



PROVO WATER RECLAMATION FACILITY PHASE 1 PACKAGE 2 2020 CONSTRUCTION

VOLUME 2

FOR CONSTRUCTION: PHASE 1, ELECTRICAL UPGRADES PACKAGE C: HEADWORKS BUILDING RE-FEEDS

PROVO CITY

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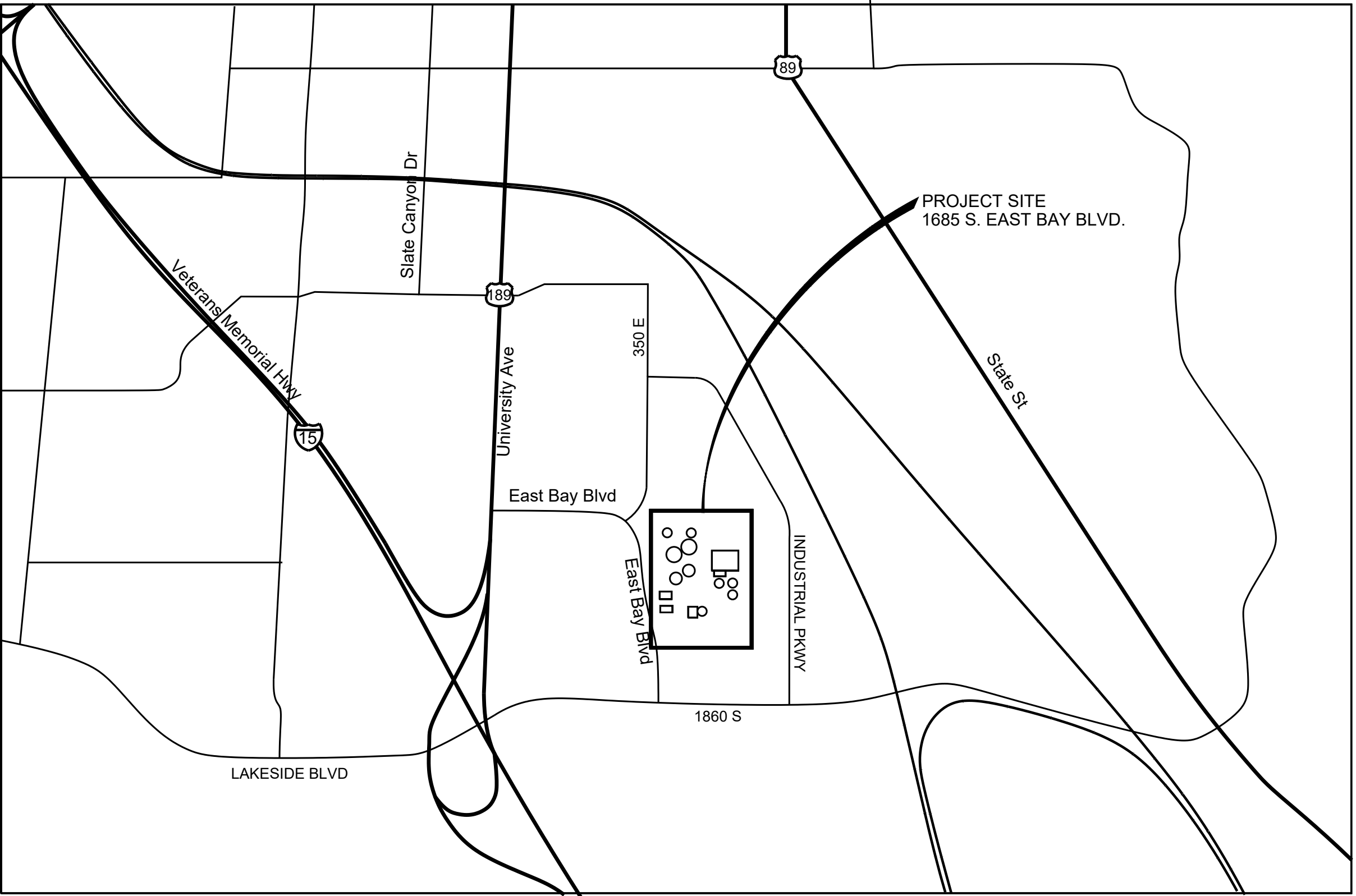
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FEBRUARY 2025



