

LIGHTING MOUNTING AS NOTED

SYMBOL	DESCRIPTION
	CEILING MOUNTED FLUORESCENT FIXTURE; LETTER INSIDE OR BESIDE DENOTES FIXTURE TYPE
	CEILING MOUNTED FLUORESCENT LIGHTING FIXTURE, WIRED FOR NORMAL/STANDBY POWER OPERATION; LETTER INSIDE OR BESIDE DENOTES FIXTURE TYPE
	WALL MOUNTED FLUORESCENT FIXTURE
	CEILING MOUNTED INCANDESCENT OR H.I.D. FIXTURE
	WALL MOUNTED INCANDESCENT OR H.I.D. FIXTURE
	POLE STANDARD LIGHT FIXTURE UNIT - SINGLE ARM
	POLE STANDARD LIGHT FIXTURE UNIT - DOUBLE ARM
	POLE LANTERN TYPE LIGHT FIXTURE UNIT
	EXIT SIGN
	EXIT SIGN (DOUBLE FACE)
	EXIT SIGN WITH DIRECTIONAL ARROW
	EMERGENCY BATTERY PACK UNIT
	REMOTE HEAD FOR EMERGENCY BATTERY PACK UNIT

SWITCHING

SYMBOL	MOUNTING	DESCRIPTION
S	48" AFF	SWITCH, SINGLE POLE
S ₂	48" AFF	SWITCH, DPDT
S	48" AFF	SWITCH, 3-WAY
S ₄	48" AFF	SWITCH, 4-WAY
S _{DM}	48" AFF	SWITCH, DIMMER
S	48" AFF	SWITCH WITH PILOT LIGHT
S ₁	48" AFF	SWITCH, MANUAL MOTOR STARTER, RATING AND THERMAL OVERLOADS TO MATCH MOTOR NAME PLATE DATA
S _{MI}	48" AFF	SWITCH, MANUAL MOTOR STARTER WITH IVORY, ILLUMINATED HANDLE
S _{PL}	48" AFF	SWITCH, MANUAL MOTOR STARTER WITH PILOT LIGHT
S	48" AFF	MANUAL MOTOR STARTER SWITCH FRACTIONAL HORSEPOWER
	AS NOTED	PHOTOELECTRIC CONTROL
R1	48" AFF	LIGHTING CONTACTOR
		DESIGNATION
		LIGHTING CONTACTOR REMOTE PUSH-BUTTON "ON-OFF" CONTROL
		REPRESENTS LIGHTING CONTACTOR BEING CONTROLLED
DS	AS NOTED	DOOR SWITCH
MC	AS NOTED	MOTION CONTROL
M	CEILING	MOTION SENSOR
OS	CEILING	OCCUPATION SENSOR

INTRUSION ALARM SYSTEM

SYMBOL	MOUNTING	DESCRIPTION
D	AS NOTED	INTRUSION ALARM MAGNETIC DOOR CONTACTS
K	48" AFF	INTRUSION ALARM KEY PAD
M	AS NOTED	INTRUSION ALARM MOTION DETECTOR
D _{EXP}	AS NOTED	INTRUSION ALARM MAGNETIC DOOR CONTACTS, EXPLOSION PROOF
	AS NOTED	INTRUSION ALARM BELL
IACP	48" AFF	INTRUSION ALARM CONTROL PANEL

TELECOMMUNICATION

SYMBOL	MOUNTING	DESCRIPTION
AD	AS NOTED	AUTO DIALER
	36" AFF	PHONE PORT (# = NUMBER OF VOICE PORTS)
	36" AFF	DATA PORT (# = NUMBER OF DATA PORTS)
	36" AFF	COMBINATION DATA/PHONE PORT (# = NUMBER OF DATA PORTS/VOICE PORTS)
	FLOOR	PHONE PORT- FLOOR BOX-FLUSH (# = NUMBER OF DATA PORTS/VOICE PORTS)

PANELBOARDS

SYMBOL	MOUNTING	DESCRIPTION
	TOP BREAKER 6'-0" AFF	NEW PANELBOARD - SURFACE MOUNTED
	TOP BREAKER 6'-0" AFF	NEW PANELBOARD - FLUSH MOUNTED
	---	EXISTING PANELBOARD - SURFACE MOUNTED
	---	EXISTING PANELBOARD - FLUSH MOUNTED

