FOR PLAN VIEW ONLY

- SURFACE, RECESSED OR PENDANT MOUNTED INCANDESCENT OR MERCURY VAPOR LIGHTING FIXTURE
- SURFACE, RECESSED OR PENDANT MOUNTED FLUORESCENT LIGHTING FIXTURE
- WALL MOUNTED INCANDESCENT OR MERCURY VAPOR LIGHTING FIXTURE
- POLE MOUNTED TANK-TOP OR WALKWAY LIGHTING UNIT
- ROADWAY LIGHTING UNIT
- FLOODLIGHT
- WALL MOUNTED EXIT LIGHT
- CEILING MOUNTED LIGHT

LETTER "A" DENOTES AS NOTED IN FIXTURE SCHEDULE. "3" DENOTES PANELBOARD BRANCH CIRCUIT NO. 3. "a" DENOTES CONTROLLED BY LOCAL SWITCH "a".

- BATTERY OPERATED AUXILIARY LIGHTING. UNIT MOUNT 7'-6" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED.
- REMOTE MOUNTED AUXILIARY LIGHTING HEAD. MOUNT 7'-6" ABOVE FINISHED FLOOR,, UNLESS OTHERWISE NOTED.
- Sa — LOCAL SWITCH, SINGLE POLE, CONTROLS FIXTURES MARKED "a"
- S2b — LOCAL SWITCH, DOUBLE POLE, CONTROLS FIXTURES MARKED "b"
- S3c — LOCAL SWITCH, THREE-WAY, CONTROLS FIXTURES MARKED "c"
- S4d — LOCAL SWITCH, FOUR-WAY, CONTROLS FIXTURES MARKED "d"
- DUPLEX RECEPTACLE (GROUNDED TYPE), 120 VOLT W = WATERTIGHT
- SINGLE RECEPTACLE (GROUNDED TYPE), 120 VOLT W = WATERTIGHT, XP = EXPLOSIONPROOF
- SPECIAL PURPOSE RECEPTACLE, TYPE AND SIZE AS INDICATED ON PLAN
- FLOOR MOUNTED RECEPTACLE
- DENOTES DEVICE OR EQUIPMENT - FLUSH MOUNTED
- DENOTES DEVICE OR EQUIPMENT - SURFACE MOUNTED
- 8" — CLOCK AND RECEPTACLE, MOUNTED 7'-6" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED. NUMERAL INDICATES CLOCK FACE DIAMETER.
- MANUAL MOTOR STARTER
- MAGNETIC MOTOR STARTER
- MAGNETIC CONTACTOR
- DISCONNECT SWITCH
- WALL MOUNTED THERMOSTAT - MOUNTED 5'-0" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED
- PANELBOARD
- POWER DISTRIBUTION PANEL
- UNIT HEATER - FOR HORSEPOWER RATING SEE SCHEDULE
- MOTOR - FOR HORSEPOWER RATING SEE PANELBOARD SCHEDULE OR SINGLE LINE DIAGRAM
- D = DAMPER MOTOR, CP = CIRCULATING PUMP, HE = HEAT EXCHANGER, MV = MOTORIZE VALVE
- EUH — ELECTRIC UNIT HEATER FOR KW RATING SEE SCHEDULE
- JUNCTION BOX
- XP — DENOTES EXPLOSIONPROOF EQUIPMENT
- WP — DENOTES WEATHERPROOF EQUIPMENT
- EXPLOSIONPROOF SEALING FITTING
- 19/25 — NO. 12 AWG WIRE; 19-STRANDS OF NO. 25 AWG
- CONDUIT RUNS CONCEALED IN FLOOR, WALLS AND/OR 3" CONCRETE ENVELOPE.
- CONDUIT RUNS CONCEALED ABOVE HUNG CEILINGS
- CONDUIT RUNS EXPOSED
- CONDUIT TURNING UP OR TOWARD OBSERVER
- CONDUIT TURNING DOWN OR AWAY FROM OBSERVER
- DIRECT BURIAL CABLE

FOR PLAN VIEW ONLY (CONT.)