LOCATION MAP
NTS

NO.	DATE	REVISION	BY	APVD

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ABBREVIATIONS

@	AT	CL	CENTERLINE	°F	DEGREE FAHRENHEIT			PROP	PROPERTY	SYMM	SYMMETRICAL
AB	ANCHOR BOLT, AGGREGATE BASE	CLDIP	CEMENT-LINED DUCTILE IRON PIPE	FB	FLAT BAR	JT	JOINT	PRV	PRESSURE RELEASE VALVE		
AC	ASPHALTIC CONCRETE	CLG	CEILING	FC	FLEXIBLE COUPLING			PS	PUMP STATION	T	TANGENT, TELEPHONE LINE, TOP
ACI	AMERICAN CONCRETE INSTITUTE	CLR	CLEAR, CLEARANCE	FCA	FLANGED COUPLING ADAPTER	KIP	THOUSAND POUNDS	PSF	POUNDS PER SQUARE FOOT	t, T	THICKNESS
ADD	ADDITIONAL	CLSM	CONTROLLED LOW STRENGTH MATERIAL	FCO	FLOOR CLEAN OUT	KW	KILOWATT	PSI	POUNDS PER SQUARE INCH	T&B	TOP AND BOTTOM
ADH AB	ADHESIVE ANCHOR BOLT	CML, CSP	CONCRETE MORTAR LINED AND COATED	FD	FLOOR DRAIN			PSIG	POUNDS PER SQUARE INCH, GAUGE	T&G	TONGUE AND GROOVE
ADJ	ADJACENT, ADJUSTABLE		STEEL PIPE	FDA	FLOOR DRAIN W/INTEGRAL TRAP	L	LEFT, ANGLE, LENGTH	PT	POINT OF TANGENCY	TBG	TUBING
AFF	ABOVE FINISH FLOOR	CMLSP	CEMENT MORTAR LINED STEEL PIPE	FDN	FOUNDATION	LAB	LABORATORY	P.U.E.	PUBLIC UTILITY EASEMENT	TC	TOP OF CONCRETE
AFG	ABOVE FINISH GRADE	CMP	CORRUGATED METAL PIPE	FDV	FILTER DRAIN VALVE	LAT'L	LATERAL	PV	PLUG VALVE	TCE	TEMPORARY CONSTRUCTION EASEMENT
AHP	AIR: HIGH PRESSURE	CMU	CONCRETE MASONRY UNIT	FES	FLARED END SECTION	LB	POUNDS	PVC	POLYVINYL CHLORIDE PLASTIC \ POINT OF	TDH	TOTAL DYNAMIC HEAD
AIR	COMPRESSED AIR	CO	CLEANOUT	FEXT	FIRE EXTINGUISHER	LB/CU FT	POUNDS PER CUBIC FOOT		VERTICAL CURVE	TECH	TECHNICAL
AISC	AMERICAN INSTITUTE OF STEEL	COL	COLUMN	FF	FINISH FLOOR	LF	LINEAR FEET	PVCGS	POLYVINYL CHLORIDE PLASTIC-GRAVITY	TEL	TELEPHONE
	CONSTRUCTION	COM	COMMUNICATION	FG	FINISH GRADE, FLUE GAS	LG	LONG		SEWER TYPE	TEMP	TEMPORARY, TEMPERATURE
AL	ALUMINUM SULFATE	COMB	COMBINED	FHY	FIRE HYDRANT	LONG	LONGITUDINAL	PVCW	POLYVINYL CHLORIDE PLASTIC-	TF	TOP FACE
ALP	AIR LOW PRESSURE	CONC	CONCRETE	FI	FLOW INDICATOR	LP	LOW POINT		WATER DISTRIBUTION SERVICE TYPE	THD	THREAD
ALTN	ALTERNATE	CONN	CONNECTION	FIG	FIGURE	LR	LONG RADIUS	PVI	POINT OF VERTICAL INTERSECTION	THK	THICK
AMH	AMMONIUM HYDROXIDE	CONT	CONTINUOUS, CONTINUATION	FIL	FILTRATE	LS	LOW PRESSURE STREAM	PVMT	PAVEMENT	TNK	TANK
ANSI	AMERICAN NATIONAL STANDARDS	COORD	COORDINATE	FL	FLOOR, FLOW LINE			PVT	POINT OF VERTICAL TANGENCY, PRIVATE	TOB	TOP OF BAFFLE
	INSTITUTE	CPLG	COUPLING	FLG	FLANGE	MAX	MAXIMUM			TOC	TOP OF CURB
APPROX	APPROXIMATE	CTR'D, CTD	CENTERED	FLH	FLAT HEAD	MCC	MOTOR CONTROL CENTER	R, RAD	RADIUS	TG	TOP OF GRATING
APVD	APPROVED	CTR	CENTER	FLI	FLOW LINE	MCJ	MASONRY CONTROL JOINT	RC	REINFORCED CONCRETE	TOW	TOP OF WALL
APWA	AMERICAN PUBLIC WORKS ASSOCIATION	CU	COPPER	FLTR	FILTER	MECH	MECHANICAL	RCP	REINFORCED CONCRETE PIPE	TP	TURNING POINT, TEST PIT
AR	AERATION	CU FT	CUBIC FOOT	FM	FLOW METER	MFR	MANUFACTURER	RD	ROAD, ROOF DRAIN	TRANS	TRANSITION
ARCH, A	ARCHITECTURAL	CU IN	CUBIC INCH	FNSH	FINISH	MGD	MILLION GALLONS PER DAY	RDCR	REDUCER	TRANSV	TRANSVERSE
ARV	AIR RELEASE VALVE	CU YD	CUBIC YARD	FO	FUEL OIL	MH	MANHOLE	REF	REFER OR REFERENCE	TS	TUBE STEEL
ASTM	AMERICAN SOCIETY FOR TESTING AND	CULV	CULVERT	FOC	FACE OF CONCRETE	MIN	MINIMUM, MINUTE	REINF	REINFORCED, REINFORCING, REINFORCE	TST	TOP OF STEEL
	MATERIALS	CV	CHECK VALVE	FRP	FIBERGLASS REINFORCED PLASTIC	MISC	MISCELLANEOUS	REQD	REQUIRED	TT	THRUST TIE
AUTO	AUTOMATIC	CW	CIRCULATING WATER	FSPS	FINE SCREEN PUMP STATION	MJ	MECHANICAL JOINT	RJ	RESTRAINED JOINT	TW	TREATED GROUND WATER
AUX	AUXILIARY			FT	FOOT OR FEET	MOV	MOTOR OPERATED VALVE	RLS	RUBBER LINED STEEL	TWS	TRACER WIRE STATION
AV	AIR/VACUUM ASSEMBLY	D	PENNY	FTG	FOOTING	MPH	MILES PER HOUR	RM	ROOM	TYP	TYPICAL
AVE	AVENUE	DBA	DEFORMED BAR ANCHOR	FWD	FORWARD	MSNRY	MASONRY	RMJ	RESTRAINED MECHANICAL JOINT		
AWG	AMERICAN WIRE GAGE	DBL	DOUBLE			MSP	MILL STEEL PIPE, MANUAL OF STANDARD	RNG	RENEWABLE NATURAL GAS	UBC	UNIFORM BUILDING CODE
AWWA	AMERICAN WATER WORKS ASSOCIATION	DEC	DECANT	G	GAS			RO	ROUGH OPENING OR	UD	UNDERDRAIN
AX	ANOXIC	DET	DETAIL	GA	GAGE	MT	MEMBRANE TANKS		REVERSE OSMOSIS	UG	UNDERGROUND
		DI	DROP INLET, DUCTILE IRON	GALV	GALVANIZED	MTL	MATERIAL	RP	RADIUS POINT	UH	UNIT HEATER
B	BORING	DIA	DIAMETER	GB	GRADE BREAK	MV	MUD VALVE	R/R	REMOVE AND REPLACE	UNK	UNKNOWN
BAV	BALL VALVE	DIAG	DIAGONAL	GC	GROOVED COUPLING	MW	MAKE UP WATER	RST	REINFORCING STEEL	UNO	UNLESS NOTED OTHERWISE
BC	BEGIN CURVE, BOTTOM OF CURB	DIL	DILUTE	GCF	GROOVED COUPLING FITTING	MWS	MAXIMUM WATER SURFACE	RT	RIGHT		
BD	BLOW DOWN	DIM	DIMENSION	GCO	GRADE CLEAN OUT	N	NORTH	RTN	RETURN WATER	V	VENT, VOLT, VALVE
BDP	BACKDRAFT DAMPER	DIMJ	DUCTILE IRON MECHANICAL JOINT	GD	GENERAL DRAINAGE	NC	NORMALLY CLOSED	RV	ROOF VENT	VAC	VACUUM
BF	BLIND FLANGE, BOTTOM FACE	DIP	DUCTILE IRON PIPE	GE	GROOVED END	NE	NORTHEAST	RW	RAW WATER	VDP	VOLUME DAMPER
BFD	BUTTERFLY VALVE DAMPER	DIPPL	DUCTILE IRON PIPE, POLYETHYLENE	GL	GLASS	NG	NATURAL GAS	R/W	RIGHT-OF-WAY	VAR	VENT ACID RESISTANT
BFP	BACKFLOW PREVENTER ASSEMBLY		LINED	GPD	GALLONS PER DAY	NH3	AMMONIA			VC	VERTICAL CURVE
BFV	BUTTERFLY VALVE	DIR	DIRECTION	GPH	GALLONS PER HOUR	NIC	NOT IN CONTRACT	S	I-BEAM, SOUTH, SLOPE	VERT	VERTICAL
BLDG	BUILDING	DIST	DISTANCE	GPM	GALLONS PER MINUTE	NO.	NUMBER, NUMBERING	S =	SLOPE EQUALS	VM	VM VALVE MODULE
BLM	BUREAU OF LAND MANAGEMENT	DN	DOWN	GRTG	GRATING	NPT	NATIONAL PIPE THREAD	SA	SERVICE AIR	VPI	VERTICAL POINT OF INTERSECTION
BM	BENCH MARK, BEAM	DO	DITTO	GSP	GALVANIZED STEEL PIPE	NPW	NON POTABLE WATER	SAT	SUSPENDE ACOUSTIC TILE	VPS	VENEER PLASTER SYSTEM
BO	BLOW OFF	DR	DRAIN	GT	GAS TURBINE	NTS	NOT TO SCALE	SCFH	STANDARD CUBIC FEET PER HOUR	VTR	VENT THRU ROOF
BOC	BACK OF CURB	DWG	DRAWING	GV	GATE VALVE	NW	NORTHWEST	SCFM	STANDARD CUBIC FEET PER MINUTE		
BOO	BOTTOM OF OPENING			GVL	GRAVEL			SCH	SCHEDULE	W/	WITH
BOG	BACK OF GUTTER	E	EAST, ELECTRIC, ELECTRICAL	GW	GROUND WATER			SE	SOUTHEAST	W	WIDE FLANGE (BEAM), WEST, WATER
BOT	BOTTOM	EA	EACH			OC	ON CENTER, ODOR CONTROL	SEC	SECONDARY	WATRR	WATER ADVANCED TREATMENT AND
BRG	BEARING	EC	END CURVE	HB	HOSE BIB	OD	OUTSIDE DIAMETER, OVERFLOW DRAIN	SECT	SECTION		RESOURCE RECOVERY
BWI	BACKWASH IN	ECC	ECCENTRIC	HD	HUB DRAIN	OF	OUTSIDE FACE	SH	SHEET	WC	WATER CLOSET
BWO	BACKWASH OUT	EF	EACH FACE, EXHAUST FAN	HDR	HEADER	OFR	OVERFLOW RETURN	SHC	SODIUM HYPOCHLORITE	WD	WOOD
BYP	BYPASS	EFL	EFFLUENT	HDW	HARDWARE	OHE	OVERHEAD ELECTRIC	SLD	SLUDGE	WM	WATER METER
		EG	EXHAUST GAS	HF	HIGH PRESSURE FEEDWATER	OMRF	ORDINARY MOMENT RESISTING FRAME	SLG	SLIDE GATE	WR	WATER RESISTANT
°C	DEGREE CELSIUS	EJ	EXPANSION JOINT	HGT	HEIGHT	O TO O	OUT TO OUT	SLP	SLOPE	WS	WATER SURFACE, WATER STOP
C TO C, CC	CENTER TO CENTER	EL	ELEVATION	HM	HOLLOW METAL	OP	OPERATING	SMP	SAMPLE	W SH ST	WEATHERING SHEET STEEL
C	CHANNEL (BEAM)	ELB, ELL	ELBOW	HORIZ	HORIZONTAL	OPNG	OPENING	SOLN	SOLUTION	WSP	WELDED STEEL PIPE
CAA/ARV	COMBINATION AIR ADMISSION/	ELC	ELECTRICAL LOAD CENTER	HP	HIGH POINT, HORSEPOWER	OPP	OPPOSITE	SP	SPACE OR SPACES	WT	WATER TIGHT
	AIR RELEASE VALVE	ELEC	ELECTRIC, ELECTRICAL	HPS	HIGH PRESSURE STREAM	OZ	OUNCE	SPD	SUMP PUMP DRAIN	WTR	WATER
CARV	COMBINATION AIR RELEASE VALVE	EM	EMISSION MEASUREMENT	HR	HANDRAIL			SPEC	SPECIFICATIONS	WW	WASHWATER OR
CATH	CATHODIC PROTECTION	ENGR	ENGINEER	HSS	HOLLOW STRUCTURE STEEL	PC	POINT OF CURVE	SPLY	SUPPLY		WASTEWATER
CATV	CABLE TELEVISION	EO	EMERGENCY OVERFLOW	HV	HOSE VALVE	PE	PLAIN END, POLYETHYLENE OR	SQ	SQUARE	WWF	WELDED WIRE FABRIC
CB	CATCH BASIN	EP	EDGE OF PAVEMENT	HWY	HIGHWAY		PERMANENT EASEMENT	SQ FT	SQUARE FOOT		
CCP	CONCRETE CYLINDER PIPE	EQL SP	EQUALLY SPACED	HYD	HYDRANT	PENT	PENETRATION	SQ IN	SQUARE INCH	YD	YARD
CCS	CENTRAL CONTROL SYSTEM	EQPT	EQUIPMENT			PI	POINT OF INTERSECTION		SAMPLING SYSTEM	YH	YARD HYDRANT
CE	CONDENSATE	ERW	EFFLUENT REUSE WATER			PJF	PREMOLDED JOINT FILLER	SSH	SAFETY SHOWER		
CF	CUBIC FEET	ESA	ENVIRONMENTALLY SENSITIVE AREA	I&C	INSTRUMENTATION & CONTROL	PL	PLATE, PROPERTY LINE	SST	STAINLESS STEEL		
CFM	CUBIC FEET PER MINUTE	ESC	EROSION SEDIMENT CONTROL	ID	INSIDE DIAMETER	PLYWD	PLYWOOD	ST	SAMPLE TAP		
CFS	CUBIC FEET PER SECOND	ESEW	EMERGENCY SHOWER/EYE WASH	IF	INSIDE FACE	PLV	PLUG VALVE	STA	STATION		
CHEM	CHEMICAL	EVC	END OF VERTICAL CURVE	IMLR	INTERNAL MIXED LIQUOR RETURN	POB	POINT OF BEGINNING	STD	STANDARD		
CI	CAST IRON	EW	EACH WAY	IN	INCH	POC	POINT OF CONNECTION	STIF	STIFFENER		
CIGC	CAST IRON GROOVED COUPLING	EWEF	EACH WAY, EACH FACE	INFL	INFLUENT	POE	POINT OF ENDING	STL	STEEL, STEEL PIPE		
CIMJ	CAST IRON MECHANICAL JOINT	EXC	EXCAVATE	INSTM	INSTRUMENTATION	PP, P&P	PLAN AND PROFILE, POWER POLE	STLS	STEEL PIPE (SPECIAL)		
CIP	CAST IRON PIPE	EXH	EXHAUST	INSUL	INSULATE, INSULATION	PPM	PARTS PER MILLION	STR	STRAIGHT		
CIRJ	CAST IRON RESTRAINED JOINT	EXP	EXPOSED, EXPANSION	INV	INVERT	PRC	POINT OF REVERSE CURVE	STRL	STRUCTURAL		
CISP	CAST IRON SOIL PIPE	EXP JT	EXPANSION JOINT	IP	IRON PIPE	PRCST	PRECAST	STRUCT	STRUCTURE		
CJ	CONSTRUCTION JOINT, CONTRACTION	EXST	EXISTING	IR	IRON ROD	PREFAB	PREFABRICATED	SUBFL	SUBFLOOR		
	JOINT			IW	INJECTION WATER	PRESS	PRESSURE	SUSP	SUSPEND		
CKV	CHECK VALVE					PRI	PRIMARY	SW	SERVICE WATER, SOUTHWEST		

NO.	DATE	REVISION	BY	APVD



DRAWING NUMBER

DISCIPLINE

M-BC-101

DRAWING SERIES NUMBER

FACILITY DESIGNATION

DISCIPLINE

LETTER	DISCIPLINE
G	GENERAL
D	DEMOLITION
C	CIVIL
A	ARCHITECTURAL
S	STRUCTURAL
M	MECHANICAL
H	HEATING, VENTILATION AND COOLING
P	PLUMBING
E	ELECTRICAL
N	INSTRUMENTATION

FACILITY DESIGNATION

FACILITY	AREA
GENERAL	GN
CIVIL GRADING AND DRAINAGE	CD
YARD PIPING	YP
SITE ELECTRICAL	SE
EXISTING HEADWORKS	HW
EXISTING INFLUENT PUMP STATION	IP
EXISTING PRIMARY CLARIFIERS	EC
EXISTING PRIMARY SLUDGE PUMP STATION NO. 1	S1
EXISTING PRIMARY SLUDGE PUMP STATION NO. 2	S2
COARSE SCREENS & GRIT	CG
PRIMARY CLARIFIERS	PC
PRIMARY SLUDGE PUMP STATION	P1
EXISTING AERATION BASINS (AB)	EA
BIOREACTOR COMPLEX (INCLUDES THE FOLLOWING SUB-AREAS)	BC
FINE SCREEN PUMP STATION	FP
FINE SCREENS BUILDING	FS
BIOREACTORS	BR
MEMBRANE BUILDING	MB
EXISTING BLOWER BUILDING	EB
BLOWER BUILDING	BL
ODOR CONTROL BIOFILTER	OC
EQUALIZATION AND SURGE BASINS	EQ
EXISTING CHLORINE BUILDING	CB
EXISTING FILTER BUILDING	FB
EXISTING UV BUILDING	UV
PLANT LIFT STATION	LS
EXISTING PRIMARY DIGESTERS	1D
WASTE GAS BURNER	GS
EXISTING DAF THICKENER	DT
EXISTING SECONDARY DIGESTERS	2D
EXISTING SECONDARY SLUDGE PUMP STATION	P2
EXISTING DEWATERING BUILDING	DB
STRUVITE CONTROL	ST
POWER DISTRIBUTION BUILDING	PB
EXISTING POWER DISTRIBUTION BUILDING	PE
STANDBY GENERATORS	SG
NORTH LOAD CENTER BUILDING	L1
OPERATIONS BUILDING	OP
MAINTENANCE BUILDING	MN

DRAWING SERIES

NUMBER SERIES	DRAWING TYPE
000	GENERAL
100	PLANS
200	SECTIONS
300	DETAILS
400	ELEVATIONS/ISOMETRICS
500	SCHEMATICS
600	SCHEDULES AND P&IDs
700	DEMOLITION ELEVATIONS
800	POINT TABLES
900	NOT USED

NO.	DATE	REVISION	BY	APVD

PROCESS IDENTIFICATION

PROCESS	AREA
PLANT LIFT STATION	09
COARSE SCREENS AND COARSE SCREENINGS HANDLING	10
GRIT REMOVAL AND GRIT PUMPS	11
GRIT WASHER/CLASSIFIER	12
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FLOW STREAM ID LEGEND