POWER

SYMBOL	MOUNTING	DESCRIPTION
	36" AFF	DUPLEX RECEPTACLE, 20A RATED FOOTNOTE DELINEATES SPECIFIC DEVICE
		DENOTES MOUNTED 6" ABOVE COUNTERTOP REQUIREMENT - SEE ABBREVIATIONS
	36" AFF	SPECIAL PURPOSE OUTLET (SIZE INDICATED ON PLANS)
	36" AFF	SINGLE RECEPTACLE, 20A RATED
	36" AFF	DUPLEX RECEPTACLE-FLUSH-WITH GROUND FAULT CIRCUIT INTERRUPTER
	36" AFF	DOUBLE DUPLEX RECEPTACLE, 20A RATED
	18" AFF	DUPLEX RECEPTACLE-FLUSH - SURGE-PROTECTIVE DEVICE (SPD)
	FLOOR	DUPLEX RECEPTACLE- FLOOR BOX-FLUSH
	FLOOR	DUPLEX RECEPTACLE- FLOOR BOX-FLUSH - SURGE-PROTECTIVE DEVICE (SPD)
	FLOOR	COMBINATION DUPLEX RECEPTACLE (SPD)/VOICE OUTLET PORT- (# DESIGNATES NUMBER OF VOICE PORTS) - FLOOR BOX-FLUSH
	48" AFF	COMBINATION DISCONNECT SWITCH/MOTOR STARTER DESIGNATION
	AS NOTED	MOTOR (HORSEPOWER INDICATED ON PLANS)
	AS NOTED	JUNCTION BOX
	T-1	TRANSFORMER DESIGNATION
	AS NOTED	CIRCUIT MONITOR
	AS NOTED	VOLTAGE REGULATOR
	AS NOTED	SURGE-PROTECTIVE DEVICE
	48" AFF	EMERGENCY POWER SHUT-OFF SWITCH
	48" AFF	LOCKABLE ON-OFF-AUTO SELECTOR SWITCH W/RED INDICATOR LIGHT
	48" AFF	DISCONNECT SWITCH DESIGNATION
	480V	TRANSFORMER
	50KVA	SIZE
	120V	VOLTAGES
		SHIELDED ISOLATION TYPE TRANSFORMER

TYPICAL ANNOTATION

	1	DRAWING KEYNOTE
	1	DEMOLITION KEYNOTE
		REVISION TAG
		REVISION CLOUD
	AAA###	INSTRUMENTATION TAG
	CGMDP-701	PROCESS EQUIPMENT TAG
	SF HW1	HVAC EQUIPMENT TAG
	4X	AREA NEMA DESIGNATION TAG

PROCESS & INSTRUMENTATION LEGEND

CIRCUIT TAG DESCRIPTIONS:

SBRCP300-15: 8 (4) #14 3/4"

Panel Circuit Number in Panel Conduit Size Size of Conductors

of Spare Conductors # of Active Conductors

ADD FOR TOTAL # OF CONDUCTORS (EX. 8 + 4 = 12 TOTAL CONDUCTORS)

SAFETY SWITCH DESIGNATOR

240/30/3/15 D.E./1

VOLTAGE AMPERAGE #POLES FUSE SIZE AND TYPE NF-NON-FUSED NEMA RATING

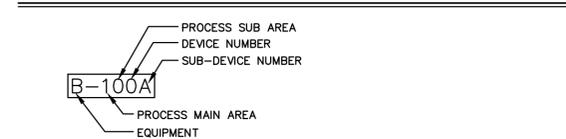
SAFETY SWITCH

NOTES:
1. INSTALL ALL FUSES SO THAT LABELS ARE RIGHT-SIDE UP AND FACING OUTWARD.
2. INSTALL OXIDATION INHIBITING COMPOUND SUCH AS PENETROX IN ALL FUSE CLIPS OF SAFETY SWITCHES LOCATED OUTDOORS OR IN WET ENVIRONMENTS.

