

LOCATION PLAN
1:500 000



SITE PLAN
1:20 000

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SADDLE HILLS COUNTY

BONANZA DISTRIBUTION PUMPS UPGRADING FOR TENDER

5201-008-00





- NOTES:**
1. ALL BOLD ITEMS INDICATE WORK TO BE DONE AND ALL LIGHT ITEMS INDICATE EXISTING CONDITIONS.
 2. ALL ELEVATIONS IN METRES, DIMENSIONS AND PIPE SIZES IN MILLIMETRES UNLESS NOTED OTHERWISE.
 3. FOR INFORMATION REGARDING GENERAL NOTES, UTILITIES, SYMBOLS AND ABBREVIATIONS REFER TO THE CIVIL LEGEND AND CIVIL ABBREVIATIONS DRAWINGS.

1	25-01-28	FOR TENDER
ISSUE	YY-MM-DD	REVISION

PERMIT TO PRACTICE
 MPE, a division of Englobe
 Signature: *[Signature]*
 APEGA ID: 51203
 Date: JAN 28, 2025
 PERMIT NUMBER: P 7841
 The Association of Professional Engineers and Geoscientists of Alberta (APEGA)



SADDLE HILLS COUNTY

BONANZA DISTRIBUTION PUMPS UPGRADING CIVIL OVERALL SITE PLAN

DESIGNED	I.A.K., S.M.	JOB	5201-008-00
DRAWN	J.M.M.	SCALE	1:1500
DATE	JANUARY 2025	DRAWING	C1.1

IDENTIFICATION LETTERS

Table with columns: FIRST LETTER, MEASURED OR INITIATING VARIABLE, MODIFIER, SUCCEEDING LETTERS, READOUT OR PASSIVE FUNCTION, INPUT/OUTPUT FUNCTION, MODIFIER. Rows A-Z with descriptions for each letter.

INSTRUMENT/DEVICE IDENTIFICATION EXAMPLES (aaa)

Table showing examples of instrument identification codes like AIT, FCV, FIT, LT, PCV, PIT, PI, TSH, TSL, ZSC with their full names.

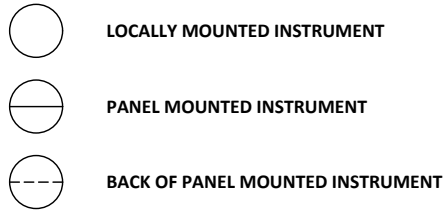
VALVE FUNCTION EXAMPLES (aaa)

Table showing examples of valve function codes like ZY or ZC, ZT or ZI, ZCO or YSO, ZCC or YSC, ZSO, ZSC with their full names.

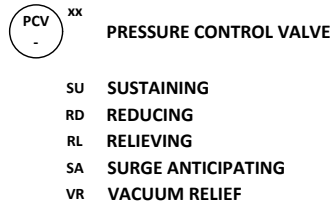
MOTOR FUNCTION EXAMPLES (aaa)

Table showing examples of motor function codes like HSA or HA, MCR or YS, MSR or YC, MSF or YA, SY or SC, ST or SI, TSH or YA, LSH or YA with their full names.

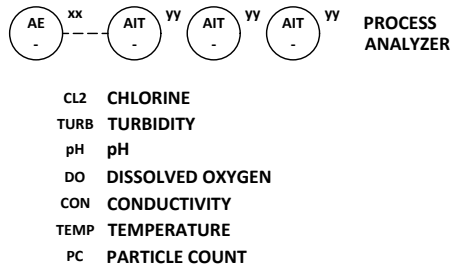
EQUIPMENT TAG



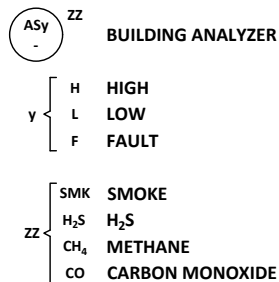
PRESSURE CONTROL VALVE LEGEND (xx)



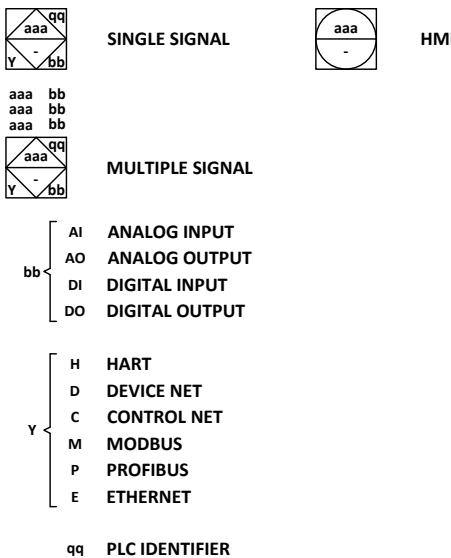
ANALYZING ELEMENT/ALARM LEGEND (yy)



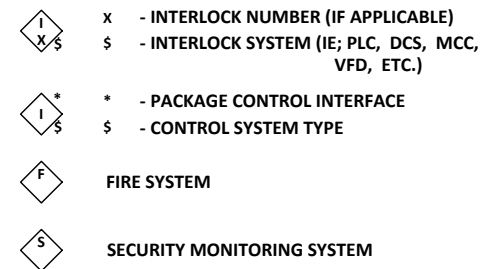
BUILDING ANALYZING ELEMENT/ALARM LEGEND



FUNCTION BLOCK



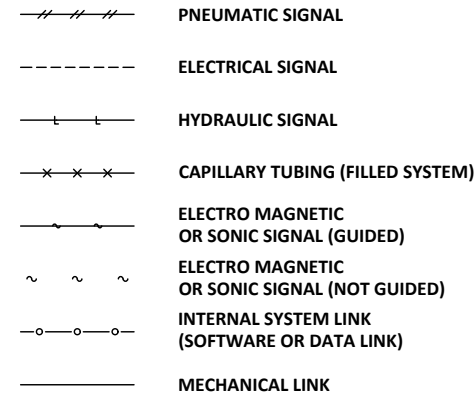
INTERLOCK



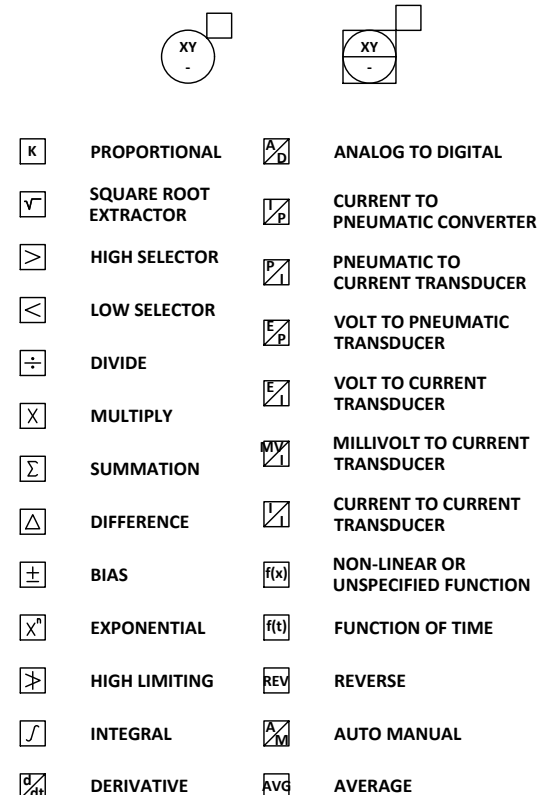
POWER SUPPLY AND PURGE FLUIDS LEGEND

Table listing power supply and purge fluids: AS AIR SUPPLY, IS INSTRUMENT AIR SUPPLY, PS PLANT AIR SUPPLY, ES ELECTRICAL SUPPLY, GS GAS SUPPLY, HS HYDRAULIC SUPPLY, NS NITROGEN SUPPLY, SS STEAM SUPPLY, WS WATER SUPPLY.

SIGNAL TYPES



FUNCTION SYMBOLS



NOTES: 1. ALL ELEVATIONS AND STATIONS ARE SHOWN IN METRES. ALL PIPE LENGTHS, PIPE SIZES AND DIMENSIONS ARE SHOWN IN MILLIMETRES UNLESS OTHERWISE INDICATED.

Table with 3 columns: 1, 25-01-28, FOR TENDER

Table with 3 columns: ISSUE, YY-MM-DD, REVISION

Professional Engineer signature block for MPE, dated JAN 28, 2025.

Professional Engineer seal for MPE, dated JAN 28, 2025.



a division of Englobe

SADDLE HILLS COUNTY

BONANZA DISTRIBUTION PUMPS UPGRADING PROCESS EQUIPMENT LEGEND

Table with 4 columns: DESIGNED I.A.K., S.M., DRAWN J.M.M., DATE JANUARY 2025, JOB 5201-008-00, SCALE NTS, DRAWING P0.1

PIPE CONNECTIONS			PIPE FITTINGS			LINE LABELLING				
DESCRIPTION	DOUBLE LINE (> 75mm)	SINGLE LINE (< 75mm)	DESCRIPTION	DOUBLE LINE (> 75mm)	SINGLE LINE (< 75mm)	PIPE DIAMETER (mm)		PIPE MATERIAL		
						LINE IDENTIFICATION		SPECIAL TREATMENT CODES		
						YYY-200-ZZZ-a,b,c				
						LINE IDENTIFICATION (YYY)		PIPE MATERIAL (ZZZ)		
						LINE CODE	FLANGE RATING	SCH OR THICKNESS	BASIC MATERIAL	SPECIAL NOTES
RAISED FACE WELD NECK FLANGED CONNECTION			CROSS			AA	AQUA AMMONIA			
RAISED FACE SLIP ON FLANGED CONNECTION			CROSS (BRANCH UP)			AAS	AERATION AIR SUPPLY			
VICTAULIC FLANGED CONNECTION			45° ELBOW			ACI	ACID (pH ADJUSTMENT)			
BLIND FLANGE			45° ELBOW (UP)			ACS	POWDERED ACTIVATED CARBON SOLUTION			
INSULATING FLANGE			45° ELBOW (DOWN)			AD	AIR DISTRIBUTION			
WELDED CONNECTION (RANDOM LENGTH PIPE)			LATERAL			AL	ALUM			
SCREWED CONNECTION (RANDOM LENGTH PIPE)			90° ELBOW			ALS	ALUM SOLUTION			
VICTAULIC JOINT CONNECTION			90° ELBOW (UP)			ALG	ALGAEICIDE SOLUTION			
UNION			90° ELBOW (DOWN)			AMG	AMMONIA GAS			
COMPRESSION COUPLING			45° ELBOW (SHORT RADIUS)			AMS	AMMONIA SOLUTION			
FLANGED COUPLING			90° ELBOW (SHORT RADIUS)			ANS	ANTISCALANT			
FLANGED ADAPTOR			BASE ELBOW			AS	AIR SUPPLY			
BELL AND SPIGOT, RING TIGHT, MECHANICAL JOINT CONNECTION			SIDE OUTLET ELBOW (UP)			BWS	BACKWASH SUPPLY			
COUPLER (PVC)			SIDE OUTLET ELBOW (DOWN)			CAS	CITRIC ACID SOLUTION			
PIPE TO VALVE CONNECTIONS			TEE			CDG	CARBON DIOXIDE GAS			
DESCRIPTION	DOUBLE LINE (> 75mm)	SINGLE LINE (< 75mm)	EXPANSION JOINT			CDS	CARBON DIOXIDE SOLUTION			
RAISED FACE WELD NECK FLANGED CONNECTION			FLEXIBLE CONNECTION			CIPS	CLEAN IN PLACE SUPPLY			
RAISED FACE SLIP ON FLANGED CONNECTION						CIPR	CLEAN IN PLACE RETURN			
WELDED CONNECTION						CIPD	CLEAN IN PLACE DRAIN			
THREADED CONNECTION						CLG	CHLORINE GAS			
VICTAULIC CONNECTION						CLS	CHLORINE SOLUTION			

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ISSUE	YY-MM-DD	REVISION

PERMIT TO PRACTICE
MPE, a division of Englobe
Signature:

APEGA ID: 51203
Date: JAN 28, 2025
PERMIT NUMBER: P 7841
The Association of Professional Engineers and Geoscientists of Alberta (APEGA)

PROFESSIONAL ENGINEER
ALBERTA
D 119853
JAN 28, 2025



SADDLE HILLS COUNTY

BONANZA DISTRIBUTION PUMPS UPGRADING PROCESS
PIPING LEGEND

DESIGNED	I.A.K., S.M.	JOB	5201-008-00
DRAWN	J.M.M.	SCALE	NTS
DATE	JANUARY 2025	DRAWING	P0.2

SPECIAL TREATMENT CODES (a,b,c)	
A	CEMENT MORTAR LINING
B	INTERNAL HOT APPLIED COAL TAR LINING
C	EXTERNAL HOT APPLIED COAL TAR LINING
D	INTERNAL EPOXY COATED
E	EXTERNAL EPOXY COATED
F	EXTERNAL YELLOW JACKETED
G	EXTERNAL DOUBLE WRAP POLYKEN TAPE
H	EXTERNAL INSULATION
I	EXTERNAL INSULATION AND ALUMINUM MECHANICAL PROTECTION
J	EXTERNAL SHOP PRIME
K	DENSYL MASTIC WRAP - BURIED FLANGES, COUPLERS AND VALVES
L	GALVANIZED
M	ROCK SHIELD
N	FROST SHIELDED
P	INSTALLED IN RPVC CONDUIT
R	TRACER WIRE INSTALLED ABOVE PIPE