ID	FLOWSTREAM	ID	FLOWSTREAM
AF	ANTI-FOAMING AGENT	MLR	MIXED LIQUOR RETURN
ALUM	ALUMINUM SULFATE	ML	MIXED LIQUOR
AS	AIR SCOUR	NG	NATURAL GAS
BD	BASIN DRAIN	NGH	HIGH PRESSURE NATURAL GAS
BP	MEMBRANE BACKPULSE	NGL	LOW PRESSURE NATURAL GAS
BYP	BYPASS	NPW	NON POTABLE WATER
CA	COMPRESSED AIR	OF	OVERFLOW
CEN	CENTRATE	PA	PROCESS AIR
CIPS	CLEAN IN PLACE SOLUTION	PD	PLANT DRAIN
CIT	CITRIC ACID	PE	PRIMARY EFFLUENT
CK	SLUDGE CAKE	PI	PRIMARY INFLUENT
CW	COLD WATER	PRM	PERMEATE
DAFI	DAF INFLUENT	POL	POLYMER
DAFR	DAF RECYCLE	PS	PRIMARY SLUDGE
DAFU	DAF UNDERFLOW	PW	POTABLE WATER
DEC	DECANT	RAS	RETURN ACTIVATED SLUDGE
DG	DIGESTER GAS	RF	RETURN FLOW
DR	DRAIN	SA	SAMPLE
DSL	DIGESTED SLUDGE	SC	SCUM
EQ	EQUALIZATION	SHC	SODIUM HYPOCHLORITE
EQR	EQUALIZATION BASIN RETURN	SCR	SCREENINGS
FA	FOUL AIR	SD	STORM DRAIN
FO	FOAM	SL	SAMPLE LINE
FE	FINAL EFFLUENT	SPD	SUMP DISCHARGE
GTO	GRAVITY THICKENER OVER FLOW	SPE	SCREENED PRIMARY EFFLUENT
GRT	GRIT	SPS	STRUVITE PRECIPITATED SLUDGE
HPA	HIGH PRESSURE AIR	SS	SANITARY SEWER
HW	HOT WATER	SW	SEAL WATER
INF	INFLUENT	TG	TAIL GAS
IPW	IMPURE WATER	TSL	THICKENED SLUDGE
IRR	IRRIGATION	V	DRAIN VENT
LUB	LUBRICATION	WAS	WASTE ACTIVATED SLUDGE
MGCL2	MAGNESIUM CHLORIDE		

SECTION

SECTION LETTER

ON DRAWING WHERE SECTION IS TAKEN:

DRAWING NUMBER WHERE SHOWN

DRAWING NUMBER (REPLACED WITH A LINE IF TAKEN AND SHOWN ON SAME SHEET)

SECTION

1" = X'

DRAWING NUMBER (REPLACED WITH A LINE IF TAKEN AND SHOWN ON SAME SHEET)

ON DRAWING WHERE SECTION IS SHOWN: DRAWING NUMBER(S) WHERE TAKEN

DETAIL

DETAIL NUMBER

ON DRAWING WHERE DETAIL IS TAKEN:

DRAWING NUMBER WHERE SHOWN

DRAWING NUMBER (REPLACED WITH A LINE IF TAKEN AND SHOWN ON SAME SHEET)

DETAIL

1" = 1'-0"

DRAWING NUMBER (REPLACED WITH A LINE IF TAKEN AND SHOWN ON SAME SHEET)

ON DRAWING WHERE DETAIL IS SHOWN: DRAWING NUMBER(S) WHERE TAKEN

STANDARD DETAIL

AS SHOWN ON DRAWING

12345

DETAIL NUMBER

AS SHOWN ON STANDARD DETAIL

12345

NOTES:

1. STANDARD DETAIL CALLOUTS ARE SHOWN TO INDICATE DETAIL REQUIRED AT SPECIFIC LOCATIONS. DETAILS ARE NOT CALLED OUT AT ALL LOCATIONS. WHERE A STANDARD DETAIL CALLOUT IS NOT SHOWN, THE CONTRACTOR SHALL USE THE STANDARD DETAIL MOST APPLICABLE AND CONSISTENT WITH OTHER WORK UNDER THIS CONTRACT.

UNIQUE VALVE AND OPERATOR

NEW PLANT DESIGNATION

PROCESS DESIGNATION

P08-BFV-XXX

UNIQUE NUMBER

VALVE TYPE

EQUIPMENT DESIGNATION

NEW PLANT DESIGNATION

PROCESS DESIGNATION

EQUIPMENT TYPE

P08-P-101

UNIQUE NUMBER

LINE TYPE APPEARANCE

—	BLACK	NEW 'ON' DISCIPLINE
—	LIGHT OR MEDIUM GRAY OR SCREENED	EXISTING 'ON' OR 'OFF' DISCIPLINE
—	DARK GRAY	NEW 'OFF' DISCIPLINE
—	FUTURE	FUTURE 'ON' DISCIPLINE

GENERAL SYMBOLOGY

STRUCTURE OR EQUIPMENT TO BE REMOVED OR DEMOLISHED

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.

0 1"

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

DESIGN

JEN

DRAWN

JAM

CHECKED

JEN

APPROVED

JHM

WATERWORKS

ENGINEERS

PROVO CITY

PUBLIC WORKS DEPT

PROVO WRF

PHASE 1, ELEC. UPGRADES

PACKAGE C - HW RE-FEED

GENERAL

STANDARD DESIGNATIONS

DATE

FEBRUARY 2025

PROJECT NUMBER

19-002

DRAWING NUMBER

G-GN-004

SHEET

OF

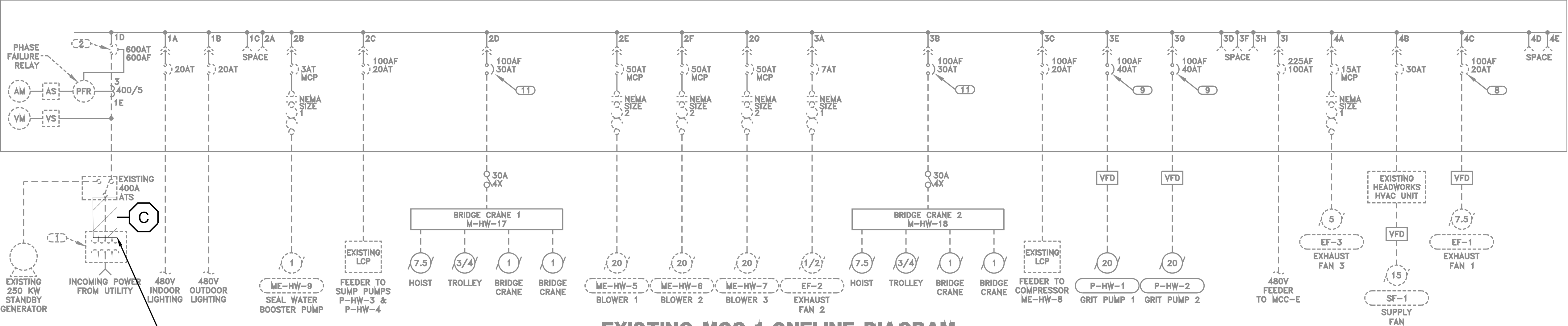
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FILENAME: W:\CAD\PROJECTS\19-002 PROVO WATRR PHASE 1_(S)\PROJECT FILES_PHASE 1 ELECTRICAL UPGRADES\07 DRAWINGS\PACKAGE C - HB RE-FEED\PC-1902D-GN-G004.DWG

PLOT DATE: February 26, 2025

PLOT TIME: 8:42 AM

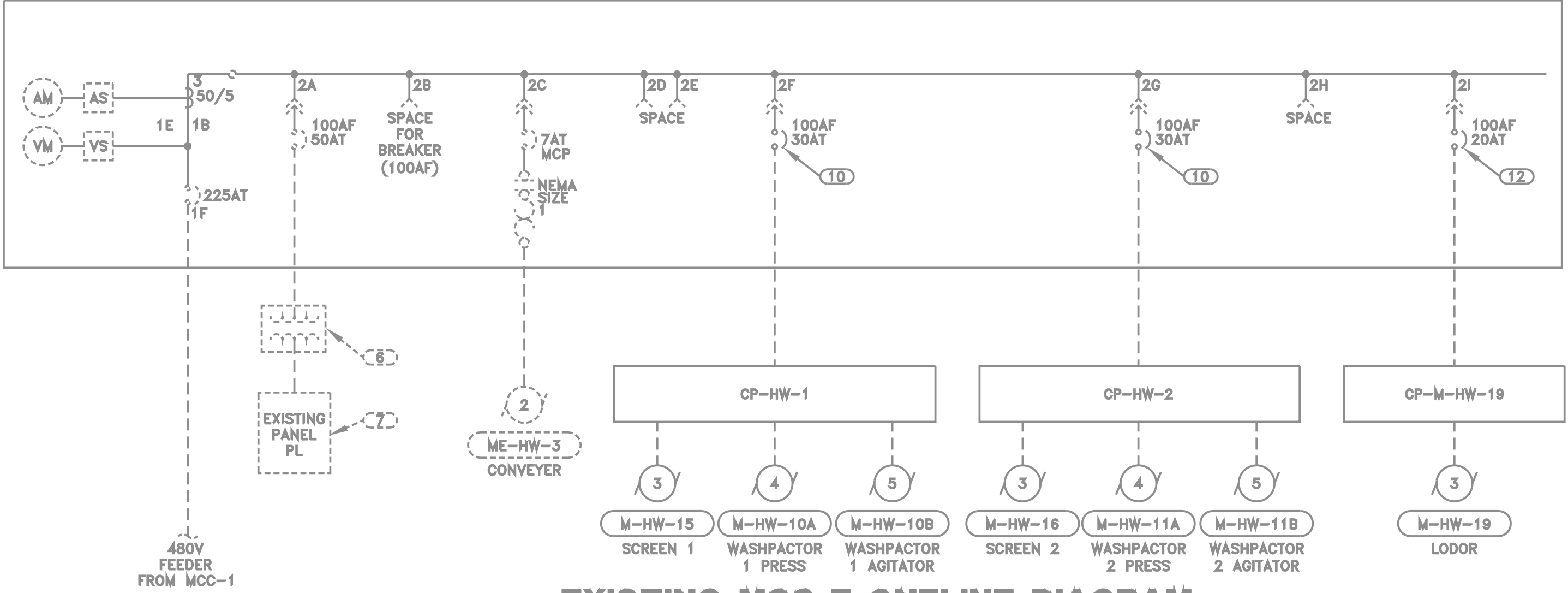
EXISTING MCC-1, 480VAC, 3Ø, 600A, 42KAIC



