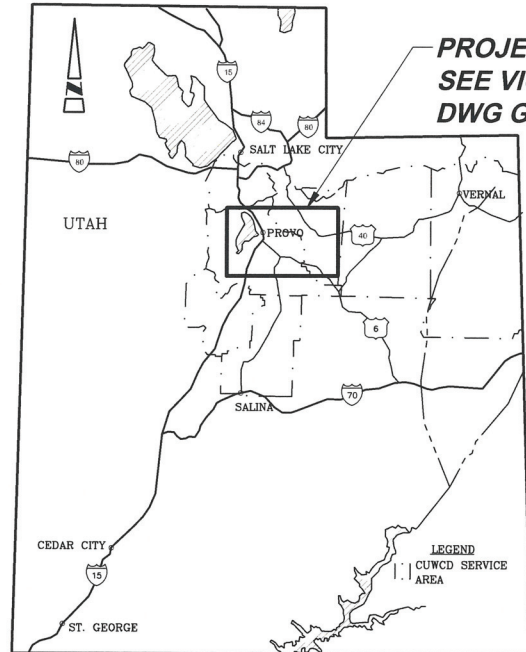


UTAH LAKE DRAINAGE BASIN WATER DELIVERY SYSTEM
SPANISH FORK SANTAQUIN PIPELINE
SANTAQUIN REACH

CONTRACT C-2023-1, VOL 3, DRAWINGS OCTOBER 2023



REGIONAL LOCATION MAP

PROJECT LOCATION
 SEE VICINITY MAP
 DWG G-2



CENTRAL UTAH WATER
CONSERVANCY DISTRICT

RECOMMENDED: *Ryan Phillips* 10/3/23
 RYAN PHILLIPS
 DESIGN SPECIALIST
 JACOBS ENGINEERING GROUP
 DATE

RECOMMENDED: *Aaron Smith* 10/3/23
 AARON SMITH, RCE 13521158-2202
 DESIGN MANAGER
 JACOBS ENGINEERING GROUP
 DATE

APPROVED: *Mark A. Breitenbach* 10/3/23
 MARK BREITENBACH, RCE 362898-2202
 PROJECT MANAGER
 CENTRAL UTAH WATER CONSERVANCY DISTRICT
 DATE

APPROVED: *David O. Pitcher* 10/3/23
 DAVID O. PITCHER, RCE 169469-2202
 CUPCA CONSTRUCTION MANAGER
 CENTRAL UTAH WATER CONSERVANCY DISTRICT
 DATE

APPROVED: *Gene Shawcroft* 10/3/23
 GENE SHAWCROFT, RCE 169481-2202
 GENERAL MANAGER
 CENTRAL UTAH WATER CONSERVANCY DISTRICT
 DATE

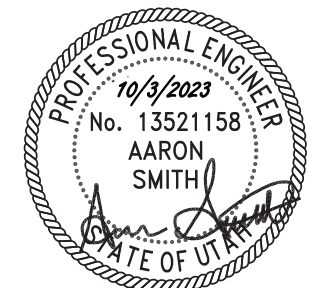
CENTRAL UTAH WATER CONSERVANCY DISTRICT

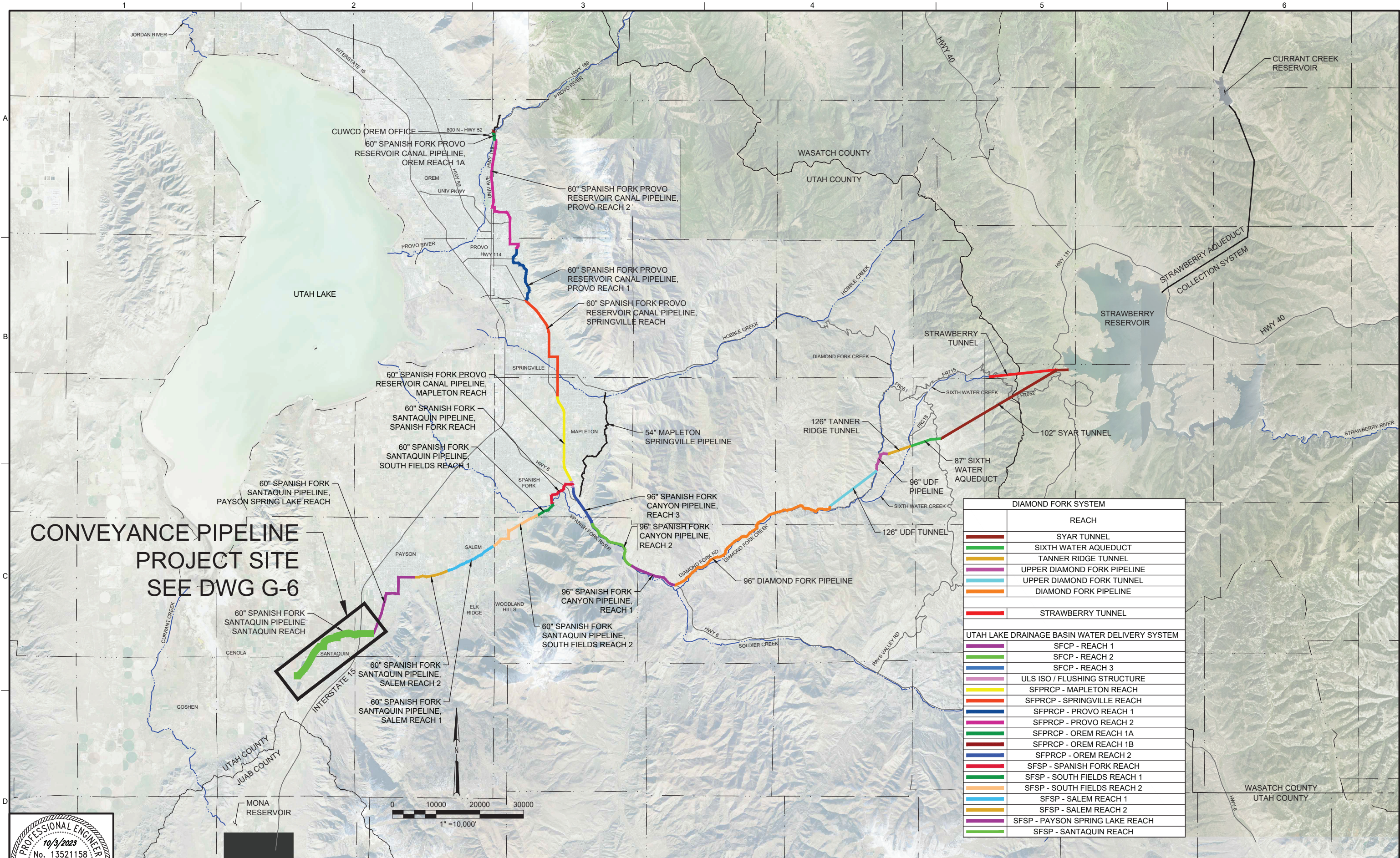
BOARD OF TRUSTEES

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 SHELLY BRENNAN
 JON BRONSON
 KIRK L. CHRISTENSEN
 STEVE FARRELL
 WADE E. GARNER

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 MAX HASLEM
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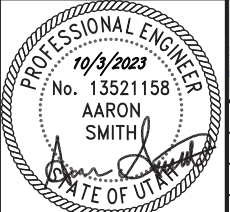
ELDON NEVES
 JIM RIDING
 JENNIFER SCOTT
 EDWIN B. SUNDERLAND
 RANDY VINCENT
 BRAD WELLS





**CONVEYANCE PIPELINE
PROJECT SITE
SEE DWG G-6**

DIAMOND FORK SYSTEM	
REACH	
[Red Line]	SYAR TUNNEL
[Green Line]	SIXTH WATER AQUEDUCT
[Yellow Line]	TANNER RIDGE TUNNEL
[Purple Line]	UPPER DIAMOND FORK PIPELINE
[Cyan Line]	UPPER DIAMOND FORK TUNNEL
[Orange Line]	DIAMOND FORK PIPELINE
[Red Line]	STRAWBERRY TUNNEL
UTAH LAKE DRAINAGE BASIN WATER DELIVERY SYSTEM	
[Purple Line]	SFCP - REACH 1
[Green Line]	SFCP - REACH 2
[Blue Line]	SFCP - REACH 3
[Purple Line]	ULS ISO / FLUSHING STRUCTURE
[Yellow Line]	SFPRCP - MAPLETON REACH
[Orange Line]	SFPRCP - SPRINGVILLE REACH
[Blue Line]	SFPRCP - PROVO REACH 1
[Purple Line]	SFPRCP - PROVO REACH 2
[Green Line]	SFPRCP - OREM REACH 1A
[Red Line]	SFPRCP - OREM REACH 1B
[Blue Line]	SFPRCP - OREM REACH 2
[Red Line]	SFSP - SPANISH FORK REACH
[Green Line]	SFSP - SOUTH FIELDS REACH 1
[Orange Line]	SFSP - SOUTH FIELDS REACH 2
[Cyan Line]	SFSP - SALEM REACH 1
[Yellow Line]	SFSP - SALEM REACH 2
[Purple Line]	SFSP - PAYSON SPRING LAKE REACH
[Green Line]	SFSP - SANTAQUIN REACH



DSGN	R PHILLIPS								
DR	R PHILLIPS								
CHK	A SMITH								
APVD	A SMITH	NO.	DATE	REVISION	BY	APVD			

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.



SPANISH FORK SANTAQUIN PIPELINE
SANTAQUIN REACH

VICINITY MAP

SHEET	XX OF XX
DWG	G-2
DATE	OCTOBER 2023
CONTRACT	C-2023-01

ONE LINE DIAGRAMS - 1

CONTROL DIAGRAMS - 1

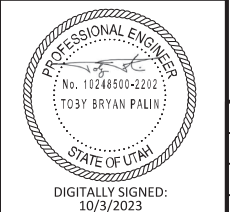
ABBREVIATIONS

SYMBOL	DESCRIPTION
	DRAWOUT AIR CIRCUIT BREAKER, LOW VOLTAGE
	CIRCUIT BREAKER, THERMAL MAGNETIC TRIP SHOWN, 3 POLE, UNO
	CIRCUIT BREAKER, STATIC TRIP UNIT, SENSOR AMP TRIP AND FRAME RATINGS SHOWN, 3 POLE, UNO
	CIRCUIT BREAKER, MAGNETIC TRIP ONLY, FRAME SIZE SHOWN, 3 POLE, UNO
	CIRCUIT BREAKER WITH CURRENT LIMITING FUSES, TRIP AND FUSE RATING INDICATED, 3 POLE, UNO
	FUSED SWITCH, SWITCH AND FUSE CURRENT RATING INDICATED, 3 POLE, UNO
	SWITCH - CURRENT RATING INDICATED, 3 POLE, UNO
	FUSE, RATING AND QUANTITY INDICATED
	MAGNETIC STARTER WITH OVERLOAD, NEMA SIZE INDICATED
	ELECTRONIC STARTER/SPEED CONTROL SS = AC SOLID STATE SOFT STARTER AFD = AC ADJUSTABLE FREQUENCY DRIVE DC = DC ADJUSTABLE SPEED DRIVE
	CABLE OR BUS CONNECTION POINT
	KEY INTERLOCK
	SURGE ARRESTER (GAP TYPE)
	CAPACITOR - KVAR INDICATED, 3 PHASE
	MOTOR, SQUIRREL CAGE INDUCTION - HORSEPOWER INDICATED
	ANALOG METER WITH SWITCH - SCALE RANGE SHOWN V = VOLTAGE KW = KILOWATTS A = AMPERAGE KVAR = KILOVARS PF = POWER FACTOR
	DIGITAL POWER METER (MULTIFUNCTION)
	GROUND
	TRANSFORMER, SECONDARY VOLTAGES, PHASE AND RATING INDICATED AS APPLICABLE
	POTENTIAL TRANSFORMER, QUANTITY INDICATED (3)
	CURRENT TRANSFORMER, RATIO(100:5) AND QUANTITY INDICATED (3)
	CONNECTION POINT TO EQUIPMENT SPECIFIED IN OTHER DIVISIONS, RACEWAY, CONDUCTOR AND CONNECTION IN THIS DIVISION
	ELECTRONIC OVERLOAD

NOTES:
 1. THESE ARE STANDARD LEGEND SHEETS. SOME SYMBOLS AND ABBREVIATIONS MAY APPEAR ON THE LEGEND AND NOT ON THE DRAWINGS.
 2. FOR ADDITIONAL ABBREVIATIONS OF OTHER DIVISIONS (HVAC, MECHANICAL, AND STRUCTURAL/ARCHITECTURAL) SEE OTHER LEGENDS.

SYMBOL	DESCRIPTION
	PUSH-BUTTON SWITCH, MOMENTARY CONTACT, NORMALLY OPEN
	PUSH-BUTTON SWITCH, MOMENTARY CONTACT, NORMALLY CLOSED
	PUSH BUTTON SWITCH, MAINTAINED CONTACTS WITH MECHANICAL INTERLOCK
	3 POSITION SELECTOR SWITCH MAINTAINED CONTACT
	SELECTOR SWITCH - MAINTAINED CONTACT - CHART IDENTIFIES OPERATION: X - CLOSED CONTACT O - OPEN CONTACT
	TOGGLE SWITCH, ON-OFF TYPE
	SELECTOR SWITCH, ON-OFF TYPE
	MUSHROOM HEAD SWITCH
	INDICATING LIGHT, PUSH-TO-TEST, LETTER INDICATES COLOR A - AMBER G - GREEN S - STROBE B - BLUE R - RED C - CLEAR W - WHITE
	ELAPSED TIME METER
	MOTOR STARTER CONTACTOR COIL
	CONTROL RELAY, X INDICATES NUMERICAL ORDER IN CIRCUIT
	TIME DELAY RELAY, X INDICATES NUMERICAL ORDER IN CIRCUIT
	SOLENOID VALVE, X INDICATES NUMERICAL ORDER IN CIRCUIT
	CONTACT - NORMALLY OPEN
	CONTACT - NORMALLY CLOSED
	REMOTE DEVICE
	TIME DELAY RELAY CONTACT, NORMALLY OPEN, CLOSING WHEN ENERGIZED AND TIMED OUT
	TIME DELAY RELAY CONTACT, NORMALLY CLOSED, OPENS WHEN ENERGIZED AND TIMED OUT
	TIME DELAY RELAY CONTACT, CLOSING WHEN ENERGIZED, OPENS WHEN TIMED OUT
	TIME DELAY RELAY CONTACT, OPENS WHEN ENERGIZED, CLOSING WHEN RE-ENERGIZED AND TIMED OUT
	MOTOR SPACE HEATER
	TERMINAL BLOCK, REMOTE
	TERMINAL BLOCK, INTERNAL
	FUSED TERMINAL BLOCK
	SURGE ARRESTOR, AC OR DC AS INDICATED BY SIGNAL TYPE
	FUSE, RATING INDICATED
	TRANSFORMER, CONTROL POWER

ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
A	AMMETER, AMPERE, AUTOMATIC	FO	FIBER OPTIC	O	OPEN
AB SW	AIR-BREAK SWITCH	FOPP	FIBER OPTIC PATCH PANEL	OCA	OPEN-CLOSE-AUTO
ABV	ABOVE	FP	FIELD PANEL	OCB	OIL CIRCUIT BREAKER
AC	ALTERNATING CURRENT	FREQ	FREQUENCY	OCR	OVERCURRENT RELAY
ACB	AIR-CIRCUIT BREAKER	FS	FLOAT SWITCH	OHM	OHMMETER
ACC	AREA CONTROL CENTER	FT	FLOW TRANSMITTER	OL	OVERLOAD RELAY
ACP	CENTER AREA CONTROL PANEL	FU	FUSE	OO	ON-OFF
ACSR	ALUMINUM CONDUCTOR STEEL-REINFORCED	FVNR	FULL VOLTAGE NON-REVERSING	OOA	ON-OFF-AUTO
ADJ	ADJUSTABLE	FVR	FULL VOLTAGE REVERSING	OOR	ON-OFF-REMOTE
AF	AMPERE FRAME	FWD	FORWARD	OS	OCCUPANCY SENSOR
AFD	ADJUSTABLE FREQUENCY DRIVE	G	GROUND	PB	PULL BOX
AFF	ABOVE FINISHED FLOOR	GALV	GALVANIZED	PC	PHOTOCELL
AFG	ABOVE FINISHED GRADE	GEN	GENERATOR	PCC	POINT OF COMMON COUPLING
AHM	AMPERE-HOUR METER	GFCI	GROUND FAULT CIRCUIT INTERRUPTER	PCB	POWER CIRCUIT BREAKER
AHU	AIR HANDLING UNIT	GFR	GROUND FAULT RELAY	PF	POWER FACTOR
AL	ALUMINUM	GND	GROUND	PH	PHASE
AMM	AMMETER	GPR	GENERATOR PROTECTOR RELAY	PLC	PROGRAMMABLE LOGIC CONTROLLER
AMP	AMPERE	GRS	GALVANIZED RIGID STEEL CONDUIT	PMP	PUMP
AMPL	AMPLIFIER	H	HIGH SPEED	POT	POTENTIOMETER
ANN	ANNUNCIATOR	HGT	HEIGHT	PP	POWER PACK
ANT	ANTENNA	HH	HANDHOLE	PS	PRESSURE SWITCH
APPROX	APPROXIMATE	HID	HIGH INTENSITY DISCHARGE	PT	POTENTIAL TRANSFORMER
AS	AMMETER SWITCH, AMPERE SENSOR	HOA	HAND-OFF-AUTO	PVC	POLYVINYL CHLORIDE
ASC	AUXILIARY SWITCH NORMALLY CLOSED	HOR	HAND-OFF-REMOTE	PWR	POWER
ASO	AUXILIARY SWITCH NORMALLY OPEN	HP	HORSEPOWER	R	RELAY, REVERSE, RUN, RAISE
ASU	AIR SUPPLY UNIT	HPS	HIGH PRESSURE SODIUM	RCPT	RECEPTACLE
ATC	AUTOMATIC TRANSFER CONTROL	HS	HAND SWITCH	REF	REFERENCE
AT	AMPERE TRIP	HT	HEAT TRACE	REM	REMOTE
ATS	AUTOMATIC TRANSFER SWITCH	HTC	HEAT TRACE CONTROLLER	RGS	RIGID GALVANIZED STEEL CONDUIT
AUTO	AUTOMATIC	HVAC	HEATING, VENTILATING & AIR CONDITIONING	RMP	ROCKY MOUNTAIN POWER
AUX	AUXILIARY	HZ	HERTZ	RMS	ROOT MEAN SQUARE
AWG	AMERICAN WIRE GAGE	IC	INTERRUPTING CAPACITY	RTU	REMOTE TELEMTRY UNIT
BAT	BATTERY	I & C	INSTRUMENTATION AND CONTROL	RTD	RESISTANCE TEMPERATURE DETECTOR
BC	BARE COPPER	INCAND	INCANDESCENT	RVNR	REDUCED VOLTAGE NON-REVERSING
BKR	BREAKER	INT	INSTANTANEOUS	RVR	REDUCED VOLTAGE REVERSING
BLDG	BUILDING	ISR	INTRINSICALLY SAFE RELAY	SA	SURGE ARRESTER
BOT	BOTTOM	J,JB	JUNCTION BOX	SC	SPEED CONTROL
C	CONDUIT, CONTACTOR, CONDUCTOR, CLOSE	K	KEY INTERLOCK	SCU	SPEED CONTROL UNIT
CB	CIRCUIT BREAKER	KA	KILOAMPERES	SF	SUPPLY FAN
CC	CONTROL CABLE	KCM	THOUSAND CIRCULAR MILS	SL	STOP LOG
CCS	CENTRAL CONTROL SYSTEM	KV	KILOVOLTS	S/N	SOLID NEUTRAL
CKT	CIRCUIT	KVA	KILOVOLT AMPERES	SOL	SOLENOID
CLF	CURRENT LIMITING FUSE	KW	KILOWATTS	SPD	SPEED, SURGE PROTECTION DEVICE
CLG	CEILING	KWH	KILOWATT HOURS	SS	START STOP
COM	COMMUNICATIONS	KWHD	KILOWATT HOURS DEMAND	SST	STAINLESS STEEL
CONN DIAG	CONNECTION DIAGRAM	L	LIGHTING CONTACTOR, LOW SPEED, LOWER	ST	SHUNT TRIP
CONT	CONTINUE	LC	LIGHTING CONTROLLER, LATCH COIL	SUB	SUBSTATION
CP	CONTROL PANEL	LE	LEVEL ELEMENT	SV	SOLENOID VALVE
CPT	CONTROL POWER TRANSFORMER	LIT	LEVEL INDICATING TRANSMITTER	SW	SWITCH
CPU	CENTRAL PROCESSING UNIT	LOR	LOCAL-OFF-REMOTE	SWBD	SWITCHBOARD
CR	CONTROL RELAY COATED	LP	LOCAL, LIGHTING PANEL	SWGR	SWITCHGEAR
CS	CONTROL STATION, C=CLOSE, T=TRIP	LPS	LOW PRESSURE SODIUM	SYMM	SYMMETRICAL
CT	CURRENT TRANSFORMER, CABLE TRAY	LR	LOCAL/REMOTE	T	THERMOSTAT, TRANSFORMER
DC	DIRECT CURRENT	LS	LIMIT SWITCH, LEVEL SWITCH	TB	TERMINAL BOARD, TEST BLOCK
DCS	DISTRIBUTED CONTROL SYSTEM	LT	LEVEL TRANSMITTER	TD	TEMPERATURE DETECTOR, TIME DELAY
DIV	DIVISION	LT FLEX	LIQUID-TIGHT FLEX CONDUIT	TDC	TIME-DELAY CLOSING
DN	DOWN	M	MAGNETIC CONTACTOR COIL, MOTOR, MANUAL	TDO	TIME-DELAY OPENING
DP	DISTRIBUTION PANEL	MA	MILLIAMPERE	TDR	TIME DELAY RELAY
DPDT	DOUBLE-POLE DOUBLE-THROW	MAN	MANUAL	TEL	TELEPHONE
DPST	DOUBLE-POLE SINGLE-THROW	MAX	MAXIMUM	TEMP	TEMPERATURE
DS	DISCONNECT SWITCH	MCC	MOTOR CONTROL CENTER	TJB	TERMINAL JUNCTION BOX
E	EMPTY	MCC E	MOTOR CONTROL CENTER, EMERGENCY POWER	TSP	TWISTED SHIELDED PAIR
EA	EACH	MCC N	MOTOR CONTROL CENTER, NORMAL POWER	TST	TWISTED SHIELDED TRIAD
EDH	ELECTRIC DUCT HEATER	MDC	MOTORIZED DAMPER CONTROL	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
EF	EXHAUST FAN	MECH	MECHANICAL	TYP	TYPICAL
EG	ENGINE GENERATOR	MERC	MERCURY VAPOR	UC	UNLATCH COIL
EL	ELEVATION	MFR	MANUFACTURER	UH	UNIT HEATER
ELEC	ELECTRIC	MH	MANHOLE, METAL HALIDE, MOUNTING HEIGHT	UNO	UNLESS NOTED OTHERWISE
ELEM	ELEMENTARY	MIN	MINIMUM	UPS	UNINTERRUPTIBLE POWER SUPPLY
EMER	EMERGENCY	MO	MOTOR OPERATOR	UVR	UNDER VOLTAGE RELAY
EMS	ENERGY MONITORING SYSTEM	MOP	MOTOR OPERATED POTENTIOMETER	V	VOLTAGE, VOLTS
EMU	ENERGY MONITORING UNIT	MPC	MINI POWER CENTER	VCB	VACUUM CIRCUIT BREAKER
ENCL	ENCLOSURE	MPR	MOTOR PROTECTION RELAY	VFD	VARIABLE FREQUENCY DRIVE
EP	EXPLOSION-PROOF EQUIPMENT	MRCT	MULTI RATIO CURRENT TRANSFORMER	VIB	VIBRATION
EQPT	EQUIPMENT	MS	MOTOR STARTER	VM	VOLTMETER
ETM	ELAPSED TIME METER	MSC	MANUFACTURER SUPPLIED CABLE	VR	VOLTAGE REGULATOR
EUH	ELECTRIC UNIT HEATER	MSYS	MONITORING SYSTEM	VS	VOLTMETER SWITCH
EXH	EXHAUST	MT	MOUNT	W	WATTS
EXST	EXISTING	MTR	MOTOR	WHD	WATT HOUR DEMAND METER
F	FORWARD, FREQ	MTS	MANUAL TRANSFER SWITCH	WM	WATTMETER
FA	FIRE ALARM	MV	MEDIUM VOLTAGE	WP	WEATHERPROOF
FAP	FIRE ALARM PANEL	N	NEUTRAL, NORMAL	XD	TRANSDUCER
FDR	FEDDER	NA	NON-AUTOMATIC	XFMR	TRANSFORMER
F, FU	FUSE	NC	NORMALLY CLOSED	XPDR	TRANSPONDER
FF	FINISHED FLOOR	NEUT	NEUTRAL	ZS	POSITION SWITCH
FI	FLOW INDICATOR	NIC	NOT IN CONTRACT		
FLEX	FLEXIBLE CONDUIT	N.O.	NORMALLY OPEN		
FLR	FLOOR	NP	NAMEPLATE		
FLUOR	FLUORESCENT	NTS	NOT TO SCALE		



DSGN	M PAWLOWKSI	VERIFY SCALE	BAR IS ONE INCH ON ORIGINAL DRAWING, 0 1"
DR	R PHILLIPS	IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.	
CHK	T PALIN		
APVD	T PALIN		
NO.	DATE	REVISION	BY



SPANISH FORK SANTAQUIN PIPELINE
SANTAQUIN REACH

GENERAL ELECTRICAL NOTES,
 LEGEND, AND ABBREVIATIONS

SHEET	XX OF XX
DWG	GE-1
DATE	OCTOBER 2023
CONTRACT	C-2023-01

POWER SYSTEM PLAN - 1

SYMBOL	DESCRIPTION
	CONNECTION POINT TO EQUIPMENT SPECIFIED, RACEWAY, CONDUCTOR, TERMINATION AND CONNECTION IN THIS DIVISION.
	MAJOR ELECTRICAL COMPONENT OR DEVICE - NAME OR IDENTIFYING SYMBOL AS SHOWN.
	PANELBOARD - SURFACE MOUNTED
	PANELBOARD LETTER
	LP - LIGHTING PANEL DP - DISTRIBUTION PANEL
	PANELBOARD - FLUSH MOUNTED
	TERMINAL JUNCTION BOX
	MOTOR, SQUIRREL CAGE INDUCTION
	GENERATOR, VOLTAGE AND SIZE AS INDICATED.
	HOME RUN - DESTINATION SHOWN
	EXPOSED CONDUIT AND CONDUCTORS*
	CONCEALED CONDUIT AND CONDUCTORS*
NOTE: ALL UNMARKED CONDUIT RUNS CONSIST OF TWO NO. 12, ONE NO. 12 GROUND CONDUCTORS IN 3/4" CONDUIT. RUNS MARKED WITH CROSSHATCHES INDICATE NUMBER OF NO. 12 CONDUCTORS. CROSSHATCH WITH SUBSCRIPT "G" INDICATES GREEN GROUND WIRE.	
	CROSSHATCHES WITH BAR INDICATE NO. 10 CONDUCTOR SIZE CONDUIT ACCORDING TO SPECIFICATIONS AND APPLICABLE CODE.
	CONDUCTOR AND RACEWAY CALLOUT - FOR CONDUIT AND CONDUCTORS, SEE CIRCUIT SCHEDULE.
	CONDUIT DOWN
	CONDUIT UP
	CONDUIT, STUBBED AND CAPPED AS SHOWN
	CONDUIT TERMINATION AT CABLE TRAY
	CONDUIT ROUTING AREA
	CABLE TRAY
	CONCRETE ENCASED DUCTBANK
	GENERAL CONTROL OR WIRING DEVICE. LETTER SYMBOLS OR ABBREVIATIONS INDICATE TYPE OF DEVICE.
	CONTROL STATION, SEE CONTROL DIAGRAMS FOR CONTROL DEVICE(S) REQUIRED.
	NONFUSED DISCONNECT SWITCH, SIZE INDICATED, 3 POLE
	FUSED DISCONNECT SWITCH, SIZE INDICATED (60/40, 60 = SWITCH RATING; 40 = FUSE RATING) 3 POLE
	COMBINATION CIRCUIT BREAKER AND INDICATED MAGNETIC STARTER, NEMA SIZE INDICATED
	RJ45 DATA RECEPTACLE, X INDICATES QUANTITY OF PORTS AND CATEGORY-6 CABLES X/H = 'X' QUANTITY DATA PORTS PLUS HDMI TYPE-PASS-THRU CONNECTOR

POWER SYSTEM PLAN - 1

SYMBOL	DESCRIPTION
	BREAKER, SEPARATELY MOUNTED, SIZE INDICATED (100/40, 100 = FRAME SIZE; 40 = TRIP RATING) 3 POLE
	CONTACTOR, MAGNETIC, NEMA SIZE INDICATED
	LIGHTING CONTACTOR, SIZE INDICATED
	STARTER, MAGNETIC NEMA SIZE INDICATED
	CONVENIENCE RECEPTACLE - DUPLEX UNLESS NOTED OTHERWISE WP - WEATHERPROOF C - CLOCK HANGER TL - TWIST LOCK CRE - CORROSION RESISTANT
	240V RECEPTACLE
	CONVENIENCE RECEPTACLE - QUADRUPLEX
	MULTI OUTLET ASSEMBLY
	DUPLEX CONVENIENCE RECEPTACLE - FLUSH IN FLOOR
	CONVENIENCE RECEPTACLE, PEDESTAL, DUPLEX SINGLE FACE UNLESS INDICATED OTHERWISE
	RECEPTACLE, SPECIAL PURPOSE - NEMA CONFIGURATION AND AMPERAGE INDICATED
	THERMOSTAT
	METERING FACILITY
	ELECTRIC UNIT HEATER
	ELECTRIC AIR CONDITIONER (SELF CONTAINED UNIT)
	LUMINAIRE, SEE LUMINAIRE SCHEDULE
	LUMINAIRE, SEE LUMINAIRE SCHEDULE
	LUMINAIRE WITH INTERNAL BATTERY BACKUP. SEE LUMINAIRE SCHEDULE
	LUMINAIRE AND POLE, SEE LUMINAIRE SCHEDULE
	WALL MOUNTED LUMINAIRE, SEE LUMINAIRE SCHEDULE
	EMERGENCY LIGHTING UNIT
	EXIT LIGHT, SEE LUMINAIRE SCHEDULE
	SMALL LETTER SUBSCRIPT AT SWITCH AND LUMINAIRE INDICATES SWITCHING. SUBSCRIPT NUMBER AT LUMINAIRE INDICATES PANELBOARD AND CIRCUIT.
	REMOTE EMERGENCY LIGHTING BATTERY PACK
	SWITCH: 2- DOUBLE POLE 3- THREE WAY 4- FOUR WAY CRE- CORROSION RESISTANT D- DIMMER EP- EXPLOSION PROOF K- KEY OPERATED P- PILOT LIGHT WP- WEATHERPROOF
	MOTOR SWITCH: M- MOTOR RATED TOGGLE SWITCH WITHOUT OVERLOADS MS- MANUAL MOTOR STARTER WITH OVERLOADS

GROUND SYSTEM PLAN

	GROUND ROD
	GROUND ROD IN TEST WELL
	GROUNDING CONDUCTOR, SIZE AS INDICATED
	CABLE TO CABLE TEE (OR MULTIPLE TEE)
	CABLE TO CABLE CROSS
	CABLE TO REINFORCING STEEL
	GROUND ROD TO CABLE
	FLEXIBLE GROUND STRAP
	CABLE TO PIPE (BOLTED CONNECTION)
	CABLE TO STEEL SURFACE (WELDED)
	STUB-OUT FROM CONCRETE FOR CONNECTION TO EQUIPMENT (TYPE LA)
	EQUIPMENT GROUND BUS
	EQUIPMENT NEUTRAL BUS
	CABLE TO LUG
	GROUND CABLE UP
	GROUND CABLE DOWN
	EMBEDDED GROUNDING CONDUCTOR
GROUND CONDUCTOR SIZE (EXCEPT WHERE INDICATED OTHERWISE): A. TRUNK CONDUCTOR (ALL NON-TAPPING CONDUCTORS): 4/0 B. TAP CONDUCTOR - ANY MAKING FINAL CONNECTION TO EQUIPMENT OR STRUCTURES	
4/0	MEDIUM VOLTAGE EQUIPMENT (15KV CIRCUITS) BURIED GENERATORS MEDIUM VOLTAGE TRANSFORMER (15KV+)
2/0	PAD-MOUNTED TRANSFORMER (UP TO 14KV)
1/0	LOW VOLTAGE ELECTRICAL DISTRIBUTION APPARATUS TURBINES BUILDING STRUCTURES (BEAMS, JOISTS, ETC.)
#2	ALL OTHER CONNECTIONS

POWER CIRCUIT CALLOUTS

[P1]	[1/2" FLEX, 2#12, #12G]	[P24]	[1" C, 3#8, 3#14, 1#10G]
[P2]	[3/4" C, 2#12, 1#12G]	[P25]	[1" C, 3#8, 4#14, 1#10G]
[P3]	[3/4" C, 3#12, 1#12G]	[P26]	[1" C, 3#8, 5#14, 1#10G]
[P4]	[3/4" C, 4#12, 1#12G]	[P27]	[1" C, 2#6, 1#10G]
[P5]	[3/4" C, 5#12, 1#12G]	[P28]	[1" C, 3#6, 1#8G]
[P6]	[3/4" C, 6#12, 1#12G]	[P29]	[1" C, 3#6, 2#14, 1#8G]
[P7]	[3/4" C, 7#12, 1#12G]	[P30]	[1 1/4" C, 3#6, 3#14, 1#8G]
[P8]	[3/4" C, 8#12, 1#12G]	[P31]	[1 1/4" C, 3#6, 4#14, 1#8G]
[P9]	[3/4" C, 3#12, 2#14, 1#12G]	[P32]	[1 1/4" C, 3#6, 5#14, 1#8G]
[P10]	[3/4" C, 3#12, 3#14, 1#12G]	[P33]	[1 1/4" C, 3#4, 1#8G]
[P11]	[3/4" C, 3#12, 4#14, 1#12G]	[P34]	[1 1/4" C, 3#4, 3#14, 1#8G]
[P12]	[3/4" C, 3#12, 5#14, 1#12G]	[P35]	[1 1/4" C, 3#4, 5#14, 1#8G]
[P13]	[3/4" C, 3#12, 6#14, 1#12G]	[P36]	[1 1/4" C, 3#3, 1#6G]
[P14]	[1" C, 3#12, 7#14, 1#12G]	[P37]	[1 1/4" C, 3#3, 3#14, 1#6G]
[P15]	[3/4" C, 2#10, 1#10G]	[P38]	[1 1/4" C, 3#2, 1#6G]
[P16]	[3/4" C, 3#10, 1#10G]	[P39]	[1 1/2" C, 3#1, 1#6G]
[P17]	[3/4" C, 3#10, 2#14, 1#10G]	[P40]	[2" C, 3#1, 3#14, 1#6G]
[P18]	[3/4" C, 3#10, 3#14, 1#10G]	[P41]	[2" C, 3#2/0, 1#4G]
[P19]	[3/4" C, 3#10, 4#14, 1#10G]	[P42]	[2" C, 3#3/0, 1#4G]
[P20]	[1" C, 3#10, 5#14, 1#10G]	[P43]	[2" C, 3#4/0, 1#3G]
[P21]	[1" C, 2#8, 1#10G]		
[P22]	[1" C, 3#8, 1#10G]		
[P23]	[1" C, 3#8, 2#14, 1#10G]		

MULTICONDUCTOR POWER CABLE CIRCUIT CALLOUTS

[PC1]	[3/4" C, 1 (3C#12, 1#12G) TYPE 2]
[PC2]	[3/4" C, 1 (3C#10, 1#10G) TYPE 2]
[PC3]	[3/4" C, 1 (3C#8, 1#10G) TYPE 2]
[PC4]	[3/4" C, 2 (3C#12, 1#12G) TYPE 2]
[PC5]	[1" C, 2 (3C#10, 1#10G) TYPE 2]
[PC1A]	[3/4" C, 1 (2C#12, 1#12G) TYPE 2]
[PC2A]	[3/4" C, 1 (2C#10, 1#10G) TYPE 2]

EMPTY CONDUIT

[EC-1]	[3/4" C, WITH PULL STRING]
[EC-2]	[1" C, WITH PULL STRING]
[EC-3]	[1 1/4" C, WITH PULL STRING]
[EC-4]	[1 1/2" C, WITH PULL STRING]
[EC-5]	[2" C, WITH PULL STRING]
[EC-6]	[3" C, WITH PULL STRING]
[EC-7]	[4" C, WITH PULL STRING]
[EC-8]	[5" C, WITH PULL STRING]

ANALOG CIRCUIT CALLOUTS

[A1]	[3/4" C, 1 TYPE 3]
[A2]	[3/4" C, 2 TYPE 3]
[A3]	[1" C, 3 TYPE 3]
[A4]	[1 1/4" C, 4 TYPE 3]
[A5]	[1 1/4" C, 5 TYPE 3]
[A6]	[1 1/4" C, 6 TYPE 3]
[A7]	[1 1/2" C, 7 TYPE 3]
[A8]	[1 1/2" C, 8 TYPE 3]
[A9]	[1 1/2" C, 9 TYPE 3]
[A10]	[2" C, 10 TYPE 3]
[A11]	[2" C, 11 TYPE 3]
[A12]	[2" C, 12 TYPE 3]
[A13]	[2" C, 13 TYPE 3]
[A14]	[2" C, 14 TYPE 3]
[A15]	[3/4" C, 1 TYPE 4]
[A16]	[3/4" C, 2 TYPE 4]
[A17]	[1" C, 3 TYPE 4]
[A18]	[1 1/4" C, 4 TYPE 4]
[A19]	[1 1/4" C, 5 TYPE 4]
[A20]	[1 1/4" C, 6 TYPE 4]
[A21]	[1 1/2" C, 7 TYPE 4]
[A22]	[1 1/2" C, 8 TYPE 4]
[A23]	[2" C, 9 TYPE 4]
[A24]	[3/4" C, 1-4 pr. TYPE 5]
[A25]	[1" C, 2-4 pr. TYPE 5]

CONTROL CIRCUIT CALLOUTS

[C1]	[3/4" C, MSC]
[C2]	[3/4" C, 2#14, 1#14G]
[C3]	[3/4" C, 3#14, 1#14G]
[C4]	[3/4" C, 4#14, 1#14G]
[C5]	[3/4" C, 5#14, 1#14G]
[C6]	[3/4" C, 6#14, 1#14G]
[C7]	[3/4" C, 7#14, 1#14G]
[C8]	[3/4" C, 8#14, 1#14G]
[C9]	[3/4" C, 9#14, 1#14G]
[C10]	[3/4" C, 10#14, 1#14G]
[C11]	[3/4" C, 11#14, 1#14G]
[C12]	[3/4" C, 12#14, 1#14G]
[C13]	[3/4" C, 13#14, 1#14G]
[C14]	[1" C, 14#14, 1#14G]
[C15]	[1" C, 15#14, 1#14G]
[C16]	[1" C, 16#14, 1#14G]
[C17]	[1" C, 17#14, 1#14G]
[C18]	[1" C, 18#14, 1#14G]
[C19]	[1" C, 19#14, 1#14G]
[C20]	[1" C, 20#14, 1#14G]
[C21]	[1" C, 21#14, 1#14G]
[C22]	[1" C, 22#14, 1#14G]
[C23]	[1" C, 23#14, 1#14G]
[C24]	[1 1/4" C, 24#14, 1#14G]
[C25]	[1 1/4" C, 25#14, 1#14G]

MULTICONDUCTOR CONTROL CABLE CIRCUIT CALLOUTS

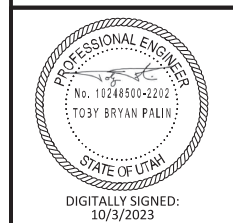
[CC3]	[3/4" C, 1-3C TYPE 1]
[CC5]	[3/4" C, 1-5C TYPE 1]
[CC7]	[3/4" C, 1-7C TYPE 1]
[CC9]	[1" C, 1-9C TYPE 1]
[CC12]	[1" C, 1-12C TYPE 1]
[CC19]	[1 1/2" C, 1-19C TYPE 1]
[CC25]	[1 1/2" C, 1-25C TYPE 1]
[CC37]	[2" C, 1-37C TYPE 1]
[CCC1]	[1-7C #12 TYPE 1]

FIBER OPTIC CABLE

[F1]	[2" C, 24-STR SM CABLE]
------	-------------------------

NOTES:

- FOR CABLE TYPES, SEE SPECIFICATIONS.
- POWER CIRCUIT CALLOUTS ARE BASED ON THE AREA OF THW CONDUCTORS. CONTROL CIRCUIT CALLOUTS ARE BASED ON THE AREAS OF SCHEDULE 40 PVC CONDUIT AND TYPES XHHW & XHHW-2 INSULATION.
- SIZING OF CONDUCTORS #1AWG AND SMALLER BASED ON AMPACITIES AT 60 DEGREES C, SIZING OF CONDUCTORS #1/0AWG AND LARGER BASED ON AMPACITIES AT 75 DEGREES C.
- WHERE CIRCUITS ARE UNDERGROUND, DIRECT BURIED OR CONCRETE ENCASED, MINIMUM CONDUIT SIZE SHALL BE 1".
- FOR METRIC CONDUIT SIZES USE THE FOLLOWING CONVERSION:
1/2" = 16 mm 1 1/4" = 35 mm
3/4" = 21 mm 1 1/2" = 41 mm
1" = 27 mm 2" = 53 mm



DSGN	M PAWLOWKSI				
DR	R PHILLIPS				
CHK	T PALIN				
APVD	T PALIN				
NO.		DATE		REVISION	
BY		APVD			

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 = 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.