- G — GROUNDING CABLE
- T — CONDUIT FOR TELEPHONE SYSTEM
- P-2,4 — HOME-RUN TO PANEL - LETTER DENOTES PANEL. FOR MORE THAN TWO WIRES DIAGONAL LINES INDICATE NUMBER OF WIRES IN CONDUIT, NUMERALS DENOTE CIRCUITS, ARROWS INDICATE NUMBER OF CIRCUITS
- TELEPHONE TERMINAL CABINET
- OUTSIDE TELEPHONE
- V — RATE OF FLOW CONTROLLER
- FT — RATE OF FLOW TRANSMITTER
- DENOTES SECTION NO. OR DETAIL LETTER / DENOTES SHEET NO. ON WHICH SECTION OR DETAIL IS EITHER SHOWN AND/OR TAKEN
- C-506 — CONDUIT AND WIRE NUMBER - SEE SCHEDULE
- SV — SOLENOID VALVE
- CWS — CONDUIT WALL ENTRANCE SEAL
- A.F.F. — ABOVE FINISHED FLOOR
- H.P. FL EL. — HIGH POINT FLOOR ELEVATION
- EWC — ELECTRIC WATER COOLER
- GROUND ROD

LIGHTING FIXTURE SCHEDULE

	ROOM	FIXT. TYPE	MOUNTING & HEIGHT	LAMP TYPE SIZE & QUAN.	DETAIL NO.
OPERATIONS BUILDING	PUMP ROOM	DN2	WALL 10'-0"	1-175W MERC. VAPOR	16-8.12.3
	COMMINUTOR ROOM	AC2	WALL 10'-0"	1-200W INCAND.EXP.PROOF	16-8.3.3
	CHEMICAL STORAGE & MOTOR ROOM	DN1 BM1	WALL* PEND 10'-0"	1-100W MERCURY VAPOR 2-40W FLUOR.	16-8.12.3 16-8.7.1
	LOBBY	AU1 CJ3	WALL * RECESSED	1-150W INCAND.PAR 38 FLOOD 2-40W FLUOR.	16-8.14.2 16-8.10.1
	CORRIDOR NO. 1	CJ3	RECESSED	2-40W FLUOR.	16-8.10.1
	SUPERINTENDENT'S OFF.	CJ4	RECESSED	4-40W FLUOR.	16-8.10.1
	SECRETARY'S OFFICE	CJ4	RECESSED	4-40W FLUOR.	16-8.10.1
	CONFERENCE ROOM	CJ4	RECESSED	4-40W FLUOR.	16-8.10.1
	GENERAL OFFICE	CJ4	RECESSED	4-40W FLUOR.	16-8.10.1
	ELECTRICAL ROOM	CB1	SURFACE	2-40W FLUOR.	16-8.9.2
	LABORATORY	CJ4	RECESSED	4-40W FLUOR.	16-8.10.1
	STORAGE ROOM NO. 1	CB1	SURFACE	2-40W FLUOR.	16-8.9.2
	CORRIDORS NO. 2 & NO.3	CB1	SURFACE	2-40W FLUOR.	16-8.9.2
	LIME STORAGE ROOM	BM1▲	PEND 10'-0"	2-40W FLUOR.VAPOR TIGHT	16-8.7.1
	CHLORINATOR & SO_2 ROOM	BM1▲	PEND 10'-0"	2-40W FLUOR.VAPOR TIGHT	16-8.7.1
