## **LEGEND**

MANUAL VALVE (FOR TYPE, SEE MECHANICAL DWGS)

M MOTOR OPERATED VALVE

HYDROPNEUMATIC CYLINDER-OPERATED VALVE

S 2-WAY SOLENOID VALVE

S 3-WAY SOLENOID VALVE

S 4-WAY SOLENOID VALVE

PROPORTIONING OR METERING PUMP

MIXER/FAN/AGITATOR

GATE MOTOR

GRINDER

ISOLATING DIAPHRAGM SEAL

BAR SCREEN

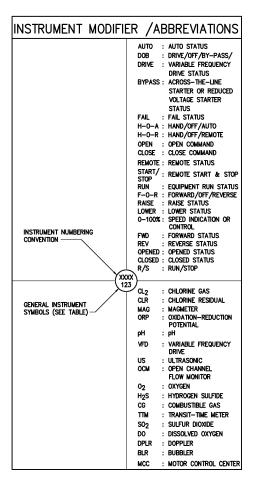
 $\bowtie$ 

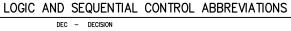
HYDRAULIC GATE
STOP LOGS

OPEN CHANNEL WEIR

GENERAL INSTRUMENT SYMBOLS			
FIELD MOUNTED	COMMON HOUSING	FRONT-PANEL MOUNTED DEVICE (LOCAL CONTROL PANEL)	
REAR-PANEL MOUNTED DEVICE (LOCAL CONTROL PANEL)	PROGRAMMABLE LOGIC CONTROLLER SYSTEM FUNCTION BLOCK	DEVICE MOUNTED ON MCC CUBICLE FRONT	
OPERATIONAL INTERLOCK	LOGIC BLOCK	CONTROL STRATEGY DESCRIPTION	

	_		T IDENTIFICATION I		
	FIRST	LETTER	SUCCEEDING LETTERS		
LETTER	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM OR PLC/DCS DISCRETE INPUT		
В	BURNER, COMBUSTION		USER'S CHOICE	USER'S CHOICE	BYPASS
С	CONDUCTIVITY (ELECTRICAL)			CONTROLLER	CLOSE
D	DENSITY (MASS) OR SPECIFIC GRAVITY	DIFFERENTIAL			DRIVE (VFD)
E	VOLTAGE (EMF)		PRIMARY ELEMENT		
F	FLOW	RATIO (FRACTION)			
G	USER'S CHOICE		GLASS		
Н	HAND SWITCH (SELECTOR SWITCH)				HIGH
I	CURRENT (ELECTRICAL)		INDICATE OR PLC/DCS ANALOG INPUT		
J	POWER	SCAN			
К	TIME OR TIME— SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT (PILOT)		LOW
М	MOISTURE OR HUMIDITY	MOMENTARY			MIDDLE OR INTERMEDIATE
N	USER'S CHOICE		NOTIFY OR PLC/DCS DISCRETE INPUT	USER'S CHOICE	USER'S CHOICE
0	USER'S CHOICE		ORIFICE (RESTRICTION)		OPEN
Р	PRESSURE OR VACUUM		POINT (TEST CONNECTION)		
Q	QUANTITY		INTEGRATE OR TOTALIZE		
R	RADIATION	REMOTE CONTROL	RECORD OR PRINT		
S	SPEED OR FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
٧	VIBRATION			VALVE, DAMPER OR LOUVER	
W	WEIGHT OR FORCE		WELL		
X	PLC COMMAND		UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE OR PRESENCE			RELAY OR COMPUTE	
Z	POSITION, DIMENSION			DRIVE, ACTUATOR OR UNCLASSIFIED FINAL CONTROL ELEMENT	





DIFF - DIFFERENCE

∑ - SUM

SEL. - SELECTOR

RAT. - RATIO

## OPERATIONAL INTERLOCK ABBREVIATIONS

**⊘**R

OR LOGICAND LOGIC

AND (1)

- DIRECT INTERLOCK OR COMPLEX LOGIC

NOTE

(\*) ASTERISK IDENTIFIES FIELD INSTRUMENTS FURNISHED BY EQUIPMENT SUPPLIERS.

ASTERISK IDENTIFIES LOCAL CONTROL PANELS FURNISHED BY EQUIPMENT SUPPLIERS

				DESIGNEDDMC	
				DRAWN DMC	
				CHECKED	
3	AS BUILT	OCT 2007	RLT	PROJ. ENGR. DAN	
2	CONSTRUCTION	MAR 2004	RLT		
1	REGULATORY APPROVAL	NOV 2003	RLT		

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CITY OF ROANOKE VIRGINIA

REGIONAL WATER POLLUTION CONTROL PLANT PROCESS TRAIN IMPROVEMENTS

INSTRUMENTATION AND CONTROL LEGEND AND GENERAL NOTES

THE SCALE BAR	
SHOWN BELOW	ı
MEASURES ONE	ı
INCH LONG ON	r
THE ORIGINAL	l
	ı

	DATE MAR	CH 2004
	H & S JOB NUMBER	30788B
	CONTRACT	DRAWING

ONTRACT DRAWING NUMBER B I1

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