SCOPE OF WORK KEY NOTES:
C PACKAGE C - HW RE-FEED

EXISTING MCC-1 ONE LINE DIAGRAM

EXISTING MCC-E, 480VAC, 3Ø, 600A MAIN BUS, 42KAIC

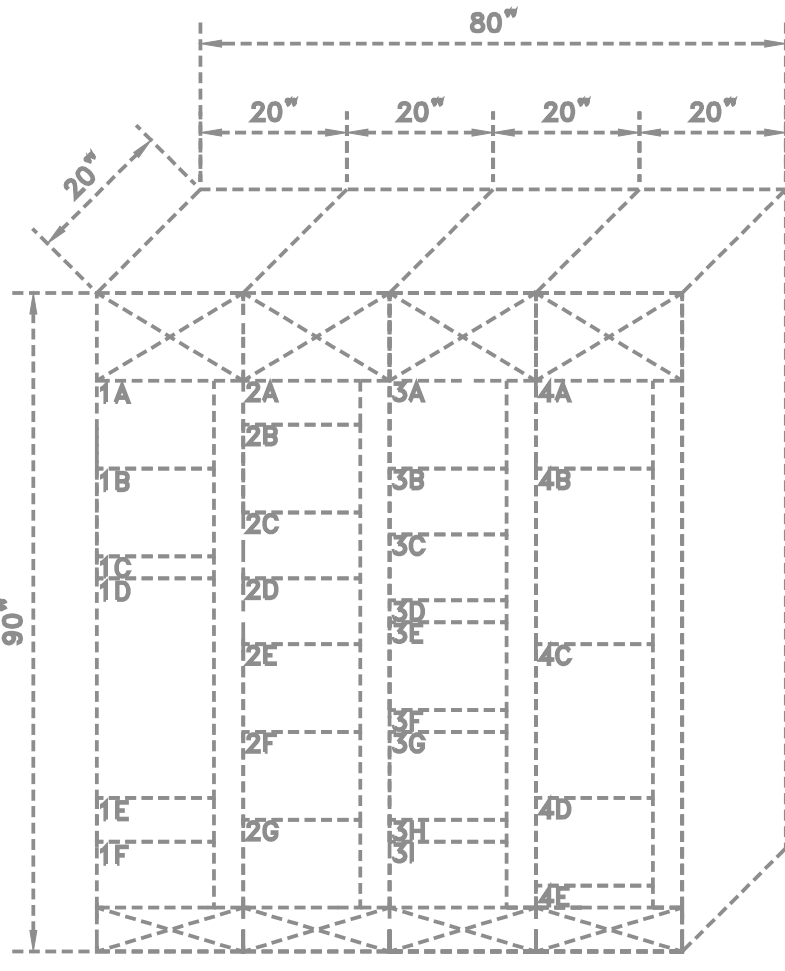


EXISTING MCC-E ONE LINE DIAGRAM

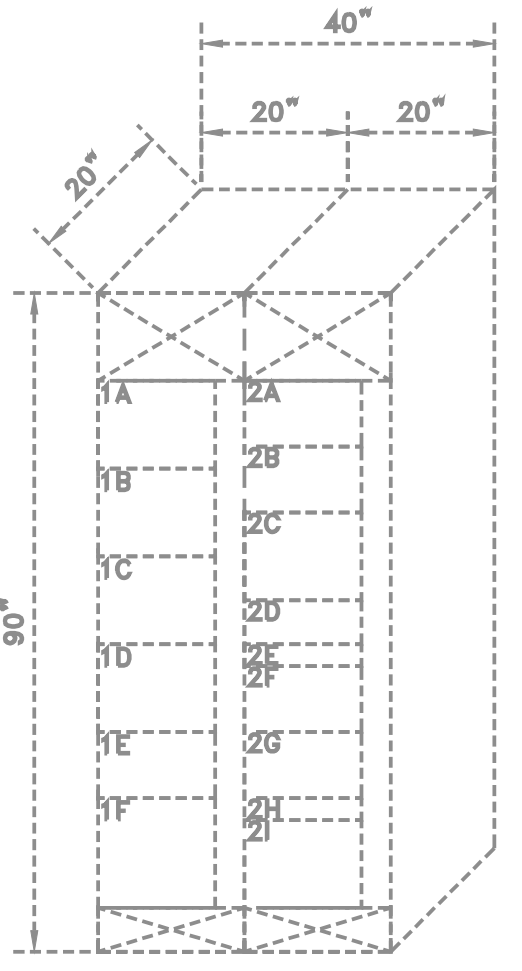
- NOTES:
- 1 EXISTING 225KVA TRANSFORMER, 12.47KV TO 277/480V, 3Ø, 600A, 4W.
 - 2 100% RATED BREAKER.
 - 3 EXISTING AUTOMATIC TRANSFER SWITCH.
 - 5 GROUNDING GRID
 - 6 30KVA TRANSFORMER, 480V PRIMARY, 120/208V SECONDARY, 3Ø.
 - 7 EXISTING PANEL PL, 120/208V, 3Ø, 4W, 50A.
 - 8 REMOVE EXISTING EXHAUST FAN 1 STARTER AND SALVAGE TO OWNER. REUSE EXISTING 15A BREAKER TO FEED NEW EXHAUST FAN 1 VFD.
 - 9 REMOVE EXISTING GRIT PUMP STARTER AND SALVAGE TO OWNER. INSTALL NEW TERMINAL BLOCKS IN GRIT PUMP MCC BUCKET TO FEED NEW VFD IN HEADWORKS ELECTRICAL ROOM (SEE LE-1). REPLACE EXISTING 30A BREAKER WITH NEW 40A BREAKER TO FEED NEW VFD.
 - 10 REPLACE EXISTING 20A BREAKER WITH NEW 30A BREAKER TO FEED NEW HEADWORKS PANEL.
 - 11 INSTALL NEW 30A BREAKER TO FEED NEW BRIDGE CRANE.
 - 12 INSTALL NEW 20A BREAKERS TO FEED NEW LODOR PANEL LCP-M-HW-19.

- DEMOLITION NOTES:
- DEMOLISH OBSOLETE EQUIPMENT AFTER THE NEW ELECTRICAL DISTRIBUTION SYSTEM HAS BEEN COMMISSIONED. EXISTING FACILITIES MUST REMAIN IN OPERATION THROUGHOUT CONSTRUCTION PER OWNER REQUIREMENTS. PROVIDE TEMPORARY EQUIPMENT AND POWER AS REQUIRED. COORDINATE WITH OWNER.
 - PROTECT EXISTING 250KW STANDBY GENERATOR, EXISTING 400A ATS AND EXISTING CONDUIT AND WIRE BETWEEN GENERATOR AND ATS IN PLACE.

INDICATES EQUIPMENT TO BE DEMOLISHED



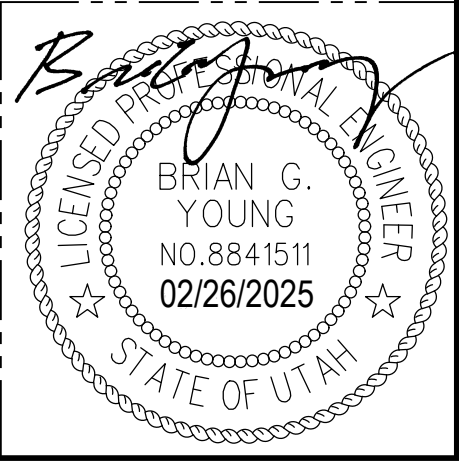
MCC-1 SECTION
SCALE: 1/2" = 1'



MCC-E SECTION
SCALE: 1/2" = 1'

1 EXISTING HW-MCC-001 ONE LINE DIAGRAM
SCALE: NONE

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.

DESIGN
TCA
DRAWN
TCA
CHECKED
BGY
APPROVED
JHM


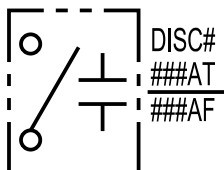

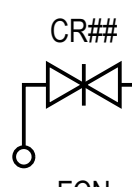

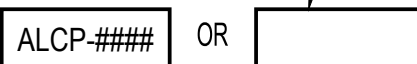
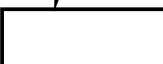

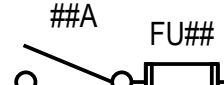



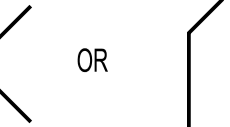
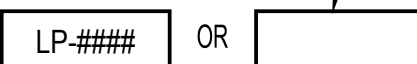
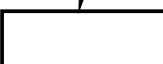
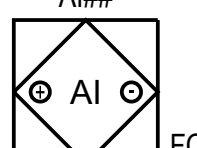
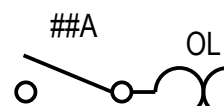
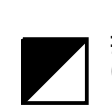
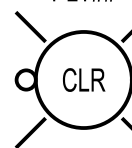


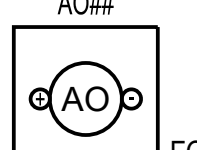

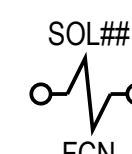

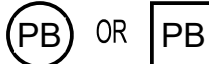

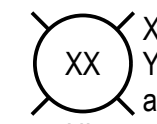


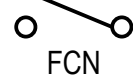

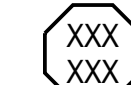




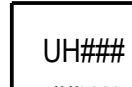


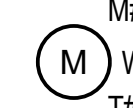
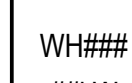
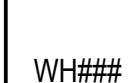



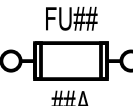
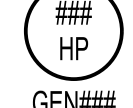



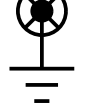
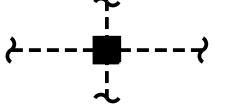
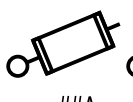





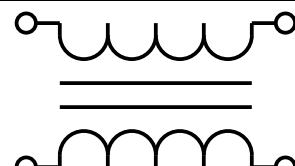
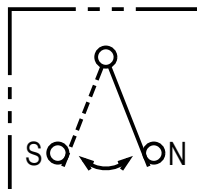




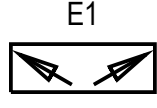
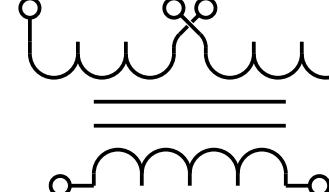



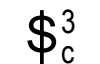
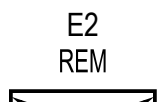
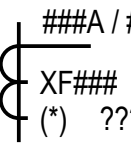
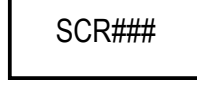

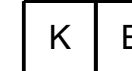


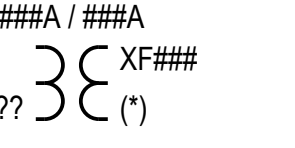
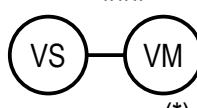


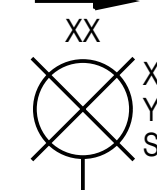

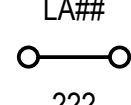

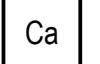

WATERWORKS
ENGINEERS

PROVO CITY
PUBLIC WORKS DEPT
PROVO WRF
PHASE 1 ELEC. UPGRADES
PACKAGE C - HW RE-FEED



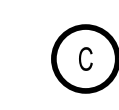
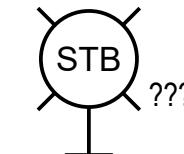



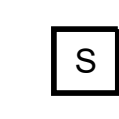
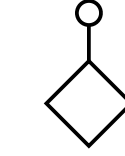

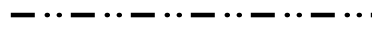




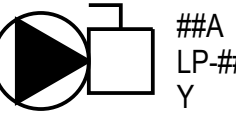



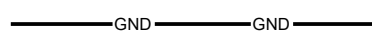



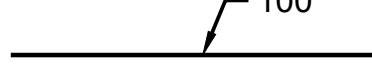



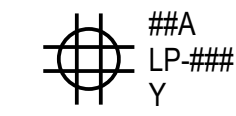

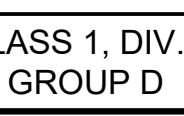
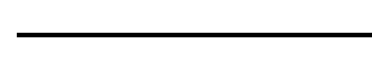


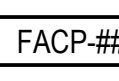
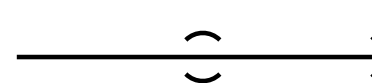


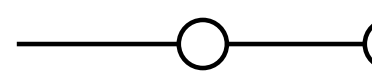


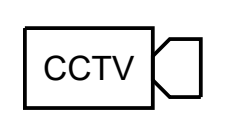
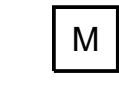


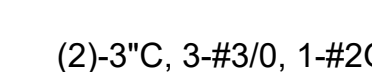

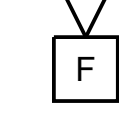


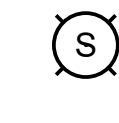
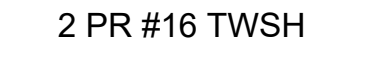

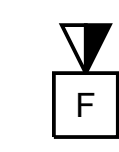

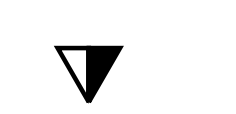
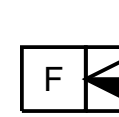


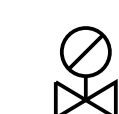

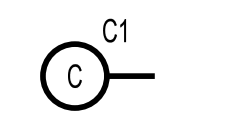

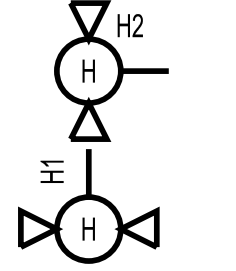
DEMOLITION
HEADWORKS
HW-MCC-001
ONE LINE DIAGRAM

