

PROCESS FLOW DIAGRAMS AND P&ID SYMBOLS (GENERAL INSTRUMENT OR FUNCTION SYMBOLS)

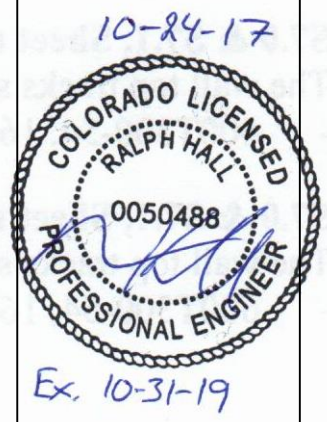
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	ANGLE VALVE		RUPTURE DISK OR SAFETY HEAD FOR PRESSURE RELIEF		IN-LINE FILTER		AXIAL FAN		SMALL TANK
	BUTTERFLY VALVE		PILOT LIGHT		ATMOSPHERIC FILTER		AXIAL FAN WITH VARIABLE INLET VANES		LARGE TANK
	ROTARY VALVE		FLEX CONNECTION (RUBBER)		DOUBLE BASKET STRAINER		WING TYPE FACE AND BYPASS DAMPER		
	3-WAY VALVE		FLEX CONNECTION (STEEL BRAIDED)		HOSE REEL		HW HEATING WATER DX DIRECT EXPANSION CH CHILLED WATER STM STEAM		
	4-WAY VALVE		SINGLE PITOT TUBE OR PITOT VENTURI TUBE		OPEN DRAIN (SHOWN)		2-STAGE RECIPROCATING AIR COMPRESSOR		
	OS & Y VALVE		FLOW METER		IX- DRAIN SYSTEM ANNOTATIONS DRAIN (PLAN VIEW)		SINGLE STAGE RECIPROCATING AIR COMPRESSOR		
	DAPHRAM VALVE		FLOW NOZZLE OR VENTURI DISMANTLING JOINT		CLEANOUT (PLAN VIEW)		COLLECTION BIN		
	PRESSURE RELIEF DAPHRAM ACTUATOR		REDUCER		SANITARY VENT		CYCLONE SEPARATOR		
	TWO-WAY VALVE, FAIL CLOSED		SCREENED CAP		SILENCER/MUFFLER		FLUID RECOVERY PUMP		
	TWO-WAY VALVE, FAIL OPEN		PIPE CAP		SPACE PENETRATIONS		DUAL SERVICE HEAT EXCHANGER		
	3-WAY VALVE W/DAPHRAM ACTUATOR		HOSE CONNECTION		TRAP XX ANNOTATES FUNCTION		PRESSURE VESSELS, VERTICAL (SHOWN) OR HORIZONTAL (TANKS, RECEIVERS, SEPARATORS, SUMPS ETC.)		
	4-WAY VALVE W/DAPHRAM ACTUATOR		FLANGED CONNECTION (PIPING OR EQUIP)		55 GALLON DRUM		TANK		
	SPRING-OPERATED SINGLE-ACTING ACTUATOR		FLOW ORIFICE FIXED		THERMOSTATIC VENT		HW HEATING WATER DX DIRECT EXPANSION CH CHILLED WATER STM STEAM		
	SPRING-OPERATED DOUBLE-ACTING ACTUATOR		STRAINER WITH VALVE		SPRINKLER ALARM (WATER MOTOR SONG)		HW HEATING WATER DX DIRECT EXPANSION CH CHILLED WATER STM STEAM		
	ELECTROHYDRAULIC ACTUATOR		COMPRESSED AIR DUCTED AIR FLOW FROM SPACE		GATE VALVE (OPEN)		HCL HEATING COIL CCL COOLING COIL		
	HAND ACTUATOR OR HANDWHEEL		CAPPED AIR DUCT		GLOBE VALVE (OPEN)		MIST ELEMNATOR		
	RESTRICTION ORIFICE IN PROCESS LINE		GATE VALVE (CLOSED)		GLOBE VALVE (CLOSED)		HEPA FILTER		
	RESTRICTION ORIFICE DRILLED IN VALVE		NEEDLE VALVE (OPEN)		NEEDLE VALVE (CLOSED)		CARBON ABSORBER FILTER		
	FLOW STRAIGHTENING VANE		PLUG VALVE (OPEN)		PLUG VALVE (CLOSED)		FILTER		
	DAPHRAM PRESSURE-BALANCED		BALL VALVE (OPEN)		BALL VALVE (CLOSED)		SUCTION DIFFUSER		
	PRESSURE-REDUCING REGULATOR SELF-CONTAINED WITH HANDWHEEL ADJUSTABLE SET POINT		CHECK VALVE		SPRING CHECK VALVE		FLANGE CONNECTION		
	PRESSURE-REDUCING REGULATOR WITH EXTERNAL PRESSURE TAP		ANGLE VALVE (OPEN)		ANGLE VALVE (CLOSED)		PIPE TAG VERTICAL		
	PRESSURE-SUSTAINING VALVE SURGE SUPPRESSION		SAFETY OR RELIEF VALVE (INLET PORT SHOWN CLOSED)		THREE-WAY VALVE (CLOSED PORT DARKENED)		LINE TAG HORIZONTAL		
	BACKPRESSURE REGULATOR SELF-CONTAINED		FOUR-WAY VALVE (ARROWS INDICATE FLOW DIRECTION)		BALL-CHECK VALVE		LINE TAG RIGHT		
	BACKPRESSURE REGULATOR WITH EXTERNAL PRESSURE TAP		VACUUM RELIEF VALVE		DUAL PURGE VALVE		LINE TAG LEFT		
	PRESSURE-REDUCING REGULATOR WITH INTEGRAL OUTLET PRESSURE RELIEF VALVE AND OPTIONAL PRESSURE INDICATOR		ALARM VALVE		KNIFE GATE VALVE (CLOSED)		MANWAY		
	PRESSURE INDICATOR		KNIFE GATE VALVE (OPEN)		RUPTURE DISK OR SAFETY HEAD FOR VACUUM RELIEF				

