

1	2	3	4	5	6												
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION												
ONE-LINE DIAGRAM-1		ONE-LINE DIAGRAM-2		CONTROL DIAGRAM-1													
	DRAWOUT AIR CIRCUIT BREAKER, LOW VOLTAGE		DRAWOUT POWER CIRCUIT BREAKER, MEDIUM VOLTAGE		PUSH-BUTTON SWITCH, MOMENTARY CONTACT, NORMALLY OPEN												
	CIRCUIT BREAKER, THERMAL MAGNETIC TRIP SHOWN, 3 POLE, UNO		NON DRAWOUT FUSED SWITCH, MEDIUM VOLTAGE		PUSH-BUTTON SWITCH, MOMENTARY CONTACT, NORMALLY CLOSED												
	CIRCUIT BREAKER, STATIC TRIP UNIT, SENSOR AMP TRIP AND FRAME RATINGS SHOWN, 3 POLE, UNO		DRAWOUT FUSED SWITCH AND CONTACTOR, MEDIUM VOLTAGE		PUSH BUTTON SWITCH, MAINTAINED CONTACTS WITH MECHANICAL INTERLOCK												
	CIRCUIT BREAKER, MAGNETIC TRIP ONLY, TRIP RATING SHOWN, 3 POLE, UNO		DRAWOUT FUSED SWITCH AND VACUUM CONTACTOR, MEDIUM VOLTAGE		3 POSITION SELECTOR SWITCH MAINTAINED CONTACT												
	CIRCUIT BREAKER WITH CURRENT LIMITING FUSES, TRIP AND FUSE RATING INDICATED, 3 POLE, UNO		MEDIUM VOLTAGE CABLE STRESS CONE TYPE TERMINATION, OPEN TERMINATOR OR ELBOW		SELECTOR SWITCH - MAINTAINED CONTACT - CHART IDENTIFIES OPERATION WHEN NEEDED FOR CLARITY:												
	FUSED SWITCH, SWITCH AND FUSE CURRENT RATING INDICATED, 3 POLE, UNO		SWITCH - LOAD BREAK, GROUP OPERATED, MEDIUM VOLTAGE	<table><tr><th>CKT</th><th>HAND</th><th>OFF</th><th>REMOTE</th></tr><tr><td>1</td><td>X</td><td>O</td><td>O</td></tr><tr><td>2</td><td>O</td><td>O</td><td>X</td></tr></table> X - CLOSED CONTACT O - OPEN CONTACT	CKT	HAND	OFF	REMOTE	1	X	O	O	2	O	O	X	
CKT	HAND	OFF	REMOTE														
1	X	O	O														
2	O	O	X														
	SWITCH, CURRENT RATING INDICATED, 3 POLE, UNO		SWITCH WARNING HORNS, MEDIUM VOLTAGE		TOGGLE SWITCH, ON-OFF TYPE												
	FUSE, CURRENT RATING AND QUANTITY INDICATED		SWITCH - HOOK STICK OPERATED, SINGLE POLE, MEDIUM VOLTAGE		SELECTOR SWITCH, ON-OFF TYPE												
	MAGNETIC STARTER WITH OVERLOAD, NEMA SIZE INDICATED, FVNR UNO		FUSE - EXPULSION, HOOK STICK OPERATED, SINGLE POLE, MEDIUM VOLTAGE		MUSHROOM HEAD PUSHBUTTON SWITCH												
	ELECTRONIC STARTER/SPEED CONTROL RVSS = REDUCED VOLTAGE SOFT STARTER AFD = AC ADJUSTABLE FREQUENCY DRIVE DC = DC ADJUSTABLE SPEED DRIVE RVAT = REDUCED VOLTAGE AUTO TRANSFORMER TYPE RVRT = REDUCED VOLTAGE REACTOR TYPE		GROUND SWITCH, GANG OPERATED		INDICATING LIGHT - PUSH-TO-TEST, LETTER INDICATES COLOR A - AMBER G - GREEN S - STROBE B - BLUE R - RED C - CLEAR W - WHITE												
	CABLE OR BUS CONNECTION POINT		TERMINAL BLOCK LUG		ELAPSED TIME METER												
	KEY INTERLOCK		DELTA CONNECTION		MOTOR STARTER CONTACTOR COIL												
	SURGE ARRESTER (GAP TYPE)		WYE GROUNDED CONNECTION, SOLID GROUND		CONTROL RELAY, X INDICATES NUMERICAL ORDER IN CIRCUIT												
	CAPACITOR - KVAR INDICATED, 3 PHASE		WYE NEUTRAL GROUND RESISTOR OR IMPEDANCE CONNECTION		TIME DELAY RELAY, X INDICATES NUMERICAL ORDER IN CIRCUIT												
	AC MOTOR, SQUIRREL CAGE INDUCTION - HORSEPOWER INDICATED		RELAY OR DEVICE, FUNCTION NUMBER AS INDICATED		SOLENOID VALVE, X INDICATES NUMERICAL ORDER IN CIRCUIT												