CONDUIT FEEDERS AND BRANCH CIRCUITS

SYMBOL	DESCRIPTION
	OVERHEAD ELECTRIC SERVICE
	OVERHEAD PRIMARY ELECTRIC SERVICE
	OVERHEAD SECONDARY ELECTRIC SERVICE
	OVERHEAD TELEPHONE SERVICE
	OVERHEAD FIBER OPTIC
	OVERHEAD TELEVISION SERVICE
	CONDUIT - EMBEDDED IN FLOOR OR EARTH
	UNDERGROUND ELECTRIC SERVICE
	UNDERGROUND PRIMARY ELECTRIC SERVICE
	UNDERGROUND SECONDARY ELECTRIC SERVICE
	UNDERGROUND TELEPHONE SERVICE
	UNDERGROUND FIBER OPTIC
	UNDERGROUND TELEVISION SERVICE
	CONDUIT - IN WALL, CEILING OR EXPOSED
	CONDUIT WITH IDENTIFIER
	CONDUIT TURNED UP
	CONDUIT TURNED DOWN
	CONDUIT CAPPED
	BRANCH CIRCUIT WIRING
	CIRCUIT HOME RUN
	IN-LINE HOME RUN
	CIRCUIT NUMBER
	EMERGENCY ONLY CIRCUIT
	NORMAL EMERGENCY CIRCUIT
	DEVICES ON SAME CIRCUIT, SEPARATELY CONTROLLED
	ELECTRIC FEEDER LEGEND INDICATION

PROCESS EQUIPMENT TAGGING



EQUIPMENT:

A	AUGER	G	GRINDER
AC	AIR COMPRESSOR	ICS	INDENTED CYLINDER SEPARATOR
ASC	AIR SCREEN CLEANER	MX	MIXER
B	BLOWER	P	PUMP
C	CONVEYOR	PR	PRESS
CFD	CHEMICAL FEEDER	S	SAMPLER
CP	CONTROL PANEL	SC	SCREEN
D	DRIVER	SV	SOLENOID VALVE
DPC	DEFINITE PURPOSE CONTACTOR	T	TANK
E	ELEVATOR	V	VALVE
EX	EXPELLER	ZS	POSITION SWITCH

INSTRUMENT & FUNCTION TAGGING

LLL = FUNCTIONAL INSTRUMENT IDENTIFICATION LETTERS FROM INSTRUMENT IDENTIFICATION TABLE.

NNNg = LETTER SUFFIX TO DISTINGUISH BETWEEN INSTRUMENTS IN LOOP WITH SAME FUNCTIONAL IDENTIFICATION. (USED AS REQ'D.)

NNN = LOOP NUMBER

DUCTBANK SYMBOL KEY

NEW CONDUIT, TYP.

EXISTING CONDUIT, TYP.

NOTE: REFER TO DUCTBANK SCHEDULE & PLANS FOR EXACT NUMBER & SIZE OF CONDUITS.

GENERAL NOTES:

- DRAWINGS ARE DIAGRAMMATIC IN NATURE, CONTRACTOR SHALL VERIFY DIMENSIONS PRIOR TO INSTALLATION. CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER DIVISION TRADES TO PROVIDE A COMPLETE AND OPERABLE SYSTEM. LOCATE FIXTURES, DEVICES, ETC. IN ORDER TO AVOID INTERFERENCES.
- ALL WORK SHALL BE PERFORMED AS REQUIRED BY APPLICABLE SECTION OF THE NATIONAL ELECTRICAL CODE, LATEST EDITION, AND ALL GOVERNING LOCAL CODES, LAWS, AND/OR REGULATIONS.
- SYSTEM AND EQUIPMENT GROUNDING CONTINUITY SHALL BE ASSURED AS REQUIRED BY APPLICABLE SECTIONS OF THE NATIONAL ELECTRICAL CODE.
- ALL WIRING SHALL BE TYPE "THIN-THIN" U.O.N.; MINIMUM WIRING SHALL BE #12 (POWER WIRE). ALL WIRE SHALL BE COPPER. MINIMUM CONDUIT SIZE FOR METALLIC CONDUIT TO BE 3/4" AND 1" FOR PVC.
- ALL CIRCUIT PROTECTIVE DEVICES SHALL HAVE THE REQUIRED RATING INTERRUPTING CAPACITY EQUAL TO OR GREATER THAN THE AVAILABLE SHORT-CIRCUIT CURRENT AT ITS SUPPLY TERMINAL; MINIMUM INTERRUPTING CAPACITY SHALL BE 10,000 AMPS. SYMMETRICAL A.I.C. FOR 120/208V SYSTEMS AND 14,000 AMPS, SYMMETRICAL A.I.C. FOR 277/480V SYSTEMS. REFER TO PANEL SCHEDULES FOR A.I.C. RATINGS.
- ALL OUTDOOR EXPOSED CONDUIT TO BE RIGID STEEL CONDUIT. TRANSITION FROM UNDERGROUND TO EXPOSED SHALL BE RIGID STEEL CONDUIT.
- ALL UNDERGROUND CONDUITS TO BE SCHEDULE 40 PVC UNLESS OTHERWISE INDICATED. ALL CONDUITS SHALL INCLUDE A NYLON PULL CORD.

