

SYMBOLS

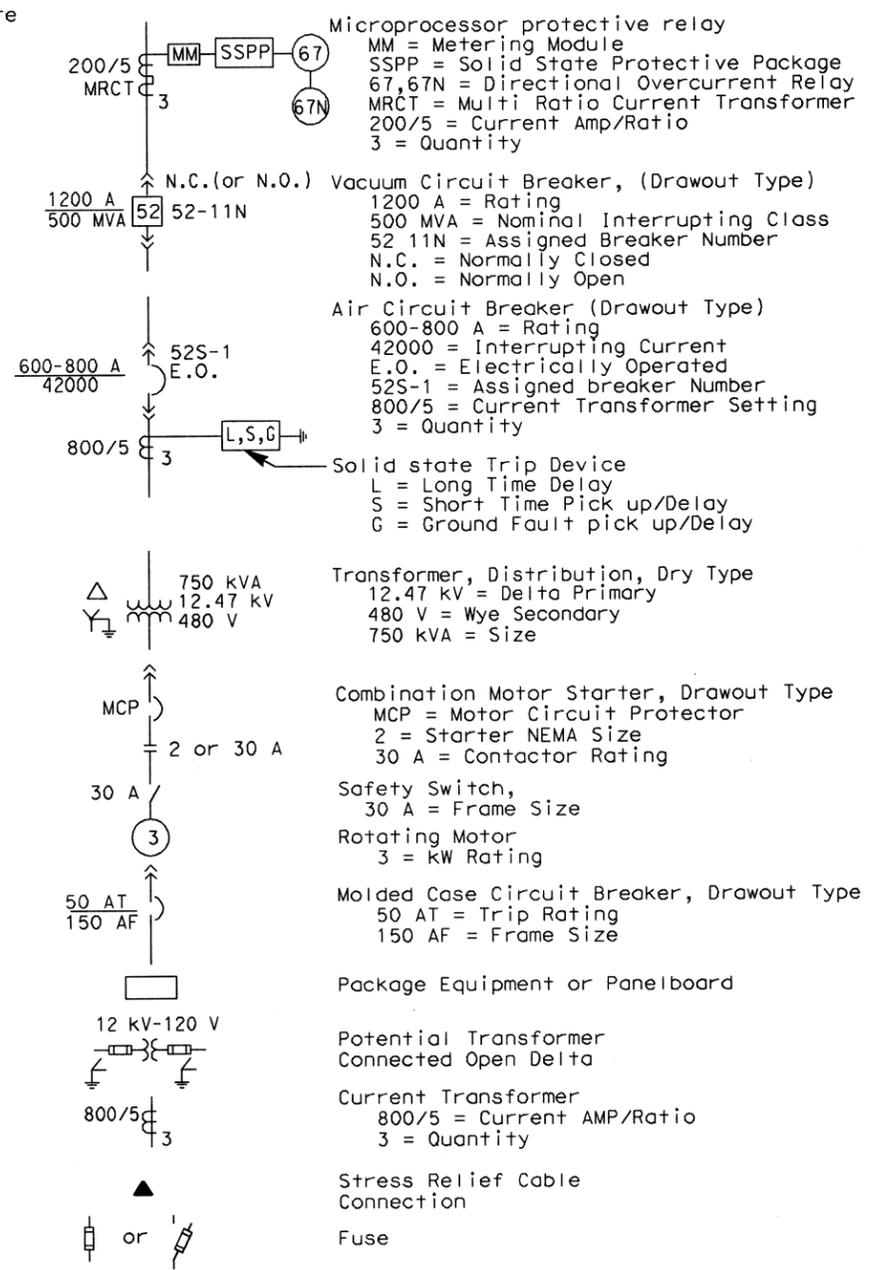
(See ES-1A and ES-1B for Additional Standard Symbols)

LAYOUT PLAN

- Barrier Pull Box, for type and size, see Pull Box Schedule
- PB-2A Pull Box
PB-2A for type and size, see Pull Box Schedule
- Conduit Coupling
- Equipment or Material Designation
A=Sequential description
- Sheet Notes, applicable only to the Drawing
1=Sequential number
- Project Notes, Applicable for all Drawings
1=sequential number
- Junction Box, Conduit Fitting
- Electrical Equipment
or Indicated on Plan Drawings
- Pole Mounted Lighting Fixture- See Lighting Pole Schedule for Type and Quantity
- Fluorescent Lighting Fixture
- Compact Fluorescent Lighting Fixture, Ceiling Mounted or main cable and suspender base metal halide lighting fixture
- Compact Fluorescent Lighting Fixture Wall Mounted
- Soffit Lighting Fixture or tower marker light
- Navigation Channel Marker Light - Green Color
- Navigation Pier Marker Light - Red Color
- Aviation Lighting
- Fog Detector
- Fog Horn
- Pole Flood Light
- Single Receptacle, 20 A, 125 V, Straight blade, with deep single gang weatherproof and threaded cap
- Duplex Receptacle, 125 V, 20 A
MH=450 mm above floor unless noted
GFCI=Ground Fault Circuit Interrupter
WP=Weatherproof
- Single Pole Switch, 120/277 V, 20 A
a - indicates Fixtures controlled
WP - Weatherproof Cover
MH - 1400 mm unless noted
- Three-way switch, 120/277 V, 20 A
a - indicates Fixtures controlled
WP - indicates Weatherproof Cover
MH - 1400 mm unless noted
- Four-way switch, 120/277 V, 20 A
a - indicates Fixtures controlled
WP - indicates Weatherproof Cover
MH - 1400 mm unless noted
- Disconnect Switch
30 A-Frame size
- Conduit turned up
- Conduit turned down
- Conduit or Cable run, exposed
- Conduit run concealed in wall, concrete barrier, slab or routed underground duct bank
- Combination Expansion - Deflection fittings
- Flexible Conduit
- Cable Tray
- Cable Tray
- Cables or Conduit down to Equipment
(see plan for conduit number)