	GENERATOR, KW/KVA RATING SHOWN		CURRENT TRANSFORMER, ZERO SEQUENCE, RATIO AND QUANTITY INDICATED		CONTACT - NORMALLY OPEN												
	ANALOG METER WITH SWITCH - SCALE RANGE SHOWN V = VOLTAGE KW = KILOWATTS A = AMPERAGE KVAR = KILOVARS PF = POWER FACTOR		BUSHING CURRENT TRANSFORMER, MULTI-RATIO AND QUANTITY INDICATED		CONTACT - NORMALLY CLOSED												
	DIGITAL POWER METER (MULTIFUNCTION)		MOTOR OPERATOR, BREAKER OR SWITCH		REMOTE DEVICE												
	UTILITY REVENUE METER		ENERGY MONITORING UNIT		TIME DELAY RELAY CONTACT, NORMALLY OPEN, CLOSES WHEN ENERGIZED AND TIMED OUT												
	GROUND		MOTOR PROTECTION RELAY		TIME DELAY RELAY CONTACT, NORMALLY CLOSED, OPENS WHEN ENERGIZED AND TIMED OUT												
	TRANSFORMER, SIZE, VOLTAGE RATINGS, AND PHASE INDICATED				TIME DELAY RELAY CONTACT, CLOSES WHEN ENERGIZED, OPENS WHEN DE-ENERGIZED AND TIMED OUT												
	SHIELDED ISOLATION TRANSFORMER				TIME DELAY RELAY CONTACT, OPENS WHEN ENERGIZED, CLOSES WHEN DE-ENERGIZED AND TIMED OUT												
	POTENTIAL TRANSFORMER, VOLTAGE RATING AND QUANTITY INDICATED				MOTOR SPACE HEATER												
	CURRENT TRANSFORMER, RATIO(100:5) AND QUANTITY INDICATED (3)				TERMINAL BLOCK, REMOTE												
	CONNECTION POINT TO EQUIPMENT SPECIFIED IN OTHER DIVISIONS. RACEWAY, CONDUCTOR AND CONNECTION IN THIS DIVISION				TERMINAL BLOCK, INTERNAL												
	TRANSIENT VOLTAGE SURGE SUPPRESSOR				FUSED TERMINAL BLOCK												
					FUSE, RATING INDICATED												
					TRANSFORMER, CONTROL POWER												
					THERMOCOUPLE												
CONTROL DIAGRAM-2																	
	CAPACITOR				BATTERY												
	LIMIT SWITCH, NORMALLY OPEN, CLOSES AT END OF TRAVEL				LIMIT SWITCH, NORMALLY CLOSED, OPENS AT END OF TRAVEL												
	TEMPERATURE SWITCH, OPENS ON TEMPERATURE RISE				TEMPERATURE SWITCH, CLOSES ON TEMPERATURE RISE												
	FLOAT SWITCH, NORMALLY OPEN, CLOSES ON DESCENDING LEVEL				FLOAT SWITCH, NORMALLY OPEN, CLOSES ON RISING LEVEL												
	PRESSURE SWITCH, NORMALLY CLOSED, OPENS ON RISING PRESSURE				PRESSURE SWITCH, NORMALLY OPEN, CLOSES ON RISING PRESSURE												
	FLOW SWITCH, CLOSES ON INCREASED FLOW				FLOW SWITCH, OPENS ON INCREASED FLOW												
	NEUTRAL GROUND CURRENT LIMITING RESISTOR																
	CALIBRATING RESISTOR																
	TACHOMETER GENERATOR																
	GROUND FAULT SENSOR																
	FLASHER																
	SEALED CONTACT																
	BUZZER																
	POTENTIOMETER																
	RESISTOR																
	BLOWN FUSE INDICATOR																
	COAXIAL CABLE																
	MULTICONDUCTOR SHIELDED CABLE																
	DUPLEX RECEPTACLE																
	RELAY, WITH MECHANICAL LATCH																
	FULLWAVE DIODE BRIDGE (AC TO DC)																
LEGEND AND SYMBOLS																	
CH2MHILL.																	
ELECTRICAL																	
CRYSTAL SPRING WATER TREATMENT PLANT CLEARWELL REPLACEMENT WESTERN VIRGINIA WATER AUTHORITY CITY OF ROANOKE, VIRGINIA																	
VERIFY SCALE																	
BAR IS ONE INCH ON ORIGINAL DRAWING.																	
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