DATE
FEBRUARY 2025
PROJECT NUMBER
19-002
DRAWING NUMBER
D-HW-001
SHEET
OF

SINGLE LINE & CONTROL DIAGRAM SYMBOLS																			
PUSH BUTTONS			SELECTOR SWITCHES			FLOW & LEVEL SWITCHES			TIMERS			MISCELLANEOUS DEVICES (CONT)		CONDUITS & CONDUCTORS (CONT)					
NORMALLY OPEN (NO)	NORMALLY CLOSED (NC)	DESCRIPTION:	NORMALLY OPEN (NO)	NORMALLY CLOSED (NC)	DESCRIPTION:	NORMALLY OPEN (NO)	NORMALLY CLOSED (NC)	DESCRIPTION:	NORMALLY OPEN (NO)	NORMALLY CLOSED (NC)	DESCRIPTION:	SINGLE LINE / CONTROL DIAGRAM	DESCRIPTION:	SINGLE LINE / CONTROL DIAGRAM	DESCRIPTION:				
		EMERGENCY STOP PUSH BUTTON WITH RED MUSHROOM HEAD OPERATOR (MAINTAINED CONTACT)			FOUR (4) POSITION, FOUR (4) POLE SELECTOR SWITCH			LIQUID LEVEL (FLOAT) NO: CLOSURES ON RISING LEVEL NC: OPENS ON RISING LEVEL			ON DELAY NOTC: NORMALLY OPEN TIMED CLOSING, WHEN ENERGIZED NCTO: NORMALLY CLOSED TIMED OPENING, WHEN ENERGIZED			FIXED RESISTOR		CHASSIS GROUND			
		PUSH BUTTON, MOMENTARY CONTACT, SPRING RETURN						FLOW SWITCH (AIR, WATER, ETC.) NO: CLOSURES ON INCREASED FLOW NC: OPENS ON INCREASED FLOW			OFF DELAY NOTO: NORMALLY OPEN, TIMED OPENING WHEN DEENERGIZED NCTC: NORMALLY CLOSED, TIMED CLOSING WHEN DEENERGIZED			VARIABLE RESISTOR		NEUTRAL			
		START/STOP PUSH BUTTON CONTROL STATION, MAINTAINED CONTACT WITH LOCKOUT DEVICE ON STOP				OTHER SWITCHES			TERMINALS & CONNECTORS							SEPARABLE CONNECTOR SIFICATION SHOWN.			
PILOT LIGHTS			RELAYS					AUXILIARY SWITCH CONTACT				DOT							
		PUSH TO TEST, 110V S6 LAMP UNLESS NOTED. LETTER IS LENS COLOR: R = RED G = GREEN A = AMBER Y = YELLOW B = BLUE W = WHITE C = CLEAR			RELAY CONTACT: NORMALLY OPEN (NO) NORMALLY CLOSED (NC)			TOGGLE SWITCH									SQUARE		ROUND
SELECTOR SWITCHES					CONTROL RELAY COIL NUMBER AS INDICATED			FOOT SWITCH									HEXAGON		DIAMOND
		TWO (2) POSITION SELECTOR SWITCH			LATCH RELAY COIL			PULL CORD									TRIANGLE		POWER DISTRIBUTION BOX
		TWO (2) POSITION, TWO (2) POLE SELECTOR SWITCH			UNLATCH RELAY COIL			A-PLUG									PLUG / JACK		JACK / PLUG
		TWO (2) POSITION, THREE (3) POLE SELECTOR SWITCH	LIMIT SWITCHES					PHOTO EYE		PLUG RIGHT OR UP		JACK LEFT OR DOWN			RECEPTACLES		RESISTOR OR RESISTIVE ELEMENT		
		THREE (3) POSITION SELECTOR SWITCH			POSITION (LIMIT) SWITCH NO: HELD CLOSED NC: HELD OPEN			SINGLE POLE DOUBLE THROW (SPDT) MAINTAIN		IN LEFT TOP		IN BOTH TOP			ENCLOSURE LIGHT		STRIP HEATER OR HEATING ELEMENT		
		THREE (3) POSITION, THREE (3) POLE SELECTOR SWITCH			TORQUE SWITCH NO: CLOSURES ON HIGH TORQUE NC: OPENS ON HIGH TORQUE			SINGLE POLE DOUBLE THROW (SPDT) RETURN FROM DOWN		OUT RIGHT TOP		OUT BOTH TOP	CONDUITS & CONDUCTORS						
		FOUR (4) POSITION SELECTOR SWITCH	PRESSURE & TEMPERATURE SWITCHES					SINGLE POLE DOUBLE THROW (SPDT) RETURN FROM UP	MISCELLANEOUS DEVICES										
					PRESSURE SWITCH NO: CLOSURES ON RISING PRESSURE NC: OPENS ON RISING PRESSURE			SINGLE POLE DOUBLE THROW (SPDT) RETURN FROM BOTH		BELL		BUZZER							
					VACUUM SWITCH NO: CLOSURES ON RISING PRESSURE NC: OPENS ON RISING PRESSURE	TIMERS				HORN		VOLT METER							
					DIFFERENTIAL PRESSURE SWITCH NO: CLOSURES ON RISING DIFFERENTIAL PRESSURE NC: OPENS ON RISING DIFFERENTIAL PRESSURE			ON DELAY COIL		AMP METER							BATTERY		
					TEMPERATURE SWITCH NO: CLOSURES ON RISING TEMPERATURE NC: OPENS ON RISING TEMPERATURE			ON DELAY MOTOR			BATTERY								
								OFF DELAY MOTOR											
									</										

SINGLE LINE, CONTROL DIAGRAM & PLAN SYMBOLS												
DISCRETE I/O		POWER EQUIPMENT & DEVICES			POWER EQUIPMENT & DEVICES (CONT)			POWER EQUIPMENT & DEVICES (CONT)			LIGHTING FIXTURES & EQUIPMENT (CONT)	
SINGLE LINE / CONTROL DIAGRAM	DESCRIPTION:	SINGLE LINE OR CONTROL DIAGRAM	PLAN VIEW	DESCRIPTION:	SINGLE LINE OR CONTROL DIAGRAM	PLAN VIEW	DESCRIPTION:	SINGLE LINE OR CONTROL DIAGRAM	PLAN VIEW	DESCRIPTION:	PLAN VIEW	DESCRIPTION:
 DI## FCN	DISCRETE INPUT	 DISC# ###AT ###AF	 DISC#	NON-FUSIBLE DISCONNECT SWITCH, 600 VOLT, 3 POLE, (##A) AMPERE RATING	 CR## FCN	N/A	NON-FUSIBLE DISCONNECT SWITCH, 600 VOLT, 3 POLE, (##A) AMPERE RATING	N/A	 ESA	EMERGENCY SHOWER ALARM STATION	 ALCP-#### OR  ALCP-###	AREA LIGHTING CONTACTOR PANEL ### = PANEL NAME
 DO## FCN	DISCRETE OUTPUT	 ##A ###P ###P	 F DISC###	FUSIBLE DISCONNECT SWITCH, 600 VOLT, 3 POLE, AMPERE RATING AND FUSE SIZE AS NOTED (##A) AMPERE RATING (FU#) FUSE RATING	 TVSS	 TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR (POWER DISTRIBUTION TYPE)	 OR	N/A	JUMPER	 LP-#### OR  LP-###	LIGHTING PANEL BOARD NO. # (240/120V OR 208/120V) ### = PANEL NAME
ANALOG I/O												
 AI## FCN	ANALOG INPUT	 ##A ###P ###P	 MTR###	MANUAL MOTOR STARTER WITH THERMAL OVERLOAD PROTECTION "CLR" INDICATES WITH PILOT LIGHT "P" INDICATES NUMBER OF POLES	 PLT## CLR FNC	N/A	PUSH TO TEST, 110V S6 LAMP UNLESS NOTED, LETTER IS LENS COLOR: R = RED G = GREEN C = CLEAR A = AMBER Y = YELLOW B = BLUE W = WHITE	 MS	N/A	MOTOR SWITCH	 J	N/A
 AO## FCN	ANALOG OUTPUT	 ##P ###P	N/A	DRAWOUT TYPE EQUIPMENT OR DEVICE	 SOL## FCN	 SOV	SOLENOID OPERATED VALVE	N/A	 (PB) OR  PB	PULL BOX	 XX NL	TYPICAL LUMINARIES SEE SCHEDULE FOR SPECIFICS "XX"-FIXTURE TYPE X= PANEL BOARD NAME "b"-CONTROLLED BY SWITCH "b" Y= CIRCUIT NUMBER NL= NIGHT LIGHT (UN-SWITCHED)
FUSES & CIRCUIT BREAKERS												
 ##A ###P ###P	THermal MAGNETIC CIRCUIT BREAKER TRIP RATING ABOVE; FRAME RATING BELOW. TYPICAL FOR OTHER TYPES OF BREAKERS. BREAKER TO BE 3 POLE UNLESS NOTED OTHERWISE AS 1P OR 2P	 ###AT ###AF ###P ###P	N/A	DRAWOUT MEDIUM VOLTAGE POWER BREAKER UPPER NUMBER INDICATES LONG TIME TRIP SETTING LOWER NUMBER INDICATES BREAKER CONTINUOUS CURRENT RATING	 TGS### FCN	N/A	MEDIUM VOLTAGE AIR INTERRUPTER SWITCH	 ETM	N/A	ELAPSED TIME METER	 XXX XXX	FIELD MOUNTED INSTRUMENT: XXX= DESIGNATION TO BE OBTAINED FROM INSTRUMENTATION DRAWINGS
 ##A ###P ###P	COMBINATION MOTOR STARTER WITH MOTOR CIRCUIT PROTECTOR, MAGNETIC CONTACTOR AND OVERLOAD PROTECTION X= AMPERE SIZE Z= NEMA SIZE	 Z	 Z	MOTOR STARTER WITH MAGNETIC CONTACTOR AND OVERLOAD PROTECTION Z= NEMA SIZE	 #AT	N/A	MEDIUM VOLTAGE FUSED FAULT INTERRUPTER #AT = AUTOTRANSFORMER TYPE	 UH### ##kW	N/A	UNIT HEATER	 GROUND ROD	FLUORESCENT TYPE LUMINARIES. SEE SCHEDULE FOR SPECIFICS. (NOTATIONS SAME AS ABOVE)
 Z	MOTOR STARTER WITH MAGNETIC CONTACTOR AND OVERLOAD PROTECTION Z= NEMA SIZE	 M## WM T##	N/A	METER (M##) WM - WATT METER WHM - WATT HOUR METER WHDM - WATT HOUR DEMAND METER WHDR - WATT HOUR DEMAND RECORDER PF - POWER FACTOR METER TRANSDUCER (T##) AX - CURRENT TRANSDUCER WX - WATT TRANSDUCER	 WH### ##kW	 WH###	WATER HEATER	 DM- #### ##kW	 DM- ####	DAMPER MOTOR	 GROUND ROD IN GROUNDING WELL	FLUORESCENT TYPE LUMINARIES. SEE SCHEDULE FOR SPECIFICS. (NOTATIONS SAME AS ABOVE)
 FU## ##A	FUSE	 ##HP GEN###	 G	GENERATOR WITH GENERATION NUMBER, RATINGS AND CONNECTIONS AS NOTED IN CALL OUT ON DRAWING	 MOV ####	 MOV	MOTOR OPERATED VALVE "XXXX" DENOTES LOOP NUMBER TO BE OBTAINED FROM INSTRUMENTATION DRAWINGS	 GROUND ROD IN TEST WELL			 GROUND GRID CABLE CONNECTION, WELDED	INDICATES ALL LUMINARIES WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL BE TYPE "A" UNLESS OTHERWISE NOTED. SEE LIGHTING FIXTURE SCHEDULE FOR TYPES
 FU## ##A	FUSED SWITCH	 ##HP MTR### FCN	 MTR	MOTOR, NUMERAL INDICATES HORSEPOWER	N/A	 CONTROL STATION	CONTROL STATION	 \$ _a		SINGLE POLE SWITCH "a" INDICATES SWITCH LEG SHALL CONTROL LUMINARIES WITH "a" DESIGNATION	 CLR	ALARMS BEACON. COLOR AS NOTED. REFER TO SPECIFICATIONS FOR REQUIREMENTS.
TRANSFORMERS												
 XFMR### ##kVA ###A / ###A ##Ø	TRANSFORMER, RATINGS AND CONNECTIONS AS NOTED. UNLESS OTHERWISE NOTED ON THE ONE LINE DIAGRAMS ALL DRY TYPE TRANSFORMERS SERVICING ADMINISTRATIVE AND LABORATORY SPACES SHALL HAVE A K FACTOR OF 13. ALL OTHER DRY TYPE TRANSFORMERS SHALL HAVE A K-4 RATING. ISOLATION TRANSFORMERS SHALL HAVE A K-20 RATING	 S ON OFF	 ATS## ###P	AUTOMATIC TRANSFER SWITCH (ATS) "N" INDICATES NORMAL SOURCE "S" INDICATES STANDBY SOURCE #RATE = INDICATES CONTINUOUS CURRENT RATING # = INDICATES ATS NAME	 ITP ITP### FCN	 ITP	INTERMEDIATE TERMINAL PANEL	 \$ _b		DOUBLE POLE SWITCH "b" INDICATES SWITCH LEG SHALL CONTROL LUMINARIES WITH "b" DESIGNATION	 E1 X Y	EMERGENCY LUMINARIES WITH BATTERY PACK "E1" FIXTURE TYPE. REFER TO SCHEDULE FOR SPECIFICS. X= PANEL BOARD NAME Y= CIRCUIT NUMBER
 XFMR### ##kVA ###A / ###A ##Ø	DUAL TRANSFORMER	 VFD###	 VFD-###	AC MOTOR SPEED CONTROLLER (VARIABLE FREQUENCY DRIVE)	 K	N/A	KEY INTERLOCK	 \$ _c		THREE WAY SWITCH "c" INDICATES SWITCH LEG SHALL CONTROL LUMINARIES WITH "c" DESIGNATION	 E2 REM X Y	REMOTE EMERGENCY LUMINARIES "E2"-FIXTURE TYPE. REFER TO SCHEDULE FOR SPECIFICS
 ##A / ##A XF### (*) ???	CURRENT TRANSFORMER *QUANTITY XXXX = PRIMARY AMPERE RATING	 SCR###	 SCR-###	DC MOTOR SPEED CONTROLLER (SILICON CONTROLLED RECTIFIER)	 K E	N/A	ELECTRONIC KEY INTERLOCK	 \$ _d		FOUR WAY SWITCH "d" INDICATES SWITCH LEG SHALL CONTROL LUMINARIES "d" DESIGNATION	 XX X Y SP	CEILING MOUNTED EXIT SIGN "X1" LUMINAIRE TYPE. REFER TO SCHEDULE FOR SPECIFICS LP-##= PANEL BOARD NAME Y= CIRCUIT NUMBER SP= SELF POWERED
 ##A / ##A XF### (*)	POTENTIAL TRANSFORMER (PT) OR CONTROL POWER TRANSFORMER (CPT) * QUANTITY XXXX = PRIMARY VOLTAGE RATING	 VS VM (*)	N/A	VOLTMETER WITH SWITCH, 3 PHASE (*) = SCALE	 T	N/A	THERMOSTAT	 \$ _M		SINGLE POLE, DOUBLE THROW MOMENTARY CONTACT SWITCH, CENTER OFF	 XX X Y SP	WALL OUTLET EXIT SIGN. ARROW INDICATES DIRECTION OF EXCESS "X2" LUMINAIRE TYPE. REFER TO SCHEDULE FOR SPECIFICS. LP-## = PANEL BOARD NAME Y= CIRCUIT NUMBER SP= SELF POWERED
 N/A	INDUCTOR	 LA## ###P	N/A	LIGHTNING ARRESTOR	 PC	N/A	PHOTOCELL	 Ca		LIGHTING CONTACTOR WITH NUMBER OF POLES AS INDICATED a=CONTACTOR NUMBER (C1, C2, ETC.)	 TM	TIME SWITCH

