 | PLANETARY MIXER | 1 | 20 | 72 |
| 73 | 30 | 2 | FLOOR TORTILLA MACHINE | 2900 | | 200 | FRYER / HOOD | 1 | 20 | 74 |
| 75 | 30 | 2 | FLOOR TORTILLA MACHINE | 1300 | | | LIGHTING | 1 | 20 | 76 |
| 77 | 20 | 1 | ROOF OUTLETS | | | 600 | EMERGENCY FIXTURES | 1 | 20 | 78 |
| 79 | 20 | 1 | RR'S & LOBBY | 600 | | | SPACE | | | 80 |
| 81 | 20 | 1 | RR'S & LOBBY | | | 600 | SPACE | | | 82 |
| 83 | | | | | | | SPACE | | | 84 |
| TOTAL | | | | 16100 | 14480 | 13020 | | | | 65 % DIVERSITY |

VOLTS 208 3 PH DEMAND POWER 28327 VA 79 AMPS PER NEC 210-88
 PHASE 3 3 PH CONNECTED LOAD 43580 VA 121 MOUNTED SURFACE
 WIRE 4 GND MAIN BREAKER MLD LOCATED SEE PLAN
 RATED 400 A MINIMUM AIC 10KA FED FROM B

REVISIONS BY
 05-24-10 ISSUED SR
 FOR PLAN CHECK

HINDU COMMUNITY and CULTURAL CENTER
 1232 ARROWHEAD AVE. LIVERMORE, CA 94551

ELECTRICAL & PANEL SCHEDULES
 PHASE 1A

DATE 8/12/09
 SCALE: AS NOTED
 DRAWN BY: RL/ssm
 PROJECT: ARROWHEAD

E-4