SPANISH FORK SANTAQUIN PIPELINE
SANTAQUIN REACH

GENERAL ELECTRICAL NOTES, LEGEND, AND ABBREVIATIONS

SHEET	XX OF XX
DWG	GE-2
DATE	OCTOBER 2023
CONTRACT	C-2023-01

INSTRUMENT IDENTIFICATION

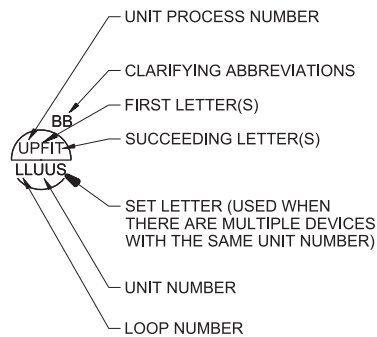
INSTRUMENT IDENTIFICATION LETTERS TABLE

LETTER	FIRST-LETTER		SUCCEEDING-LETTERS		
	PROCESS OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	READOUT OR PASSIVE FUNCTION	READOUT OR PASSIVE FUNCTION
A	ANALYSIS (+)		ALARM		
B	BURNER, COMBUSTION		USER'S CHOICE (*)	USER'S CHOICE (*)	USER'S CHOICE (*)
C	USER'S CHOICE (*)			CONTROL	
D	DENSITY (S.G.)	DIFFERENTIAL			
E	VOLTAGE		PRIMARY ELEMENT, SENSOR		
	FLOW RATE	RATIO (FRACTION)			
G	USER'S CHOICE (*)		GLASS, GAUGE VIEWING DEVICE	GATE	
H	HAND (MANUAL)				HIGH
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT (PILOT)		LOW
M	MOTION	MOMENTARY			MIDDLE, INTERMEDIATE
N	TORQUE		USER'S CHOICE (*)	USER'S CHOICE (*)	USER'S CHOICE (*)
O	USER'S CHOICE (*)		ORIFICE, RESTRICTION		
P	PRESSURE, VACUUM		POINT (TEST) CONNECTION		
Q	QUANTITY	INTEGRATE, TOTALIZE			
R	RADIATION		RECORD OR PRINT		
S	SPEED, FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTI VARIABLE		MULTI FUNCTION	MULTI FUNCTION	MULTI FUNCTION
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE		WELL		
X	UNCLASSIFIED (*)	X AXIS	UNCLASSIFIED (*)	UNCLASSIFIED (*)	UNCLASSIFIED (*)
Y	EVENT, STATE OR PRESENCE	Y AXIS		RELAY, COMPUTE, CONVERT	
Z	POSITION	Z AXIS		DRIVE, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	

TABLE BASED ON THE INSTRUMENTATION, SYSTEMS, AND AUTOMATION SOCIETY (ISA) STANDARD.

(+) WHEN USED, EXPLANATION IS SHOWN ADJACENT TO INSTRUMENT SYMBOL. SEE ABBREVIATIONS AND LETTER SYMBOLS.
 (*) WHEN USED, DEFINE THE MEANING HERE FOR THE PROJECT.

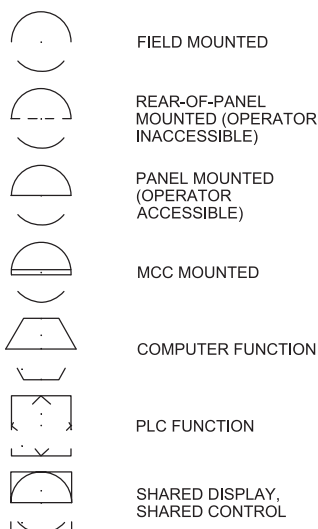
EXAMPLE SYMBOLS



DIGITAL SYSTEM INTERFACES

- ▲ ANALOG INPUT
- ▼ ANALOG OUTPUT
- △_x DISCRETE INPUT
- ▽_x DISCRETE OUTPUT

GENERAL INSTRUMENT OR FUNCTIONAL SYMBOLS



TRANSDUCERS

A	ANALOG	I	CURRENT
D	DIGITAL	P	PNEUMATIC
E	VOLTAGE	PF	PULSE FREQUENCY
F	FREQUENCY	PD	PULSE DURATION
H	HYDRAULIC	R	RESISTANCE

EXAMPLE

 CURRENT TO PNEUMATIC TRANSDUCER (BACK OF PANEL, IN A FLOW LOOP)

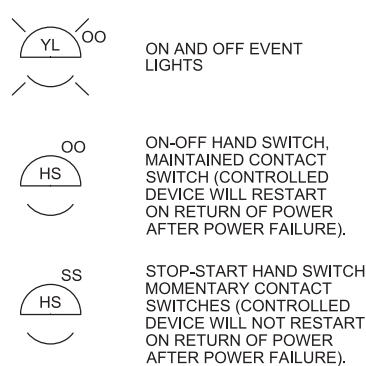
ACCESSORY DEVICES

A	ALARM
C	CONTROLLER
I	INDICATOR
R	RECORDER
S	SWITCH
T	TRANSMITTER
X	UNCLASSIFIED

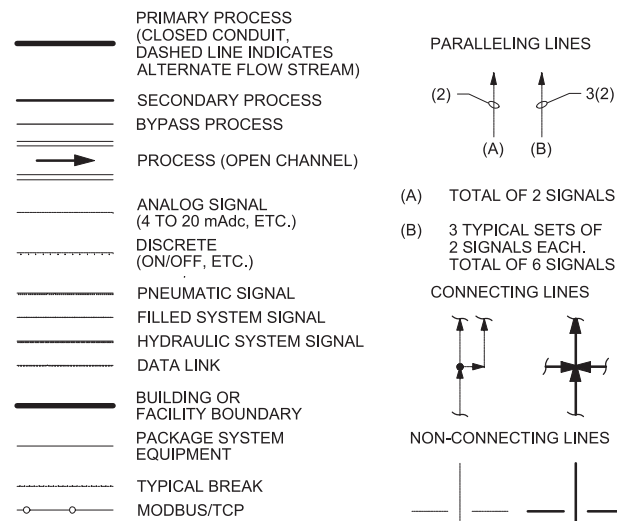
EXAMPLE

 TRANSMITTER AS AN ACCESSORY TO A FLOW ELEMENT

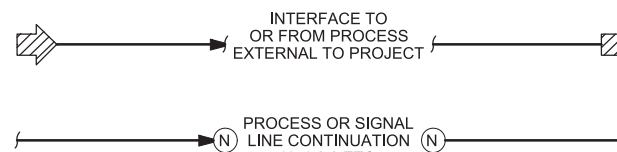
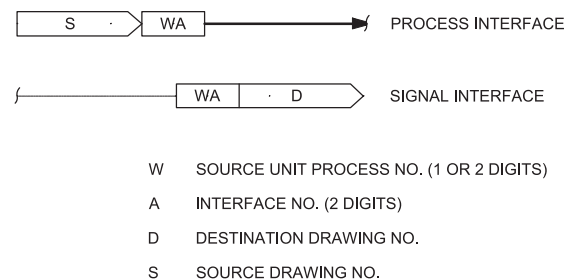
SPECIAL CASES



LINE LEGEND



INTERFACE SYMBOLS



SELF CONTAINED VALVE & EQUIPMENT TAG NUMBERS

W-D-X-Y

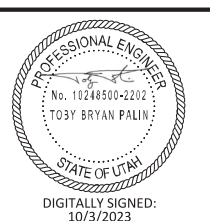
W	UNIT PROCESS NUMBER
D	ARV AIR RELEASE VALVE AVRV AIR AND VACUUM RELEASE VALVE E EJECTOR G GATE M MECHANICAL EQUIPMENT P PUMP T TANK
X	LOOP NUMBER
Y	UNIT NUMBER

ABBREVIATIONS & LETTER SYMBOLS

AC	ALTERNATING CURRENT
AM	AUTO-MANUAL
CAM	COMPUTER-AUTO-MANUAL
CCS	CENTRAL CONTROL SYSTEM
CL ₂ etc.	CHLORINE (TYPICAL: USE STANDARD CHEMICAL ELEMENT ABBREVIATIONS)
CM	COMPUTER-MANUAL
COD	CHEMICAL OXYGEN DEMAND
CP-X	CONTROL PANEL NO. X
DC	DIRECT CURRENT
DCS	DISTRIBUTED CONTROL SYSTEM
DCU	DISTRIBUTED CONTROL UNIT
DO	DISSOLVED OXYGEN
FCL ₂	FREE CHLORINE RESIDUAL
FOS	FAST-OFF-SLOW
FOSA	FAST-OFF-SLOW-AUTO
FOSR	FAST-OFF-SLOW-REMOTE
FP-W-X	FIELD PANEL NO. WX (W=UNIT PROCESS NUMBER X= PANEL NUMBER)
FR	FORWARD-REVERSE
HOA	HAND-OFF-AUTO
HOR	HAND-OFF-REMOTE
ISR	INTRINSICALLY SAFE RELAY
LEL	LOWER EXPLOSIVE LIMIT
LOS	LOCKOUT STOP
LR	LOCAL-REMOTE
MA	MANUAL-AUTO
MC	MODULATE-CLOSE
MCC-X	MOTOR CONTROL CENTER NO. X
MSC	MANUFACTURER SUPPLIED CABLE
OC	OPEN-CLOSE(D)
OCA	OPEN-CLOSE-AUTO
OCR	OPEN-CLOSE-REMOTE
OO	ON-OFF
OOA	ON-OFF-AUTO
OOR	ON-OFF-REMOTE
ORP	OXIDATION REDUCTION POTENTIAL
OSC	OPEN-STOP-CLOSE
pH	HYDROGEN ION CONCENTRATION
PLC	PROGRAMMABLE LOGIC CONTROLLER
RIO	REMOTE I/O UNIT
RM-X	REMOTE MULTIPLEXING MODULE NO. X
RTU-X	REMOTE TELEMETRY UNIT NO. X
SF	SLOWER-FASTER
SS	START-STOP
SSC	SUPERVISORY SET POINT CONTROL
TCL ₂	TOTAL CHLORINE RESIDUAL
TOC	TOTAL ORGANIC CARBON
TOD	TOTAL OXYGEN DEMAND
TURB	TURBIDITY
VHC	VOLATILE HYDROCARBONS
VIB	VIBRATION
Δ	DIFFERENCE
Σ	SUM
x	MULTIPLY
÷	DIVIDE
F(X)	CHARACTERIZED
X ⁿ	RAISED TO THE Nth POWER
√	SQUARE ROOT
AVG	AVERAGE
1:1	REPEAT OR BOOST
>	SELECT HIGHEST SIGNAL
<	SELECT LOWEST SIGNAL
}	BIAS
%	GAIN OR ATTENUATE

GENERAL NOTES

- COMPONENTS AND PANELS SHOWN WITH A SINGLE ASTERISK (*) ARE TO BE PROVIDED AS PART OF A PACKAGE SYSTEM.
- COMPONENTS AND PANELS SHOWN WITH A DOUBLE ASTERISK (***) ARE TO BE PROVIDED UNDER DIVISION 16, ELECTRICAL.
- THIS IS A STANDARD LEGEND. THEREFORE, NOT ALL OF THIS INFORMATION MAY BE USED ON THE PROJECT.



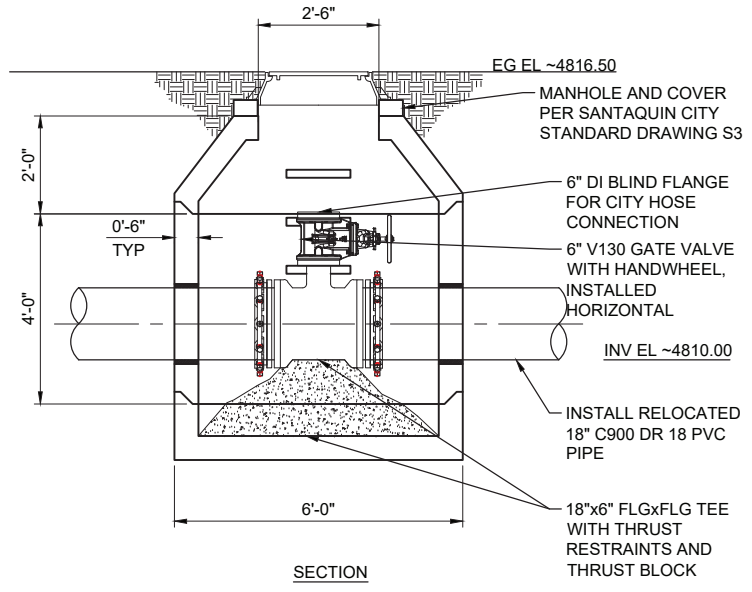
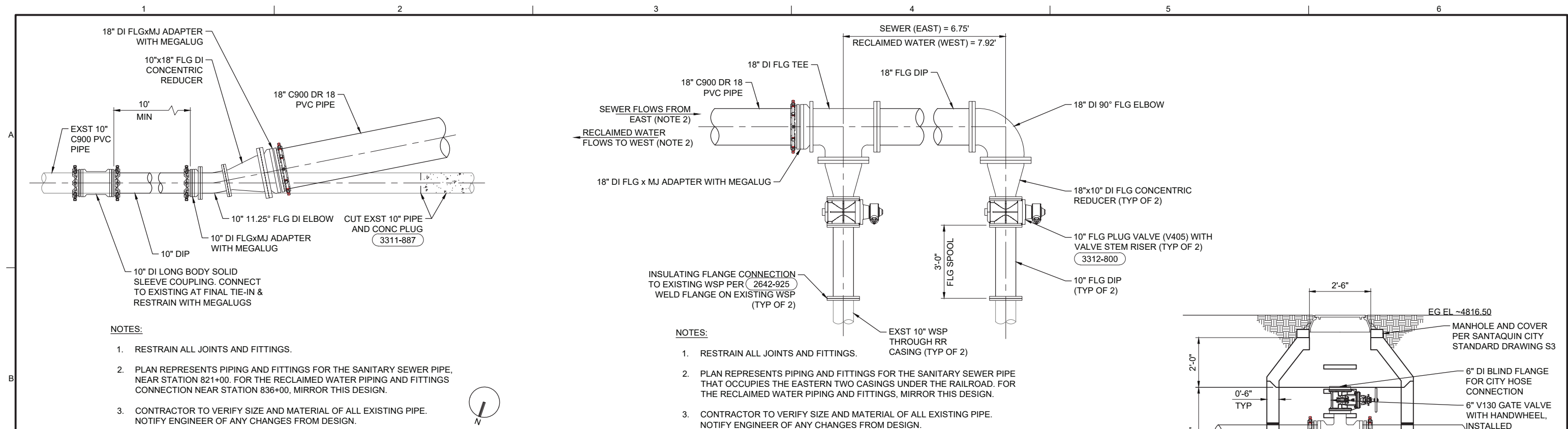
DSGN	M PAWLOWKSI					VERIFY SCALE
DR	R PHILLIPS					BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"
CHK	T PALIN					IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.
APVD	T PALIN	NO.	DATE	REVISION	BY	APVD



SPANISH FORK SANTAQUIN PIPELINE
SANTAQUIN REACH

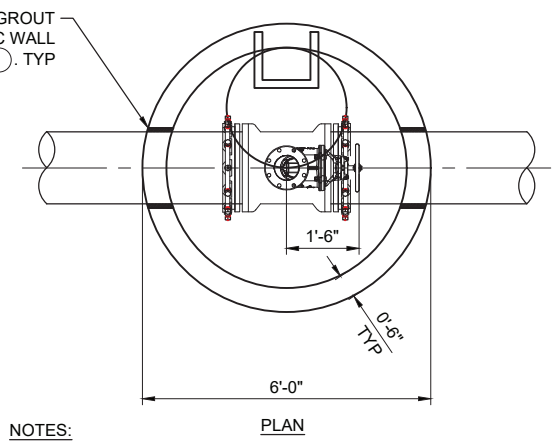
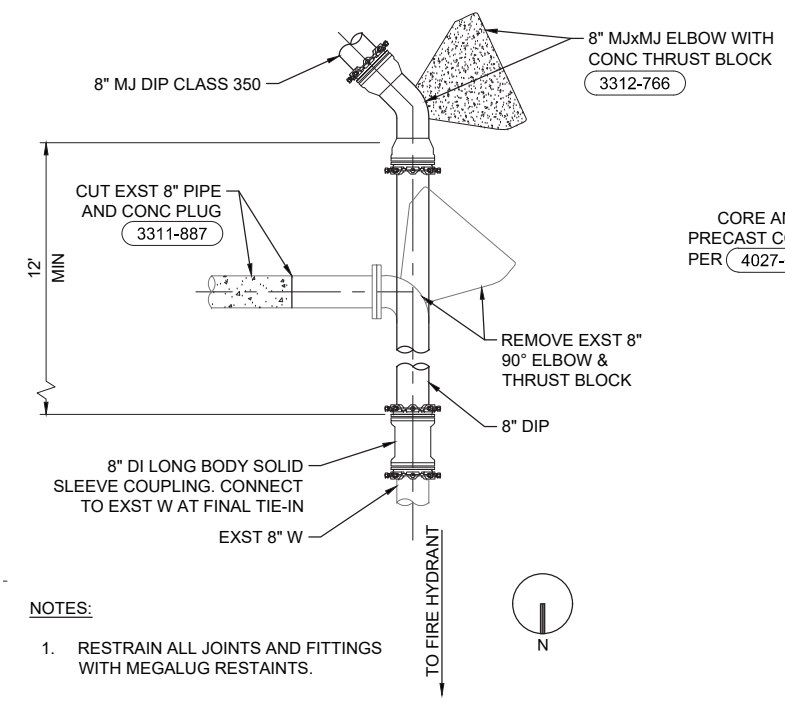
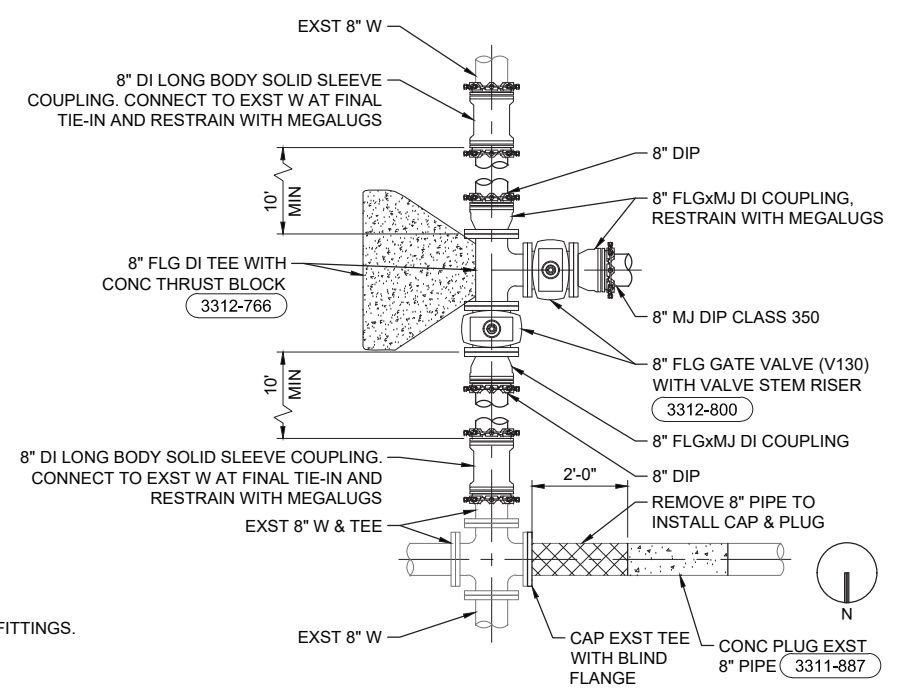
GENERAL INSTRUMENTATION /
 CONTROLS NOTES, LEGEND,
 & ABBREVIATIONS

SHEET	XX OF XX
DWG	GE-3
DATE	OCTOBER 2023
CONTRACT	C-2023-01



1 EXISTING 10" SEWER & RECLAIMED WATER CONNECTIONS
 1/2" = 1'-0"
 PP-92
 PP-93

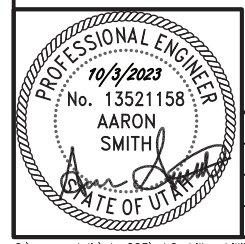
2 SEWER & RECLAIMED WATER CONNECTIONS
 1/2" = 1'-0"
 PP-92
 PP-93



3 800 N & 420 W INTERSECTION WATER RELOCATION CONNECTION
 1/2" = 1'-0"
 PP-95

4 800 N CUL-DE-SAC WATER RELOCATION CONNECTION
 1/2" = 1'-0"
 PP-95

5 SANITARY SEWER & RECLAIMED WATER EMERGENCY DRAIN VALVE
 1/2" = 1'-0"
 PP-93



DSGN	J HANSEN								
DR	R PHILLIPS								
CHK	A SMITH								
APVD	A SMITH								
		NO.	DATE	REVISION	BY	APVD	VERIFY SCALE		
							BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.		

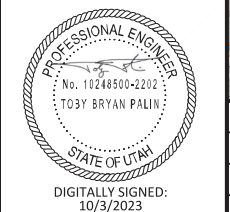
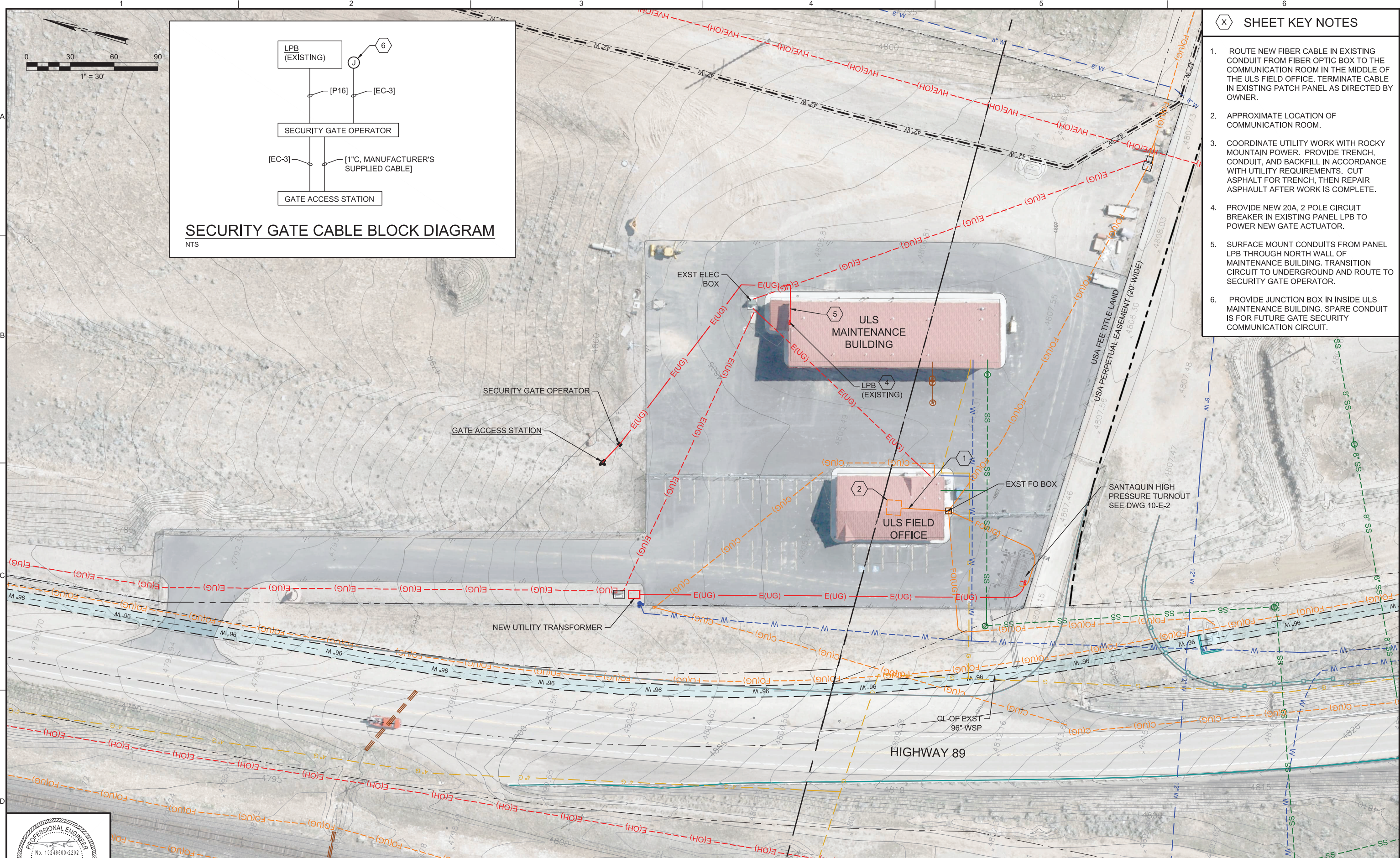
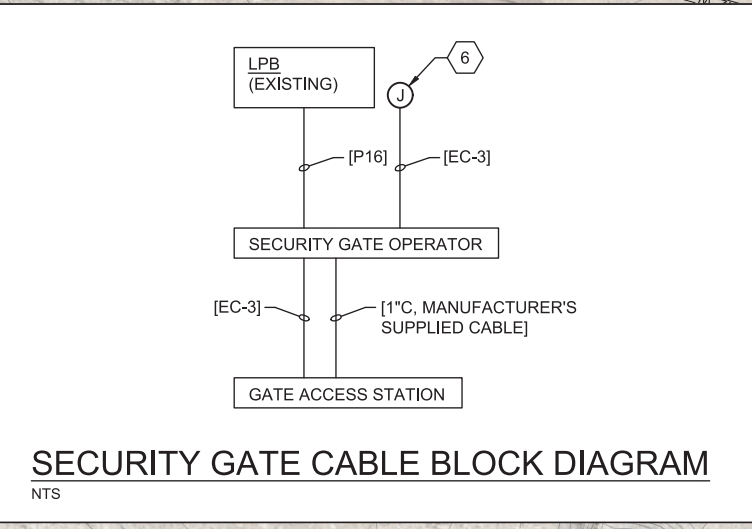


SPANISH FORK SANTAQUIN PIPELINE
SANTAQUIN REACH

SHEET	XX OF XX
DWG	UR-1
DATE	OCTOBER 2023
CONTRACT	C-2023-01

SHEET KEY NOTES

- ROUTE NEW FIBER CABLE IN EXISTING CONDUIT FROM FIBER OPTIC BOX TO THE COMMUNICATION ROOM IN THE MIDDLE OF THE ULS FIELD OFFICE. TERMINATE CABLE IN EXISTING PATCH PANEL AS DIRECTED BY OWNER.
- APPROXIMATE LOCATION OF COMMUNICATION ROOM.
- COORDINATE UTILITY WORK WITH ROCKY MOUNTAIN POWER. PROVIDE TRENCH, CONDUIT, AND BACKFILL IN ACCORDANCE WITH UTILITY REQUIREMENTS. CUT ASPHALT FOR TRENCH, THEN REPAIR ASPHALT AFTER WORK IS COMPLETE.
- PROVIDE NEW 20A, 2 POLE CIRCUIT BREAKER IN EXISTING PANEL LPB TO POWER NEW GATE ACTUATOR.
- SURFACE MOUNT CONDUITS FROM PANEL LPB THROUGH NORTH WALL OF MAINTENANCE BUILDING. TRANSITION CIRCUIT TO UNDERGROUND AND ROUTE TO SECURITY GATE OPERATOR.
- PROVIDE JUNCTION BOX IN INSIDE ULS MAINTENANCE BUILDING. SPARE CONDUIT IS FOR FUTURE GATE SECURITY COMMUNICATION CIRCUIT.



DSGN	M PAWLOWSKI						
DR	R PHILLIPS						
CHK	T PALIN						
APVD	T PALIN	NO.	DATE	REVISION	BY	APVD	

VERIFY SCALE
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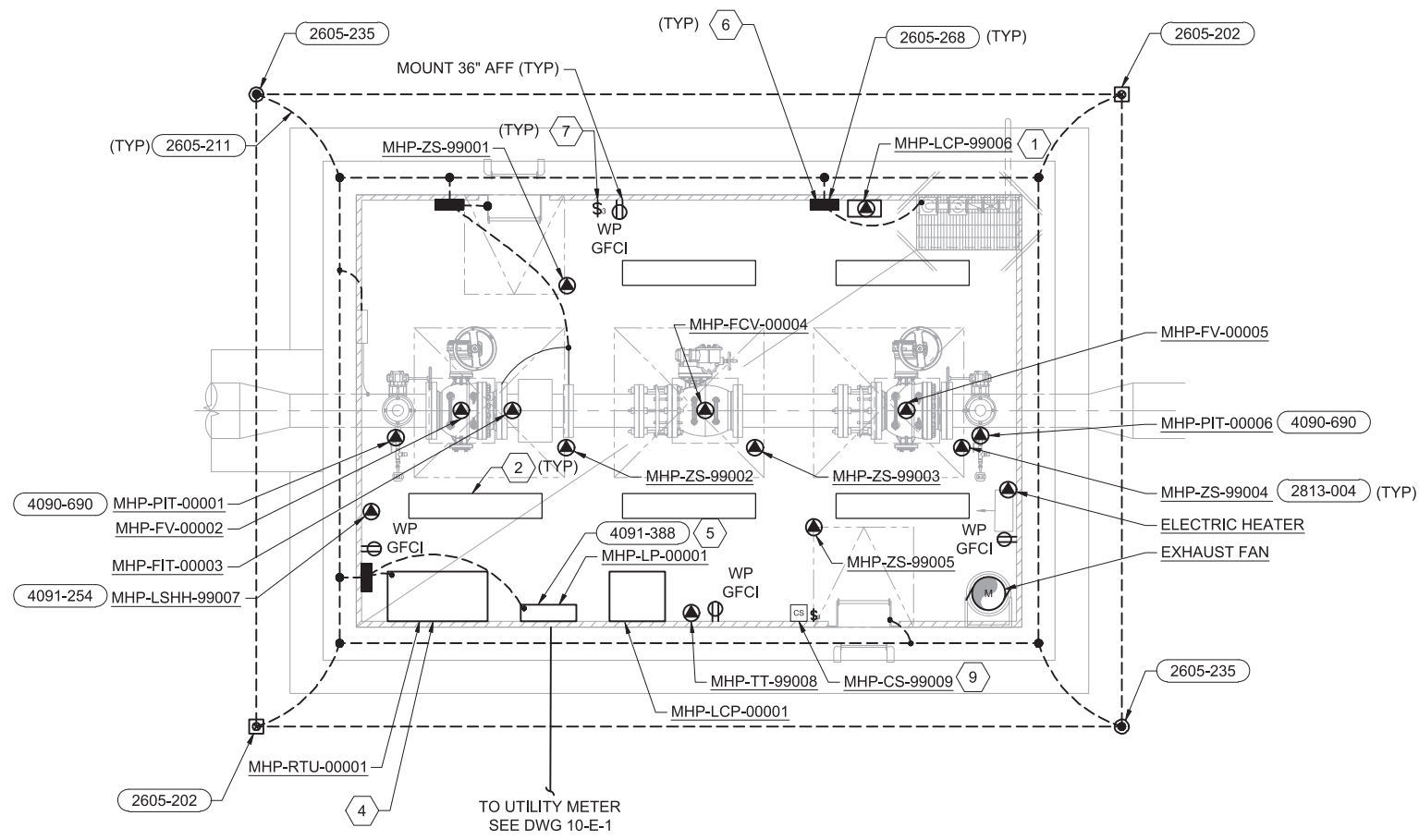


SPANISH FORK SANTAQUIN PIPELINE
SANTAQUIN REACH

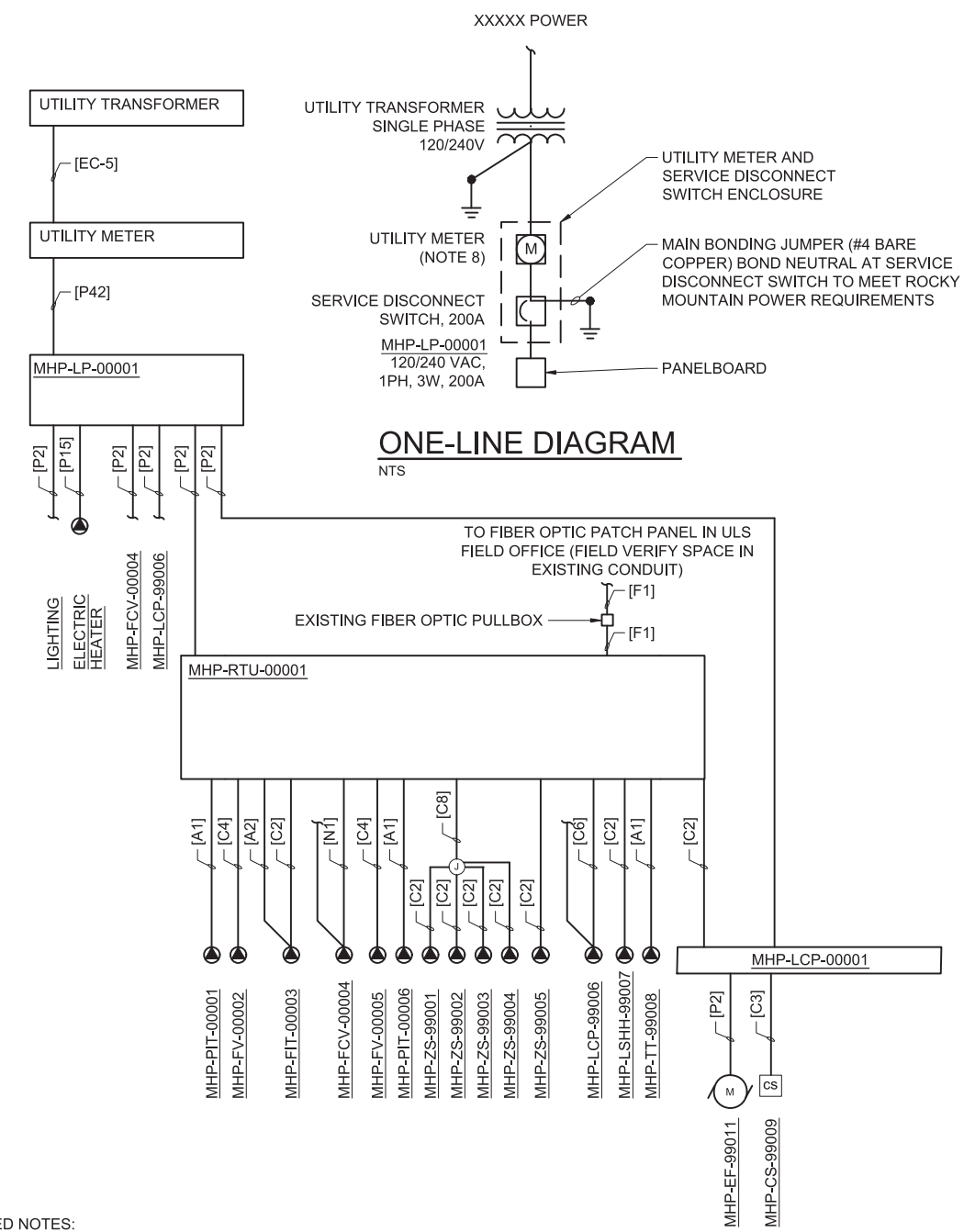
MAPLETON HIGH PRESSURE TURNOUT
ELECTRICAL SITE PLAN

SHEET	XX OF XX
DWG	10-E-1
DATE	OCTOBER 2023
CONTRACT	C-2023-01

A
B
C
D

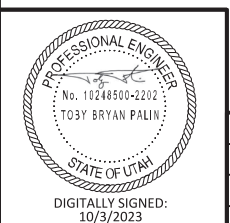


PLAN
3/8" = 1'-0"
N



ONE-LINE DIAGRAM
NTS

- (X) KEYED NOTES:
1. DUPLEX SUMP PUMP PACKAGE CONTROL PANEL. MOUNT CONTROLLER ON WALL AND CONNECT PUMP AND FLOAT SWITCHES PER MANUFACTURERS INSTRUCTIONS.
 2. LIGHT FIXTURE: INDUSTRIAL LINEAR LED OUTDOOR WET LOCATION VAPORTITE 120V 42 WATT 6000 LUMEN, AMBIENT OPERATION TEMPERATURE -40 C TO +55 C, WALL OR CEILING MOUNT. METALUX OR EQUAL FIXTURE TYPE: 4VT3-LD5-6-G-120-EL10W-L840-CD1-SSLTP.
 3. GENERAL: ROUTE ALL POWER AND CONTROL CONDUITS IN CONCRETE SLAB OR FLOOR WHEN POSSIBLE.
 4. MOUNT RTU TO WALL. ALL CONDUITS SHALL ENTER RTU FROM THE BOTTOM OR SIDE NEAR THE BOTTOM OF THE ENCLOSURE.
 5. FEEDER CIRCUIT SHALL PENETRATE WALL BELOW MHP-LP-00001. CONDUIT SHALL TEE WITH ONE CONDUIT GOING UP INTO BOTTOM OF PANEL ENCLOSURE AND THE OTHER CONDUIT GOING DOWN WITH A MOISTURE DRAIN FITTING SO ALL INFILTRATED MOISTURE WILL NOT DRAIN INTO THE ELECTRICAL EQUIPMENT. SEE 10-E-3 FOR PANEL SCHEDULE.
 6. BOND GRATING AND LADDER FRAME STRUCTURE TO GROUNDING SYSTEM.
 7. PROVIDE WET LISTED LIGHT SWITCH AT THE TOP OF THE ACCESS LADDER, BUT BELOW ACCESS HATCH.
 8. PROVIDE UTILITY METER SOCKET, SERVICE RISER, AND CONDUITS IN ACCORDANCE WITH ROCKY MOUNTAIN POWER STANDARD ELECTRICAL SERVICE REQUIREMENTS. ROCKY MOUNTAIN POWER SHALL PROVIDE PRIMARY AND SECONDARY CONDUCTORS AND TRANSFORMER. COORDINATE WITH ROCKY MOUNTAIN POWER FOR FINAL SERVICE LOCATIONS AND REQUIREMENTS.
 9. PROVIDE EXHAUST FAN CONTROL STATION ADJACENT TO LIGHT SWITCH.



DSGN	M PAWLOWSKI						
DR	R PHILLIPS						
CHK	T PALIN						
APVD	T PALIN	NO.	DATE	REVISION	BY	APVD	

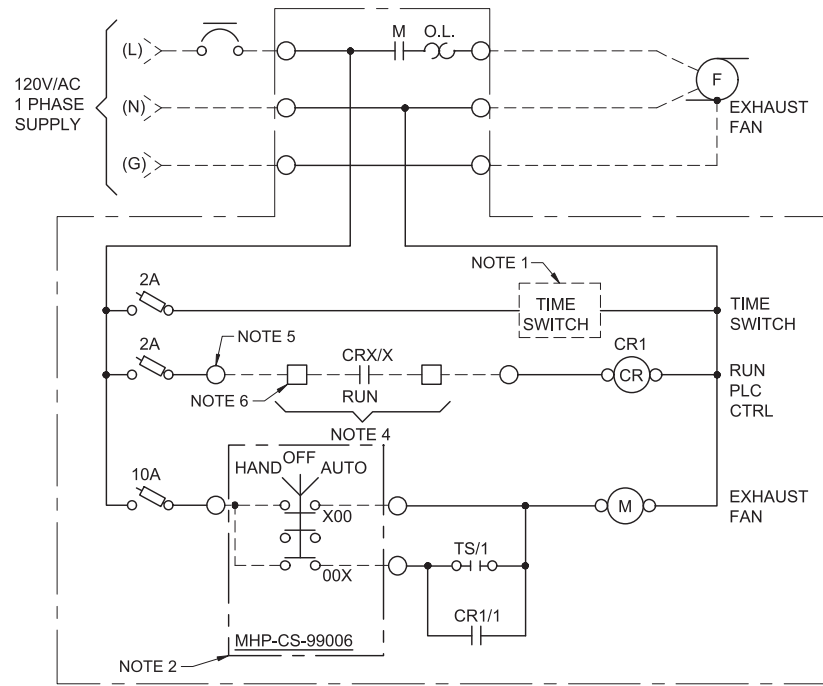
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.