PLAN VIEW SYMBOLS

CONDUIT		POWER RECEPTACLES		TELECOMMUNICATION SYSTEM (CONT)		FIRE ALARM / LIFE SAFETY (CONT)		AREA CLASSIFICATION	
PLAN VIEW	DESCRIPTION:	PLAN VIEW	DESCRIPTION:	PLAN VIEW	DESCRIPTION:	PLAN VIEW	DESCRIPTION:	PLAN VIEW	DESCRIPTION:
	EXPOSED CONDUIT		208V, 3P, 4W, RECEPTACLE ##A = AMPERE RATING AS NOTED LP-##= PANEL BOARD NUMBER Y= CIRCUIT NUMBER		PAGING SPEAKER, FLUSH MOUNTED CEILING TYPE		WEATHERPROOF HIGH DENSITY FIRE ALARM STROBE LIGHT		INDICATES THAT ALL ELECTRICAL EQUIPMENT AND MATERIALS INSTALLED WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL BE OF NEMA 12 CONSTRUCTION (OR GASKETED AND SUITABLE FOR USE IN A WET LOCATION WHERE NEMA STANDARDS DO NOT APPLY) UNLESS OTHERWISE NOTED.
	HIDDEN / CONCEALED CONDUIT		240V, 20, 3W, RECEPTACLE ##A = AMPERE RATING AS NOTED LP-##= PANEL BOARD NUMBER Y= CIRCUIT NUMBER		PAGING STATION, SURFACE MOUNTED		SPRINKLER FLOW ALARM SWITCH		INDICATES THAT ALL ELECTRICAL EQUIPMENT AND MATERIALS INSTALLED WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL BE OF NEMA 4X CONSTRUCTION (OR GASKETED AND SUITABLE FOR USE IN A WET LOCATION WHERE NEMA STANDARDS DO NOT APPLY) UNLESS OTHERWISE NOTED.
	UNDERGROUND CONDUIT		FLOOR OUTLET BOX WITH TYPE OUTLET INDICATED		REMOTE WALL MOUNTED VOLUME CONTROL. FOR CEILING SPEAKER (MOUNT UP 5'-0" AFF UNO)		ADDRESSABLE CONTROL MODULE		
	DUCT BANK		480V, 3P, 4W RECEPTACLE AND DISCONNECT SWITCH ##A = AMPERE RATING AS NOTED X = PANEL BOARD NUMBER Y = CIRCUIT NUMBER		PAGING SPEAKER AMPLIFIER ASSEMBLY		ADDRESSABLE MONITOR MODULE		
	OVERHEAD POWER LINES			FIRE ALARM / LIFE SAFETY					
	GROUNDING CONDUCTOR				FIRE ALARM HEAT DETECTOR 135Y FIXED TEMPERATURE UNLESS OTHER- WISE NOTED. "200" DENOTES 200YF TYPE "R" DENOTES FIXED TEMPERATURE RATE-OF-RISE TYPE.		SMOKE DETECTOR		INDICATES THAT ALL ELECTRICAL EQUIPMENT AND MATERIALS INSTALLED WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL BE OF NEMA 4X CONSTRUCTION (OR GASKETED AND SUITABLE FOR USE IN A WET LOCATION WHERE NEMA STANDARDS DO NOT APPLY) UNLESS OTHERWISE NOTED.
	CONDUITS IDENTIFIED BY A NUMBER SHALL BE LISTED IN THE CONDUIT BLOCK DIAGRAM		DUPLIX RECEPTACLE, 20A, 120V, 2P, 3W UNLESS OTHERWISE NOTED * =C - MOUNTED ABOVE COUNTERTOP GF - GROUND FAULT INTERRUPTER TYPE WP - WEATHERPROOF T - TRANSIENT VOLTAGE SURGE SUPPRESSER X= PANEL BOARD NUMBER Y= CIRCUIT NUMBER		FIRE ALARM DUCT SMOKE DETECTOR PHOTOCELL TYPE UNLESS OTHERWISE NOTED. "I" DENOTES IONIZATION TYPE.				
	CONDUITS IDENTIFIED BY LETTERS SHALL CONFORM TO THE TABLES IN THE LEGEND		QUAD RECEPTACLE, 20A, 120V, 2P, 3W UNLESS OTHERWISE NOTED NOTATION SAME AS ABOVE		FIRE ALARM DUCT SMOKE DETECTOR				INDICATES THAT ALL ELECTRICAL EQUIPMENT AND MATERIALS INSTALLED WITHIN THE ROOM OR AREA IN WHICH THIS NOTATION APPEARS SHALL CONFORM TO N.E.C. REQUIREMENTS FOR THE HAZARDOUS AREA CLASSIFICATION SHOWN.
	CONDUIT STUBBED OUT AND CAPPED	SECURITY SYSTEM							
	FLEXIBLE CONDUIT OR MANUFACTURER'S CABLE(S)		SECURITY SYSTEM KEY PAD		FIRE ALARM CONTROL PANEL				
	CONDUIT TURNED DOWN		SECURITY SYSTEM CARD ACCESS READER		FIRE ALARM VENTILATION PANEL (WITH GRAPHIC PANEL)				
	CONDUIT TURNED UP		SECURITY ALARM MOTION DETECTOR		FIRE ALARM REMOTE ANNUNCIATOR				
	INDICATES LIMITS OF EQUIPMENT OR WIRING ENCLOSURE		CLOSED CIRCUIT TV CAMERA		FIRE ALARM MANUAL PULL STATION, MOUNT UP 4'-0" WP DENOTES WEATHERPROOF COVER				
	CONDUIT HOME RUN, XXX DENOTES DESTINATION CONTRACTOR SHALL FIELD ROUTE FROM EQUIPMENT TO DESIGNATED LOCATION	TELECOMMUNICATION SYSTEM			OUTDOOR WEATHERPROOF FIRE ALARM MASTER BOX				
	DENOTES A QUANTITY OF TWO (2) 3-INCH CONDUITS EACH CONTAINING THREE NO. 3/0 AWG CONDUCTORS AND 1 NO. 2 AWG GROUND CONDUCTOR		TELEPHONE TERMINAL BOARD 4FT X 8FT X 3/4 INCH UNLESS NOTED OTHERWISE		WP FIRE ALARM SPEAKER, MOUNT UP 7'-8"				
	DENOTES A QUANTITY OF TWO INSTRUMENT CABLES. EACH CABLE TO CONSIST OF TWO NO. 16 AWG CONDUCTORS TWISTED TOGETHER AND COVERED WITH A METALLIC SHIELD AND AN OVERALL PROTECTIVE JACKET. REFER TO THE SPECIFICATIONS FOR THE EXACT CABLE TO BE PROVIDED.		TELEPHONE OUTLET, WALL TYPE (MOUNT 1'-6" AFF UNO)		FIRE ALARM STROBE, WALL MOUNT UP 6'-8" OR AT CEILING				
	2 PR #16 TWSH		TELEPHONE OUTLET AND FLOOR BOX		FIRE ALARM HORN AND STROBE LIGHT COMBINATION, MOUNT UP 6'-8"				
	2 TR #16 TWSH		TELEPHONE/DATA OUTLET, WALL TYPE (MOUNT 1'-6" AFF UNO)		FIRE ALARM HORN AND STROBE LIGHT COMBINATION, CEILING MOUNT				
	2 PR #16 TW		TELEPHONE/DATA OUTLET AND FLOOR BOX		SPRINKLER VALVE SUPERVISORY SWITCH				
	THREE 4-INCH CONDUITS		PAGING SPEAKER, WALL MOUNTED "H1" AND "C1" DENOTES TYPE. H=HORN=CONE		FIRE ALARM BELL				
			PAGING SPEAKER, WALL MOUNTED, BIDIRECTIONAL NOTATIONS SAME AS ABOVE						


	ELECTRICAL	PROVO CITY PUBLIC WORKS DEPT PROVO WRF PHASE 1, ELEC. UPGRADES PACKAGE C - HW RE-FEED	 <p>WATERWORKS ENGINEERS</p> <div style="display: flex; justify-content: space-between;"> <div>DESIGN TOCA</div> <div>DRAWN TOCA</div> <div>CHECKED BGY</div> <div>APPROVED JHM</div> </div> <div style="font-size: small; margin-top: 5px;"> BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY. </div>
	LEGEND 3		
	DATE FEBRUARY 2025		
	PROJECT NUMBER 19-002		
	DRAWING NUMBER E-GN-003		
SHEET	OF		

SCOPE OF WORK KEY NOTES:

 PACKAGE C - HW RE-FEED

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.