	CHLORINE SCALE ROOM	BM1▲	PEND 10'-0"	2-40W FLUOR.VAPOR TIGHT	16-8.7.1
	LUNCH ROOM	CJ3	RECESSED	2-40W FLUOR.	16-8.10.1
	BOILER ROOM	BA1	PEND 10'-0"	2-40W FLUOR.	16-8.6.1
	JANITORS ROOM NO. 1	BA1	PEND. 9'-0"	2-40W FLUOR.	16-8.6.1
	WOMENS' TOILET ROOM	CB1	SURFACE	2-40W FLUOR.	16-8.9.2
	MENS' TOILET ROOM	CB1	SURFACE	2-40W FLUOR.	16-8.9.2
	GARAGE & MAINT. AREA	BA1	PEND 12'-0"	2-40W FLUOR.	16-8.6.1
	TRUCKWAY	BA1	PEND 12'-0"	2-40W FLUOR.	16-8.6.1
	STAIR NO.1, NO.2 & NO.3	CA CD3	* *	1-40W FLUOR. 2-40W FLUOR.	16-8.9.1 16-8.9.4
	STAIR NO. 4 (COMM,ACCESS)	AB1	PEND 10'-0"	1-100W INCAND.EXP.PROOF	16-8.3.2
	MECHANICAL ROOMS NO.1 & NO. 2	BA1	PEND 12'-0"	2-40W FLUOR.	16-8.6.1
	FILTER AREA	BA1	PEND 12'-0"	2-40W FLUOR.	16-8.6.1
	JANITORS ROOM NO. 2	BA1	PEND 12'-0"	2-40W FLUOR.	16-8.6.1
	STORAGE ROOM NO. 2	BA1	PEND 12'-0"	2-40W FLUOR.	16-8.6.1
	VACUUM ROOM	BM1	PEND 12'-0"	2-40W FLUOR.	16-8.7.1
STAIR BLDG. & PP GALLERIES	BLOWER ROOM	DL2	PEND 9'-0"	1-175W MERC. VAPOR	16-8.12.1
	PUMP GALLERIES	DL2	PEND 9'-0"	1-175W MERC. VAPOR	16-8.12.1
	GENERATOR ROOM	BA1	PEND 9'-0"	2-40W FLUOR.	16-8.6.1
	STAIR NO. 5	DL2	PEND 9'-0"	1-175W MERC. VAPOR	16-8.12.1
	MCC ROOM	BA1	PEND 9'-0"	2-40W FLUOR.	16-8.6.1
	STAIR NO. 6	DL2 EL1	PEND 9'-0" WALL 8'-0"	1-175W MERC. VAPOR 1-100W MERC. VAPOR	16-8.12.1 16-8.14.1
OUTDOOR	WALKWAY LIGHTING	HL1	*	1-100W MERC. VAPOR	16-8.17.1
	FLOODLIGHTS	KB1 KC2	* *	1-150W INCAND. 2-150W INCAND.	16-8.19.2 16-8.20.1
	ROADWAY LIGHTING	AX JD2	SINGLE ARM	— 1-100W MERC. VAPOR	16-8.22 16-8.18.4
	OUTDOOR LIGHTING	EL1 Y1	* *	1-100W MERC. VAPOR 1-200W INCAND.	16-8.14.1 16-8.2.5
	AUXILIARY LIGHTING UNIT	FA	WALL MOUNTED	12 VOLT,	16-8.15.1
	EXIT LIGHTING	CE2 CF2	WALL SURFACE	—	16-8.9.5 16-8.9.6

▲INDICATES FINISH TO BE POLYVINYLCHLORIDE.
*MOUNTING HEIGHT AS SHOWN ON PLANS.