SPANISH FORK SANTAQUIN PIPELINE
SANTAQUIN REACH

MAPLETON HIGH PRESSURE TURNOUT
ELECTRICAL PLAN

SHEET	XX OF XX
DWG	10-E-2
DATE	OCTOBER 2023
CONTRACT	C-2023-01



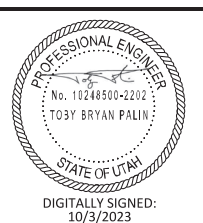
- NOTES:**
1. TIME SWITCH: TORK 8001 SERIES, WITH TIMER SET FOR TWO 15 MINUTE PERIODS IN 24 HOURS.
 2. HAND SWITCH LOCATED AT VAULT HATCH.
 3. LOCATE DEVICES IN FAN CONTROL PANEL / PULL BOX. ENCLOSURE SIZED BY CONTRACTOR AS REQUIRED FOR COMPONENTS.
 4. CONTACT CLOSURE IN RTU ENCLOSURE, CONTROLLED BY PLC.
 5. TERMINAL IN FAN CONTROL PANEL ENCLOSURE.
 6. TERMINAL IN RTU ENCLOSURE.

1 EXHAUST FAN CONTROL PANEL W/ HAND / OFF / AUTO CONTROL
NTS

PANEL: MHP-LP-00001 LOCATION: MAPLETON HIGH PRESSURE TURNOUT
 SERVICE VOLTAGE: 120/240V PHASE: 1 WIRE: 3
 TOTAL LOAD KVA: 11.0 BUS SIZE: 225 MAIN SIZE: 200A TYPE: MCB
 REMARKS: NEMA 3R, BOTTOM FEED NEUTRAL: MOUNTING: SURFACE

LOAD IN VA		CIRCUIT DESCRIPTION	BKR A/P	CKT NO.	CKT NO.	BKR A/P	CIRCUIT DESCRIPTION	LOAD IN VA	
A	B							A	B
1627.0		EXHAUST FAN CONTROL PANEL	20A/1P	1	2	20A/1P	LIGHTING	210.0	
	1200.0	SUMP PUMP CONTROL PANEL	20A/1P	3	4	20A/1P	MHP-FCV-00004		1600.0
720.0		RECEPTACLES	20A/1P	5	6	20A/1P	RTU PANEL UPS	600.0	
	0.0	SPARE	20A/1P	7	8	20A/1P	SPARE		0.0
0.0		SPARE	20A/1P	9	10	20A/1P	SPARE		0.0
	0.0	SPARE	20A/1P	11	12	20A/1P	SPARE		0.0
2500.0		ELECTRICAL HEATER	30A/2P	13	14	20A/1P	SPARE	0.0	
	2500.0			15	16	20A/1P	SPARE		0.0
0.0		SPARE	20A/1P	17	18	20A/1P	SPARE		0.0
	0.0	SPARE	20A/1P	19	20	20A/1P	SPARE		0.0
0.0		SPARE	20A/1P	21	22	20A/1P	SPARE		0.0
	0.0	SPARE	20A/1P	23	24	20A/1P	SPARE		0.0
0.0		SPARE	20A/1P	25	26	20A/1P	SPARE		0.0
	0.0	SPD	30A/2P	27	28	20A/1P	SPARE		0.0
0.0				29	30	20A/1P	SPARE		0.0
4847.0	3700.0	TOTAL						810.0	1600.0
								5657.0	5300.0

2 PANELBOARD SCHEDULE
NTS



DSGN	M PAWLOWSKI								
DR	R PHILLIPS								
CHK	T PALIN								
APVD	T PALIN	NO.	DATE	REVISION	BY	APVD			

VERIFY SCALE
 BAR IS ONE INCH ON ORIGINAL DRAWING.
 0 1"
 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

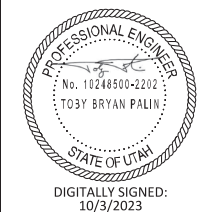
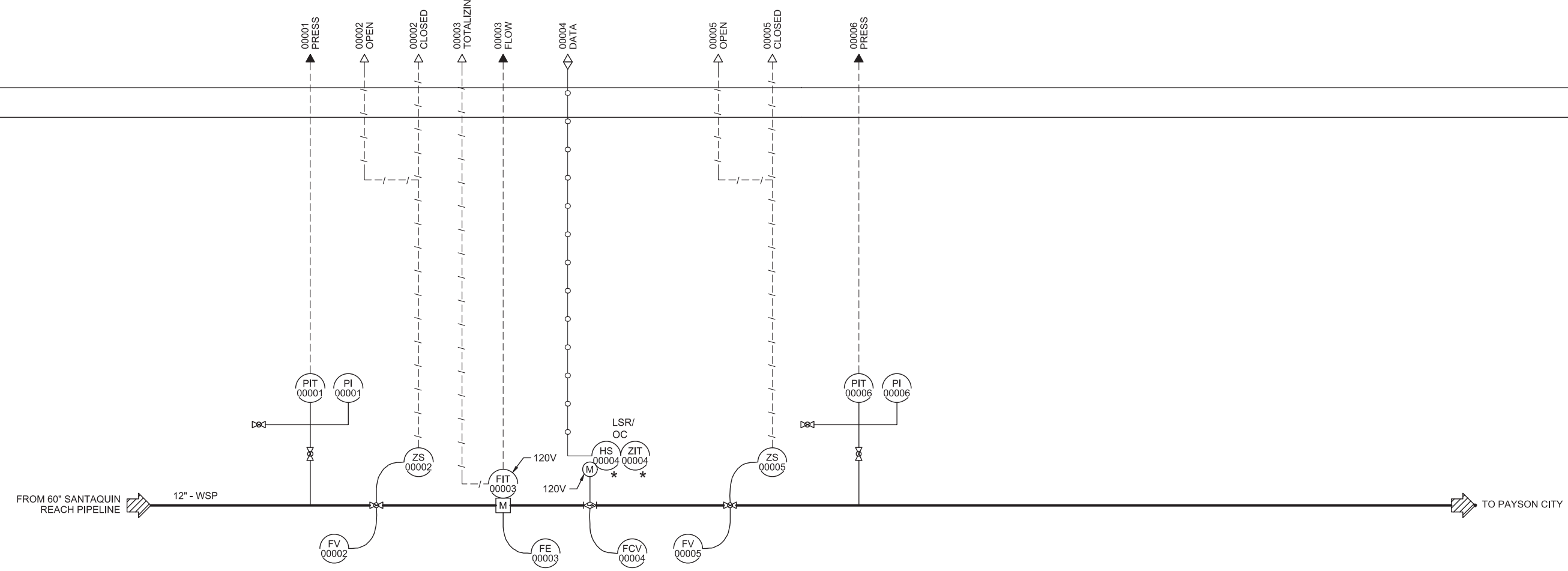


SPANISH FORK SANTAQUIN PIPELINE
SANTAQUIN REACH

MAPLETON HIGH PRESSURE TURNOUT
ELECTRICAL DETAILS

SHEET	XX OF XX
DWG	10-E-3
DATE	OCTOBER 2023
CONTRACT	C-2023-01

A
B
C
D



DSGN	M PAWLOWSKI						
DR	R PHILLIPS						
CHK	T PALIN						
APVD	T PALIN	NO.	DATE	REVISION	BY	APVD	

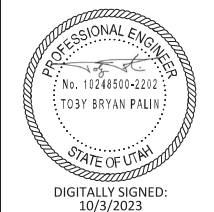
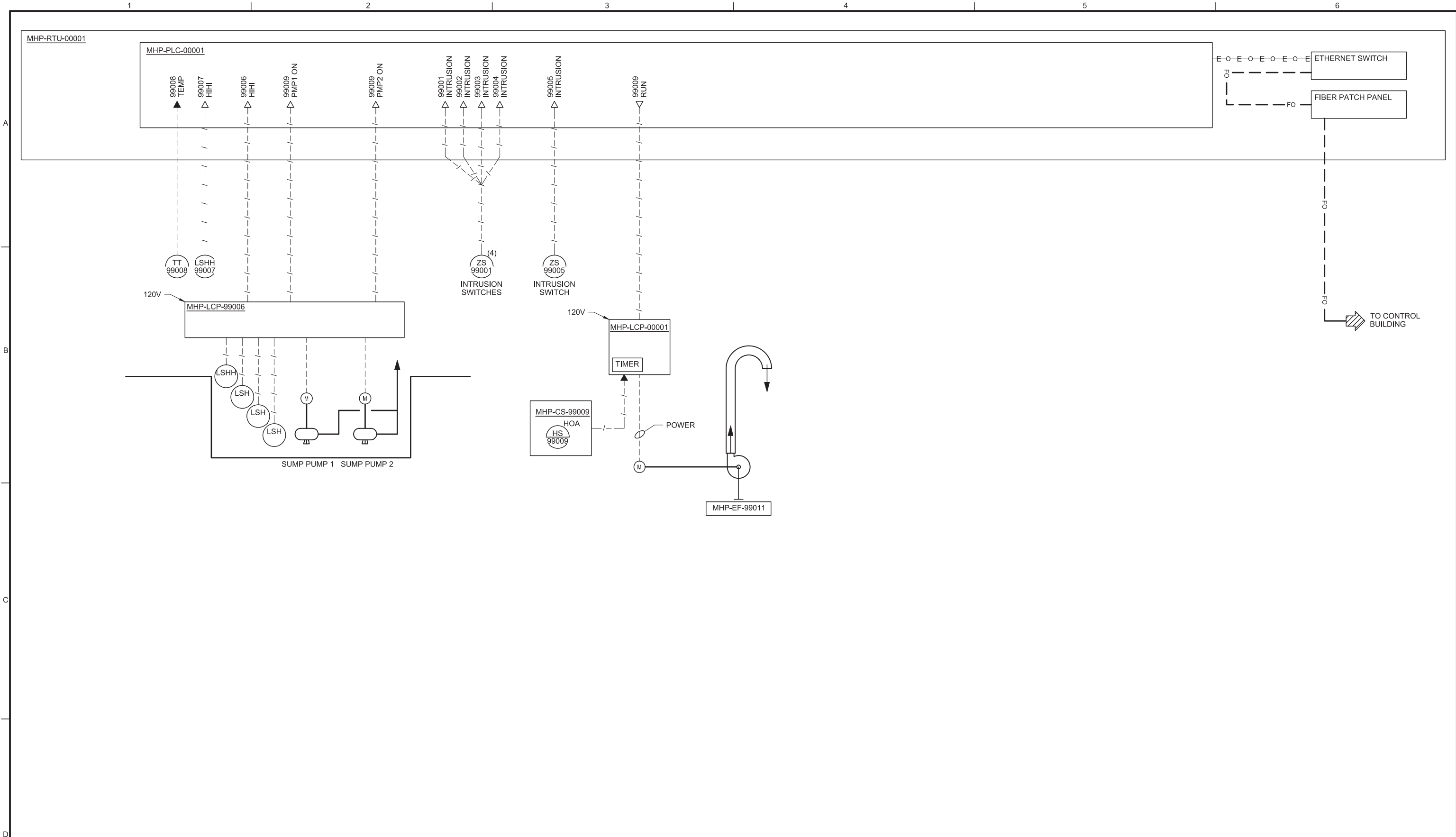
VERIFY SCALE
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 0 1"
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SPANISH FORK SANTAQUIN PIPELINE
 SANTAQUIN REACH

MAPLETON HIGH PRESSURE TURNOUT
 PROCESS AND INSTRUMENTATION
 DIAGRAM

SHEET	XX OF XX
DWG	10-N-1
DATE	OCTOBER 2023
CONTRACT	C-2023-01



DSGN	M PAWLOWSKI						
DR	R PHILLIPS						
CHK	T PALIN						
APVD	T PALIN	NO.	DATE	REVISION	BY	APVD	

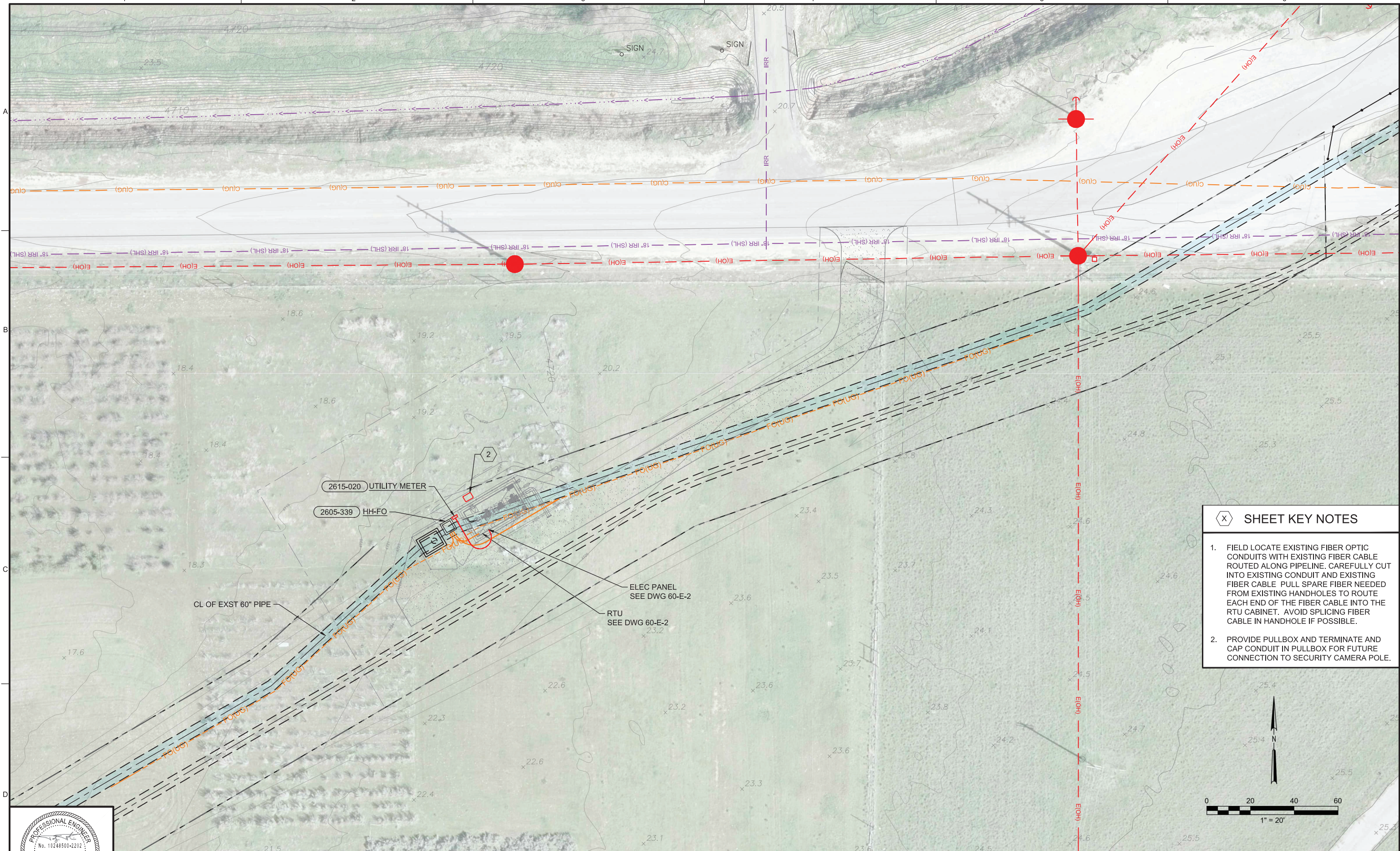
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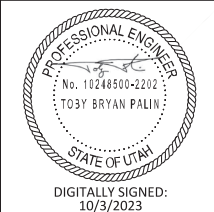
SPANISH FORK SANTAQUIN PIPELINE
 SANTAQUIN REACH

MAPLETON HIGH PRESSURE TURNOUT
 PROCESS AND INSTRUMENTATION
 DIAGRAM

SHEET	XX OF XX
DWG	10-N-2
DATE	OCTOBER 2023
CONTRACT	C-2023-01



- (X) SHEET KEY NOTES**
1. FIELD LOCATE EXISTING FIBER OPTIC CONDUITS WITH EXISTING FIBER CABLE ROUTED ALONG PIPELINE. CAREFULLY CUT INTO EXISTING CONDUIT AND EXISTING FIBER CABLE. PULL SPARE FIBER NEEDED FROM EXISTING HANDHOLES TO ROUTE EACH END OF THE FIBER CABLE INTO THE RTU CABINET. AVOID SPLICING FIBER CABLE IN HANDHOLE IF POSSIBLE.
 2. PROVIDE PULLBOX AND TERMINATE AND CAP CONDUIT IN PULLBOX FOR FUTURE CONNECTION TO SECURITY CAMERA POLE.



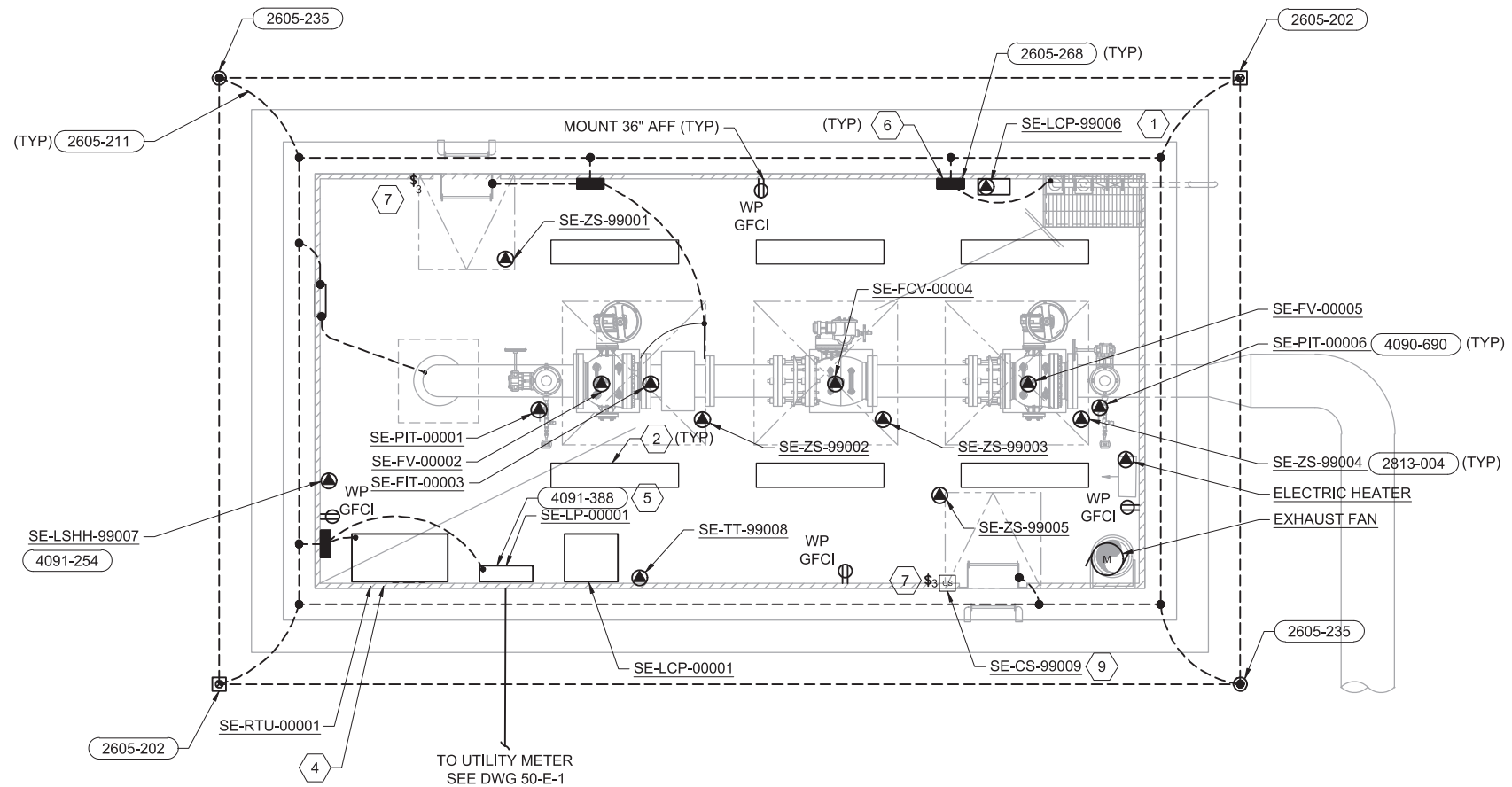
DSGN	M PAWLOWSKI						
DR	R PHILLIPS						
CHK	T PALIN						
APVD	T PALIN	NO.	DATE	REVISION	BY	APVD	

VERIFY SCALE
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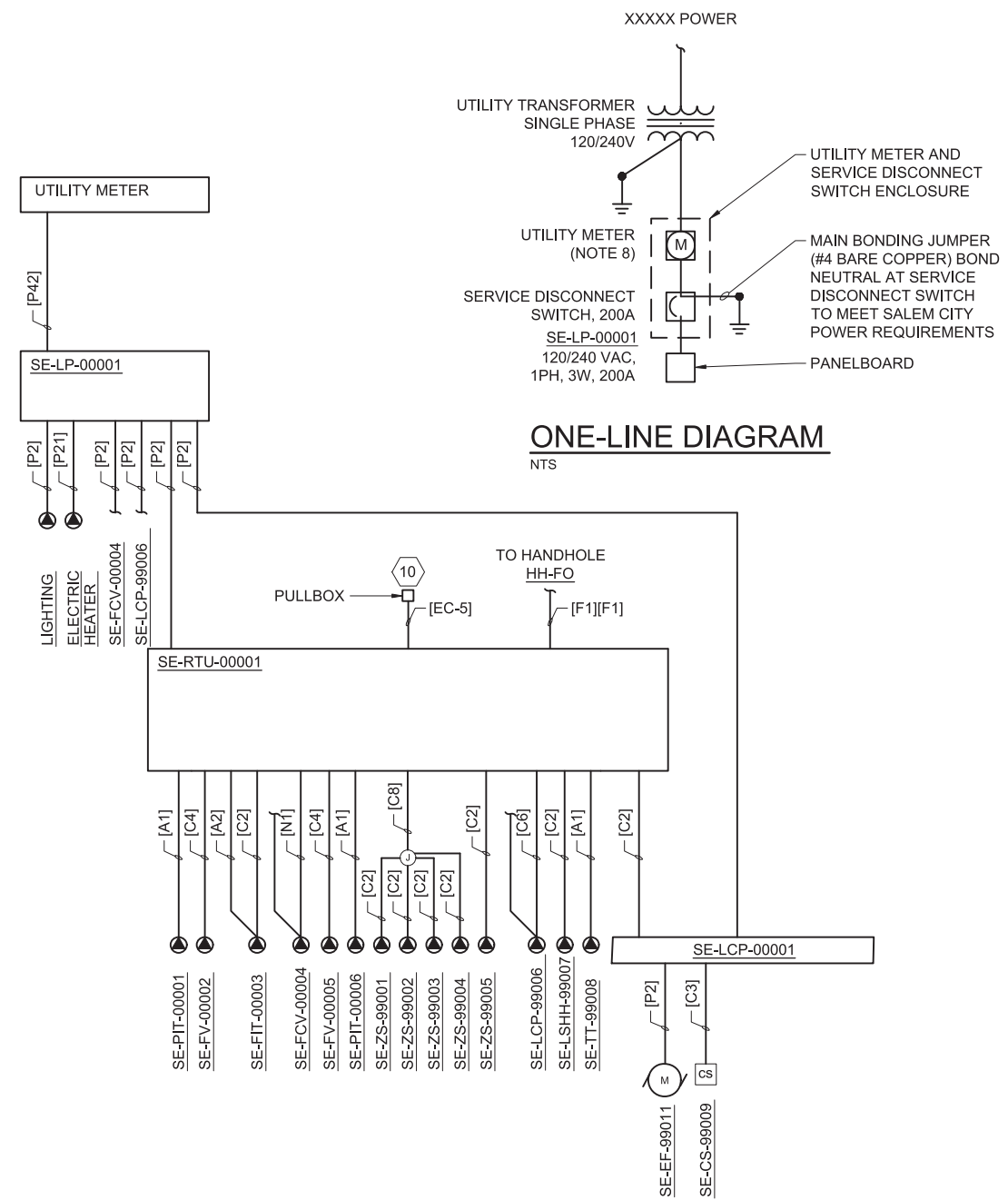


SPANISH FORK SANTAQUIN PIPELINE
 SANTAQUIN REACH

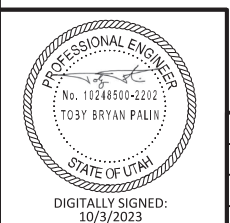
SHEET	XX OF XX
DWG	15-E-1
DATE	OCTOBER 2023
CONTRACT	C-2023-01



PLAN
3/8" = 1'-0"



- KEYED NOTES:**
- DUPLEX SUMP PUMP PACKAGE CONTROL PANEL. MOUNT CONTROLLER ON WALL AND CONNECT PUMP AND FLOAT SWITCHES PER MANUFACTURERS INSTRUCTIONS.
 - LIGHT FIXTURE: INDUSTRIAL LINEAR LED OUTDOOR WET LOCATION VAPORTITE 120V 42 WATT 6000 LUMEN, AMBIENT OPERATION TEMPERATURE -40 C TO +55 C, WALL OR CEILING MOUNT. METALUX OR EQUAL FIXTURE TYPE: 4VT3-LD5-6-G-120-EL10W-L840-CD1-SSLTP.
 - GENERAL: ROUTE ALL POWER AND CONTROL CONDUITS IN CONCRETE SLAB OR FLOOR WHEN POSSIBLE.
 - MOUNT RTU TO WALL. ALL CONDUITS SHALL ENTER RTU FROM THE BOTTOM OR SIDE NEAR THE BOTTOM OF THE ENCLOSURE.
 - FEEDER CIRCUIT SHALL PENETRATE WALL BELOW SE-LP-00001. CONDUIT SHALL TEE WITH ONE CONDUIT GOING UP INTO BOTTOM OF PANEL ENCLOSURE AND THE OTHER CONDUIT GOING DOWN WITH A MOISTURE DRAIN FITTING SO ALL INFILTRATED MOISTURE WILL NOT DRAIN INTO THE ELECTRICAL EQUIPMENT. SEE DWG 15-E-3 FOR PANEL SCHEDULE.
 - BOND GRATING AND STAIRWAY FRAME STRUCTURE TO GROUNDING SYSTEM.
 - PROVIDE WET LISTED LIGHT SWITCH AT THE TOP OF THE ACCESS STAIRS, BUT BELOW ACCESS HATCH.
 - PROVIDE UTILITY METER SOCKET, SERVICE RISER, AND CONDUITS IN ACCORDANCE WITH SALEM CITY POWER STANDARD ELECTRICAL SERVICE REQUIREMENTS. SALEM CITY POWER SHALL PROVIDE PRIMARY AND SECONDARY CONDUCTORS AND TRANSFORMER. COORDINATE WITH SALEM CITY POWER FOR FINAL SERVICE LOCATIONS AND REQUIREMENTS.
 - PROVIDE EXHAUST FAN CONTROL STATION ADJACENT TO LIGHT SWITCH.
 - ROUTE CONDUIT TO PULLBOX FOR FUTURE SECURITY CAMERA POLE. SEE DRAWING 15-E-1 FOR LOCATION.



DSGN	M PAWLOWSKI								
DR	R PHILLIPS								
CHK	T PALIN								
APVD	T PALIN	NO.	DATE	REVISION	BY	APVD			

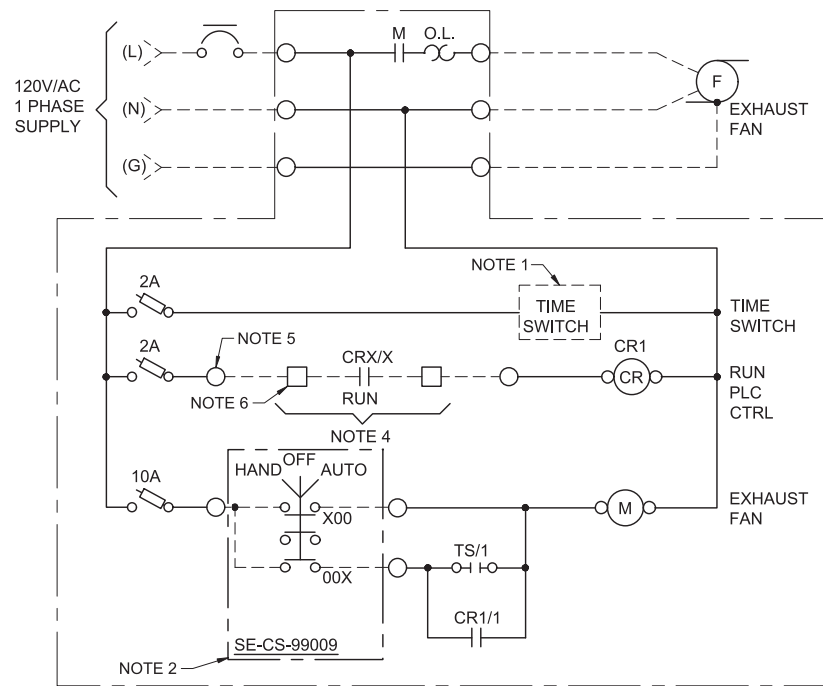
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.



SPANISH FORK SANTAQUIN PIPELINE
SANTAQUIN REACH

SALEM EAST TURNOUT ELECTRICAL PLAN

SHEET	XX OF XX
DWG	15-E-2
DATE	OCTOBER 2023
CONTRACT	C-2023-01



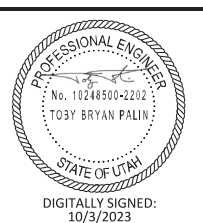
- NOTES:**
1. TIME SWITCH: TORK 8001 SERIES, WITH TIMER SET FOR TWO 15 MINUTE PERIODS IN 24 HOURS.
 2. HAND SWITCH LOCATED AT VAULT HATCH.
 3. LOCATE DEVICES IN FAN CONTROL PANEL / PULL BOX. ENCLOSURE SIZED BY CONTRACTOR AS REQUIRED FOR COMPONENTS.
 4. CONTACT CLOSURE IN RTU ENCLOSURE, CONTROLLED BY PLC.
 5. TERMINAL IN FAN CONTROL PANEL ENCLOSURE.
 6. TERMINAL IN RTU ENCLOSURE.

1 EXHAUST FAN CONTROL PANEL W/ HAND / OFF / AUTO CONTROL
NTS

PANEL: SE-LP-00001 LOCATION: SALEM EAST TURNOUT VAULT
 SERVICE VOLTAGE: 120/240V PHASE: 1 WIRE: 3
 TOTAL LOAD KVA: 13.5 BUS SIZE: 225 MAIN SIZE: 200A TYPE: MCB
 REMARKS: NEMA 3R, BOTTOM FEED NEUTRAL: MOUNTING: SURFACE

LOAD IN VA		CIRCUIT DESCRIPTION	BKR A/P	CKT NO.	CKT NO.	BKR A/P	CIRCUIT DESCRIPTION	LOAD IN VA	
A	B							A	B
1627.0		EXHAUST FAN CONTROL PANEL	20A/1P	1	2	20A/1P	LIGHTING	210.0	
	1200.0	SUMP PUMP CONTROL PANEL	20A/1P	3	4	20A/1P	MHP-FCV-00004		1600.0
720.0		RECEPTACLES	20A/1P	5	6	20A/1P	RTU PANEL UPS	600.0	
	0.0	SPARE	20A/1P	7	8	20A/1P	SPARE		0.0
0.0		SPARE	20A/1P	9	10	20A/1P	SPARE	0.0	
	0.0	SPARE	20A/1P	11	12	20A/1P	SPARE		0.0
3750.0		ELECTRICAL HEATER	50A/2P	13	14	20A/1P	SPARE	0.0	
	3750.0			15	16	20A/1P	SPARE		0.0
0.0		SPARE	20A/1P	17	18	20A/1P	SPARE	0.0	
	0.0	SPARE	20A/1P	19	20	20A/1P	SPARE		0.0
0.0		SPARE	20A/1P	21	22	20A/1P	SPARE	0.0	
	0.0	SPARE	20A/1P	23	24	20A/1P	SPARE		0.0
0.0		SPARE	20A/1P	25	26	20A/1P	SPARE	0.0	
	0.0	SPD	30A/2P	27	28	20A/1P	SPARE		0.0
0.0				29	30	20A/1P	SPARE	0.0	
6097.0	4950.0	TOTAL						810.0	1600.0
								6907.0	6550.0

2 PANELBOARD SCHEDULE
NTS



DSGN	M PAWLOWSKI	NO.	DATE	REVISION	BY	APVD
DR	R PHILLIPS					
CHK	T PALIN					
APVD	T PALIN					

VERIFY SCALE
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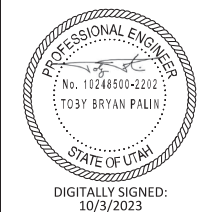
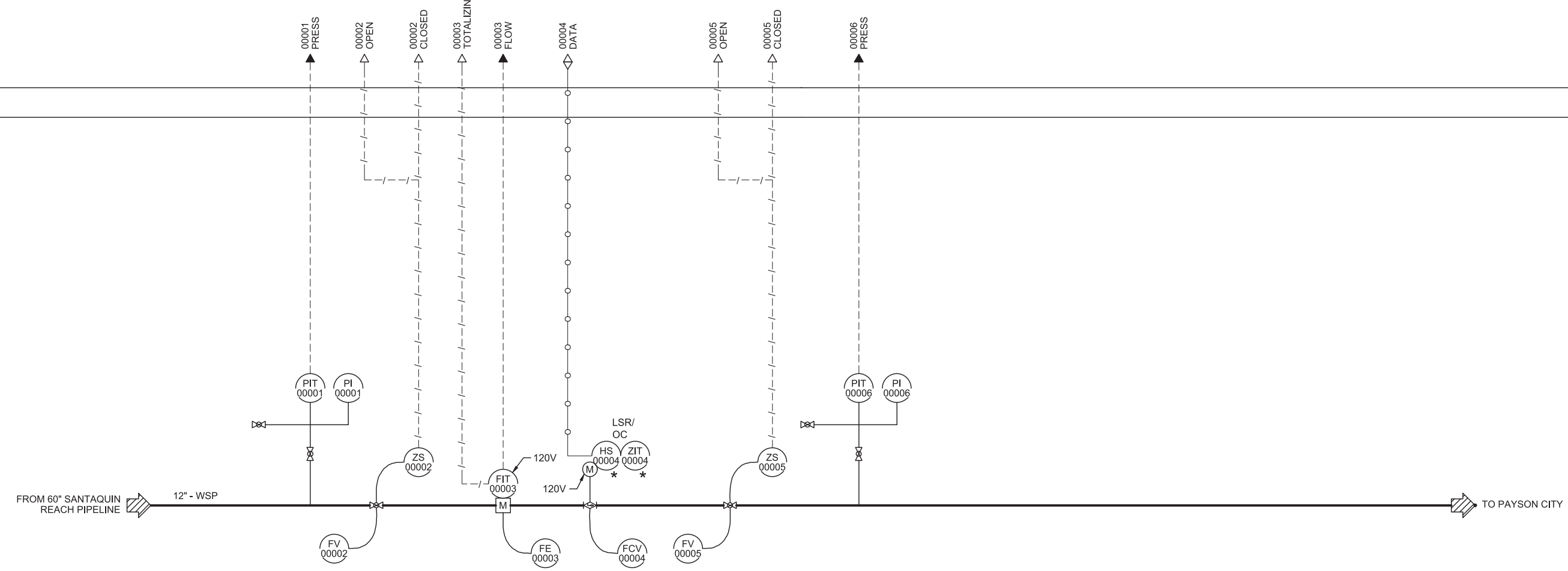
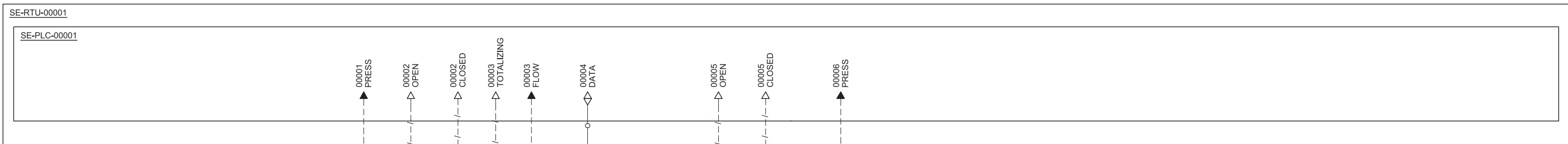


SPANISH FORK SANTAQUIN PIPELINE
 SANTAQUIN REACH

SALEM EAST TURNOUT
 ELECTRICAL DETAILS

SHEET	XX OF XX
DWG	15-E-3
DATE	OCTOBER 2023
CONTRACT	C-2023-01

A
B
C
D



DSGN	M PAWLOWSKI						
DR	R PHILLIPS						
CHK	T PALIN						
APVD	T PALIN	NO.	DATE	REVISION	BY	APVD	

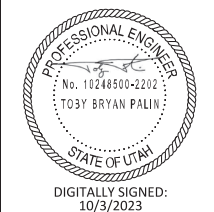
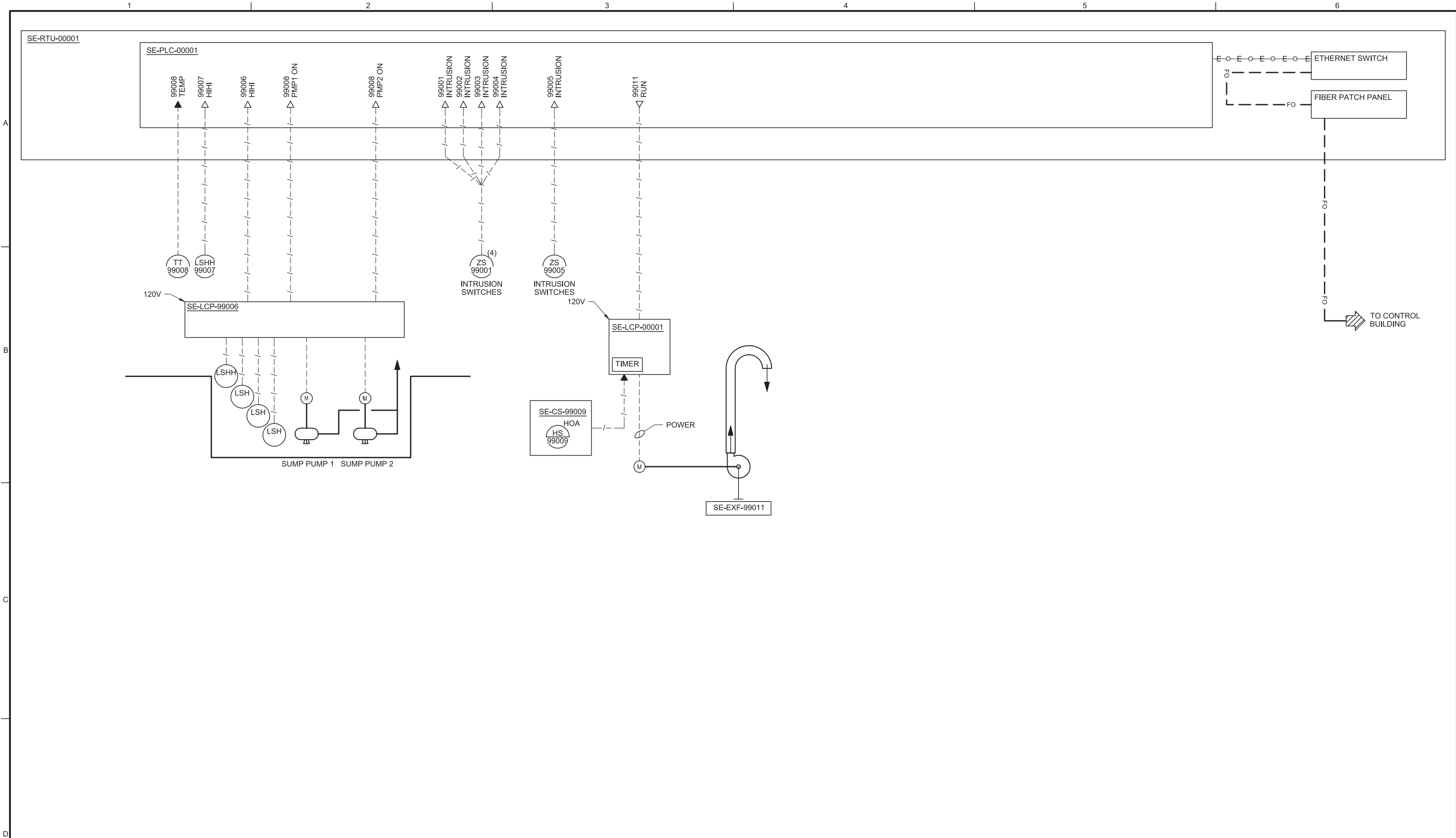
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SPANISH FORK SANTAQUIN PIPELINE
SANTAQUIN REACH

SALEM EAST TURNOUT
PROCESS AND INSTRUMENTATION
DIAGRAM

SHEET	XX OF XX
DWG	15-N-1
DATE	OCTOBER 2023
CONTRACT	C-2023-01



DSGN	M PAWLOWSKI						
DR	R PHILLIPS						
CHK	T PALIN						
APVD	T PALIN	NO.	DATE	REVISION	BY	APVD	

VERIFY SCALE
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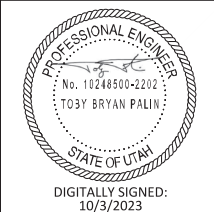
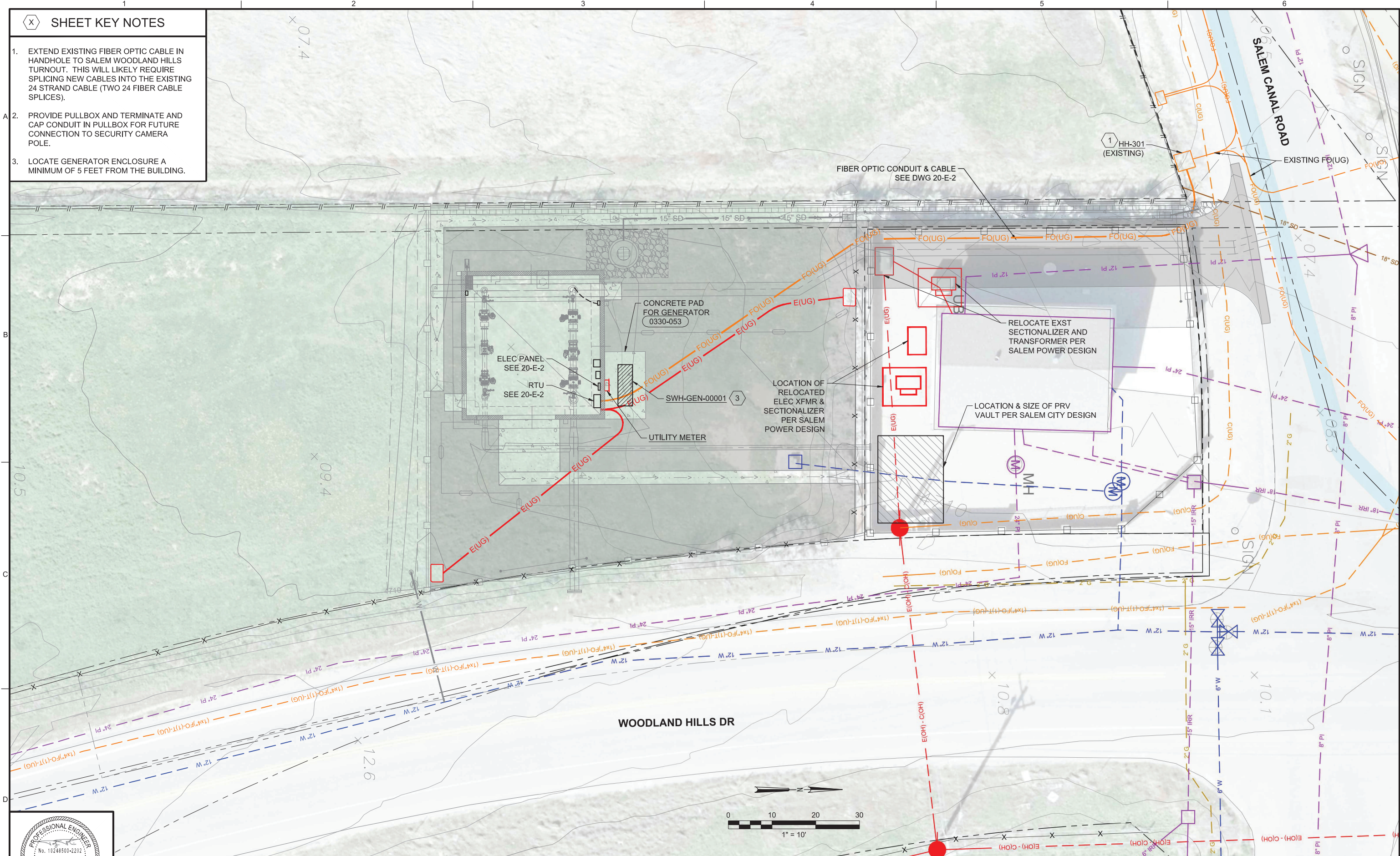
SPANISH FORK SANTAQUIN PIPELINE
 SANTAQUIN REACH

SALEM EAST TURNOUT
 PROCESS AND INSTRUMENTATION
 DIAGRAM

SHEET	XX OF XX
DWG	15-N-2
DATE	OCTOBER 2023
CONTRACT	C-2023-01

SHEET KEY NOTES

1. EXTEND EXISTING FIBER OPTIC CABLE IN HANDHOLE TO SALEM WOODLAND HILLS TURNOUT. THIS WILL LIKELY REQUIRE SPLICING NEW CABLES INTO THE EXISTING 24 STRAND CABLE (TWO 24 FIBER CABLE SPLICES).
2. PROVIDE PULLBOX AND TERMINATE AND CAP CONDUIT IN PULLBOX FOR FUTURE CONNECTION TO SECURITY CAMERA POLE.
3. LOCATE GENERATOR ENCLOSURE A MINIMUM OF 5 FEET FROM THE BUILDING.