ABBREVIATIONS

A OR AMP	AMPERE	GFCI	GROUND FAULT CIRCUIT INTERRUPTER	NPT	NOMINAL PIPE THREADS
A.C.	ALTERNATING CURRENT	GND. OR GRD.	GROUND	OE	OVERHEAD ELECTRIC
AF	FRAME AMPERE	H.I.D.	HIGH INTENSITY DISCHARGE	P	# OF POLES IN CIRCUIT BREAKER
A.F.F.	ABOVE FINISHED FLOOR	HP	HORSEPOWER	PH OR #	PHASE
A.F.G.	ABOVE FINISHED GRADE	H.P.S.	HIGH PRESSURE PUMP STATION	PM	POWER MONITOR
A.I.C.	AMPERE INTERRUPTING CURRENT	HSPS	HIGH SERVICE PUMP STATION	PMT	PAD MOUNTED TRANSFORMER
AS	AMMETER SELECTOR SWITCH	HVAC	HEAT-VENT-AIR CONDITIONING	PNL	PANEL
AT	TRIP AMPERE	I.G.	ISOLATED GROUND	PSI	POUNDS PER SQUARE INCH
A.T.S.	AUTOMATIC TRANSFER SWITCH	I.D.	INNER DIAMETER	PT	POTENTIAL TRANSFORMER
AUTO	AUTOMATIC	IMC	INTERMEDIATE METAL CONDUIT	PVC	POLYVINYL CHLORIDE
AWG	AMERICAN WIRE GAUGE	IND.	INDUSTRIAL	QTY.	QUANTITY
B.F.G.	BELOW FINISHED GRADE	JB	JUNCTION BOX	RGS	RIGID GALVANIZED STEEL
BLDG.	BUILDING	J.I.C.	JOINT INDUSTRIAL COUNCIL	RVSS	REDUCED VOLTAGE SOLID STATE SURGE CAPACITOR
C	COUNTERTOP RECEPTACLE	KA	KILOAMPERE	SC	SYSTEM CONTROL CENTER
C OR COND.	CONDUIT	KCMIL	1000 CIRCULAR MILS	SCC	SURGE CAPACITOR
CB	CIRCUIT BREAKER	KV	KILOVOLT	SER	SERVICE ENTRANCE RATED
CKT	CIRCUIT	KVA	KILOVOLT AMPERE	SM	SUB-METER
CP	CONTROL PANEL	KW	KILOWATT	SP	SPARE
CPT	CONTROL PANEL TRANSFORMER	LA	LIGHTNING ARRESTOR	SPD	SURGE-PROTECTIVE DEVICE
CR	CONTROL RELAY	LC	LIGHTING CONTACTOR	S.S.	STAINLESS STEEL
DESIG	DESIGNATION	LTG	LIGHTING	SWBD	SWITCHBOARD
DIA.	DIAMETER	MAX	MAXIMUM	TBA	TO BE ABANDONED
DIV.	DIVISION	MCB	MAIN CIRCUIT BREAKER	TBR	TO BE REMOVED
DPDT	DOUBLE POLE, DOUBLE THROW	mA	MILI-AMP	TCC	TELECOMMUNICATIONS CLOSET
DS	DISCONNECT SWITCH	MC	MANUFACTURER'S CABLE	TDC	TELECOMMUNICATIONS DISTRIBUTION CLOSET
E.C.	ELECTRICAL CONTRACTOR	MCC	MOTOR CONTROL CENTER	TYP.	TYPICAL
E.H.	ELECTRIC HANDHOLE	MFR	MANUFACTURER	UE	UNDERGROUND ELECTRIC
EMH	ELECTRIC MANHOLE	MIN.	MINIMUM	UH	UNIT HEATER
EP	EXPLOSION PROOF	M.L.O.	MAIN LUG ONLY	UL	UNDERWRITERS LABORATORY
E.T.R.	EXISTING TO REMAIN	M.O.D.	MOTOR OPERATED DAMPER	U.O.N.	UNLESS OTHERWISE NOTED
EUH	ELECTRIC UNIT HEATER	MS	MOTOR STARTER	UE	UNDERGROUND ELECTRIC
E.W.	EACH WAY	MTD.	MOUNTED	UT	UNDERGROUND TELEPHONE
EX	EXAMPLE	N/A	NOT APPLICABLE	UV	ULTRAVIOLET
EXH	EXHAUST FAN	N.C.	NORMALLY CLOSED	V	VOLT
FU	FUSE	NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION	VAC	VOLTS ALTERNATING CIRCUIT
FRE	FIBERGLASS REINFORCED EPOXY	NID	NETWORK INTERFACE DEVICE (4 POSITION)	VS	VOLTMETER SELECTOR SWITCH
G.C.	GENERAL CONTRACTOR	N.O.	NORMALLY OPEN	W	WIRE
GEN	GENERATOR	NO.	NUMBER	WP	WEATHERPROOF
				XMR	TRANSFORMER

