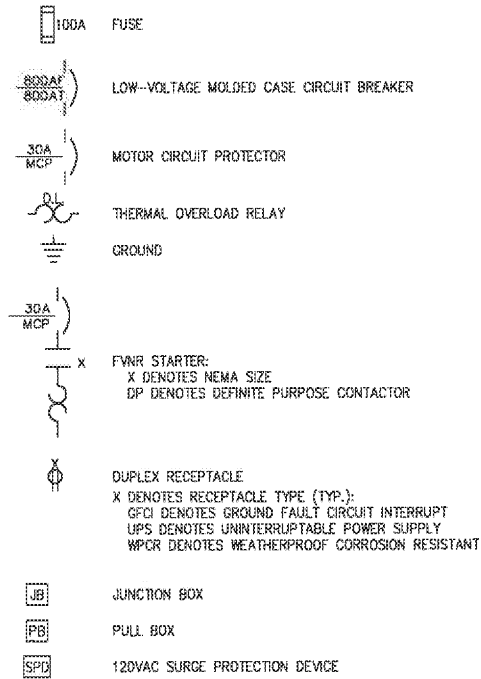
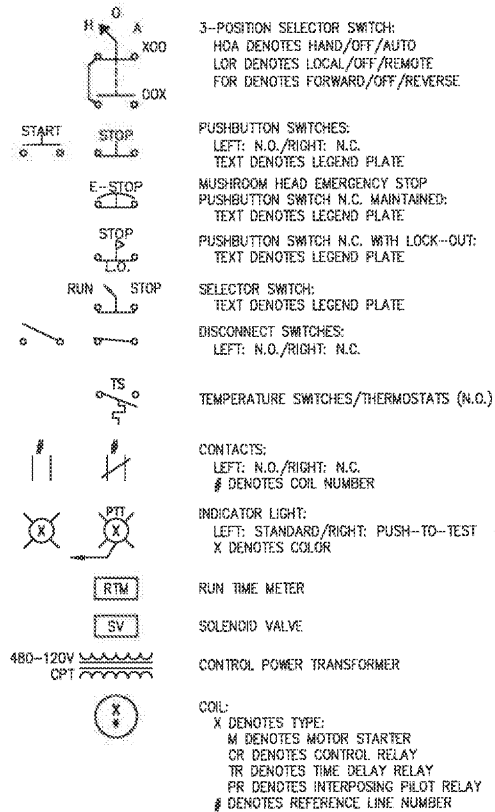


BLOCK DIAGRAMS



ELEMENTARY CONTROL SCHEMATICS



ABBREVIATIONS

ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
ATS	AUTOMATIC TRANSFER SWITCH
BC	BYPASS CONTACTOR
CT	CURRENT TRANSFORMER
DB	DUCTBANK
DSW	DISCONNECT SWITCH
EHH	ELECTRIC HAND HOLE
EMH	ELECTRIC MANHOLE
EO	ELECTRICALLY OPERATED
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FVNR	FULL VOLTAGE NON-REVERSING
FVR	FULL VOLTAGE REVERSING
GFCI	GROUND FAULT CIRCUIT INTERRUPT
GFCI	GROUND FAULT CURRENT TRANSFORMER
IC	INPUT CONTACTOR
IEEE	INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS
ISO	INTL. ORGANIZATION FOR STANDARDIZATION
LCS	LOCAL CONTROL STATION
LP	LIGHTING PANEL
MFR	MULTI-FUNCTION RELAY
MOD	MOTOR OPERATED DAMPER
MOG	MOTOR OPERATED GATE
MOL	MOTOR OPERATED LOUVER
MOV	MOTOR OPERATED VALVE
MTS	MANUAL TRANSFER SWITCH
NC/NO	NORMALLY CLOSED/NORMALLY OPEN
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSN
NTS	NOT TO SCALE
OC	OUTPUT CONTACTOR
OL	OVERLOAD
PC	PHOTOCELL
PCC	POINT OF COMMON COUPLING
PLC	PROGRAMMABLE LOGIC CONTROLLER
PNL	PANEL
PP	POWER PANEL
PT	POTENTIAL TRANSFORMER
RCS	REMOTE CONTROL STATION
RIO	REMOTE I/O
RVAT	REDUCED VOLTAGE AUTO TRANSFORMER
RVSS	REDUCED VOLTAGE SOLID STATE
SP. C.	SPARE CONDUIT
SST	STAINLESS STEEL
TB	TEST BLOCK
TC/TO	TIMED CLOSE/TIMED OPEN
TSH	TWISTED SHIELDED
TX	TRANSFORMER
UPS	UNINTERRUPTABLE POWER SUPPLY
VFD	VARIABLE FREQUENCY DRIVE
WPCR	WEATHER PROOF CORROSION RESISTANT
WT	WALK THROUGH