VALVE & INSTRUMENTATION FUNCTION IDENTIFIERS (COMMON IDENTIFIERS)

FIRST-LETTERS	INDICATING MEASURED OR CONTROLLED VARIABLE	CONTROLLERS			VALVES		READOUT DEVICE RECORDING INDICATING		SWITCHES AND * ALARM DEVICES			TRANSMITTERS RECORDING INDICATING BLIND			SOLENOIDS RELAYS COMPUTING DEVICES		PRIMARY ELEMENT	TEST POINT	WELL OR PROBE	VIEWING DEVICE GLASS	SAFETY DEVICE	FINAL ELEMENT
		RECORDER/INDICATING/BLIND	RECORDER/INDICATING/BLIND	RECORDER/INDICATING/BLIND	RECORDER/INDICATING/BLIND	RECORDER/INDICATING/BLIND	RECORDER/INDICATING/BLIND	RECORDER/INDICATING/BLIND	RECORDER/INDICATING/BLIND	RECORDER/INDICATING/BLIND	RECORDER/INDICATING/BLIND	RECORDER/INDICATING/BLIND	RECORDER/INDICATING/BLIND	RECORDER/INDICATING/BLIND								
A	ANALYSIS	ARC	AC	AC	AR	AI	AR	BI	ASH	ASL	ASHL	ART	AT	AT	AT	AT	AC	AP	AW	BC	AV	
B	BURNER/COMBUSTION	BR	BC	BC	BR	BI	BR	BI	BSH	BSL	BSHL	BRT	BT	BT	BT	BT	BE	BP	BW	BC	BZ	
C	CONDUCTIVITY USER'S CHOICE	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	
E	VOLTAGE	ERC	EC	EC	ER	EI	ER	EI	ESH	ESL	ESHL	ERT	ET	ET	ET	ET	EE	EP	EW	BC	EZ	
F	FLOW RATE	FRC	FC	FC	FR	FI	FR	FI	FSL	FSL	FSL	FRT	FT	FT	FT	FT	FE	FP	FW	BC	FV	
FF	FLOW RATE	FFRC	FFC	FFC	FFR	FFI	FFR	FFI	FFSL	FFSL	FFSL	FFRT	FFT	FFT	FFT	FFT	FFE	FFP	FFW	BC	FFV	
G	USER'S CHOICE	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC	GC
H	HAND	HRC	HC	HC	HR	HI	HR	HI	HSL	HSL	HSL	HRT	HT	HT	HT	HT	HE	HP	HW	BC	HV	
I	CURRENT	IRC	IC	IC	IR	II	IR	II	ISL	ISL	ISL	IRT	IT	IT	IT	IT	IE	IP	IW	BC	IV	
J	POWER	JRC	JC	JC	JR	JI	JR	JI	JSL	JSL	JSL	JRT	JT	JT	JT	JT	JE	JP	JW	BC	JV	
K	TIME	KRC	KC	KC	KR	KI	KR	KI	KSL	KSL	KSL	KRT	KT	KT	KT	KT	KE	KP	KW	BC	KV	
L	LEVEL	LRC	LC	LC	LR	LI	LR	LI	LSL	LSL	LSL	LRT	LT	LT	LT	LT	LE	LP	LW	BC	LV	