0  1"

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

DESIGN TCA	
DRAWN TCA	
CHECKED BGY	
APPROVED JHM	



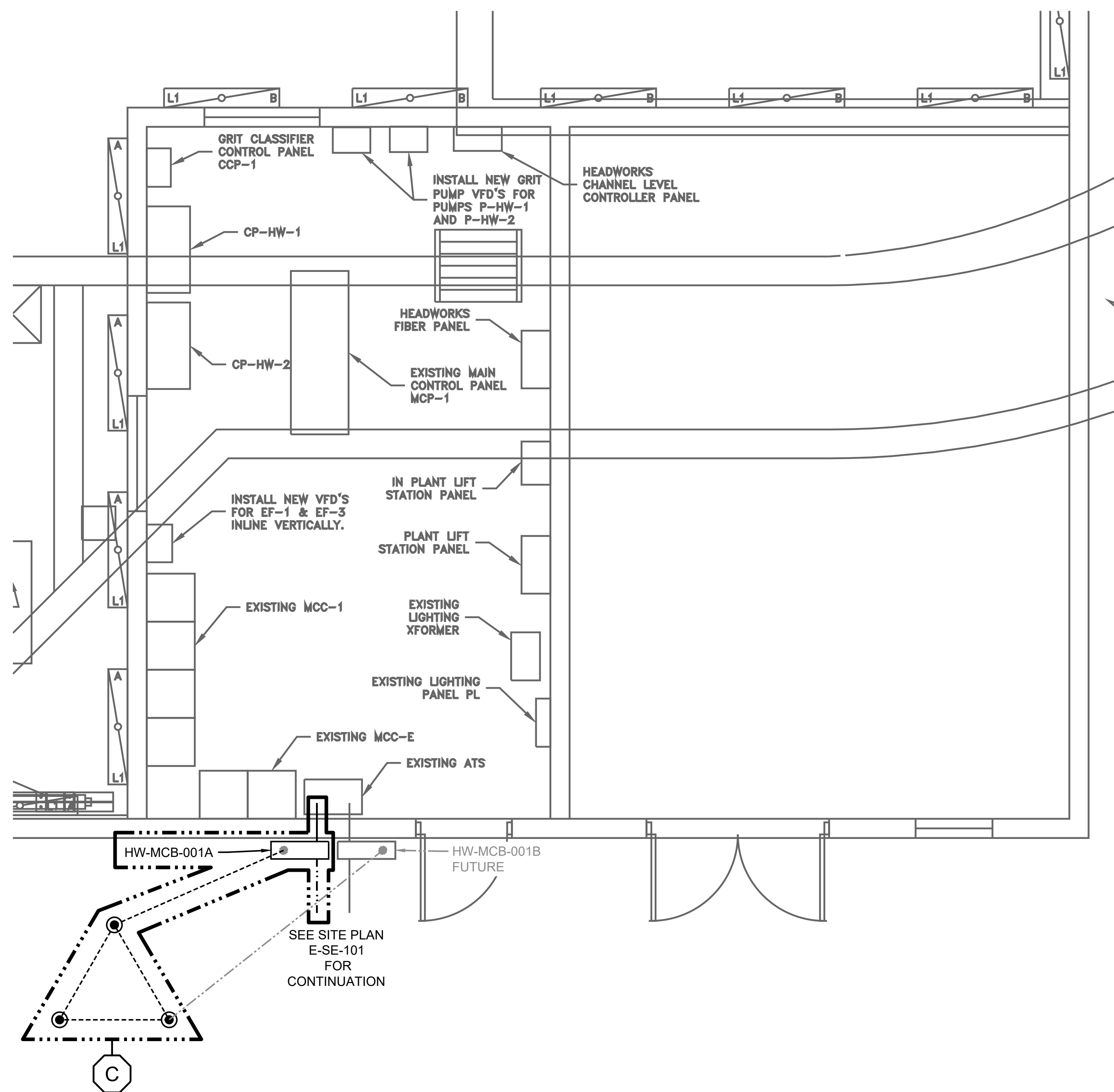
WATERWORKS
ENGINEERS



PROVO CITY
PUBLIC WORKS DEPT
PROVO WRF
PHASE 1, ELEC. UPGRADES
PACKAGE C - HW RE-FEED

ELECTRICAL	HEADWORKS BUILDING ELECTRICAL POWER PLAN
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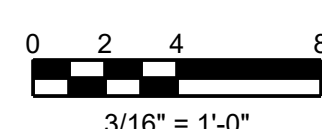
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PROJECT NUMBER	19-002
DRAWING NUMBER	E-HW-101
SHEET	OF

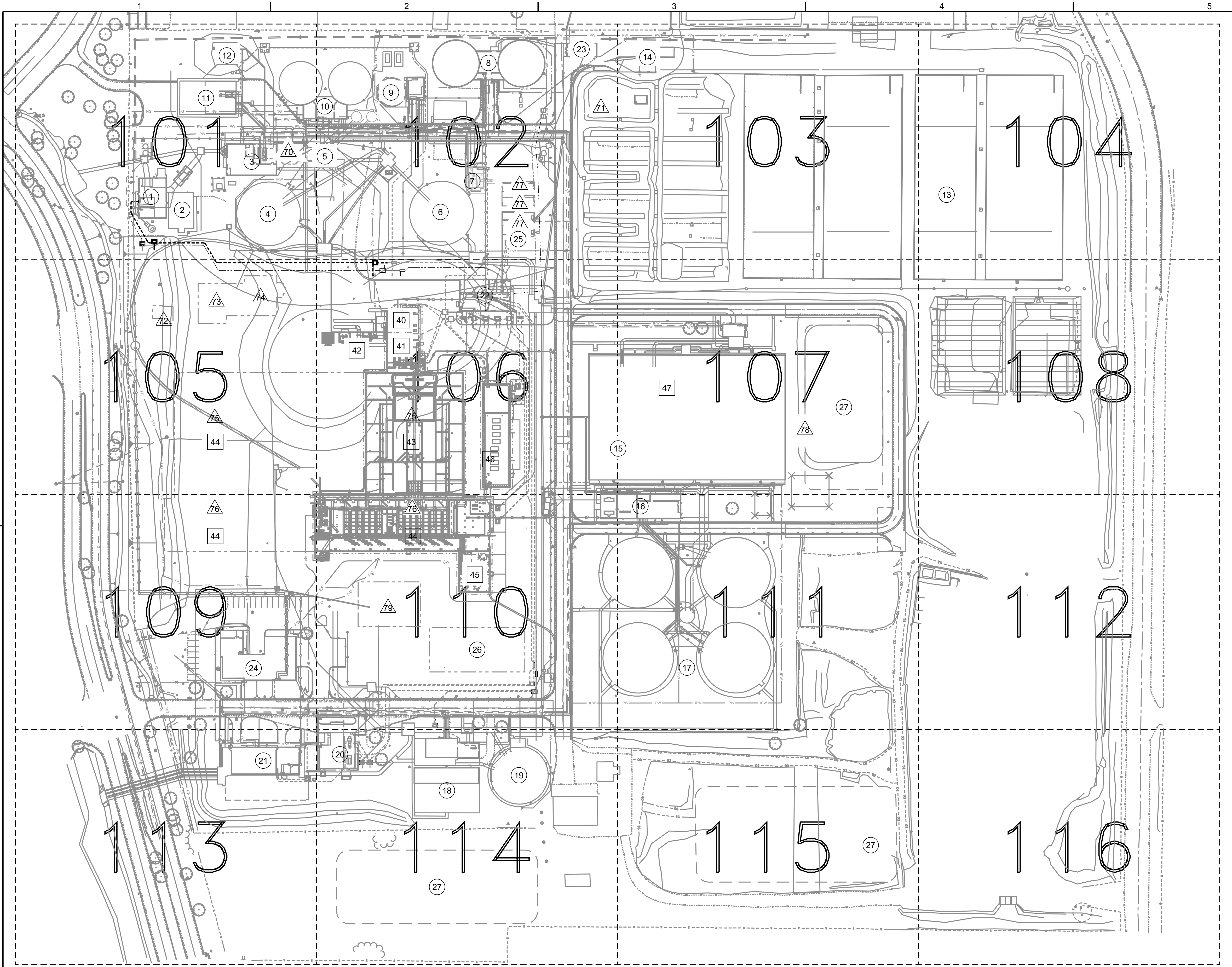


HEADWORKS BUILDING

ELECTRICAL POWER PLAN

SCALE: 3/16" = 1'-0"

[illegible]



EXISTING STRUCTURES

1. COARSE SCREENS
2. GRIT BASINS
3. INFLUENT PUMP STATION
4. PRIMARY CLARIFIER NO. 1
5. PRIMARY P.S NO. 1
6. PRIMARY CLARIFIER NO. 2
7. PRIMARY P.S NO. 2
8. PRIMARY DIGESTERS
9. DAF
10. SECONDARY DIGESTERS
11. DEWATERING BUILDING
12. CENTRATE EQUALIZATION BASIN
13. DRYING BEDS
14. FERRIC DOSING FACILITY
15. AERATION BASINS
16. BLOWER BUILDING
17. FINAL CLARIFIERS
18. FILTER BUILDING
19. BACKWASH TANK
20. CHLORINE BUILDING
21. UV BUILDING
22. POWER DISTRIBUTION BUILDING
23. PLANT POWER BUILDING
24. OPERATIONS BUILDING
25. STANDBY GENERATORS
26. CONTRACTOR AND ENGINEERING OFFICE TRAILER
27. STAGING AREA

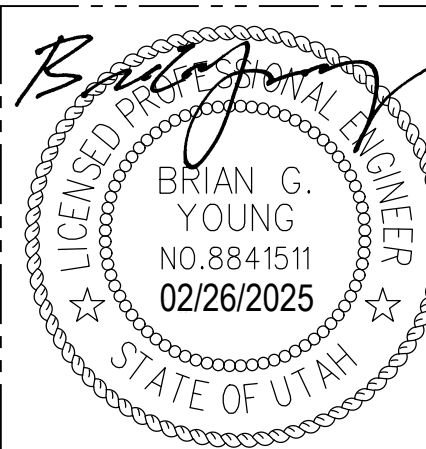
PACKAGE 2 STRUCTURES

40. FINE SCREEN PUMP STATION
41. FINE SCREEN BUILDING
42. ODOR CONTROL
43. BIOREACTORS
44. MEMBRANE BUILDING
45. CHEMICAL STORAGE
46. BLOWER BUILDING
47. EQUALIZATION AND SURGE

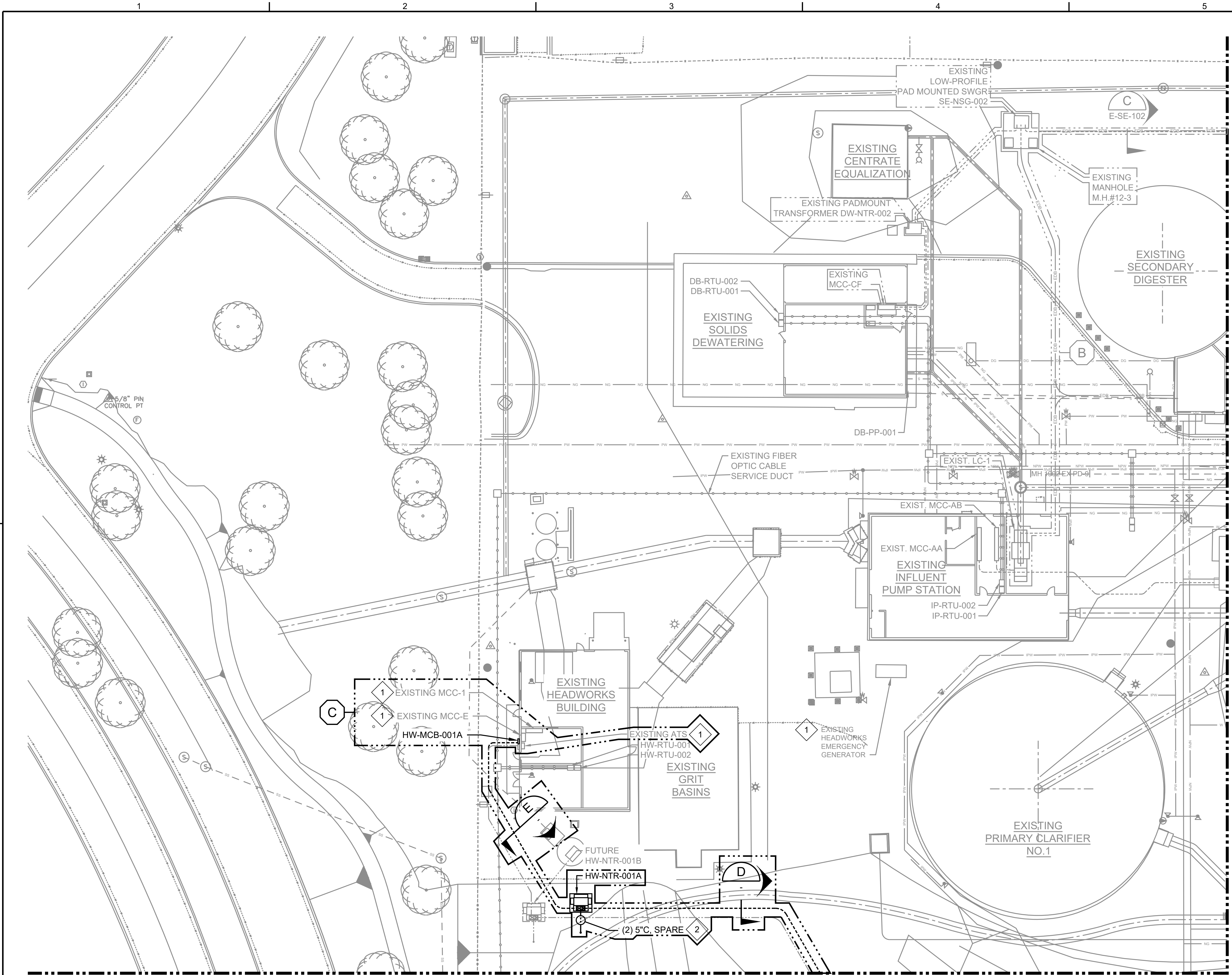
FUTURE STRUCTURES

70. NORTH LOAD CENTER
71. WASTE GAS BURNER
72. PLANT LIFT STATION
73. COARSE SCREENS
74. GRIT BASINS
75. BIOREACTORS
76. MEMBRANE BUILDING
77. STANDBY GENERATORS
78. SURGE BASINS
79. OPERATIONS BUILDING
- XX. SURGE BASINS

NO.	DATE	REVISION	BY	APVD



DESIGN TCA	DRAWN TCA	CHECKED BGY	APPROVED JHM	VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1' IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.
WATERWORKS ENGINEERS				
provo WELCOME HOME				
PROVO CITY PUBLIC WORKS DEPT PROVO WRF PHASE 1, ELEC. UPGRADES PACKAGE C - HW RE-FEED				
ELECTRICAL SITE ELECTRICAL KEY KEY PLAN				
DATE FEBRUARY 2025				
PROJECT NUMBER 19-002				
DRAWING NUMBER E-SE-100				
SHEET OF				



SCOPE OF WORK KEY NOTES:

- B** PACKAGE B - IP LC-1 AND DB RE-FEEDS
- C** PACKAGE C - HW RE-FEED

KEY NOTES:

- 1** EXISTING EQUIPMENT TO REMAIN. PROTECT IN PLACE.
- 2** PROVIDE LOCATION MARKER.

