

MECHANICAL-ELECTRICAL
CONSULTANTS

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ELECTRICAL PERMIT PLAN SET
ASI 002 2019.5.10

ELECTRICAL CONSTRUCTION PLAN SET
REV 3 ASI 11 2019.11.4

FINAL AS-BUILT PLAN SET
FEBRUARY 20, 2020

ABBREVIATIONS, SYMBOLS, NOTES, & SHEET INDEX

FILE: 1881
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E1.01

ELECTRICAL SYMBOL LEGEND

HT AFF	SYMBOL	DESCRIPTION	HT AFF	SYMBOL	DESCRIPTION	HT AFF	SYMBOL	DESCRIPTION
AS NOTED		SURFACE OR WALL MTD LIGHT (TYPE DENOTED)	18"		MULTIOUTLET ASSEMBLY (TYPE DENOTED)			CONDUIT/WIRE
AS NOTED		WALL MOUNTED EXTERNAL LIGHT (TYPE DENOTED)	18"		MULTIOUTLET ASSEMBLY (TYPE DENOTED)			CONDUIT SLEEVE (SIZE DENOTED)
AS NOTED		RECESSED LIGHT (TYPE DENOTED)	84"		CLOCK (TYPE DENOTED)	18"		TELEPHONE OUTLET (TYPE DENOTED)
PER SCHED		POLE MOUNTED LIGHT (TYPE DENOTED)			POWER POLE (OPEN OFFICE STYLE)	48****		WALL TELEPHONE OUTLET (TYPE DENOTED)
		SURFACE LIGHT (TYPE DENOTED)			GROUND ROD (PLAN VIEW)	18"		INFORMATION OUTLET (TYPE DENOTED)
		SUSPENDED OR PENDANT LIGHT (TYPE DENOTED)	AS NOTED		SPECIAL RECEPT. OR CONN. (SEE SCHEDULE)	48"		INTERCOM OUTLET LOCATION
		RECESSED LIGHT (TYPE DENOTED)	AS NOTED		JUNCTION BOX	18"		TELEVISION OUTLET
		STRIP LIGHT (TYPE DENOTED)			PULL BOX	18"		MULTIPLE SERVICE OUTLET (TYPE DENOTED)
AS NOTED		TRACK AND TRACK LIGHT (TYPES DENOTED)	72***		CIRCUIT BREAKER PANEL			OUTLET IN FLOOR (MICROPHONE SHOWN)
96"		EMERGENCY BATTERY LIGHT (TYPE DENOTED)	72***		POWER OR DISTRIBUTION PANEL			MULTIPLE SERVICE FLR OUTLET (TYPE DENOTED)
12"		EXIT SIGN (TYPE DENOTED)	72***		SPECIAL CABINET (TYPE DENOTED)			SPECIAL ACCESS POINT
AS NOTED		EMERGENCY LIGHT FIXTURE			TRANSFORMER (TYPE DENOTED)	84"		BELL
48"		SINGLE POLE SW.			MOTOR (SEE SCHEDULE)	84"		BUZZER
48"		3-WAY SW.	72***		MAG. MOTOR STARTER OR CONTACTOR			CHIME
48"		4-WAY SW.	72***		COMB. MOTOR STARTER (NON-FUSED)	48****		DOOR SIGNAL - APT. UNIT
48"		KEYED SW.	72***		COMB. MOTOR STARTER (FUSED)	84"		SPEAKER (WALL OR CEILING MT.)
48"		SW. WIPILLOT	72***		SAFETY DISC. SW. (NON-FUSED)	18"		VOLUME CONTROL
48"		DIMMER SWITCH	72***		SAFETY DISC. SW. (FUSED)	48"		MICROPHONE OUTLET
48"		OCCUPANCY SENSOR SWITCH	72***		VARIABLE FREQUENCY DRIVE	18"		PROJECTOR CONTROL OUTLET
48"		TIMER SWITCH	72***		RELAY			ANTENNA
48"		FAN SPEED CONTROL			ENCLOSED CIRCUIT BREAKER			KEYED NOTE (SEE SCHEDULE)
48"		MOTOR HORSEPOWER RATED SWITCH			OCCUPANCY SENSOR - TYPE DENOTED	72***		FIRE ALARM REMOTE ANNUNCIATOR
48"		PUSH BUTTON			LIGHT LEVEL SENSOR - TYPE DENOTED			SMOKE DETECTOR (TYPE DENOTED)
18"		SINGLE RECEPT.	AS NOTED		PHOTOCELL			HEAT DETECTOR (TYPE & TEMP DENOTED)
18"		DUPLEX RECEPT.	48"		TIME CONTROL SWITCH (TIME SWITCH)			DUCT SMOKE DETECTOR (TYPE DENOTED)
18"		SPLIT DUPLEX RECEPT./SWITCHED	48"		HUMIDISTAT			ELECTRIC STRIKE
18"		ISOLATED GROUND RECEPT. (DUPLEX SHOWN)	48"		THERMOSTAT			MAGNETIC LOCK
18"		RECEPT ON EMERGENCY CKT (DUPLEX SHOWN)	PER SCHED		BASEBOARD HEATER (TYPE DENOTED)	48****		CARD READER
18"		FOURPLEX RECEPT.	PER SCHED		WALL HEATER (TYPE DENOTED)	48****		KEYPAD
18"		FOURPLEX RECEPTACLE ON EMERGENCY CIRCUIT	PER SCHED		HAND OR HAIR DRYER (TYPE DENOTED)	144"		MOTION DETECTOR (TYPE DENOTED)
		FLOOR RECEPT. (DUPLEX SHOWN)			SOLENOID VALVE	AS NOTED		CCTV CAMERA
AS NOTED		RECEPT ON DROP CORD (DUPLEX SHOWN)			DASHED SYMBOL INDICATES EXISTING	AS NOTED		CCTV CAMERA WITH PAN/TILT DRIVE
		RECEPT ON CORD REEL (DUPLEX SHOWN)			HATCHED SYMBOL INDICATES REMOVED			DOOR HOLDER
		EQUIPMENT PLUG						DOOR POWER ASSIST