ELECTRICAL SYMBOLS

FOR SINGLE LINE DIAGRAM AND/OR PLAN VIEW

CONTROL DEVICES

SS	START-STOP PUSHBUTTON, MOMENTARY-CONTACT TYPE
SSL	START-STOP PUSHBUTTON, MOMENTARY-CONTACT TYPE WITH LOCKOUT LATCH
SSI	START-STOP PUSHBUTTON, MOMENTARY-CONTACT TYPE WITH RED AND GREEN INDICATING LIGHTS
S_RS_G	ILLUMINATED PUSHBUTTON, START-STOP, MOMENTARY-CONTACT TYPE; RED AND GREEN INDICATION
OSC	OPEN-STOP-CLOSE PUSHBUTTON
SSM	START-STOP PUGHBUTTON, MAINTAINING-CONTACT TYPE
ES	EMERGENCY STOP SWITCH
FS	FLOAT SWITCH
TS	TIME SWITCH
LS	LIMIT SWITCH
PS	PRESSURE SWITCH
VS	VOLTMETER SWITCH
AS	AMMETER SWITCH
TQ	TORQUE SWITCH
HOA	HAND-OFF-AUTOMATIC SWITCH
EUH	ELECTRIC UNIT HEATER
SQ	SEQUENCE SELECTOR SWITCH
SEL	SELECTOR SWITCH
FOH	FAN-OFF-HEATER SWITCH
L-O-A	LOCAL-OFF-AUTO SWITCH
AQ	AQUASTAT
H	HUMIDISTAT
FT	FLOW TRANSMITTER
SI	SPEED INDICATOR
PC	PUMP CONTROLLER
SV	SOLENOID VALVE
MV	MOTORIZED VALVE
T	THERMOSTAT
MCC	MOTOR CONTROL CENTER
WL	WATER LEVEL SWITCH
BTD	BEARING TEMPERATURE DETECTOR
VPS	VACUUM PRESSURE SWITCH
LC	LEVEL CONTROLLER
PM	PILOT MOTOR
TG	TACHOMETER GENERATOR
HWT	HIGH WATER TEMPERATURE SWITCH
T/C	THERMOCOUPLE
AFS	AIR FLOW SWITCH
AN	ANNUNCIATOR
HLS	HIGH LEVEL SHUT DOWN
LLS	LOW LEVEL SHUT DOWN
MTP	BUILT-IN MOTOR THERMAL PROTECTOR
CR	CONTROL RELAY
RT	RUNNING TIME METER
B-PB	BY-PASS PUSHBUTTON MOMENTARY
T-L-O-A	TIMER-LOCAL-OFF-AUTO SWITCH
S-O-F	SLOW-OFF-FAST SWITCH
TD	TIME DELAY RELAY
HE	HEAT EXCHANGER
TM	TIMING MOTOR
HTR	HEATER
OSC	OPEN-STOP-CLOSE

FOR SINGLE LINE DIAGRAMS

- SS 1200/1200 — MOLDED CASE CIRCUIT BREAKER SOLID STATE CONSTRUCTION, MANUALLY OPERATED, ADJUSTABLE CONTINUOUS AND INSTANTANEOUS AMPS WITH SELECTIVE GROUND FAULT PROTECTION, UPPER NUMERAL INDICATES FRAME SIZE, LOWER NUMERAL INDICATES MAXIMUM CONTINUOUS AMPERE SETTING.