DSGN	M PAWLOWSKI						
DR	R PHILLIPS						
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APVD	T PALIN	NO.	DATE	REVISION	BY	APVD	

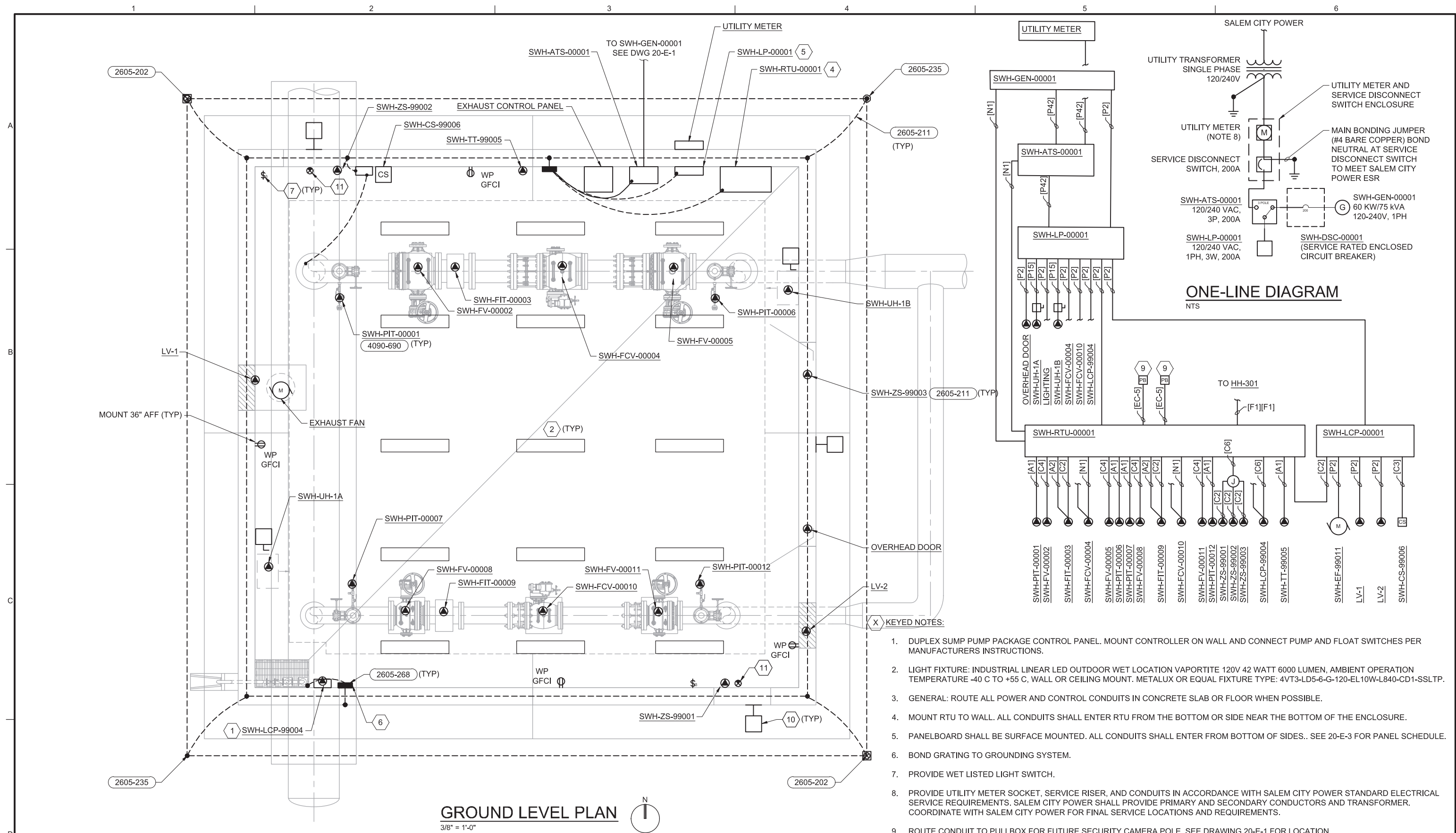
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SPANISH FORK SANTAQUIN PIPELINE
SANTAQUIN REACH

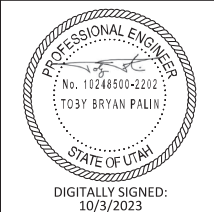
SALEM WOODLAND HILLS DRIVE TURNOUT
ELECTRICAL SITE PLAN

SHEET	XX OF XX
DWG	20-E-1
DATE	OCTOBER 2023
CONTRACT	C-2023-01



GROUND LEVEL PLAN
3/8" = 1'-0"

- KEYED NOTES:**
- DUPLEX SUMP PUMP PACKAGE CONTROL PANEL. MOUNT CONTROLLER ON WALL AND CONNECT PUMP AND FLOAT SWITCHES PER MANUFACTURERS INSTRUCTIONS.
 - LIGHT FIXTURE: INDUSTRIAL LINEAR LED OUTDOOR WET LOCATION VAPORTITE 120V 42 WATT 6000 LUMEN, AMBIENT OPERATION TEMPERATURE -40 C TO +55 C, WALL OR CEILING MOUNT. METALUX OR EQUAL FIXTURE TYPE: 4VT3-LD5-6-G-120-EL10W-L840-CD1-SSLTP.
 - GENERAL: ROUTE ALL POWER AND CONTROL CONDUITS IN CONCRETE SLAB OR FLOOR WHEN POSSIBLE.
 - MOUNT RTU TO WALL. ALL CONDUITS SHALL ENTER RTU FROM THE BOTTOM OR SIDE NEAR THE BOTTOM OF THE ENCLOSURE.
 - PANELBOARD SHALL BE SURFACE MOUNTED. ALL CONDUITS SHALL ENTER FROM BOTTOM OF SIDES.. SEE 20-E-3 FOR PANEL SCHEDULE.
 - BOND GRATING TO GROUNDING SYSTEM.
 - PROVIDE WET LISTED LIGHT SWITCH.
 - PROVIDE UTILITY METER SOCKET, SERVICE RISER, AND CONDUITS IN ACCORDANCE WITH SALEM CITY POWER STANDARD ELECTRICAL SERVICE REQUIREMENTS. SALEM CITY POWER SHALL PROVIDE PRIMARY AND SECONDARY CONDUCTORS AND TRANSFORMER. COORDINATE WITH SALEM CITY POWER FOR FINAL SERVICE LOCATIONS AND REQUIREMENTS.
 - ROUTE CONDUIT TO PULLBOX FOR FUTURE SECURITY CAMERA POLE. SEE DRAWING 20-E-1 FOR LOCATION.
 - EXTERIOR LIGHT FIXTURES ABOVE DOOR SHALL BE LITHONIA WSQ LED P1 40K SR2 MVOLT E20WC PIR DDBXD OR EQUAL. MOUNT FIXTURES INCHES ABOVE DOOR FRAME. POWER FROM UNSWITCHED CIRCUIT.
 - PROVIDE WET LISTED ILLUMINATED EXIT SIGN LITHONIA WLTE-W-G-EL-SD OR EQUAL. MOUNT EXIT ABOVE DOOR. POWER FROM UNSWITCHED CIRCUIT.



DSGN	M PAWLOWSKI						
DR	R PHILLIPS						
CHK	T PALIN						
APVD	T PALIN	NO.	DATE	REVISION	BY	APVD	

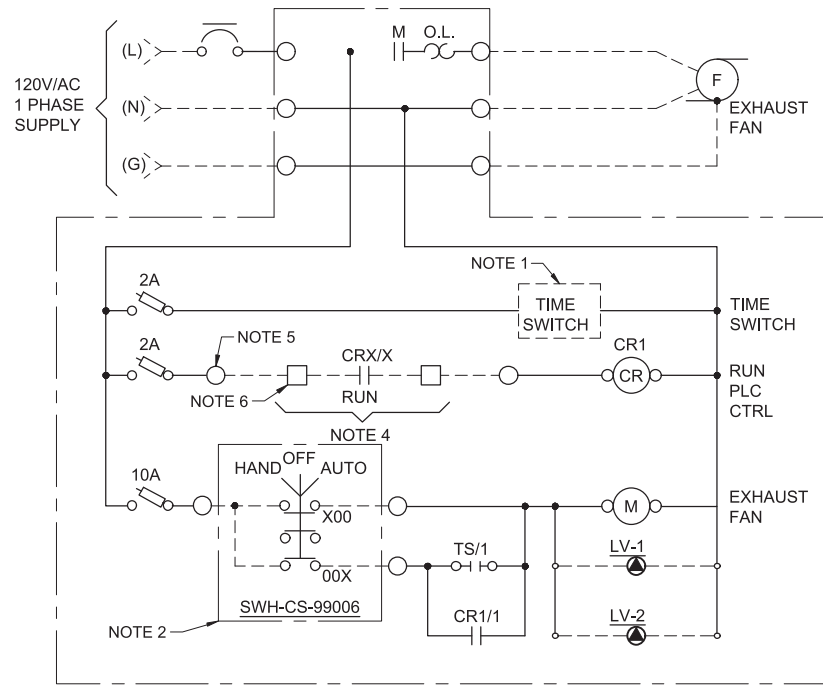
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SPANISH FORK SANTAQUIN PIPELINE
SANTAQUIN REACH

SALEM WOODLAND HILLS DRIVE TURNOUT
ELECTRICAL PLAN

SHEET	XX OF XX
DWG	20-E-2
DATE	OCTOBER 2023
CONTRACT	C-2023-01



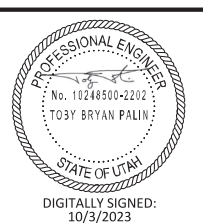
- NOTES:**
1. TIME SWITCH: TORK 8001 SERIES, WITH TIMER SET FOR TWO 15 MINUTE PERIODS IN 24 HOURS.
 2. HAND SWITCH LOCATED AT VAULT HATCH.
 3. LOCATE DEVICES IN FAN CONTROL PANEL / PULL BOX. ENCLOSURE SIZED BY CONTRACTOR AS REQUIRED FOR COMPONENTS.
 4. CONTACT CLOSURE IN RTU ENCLOSURE, CONTROLLED BY PLC.
 5. TERMINAL IN FAN CONTROL PANEL ENCLOSURE.
 6. TERMINAL IN RTU ENCLOSURE.

1 EXHAUST FAN CONTROL PANEL W/ HAND / OFF / AUTO CONTROL
NTS

PANEL: SWH-LP-00001 LOCATION: SALEM WOODLAND HILLS DRIVE TURNOUT
 SERVICE VOLTAGE: 120/240V PHASE: 1 WIRE: 3
 TOTAL LOAD KVA: 28.3 BUS SIZE: 225 MAIN SIZE: 200A TYPE: MCB
 REMARKS: NEMA 3R, BOTTOM FEED NEUTRAL: MOUNTING: SURFACE

LOAD IN VA		CIRCUIT DESCRIPTION	BKR A/P	CKT NO.	CKT NO.	BKR A/P	CIRCUIT DESCRIPTION	LOAD IN VA	
A	B							A	B
1627.0		EXHAUST FAN CONTROL PANEL	20A/1P	1	2	20A/1P	LIGHTING	378.0	
	1200.0	SUMP PUMP CONTROL PANEL	20A/1P	3	4	20A/1P	SWH-FCV-00004		1600.0
720.0		RECEPTACLES	20A/1P	5	6	20A/1P	RTU PANEL UPS	600.0	
	5000.0	ELECTRICAL HEATER	60A/2P	7	8	20A/1P	SWH-FCV-00010		1600.0
5000.0		GENERATOR	20A/1P	9	10	20A/1P	SPARE	0.0	
	600.0	ELECTRICAL HEATER	20A/1P	11	12	20A/1P	SPARE		0.0
5000.0		ELECTRICAL HEATER	60A/2P	13	14	20A/1P	SPARE	0.0	
	5000.0	SPARE	20A/1P	15	16	20A/1P	SPARE		0.0
0.0		SPARE	20A/1P	17	18	20A/1P	SPARE	0.0	
	0.0	SPARE	20A/1P	19	20	20A/1P	SPARE		0.0
0.0		SPARE	20A/1P	21	22	20A/1P	SPARE	0.0	
	0.0	SPARE	20A/1P	23	24	20A/1P	SPARE		0.0
0.0		SPARE	20A/1P	25	26	20A/1P	SPARE	0.0	
	0.0	SPD	30A/2P	27	28	20A/1P	SPARE		0.0
0.0				29	30	20A/1P	SPARE	0.0	
12347.0	11800.0	TOTAL						978.0	3200.0
								13325.0	15000.0

2 PANELBOARD SCHEDULE
NTS



DSGN	M PAWLOWSKI	NO.	DATE	REVISION	BY	APVD
DR	R PHILLIPS					
CHK	T PALIN					
APVD	T PALIN					

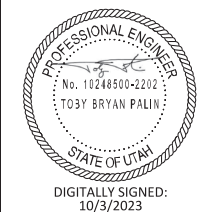
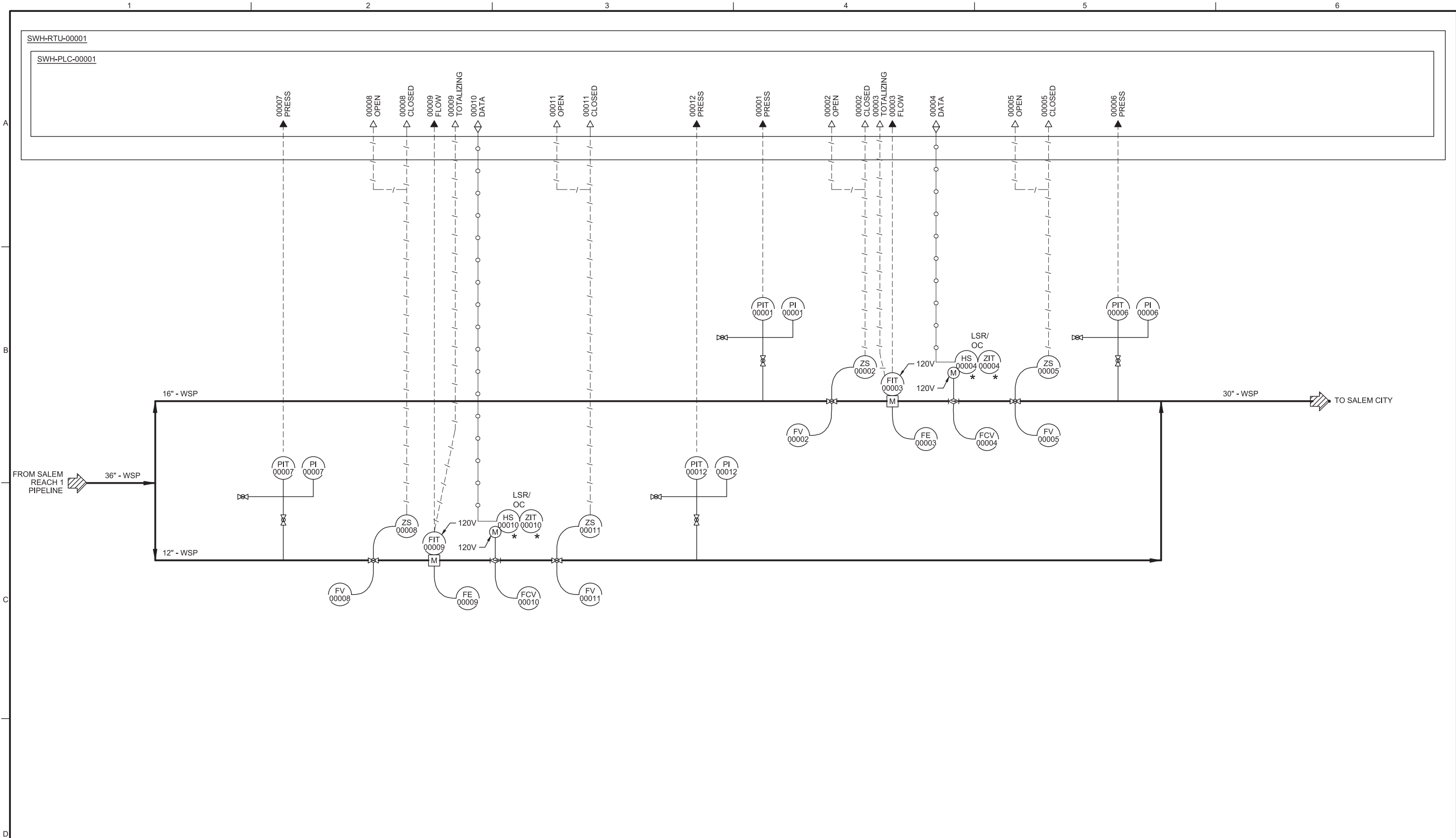
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SPANISH FORK SANTAQUIN PIPELINE
SANTAQUIN REACH

SALEM WOODLAND HILLS TURNOUT
ELECTRICAL DETAILS

SHEET	XX OF XX
DWG	20-E-3
DATE	OCTOBER 2023
CONTRACT	C-2023-01



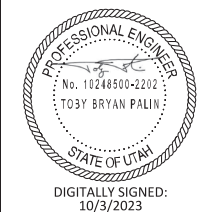
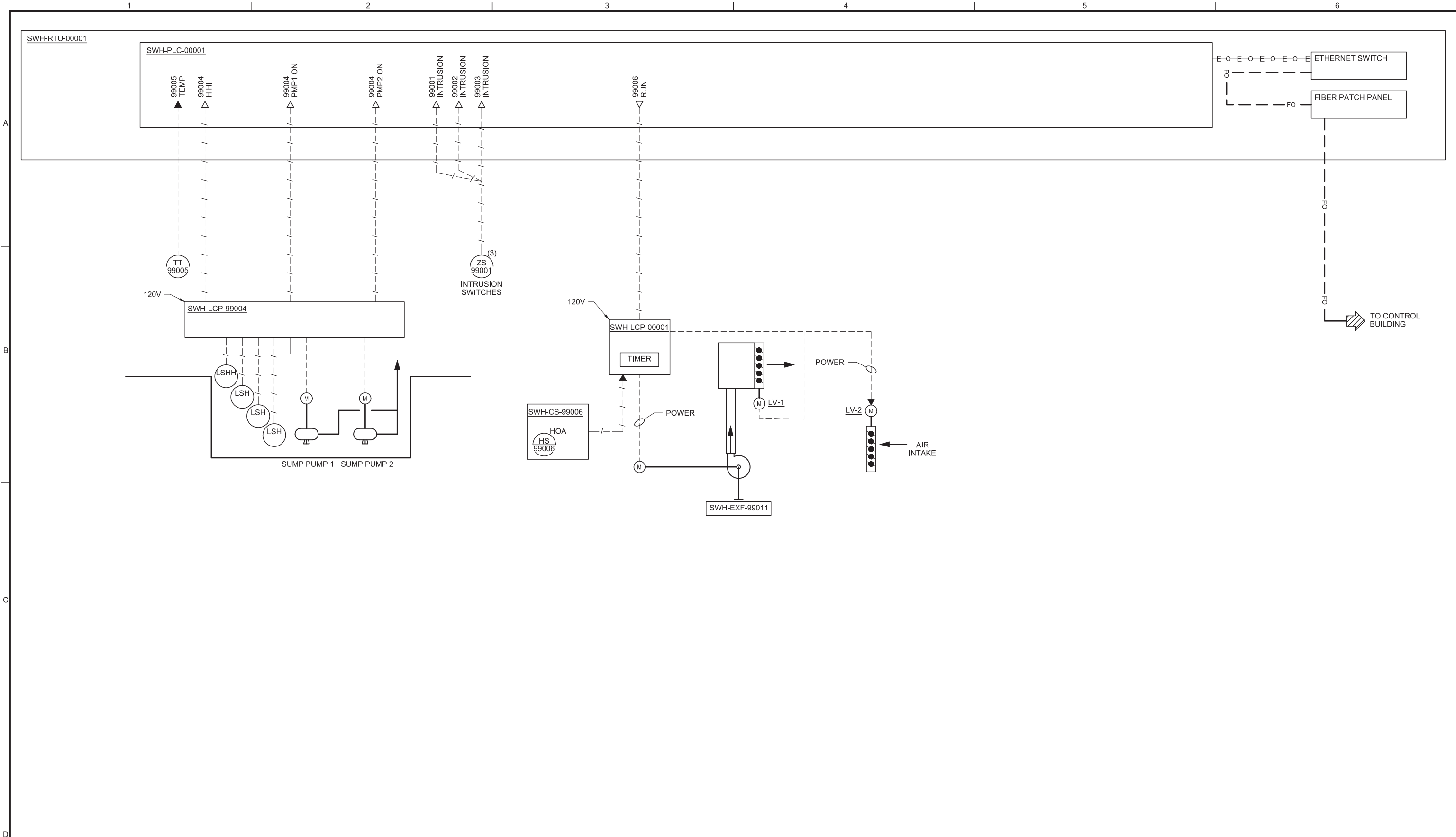
DSGN	M PAWLOWSKI						
DR	R PHILLIPS						
CHK	T PALIN						
APVD	T PALIN	NO.	DATE	REVISION	BY	APVD	

VERIFY SCALE
 BAR IS ONE INCH ON ORIGINAL DRAWING.
 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.



SPANISH FORK SANTAQUIN PIPELINE
 SANTAQUIN REACH

SHEET	XX OF XX
DWG	20-N-1
DATE	OCTOBER 2023
CONTRACT	C-2023-01



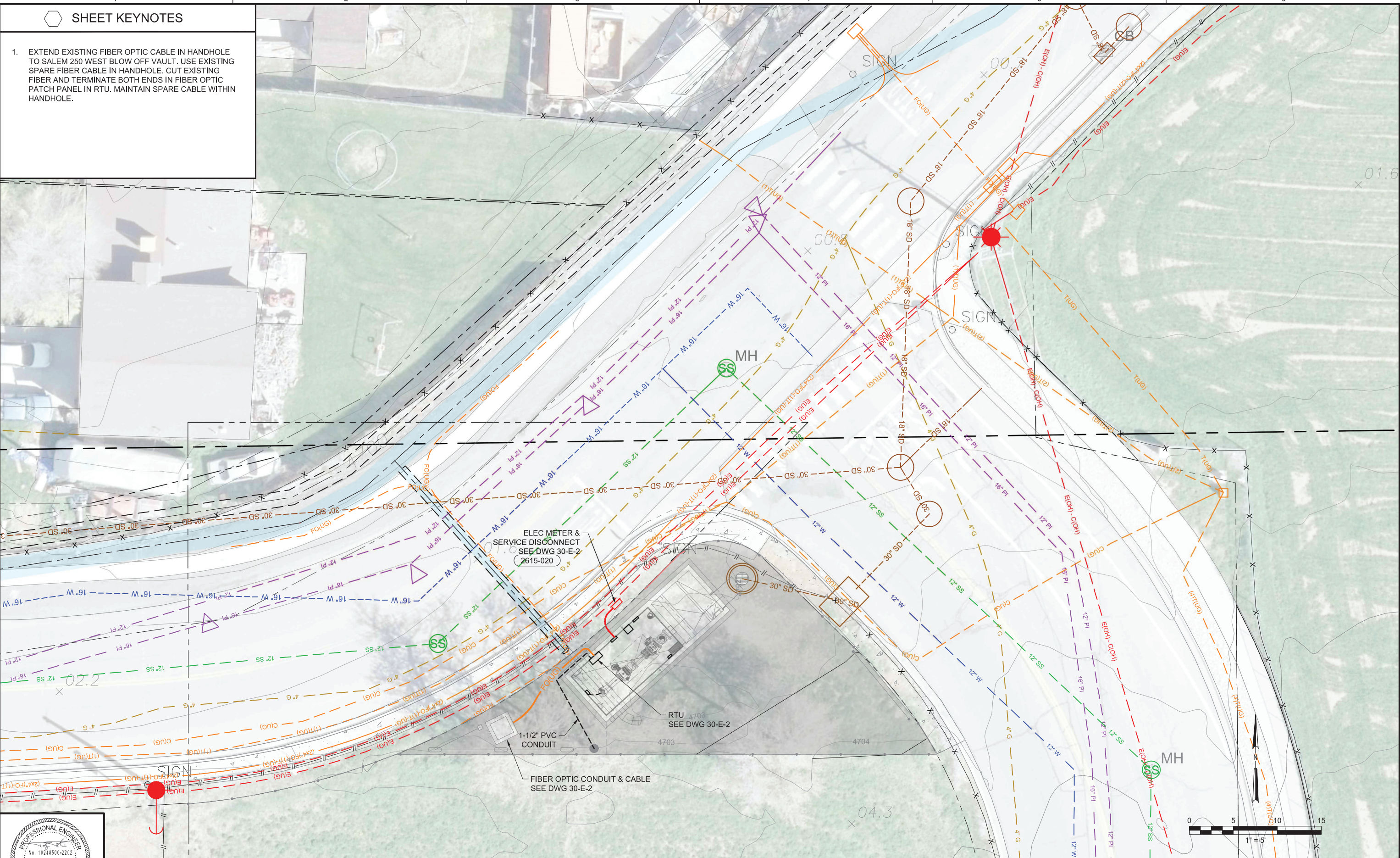
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DR	R PHILLIPS						
CHK	T PALIN						
APVD	T PALIN	NO.	DATE	REVISION	BY	APVD	

VERIFY SCALE
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 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.



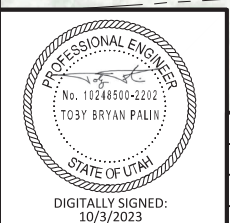
SPANISH FORK SANTAQUIN PIPELINE
 SANTAQUIN REACH

SHEET	XX OF XX
DWG	20-N-2
DATE	OCTOBER 2023
CONTRACT	C-2023-01



SHEET KEYNOTES

1. EXTEND EXISTING FIBER OPTIC CABLE IN HANDHOLE TO SALEM 250 WEST BLOW OFF VAULT. USE EXISTING SPARE FIBER CABLE IN HANDHOLE. CUT EXISTING FIBER AND TERMINATE BOTH ENDS IN FIBER OPTIC PATCH PANEL IN RTU. MAINTAIN SPARE CABLE WITHIN HANDHOLE.



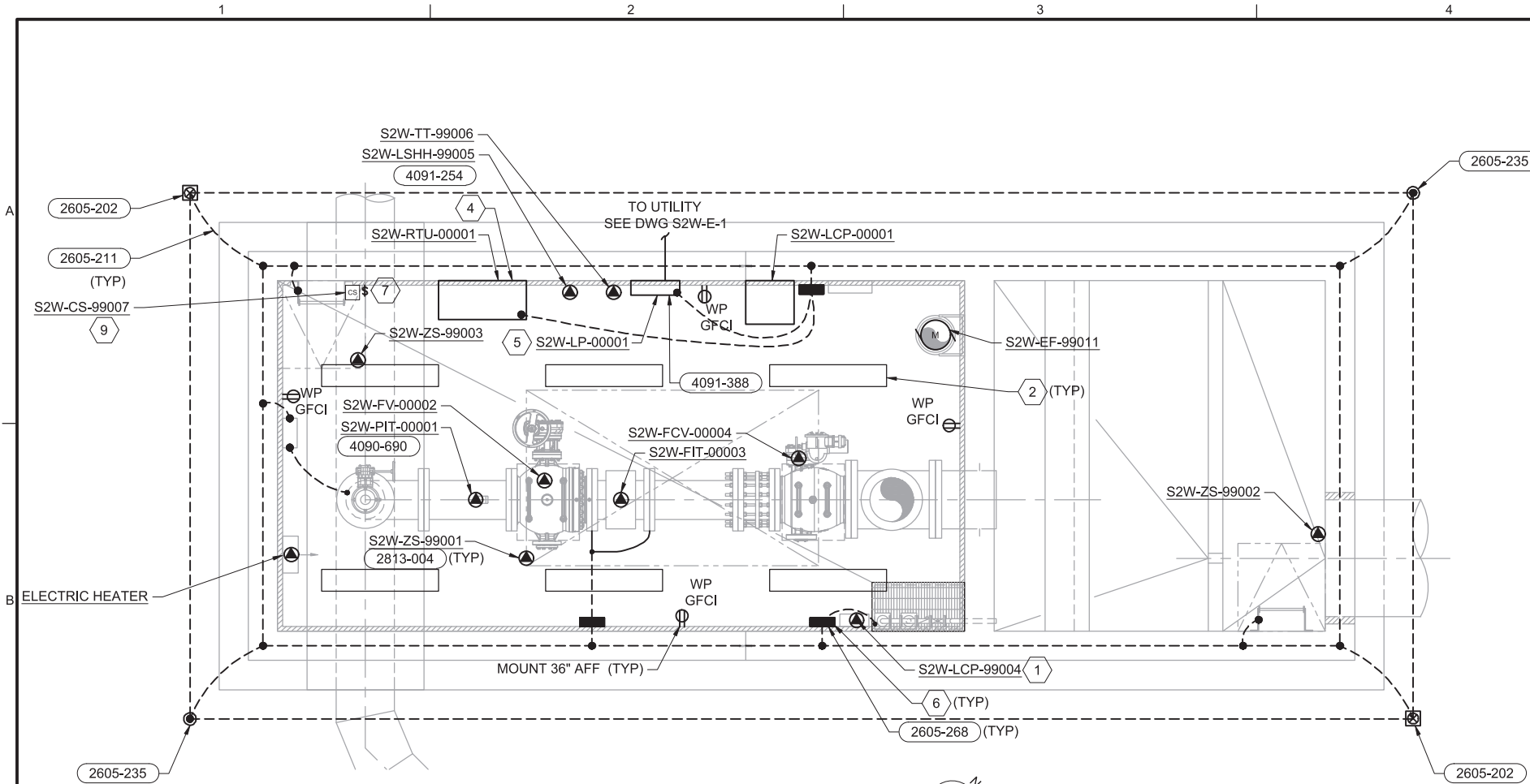
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DR	R PHILLIPS								
CHK	T PALIN								
APVD	T PALIN	NO.	DATE	REVISION	BY	APVD			

VERIFY SCALE
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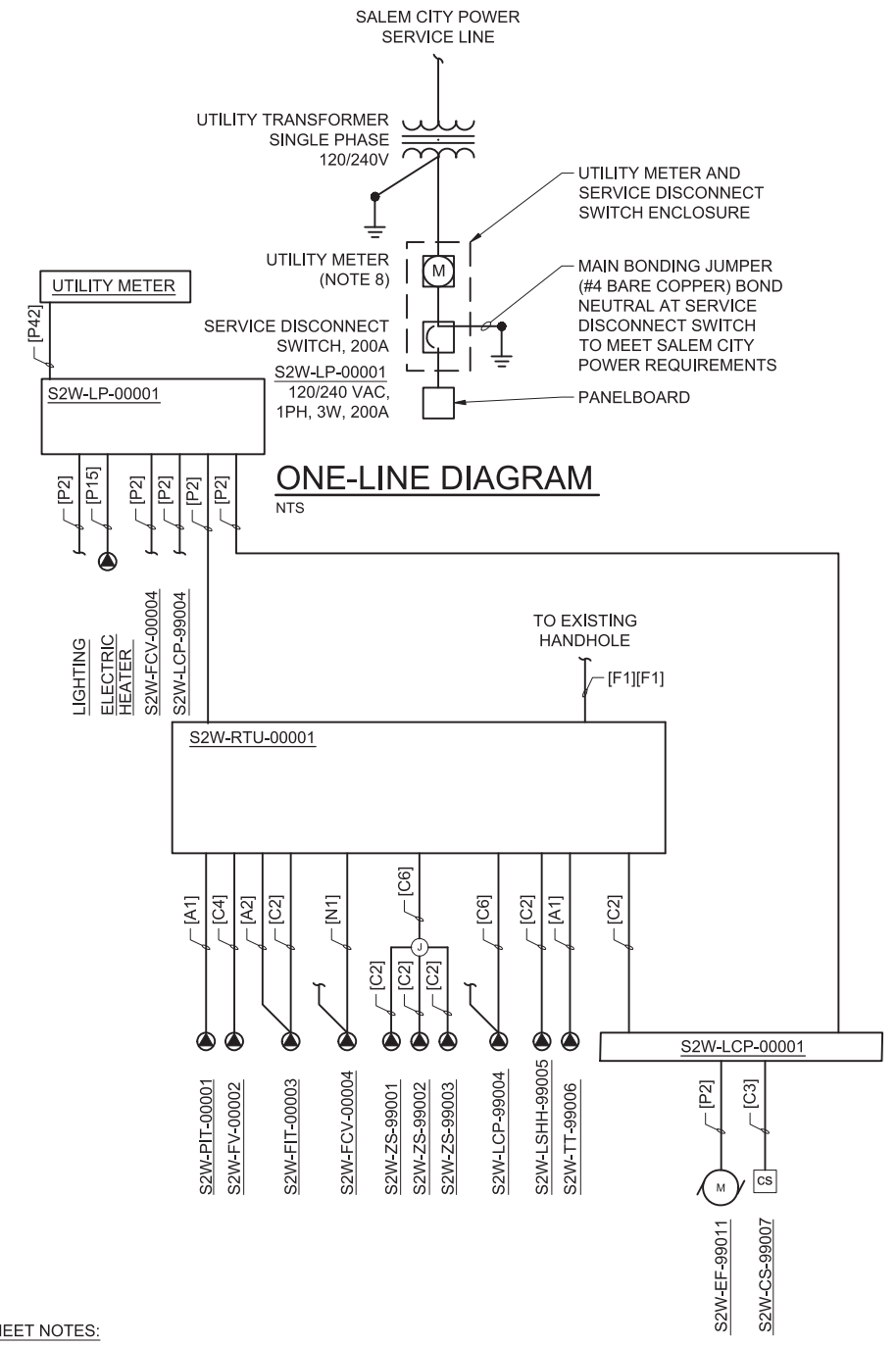


SPANISH FORK SANTAQUIN PIPELINE
SANTAQUIN REACH

SHEET	XX OF XX
DWG	30-E-1
DATE	OCTOBER 2023
CONTRACT	C-2023-01



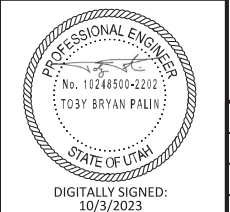
PLAN
3/8" = 1'-0"



ONE-LINE DIAGRAM
NTS

X KEYED SHEET NOTES:

- DUPLEX SUMP PUMP PACKAGE CONTROL PANEL. MOUNT CONTROLLER ON WALL AND CONNECT PUMP AND FLOAT SWITCHES PER MANUFACTURERS INSTRUCTIONS.
- LIGHT FIXTURE: INDUSTRIAL LINEAR LED OUTDOOR WET LOCATION VAPORTITE 120V 42 WATT 6000 LUMEN, AMBIENT OPERATION TEMPERATURE -40 C TO +55 C, WALL OR CEILING MOUNT. METALUX OR EQUAL FIXTURE TYPE: 4VT3-LD5-6-G-120-EL10W-L840-CD1-SSLTP.
- GENERAL: ROUTE ALL POWER AND CONTROL CONDUITS IN CONCRETE SLAB OR FLOOR WHEN POSSIBLE.
- MOUNT RTU TO WALL. ALL CONDUITS SHALL ENTER RTU FROM THE BOTTOM OR SIDE NEAR THE BOTTOM OF THE ENCLOSURE.
- FEEDER CIRCUIT SHALL PENETRATE WALL BELOW SWH-LP-00001. CONDUIT SHALL TEE WITH ONE CONDUIT GOING UP INTO BOTTOM OF PANEL ENCLOSURE AND THE OTHER CONDUIT GOING DOWN WITH A MOISTURE DRAIN FITTING SO ALL INFILTRATED MOISTURE WILL NOT DRAIN INTO THE ELECTRICAL EQUIPMENT. SEE 20-E-3 FOR PANEL SCHEDULE.
- BOND GRATING AND STAIRWAY FRAME STRUCTURE TO GROUNDING SYSTEM.
- PROVIDE WET LISTED LIGHT SWITCH AT THE TOP OF THE ACCESS STAIRS, BUT BELOW ACCESS HATCH.
- PROVIDE UTILITY METER SOCKET, SERVICE RISER, AND CONDUITS IN ACCORDANCE WITH SALEM CITY POWER STANDARD ELECTRICAL SERVICE REQUIREMENTS. SALEM CITY POWER SHALL PROVIDE PRIMARY AND SECONDARY CONDUCTORS AND TRANSFORMER. COORDINATE WITH SALEM CITY POWER FOR FINAL SERVICE LOCATIONS AND REQUIREMENTS.
- MOUNT EXHAUST FAN CONTROL STATION ADJACENT TO LIGHT SWITCH.