IDENTIFICATION LETTERS				
	FIRST LETTER		SUCCEEDING LETTERS	
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	INPUT/OUTPUT FUNCTION
A	ANALYSIS		ALARM	AUTO
B	BURNER, COMBUSTION		USER'S CHOICE	USER'S CHOICE
C	COMMUNICATION			CLOSE
D	USER'S CHOICE	DIFFERENTIAL		
E	VOLTAGE		SENSOR (PRIMARY ELEMENT)	
F	FLOW RATE	RATIO (FRACTION)		FAULT
G	USER'S CHOICE		GLASS, VIEWING DEVICE	
H	HAND			HIGH
I	CURRENT (ELECTRICAL)		INDICATE	
J	POWER	SCAN		
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION
L	LEVEL		LIGHT	LOW
M	MOTOR	MOMENTARY		MIDDLE INTERMEDIATE USER'S CHOICE
N	SECURITY		USER'S CHOICE	USER'S CHOICE
O	USER'S CHOICE		ORIFICE, RESTRICTION	OPEN
P	PRESSURE, VACUUM		POINT (TEST) CONNECTION	
Q	QUANTITY OR EVENT	INTEGRATE, TOTALIZE		
R	RADIATION		RECORD	RUN/REMOTE
S	SPEED, FREQUENCY	SAFETY		SWITCH/STATUS STOP
T	TEMPERATURE			TRANSMIT
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER, LOUVER
W	WEIGHT, FORCE		WELL	
X	UNCLASSIFIED	X-AXIS	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE OR PRESENCE	Y-AXIS		RELAY, COMPUTE, CONVERT DRIVER, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT
Z	POSITION, DIMENSION	Z-AXIS		

INSTRUMENT/DEVICE IDENTIFICATION EXAMPLES (aaa)				
	AIT	ANALYZER INDICATOR TRANSMITTER	PIT	PRESSURE INDICATOR TRANSMITTER
	FCV	FLOW CONTROL VALVE	PI	PRESSURE INDICATOR (PRESSURE GAGE)
	FIT	FLOW INDICATOR TRANSMITTER	TSH	TEMPERATURE SWITCH HIGH (HEAT DETECTOR)
	LT	LEVEL INDICATOR TRANSMITTER	TSL	TEMPERATURE SWITCH LOW (HEAT DETECTOR)
	PCV	PRESSURE CONTROL VALVE	ZSC	POSITION SWITCH CLOSE (DOOR CONTACT)

VALVE FUNCTION EXAMPLES (aaa)				
	ZY or ZC	POSITION COMPUTE/CONVERT (CONTROL) - AO	ZCC or YSC	POSITION CONTROL CLOSE - DO
	ZT or ZI	POSITION TRANSMIT (FEEDBACK) - AI	ZSO	POSITION STATUS OPEN - DI
	ZCO or YSO	POSITION CONTROL OPEN - DO	ZSC	POSITION STATUS CLOSE - DI

MOTOR FUNCTION EXAMPLES (aaa)		
	HSA or HA	HAND STATUS AUTO (AUTO SIGNAL FROM THE HAND-OFF-AUTO SWITCH) - DI
	MCR or YS	MOTOR CONTROL RUN (START) - DO
	MSR or YC	MOTOR STATUS RUN - DI
	MSF or YA	MOTOR STATUS FAULT (OVERLOAD) - DI
	SY or SC	SPEED COMPUTE/CONVERT (CONTROL) - AO
	ST or SI	SPEED TRANSMIT (FEEDBACK) - AI
	TSH or YA	TEMPERATURE STATUS HIGH (THERMISTOR) - DI
	LSH or YA	LEVEL STATUS HIGH (LEAKAGE IN SUBMERSIBLE PUMP SEAL) - DI

EQUIPMENT TAG	
	LOCALLY MOUNTED INSTRUMENT
	PANEL MOUNTED INSTRUMENT
	BACK OF PANEL MOUNTED INSTRUMENT

PRESSURE CONTROL VALVE LEGEND (xx)	
	PRESSURE CONTROL VALVE
SU	SUSTAINING
RD	REDUCING
RL	RELIEVING
SA	SURGE ANTICIPATING
VR	VACUUM RELIEF

ANALYZING ELEMENT/ALARM LEGEND (yy)	
	PROCESS ANALYZER
CL2	CHLORINE
TURB	TURBIDITY
pH	pH
DO	DISSOLVED OXYGEN
CON	CONDUCTIVITY
TEMP	TEMPERATURE
PC	PARTICLE COUNT

BUILDING ANALYZING ELEMENT/ALARM LEGEND	
	BUILDING ANALYZER
y	H HIGH L LOW F FAULT
ZZ	SMK SMOKE H2S H2S CH4 METHANE CO CARBON MONOXIDE

FUNCTION BLOCK	
	SINGLE SIGNAL
	HMI
	MULTIPLE SIGNAL
AI	ANALOG INPUT
AO	ANALOG OUTPUT
DI	DIGITAL INPUT
DO	DIGITAL OUTPUT
H	HART
D	DEVICE NET
C	CONTROL NET
M	MODBUS
P	PROFIBUS
E	ETHERNET
qq	PLC IDENTIFIER

INTERLOCK	
	X - INTERLOCK NUMBER (IF APPLICABLE) S - INTERLOCK SYSTEM (IE; PLC, DCS, MCC, VFD, ETC.)
	* - PACKAGE CONTROL INTERFACE S - CONTROL SYSTEM TYPE
	FIRE SYSTEM
	SECURITY MONITORING SYSTEM

POWER SUPPLY AND PURGE FLUIDS LEGEND			
AS	AIR SUPPLY	HS	HYDRAULIC SUPPLY
IS	INSTRUMENT AIR SUPPLY	NS	NITROGEN SUPPLY
PS	PLANT AIR SUPPLY	SS	STEAM SUPPLY
ES	ELECTRICAL SUPPLY	WS	WATER SUPPLY
GS	GAS SUPPLY		

SIGNAL TYPES	
	PNEUMATIC SIGNAL
	ELECTRICAL SIGNAL
	HYDRAULIC SIGNAL
	CAPILLARY TUBING (FILLED SYSTEM)
	ELECTRO MAGNETIC OR SONIC SIGNAL (GUIDED)
	ELECTRO MAGNETIC OR SONIC SIGNAL (NOT GUIDED)
	INTERNAL SYSTEM LINK (SOFTWARE OR DATA LINK)
	MECHANICAL LINK

FUNCTION SYMBOLS			
	PROPORTIONAL		ANALOG TO DIGITAL
	SQUARE ROOT EXTRACTOR		CURRENT TO PNEUMATIC CONVERTER
	HIGH SELECTOR		PNEUMATIC TO CURRENT TRANSDUCER
	LOW SELECTOR		VOLT TO PNEUMATIC TRANSDUCER
	DIVIDE		VOLT TO CURRENT TRANSDUCER
	MULTIPLY		MILLIVOLT TO CURRENT TRANSDUCER
	SUMMATION		CURRENT TO CURRENT TRANSDUCER
	DIFFERENCE		CURRENT TO CURRENT TRANSDUCER
	BIAS		NON-LINEAR OR UNSPECIFIED FUNCTION
	EXPONENTIAL		FUNCTION OF TIME
	HIGH LIMITING		REVERSE
	INTEGRAL		AUTO MANUAL
	DERIVATIVE		AVERAGE

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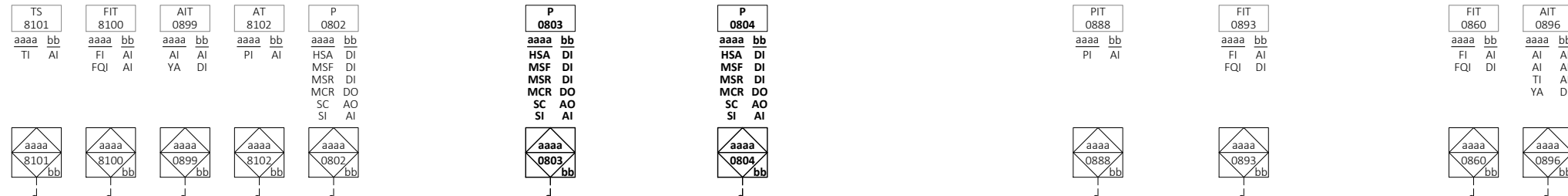


SADDLE HILLS COUNTY
BONANZA DISTRIBUTION PUMPS UPGRADING PROCESS
INSTRUMENTATION LEGEND

DESIGNED	I.A.K., S.M.	JOB	5201-008-00
DRAWN	J.M.M.	SCALE	NTS
DATE	JANUARY 2025	DRAWING	P0.3

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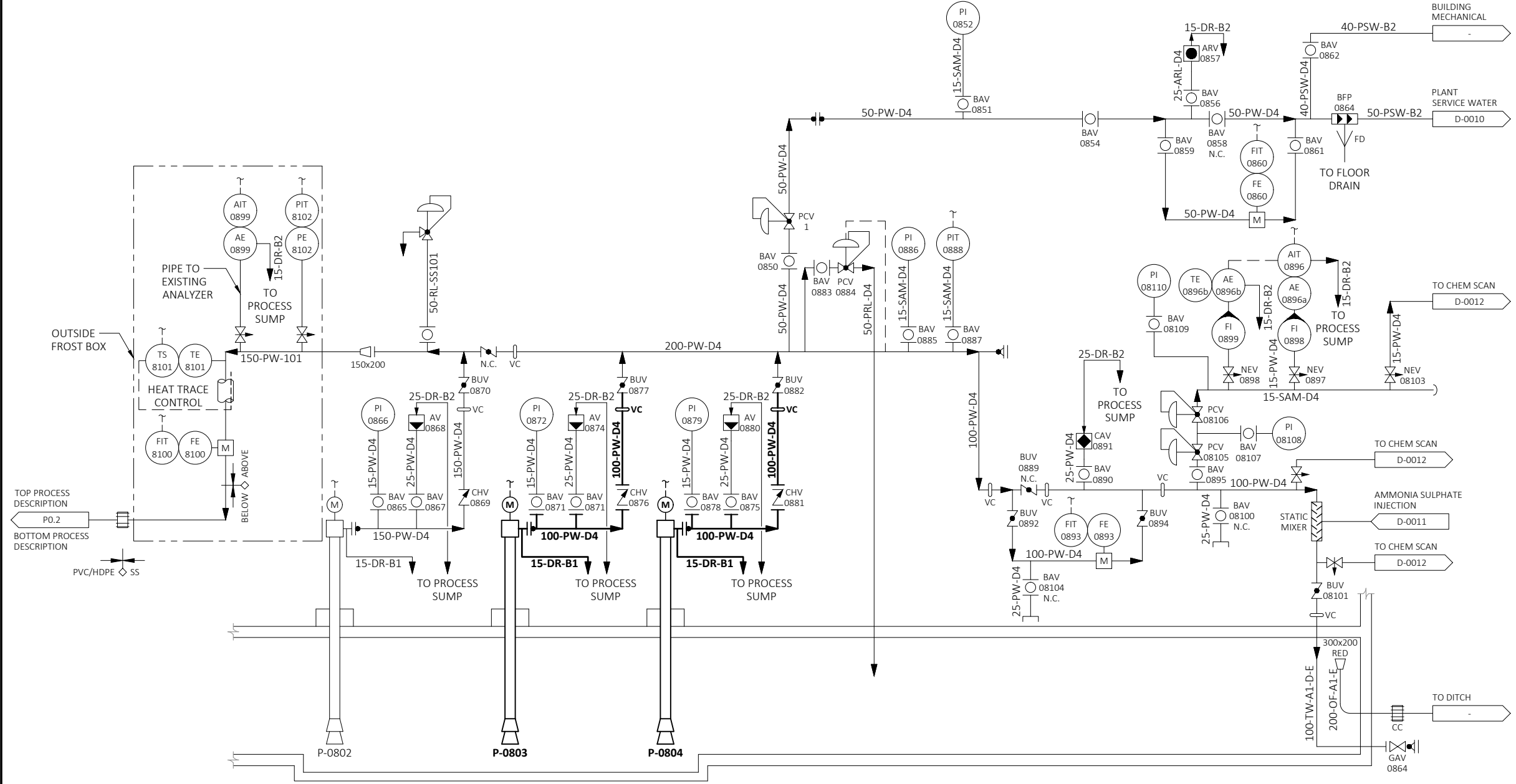
THIS DRAWING MAY HAVE BEEN MODIFIED FROM ITS ORIGINAL SIZE. ALL SCALE NOTATIONS INDICATED ARE BASED ON 11"x17" FORMAT DRAWINGS



**PLC/HMI
(PNL)**



**MCC
(VAC)**



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THE EXISTENCE, LOCATION AND ELEVATION OF ALL UTILITIES AS SHOWN ON ANY PLANS MAY BE BASED ON INFORMATION RECEIVED FROM THE RESPECTIVE AUTHORITIES AND ARE NOT GUARANTEED BY THE ENGINEER. NO RESPONSIBILITY IS IMPLIED OR ASSUMED BY THE ENGINEER AS TO THE LOCATION AND ELEVATION OR ANY OMISSIONS. THE CONTRACTOR OR ANY THIRD-PARTY IS RESPONSIBLE FOR DETERMINING THE EXISTENCE, LOCATION AND ELEVATION OF ALL SUCH UTILITIES AND MUST CONTACT THE VARIOUS UTILITY COMPANIES FOR ON SITE INFORMATION PRIOR TO COMMENCEMENT OF ANY OPERATIONS.