- 600/600 — MOLDED CASE CIRCUIT BREAKER, THERMAL MAGNETIC TRIP, 3-POLE UNLESS OTHERWISE NOTED. UPPER NUMERAL INDICATES FRAME SIZE. LOWER NUMERAL INDICATES FUSE RATING.
- 100 — UNFUSED DISCONNECT SWITCH. NUMERAL DENOTES FRAME SIZE.
- 100/CLF — FUSED DISCONNECT SWITCH, 3-POLE UNLESS OTHERWISE NOTED. UPPER NUMERAL INDICATES FRAME SIZE. LOWER NUMERAL INDICATES CURRENT LIMITING FUSE RATING.
- 2 PT — PT = POTENTIAL TRANSFORMER, NUMERAL DENOTES QUANTITY
  CPT = CONTROL POWER TRANSFORMER, NUMERAL DENOTES QUANTITY, STATIONARY TYPE WITH FUSE
- 3 — CT = CURRENT TRANSFORMER, NUMERAL DENOTES QUANTITY
- TRANSFORMER, SIZE AS NOTED ON DRAWING
- FVNR 1a 1b 2 — MAGNETIC STARTER:
  - MHC = MECHANICALLY HELD CONTACTOR AND RELAY
  - FVNR = FULL VOLTAGE, NON-REVERSING
  - FVR = FULL VOLTAGE, REVERSING
  - FVTS = FULL VOLTAGE TWO SPEED
  - RVNR = REDUCED VOLTAGE, NON-REVERSING AUTO TRANSFORMER TYPE
  - C = MAGNETIC CONTACTOR (WITHOUT OL.)
  - AUXILIARY CONTACTS: 1a = ONE NORMALLY OPEN; 1b = ONE NORMALLY CLOSED
  - NUMERAL INDICATES NEMA SIZE
- 5 — SQUIRREL CAGE INDUCTION MOTOR. NUMERAL DENOTES HORSEPOWER
- 30 — WOUND ROTOR INDUCTION MOTOR. NUMERAL DENOTES HORSEPOWER.
- LIQUID RHEOSTAT
- A — A = A.C. AMMETER; V = A.C. VOLTMETER; W = A.C. WATTMETER; WH = WATTHOUR METER; RT = RUNNING TIME METER; SI = SPEED INDICATOR; TG = TACHOMETER GENERATOR; VR = VOLTAGE REGULATOR
- FUSE
- 15KW — ELECTRIC HEATER - KW RATING AS NOTED
- R OR R — INDICATING LIGHTS: R = RED, B = BLUE, G = GREEN, A = AMBER, W = WHITE
- VS — VS = VOLTMETER SELECTOR SWITCH
- AS = AMMETER SELECTOR SWITCH
- — E — ELECTRICAL INTERLOCK
- — K — MECHANICAL INTERLOCK
- N.O. — NORMALLY OPEN (DEENERGIZED POSITION)
- N.C. — NORMALLY CLOSED (DEENERGIZED POSITION)
- CPT — CONTROL POWER TRANSFORMER
- ATS — AUTOMATIC TRANSFER SWITCH INTERLOCK