DSGN	M PAWLOWSKI								
DR	R PHILLIPS								
CHK	T PALIN								
APVD	T PALIN	NO.	DATE	REVISION	BY	APVD			

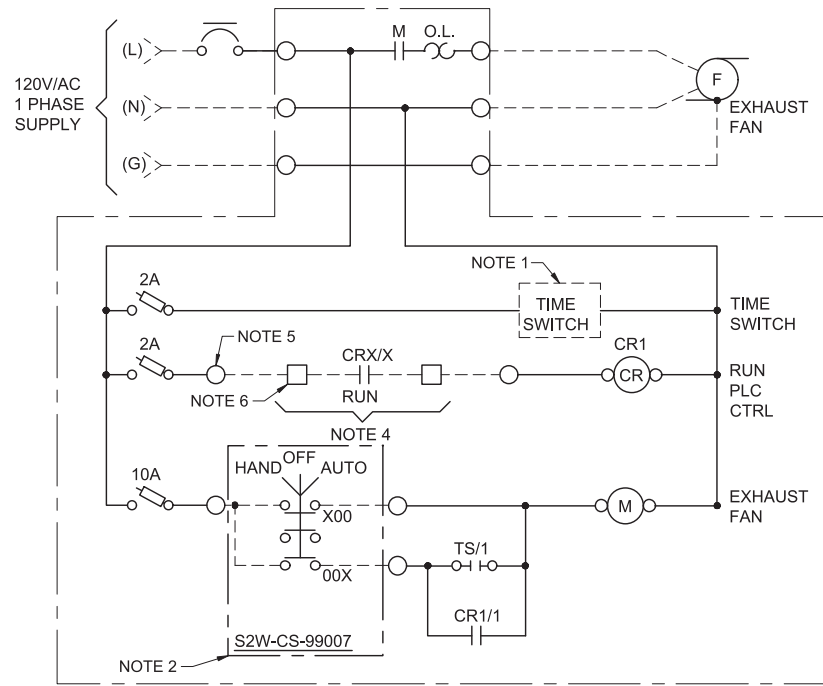
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.



SPANISH FORK SANTAQUIN PIPELINE
SANTAQUIN REACH

SALEM 250 WEST BLOW OFF VAULT ELECTRICAL PLAN

SHEET	XX OF XX
DWG	30-E-2
DATE	OCTOBER 2023
CONTRACT	C-2023-01



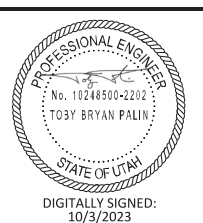
- NOTES:**
1. TIME SWITCH: TORK 8001 SERIES, WITH TIMER SET FOR TWO 15 MINUTE PERIODS IN 24 HOURS.
 2. HAND SWITCH LOCATED AT VAULT HATCH.
 3. LOCATE DEVICES IN FAN CONTROL PANEL / PULL BOX. ENCLOSURE SIZED BY CONTRACTOR AS REQUIRED FOR COMPONENTS.
 4. CONTACT CLOSURE IN RTU ENCLOSURE, CONTROLLED BY PLC.
 5. TERMINAL IN FAN CONTROL PANEL ENCLOSURE.
 6. TERMINAL IN RTU ENCLOSURE.

1 EXHAUST FAN CONTROL PANEL W/ HAND / OFF / AUTO CONTROL
NTS

PANEL: S2W-LP-00001 LOCATION: SALEM 250 WEST BLOW OFF VAULT
 SERVICE VOLTAGE: 120/240V PHASE: 1 WIRE: 3
 TOTAL LOAD KVA: 11.0 BUS SIZE: 225 MAIN SIZE: 200A TYPE: MCB
 REMARKS: NEMA 3R, BOTTOM FEED NEUTRAL: MOUNTING: SURFACE

LOAD IN VA		CIRCUIT DESCRIPTION	BKR A/P	CKT NO.	CKT A/P	BKR A/P	CIRCUIT DESCRIPTION	LOAD IN VA	
A	B							A	B
1627.0		EXHAUST FAN CONTROL PANEL	20A/1P	1	2	20A/1P	LIGHTING	210.0	
	1200.0	SUMP PUMP CONTROL PANEL	20A/1P	3	4	20A/1P	S2W-FCV-00004		1600.0
720.0		RECEPTACLES	20A/1P	5	6	20A/1P	RTU PANEL UPS	600.0	
	0.0	SPARE	20A/2P	7	8	20A/1P	SPARE		0.0
0.0		SPARE	20A/1P	9	10	20A/1P	SPARE	0.0	
	0.0	SPARE	20A/1P	11	12	20A/1P	SPARE		0.0
2500.0		ELECTRICAL HEATER	30A/2P	13	14	20A/1P	SPARE	0.0	
	2500.0			15	16	20A/1P	SPARE		0.0
0.0		SPARE	20A/1P	17	18	20A/1P	SPARE	0.0	
	0.0	SPARE	20A/1P	19	20	20A/1P	SPARE		0.0
0.0		SPARE	20A/1P	21	22	20A/1P	SPARE	0.0	
	0.0	SPARE	20A/1P	23	24	20A/1P	SPARE		0.0
0.0		SPARE	20A/1P	25	26	20A/1P	SPARE	0.0	
	0.0	SPARE	20A/1P	27	28	20A/1P	SPARE		0.0
0.0		SPD	30A/2P	29	30	20A/1P	SPARE	0.0	
4847.0	3700.0	TOTAL						810.0	1600.0
								5657.0	5300.0

2 PANELBOARD SCHEDULE
NTS



DSGN	M PAWLOWSKI								
DR	R PHILLIPS								
CHK	T PALIN								
APVD	T PALIN	NO.	DATE	REVISION	BY	APVD			

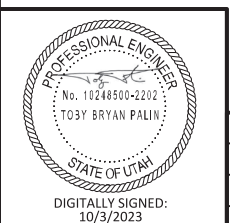
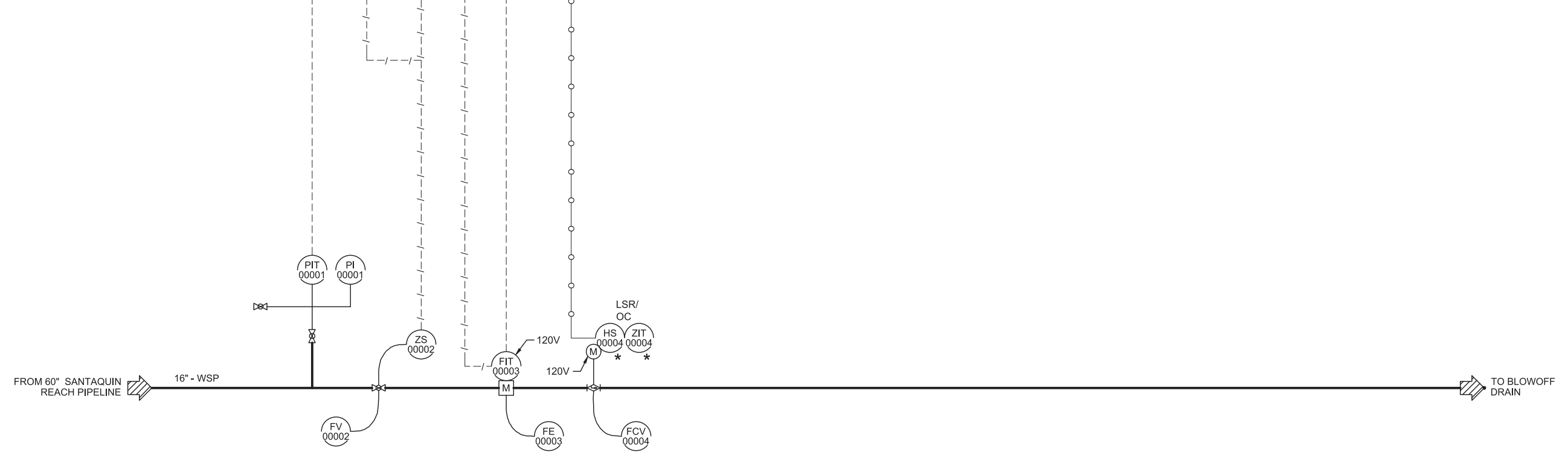
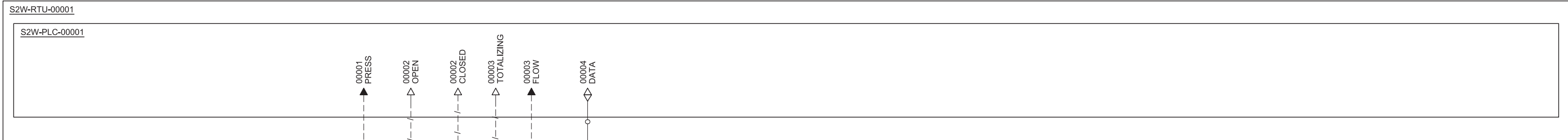
VERIFY SCALE
 BAR IS ONE INCH ON ORIGINAL DRAWING.
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 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.



SPANISH FORK SANTAQUIN PIPELINE
 SANTAQUIN REACH

SALEM 250 WEST BLOW OFF VAULT
 ELECTRICAL DETAILS

SHEET	XX OF XX
DWG	30-E-3
DATE	OCTOBER 2023
CONTRACT	C-2023-01



DSGN	M PAWLOWSKI						
DR	R PHILLIPS						
CHK	T PALIN						
APVD	T PALIN	NO.	DATE	REVISION	BY	APVD	

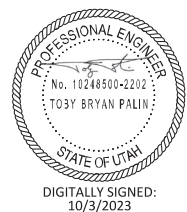
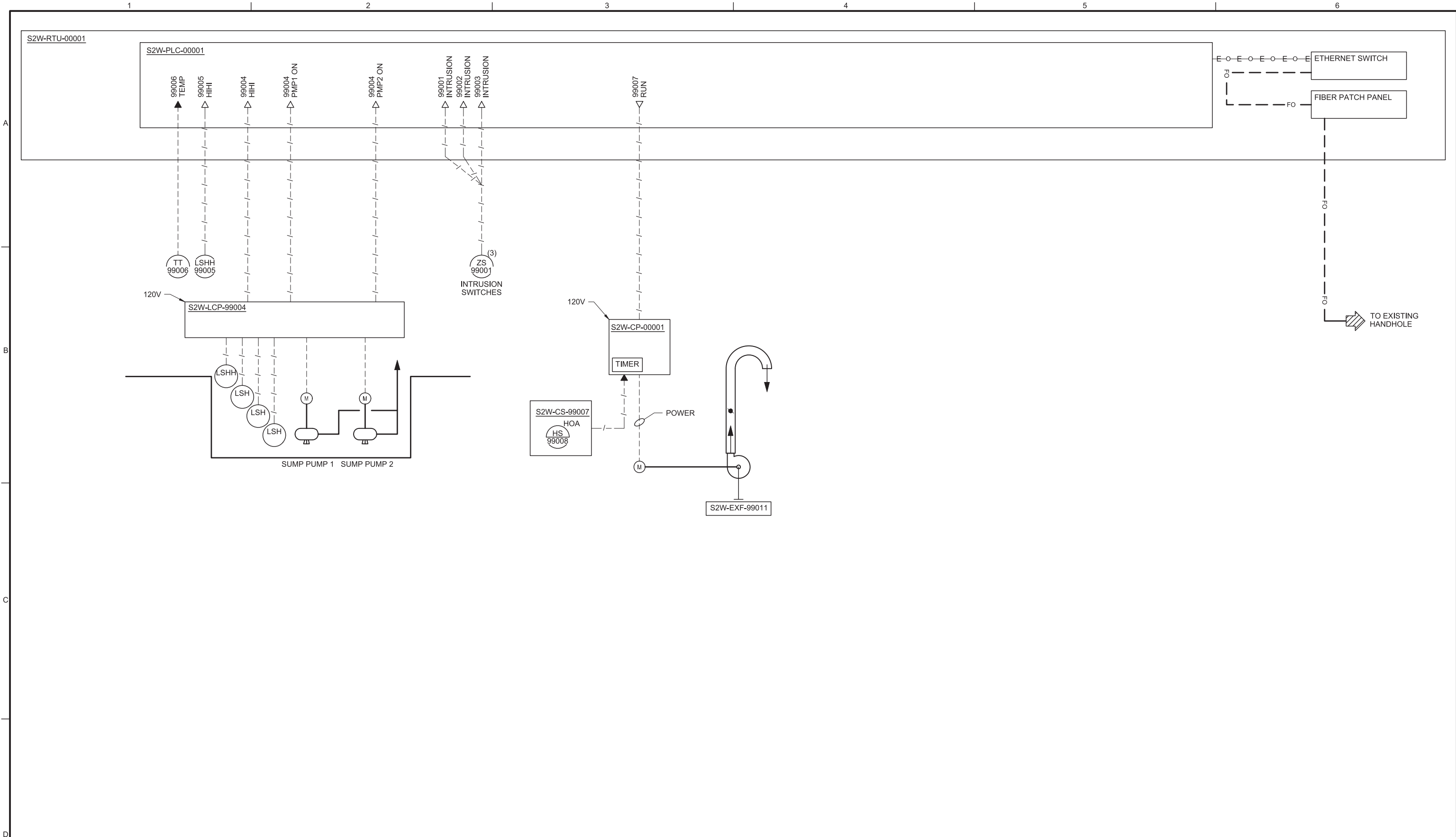
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SPANISH FORK SANTAQUIN PIPELINE
 SANTAQUIN REACH

250 WEST BLOWOFF VAULT
 PROCESS AND INSTRUMENTATION
 DIAGRAM

SHEET	XX OF XX
DWG	30-N-1
DATE	OCTOBER 2023
CONTRACT	C-2023-01



DSGN	M PAWLOWSKI						
DR	R PHILLIPS						
CHK	T PALIN						
APVD	T PALIN	NO.	DATE	REVISION	BY	APVD	

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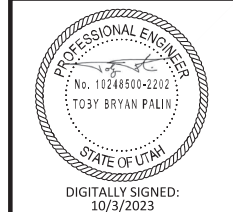
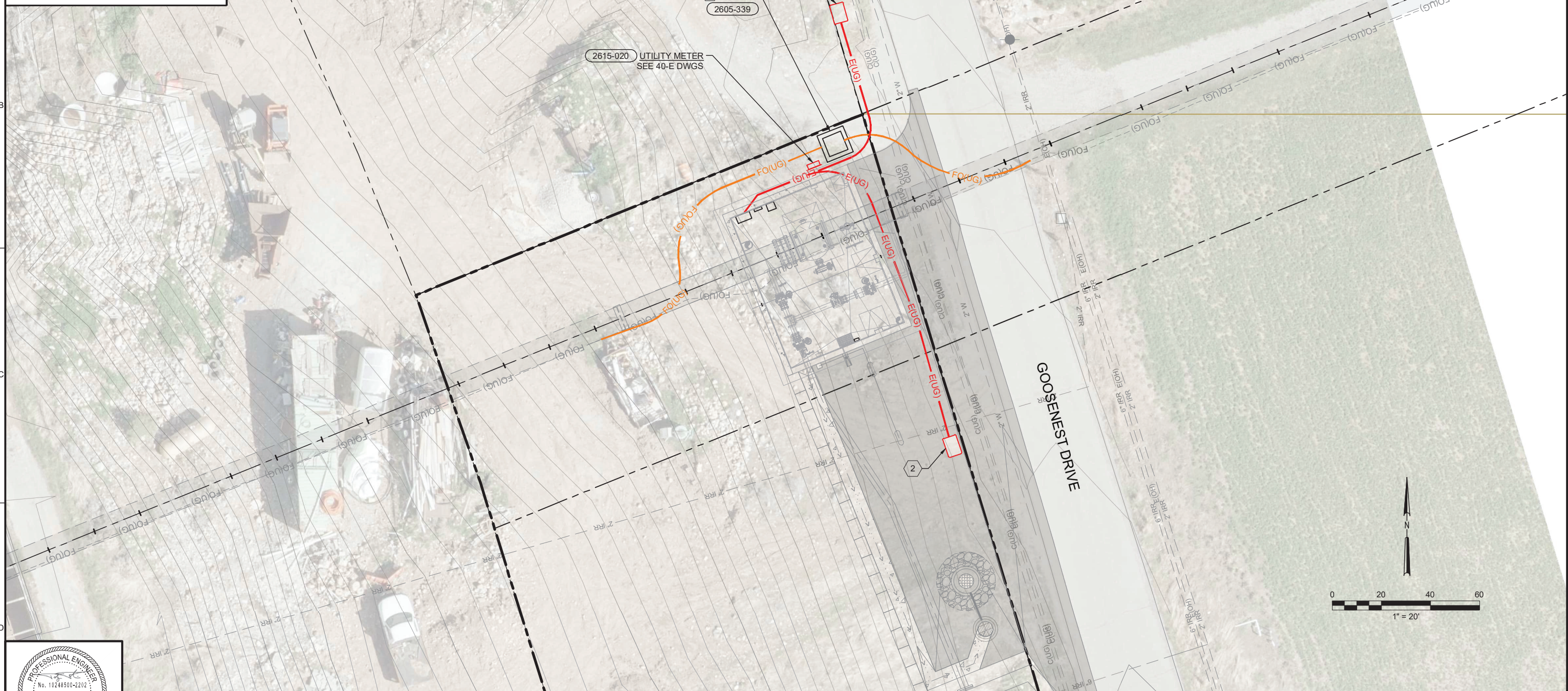
SPANISH FORK SANTAQUIN PIPELINE
 SANTAQUIN REACH

250 WEST BLOWOFF VAULT
 PROCESS AND INSTRUMENTATION
 DIAGRAM

SHEET	XX OF XX
DWG	30-N-2
DATE	OCTOBER 2023
CONTRACT	C-2023-01

SHEET KEY NOTES

- FIELD LOCATE EXISTING CONDUITS WITH EXISTING FIBER CABLE ROUTED ALONG PIPELINE. CAREFULLY CUT INTO EXISTING CONDUITS AND EXISTING FIBER CABLE PULL SPARE FIBER NEEDED FROM EXISTING HANDHOLES TO ROUTE EACH END OF THE FIBER CABLE INTO THE RTU CABINET. EXTEND CONDUITS INTO NEW HANDHOLE WITH 10' RADIUS CONDUIT BENDS. AVOID SPLICING FIBER CABLE IN HANDHOLE IF POSSIBLE. THERE ARE (3) 2" HDPE EXISTING CONDUITS ALONG EXISTING PIPELINE THAT WILL NEED TO BE REROUTED TO THE HANDHOLE. ONE CONDUIT HAS A LOCATE WIRE, ONE IS EMPTY AND THE OTHER HAS A 24 FIBER SINGLEMODE CABLE. SPLICE AND EXTEN LOCATE CONDUCTOR AS NEEDED.
- PROVIDE PULLBOX AND TERMINATE AND CAP CONDUIT IN PULLBOX FOR FUTURE CONNECTION TO SECURITY CAMERA POLE.



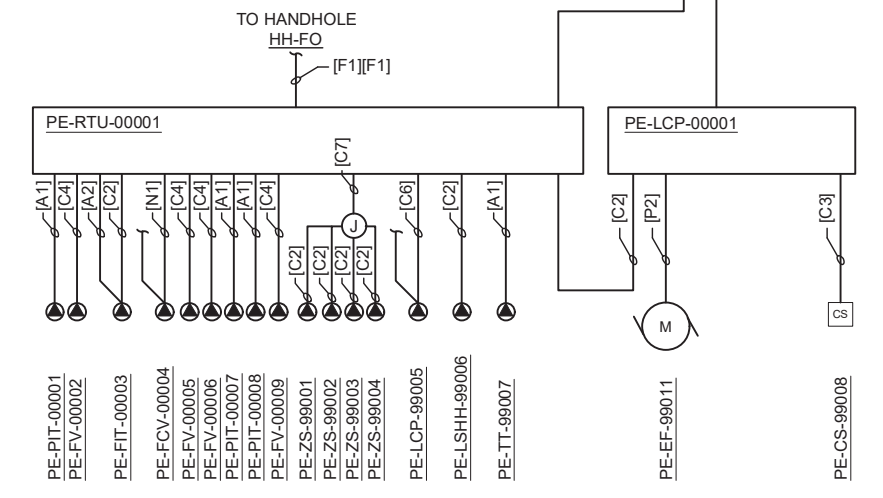
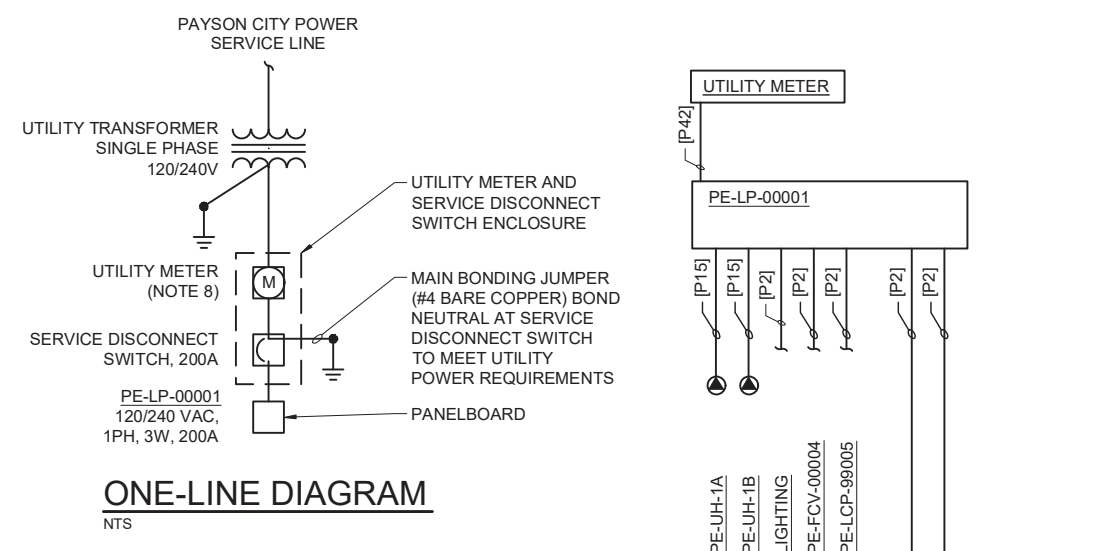
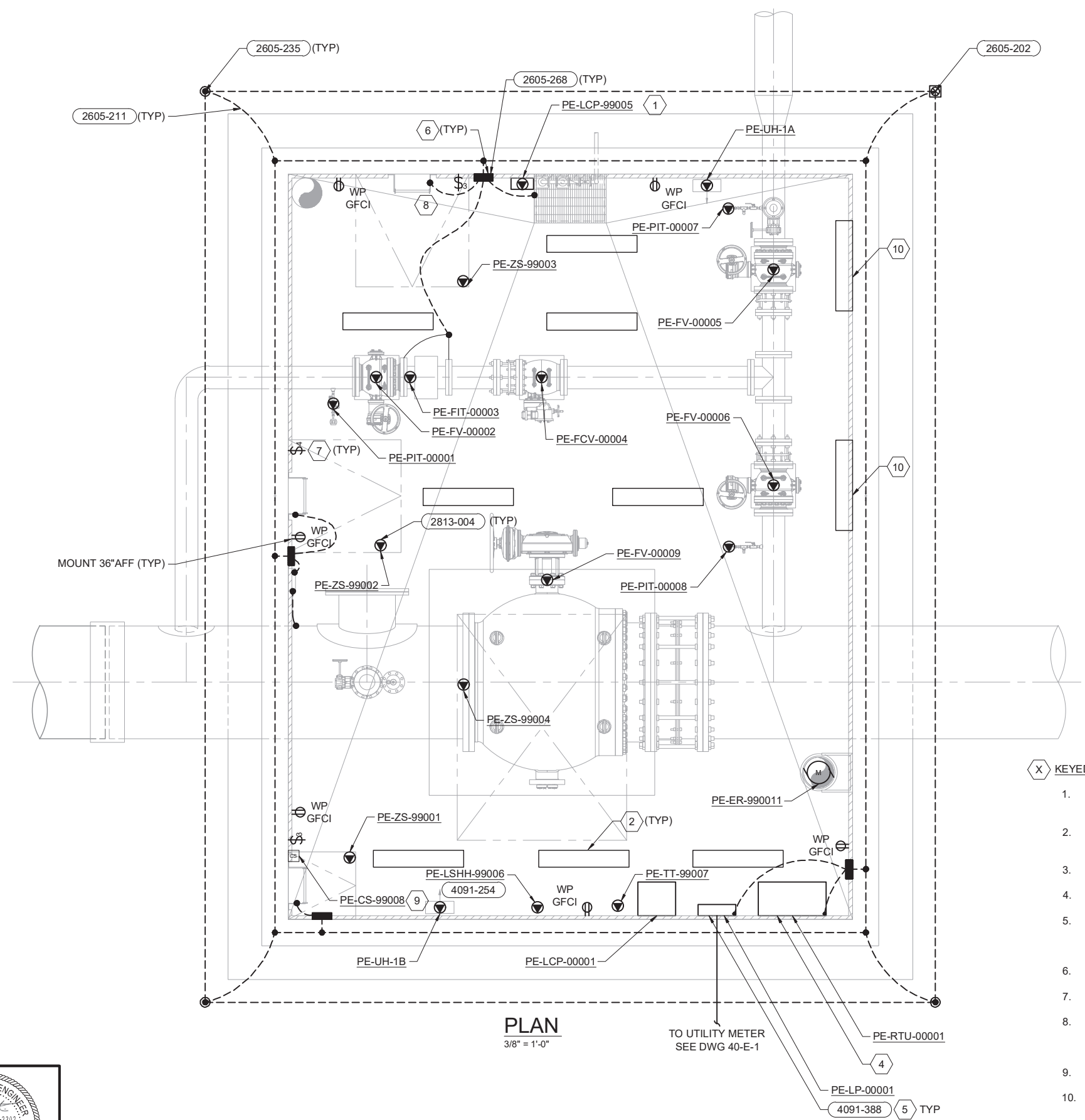
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DR	R PHILLIPS								
CHK	T PALIN								
APVD	T PALIN	NO.	DATE	REVISION	BY	APVD			

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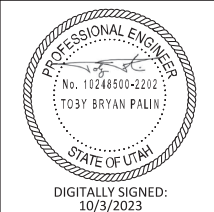
SPANISH FORK SANTAQUIN PIPELINE
SANTAQUIN REACH

SHEET	XX OF XX
DWG	40-E-1
DATE	OCTOBER 2023
CONTRACT	C-2023-01



- X KEYED NOTES:**
- DUPLEX SUMP PUMP PACKAGE CONTROL PANEL. MOUNT CONTROLLER ON WALL AND CONNECT PUMP AND FLOAT SWITCHES PER MANUFACTURERS INSTRUCTIONS.
 - LIGHT FIXTURE: INDUSTRIAL LINEAR LED OUTDOOR WET LOCATION VAPORTITE 120V 42 WATT 6000 LUMEN, AMBIENT OPERATION TEMPERATURE -40 C TO +55 C, WALL OR CEILING MOUNT. METALUX OR EQUAL FIXTURE TYPE: 4VT3-LD5-6-G-120-EL10W-L840-CD1-SSLTP.
 - GENERAL: ROUTE ALL POWER AND CONTROL CONDUITS IN CONCRETE SLAB OR FLOOR WHEN POSSIBLE.
 - MOUNT RTU TO WALL. ALL CONDUITS SHALL ENTER RTU FROM THE BOTTOM OR SIDE NEAR THE BOTTOM OF THE ENCLOSURE.
 - FEEDER CIRCUIT SHALL PENETRATE WALL BELOW PE-LP-00001. CONDUIT SHALL TEE WITH ONE CONDUIT GOING UP INTO BOTTOM OF PANEL ENCLOSURE AND THE OTHER CONDUIT GOING DOWN WITH A MOISTURE DRAIN FITTING SO ALL INFILTRATED MOISTURE WILL NOT DRAIN INTO THE ELECTRICAL EQUIPMENT. SEE 20-E-3 FOR PANEL SCHEDULE.
 - BOND GRATING AND STAIRWAY FRAME STRUCTURE TO GROUNDING SYSTEM.
 - PROVIDE WET LISTED LIGHT SWITCH AT THE TOPE OF THE ACCESS STAIRS, BUT BELOW ACCESS HATCH.
 - PROVIDE UTILITY METER SOCKET, SERVICE RISER, AND CONDUITS IN ACCORDANCE WITH SALEM CITY POWER STANDARD ELECTRICAL SERVICE REQUIREMENTS. SALEM CITY POWER SHALL PROVIDE PRIMARY AND SECONDARY CONDUCTORS AND TRANSFORMER. COORDINATE WITH SALEM CITY POWER FOR FINAL SERVICE LOCATIONS AND REQUIREMENTS.
 - MOUNT ADJACENT TO LIGHT SWITCH.
 - MOUNT TO WALL AT 8'-0" AFF.

PLAN
3/8" = 1'-0"



DSGN	M PAWLOSKI						
DR	R PHILLIPS						
CHK	T PALIN						
APVD	T PALIN	NO.	DATE	REVISION	BY	APVD	

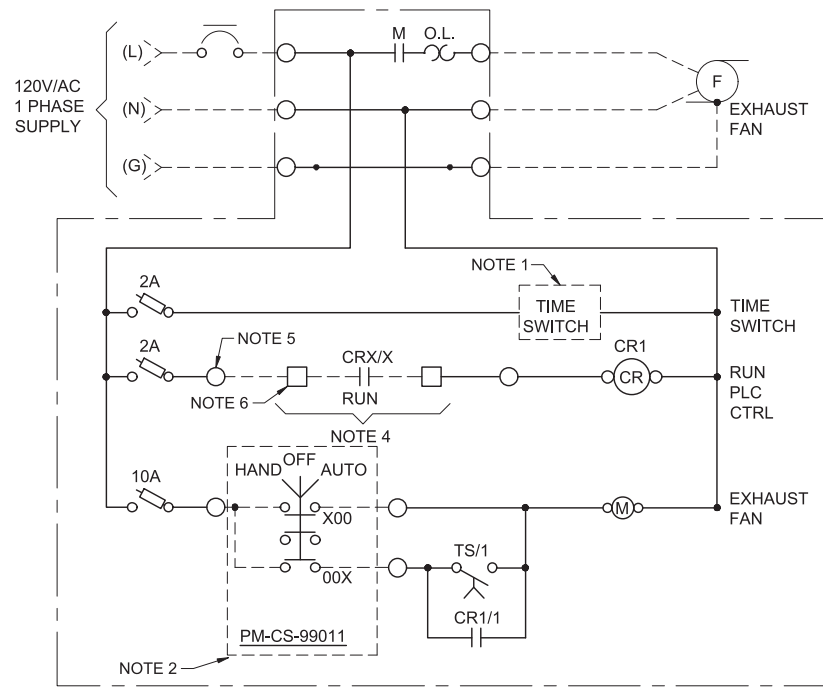
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SPANISH FORK SANTAQUIN PIPELINE
SANTAQUIN REACH

PAYSON EAST TURNOUT & ISOLATION VALVE VAULT ELECTRICAL PLAN

SHEET	XX OF XX
DWG	40-E-2
DATE	OCTOBER 2023
CONTRACT	C-2023-01



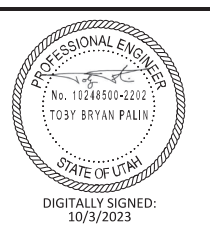
- NOTES:**
1. TIME SWITCH: TORK 8001 SERIES, WITH TIMER SET FOR TWO 15 MINUTE PERIODS IN 24 HOURS.
 2. HAND SWITCH LOCATED AT VAULT HATCH.
 3. LOCATE DEVICES IN FAN CONTROL PANEL / PULL BOX. ENCLOSURE SIZED BY CONTRACTOR AS REQUIRED FOR COMPONENTS.
 4. CONTACT CLOSURE IN RTU ENCLOSURE, CONTROLLED BY PLC.
 5. TERMINAL IN FAN CONTROL PANEL ENCLOSURE.
 6. TERMINAL IN RTU ENCLOSURE.

1 EXHAUST FAN CONTROL PANEL W/ HAND / OFF / AUTO CONTROL
NTS

PANEL: PM-LP-00001 LOCATION: PAYSON MAIN STREET TURNOUT
 SERVICE VOLTAGE: 120/240V PHASE: 1 WIRE: 3
 TOTAL LOAD KVA: 16.1 BUS SIZE: 225 MAIN SIZE: 200A TYPE: MCB
 REMARKS: NEMA 3R, BOTTOM FEED NEUTRAL: MOUNTING: SURFACE

LOAD IN VA		CIRCUIT DESCRIPTION	BKR A/P	CKT NO.	CKT NO.	BKR A/P	CIRCUIT DESCRIPTION	LOAD IN VA	
A	B							A	B
1627.0		EXHAUST FAN CONTROL PANEL	20A/1P	1	2	20A/1P	PM-FCV-00004	1600.0	
	1200.0	SUMP PUMP CONTROL PANEL	20A/1P	3	4	20A/1P	SPARE		0.0
720.0		RECEPTACLES	20A/1P	5	6	20A/1P	RTU PANEL UPS	600.0	
	2500.0	ELECTRICAL HEATER	30A/2P	7	8	20A/1P	LIGHTING		336.0
2500.0				9	10	20A/1P	SPARE	0.0	
	0.0	SPARE	20A/1P	11	12	20A/1P	SPARE		0.0
2500.0		ELECTRICAL HEATER	30A/2P	13	14	20A/1P	SPARE	0.0	
	2500.0			15	16	20A/1P	SPARE		0.0
0.0		SPARE	20A/1P	17	18	20A/1P	SPARE	0.0	
	0.0	SPARE	20A/1P	19	20	20A/1P	SPARE		0.0
0.0		SPARE	20A/1P	21	22	20A/1P	SPARE	0.0	
	0.0	SPARE	20A/1P	23	24	20A/1P	SPARE		0.0
0.0		SPARE	20A/1P	25	26	20A/1P	SPARE	0.0	
	0.0	SPD	30A/2P	27	28	20A/1P	SPARE		0.0
0.0				29	30	20A/1P	SPARE	0.0	
7347.0	6200.0	TOTAL						2200.0	336.0
								9547.0	6536.0

2 PANELBOARD SCHEDULE
NTS



DSGN	M PAWLOWSKI								
DR	R PHILLIPS								
CHK	T PALIN								
APVD	T PALIN	NO.	DATE	REVISION	BY	APVD			

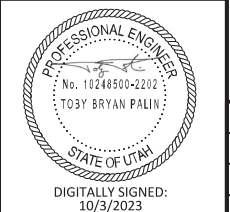
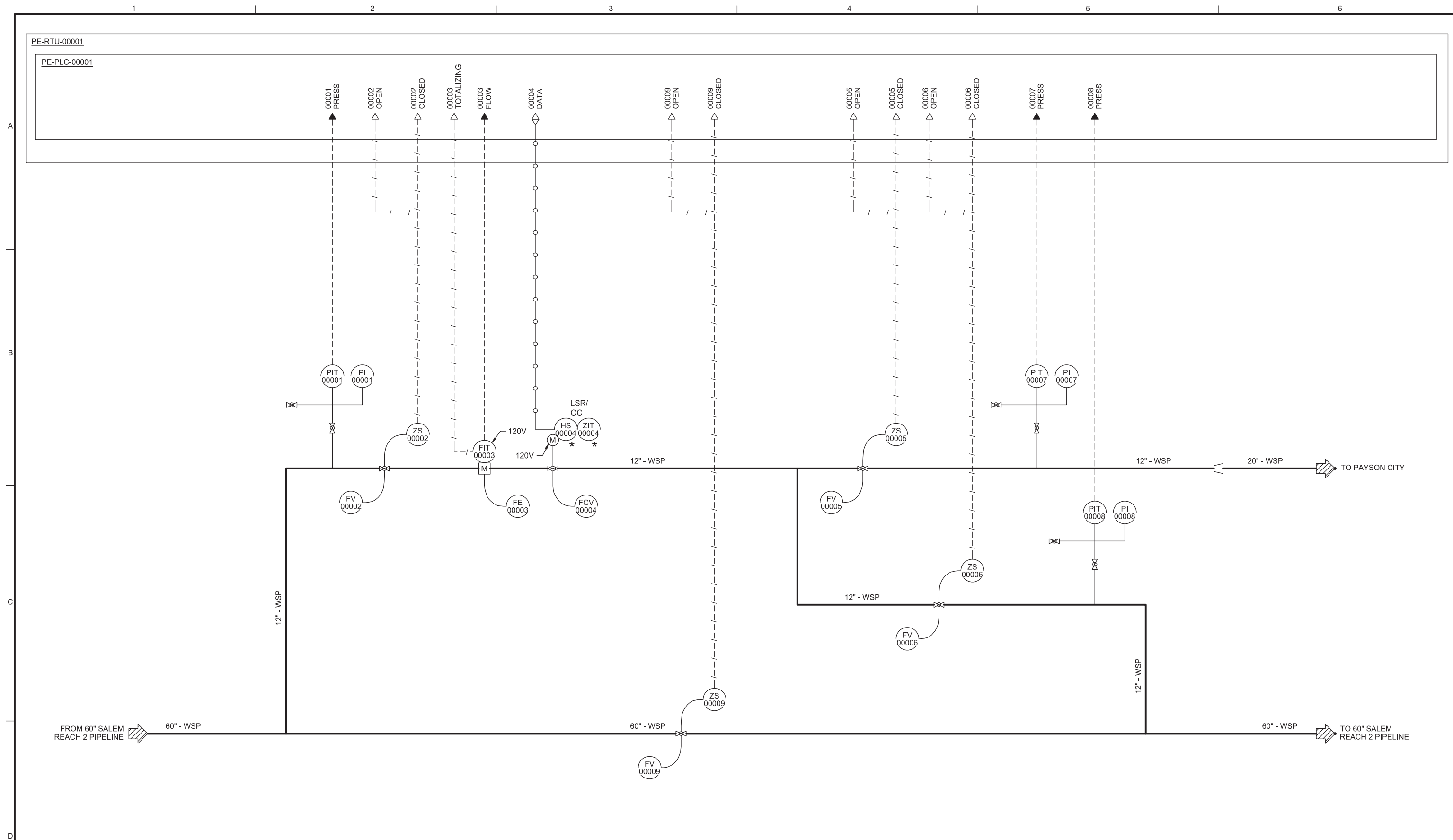
VERIFY SCALE
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 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.