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SADDLE HILLS COUNTY

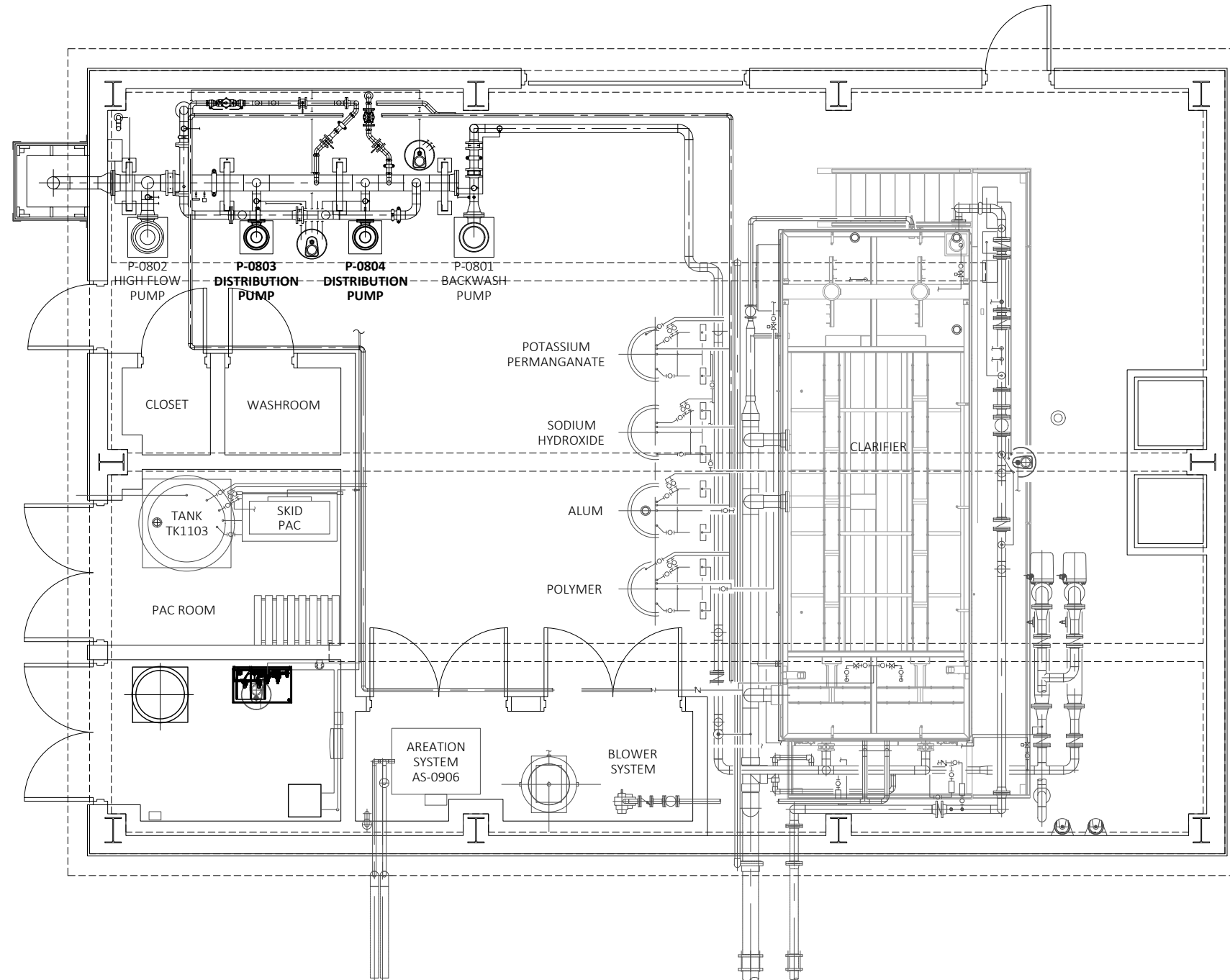
**BONANZA DISTRIBUTION PUMPS UPGRADING
PROCESS
PROCESS AND INSTRUMENTATION DIAGRAM**

**DESIGN
CRITERIA**

P-0802
HIGH FLOW PUMP
TYPE: VERTICAL TURBINE
SIZE: 150 OUTLET
FLOW: 17 L/s
HEAD: 55 m
POWER: 20HP/3PH/600V/60Hz

P-0803 AND P-0804
DISTRIBUTION PUMPS
TYPE: VERTICAL TURBINE
SIZE: 100 OUTLET
FLOW: 21 L/s
HEAD: 66 m
POWER: 25HP/3PH/575V/60Hz

DESIGNED	I.A.K., S.M.	JOB	5201-008-00
DRAWN	J.M.M.	SCALE	NTS
DATE	JANUARY 2025	DRAWING	P1.1

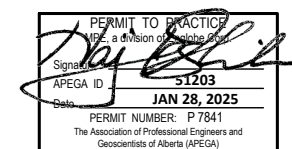


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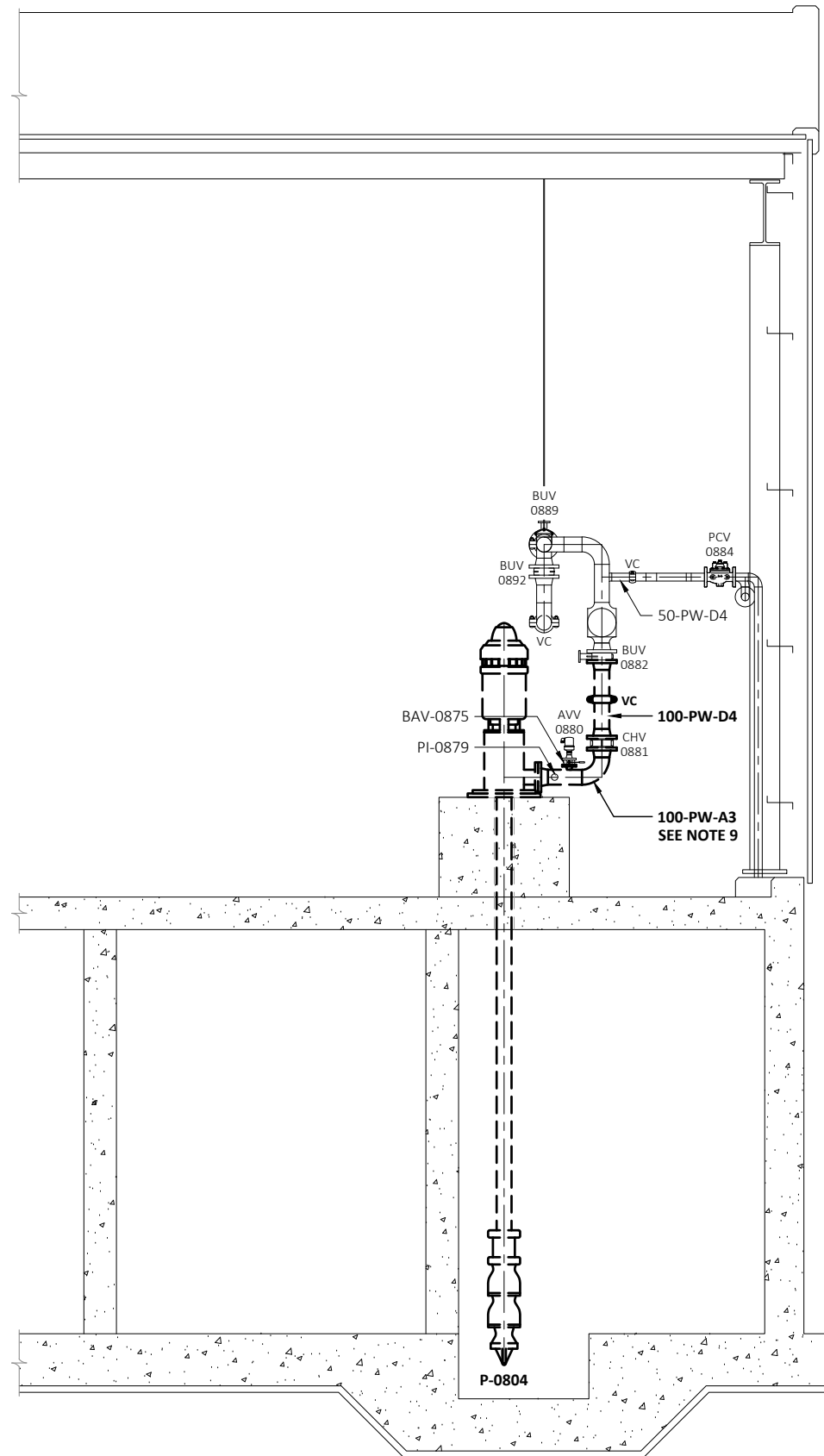
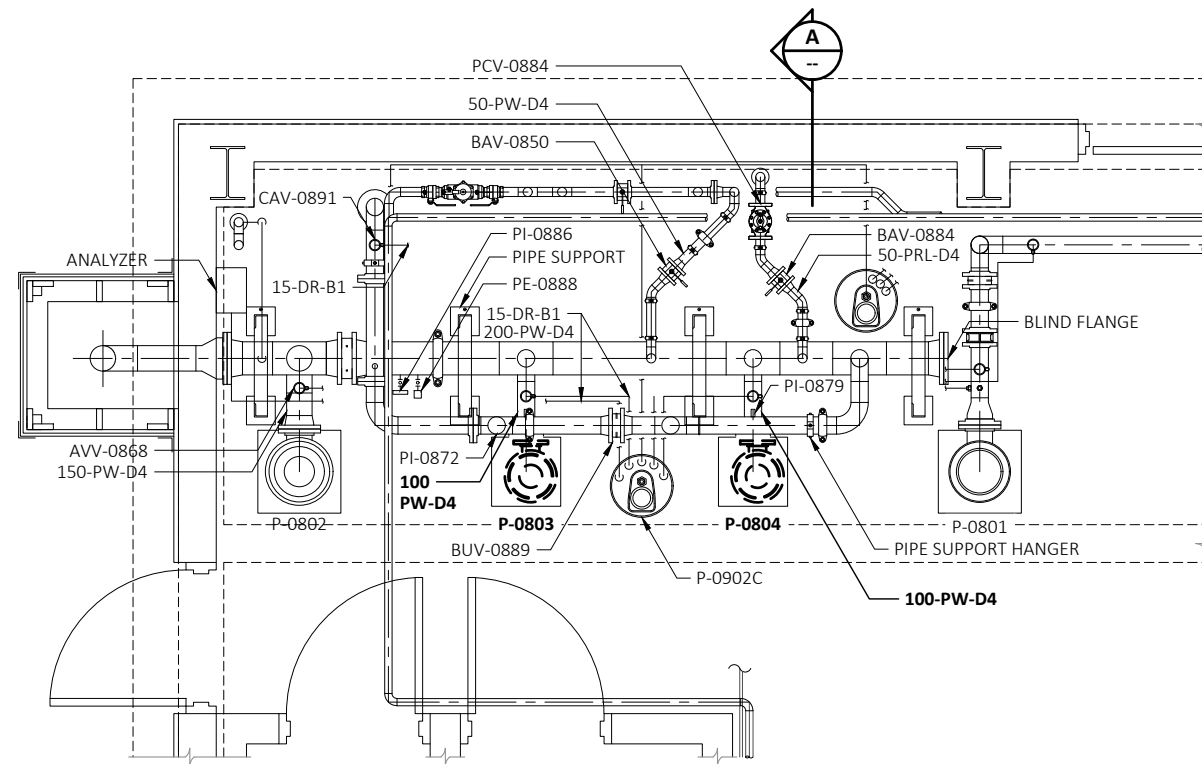
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1	25-01-28	FOR TENDER



SADDLE HILLS COUNTY

**BONANZA DISTRIBUTION PUMPS UPGRADING PROCESS
OVERALL MAIN FLOOR PLAN**

DESIGNED	I.A.K., S.M.	JOB	5201-008-00
DRAWN	J.M.M.	SCALE	1:75
DATE	JANUARY 2025	DRAWING	P2.1



A
1:50

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4. PUMPS TO BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
5. CONTRACTOR TO CUT, REMOVE AND DISPOSE OF PIPE AND EQUIPMENT SHOWN DASHED AND BOLD.
6. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS. NOTE ANY DISCREPANCIES WITH ENGINEER PRIOR TO CONSTRUCTION OR FABRICATION.
7. CONTRACTOR TO CORE LARGER HOLE TO RECEIVE PUMP IF REQUIRED.
8. CONTRACTOR TO PROVIDE SUPPORT FOR PIPING AND FITTINGS AS PER MANUFACTURER'S RECOMMENDATIONS.
9. REMOVE AND REPLACE SPOOL PIPING AS REQUIRED TO FIT PUMP SELECTION. ALL FITTINGS AND INSTRUMENT PORTS TO BE RECONNECTED.