- Call Box, State furnished
- Ground Bare Copper Wire, Stranded
- Cable To Cable Exothermic Type Ground Connections
- Cable Ground Connection to Equipment, Compression Type
- Cable with Pigtail Ground Connections
(see plan for length)
- CCTV Camera (Mounted at Lighting Pole)
- Changeable Message Sign
- Preformed Loops
- Microwave Vehicle Detection Sensor
(Mounted at Lighting Pole)
- Ramp Meter Signal

SINGLE LINE DIAGRAM



- Microprocessor protective relay
MM = Metering Module
SSPP = Solid State Protective Package
67,67N = Directional Overcurrent Relay
MRCT = Multi Ratio Current Transformer
200/5 = Current Amp/Ratio
3 = Quantity
- N.C.(or N.O.) Vacuum Circuit Breaker, (Drawout Type)
1200 A = Rating
500 MVA = Nominal Interrupting Class
52 11N = Assigned Breaker Number
N.C. = Normally Closed
N.O. = Normally Open
- Air Circuit Breaker (Drawout Type)
600-800 A = Rating
42000 = Interrupting Current
E.O. = Electrically Operated
52S-1 = Assigned breaker Number
800/5 = Current Transformer Setting
3 = Quantity
- Solid state Trip Device
L = Long Time Delay
S = Short Time Pick up/Delay
G = Ground Fault pick up/Delay
- Transformer, Distribution, Dry Type
12.47 kV = Delta Primary
480 V = Wye Secondary
750 kVA = Size
- Combination Motor Starter, Drawout Type
MCP = Motor Circuit Protector
2 = Starter NEMA Size
30 A = Contactor Rating
- Safety Switch,
30 A = Frame Size
- Rotating Motor
3 = kW Rating
- Molded Case Circuit Breaker, Drawout Type
50 AT = Trip Rating
150 AF = Frame Size
- Package Equipment or Panelboard
- Potential Transformer
Connected Open Delta
- Current Transformer
800/5 = Current AMP/Ratio
3 = Quantity
- Stress Relief Cable Connection
- Fuse



REQUEST FOR INFORMATION NOT ADDRESSED IN THIS CCO REMAIN IN FORCE						
△	02/19/08	ELECTRICAL MODIFICATIONS	MP	EL	RR	42
MARK	DATE	DESCRIPTIONS	BY	CH'D	CCO#	
REVISIONS						

CONTRACT CHANGE ORDER NO. _____
 SHEET _____ OF _____

ELEMENTARY/CONNECTION DIAGRAMS

- Signal Cable with Shield
- Contact, Normally open
- Contact, Normally Closed
- Relay, Mechanical
M = Motor
C = Contactor
42 = Running Circuit Breaker
X or Y = Auxiliary
R = Industrial
TD = Time Delay
PEC = Photo Electric Control
- Motor Starter Overload Relay Thermal Bimetallic Element
(OL-Overload)
- ON/OFF Switch
- DC Batteries
- AC/DC Inverter
(Battery Charger/Rectifier)
- End Resistor and Capacitor
- Photoelectric Sensor
- Communication Cable Noise Suppressor
- Terminal Block
- Duplex Receptacle
- Cabinet Fluorescent Light

DEVICE NUMBER DEFINITIONS

- 27B 12.47 kV Bus Undervoltage Relay
- 27D DC Undervoltage Relay
- 27F Feeder Undervoltage Relay
- 27UV 480 V Bus Undervoltage Relay
- 42 Running Circuit Breaker
- 43/R Manual Transfer / Remote
- 43/L Manual Transfer / Local
- 49 Thermal Relay
- 50 Instantaneous Overcurrent Relay
- 51 AC Time Overcurrent Relay
- 51/51N Phase and Ground Fault Time Overcurrent Relay
- 52 AC Circuit Breaker
- 67 AC Directional Overcurrent Relay
- 67N AC Directional Ground Overcurrent Relay
- 86 Lock-Out Relay
- 88 Auxiliary Motor

ELECTRICAL SYMBOLS

NO SCALE

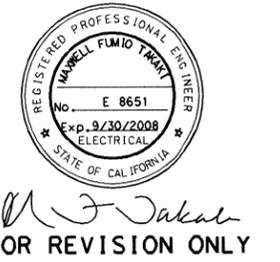
12/19/02
 REGISTERED ELECTRICAL ENGINEER DATE

12-6-04
 PLANS APPROVAL DATE

PB POWER, Inc.
 A Parsons Brinckerhoff Company
 303 Second St., Suite 700N
 San Francisco, CA 94107-1317

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

Caltrans now has a web site! To get to the web site, go to <http://www.ddt.ca.gov>



FOR REVISION ONLY