SPANISH FORK SANTAQUIN PIPELINE
 SANTAQUIN REACH

PAYSON EAST TURNOUT & ISOLATION VALVE VAULT
 ELECTRICAL DETAILS

SHEET	OF XX
DWG	40-E-3
DATE	OCTOBER 2023
CONTRACT	C-2023-01



DSGN	M PAWLOWSKI								
DR	R PHILLIPS								
CHK	T PALIN								
APVD	T PALIN	NO.	DATE	REVISION	BY	APVD			

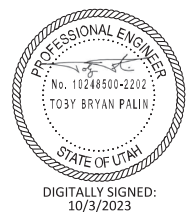
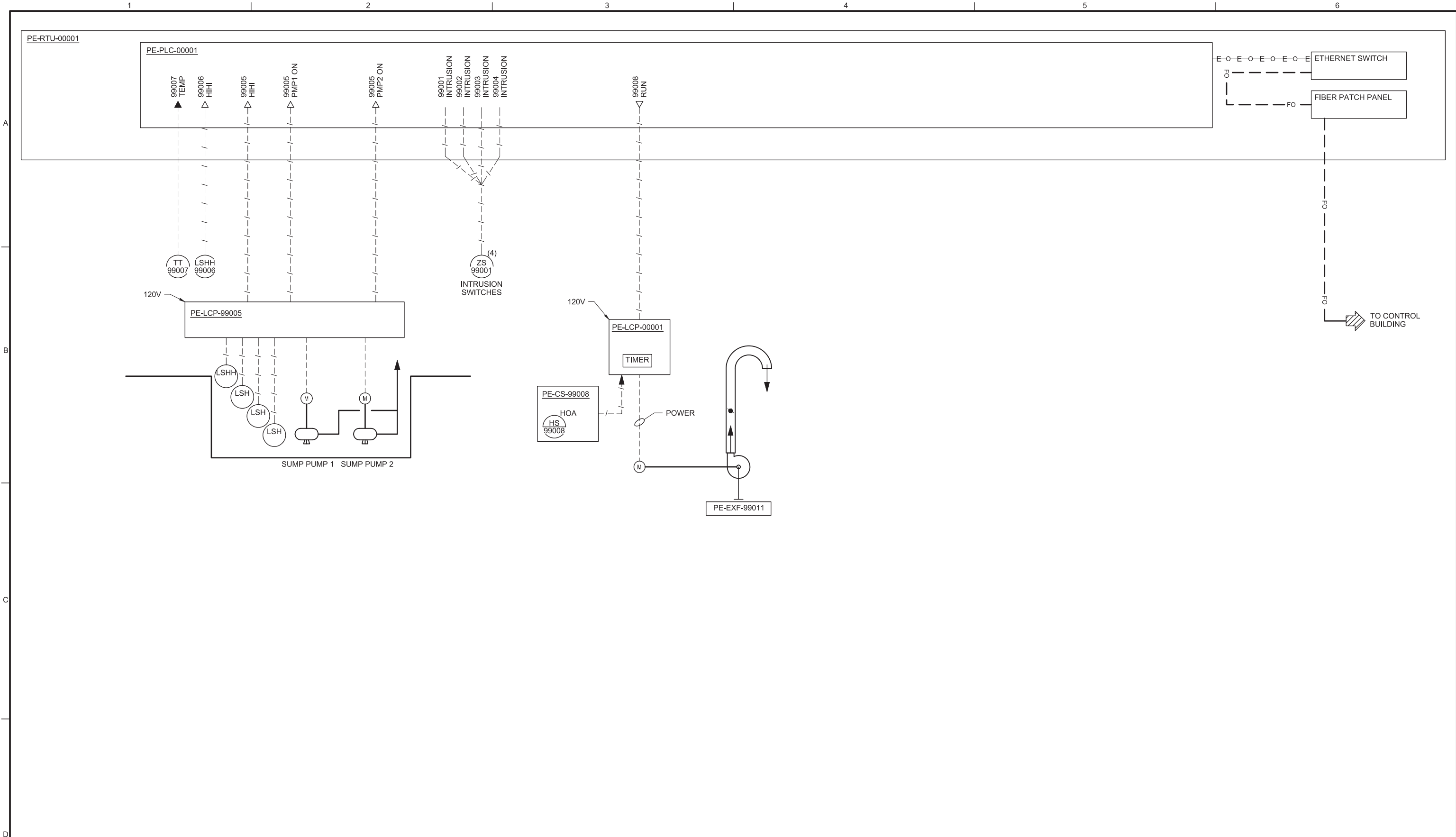
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SPANISH FORK SANTAQUIN PIPELINE
SANTAQUIN REACH

PAYSON EAST TURNOUT & ISOLATION VALVE VAULT
 PROCESS AND INSTRUMENTATION DIAGRAM

SHEET	XX OF XX
DWG	40-N-1
DATE	OCTOBER 2023
CONTRACT	C-2023-01



DSGN	M PAWLOWSKI						
DR	R PHILLIPS						
CHK	T PALIN						
APVD	T PALIN	NO.	DATE	REVISION	BY	APVD	

VERIFY SCALE
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SPANISH FORK SANTAQUIN PIPELINE
 SANTAQUIN REACH

PAYSON EAST TURNOUT &
 ISOLATION VALVE VAULT
 PROCESS AND INSTRUMENTATION DIAGRAM

SHEET	XX OF XX
DWG	40-N-2
DATE	OCTOBER 2023
CONTRACT	C-2023-01

SHEET KEY NOTES

1. EXTEND EXISTING FIBER OPTIC CABLE IN HANDHOLE TO PAYSON MAIN STREET TURNOUT VAULT. USE EXISTING SPARE FIBER CABLE IN HANDHOLE. CUT EXISTING FIBER CABLE AND TERMINATE BOTH ENDS IN FIBER OPTIC PATCH PANEL IN RTU. MAINTAIN SPARE CABLE WITHIN HANDHOLE.
2. PROVIDE PULLBOX AND TERMINATE AND CAP CONDUIT IN PULLBOX FOR FUTURE CONNECTION TO SECURITY CAMERA POLE.



DSGN	M PAWLOWSKI						
DR	R PHILLIPS						
CHK	T PALIN						
APVD	T PALIN	NO.	DATE	REVISION	BY	APVD	

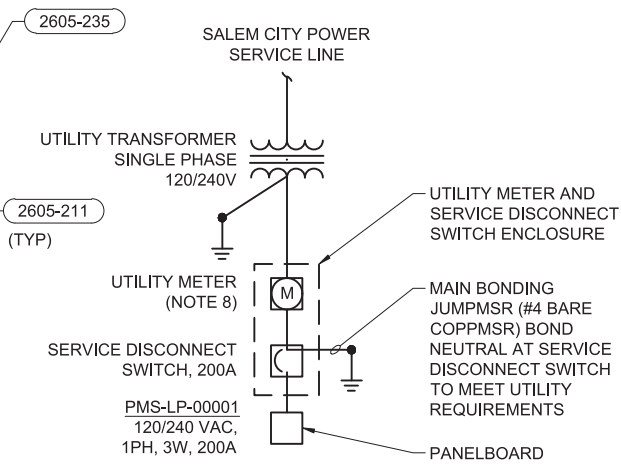
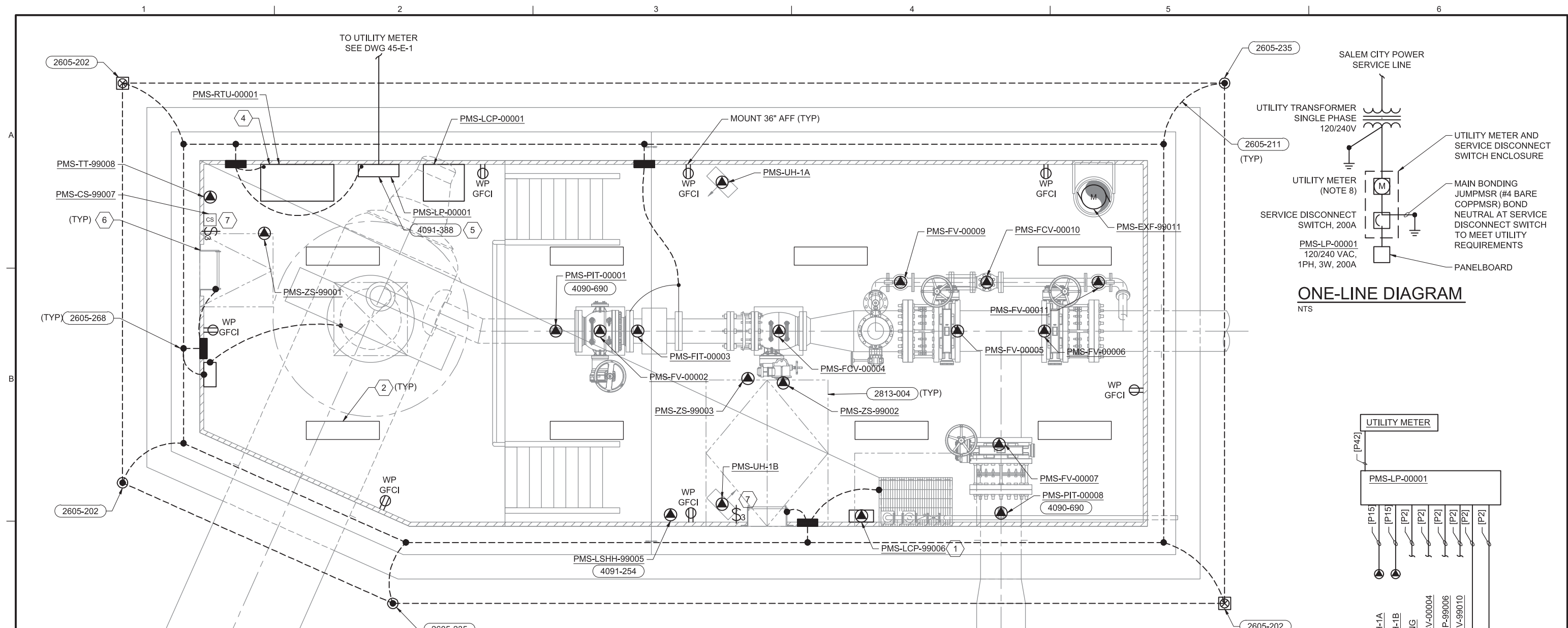
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SPANISH FORK SANTAQUIN PIPELINE
SANTAQUIN REACH

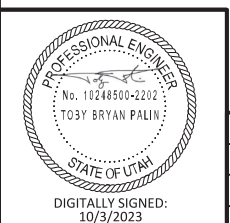
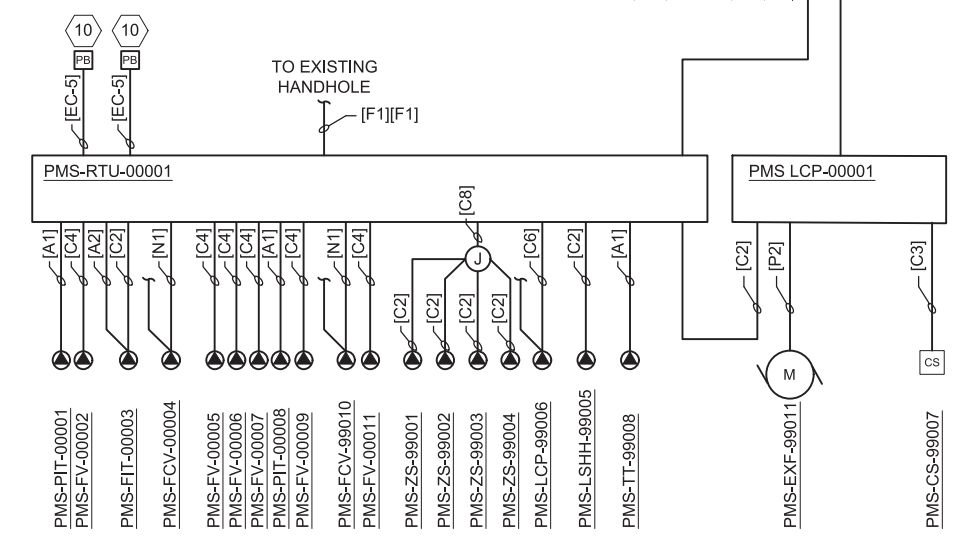
PAYSON MAIN STREET TURNOUT
ELECTRICAL SITE PLAN

SHEET	XX OF XX
DWG	45-E-1
DATE	OCTOBER 2023
CONTRACT	C-2023-01



PLAN
3/8" = 1'-0"

- KEYED NOTES:**
- DUPLEX SUMP PUMP PACKAGE CONTROL PANEL. MOUNT CONTROLLER ON WALL AND CONNECT PUMP AND FLOAT SWITCHES PER MANUFACTURERS INSTRUCTIONS.
 - LIGHT FIXTURE: INDUSTRIAL LINEAR LED OUTDOOR WET LOCATION VAPORTITE 120V 42 WATT 6000 LUMEN, AMBIENT OPERATION TEMPERATURE -40 C TO +55 C, WALL OR CEILING MOUNT. METALUX OR EQUAL FIXTURE TYPE: 4VT3-LD5-6-G-120-EL10W-L840-CD1-SSLTP.
 - GENERAL: ROUTE ALL POWER AND CONTROL CONDUITS IN CONCRETE SLAB OR FLOOR WHEN POSSIBLE.
 - MOUNT RTU TO WALL. ALL CONDUITS SHALL ENTER RTU FROM THE BOTTOM OR SIDE NEAR THE BOTTOM OF THE ENCLOSURE.
 - FEEDER CIRCUIT SHALL PENETRATE WALL BELOW PMS-LP-00001. CONDUIT SHALL TEE WITH ONE CONDUIT GOING UP INTO BOTTOM OF PANEL ENCLOSURE AND THE OTHER CONDUIT GOING DOWN WITH A MOISTURE DRAIN FITTING SO ALL INFILTRATED MOISTURE WILL NOT DRAIN INTO THE ELECTRICAL EQUIPMENT. SEE 45-E-3 FOR PANEL SCHEDULE.
 - BOND GRATING AND STAIRWAY FRAME STRUCTURE TO GROUNDING SYSTEM.
 - PROVIDE WET LISTED LIGHT SWITCH AT THE TOP OF THE ACCESS STAIRS, BUT BELOW ACCESS HATCH.
 - PROVIDE UTILITY METER SOCKET, SERVICE RISER, AND CONDUITS IN ACCORDANCE WITH SALEM CITY POWER STANDARD ELECTRICAL SERVICE REQUIREMENTS. SALEM CITY POWER SHALL PROVIDE PRIMARY AND SECONDARY CONDUCTORS AND TRANSFORMER. COORDINATE WITH SALEM CITY POWER FOR FINAL SERVICE LOCATIONS AND REQUIREMENTS.
 - PROVIDE EXHAUST FAN CONTROL STATION ADJACENT TO LIGHT SWITCH.
 - ROUTE CONDUIT TO PULLBOX FOR FUTURE SECURITY CAMERA POLE. SEE DRAWING 45-E-1 FOR LOCATION.



DSGN	M PAWLOSKI						
DR	R PHILLIPS						
CHK	T PALIN						
APVD	T PALIN	NO.	DATE	REVISION	BY	APVD	

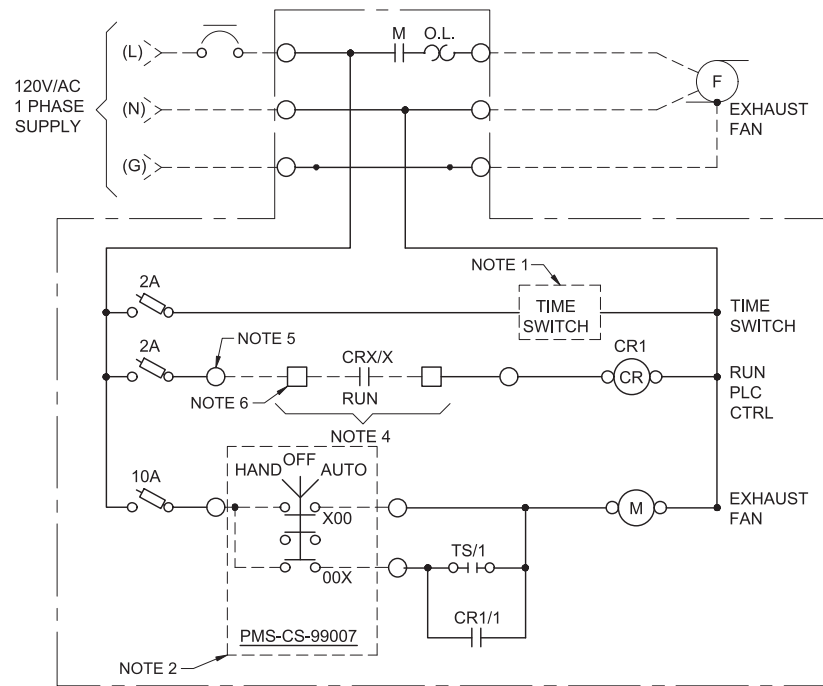
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.



SPANISH FORK SANTAQUIN PIPELINE
SANTAQUIN REACH

PAYSON MAIN STREET TURNOUT
ELECTRICAL PLAN

SHEET	XX OF XX
DWG	45-E-2
DATE	OCTOBER 2023
CONTRACT	C-2023-01



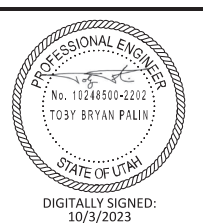
- NOTES:**
1. TIME SWITCH: TORK 8001 SERIES, WITH TIMER SET FOR TWO 15 MINUTE PERIODS IN 24 HOURS.
 2. HAND SWITCH LOCATED AT VAULT HATCH.
 3. LOCATE DEVICES IN FAN CONTROL PANEL / PULL BOX. ENCLOSURE SIZED BY CONTRACTOR AS REQUIRED FOR COMPONENTS.
 4. CONTACT CLOSURE IN RTU ENCLOSURE, CONTROLLED BY PLC.
 5. TERMINAL IN FAN CONTROL PANEL ENCLOSURE.
 6. TERMINAL IN RTU ENCLOSURE.

1 EXHAUST FAN CONTROL PANEL W/ HAND / OFF / AUTO CONTROL
NTS

PANEL: PMS-LP-00001 LOCATION: PAYSON MAIN STREET TURNOUT
 SERVICE VOLTAGE: 120/240V PHASE: 1 WIRE: 3
 TOTAL LOAD KVA: 17.7 BUS SIZE: 225 MAIN SIZE: 200A TYPE: MCB
 REMARKS: NEMA 3R, BOTTOM FEED NEUTRAL: MOUNTING: SURFACE

LOAD IN VA		CIRCUIT DESCRIPTION	BKR A/P	CKT NO.	CKT NO.	BKR A/P	CIRCUIT DESCRIPTION	LOAD IN VA	
A	B							A	B
1627.0		EXHAUST FAN CONTROL PANEL	20A/1P	1	2	20A/1P	PM-FCV-00004	1600.0	
	1200.0	SUMP PUMP CONTROL PANEL	20A/1P	3	4	20A/1P	SPARE	600.0	1600.0
720.0		RECEPTACLES	20A/1P	5	6	20A/1P	RTU PANEL UPS		
	2500.0	ELECTRICAL HEATER	30A/2P	7	8	20A/1P	LIGHTING		336.0
2500.0				9	10	20A/1P	SPARE	0.0	
	0.0	SPARE	20A/1P	11	12	20A/1P	SPARE	0.0	0.0
2500.0		ELECTRICAL HEATER	30A/2P	13	14	20A/1P	SPARE	0.0	
	2500.0			15	16	20A/1P	SPARE	0.0	0.0
0.0		SPARE	20A/1P	17	18	20A/1P	SPARE	0.0	
0.0		SPARE	20A/1P	19	20	20A/1P	SPARE	0.0	
0.0		SPARE	20A/1P	21	22	20A/1P	SPARE	0.0	
0.0		SPARE	20A/1P	23	24	20A/1P	SPARE	0.0	0.0
0.0		SPARE	20A/1P	25	26	20A/1P	SPARE	0.0	
0.0		SPD	30A/2P	27	28	20A/1P	SPARE	0.0	0.0
0.0				29	30	20A/1P	SPARE	0.0	
7347.0	6200.0	TOTAL						2200.0	1936.0
								9547.0	8136.0

2 PANELBOARD SCHEDULE
NTS



DSGN	M PAWLOWSKI								
DR	R PHILLIPS								
CHK	T PALIN								
APVD	T PALIN	NO.	DATE	REVISION	BY	APVD			

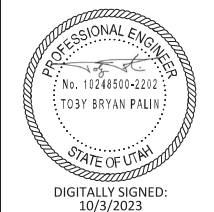
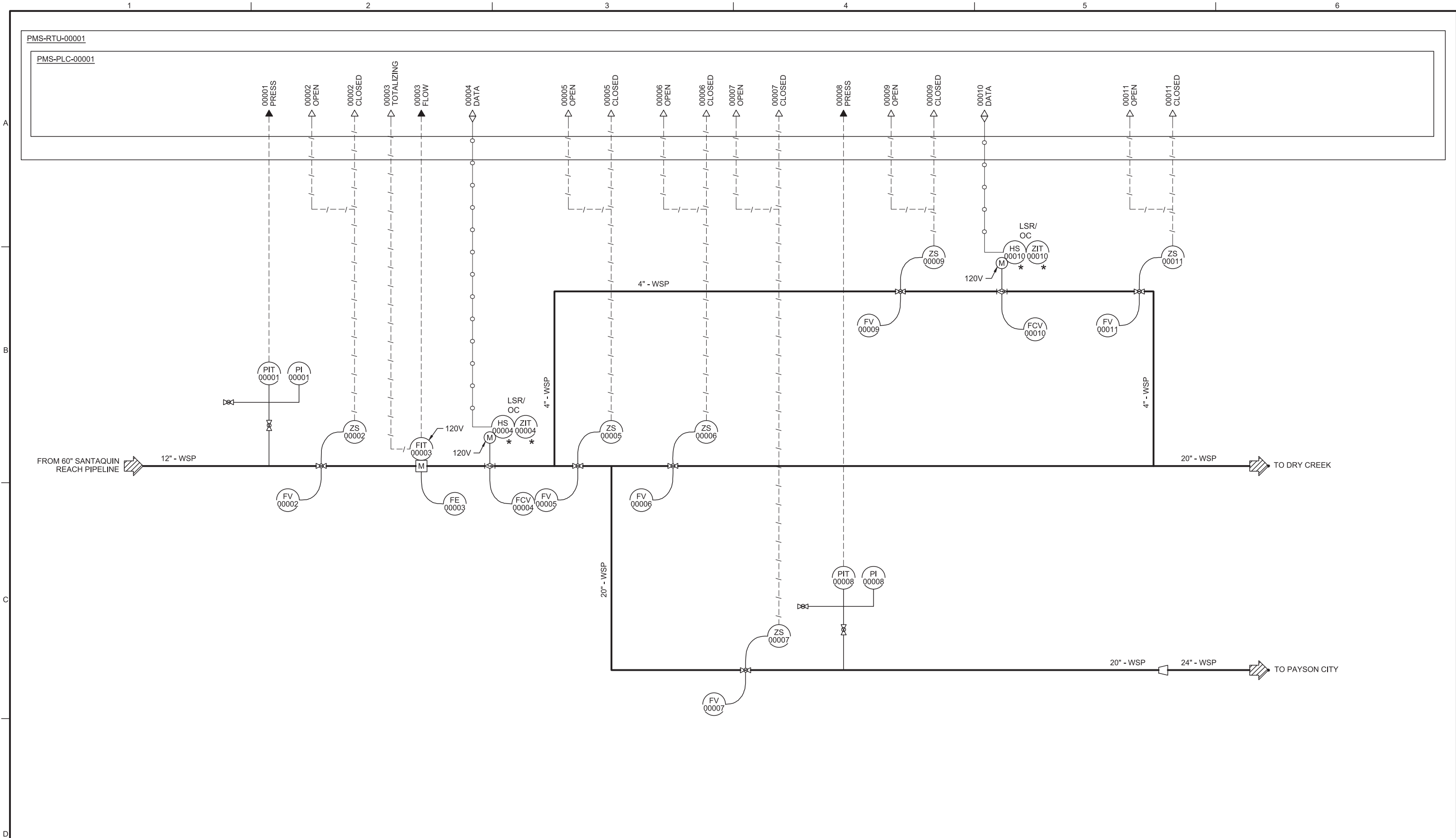
VERIFY SCALE
 BAR IS ONE INCH ON ORIGINAL DRAWING.
 0 1"
 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.



SPANISH FORK SANTAQUIN PIPELINE
SANTAQUIN REACH

PAYSON MAIN STREET TURNOUT
ELECTRICAL DETAILS

SHEET	OF XX
DWG	45-E-3
DATE	OCTOBER 2023
CONTRACT	C-2023-01



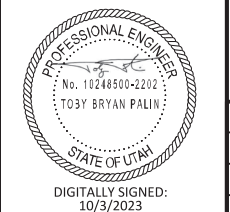
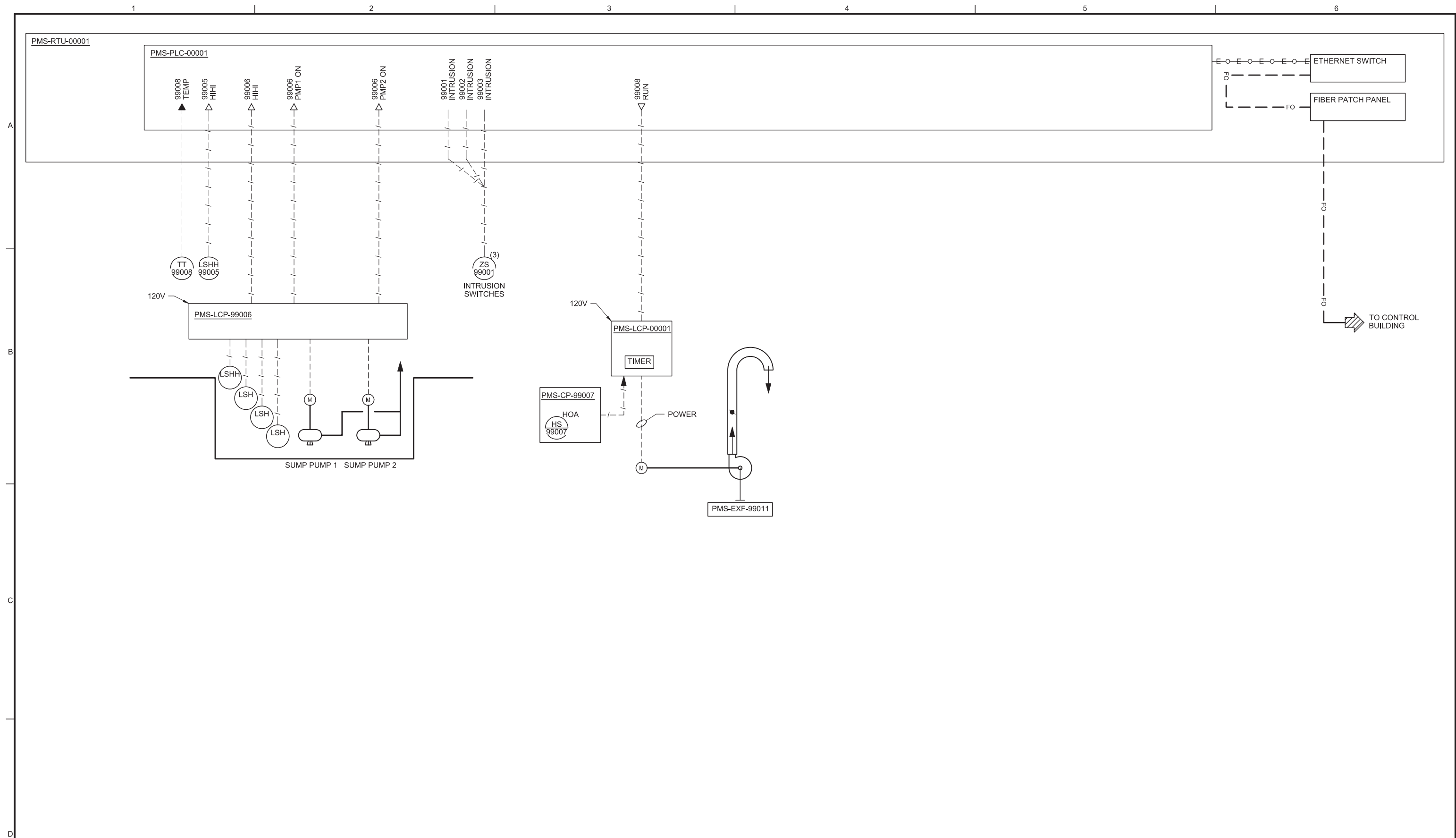
DSGN	M PAWLOWSKI						
DR	R PHILLIPS						
CHK	T PALIN						
APVD	T PALIN	NO.	DATE	REVISION	BY	APVD	

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SPANISH FORK SANTAQUIN PIPELINE
 SANTAQUIN REACH

PAYSON MAIN STREET TURNOUT PROCESS AND INSTRUMENTATION DIAGRAM		SHEET	XX OF XX
		DWG	45-N-1
		DATE	OCTOBER 2023
		CONTRACT	C-2023-01



DSGN	M PAWLOWSKI						
DR	R PHILLIPS						
CHK	T PALIN						
APVD	T PALIN	NO.	DATE	REVISION	BY	APVD	

VERIFY SCALE
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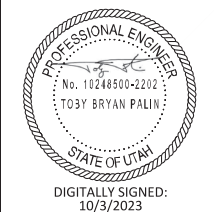
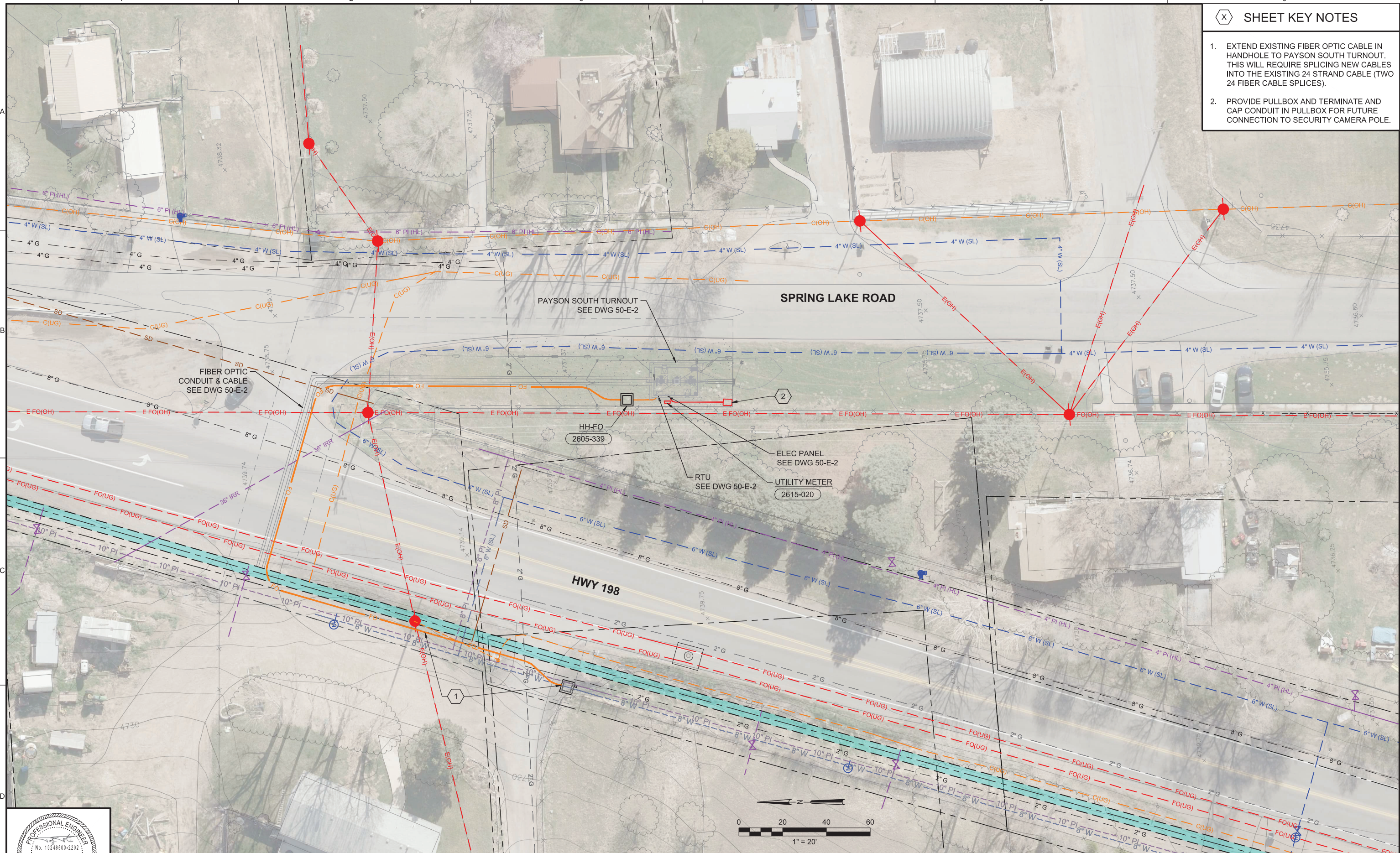


SPANISH FORK SANTAQUIN PIPELINE
 SANTAQUIN REACH

PAYSON MAIN STREET TURNOUT PROCESS AND INSTRUMENTATION DIAGRAM		SHEET	XX OF XX
		DWG	45-N-2
		DATE	OCTOBER 2023
		CONTRACT	C-2023-01

SHEET KEY NOTES

1. EXTEND EXISTING FIBER OPTIC CABLE IN HANDHOLE TO PAYSON SOUTH TURNOUT. THIS WILL REQUIRE SPLICING NEW CABLES INTO THE EXISTING 24 STRAND CABLE (TWO 24 FIBER CABLE SPLICES).
2. PROVIDE PULLBOX AND TERMINATE AND CAP CONDUIT IN PULLBOX FOR FUTURE CONNECTION TO SECURITY CAMERA POLE.



DSGN	M PAWLOWSKI						
DR	R PHILLIPS						
CHK	T PALIN						
APVD	T PALIN						
NO.	DATE	REVISION	BY	APVD			

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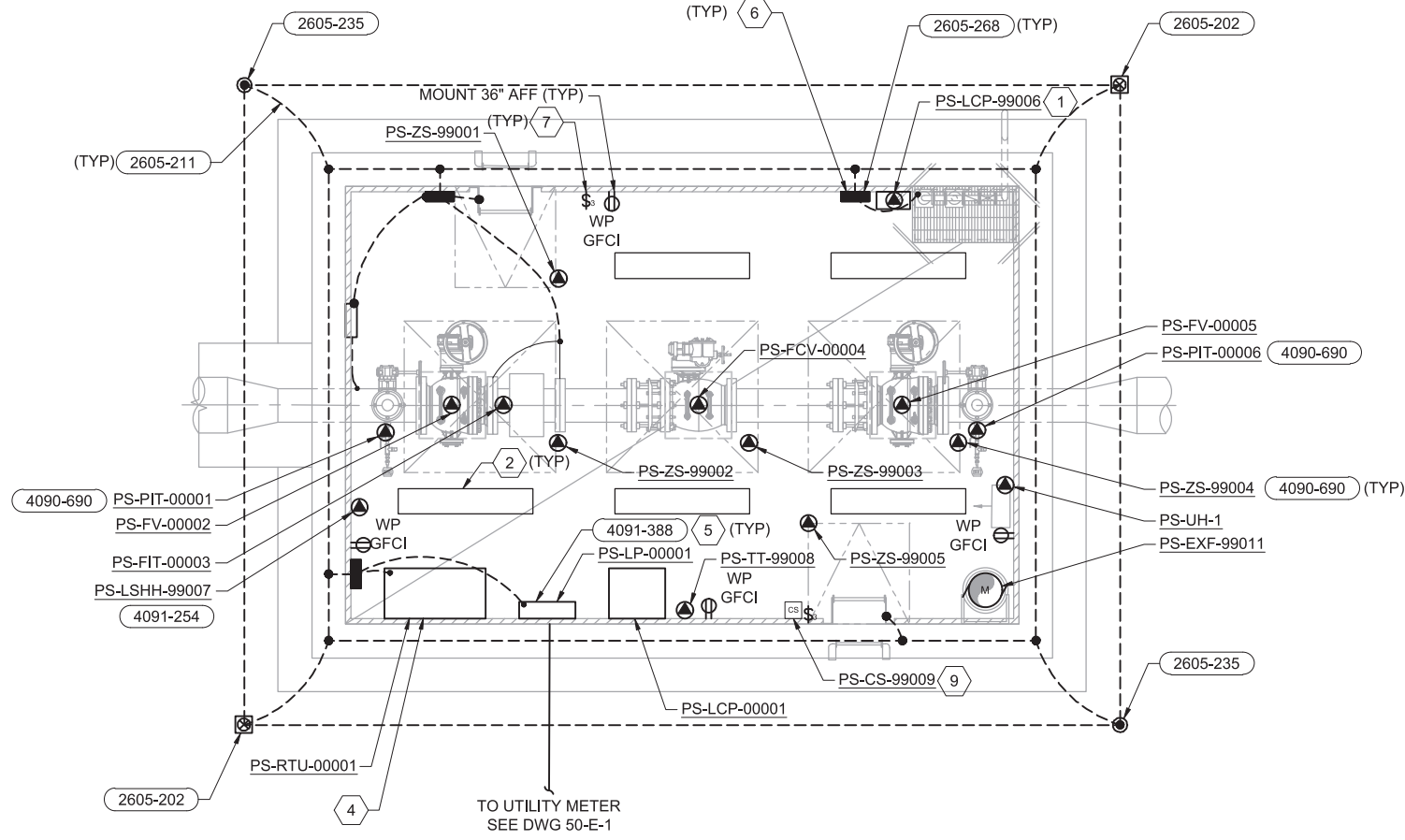


SPANISH FORK SANTAQUIN PIPELINE
 SANTAQUIN REACH

PAYSON SOUTH TURNOUT
 ELECTRICAL SITE PLAN

SHEET	XX OF XX
DWG	50-E-1
DATE	OCTOBER 2023
CONTRACT	C-2023-01

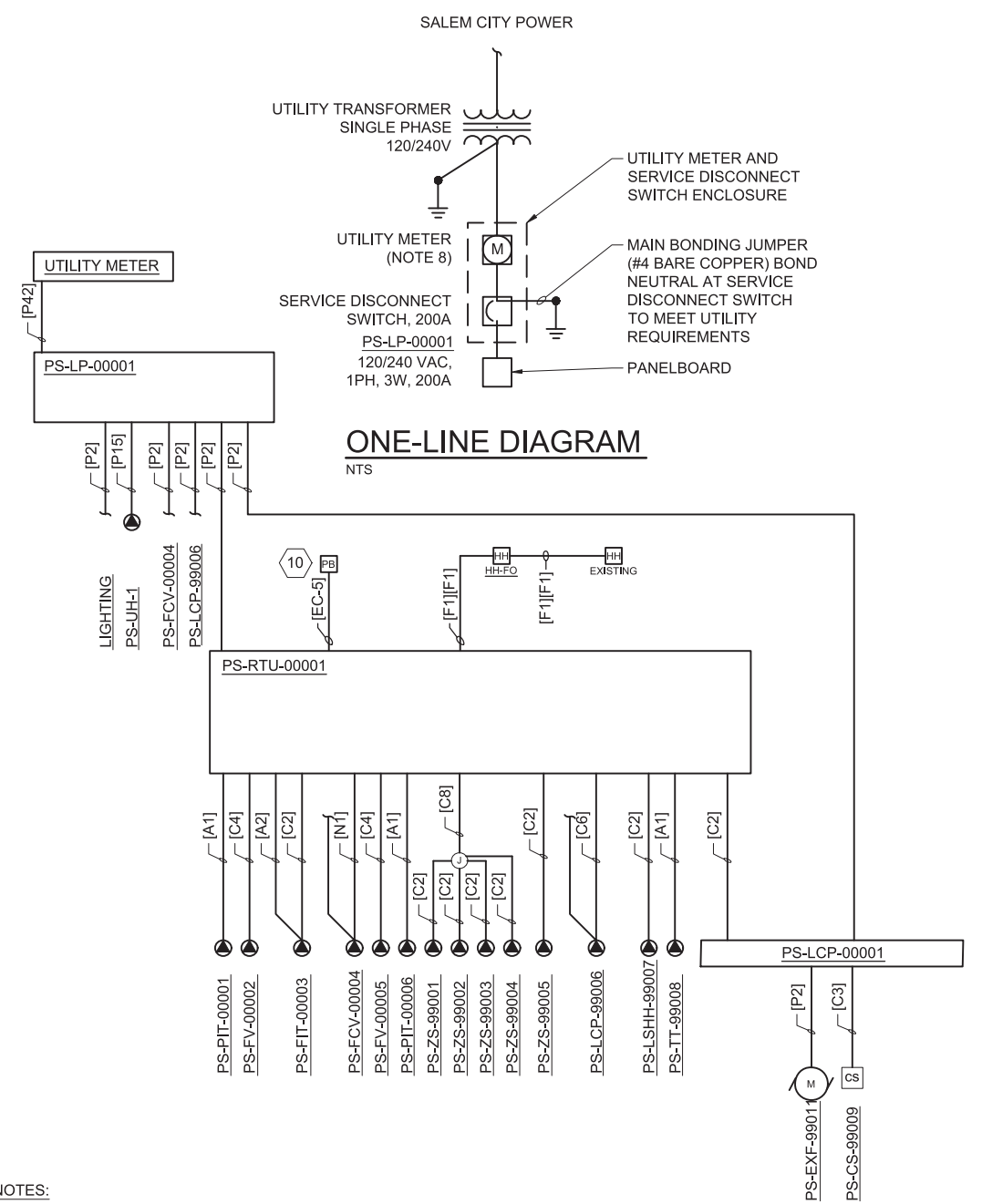
A
B
C
D



PLAN
3/8" = 1'-0"



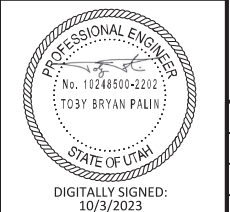
TO UTILITY METER
SEE DWG 50-E-1



ONE-LINE DIAGRAM
NTS

X KEYED NOTES:

- DUPLEX SUMP PUMP PACKAGE CONTROL PANEL. MOUNT CONTROLLER ON WALL AND CONNECT PUMP AND FLOAT SWITCHES PER MANUFACTURERS INSTRUCTIONS.
- LIGHT FIXTURE: INDUSTRIAL LINEAR LED OUTDOOR WET LOCATION VAPORTITE 120V 42 WATT 6000 LUMEN, AMBIENT OPERATION TEMPERATURE -40 C TO +55 C, WALL OR CEILING MOUNT. METALUX OR EQUAL FIXTURE TYPE: 4VT3-LD5-6-G-120-EL10W-L840-CD1-SSLTP.
- GENERAL: ROUTE ALL POWER AND CONTROL CONDUITS IN CONCRETE SLAB OR FLOOR WHEN POSSIBLE.
- MOUNT RTU TO WALL. ALL CONDUITS SHALL ENTER RTU FROM THE BOTTOM OR SIDE NEAR THE BOTTOM OF THE ENCLOSURE.
- FEEDER CIRCUIT SHALL PENETRATE WALL BELOW PS-LP-00001. CONDUIT SHALL TEE WITH ONE CONDUIT GOING UP INTO BOTTOM OF PANEL ENCLOSURE AND THE OTHER CONDUIT GOING DOWN WITH A MOISTURE DRAIN FITTING SO ALL INFILTRATED MOISTURE WILL NOT DRAIN INTO THE ELECTRICAL EQUIPMENT. SEE 50-E-3 FOR PANEL SCHEDULE.
- BOND GRATING AND STAIRWAY FRAME STRUCTURE TO GROUNDING SYSTEM.
- PROVIDE WET LISTED LIGHT SWITCH AT THE TOP OF THE ACCESS STAIRS, BUT BELOW ACCESS HATCH.
- PROVIDE UTILITY METER SOCKET, SERVICE RISER, AND CONDUITS IN ACCORDANCE WITH SALEM CITY POWER STANDARD ELECTRICAL SERVICE REQUIREMENTS. SALEM CITY POWER SHALL PROVIDE PRIMARY AND SECONDARY CONDUCTORS AND TRANSFORMER. COORDINATE WITH SALEM CITY POWER FOR FINAL SERVICE LOCATIONS AND REQUIREMENTS.
- PROVIDE EXHAUST FAN CONTROL STATION ADJACENT TO LIGHT SWITCH.
- ROUTE CONDUIT TO PULLBOX FOR FUTURE SECURITY CAMERA POLE. SEE DRAWING 50-E-1 FOR LOCATION.