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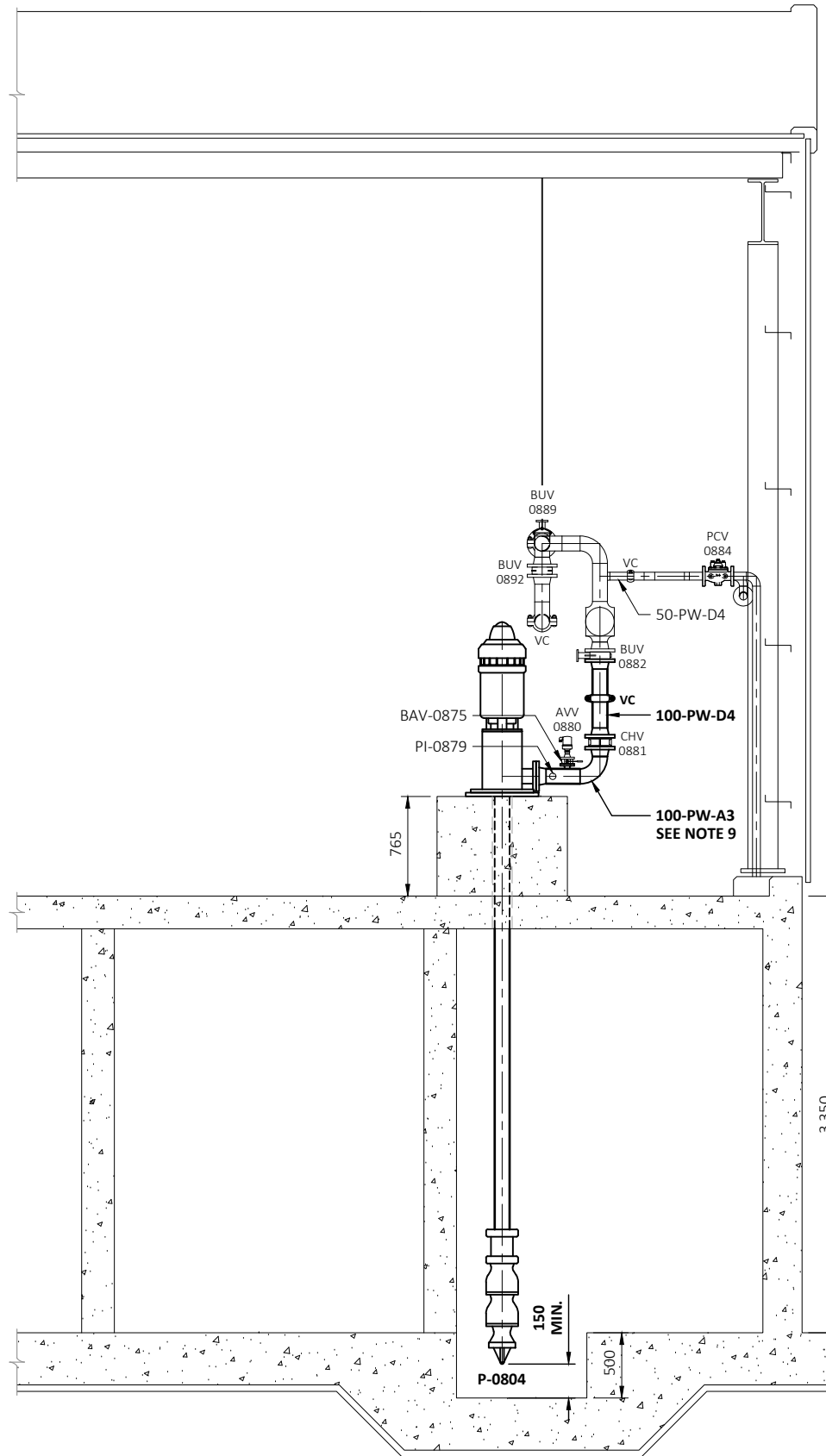
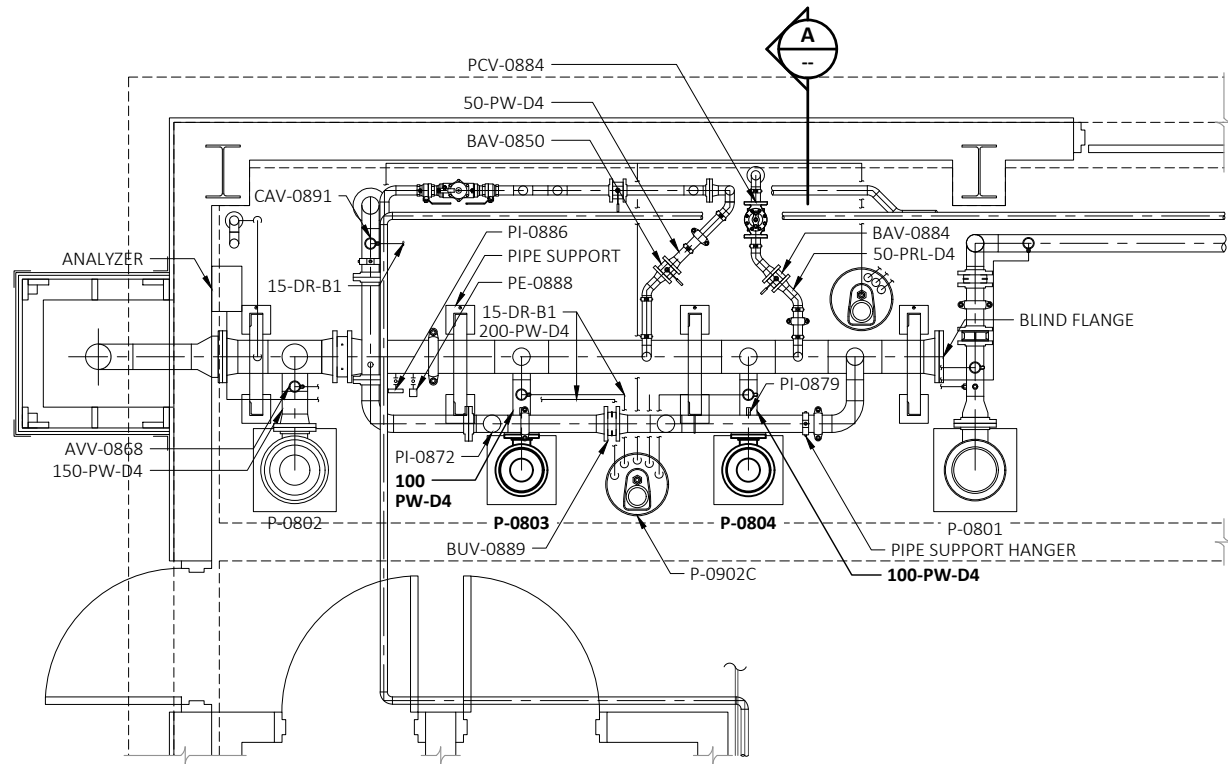
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SADDLE HILLS COUNTY

BONANZA DISTRIBUTION PUMPS UPGRADING PROCESS
MAIN FLOOR - REMOVALS

DESIGNED	I.A.K., S.M.	JOB	5201-008-00
DRAWN	J.M.M.	SCALE	1:50
DATE	JANUARY 2025	DRAWING	P2.2



A
1:50

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1. ALL BOLD ITEMS INDICATE WORK TO BE DONE AND ALL LIGHT ITEMS INDICATE EXISTING CONDITIONS.
 2. ALL ELEVATIONS IN METRES, DIMENSIONS AND PIPE SIZES IN MILLIMETRES UNLESS NOTED OTHERWISE.
 3. FOR INFORMATION REGARDING GENERAL NOTES, UTILITIES, SYMBOLS AND ABBREVIATIONS REFER TO THE CIVIL LEGEND AND CIVIL ABBREVIATIONS DRAWINGS.
 4. PUMPS TO BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
 5. CONTRACTOR TO CUT, REMOVE AND DISPOSE OF PIPE AND EQUIPMENT SHOWN DASHED AND BOLD.
 6. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS. NOTE ANY DISCREPANCIES WITH ENGINEER PRIOR TO CONSTRUCTION OR FABRICATION.
 7. CONTRACTOR TO CORE LARGER HOLE TO RECEIVE PUMP IF REQUIRED.
 8. CONTRACTOR TO PROVIDE SUPPORT FOR PIPING AND FITTINGS AS PER MANUFACTURER'S RECOMMENDATIONS.
 9. REMOVE AND REPLACE SPOOL PIPING AS REQUIRED TO FIT PUMP SELECTION. ALL FITTINGS AND INSTRUMENT PORTS TO BE RECONNECTED.

THE EXISTENCE, LOCATION AND ELEVATION OF ALL UTILITIES AS SHOWN ON ANY PLANS MAY BE BASED ON INFORMATION RECEIVED FROM THE RESPECTIVE AUTHORITIES AND ARE NOT GUARANTEED BY THE ENGINEER. NO RESPONSIBILITY IS IMPLIED OR ASSUMED BY THE ENGINEER AS TO THE LOCATION AND ELEVATION OR ANY OMISSIONS. THE CONTRACTOR OR ANY THIRD-PARTY IS RESPONSIBLE FOR DETERMINING THE EXISTENCE, LOCATION AND ELEVATION OF ALL SUCH UTILITIES AND MUST CONTACT THE VARIOUS UTILITY COMPANIES FOR ON SITE INFORMATION PRIOR TO COMMENCEMENT OF ANY OPERATIONS.

1	25-01-28	FOR TENDER
ISSUE	YY-MM-DD	REVISION

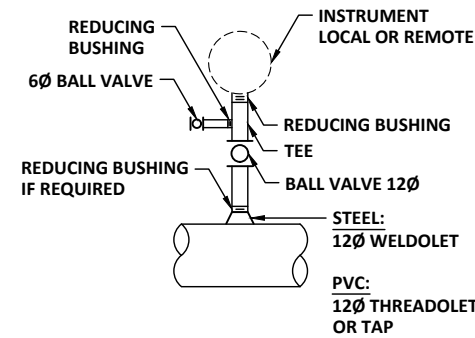
PERMIT TO PRACTICE
MPE - a division of Englobe
Signature: *[Signature]*
APEGA ID: 51203
Date: JAN 28, 2025
PERMIT NUMBER: P 7841
The Association of Professional Engineers and Geoscientists of Alberta (APEGA)



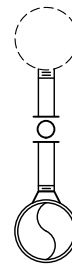
SADDLE HILLS COUNTY

**BONANZA DISTRIBUTION PUMPS UPGRADING PROCESS
MAIN FLOOR - PROPOSED**

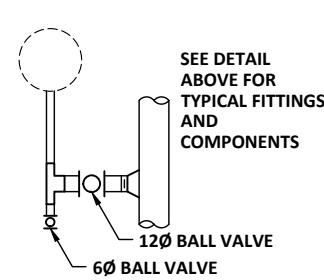
DESIGNED	I.A.K., S.M.	JOB	5201-008-00
DRAWN	J.M.M.	SCALE	1:50
DATE	JANUARY 2025	DRAWING	P2.3



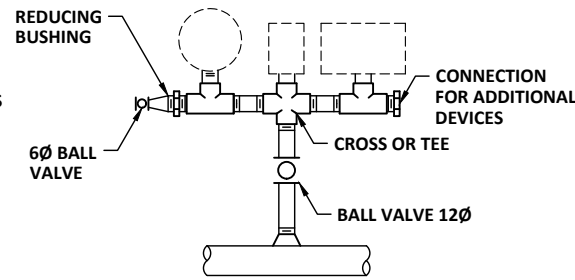
HORIZONTAL PIPING, TOP CONNECTION



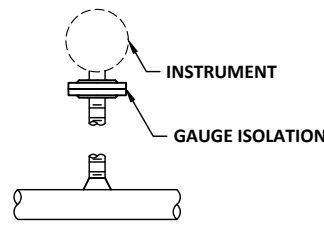
HORIZONTAL PIPING, SIDE CONNECTION



VERTICAL PIPING, SIDE CONNECTION

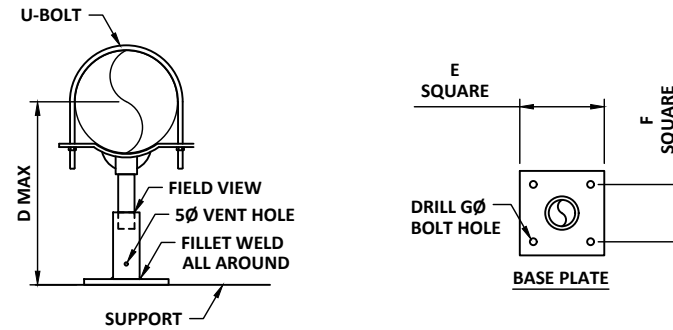
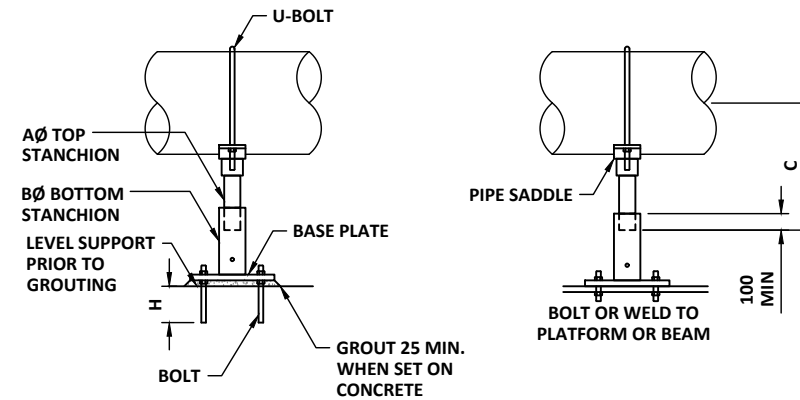