GENERAL NOTES

1. ALL CONDUIT AND EQUIPMENT SHALL BE INSTALLED AND GROUNDED IN ACCORDANCE WITH THE LATEST RULES AND REGULATIONS OF THE NATIONAL ELECTRICAL CODE, WITH THE REQUIREMENTS OF THE TOWN OF BURRILLVILLE, RHODE ISLAND, AND THE BLACKSTONE VALLEY ELECTRIC COMPANY.
2. CONDUIT RUNS ARE SHOWN DIAGRAMMATICALLY ONLY AND SHALL BE INSTALLED IN A MANNER TO PREVENT CONFLICTS WITH EQUIPMENT AND STRUCTURAL CONDITIONS. EXPOSED CONDUITS SHALL BE INSTALLED PARALLEL TO BEAMS AND WALLS.
3. CONDUITS SHALL BE TERMINATED SO AS TO PERMIT NEAT CONNECTIONS TO MOTORS AND OTHER EQUIPMENT.
4. NO CONDUIT SMALLER THAN 3/4" IRON PIPE SIZE NOR WIRE SMALLER THAN NO. 12 A.W.G. SHALL BE USED UNLESS OTHERWISE NOTED.
5. THE WIRING DIAGRAMS, QUANTITY AND SIZE OF WIRES AND CONDUIT REPRESENT A SUGGESTED ARRANGEMENT BASED UPON SELECTED STANDARD COMPONENTS OF ELECTRICAL EQUIPMENT. MODIFICATIONS APPROVED BY THE ENGINEER MAY BE MADE BY THE CONTRACTOR TO ACCOMMODATE EQUIPMENT ACTUALLY PURCHASED. THE BASIC SEQUENCE AND METHOD OF CONTROL MUST BE MAINTAINED AS INDICATED ON THE DRAWINGS AND SPECIFICATIONS.
6. SWITCHES SHALL BE MOUNTED 4'-6" ABOVE FINISHED FLOOR, UNLESS OTHERWISE NOTED. RECEPTACLES SHALL BE MOUNTED 4'-0" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED, EXCEPT RECEPTACLES IN OFFICES OR AREAS WITH HUNG CEILINGS SHALL BE MOUNTED 1'-6" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED.
7. ALL SURFACE MOUNTED PANELS AND PANELBOARDS IN LOCATIONS CONSIDERED AS DAMP, SHALL BE MOUNTED TO MAINTAIN A 1/4" AIR SPACE BETWEEN THE ENCLOSURE AND THE WALL.
8. ALL PANELBOARDS SHALL BE MOUNTED SO THAT THE DISTANCE FROM THE TOP CIRCUIT BREAKER OPERATING HANDLE TO THE FLOOR SHALL NOT EXCEED 6'-6".
9. AT THE FOLLOWING LOCATIONS, UNLESS OTHERWISE NOTED, PULL, JUNCTION, TERMINAL, SWITCH, AND OUTLET BOXES SHALL BE CAST IRON WHERE STEEL CONDUIT IS TERMINATED.
   a. AT LOCATIONS WHERE VAPORTIGHT LIGHTING FIXTURES AND/OR WATERTIGHT RECEPTACLES ARE INDICATED.
   b. AT ALL INDOOR LOCATIONS EXCEPT IN DRY CONCEALED ACCESSIBLE LOCATIONS.
   c. OUTDOORS, ALL EXPOSED OUTDOOR CONDUIT, CONDUIT RACKS, CONDUIT FITTINGS AND CLAMPS SHALL BE POLYVINYL COATED. FASTENERS SHALL BE STAINLESS STEEL.
10. NOTE FOR HAZARDOUS LOCATIONS ONLY. ALL ELECTRICAL EQUIPMENT INCLUDING CONDUIT AND FITTINGS SHALL COMPLY WITH THE LATEST REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE FOR HAZARDOUS LOCATIONS, CLASS 1, DIVISION 1, GROUP D.
11. LIGHTING FIXTURES SHALL BE MOUNTED ACCORDING TO THE MOUNTING HEIGHT SCHEDULES, WITH THE DISTANCE BEING MEASURED FROM THE BOTTOM OF THE LIGHTING FIXTURE TO THE FINISHED FLOOR.
12. NAMEPLATES SHALL CONFORM STRICTLY TO INSTRUCTIONS AS SPECIFIED IN THE ELECTRICAL SPECIFICATIONS AND ON THE DRAWINGS. THE FOLLOWING SHALL HAVE NAMEPLATES:
    a. ALL MAIN BREAKERS OR SWITCHES
    b. ALL COMPARTMENTS OF MOTOR CONTROL CENTERS EXCLUDING UNUSED COMPARTMENTS.
    c. ALL LOCAL CONTROL STATIONS AT OR NEAR EQUIPMENT.
    d. ALL PANELBOARDS.
13. THE CONTRACTOR'S ATTENTION IS DIRECTED TO "DETAILS AND SCHEDULES VOLUME II" OF THE SPECIFICATIONS WHICH ARE PART OF THE CONTRACT DRAWINGS. MANY OF THE DETAILS AND/OR SCHEDULES REFERRED TO ON THESE DRAWINGS MAY BE FOUND THEREIN.

RECORD DRAWING

NUMBER	DATE	MADE BY	CHECKED BY	DESCRIPTION

REVISIONS

DRAWN BY D. Walker
DEPT. CHECK H.F. Benedetti
PROJ. CHECK R.J. Marshall

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METCALF & EDDY, INC. / ENGINEERS
BOSTON / NEW YORK / PALO ALTO / CHICAGO

David W. Paulson — REG. PROF. ENGR. MASS. NO. 18107 — 6/7/77 DATE
Michael E. Grilli — REG. PROF. ENGR. R.I. NO. 3620 — 6-27-77 DATE

SCALE: NONE
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TOWN OF BURRILLVILLE, RHODE ISLAND
BOARD OF SEWER COMMISSIONERS
WASTEWATER TREATMENT FACILITIES
SYMBOLS AND GENERAL NOTES
ELECTRICAL

JOB 4868
FILE NO. H-69048-1
SHEET E-1

MAKEPEACE P-1457