DSGN	M PAWLOWSKI						
DR	R PHILLIPS						
CHK	T PALIN						
APVD	T PALIN	NO.	DATE	REVISION	BY	APVD	

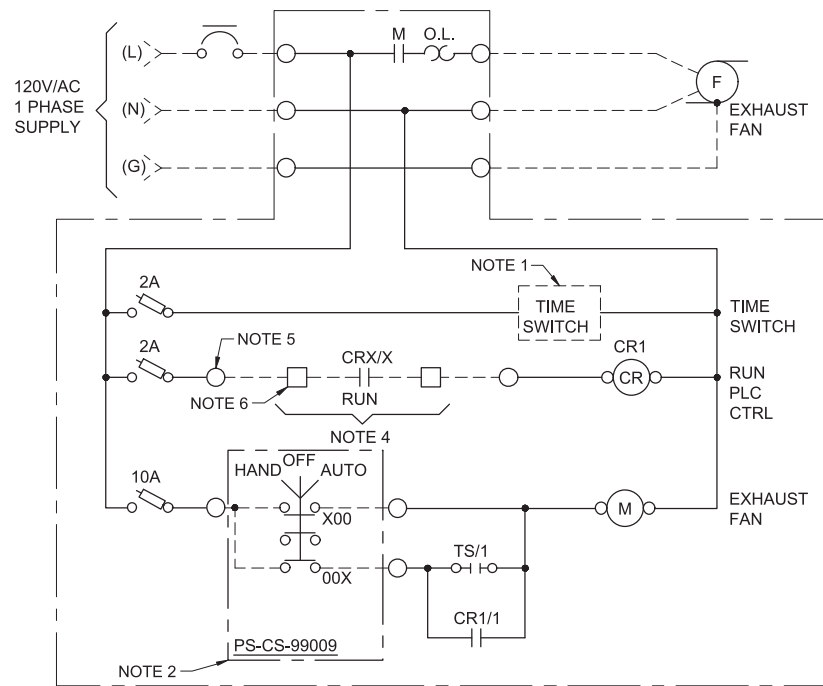
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"
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SPANISH FORK SANTAQUIN PIPELINE
SANTAQUIN REACH

PAYSON SOUTH TURNOUT VAULT ELECTRICAL PLAN

SHEET	XX OF XX
DWG	50-E-2
DATE	OCTOBER 2023
CONTRACT	C-2023-01



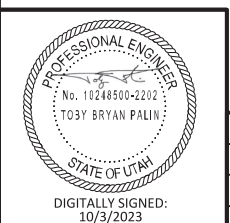
- NOTES:**
1. TIME SWITCH: TORK 8001 SERIES, WITH TIMER SET FOR TWO 15 MINUTE PERIODS IN 24 HOURS.
 2. HAND SWITCH LOCATED AT VAULT HATCH.
 3. LOCATE DEVICES IN FAN CONTROL PANEL / PULL BOX. ENCLOSURE SIZED BY CONTRACTOR AS REQUIRED FOR COMPONENTS.
 4. CONTACT CLOSURE IN RTU ENCLOSURE, CONTROLLED BY PLC.
 5. TERMINAL IN FAN CONTROL PANEL ENCLOSURE.
 6. TERMINAL IN RTU ENCLOSURE.

1 EXHAUST FAN CONTROL PANEL W/ HAND / OFF / AUTO CONTROL
NTS

PANEL: PS-LP-00001 LOCATION: PAYSON SOUTH TURNOUT VAULT
 SERVICE VOLTAGE: 120/240V PHASE: 1 WIRE: 3
 TOTAL LOAD KVA: 11.0 BUS SIZE: 225 MAIN SIZE: 200A TYPE: MCB
 REMARKS: NEMA 3R, BOTTOM FEED NEUTRAL: MOUNTING: SURFACE

LOAD IN VA		CIRCUIT DESCRIPTION	BKR A/P	CKT NO.	CKT NO.	BKR A/P	CIRCUIT DESCRIPTION	LOAD IN VA	
A	B							A	B
1627.0		EXHAUST FAN CONTROL PANEL	20A/1P	1	2	20A/1P	LIGHTING	210.0	
	1200.0	SUMP PUMP CONTROL PANEL	20A/1P	3	4	20A/1P	PW-FCV-00004		1600.0
720.0		RECEPTACLES	20A/1P	5	6	20A/1P	RTU PANEL UPS	600.0	
	0.0	SPARE	20A/2P	7	8	20A/1P	SPARE		0.0
0.0		SPARE	20A/1P	9	10	20A/1P	SPARE	0.0	
	0.0	SPARE	20A/1P	11	12	20A/1P	SPARE		0.0
2500.0		ELECTRICAL HEATER	30A/2P	13	14	20A/1P	SPARE	0.0	
	2500.0			15	16	20A/1P	SPARE		0.0
0.0		SPARE	20A/1P	17	18	20A/1P	SPARE	0.0	
	0.0	SPARE	20A/1P	19	20	20A/1P	SPARE		0.0
0.0		SPARE	20A/1P	21	22	20A/1P	SPARE	0.0	
	0.0	SPARE	20A/1P	23	24	20A/1P	SPARE		0.0
0.0		SPARE	20A/1P	25	26	20A/1P	SPARE	0.0	
	0.0	SPD	30A/2P	27	28	20A/1P	SPARE		0.0
0.0				29	30	20A/1P	SPARE	0.0	
4847.0	3700.0	TOTAL						810.0	1600.0
								5657.0	5300.0

2 PANELBOARD SCHEDULE
NTS



DSGN	M PAWLOWSKI								
DR	R PHILLIPS								
CHK	T PALIN								
APVD	T PALIN	NO.	DATE	REVISION	BY	APVD			

VERIFY SCALE
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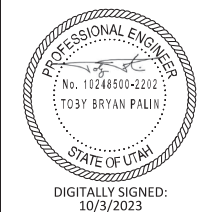
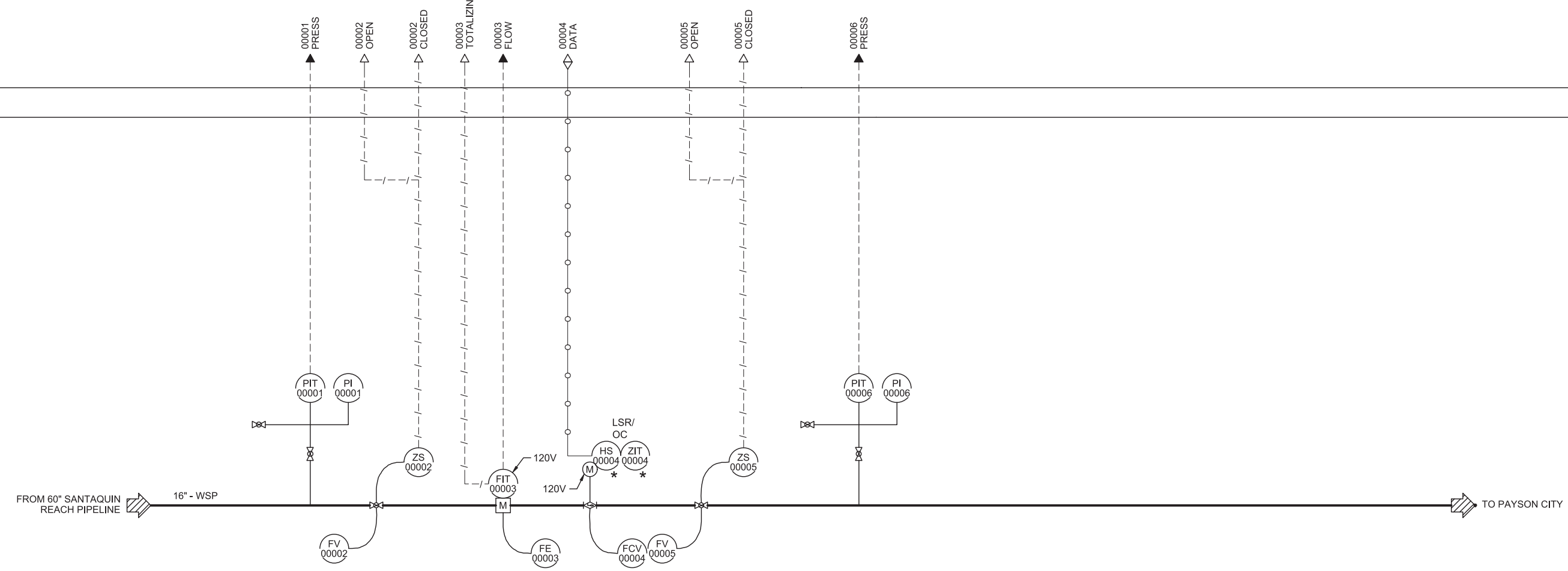
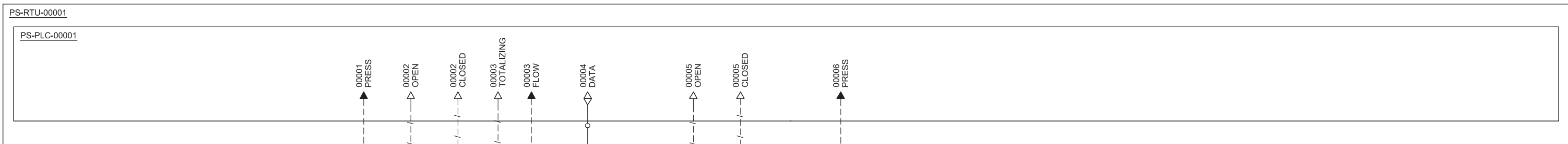


SPANISH FORK SANTAQUIN PIPELINE
 SANTAQUIN REACH

PAYSON SOUTH TURNOUT VAULT
 ELECTRICAL DETAILS

SHEET	XX OF XX
DWG	50-E-3
DATE	OCTOBER 2023
CONTRACT	C-2023-01

A
B
C
D



DSGN	M PAWLOWSKI						
DR	R PHILLIPS						
CHK	T PALIN						
APVD	T PALIN	NO.	DATE	REVISION	BY	APVD	

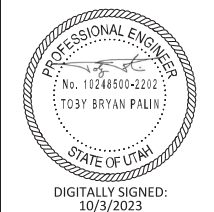
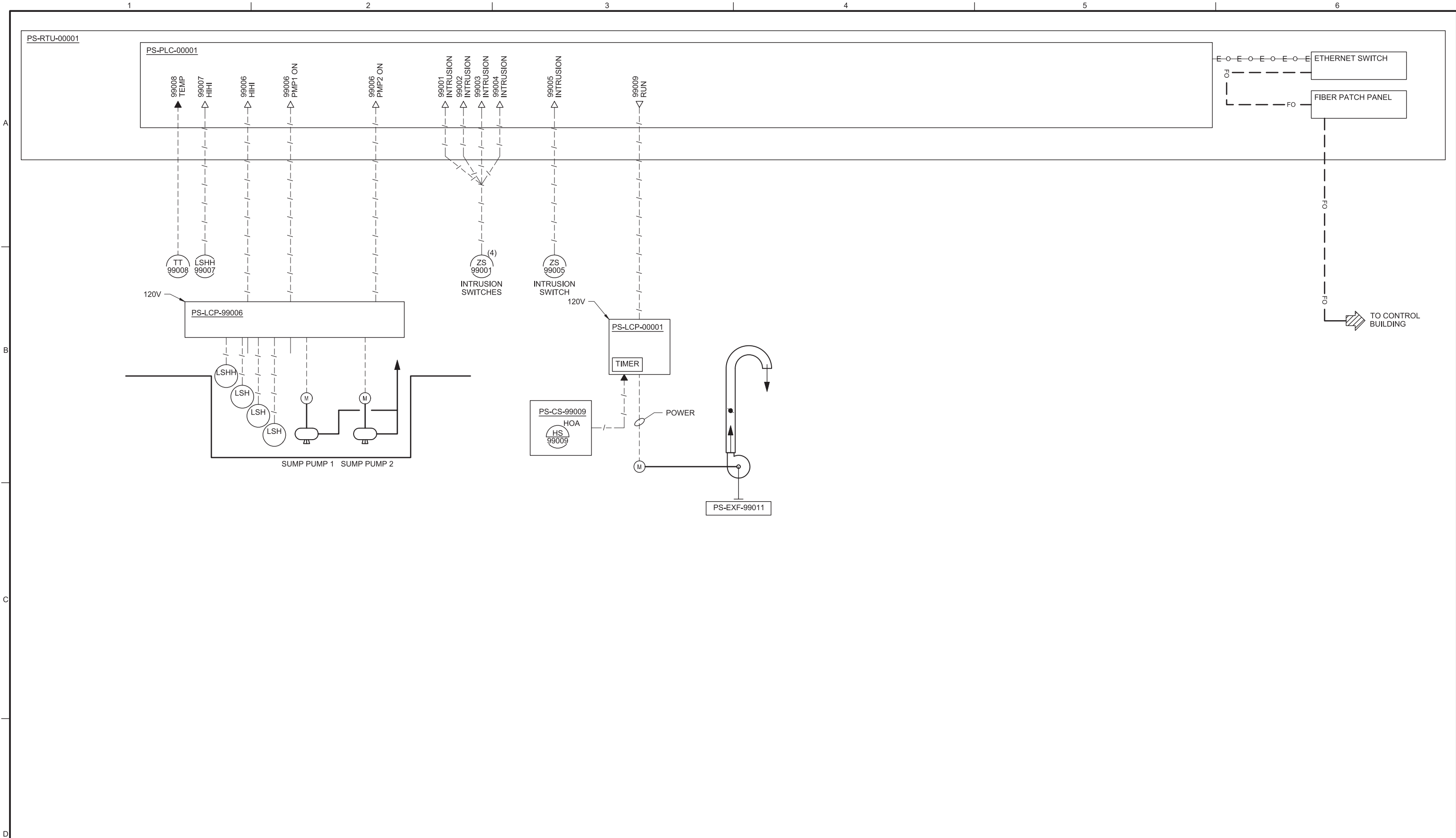
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SPANISH FORK SANTAQUIN PIPELINE
 SANTAQUIN REACH

PAYSON SOUTH TURNOUT
 PROCESS AND INSTRUMENTATION
 DIAGRAM

SHEET	XX OF XX
DWG	50-N-1
DATE	OCTOBER 2023
CONTRACT	C-2023-01



DSGN	M PAWLOWSKI								
DR	R PHILLIPS								
CHK	T PALIN								
APVD	T PALIN	NO.	DATE	REVISION	BY	APVD			

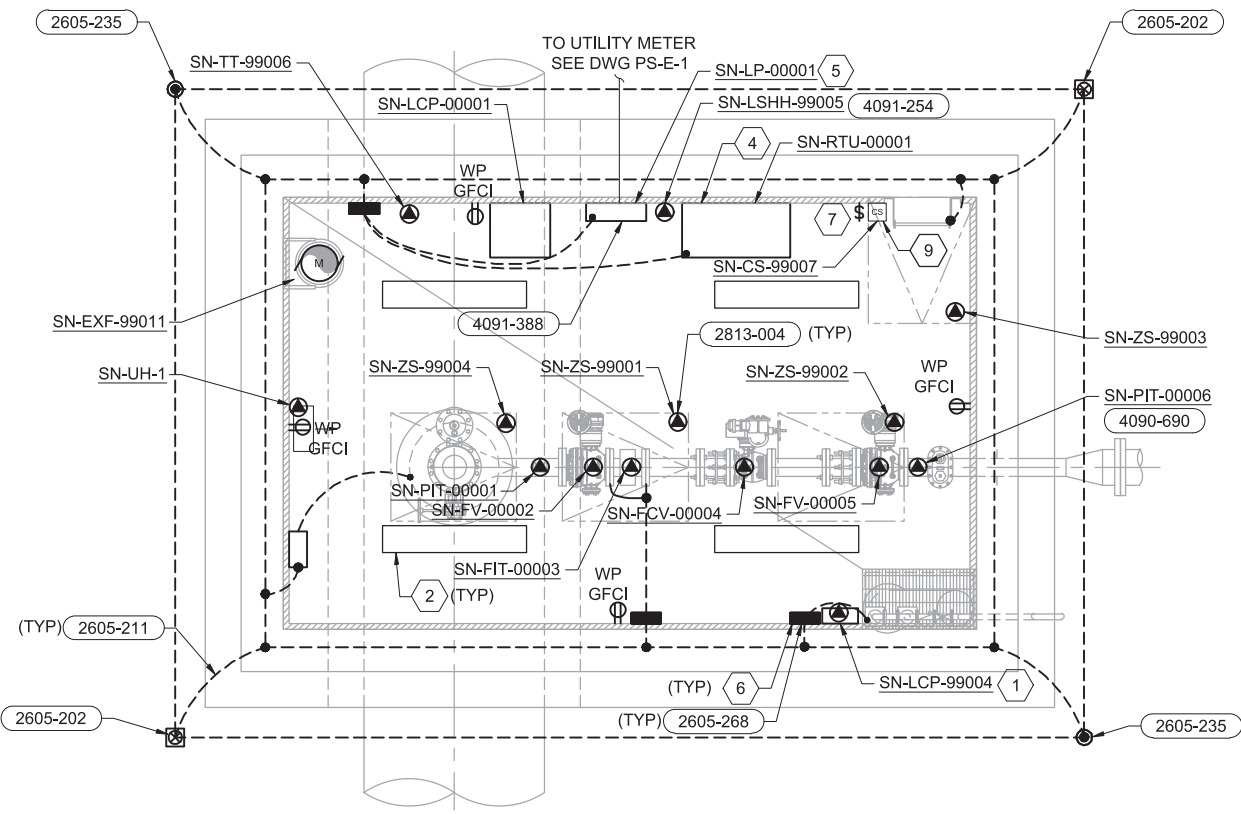
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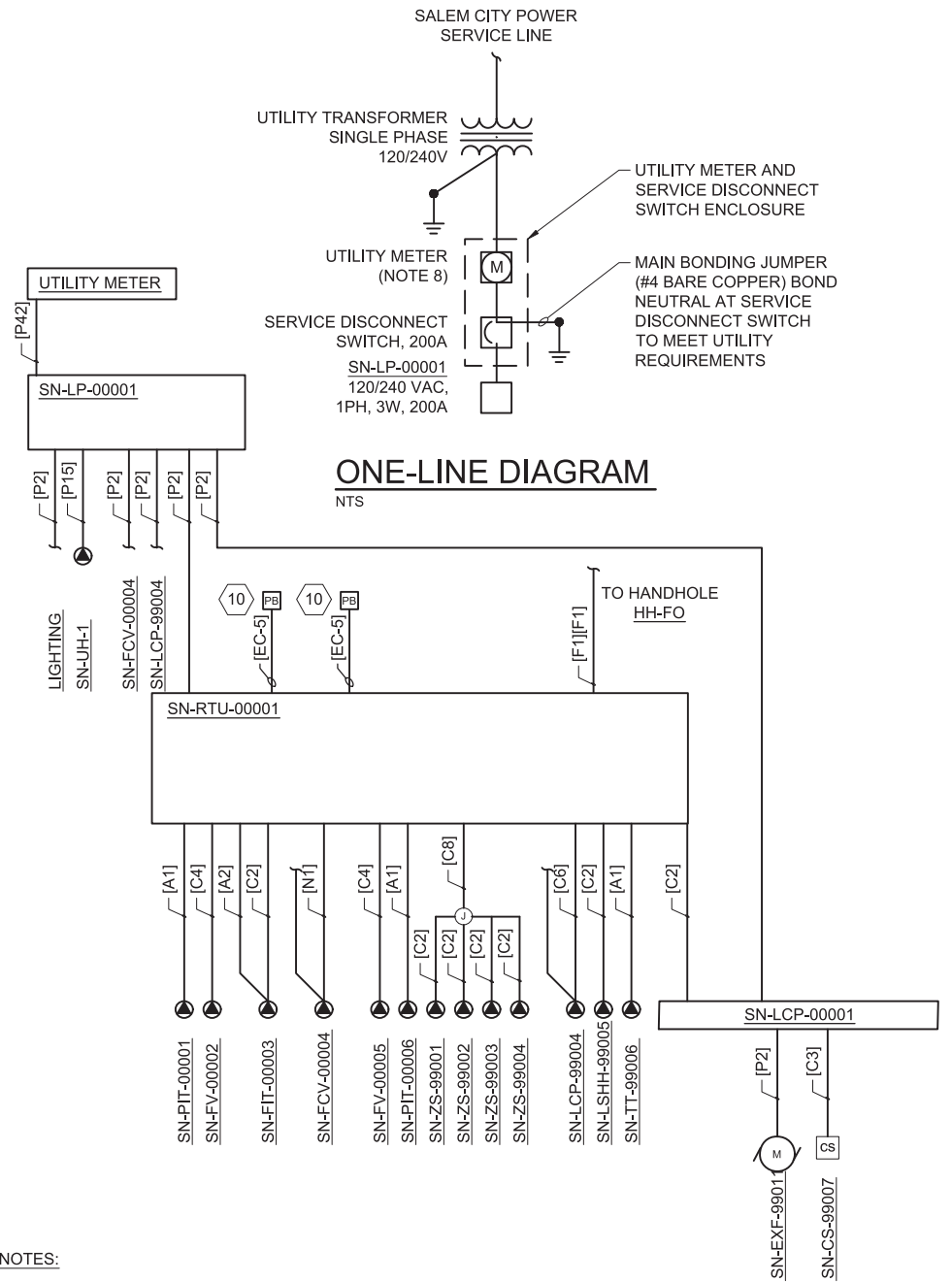
SPANISH FORK SANTAQUIN PIPELINE
 SANTAQUIN REACH

PAYSON SOUTH TURNOUT
 PROCESS AND INSTRUMENTATION
 DIAGRAM

SHEET	XX OF XX
DWG	50-N-2
DATE	OCTOBER 2023
CONTRACT	C-2023-01



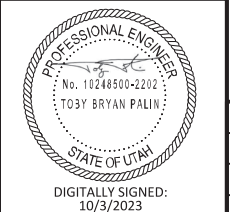
PLAN
3/8" = 1'-0"
N



ONE-LINE DIAGRAM
NTS

KEYED NOTES:

1. DUPLEX SUMP PUMP PACKAGE CONTROL PANEL. MOUNT CONTROLLER ON WALL AND CONNECT PUMP AND FLOAT SWITCHES PER MANUFACTURERS INSTRUCTIONS.
2. LIGHT FIXTURE: INDUSTRIAL LINEAR LED OUTDOOR WET LOCATION VAPORTITE 120V 42 WATT 6000 LUMEN, AMBIENT OPERATION TEMPERATURE -40 C TO +55 C, WALL OR CEILING MOUNT. METALUX OR EQUAL FIXTURE TYPE: 4VT3-LD5-6-G-120-EL10W-L840-CD1-SSLTP.
3. GENERAL: ROUTE ALL POWER AND CONTROL CONDUITS IN CONCRETE SLAB OR FLOOR WHEN POSSIBLE.
4. MOUNT RTU TO WALL. ALL CONDUITS SHALL ENTER RTU FROM THE BOTTOM OR SIDE NEAR THE BOTTOM OF THE ENCLOSURE.
5. FEEDER CIRCUIT SHALL PENETRATE WALL BELOW SN-LP-00001. CONDUIT SHALL TEE WITH ONE CONDUIT GOING UP INTO BOTTOM OF PANEL ENCLOSURE AND THE OTHER CONDUIT GOING DOWN WITH A MOISTURE DRAIN FITTING SO ALL INFILTRATED MOISTURE WILL NOT DRAIN INTO THE ELECTRICAL EQUIPMENT. SEE 60-E-3 FOR PANEL SCHEDULE.
6. BOND GRATING AND STAIRWAY FRAME STRUCTURE TO GROUNDING SYSTEM.
7. PROVIDE WET LISTED LIGHT SWITCH AT THE TOP OF THE ACCESS STAIRS, BUT BELOW ACCESS HATCH.
8. PROVIDE UTILITY METER SOCKET, SERVICE RISER, AND CONDUITS IN ACCORDANCE WITH SALEM CITY POWER STANDARD ELECTRICAL SERVICE REQUIREMENTS. SALEM CITY POWER SHALL PROVIDE PRIMARY AND SECONDARY CONDUCTORS AND TRANSFORMER. COORDINATE WITH SALEM CITY POWER FOR FINAL SERVICE LOCATIONS AND REQUIREMENTS.
9. PROVIDE EXHAUST FAN CONTROL STATION ADJACENT TO LIGHT SWITCH.
10. ROUTE CONDUIT TO PULLBOX FOR FUTURE SECURITY CAMERA POLE. SEE DRAWING 60-E-1 FOR LOCATION.



DSGN	M PAWLOWSKI						
DR	R PHILLIPS						
CHK	T PALIN						
APVD	T PALIN	NO.	DATE	REVISION	BY	APVD	

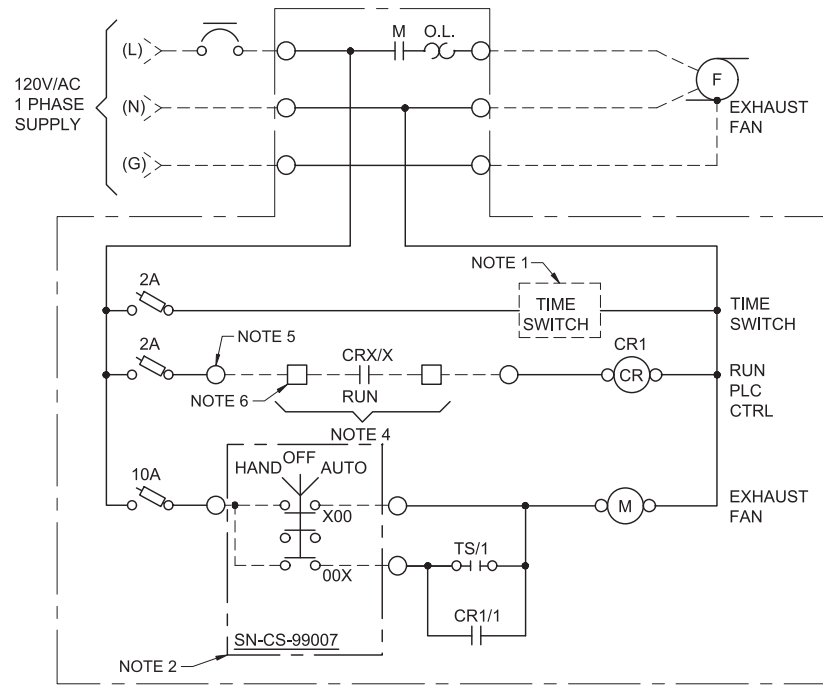
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.



SPANISH FORK SANTAQUIN PIPELINE
SANTAQUIN REACH

SANTAQUIN NORTH TURNOUT VAULT ELECTRICAL PLAN

SHEET	XX OF XX
DWG	60-E-2
DATE	OCTOBER 2023
CONTRACT	C-2023-01



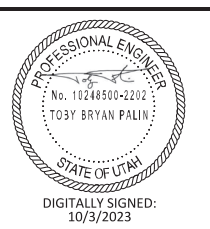
- NOTES:**
1. TIME SWITCH: TORK 8001 SERIES, WITH TIMER SET FOR TWO 15 MINUTE PERIODS IN 24 HOURS.
 2. HAND SWITCH LOCATED AT VAULT HATCH.
 3. LOCATE DEVICES IN FAN CONTROL PANEL / PULL BOX. ENCLOSURE SIZED BY CONTRACTOR AS REQUIRED FOR COMPONENTS.
 4. CONTACT CLOSURE IN RTU ENCLOSURE, CONTROLLED BY PLC.
 5. TERMINAL IN FAN CONTROL PANEL ENCLOSURE.
 6. TERMINAL IN RTU ENCLOSURE.

1 EXHAUST FAN CONTROL PANEL W/ HAND / OFF / AUTO CONTROL
NTS

PANEL: SN-LP-00001 LOCATION: SANTAQUIN NORTH TURNOUT VAULT
 SERVICE VOLTAGE: 120/240V PHASE: 1 WIRE: 3
 TOTAL LOAD KVA: 10.9 BUS SIZE: 225 MAIN SIZE: 200A TYPE: MCB
 REMARKS: NEMA 3R, BOTTOM FEED NEUTRAL: MOUNTING: SURFACE

LOAD IN VA		CIRCUIT DESCRIPTION	BKR A/P	CKT NO.	CKT NO.	BKR A/P	CIRCUIT DESCRIPTION	LOAD IN VA	
A	B							A	B
1627.0		EXHAUST FAN CONTROL PANEL	20A/1P	1	2	20A/1P	LIGHTING	168.0	
	1200.0	SUMP PUMP CONTROL PANEL	20A/1P	3	4	20A/1P	SN-FCV-00004		1600.0
720.0		RECEPTACLES	20A/1P	5	6	20A/1P	RTU PANEL UPS	600.0	
	0.0	SPARE	20A/2P	7	8	20A/1P	SPARE		0.0
0.0		SPARE	20A/1P	9	10	20A/1P	SPARE	0.0	
	0.0	SPARE	20A/1P	11	12	20A/1P	SPARE		0.0
2500.0		ELECTRICAL HEATER	30A/2P	13	14	20A/1P	SPARE	0.0	
	2500.0			15	16	20A/1P	SPARE	0.0	
0.0		SPARE	20A/1P	17	18	20A/1P	SPARE	0.0	
0.0		SPARE	20A/1P	19	20	20A/1P	SPARE	0.0	
0.0		SPARE	20A/1P	21	22	20A/1P	SPARE	0.0	
	0.0	SPARE	20A/1P	23	24	20A/1P	SPARE		0.0
0.0		SPARE	20A/1P	25	26	20A/1P	SPARE	0.0	
	0.0	SPD	30A/2P	27	28	20A/1P	SPARE		0.0
0.0				29	30	20A/1P	SPARE	0.0	
4847.0	3700.0	TOTAL						768.0	1600.0
								5615.0	5300.0

2 PANELBOARD SCHEDULE
NTS



DSGN	M PAWLOWSKI									
DR	R PHILLIPS									
CHK	T PALIN									
APVD	T PALIN	NO.	DATE	REVISION	BY	APVD				

VERIFY SCALE
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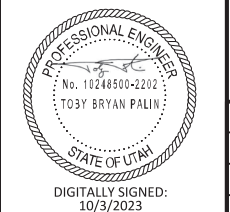
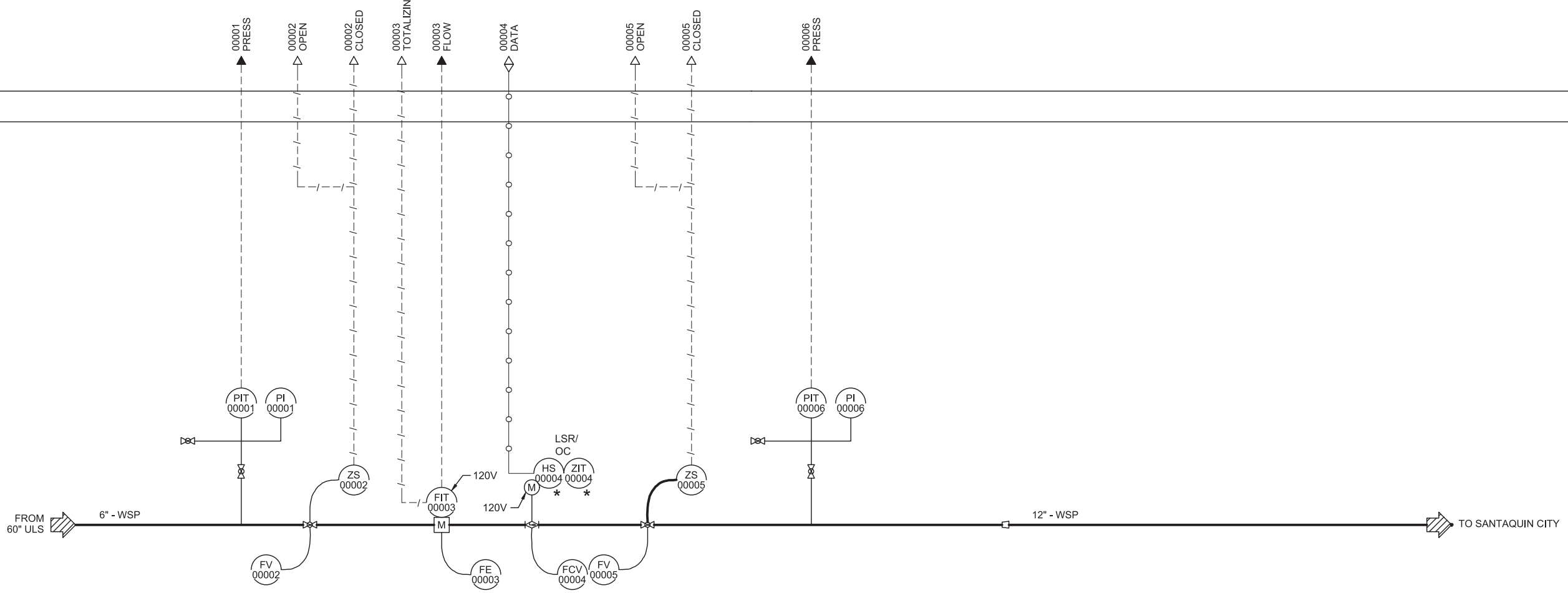
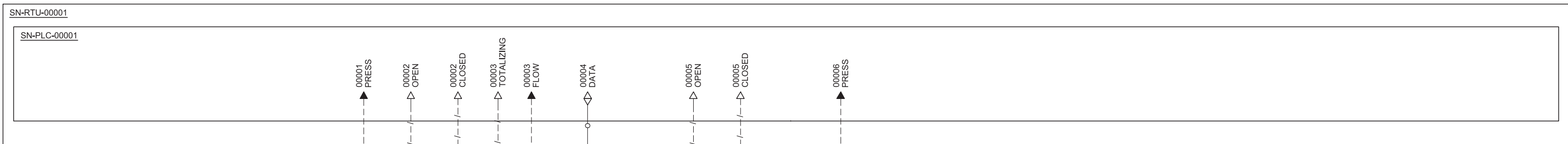


SPANISH FORK SANTAQUIN PIPELINE
SANTAQUIN REACH

SANTAQUIN NORTH
 TURNOUT VAULT
 ELECTRICAL DETAILS

SHEET	XX OF XX
DWG	60-E-3
DATE	OCTOBER 2023
CONTRACT	C-2023-01

A
B
C
D



DSGN	M PAWLOWSKI							
DR	R PHILLIPS							
CHK	T PALIN							
APVD	T PALIN	NO.	DATE	REVISION	BY	APVD		

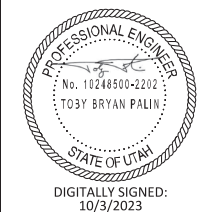
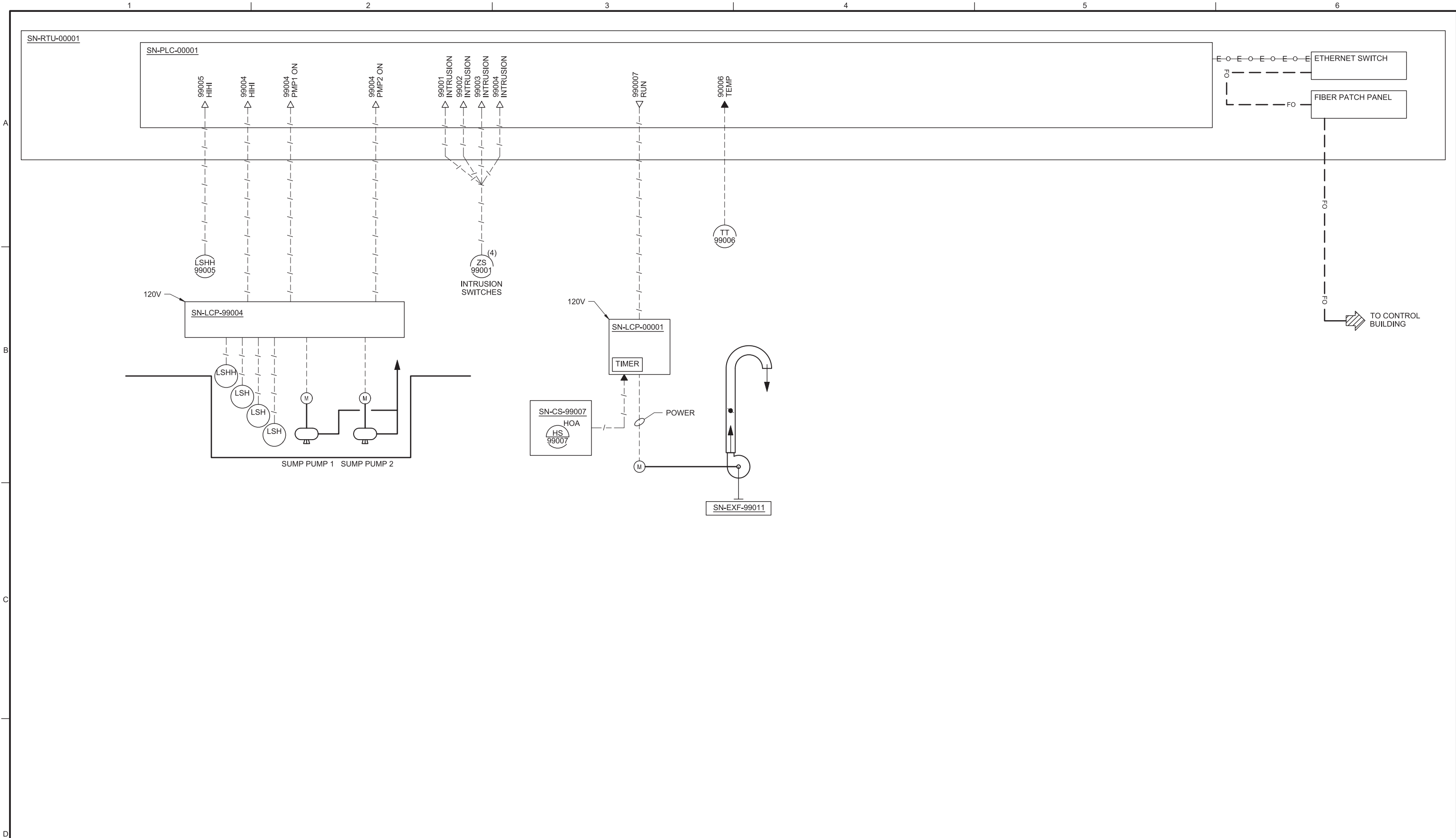
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SPANISH FORK SANTAQUIN PIPELINE
 SANTAQUIN REACH