MULTI INSTRUMENT CONNECTION



GAUGE ISOLATION

INSTRUMENT CONNECTION DETAILS



- NOTES:
1. STANCHION MATERIAL SCH. 40 PIPE, OR AS PER SPECIFICATIONS.
BASE PLATE - CARBON STEEL
PIPE STANCHION SADDLE - MAY BE ANVIL FIG. 259

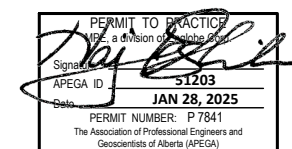
PIPE SIZE	65	80	100	125	150	200	250	300	350	400	450	500	600
A	40	65	65	65	75	75	75	100	100	100	150	150	150
B	65	75	75	75	100	100	100	150	150	150	200	200	200
C	MIN	200	210	235	250	270	300	350	380	410	450	500	530
	MAX	330	340	350	375	390	420	460	500	530	570	610	650
D MAX	1000	1200	1200	1200	1500	1500	1500	1800	1800	1800	2000	2000	2000
THICK x	8	8	8	8	12	12	12	12	12	12	16	16	16
E SQUARE	150	150	200	200	200	200	200	250	250	250	300	300	300
F SQUARE	100	100	150	150	150	150	150	190	190	190	240	240	240
G Ø x No. HOLES	15Ø x 4			20Ø x 4					25Ø x 4				
BOLT ØxH	M12x100 HILTI HIT HY-150			M16x150 HILTI HIT HY-150					M20x150 (MIN) HILTI HIT HY-150				

PIPE SUPPORT TYPE 1
STANCHION PIPE SUPPORT WITH SADDLE (ADJUSTABLE)

- NOTES:
1. FOR INFORMATION REGARDING GENERAL NOTES, UTILITIES, ABBREVIATIONS AND SYMBOLS, REFER TO THE LEGEND DRAWINGS.
2. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS. NOTE ANY DISCREPANCIES WITH ENGINEER PRIOR TO CONSTRUCTION OR FABRICATION.
3. CONTRACTOR TO PROVIDE SUPPORT FOR PIPING AND FITTINGS AS PER MANUFACTURER'S RECOMMENDATIONS.

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ISSUE	YY-MM-DD	REVISION



SADDLE HILLS COUNTY

BONANZA DISTRIBUTION PUMPS UPGRADING
PROCESS
DETAILS

DESIGNED	I.A.K., S.M.	JOB	5201-008-00
DRAWN	J.M.M.	SCALE	NTS
DATE	JANUARY 2025	DRAWING	P3.1

DISTRIBUTION		POWER CONTINUED		COMMUNICATIONS		INSTRUMENTATION EQUIPMENT	
CONDUIT IDENTIFICATION TAG GROUND BAR METERING CABINET GREATER THAN 200A POWER METER ELECTRIC UTILITY METER 200A AND LESS WATER METER GAS METER 120/24V LOW VOLTAGE TRANSFORMER		HOME RUN WITH WIRE COUNT HEAT TRACING PIN AND SLEEVE CONNECTOR (FEMALE) PIN AND SLEEVE CONNECTOR (MALE) WALL MOUNTED JUNCTION BOX FLOOR MOUNTED JUNCTION BOX CEILING MOUNTED JUNCTION BOX THERMOSTAT NON-FUSEABLE DISCONNECT SWITCH FUSEABLE DISCONNECT SWITCH COMBINATION MAGNETIC HOA STARTER O/H DOOR PUSH BUTTON PULL BOX	WALL MOUNTED TELEPHONE OUTLET WALL MOUNTED DATA OUTLET WALL MOUNTED COMBINATION TELEPHONE/DATA OUTLET WALL MOUNTED TELEVISION OUTLET WALL MOUNTED CHIME OR BUZZER CEILING MOUNTED TELEPHONE OUTLET CEILING MOUNTED COMBINATION TELEPHONE/DATA OUTLET CEILING MOUNTED TELEVISION OUTLET CEILING MOUNTED DATA OUTLET FLOOR MOUNTED DATA OUTLET FLOOR MOUNTED TELEPHONE OUTLET FLOOR MOUNTED TELEVISION OUTLET FLOOR MOUNTED COMBINATION TELEPHONE/DATA OUTLET WIRELESS ACCESS POINT RADIO LINK	LEVEL SWITCH (OPEN ON RISING LEVEL) LEVEL SWITCH (OPEN ON FALLING LEVEL) FLOW SWITCH (OPEN ON RISING FLOW) FLOW SWITCH (OPEN ON FALLING FLOW) PRESSURE SWITCH (OPEN ON RISING PRESSURE) PRESSURE SWITCH (OPEN ON FALLING PRESSURE) TEMPERATURE SWITCH (OPEN ON RISING TEMPERATURE) TEMPERATURE SWITCH (OPEN ON FALLING TEMPERATURE) LIMIT SWITCH (NC) LIMIT SWITCH (NO) TIME DELAY RELAY (NC) TIME DELAY RELAY (NO) INSTRUMENTATION IDENTIFICATION TAG			
<p>LIGHTING</p> SURFACE MOUNTED LIGHT FIXTURE RECESSED LIGHT FIXTURE RECESSED LIGHT FIXTURE WITH END PLATES SURFACE MOUNTED STRIP LIGHT FIXTURE UNDER CABINET/VALENCE STRIP LIGHT FIXTURE WALL MOUNTED CUBED LIGHT FIXTURE SURFACE MOUNTED LIGHT FIXTURE RECESSED LIGHT FIXTURE WALL MOUNTED LIGHT FIXTURE WALL MOUNTED LIGHT FIXTURE ON EMERGENCY TRACK LIGHT C/W PENDANT HEADS TRACK LIGHT C/W ADJUSTABLE HEADS BOLLARD LIGHT FIXTURE POLE MOUNTED LIGHT FIXTURE (ONE HEAD SHOWN) CEILING MOUNTED EXIT LIGHT SINGLE FACE CEILING MOUNTED EXIT LIGHT DOUBLE FACE CEILING COMBINATION EXIT SIGN AND EMERGENCY LIGHT C/W BATTERY WALL MOUNTED EXIT LIGHT SINGLE FACE WALL MOUNTED EXIT LIGHT DOUBLE FACE WALL COMBINATION EXIT SIGN AND EMERGENCY LIGHT C/W BATTERY EXIT LIGHT DIRECTIONAL ARROW WALL MOUNTED EMERGENCY LIGHTING BATTERY PACK CEILING MOUNTED EMERGENCY LIGHTING DOUBLE REMOTE HEAD WALL MOUNTED EMERGENCY LIGHTING DOUBLE REMOTE HEAD		<p>SWITCHES</p> LINE VOLTAGE SWITCH SWITCH C/W PILOT LIGHT TWO POLE SWITCH THREE WAY SWITCH FOUR WAY SWITCH MANUAL MOTOR PROTECTION SWITCH C/W PILOT LIGHT KEY OPERATED SWITCH - CYLINDER TYPE TIMER SWITCH DIMMER SWITCH - SLIDER TYPE INTERNALLY ILLUMINATED LIGHT SWITCH LOW VOLTAGE SWITCH 2 GANG SWITCH 3 GANG SWITCH 4 GANG SWITCH 5 GANG SWITCH WALL MOUNTED PHOTOCELL		<p>CONTROL PANEL EQUIPMENT</p> RESET PUSH BUTTON (NO) RESET PUSH BUTTON (NC) MUSHROOM HEAD STOP 3 POSITION SELECTOR SWITCH 2 POSITION SELECTOR SWITCH HAND-OFF-AUTO SELECTOR SWITCH UP-OFF-DOWN SELECTOR SWITCH RESET PUSH BUTTON AMBER PILOT LIGHT GREEN PILOT LIGHT RED PILOT LIGHT DUPLEX RECEPTACLE SINGLE PHASE PLUG MAIN CONTROL PANEL FUSED TERMINAL BLOCK AUXILIARY FUSED TERMINAL BLOCK CIRCUIT BREAKER MAIN CONTROL PANEL TERMINAL BLOCK PLC/RTU TERMINAL AUXILIARY TERMINAL BLOCK MCC/VFD TERMINAL BLOCK DEVICE TERMINAL BLOCK DRY CONTACT RELAY TIME DELAY RELAY MAGNETIC CONTACTOR SOLENOID DRY CONTACT RELAY (NC) DRY CONTACT RELAY (NO) VARIABLE RESISTOR RESISTOR THERMISTOR DIODE METAL OXIDE VARISTOR PLC/RTU DIGITAL INPUT PLC/RTU DIGITAL OUTPUT PLC/RTU ANALOG INPUT PLC/RTU ANALOG OUTPUT		<p>MISCELLANEOUS AND LABELS</p> REVISION NUMBER FIXTURE TYPE MECHANICAL EQUIPMENT IDENTIFICATION TAG KITCHEN EQUIPMENT TAG KEY NOTES SINGLE LINE BREAK DOUBLE LINE BREAK CAPPED OFF LINE OR CONDUIT CONDUIT BREAK CABLE TRAY DISH WASHER FRIDGE RANGE MICROWAVE GARBURATOR DRYER WASHER NIGHT LIGHT TAMPER PROOF GFCI ISOLATED GROUND EMERGENCY AMP FRAME AMP TRIP WEATHER PROOF EXPLOSION PROOF E X ER RD WIRE COUNT CONDUIT RUN UP CONDUIT RUN DOWN OH UG CONDUCTOR/CONDUIT UNDERGROUND CONDUCTOR/CONDUIT FLEXIBLE CONDUIT EXISTING EQUIPMENT NEW EQUIPMENT EQUIPMENT TO BE REMOVED	
<p>POWER</p> DUPLEX RECEPTACLE SPLIT FEED RECEPTACLE FOURPLEX RECEPTACLE SWITCHED DUPLEX RECEPTACLE 20A T-SLOT RECEPTACLE (KITCHEN) TWISTLOCK RECEPTACLE 208 VOLT 1PH RECEPTACLE 208 VOLT 3PH RECEPTACLE WALL MOUNTED USB PORT PEDESTAL DUPLEX RECEPTACLE WALL MOUNTED PUSH BUTTON WALL MOUNTED SURGE PROTECTIVE DEVICE (SPD OR TVSS) WALL MOUNTED VARIABLE FREQUENCY DRIVE (VFD) CEILING MOUNTED DUPLEX RECEPTACLE CEILING MOUNTED FOURPLEX RECEPTACLE CEILING MOUNTED 208 VOLT 1PH RECEPTACLE CEILING MOUNTED 208 VOLT 3PH RECEPTACLE AUXILIARY RELAY CEILING MOUNTED POWER ZONE BOX REEL DOWN RECEPTACLE PACK POLE FLOOR MOUNTED DUPLEX RECEPTACLE FLOOR MOUNTED FOURPLEX RECEPTACLE FLOOR MOUNTED 208 VOLT 1PH RECEPTACLE FLOOR MOUNTED 208 VOLT 3PH RECEPTACLE MOTOR MOTOR WITH DISCONNECT SWITCH MOTOR WITH FUSIBLE DISCONNECT SWITCH MOTOR WITH COMBINATION DISCONNECT SWITCH MAGNETIC MOTOR STARTER		<p>POWER EQUIPMENT</p> DELTA WYE TRANSFORMER DISTRIBUTION TRANSFORMER POTENTIAL TRANSFORMER FUSE DRAW OUT TYPE CIRCUIT BREAKER DRAW OUT TYPE 3 PHASE GENERATOR (GROUNDED) THERMAL OVERLOAD PROTECTION INTERLOCK CAPACITOR CURRENT METER CONTACTOR FUSE DISCONNECT SWITCH FUSED DISCONNECT SWITCH CIRCUIT BREAKER FRAME SIZE, TRIP RATING, POLE ELAPSED TIME METER GROUND ROD GROUND ROD C/W WELL GROUND ROD WITHOUT WELL HEATER C/W KILOWATT RATING TRANSFER SWITCH					

NOTES:
 1. ALL DIMENSIONS ARE SHOWN IN MILLIMETRES UNLESS OTHERWISE INDICATED.