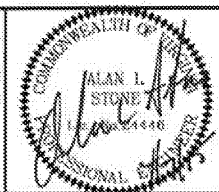
EQUIPMENT/DEVICE LOCATION SYMBOLS

*	LOCATED AT MCC
△	LOCATED IN FIELD
○ _X	LOCATED AT PANEL: X DENOTES PANEL ID

NOTES:

- UNLESS OTHERWISE SPECIFIED OR NOTED, ALL WALL MOUNTED ELECTRICAL PANELS, ENCLOSURES, AND SIMILAR EQUIPMENT SHALL BE MOUNTED 6'-6" (MAX) FROM THE TOP OF THE PANEL TO FINISHED FLOOR OR GRADE.
- UNLESS OTHERWISE NOTED, ALL LIGHTING SWITCHES, CONTROL SWITCHES, AND SIMILAR EQUIPMENT SHALL BE MOUNTED WITH THEIR CENTERLINE APPROXIMATELY 4'-0" ABOVE FINISHED FLOOR, SLAB, OR GRADE.
- A SEPARATE EQUIPMENT GROUNDING CONDUCTOR SHALL BE PROVIDED FOR EACH CIRCUIT (SEPARATE CONDUCTOR IN THE CONDUIT). THE CONDUCTOR SHALL BE TERMINATED AT THE PROPER DEVICE, TERMINAL, OR LUG AT THE POWER SOURCE (MCC GROUND BUS, PANELBOARD GROUND BUS, ETC.). GROUND CONDUCTOR SIZE SHALL BE PER THE LATEST EDITION OF THE NEC.

DESIGNED	JAD
DRAWN	JAD
CHECKED	
PROJ. ENGR.	ALS
NO.	2
RECORD DRAWINGS	04/2015
FINAL DESIGN	09/2014
ISSUED FOR	ALS
DATE	ALS
BY	ALS
APPROVED	



RECORD DRAWING

THIS DRAWING HAS BEEN MODIFIED TO REFLECT FIELD CHANGES REPORTED BY THE CONTRACTOR OR ANOTHER PARTY, BUT NOT VERIFIED BY THE CERTIFYING ENGINEER

THIS DOCUMENT ORIGINALLY ISSUED FOR CONSTRUCTION AND SEALED BY JASON A. DAVIS, LIC. NUMBER 052009

HAZEN AND SAWYER
Environmental Engineers & Scientists

4011 WestChase Boulevard, Suite 500
Raleigh, North Carolina 27607
License No.: C-0381

WESTERN VIRGINIA WATER AUTHORITY
ROANOKE, VIRGINIA

CARVINS COVE WATER TREATMENT FACILITY
DISINFECTION IMPROVEMENTS

ELECTRICAL
LEGEND AND GENERAL NOTES

THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.	DATE	OCTOBER 2014
	H&S JOB NUMBER	31197-000
	CONTRACT NUMBER	1
	DRAWING NUMBER	E1