SANTAQUIN NORTH TURNOUT
 PROCESS AND INSTRUMENTATION
 DIAGRAM

SHEET	XX OF XX
DWG	60-N-1
DATE	OCTOBER 2023
CONTRACT	C-2023-01



DSGN	M PAWLOWSKI						
DR	R PHILLIPS						
CHK	T PALIN						
APVD	T PALIN	NO.	DATE	REVISION	BY	APVD	

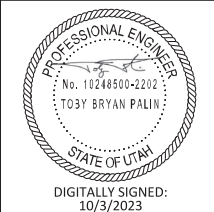
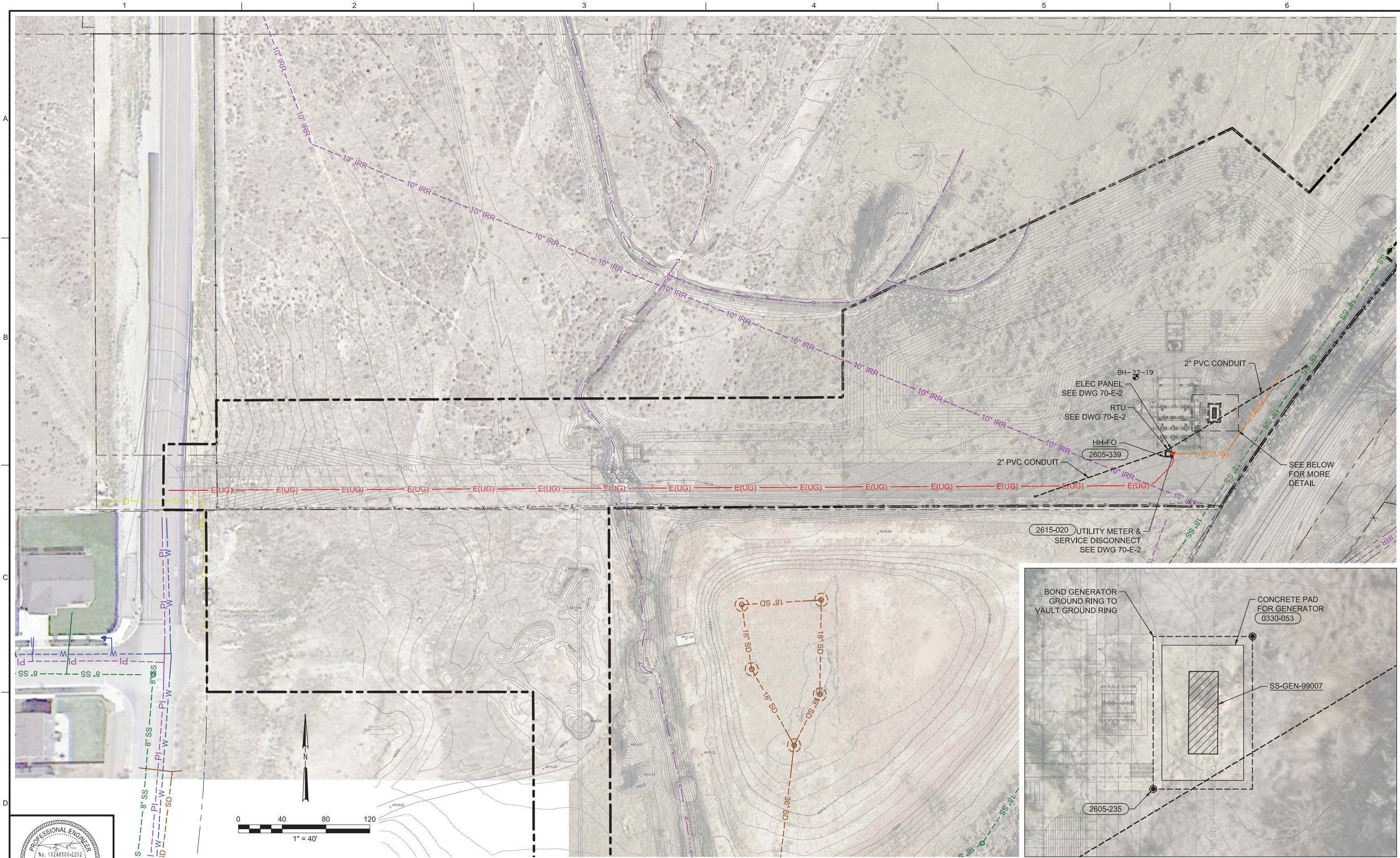
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SPANISH FORK SANTAQUIN PIPELINE
 SANTAQUIN REACH

SANTAQUIN NORTH TURNOUT
 PROCESS AND INSTRUMENTATION
 DIAGRAM

SHEET	XX OF XX
DWG	60-N-2
DATE	OCTOBER 2023
CONTRACT	C-2023-01



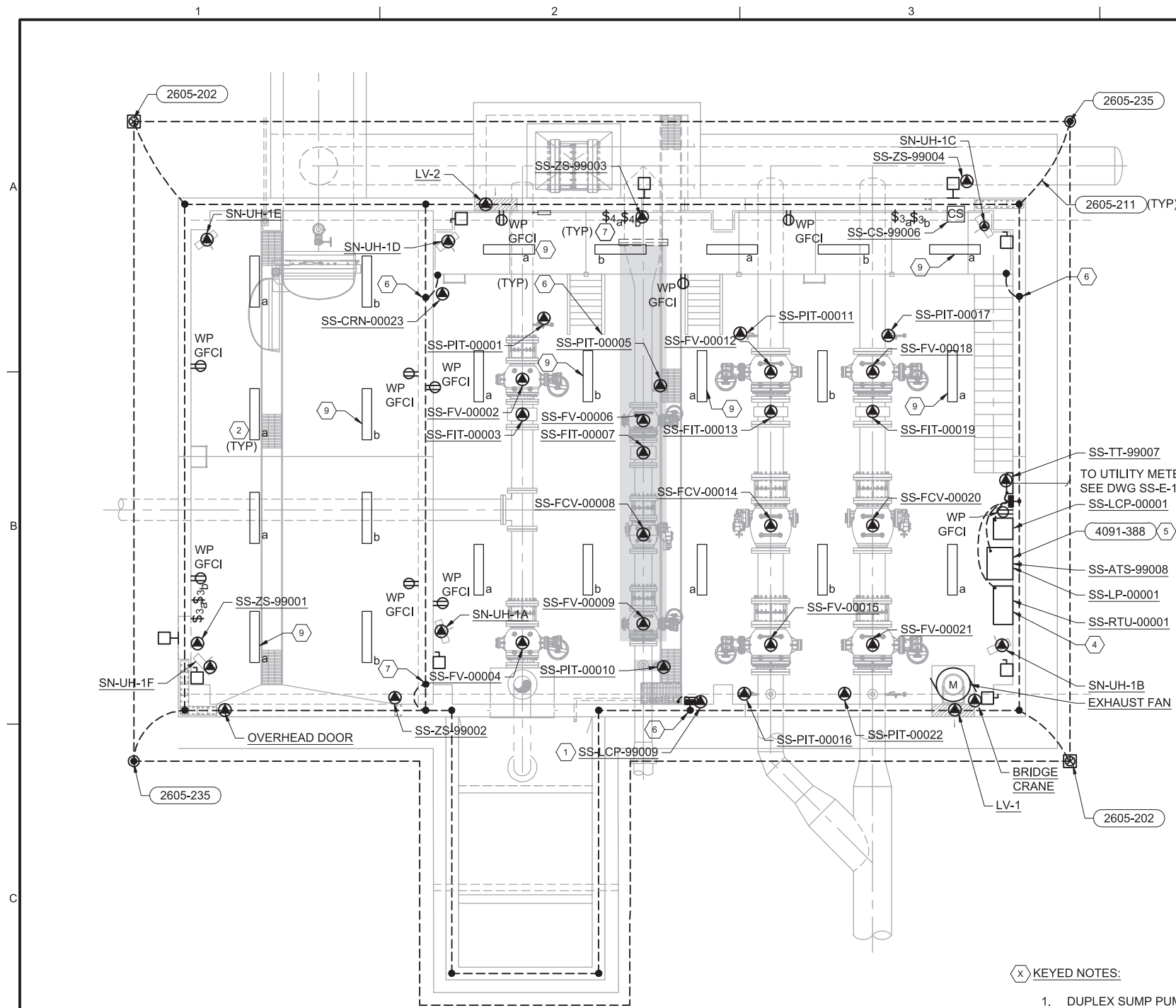
DSGN	M PAWLOWSKI								
DR	R PHILLIPS								
CHK	T PALIN								
APVD	T PALIN	NO.	DATE	REVISION	BY	APVD			

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SPANISH FORK SANTAQUIN PIPELINE
 SANTAQUIN REACH

SHEET	XX OF XX
DWG	70-E-1
DATE	OCTOBER 2023
CONTRACT	C-2023-01

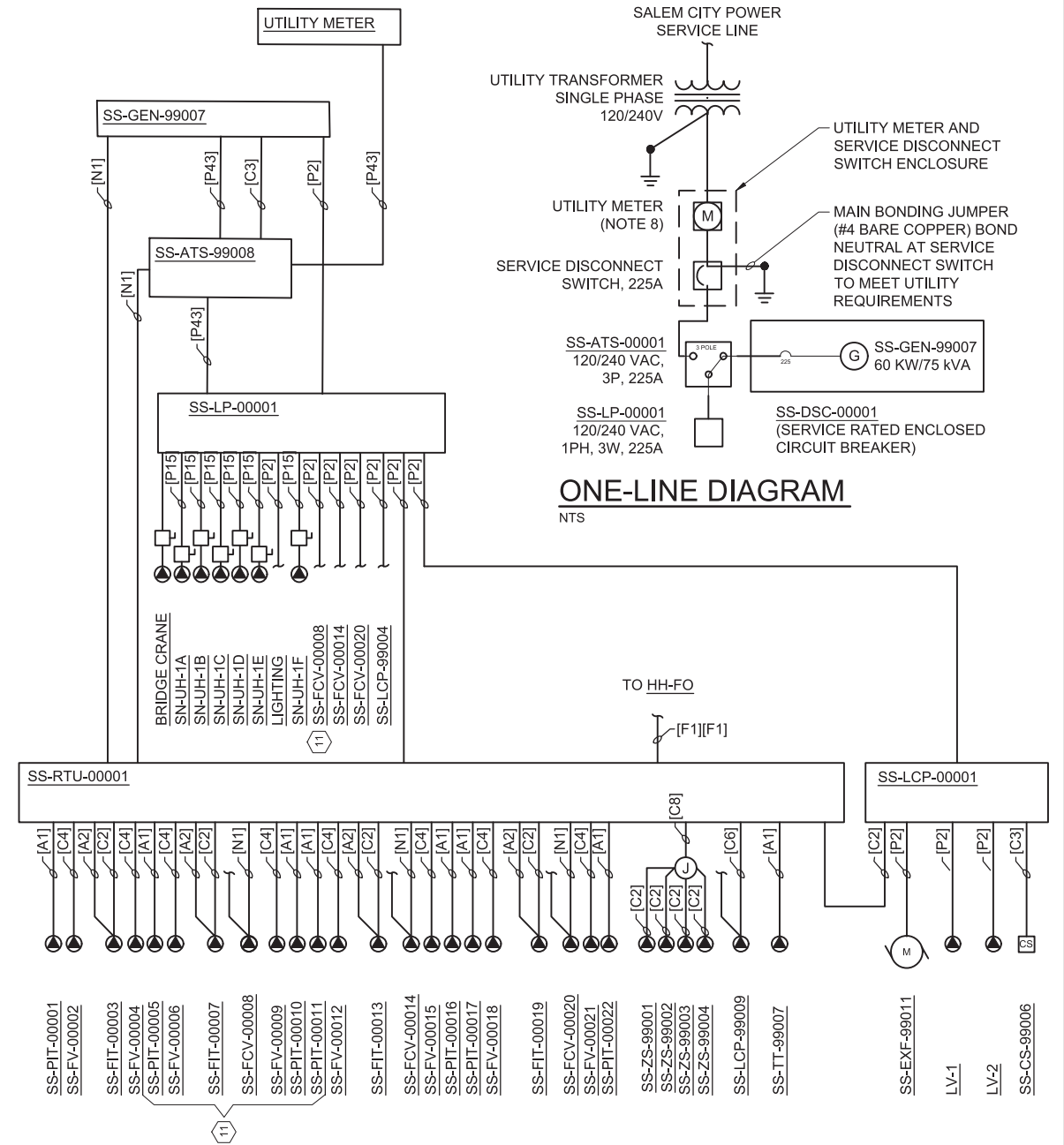


FLOOR PLAN
3/16" = 1'-0"

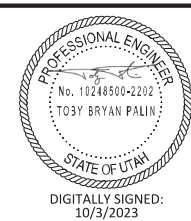


(X) KEYED NOTES:

- DUPLEX SUMP PUMP PACKAGE CONTROL PANEL. MOUNT CONTROLLER ON WALL AND CONNECT PUMP AND FLOAT SWITCHES PER MANUFACTURERS INSTRUCTIONS.
- LIGHT FIXTURE: INDUSTRIAL LINEAR LED OUTDOOR WET LOCATION VAPORTITE 120V 42 WATT 6000 LUMEN, AMBIENT OPERATION TEMPERATURE -40 C TO +55 C, WALL OR CEILING MOUNT. METALUX OR EQUAL FIXTURE TYPE: 4VT3-LD5-6-G-120-EL10W-L840-CD1-SSLTP.
- GENERAL: ROUTE ALL POWER AND CONTROL CONDUITS IN CONCRETE SLAB OR FLOOR WHEN POSSIBLE.
- MOUNT RTU TO WALL. ALL CONDUITS SHALL ENTER RTU FROM THE BOTTOM OR SIDE NEAR THE BOTTOM OF THE ENCLOSURE.
- FEEDER CIRCUIT SHALL PENETRATE WALL BELOW SS-LP-00001. CONDUIT SHALL TEE WITH ONE CONDUIT GOING UP INTO BOTTOM OF PANEL ENCLOSURE AND THE OTHER CONDUIT GOING DOWN WITH A MOISTURE DRAIN FITTING SO ALL INFILTRATED MOISTURE WILL NOT DRAIN INTO THE ELECTRICAL EQUIPMENT. SEE 70-E-3 FOR PANEL SCHEDULE.
- BOND GRATING AND STAIRWAY FRAME STRUCTURE TO GROUNDING SYSTEM.
- BOND HANDRAIL TO GROUND SYSTEM.
- PROVIDE UTILITY METER SOCKET, SERVICE RISER, AND CONDUITS IN ACCORDANCE WITH SALEM CITY POWER STANDARD ELECTRICAL SERVICE REQUIREMENTS. SALEM CITY POWER SHALL PROVIDE PRIMARY AND SECONDARY CONDUCTORS AND TRANSFORMER. COORDINATE WITH SALEM CITY POWER FOR FINAL SERVICE LOCATIONS AND REQUIREMENTS.
- PROVIDE INTEGRAL BATTERY BACKUP BATTER IN FIXTURE FOR EMERGENCY EGRESS UPON POWER LOSS. PROVIDE SWITCHED AND UNSWITCHED CIRCUIT TO FIXTURE.
- ROUTE CONDUIT TO PULLBOX FOR FUTURE SECURITY CAMERA POLE. SEE DRAWING 70-E-1 FOR LOCATION.
- VALVES AND INSTRUMENTS WILL BE INSTALLED IN THE FUTURE. ONLY PROVIDE CONDUIT FROM PANELBOARD OR RTU AND CAP FLUSH WITH THE FLOOR.



ONE-LINE DIAGRAM
NTS



DSGN	M PAWLOWSKI						
DR	R PHILLIPS						
CHK	T PALIN						
APVD	T PALIN	NO.	DATE	REVISION	BY	APVD	

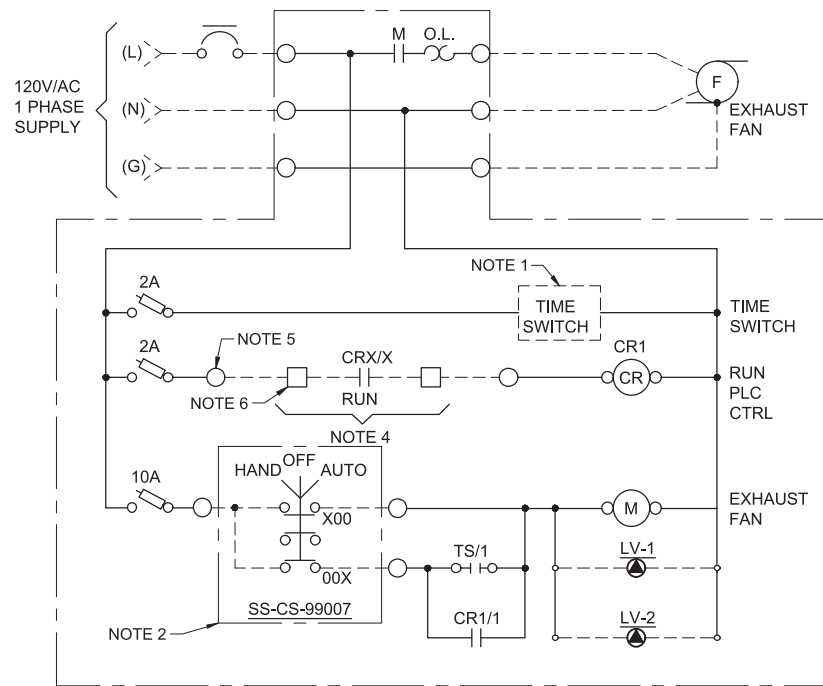
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SPANISH FORK SANTAQUIN PIPELINE
SANTAQUIN REACH

PIGGING STRUCTURE ELECTRICAL PLAN

SHEET	XX OF XX
DWG	70-E-2
DATE	OCTOBER 2023
CONTRACT	C-2023-01



- NOTES:**
1. TIME SWITCH: TORK 8001 SERIES, WITH TIMER SET FOR TWO 15 MINUTE PERIODS IN 24 HOURS.
 2. HAND SWITCH LOCATED AT VAULT HATCH.
 3. LOCATE DEVICES IN FAN CONTROL PANEL / PULL BOX. ENCLOSURE SIZED BY CONTRACTOR AS REQUIRED FOR COMPONENTS.
 4. CONTACT CLOSURE IN RTU ENCLOSURE, CONTROLLED BY PLC.
 5. TERMINAL IN FAN CONTROL PANEL ENCLOSURE.
 6. TERMINAL IN RTU ENCLOSURE.

1 EXHAUST FAN CONTROL PANEL W/ HAND / OFF / AUTO CONTROL
NTS

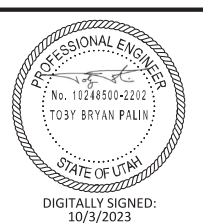
PANEL: SS-LP-00001
 SERVICE VOLTAGE: 120/240V
 TOTAL LOAD KVA: 45.0
 REMARKS: NEMA 3R, BOTTOM FEED

LOCATION: SANTAQUIN SOUTH TURNOUT/PIGGING STRUCTURE
 PHASE: 1
 BUS SIZE: 225
 NEUTRAL:

WIRE: 3
 MAIN SIZE: 225
 MOUNTING: SURFACE
 TYPE: MCB

LOAD IN VA		CIRCUIT DESCRIPTION	BKR A/P	CKT NO.	CKT A/P	BKR A/P	CIRCUIT DESCRIPTION	LOAD IN VA	
A	B							A	B
2400.0		EXHAUST FAN CONTROL PANEL	20A/1P	1	2	30A/1P	ELECTRICAL HEATER	2500.0	2500.0
	1200.0	SUMP PUMP CONTROL PANEL	20A/1P	3	4				
600.0		RECEPTACLES (WEST)	20A/1P	5	6	20A/1P	RTU PANEL UPS	600.0	
	600.0	RECEPTACLES (EAST)	20A/1P	7	8	20A/1P	LIGHTING		966.0
2500.0		ELECTRICAL HEATER	30A/2P	9	10	20A/1P	SS-FCV-00008	1600.0	
	2500.0	ELECTRICAL HEATER	30A/2P	11	12	20A/1P	SS-FCV-00014		1600.0
2500.0		ELECTRICAL HEATER	30A/2P	13	14	20A/1P	SS-FCV-00020	1600.0	
	2500.0	ELECTRICAL HEATER	30A/2P	15	16	30A/2P	ELECTRICAL HEATER		2500.0
2500.0		ELECTRICAL HEATER	30A/2P	17	18			2500.0	
	2500.0	ELECTRICAL HEATER	30A/2P	19	20	20A/1P	OVER-HEAD DOOR		1600.0
2500.0		ELECTRICAL HEATER	30A/2P	21	22	20A/1P	BRIDGE CRANE	1600.0	
	2500.0	ELECTRICAL HEATER	30A/2P	23	24	20A/1P	SPARE		0.0
600.0		GENERATOR	20A/1P	25	26	20A/1P	SPARE	0.0	
	0.0	SPD	30A/2P	27	28	20A/1P	SPARE		0.0
0.0			30A/2P	29	30	20A/1P	SPARE	0.0	
13600.0	11800.0	TOTAL						10400.0	9166.0
								24000.0	20966.0

2 PANELBOARD SCHEDULE
NTS



DSGN	M PAWLOWSKI								
DR	R PHILLIPS								
CHK	T PALIN								
APVD	T PALIN	NO.	DATE	REVISION	BY	APVD			

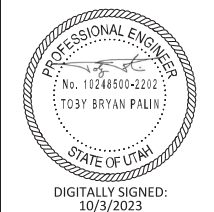
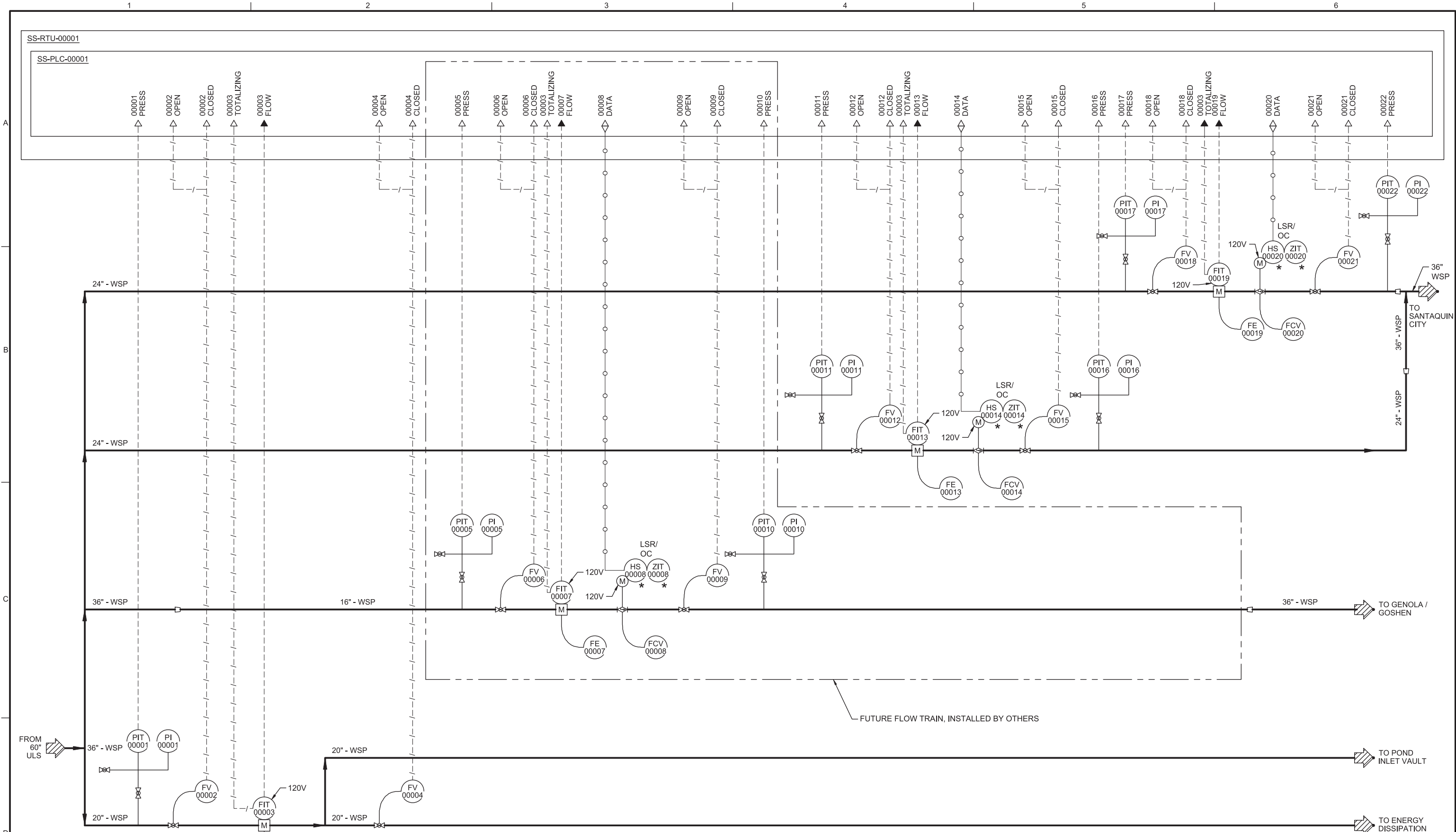
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SPANISH FORK SANTAQUIN PIPELINE
 SANTAQUIN REACH

PIGGING STRUCTURE
 ELECTRICAL DETAILS

SHEET	XX OF XX
DWG	70-E-3
DATE	OCTOBER 2023
CONTRACT	C-2023-01



DSGN	M PAWLOWSKI						
DR	R PHILLIPS						
CHK	T PALIN						
APVD	T PALIN	NO.	DATE	REVISION	BY	APVD	

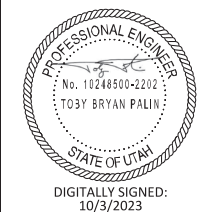
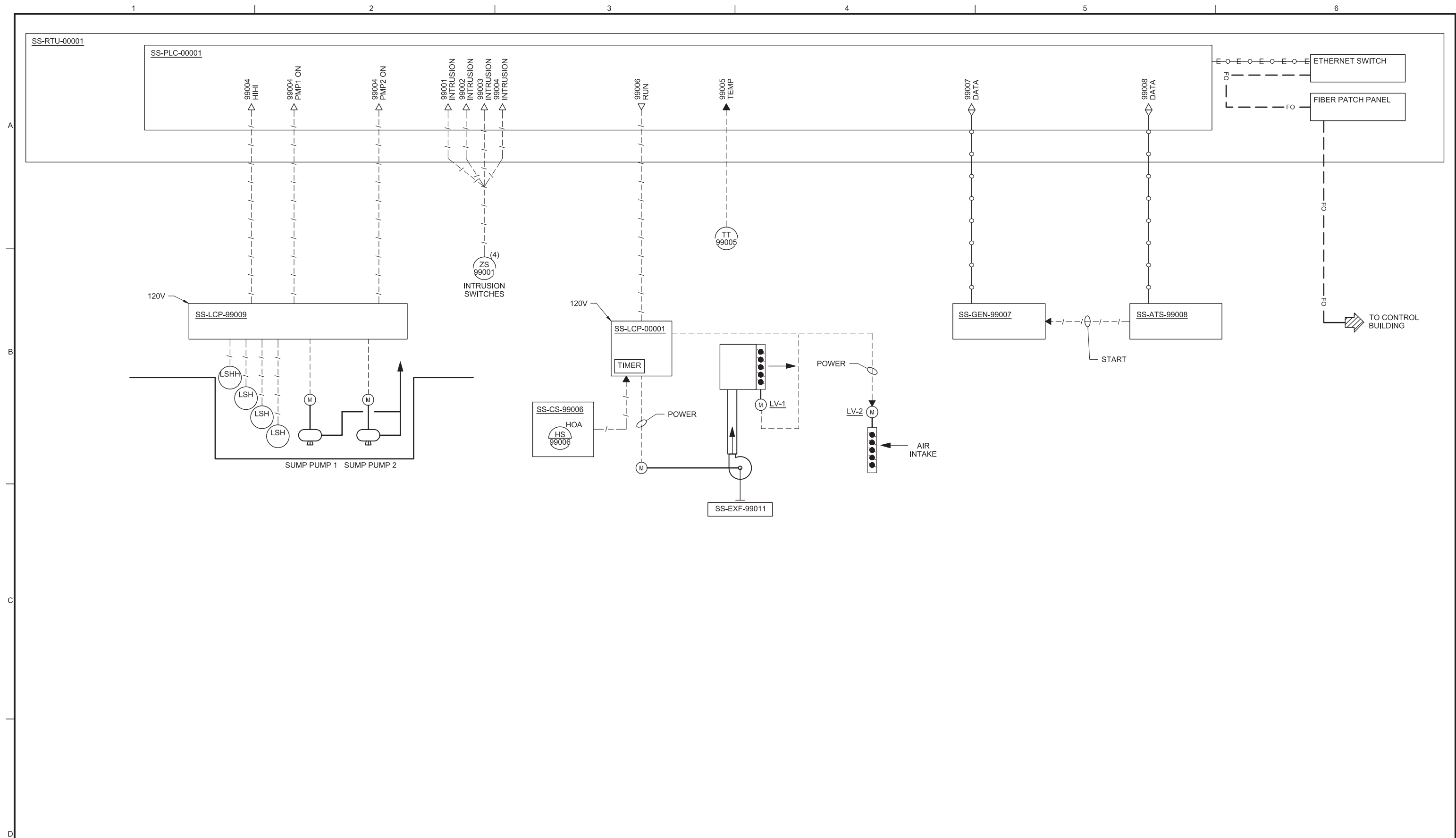
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SPANISH FORK SANTAQUIN PIPELINE
 SANTAQUIN REACH

PIGGINGS STRUCTURE
 PROCESS AND INSTRUMENTATION
 DIAGRAM

SHEET	XX OF XX
DWG	70-N-1
DATE	OCTOBER 2023
CONTRACT	C-2023-01



DSGN	M PAWLOWSKI								
DR	R PHILLIPS								
CHK	T PALIN								
APVD	T PALIN	NO.	DATE	REVISION	BY	APVD			

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SPANISH FORK SANTAQUIN PIPELINE
 SANTAQUIN REACH

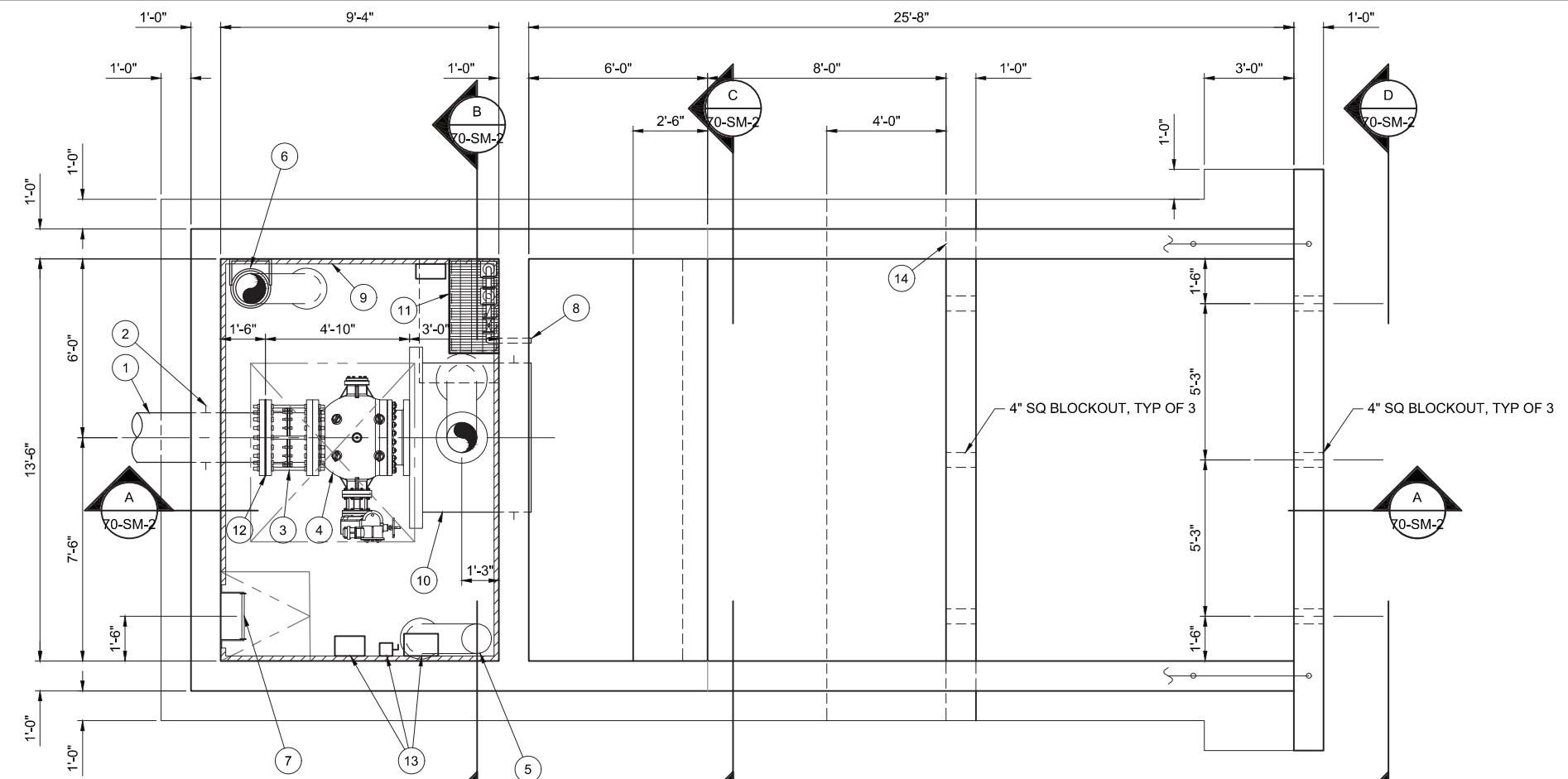
PIGGING STRUCTURE
 PROCESS & INSTRUMENTATION
 DIAGRAM

SHEET	XX OF XX
DWG	70-N-2
DATE	OCTOBER 2023
CONTRACT	C-2023-01

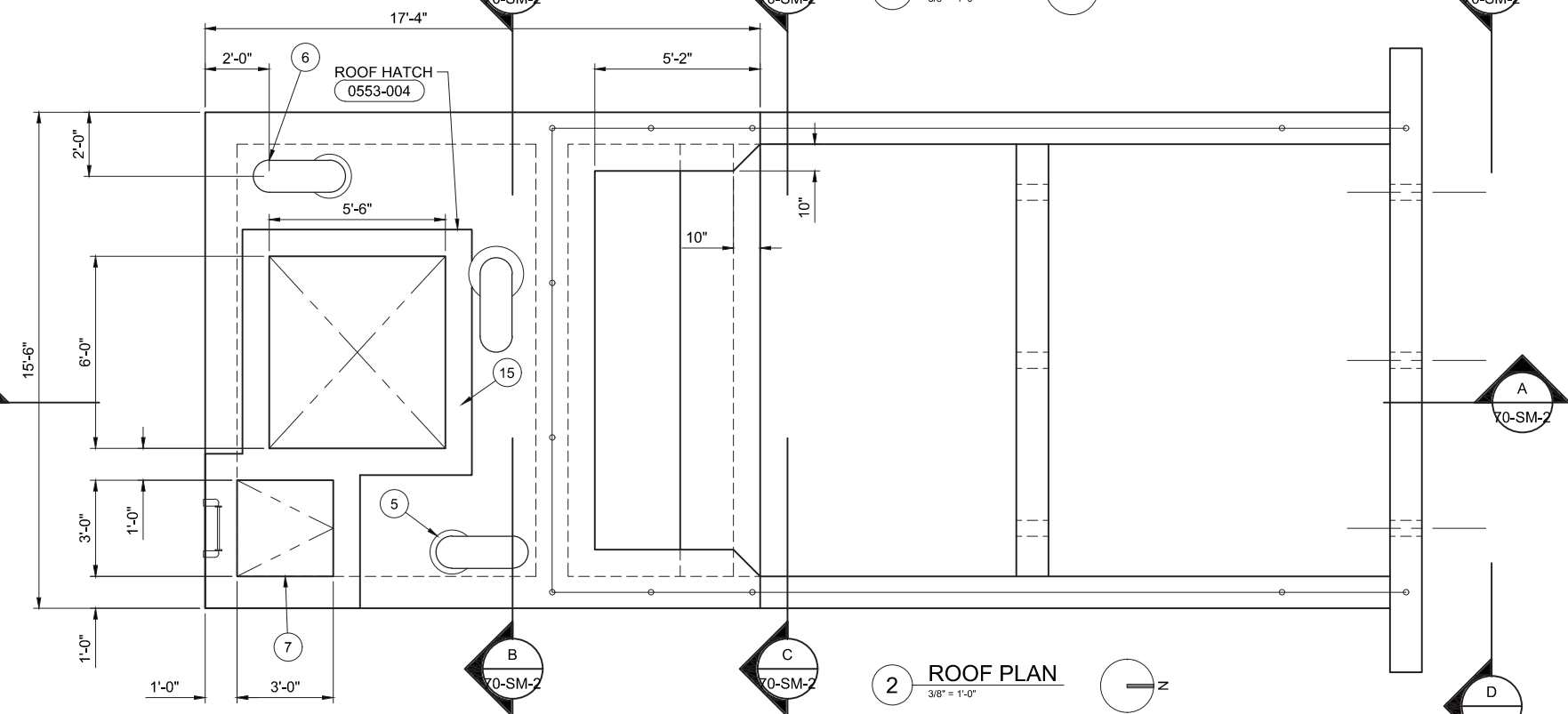
MATERIAL SCHEDULE

- 1 20" WSP
- 2 SEEP RING (3305-916)
- 3 20" RESTRAINED DISMANTLING JOINT
- 4 20" BALL VALVE (V308) WITH MANUAL OPERATOR
- 5 12" WSP GOOSENECK ROOF (HIGH) VENT (4027-625) SIM. BOTTOM FLUSH WITH ROOF INSULATION
- 6 12" GOOSENECK ROOF (LOW) VENT. (4027-625) MOUNT IN-LINE FAN, EF-1 (COOK 90QMX, 600 CFM AT 0.5 WG) ON FLOOR, 12" ABOVE FINISHED FLOOR. PROVIDE 1-1/2" x 1-1/2" x 0.25 ANGLE IRON FRAME TO SUPPORT FAN FROM FLOOR. FURNISH FAN WITH INLET SCREEN. SUPPORT DUCT ON WALL WITH UNI-STRUT SUPPORTS AS REQUIRED.
- 7 36"x36" ROOF HATCH WITH EXTERIOR LADDER SIM (0551-105)
- 8 SUMP DISCHARGE (2230-172)
- 9 2" RIGID INSULATION (LINE VAULT TO 4' BELOW FG). OMIT BEHIND LADDER
- 10 60" WSP, t=5/8"
- 11 SUMP WITH GRATED COVERS AND SUMP PUMP SIM (4090-401) TYPE B. SEE (0553-001) FOR GRATING DETAIL GS-3 AT WALLS, GS-1 AT INTERIOR EDGES
- 12 INSULATED FLANGE (2642-925)
- 13 ELECTRONICS AND CONTROLS, SEE DWG 70-E-2
- 14 STEP IN FOOTING, SEE SECTION A/70-SM-2
- 15 8" CONCRETE CURB, SEE (0330-080)

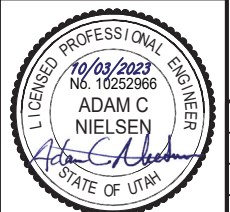
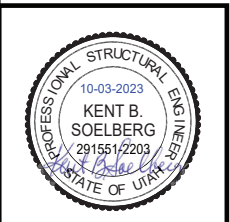
- NOTES**
1. FOR STRUCTURAL GENERAL NOTES, SEE DRAWINGS 001-GS-0001
 2. REINF OPENINGS PER DETAIL (0330-001)
 3. REINF CORNERS PER DETAIL (0330-003)



1 PLAN
3/8" = 1'-0"



2 ROOF PLAN
3/8" = 1'-0"



DSGN	A NIELSEN						
DR	R PHILLIPS						
CHK	A MURDOCK						
APVD	A NIELSEN/K SOELBERG	NO.	DATE	REVISION	BY	APVD	

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SPANISH FORK SANTAQUIN PIPELINE
SANTAQUIN REACH

PIGGING POND INLET STRUCTURE
PLANS

SHEET	X OF XX
DWG	70-SM-1
DATE	OCTOBER 2023
CONTRACT	C-2023-01