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1	25-01-28	FOR TENDER
ISSUE	YY-MM-DD	REVISION

PERMIT TO PRACTICE
 MPE - a division of Englobe
 Signature:
 APEGA ID: 51203
 Date: JAN 28, 2025
 PERMIT NUMBER: P 7841
 The Association of Professional Engineers and Geoscientists of Alberta (APEGA)

ID 68504
 JAN 28, 2025



SADDLE HILLS COUNTY

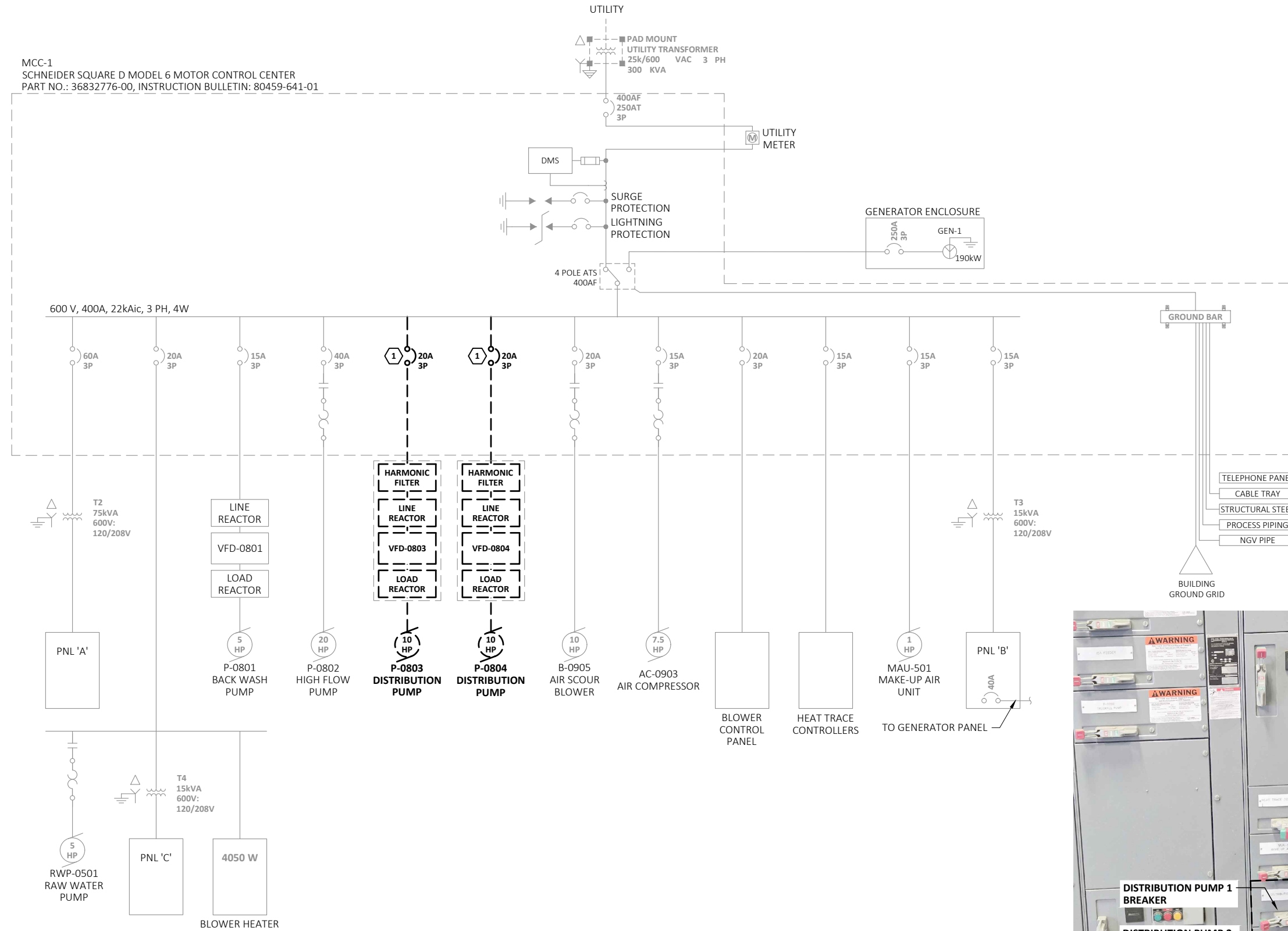
**BONANZA DISTRIBUTION PUMPS
 UPGRADING
 ELECTRICAL
 ELECTRICAL LEGEND**

DESIGNED	A.M., P.P.G.	JOB	5201-008-00
DRAWN	A.M.	SCALE	NTS
DATE	JANUARY 2025	DRAWING	E0.1

DIGITAL DRAWINGS BEST VIEWED IN ADOBE ACROBAT READER

THIS DRAWING MAY HAVE BEEN MODIFIED FROM ITS ORIGINAL SIZE. ALL SCALE NOTATIONS INDICATED ARE BASED ON 11"x17" FORMAT DRAWINGS

MCC-1
SCHNEIDER SQUARE D MODEL 6 MOTOR CONTROL CENTER
PART NO.: 36832776-00, INSTRUCTION BULLETIN: 80459-641-01



NOTES:
1. FOR DEMOLITION PLANS REFER TO E2.1 AND E2.2.

KEY NOTES:
1. REMOVE THE EXISTING BREAKER BUCKET ALONG WITH DOOR AND LABEL.

1	25-01-28	FOR TENDER
ISSUE	YY-MM-DD	REVISION

PERMIT TO PRACTICE
MPE, a division of Englobe
Signature: *[Signature]*
APEGA ID: 51203
Date: JAN 28, 2025
PERMIT NUMBER: P 7841
The Association of Professional Engineers and Geoscientists of Alberta (APEGA)

PROFESSIONAL ENGINEER ALBERTA
GOERTZ
ID 68504
JAN 28, 2025



SADDLE HILLS COUNTY

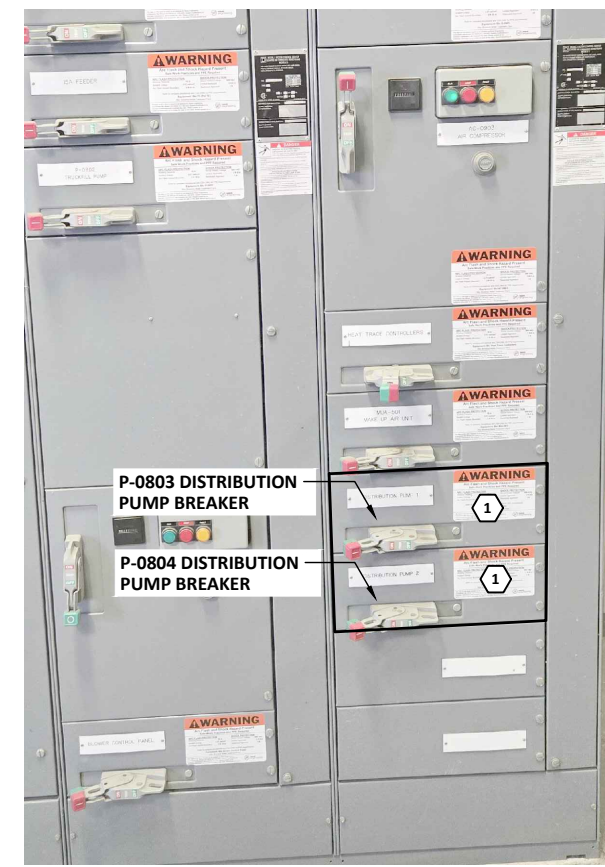
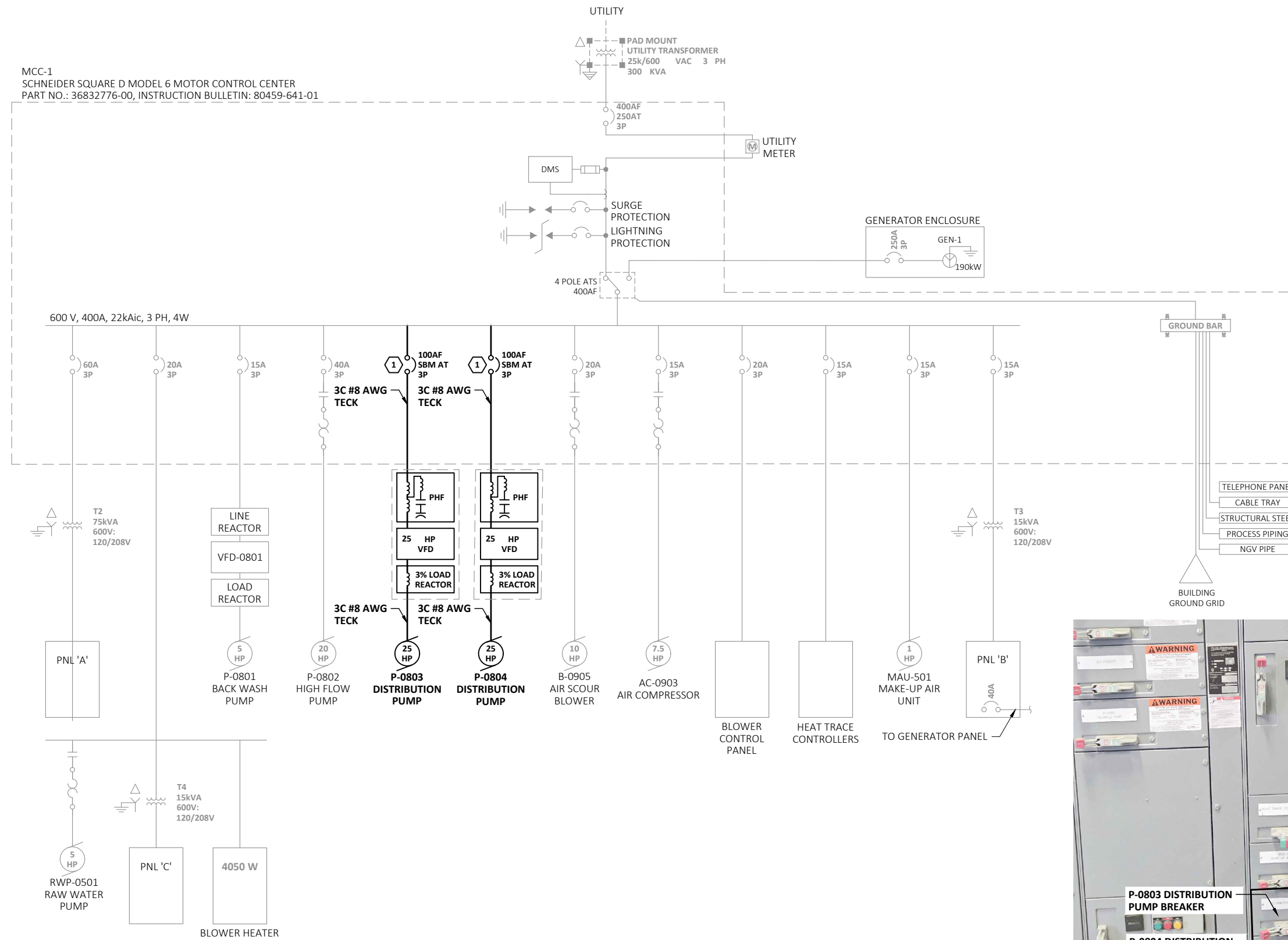
BONANZA DISTRIBUTION PUMPS
UPGRADING
ELECTRICAL
SINGLE LINE DEMOLITION

DESIGNED	A.M., P.P.G.	JOB	5201-008-00
DRAWN	A.M.	SCALE	NTS
DATE	JANUARY 2025	DRAWING	E1.1

DIGITAL DRAWINGS BEST VIEWED IN ADOBE ACROBAT READER

THIS DRAWING MAY HAVE BEEN MODIFIED FROM ITS ORIGINAL SIZE. ALL SCALE NOTATIONS INDICATED ARE BASED ON 11"x17" FORMAT DRAWINGS

MCC-1
SCHNEIDER SQUARE D MODEL 6 MOTOR CONTROL CENTER
PART NO.: 36832776-00, INSTRUCTION BULLETIN: 80459-641-01



- NOTES:
- FOR DEMOLITION PLANS REFER TO E2.1 AND E2.2.
 - MECHANICAL EQUIPMENT PROVIDED AND INSTALLED BY DIVISION 15 CONTRACTOR. DIVISION 16 CONTRACTOR TO PROVIDE AND INSTALL WIRING.
 - CONTRACTOR TO CONFIRM OVER CURRENT DEVICE AND WIRE SIZE PRIOR TO ORDERING.
 - SBM - SIZED BY MANUFACTURER.
 - BONDING CONDUCTORS ARE GENERALLY NOT SHOWN. BOND EQUIPMENT AS PER CEC WHERE BONDING CONDUCTORS ARE NOT EXPRESSLY SHOWN.
 - ALL CABLES ARE TO BE COPPER UNLESS OTHERWISE NOTED.