M	MOISTURE/HUMIDITY	MRC	MC	MC	MR	MI	MR	MI	MSL	MSL	MSL	MRT	MT	MT	MT	MT	ME	MP	MW	BC	MV	
N	USER'S CHOICE	NC	NC	NC	NR	NI	NR	NI	NSL	NSL	NSL	NRT	NT	NT	NT	NT	NE	NP	NW	BC	NV	
O	USER'S CHOICE	OC	OC	OC	OR	OI	OR	OI	OSL	OSL	OSL	ORT	OT	OT	OT	OT	OE	OP	OW	BC	OV	
P	PRESSURE	PRC	PC	PC	PR	PI	PR	PI	PSL	PSL	PSL	PRT	PT	PT	PT	PT	PE	PP	PW	BC	PV	
PD	PRESSURE DIFFERENTIAL	PRC	PC	PC	PR	PI	PR	PI	PDL	PDL	PDL	PRT	PT	PT	PT	PT	PE	PP	PW	BC	PV	
Q	QUALITY	QRC	QC	QC	QR	QI	QR	QI	QSL	QSL	QSL	QRT	QT	QT	QT	QT	QE	QP	QW	BC	QV	
R	RADIATION	RRC	RC	RC	RR	RI	RR	RI	RSL	RSL	RSL	RRT	RT	RT	RT	RT	RE	RP	RW	BC	RV	
S	SPEED	SRC	SC	SC	SR	SI	SR	SI	SSL	SSL	SSL	SRT	ST	ST	ST	ST	SE	SP	SW	BC	SV	
T	TEMPERATURE	TRC	TC	TC	TR	TI	TR	TI	TSL	TSL	TSL	TRT	TT	TT	TT	TT	TE	TP	TW	BC	TV	
U	TEMPERATURE DIFFERENTIAL	TRC	TC	TC	TR	TI	TR	TI	TSL	TSL	TSL	TRT	TT	TT	TT	TT	TE	TP	TW	BC	TV	
V	MULTIVARIABLE VIBRATION ANALYSIS	VR	VI	VI	VR	VI	VR	VI	VSL	VSL	VSL	VRT	VT	VT	VT	VT	VE	VP	VW	BC	VV	
W	WEIGHT FORCE	WRC	WC	WC	WR	WI	WR	WI	WSL	WSL	WSL	WRT	WT	WT	WT	WT	WE	WP	WW	BC	WV	
WD	WEIGHT FORCE DIFFERENTIAL	WRC	WC	WC	WR	WI	WR	WI	WDL	WDL	WDL	WRT	WT	WT	WT	WT	WE	WP	WW	BC	WV	
Y	EVENT STATE PRESENCE	YRC	YC	YC	YR	YI	YR	YI	YSL	YSL	YSL	YRT	YT	YT	YT	YT	YE	YP	YW	BC	YV	
Z	POSITION DIMENSION	ZRC	ZC	ZC	ZR	ZI	ZR	ZI	ZSL	ZSL	ZSL	ZRT	ZT	ZT	ZT	ZT	ZE	ZP	ZW	BC	ZV	
ZD	GAUGING DEVIATION	ZDRC	ZDC	ZDC	ZDR	ZDI	ZDR	ZDI	ZDSL	ZDSL	ZDSL	ZDRT	ZDT	ZDT	ZDT	ZDT	ZDE	ZDP	ZDW	BC	ZDV	

INSTRUMENT/FUNCTION SYMBOLS

SYMBOL	DESCRIPTION
	ALARM
	BUBBLE GAUGE
	HOSE BIB
	GEAR PUMP
	AIR INTAKE FILTER
	ALARM
	BUBBLE GAUGE
	HOSE BIB
	GEAR PUMP
	AIR INTAKE FILTER
	ALARM
	BUBBLE GAUGE
	HOSE BIB
	GEAR PUMP
	AIR INTAKE FILTER