SECTION D
SCALE: N.T.S.

SECTION E
SCALE: N.T.S.

THIS SHEET	102	103	104
105	106	107	108
109	110	111	112
113	114	115	116

KEY MAP
1"=500'

SCALE 1"=20'

**PROVO CITY PUBLIC WORKS DEPT
PROVO WRF
PHASE 1, ELEC. UPGRADES
PACKAGE C - HW RE-FEED**

**ELECTRICAL
SITE ELECTRICAL
AREA 101
PLAN**

**DATE
FEBRUARY 2025
PROJECT NUMBER
19-002
DRAWING NUMBER
E-SE-101
SHEET OF**

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

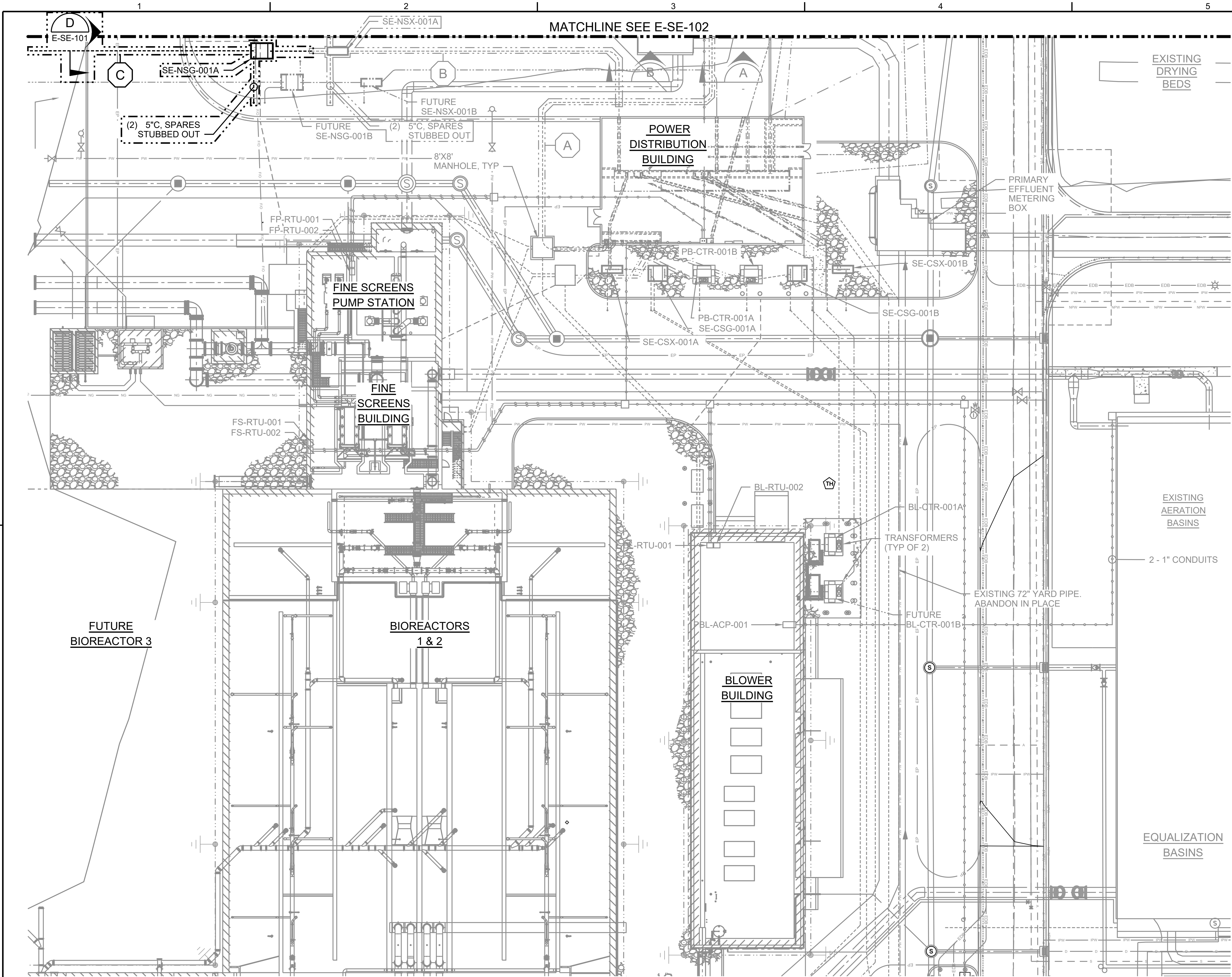
**DESIGN
TCA
DRAWN
TCA
CHECKED
BGY
APPROVED
JHM**

WATERWORKS ENGINEERS

provo WELCOME HOME

**LICENSED PROFESSIONAL ENGINEER
BRIAN C. YOUNG
NO. 8841511
02/26/2025
STATE OF UTAH**

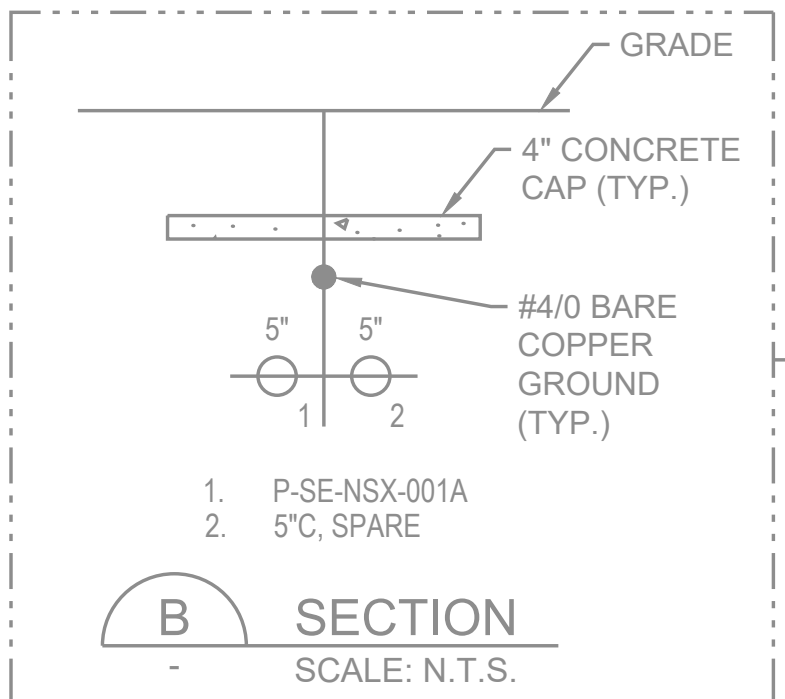
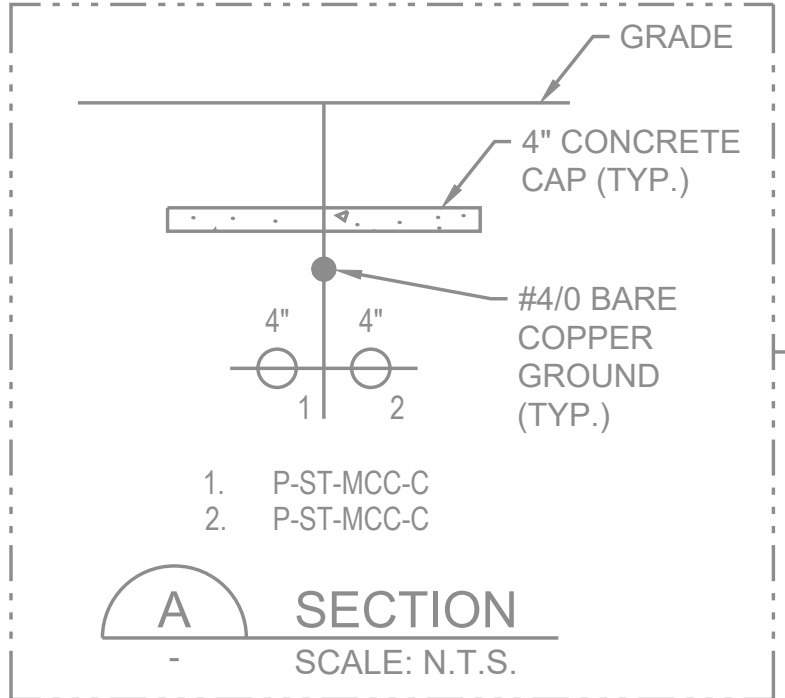




NO.	DATE	REVISION	BY	APVD

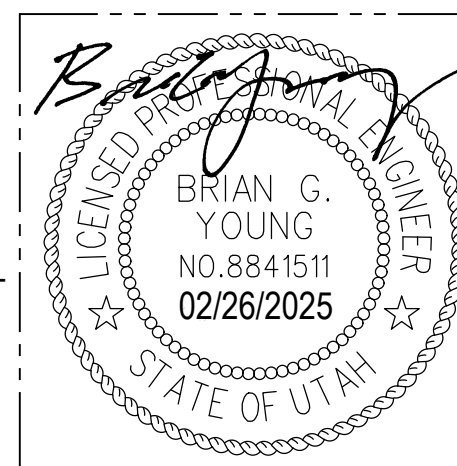
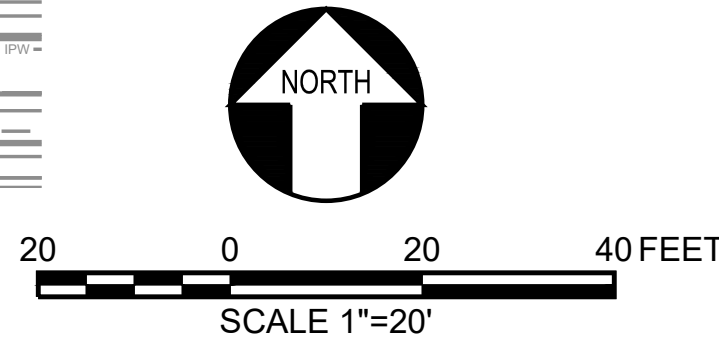
SCOPE OF WORK KEY NOTES:

- A PACKAGE A - S2 RE-FEED
- B PACKAGE B - IP LC-1 AND DB RE-FEEDS
- C PACKAGE C - HW RE-FEED



101	102	103	104
105	THIS SHEET	107	108
109	110	111	112
113	114	115	116

KEY MAP
1"=500'



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

DESIGN
TCA

DRAWN
TCA

CHECKED
BGY

APPROVED
UHM

WATERWORKS
ENGINEERS

PROVO CITY
PUBLIC WORKS DEPT
PROVO WRF
PHASE 1, ELEC. UPGRADES
PACKAGE C - HW RE-FEED

ELECTRICAL
SITE ELECTRICAL
AREA 106
PLAN

DATE
FEBRUARY 2025

PROJECT NUMBER
19-002

DRAWING NUMBER
E-SE-106

SHEET
OF