- KEY NOTES:
- REPLACE THE EXISTING BREAKER BUCKET ALONG WITH DOOR AND LABEL AS REQUIRED. NEW BREAKERS SHALL BE LOCKABLE. FOR DETAILS ON EXISTING MCC PLEASE REFER TO SCHNEIDER SQUARE D MODEL 6 MOTOR CONTROL CENTER PART NO.: 36832776-00, INSTRUCTION BULLETIN: 80459-641-01

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ISSUE	YY-MM-DD	REVISION

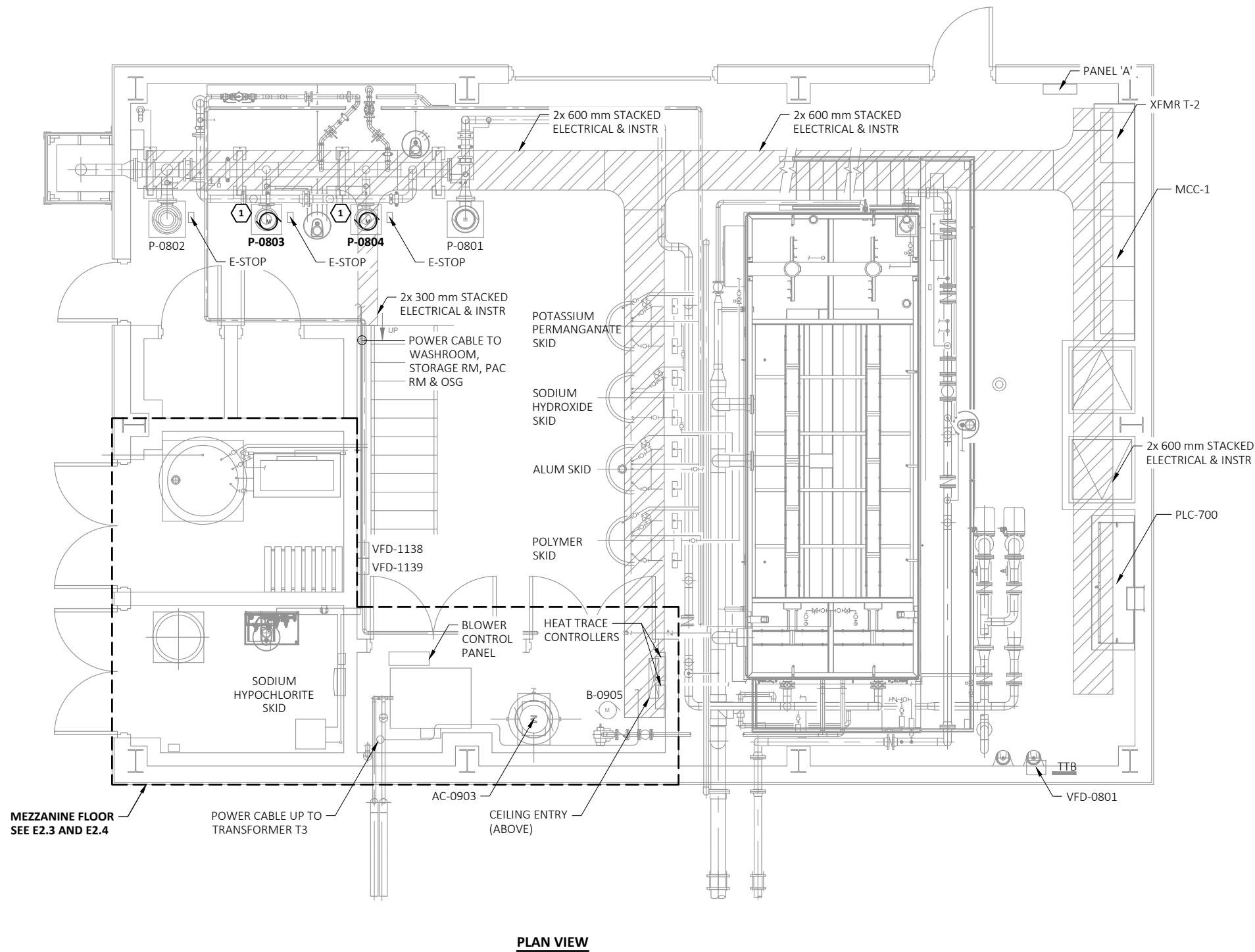
PERMIT TO PRACTICE
MPE, a division of Englobe
Signature: [Signature]
APEGA ID: 51203
Date: JAN 28, 2025
PERMIT NUMBER: P 7841
The Association of Professional Engineers and Geoscientists of Alberta (APEGA)

PROFESSIONAL ENGINEER ALBERTA
GOERTZ
ID 68504
JAN 28, 2025



SADDLE HILLS COUNTY
BONANZA DISTRIBUTION PUMPS
UPGRADING
ELECTRICAL
SINGLE LINE PROPOSED

DESIGNED	A.M., P.P.G.	JOB	5201-008-00
DRAWN	A.M.	SCALE	NTS
DATE	JANUARY 2025	DRAWING	E1.2



- NOTES:**
- FOR DEMOLITION SINGLE LINE DIAGRAM REFER TO E1.1.
 - CONTRACTOR TO ENSURE THAT DEMOLISHED CABLES ARE REMOVED FROM THE CABLE TRAY.
 - THIS DRAWINGS REPRESENTS THE MAJORITY OF EQUIPMENT TO BE DEMOLISHED. HOWEVER, THERE MAY BE DEVICES NOT SHOWN ON THIS DRAWING THAT ARE REQUIRED TO BE DEMOLISHED. DEMOLISH ALL POWER, CONDUIT, CABLE AND EQUIPMENT NOT BEING UTILIZED. CONTRACTOR SHALL REMOVE ALL UNUSED POWER WIRING BACK TO ITS SOURCE, FROM ANY DEMOLISHED MECHANICAL EQUIPMENT.
 - COORDINATE WITH OWNER TO DETERMINE WHAT EQUIPMENT IS TO BE SALVAGED AND RETURNED TO OWNER.
 - FOR PROPOSED SINGLE LINE DIAGRAM REFER TO E1.2.
 - CONTRACTOR TO UTILIZE EXISTING CABLE TRAY FOR NEW EQUIPMENT WIRING.
- KEY NOTES:**
- REMOVE AND REPLACE THE EXISTING MOTORS ALONG WITH THE ASSOCIATED POWER WIRING.

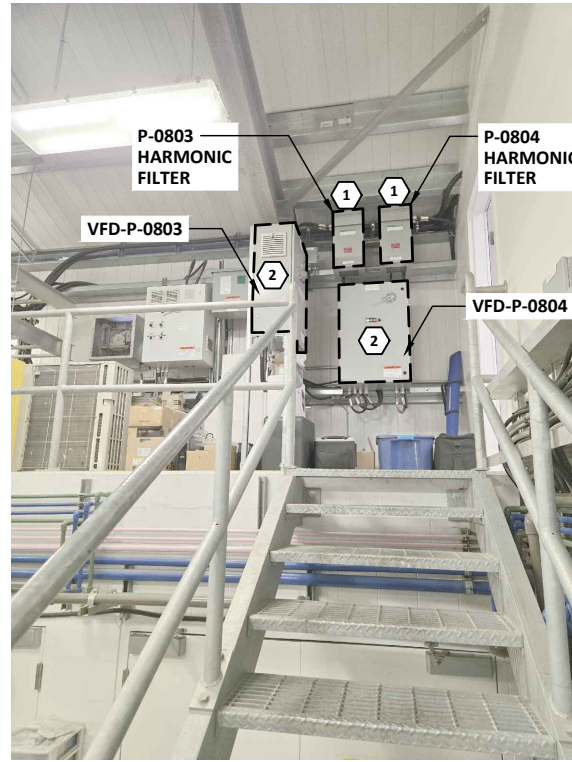
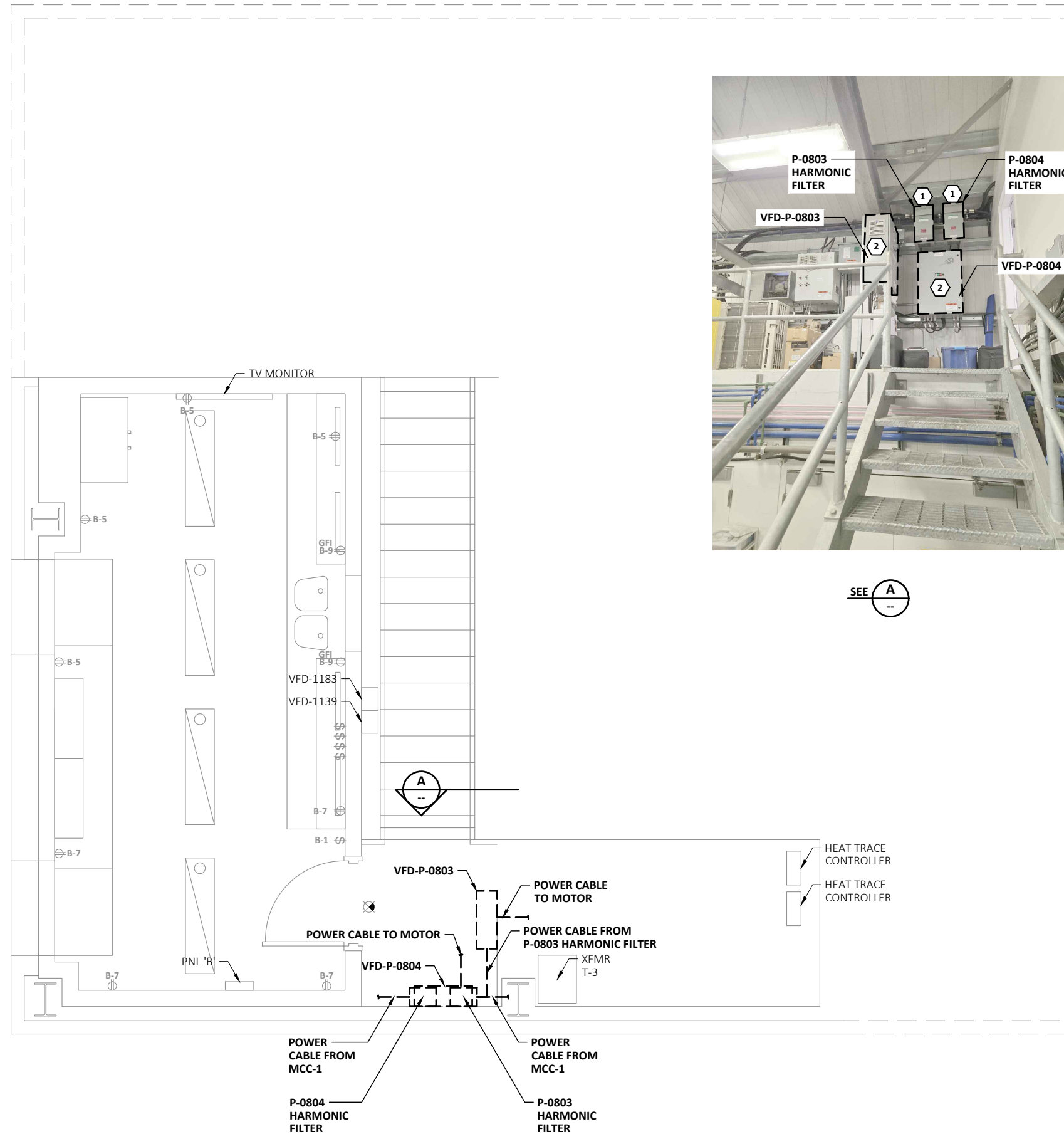
1	25-01-28	FOR TENDER
ISSUE	YY-MM-DD	REVISION

PERMIT TO PRACTICE
MPE - a division of Englobe
Signature: *[Signature]*
APEGA ID: 51203
Date: JAN 28, 2025
PERMIT NUMBER: P 7841
The Association of Professional Engineers and Geoscientists of Alberta (APEGA)

PROFESSIONAL ENGINEER ALBERTA
GOERTZEL
ID 68504
JAN 28, 2025



SADDLE HILLS COUNTY		
BONANZA DISTRIBUTION PUMPS UPGRADING ELECTRICAL MAIN FLOOR PLAN		
DESIGNED	A.M., P.P.G.	JOB 5201-008-00
DRAWN	A.M.	SCALE 1:75
DATE	JANUARY 2025	DRAWING E2.1

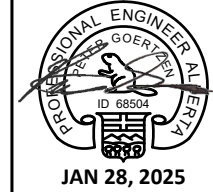
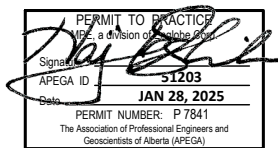


SEE A

- NOTES:**
- FOR DEMOLITION SINGLE LINE DIAGRAM REFER TO E1.1.
 - THIS DRAWINGS REPRESENTS THE MAJORITY OF EQUIPMENT TO BE DEMOLISHED. HOWEVER, THERE MAY BE DEVICES NOT SHOWN ON THIS DRAWING THAT ARE REQUIRED TO BE DEMOLISHED. DEMOLISH ALL POWER, CONDUIT, CABLE AND EQUIPMENT NOT BEING UTILIZED. CONTRACTOR SHALL REMOVE ALL UNUSED POWER WIRING BACK TO ITS SOURCE, FROM ANY DEMOLISHED MECHANICAL EQUIPMENT.
 - COORDINATE WITH OWNER TO DETERMINE WHAT EQUIPMENT IS TO BE SALVAGED AND RETURNED TO OWNER.