TRACT N OF RIDGEGATE-SECTION 22, FILING NO.1

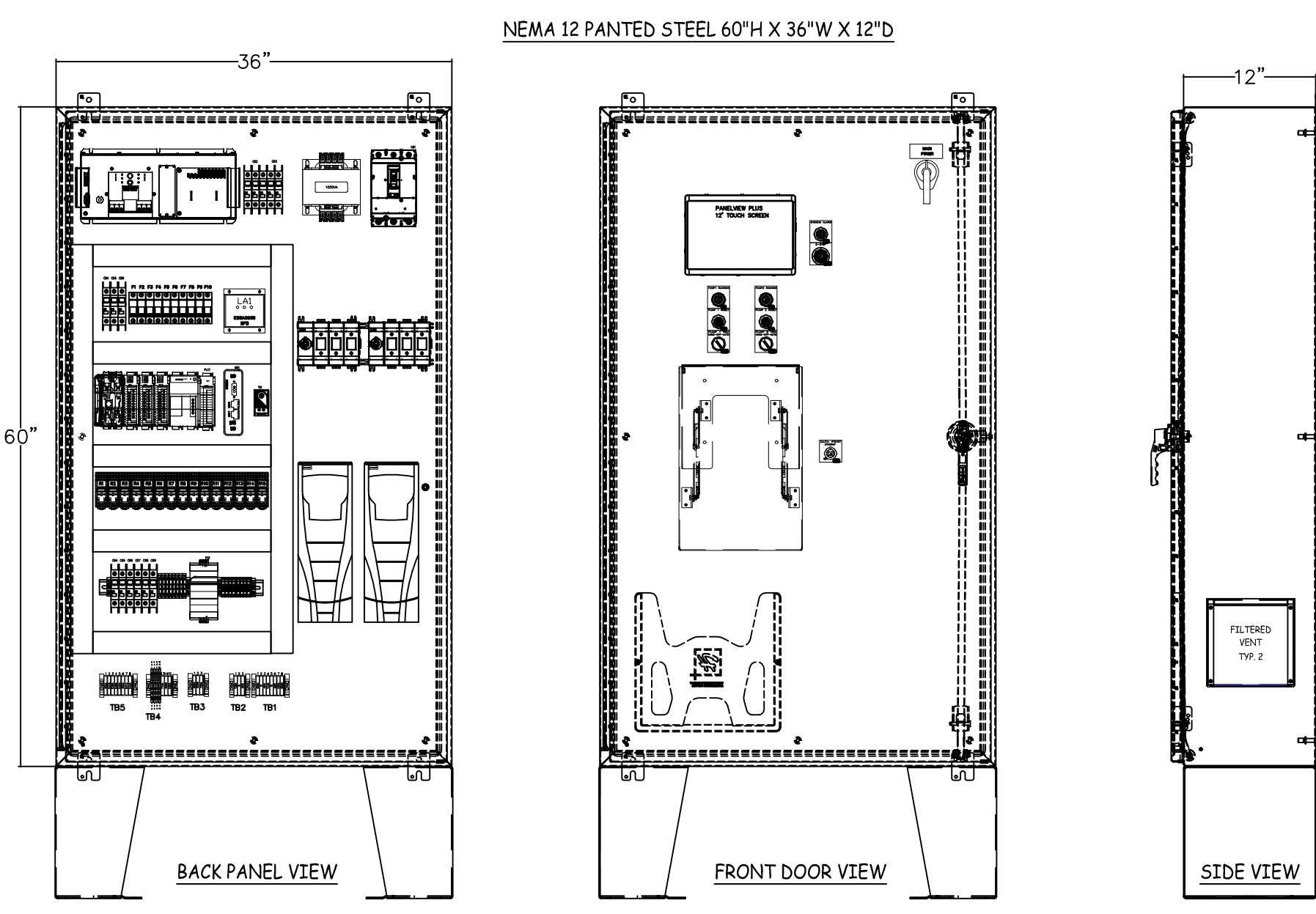
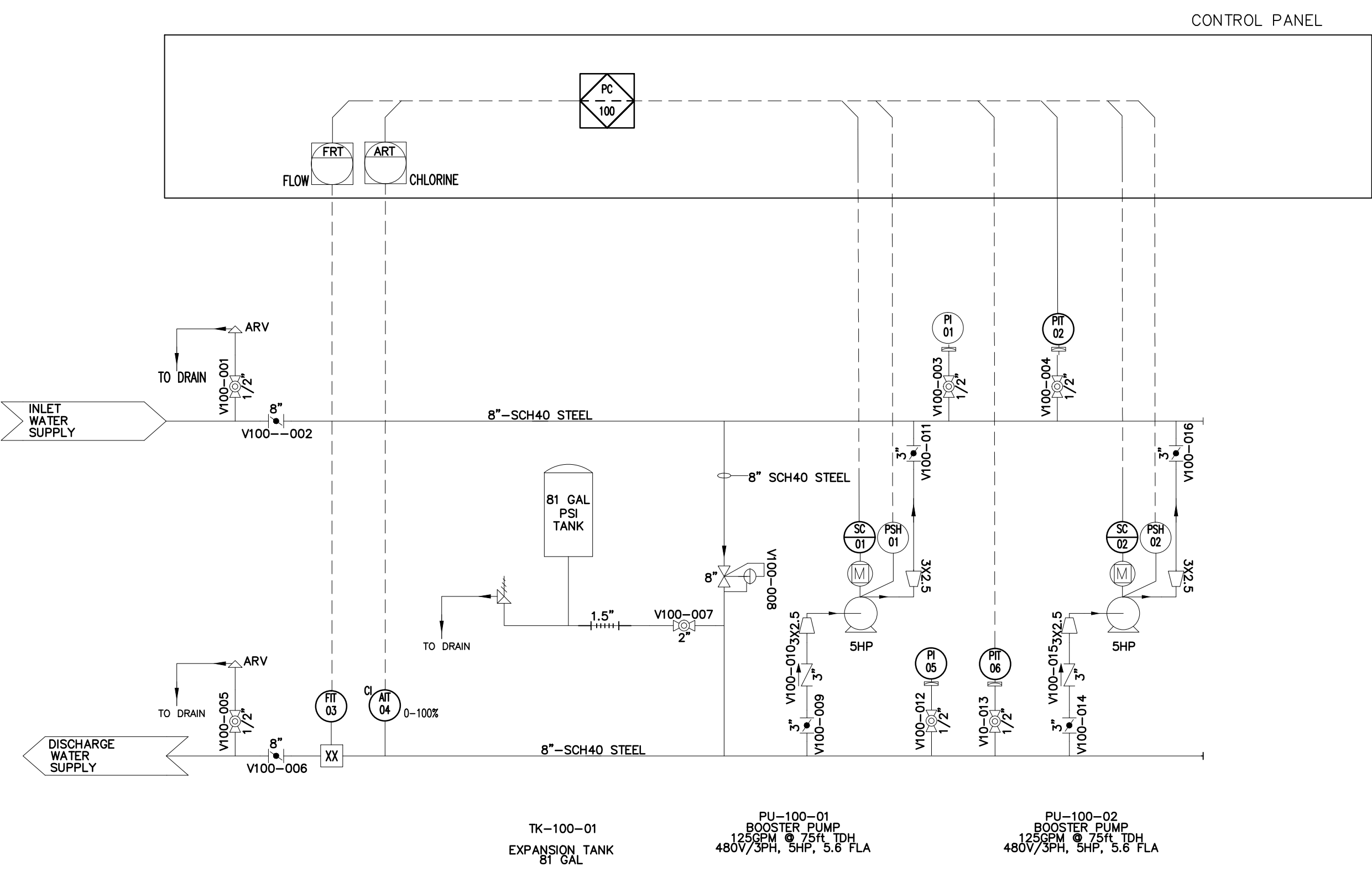
REFERENCE: CAPITAL PROJECTS CONSTRUCTION STANDARDS 3rd Edition  
www.denverwater.org /DoingBusinesswithUs/EngineeringOverview/CPCS

THIS DRAWING IS BASED ON THE ---- COORDINATE SYSTEM

△	
△	
△	
△	
△	
△	
△	
△	
△	
△	

No	Date	Description
		REVISIONS
		PT NO: ----
		DRAWN BY: CR
		CHKD BY: GP ENGR INITIALS
		CHKD BY: ENGR MANAGER
		APPD BY: CHIEF OF ENGR
		DATE: 06/22/2017
		CONTRACT:
		AS-BUILT DATE:
		AS-BUILT BY:
		DRAWING TITLE

ELECTRICAL DOCUMENTS



CONTROL PANEL ELEVATION DRAWING 1