INSTRUMENT IDENTIFICATION TABLE

ANSI/ISA-5.1-2009

LETTER	FIRST LETTERS		SUCCEEDING LETTERS		
	MEASURED OR INITIATING VARIABLE	VARIABLE MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT/ACTIVE FUNCTION	FUNCTION MODIFIER
A	ANALYSIS (2)		ALARM		
B	BURNER, COMBUSTION		(1)	CLOSE, STOP, DECREASE (1)	OFF (1)
C	(1)			CONTROL	CLOSE
D	(1)	DIFFERENCE, DIFFERENTIAL		OPEN, START, INCREASE (1)	
E	VOLTAGE		SENSOR, PRIMARY ELEMENT		ENABLED (1)
F	FLOW, FLOW RATE	RATIO			FAIL (1)
G	(1)		GLASS, GAUGE, VIEWING DEVICE		
H	HAND				HIGH (OPENED)
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER		SCAN		
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT		
M	MOTOR, MOTION (1)			MOTOR (1)	MIDDLE, INTERMEDIATE
N	(1)		(1)	(1)	ON OR OPERATE (1)
O	(1)		ORIFICE, RESTRICTION		
P	PRESSURE, VACUUM		POINT (TEST CONNECTION)	PUMP (1)	OPEN
Q	QUANTITY (2)	INTEGRATE, TOTALIZE			
R	RADIATION	RECORD			RUN
S	SPEED, FREQUENCY	SAFETY OR SOLENOID		SWITCH	STOP
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE (2)		MULTIFUNCTION (2)	MULTIFUNCTION (2)	
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE		WELL, PROBE		
X	UNCLASSIFIED, (2)	X-AXIS	ACCESSORY DEVICES, UNCLASSIFIED (2)	UNCLASSIFIED (2)	UNCLASSIFIED (2)
Y	EVENT, STATE, PRESENCE	Y-AXIS		AUXILIARY DEVICES	
Z	POSITION, DIMENSION	Z-AXIS, SAFETY INSTRUMENTED SYSTEM		DRIVER, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	

- USER'S CHOICE
- WHEN USED, SYMBOL OR SIGNAL LINE IS INDICATED.

UTILITY CONSTRUCTION

PROJECT REFERENCE NO.	SHEET NO.
B-4159	UC-11
DESIGNED BY: DLG	
DRAWN BY: SAR	
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UTILITY CONSTRUCTION PLANS ONLY