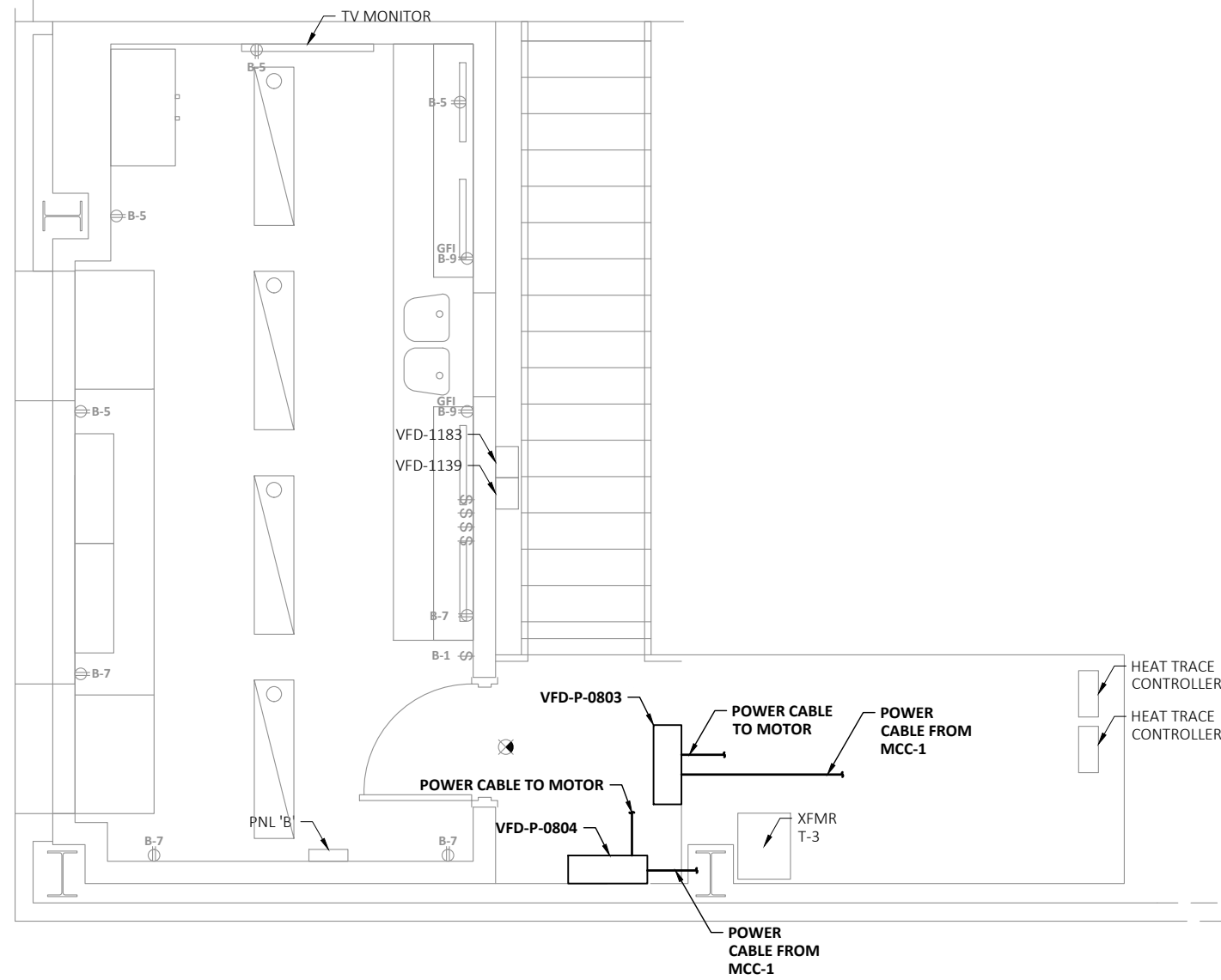
- KEY NOTES:**
- DEMOLISH HARMONIC FILTER ALONG WITH THE ASSOCIATED POWER WIRING.
 - DEMOLISH VFD ALONG WITH THE ASSOCIATED POWER WIRING. RE-CONNECT THE EXISTING CONTROL WIRING TO THE NEW VFD.

ISSUE	YY-MM-DD	REVISION
1	25-01-28	FOR TENDER



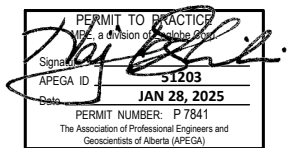
SADDLE HILLS COUNTY
BONANZA DISTRIBUTION PUMPS UPGRADING ELECTRICAL MEZZANINE FLOOR PLAN DEMOLITION

DESIGNED	A.M., P.P.G.	JOB	5201-008-00
DRAWN	A.M.	SCALE	1:50
DATE	JANUARY 2025	DRAWING	E2.2



- NOTES:
1. FOR PROPOSED SINGLE LINE DIAGRAM REFER TO E1.2.
 2. CONTRACTOR TO UTILIZE EXISTING CABLE TRAY FOR WIRING NEW EQUIPMENT. SEE DRAWING E2.1 FOR EXISTING CABLE TRAY LAYOUT.
 3. CONTRACTOR TO RE-CONNECT CONTROL WIRES FROM PLC-700 TO THE NEW VFDS.

ISSUE	YY-MM-DD	REVISION
1	25-01-28	FOR TENDER

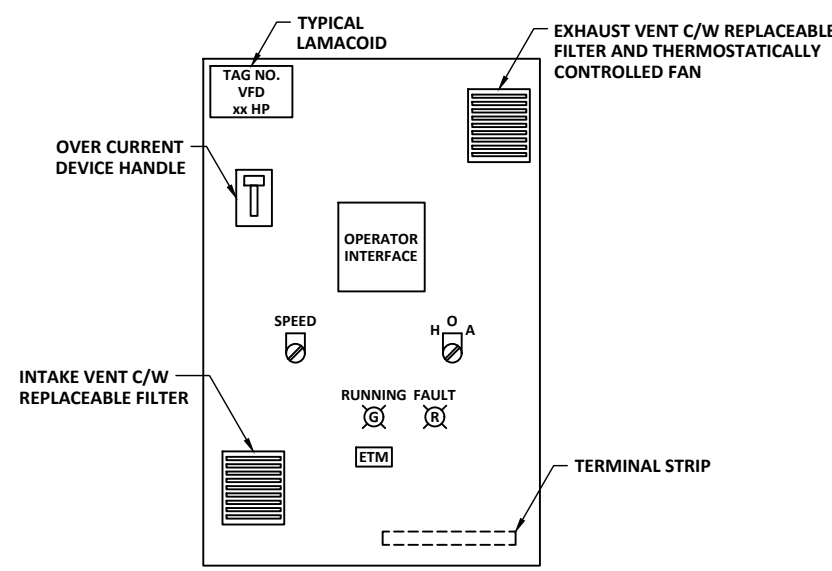
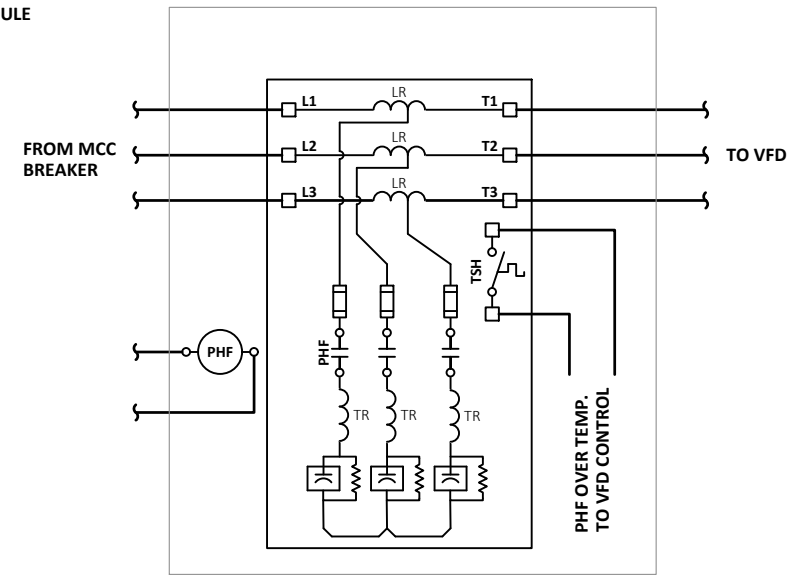
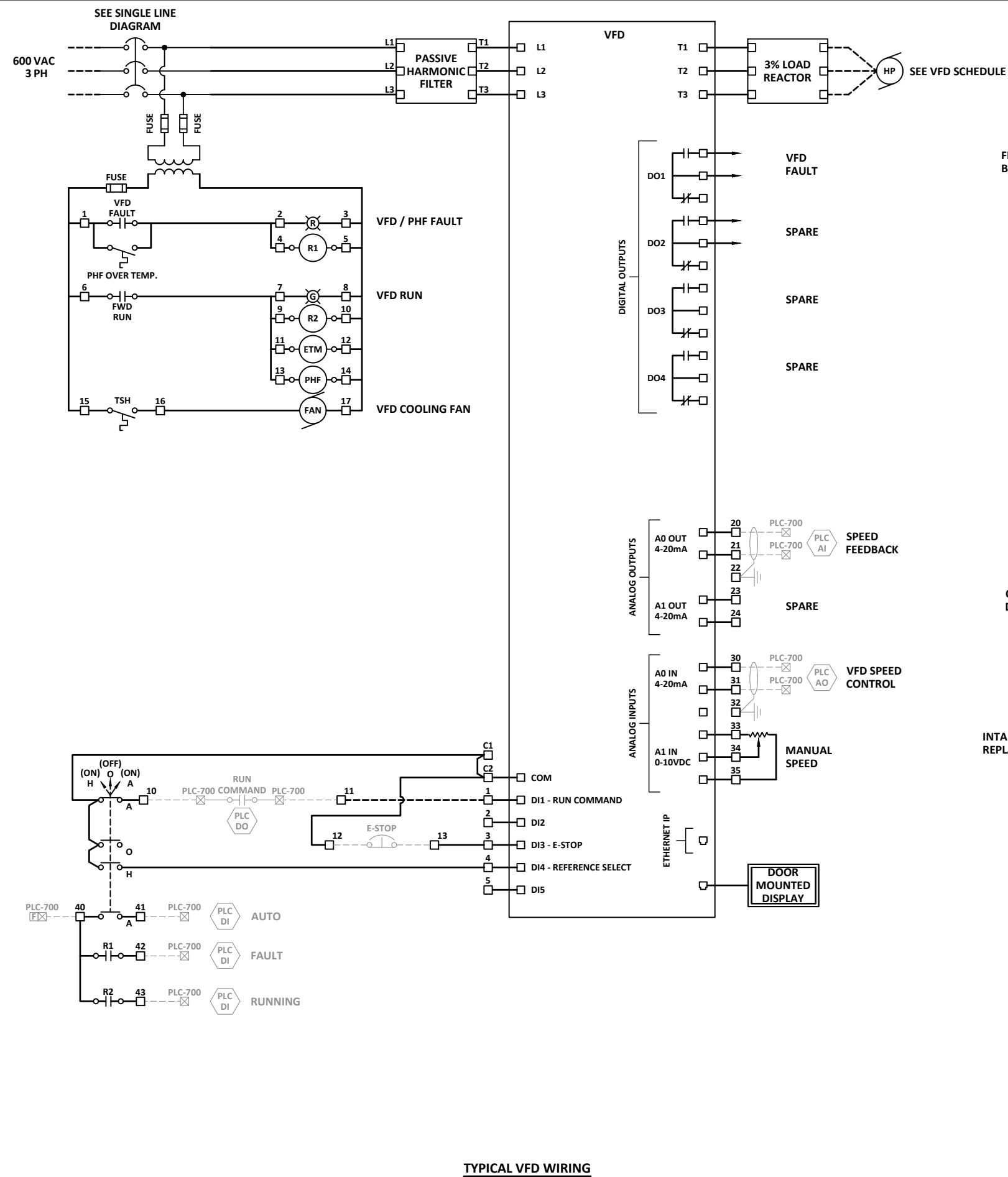


SADDLE HILLS COUNTY
BONANZA DISTRIBUTION PUMPS
UPGRADING
ELECTRICAL
MEZZANINE FLOOR PLAN PROPOSED

DESIGNED	A.M., P.P.G.	JOB	5201-008-00
DRAWN	A.M.	SCALE	1:50
DATE	JANUARY 2025	DRAWING	E2.3

DIGITAL DRAWINGS BEST VIEWED IN ©ADOBE ACROBAT READER

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VFD SCHEDULE	
PUMP TAG	HP
P-0803	25
P-0804	25

- NOTES:
- FOR PROPOSED SINGLE LINE DIAGRAM REFER TO E1.2.
 - VFD DISCONNECTS TO BE LOCKABLE IN THE OPEN POSITION.
 - PROVIDE TERMINAL STRIP INSIDE THE CABINET FOR EXTENDING CONTROL WIRING TO NEW VFD TERMINALS.
 - RECONNECT EXISTING CONTROL WIRING FROM PLC-700 AND E-STOP TO THE NEW VFDS.
 - LR = LINE REACTOR.
 - TR = TRAP REACTOR.

1	25-01-28	FOR TENDER
ISSUE	YY-MM-DD	REVISION

PERMIT TO PRACTICE
MPE - a division of Englobe
Signature: [Signature]
APEGA ID: 51203
Date: JAN 28, 2025
PERMIT NUMBER: P 7841
The Association of Professional Engineers and Geoscientists of Alberta (APEGA)

PROFESSIONAL ENGINEER
GOERTZ
ID 68504
JAN 28, 2025



SADDLE HILLS COUNTY			
BONANZA DISTRIBUTION PUMPS UPGRADING ELECTRICAL VFD DETAILS			
DESIGNED	A.M., P.P.G.	JOB	5201-008-00
DRAWN	A.M.	SCALE	NTS
DATE	JANUARY 2025	DRAWING	E3.1