ALL DISTANCES ARE TO CENTER OF DEVICE OR EQUIPMENT UNLESS OTHERWISE NOTED. DEVICES INDICATED AT 48" MAY NOT BE INSTALLED WITH ANY OPERABLE PART HIGHER THAN 48". DEVICES MAY BE INSTALLED IN CONCRETE MASONRY UNITS WITH THE TOP OF THE DEVICE AT 48".

* DISTANCE ABOVE TOP OF DOOR FRAME	*** DISTANCE TO HIGHEST OPERABLE PART OF EQUIPMENT	***** DISTANCE TO BOTTOM OF DEVICE
** DISTANCE TO TOP OF EQUIPMENT OR DEVICE	**** DISTANCE BELOW CEILING	

ELECTRICAL ABBREVIATIONS LIST

IP	1 POLE (P, 3P, 4P, ETC.)	DCP	DOMESTIC WATER CIRCULATING PUMP	HT	HEIGHT HEATING	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION	SYMB	SWITCHBOARD SYSTEM
AC	ABOVE COUNTER OR AIR CONDITIONER	DEPT	DEPARTMENT	HV	HIGH VOLTAGE	NFDS	NOT FUSED SWITCH	SYM	SYMBOL
ACLG	ABOVE CEILING	DISC	DISCONNECT	HVAC	HEATING, VENTILATING AND AIR CONDITIONING	NIC	NOT IN CONTRACT	TELS	TELEPHONE
AF	AIR FLOW	DISC	DISTRIBUTION	HWP	HYDROIC WATER PUMP	NIO	NORMALLY OPEN	TER	TERMINAL
AF	AMP FRAME	DN	DOWN	IC	INTERCIPPING CAPACITY	NIS	NORMALLY CLOSED	TR	TRAMPER RESISTANT
AF	ABOVE FINISHED FLOOR	DR	DRY	IC	ISOLATED GROUND	NPS	NORMAL POWER FACTOR	TSTAT	THERMOSTAT
AF	ABOVE FINISHED GRADE	DS	DOUBLE DISCONNECT SWITCH	IM	INTERMEDIATE METAL CONDUIT	NPT	NOT TO SCALE	TE	TELEPHONE TERMINAL
AF	ARC FAULT CIRCUIT INTERRUPTER	DWG	DRAWING	INCAND	INCANDESCENT	OH	OVERHEAD	TVC	TELEVISION
AHU	AIR HANDLING UNIT	EL	ELECTRICAL CONTRACTOR	INT	INTERLOCK WITH	PA	PUBLIC ADDRESS	TYC	TELEVISION TERMINAL
AL	ALUMINUM	ELEC	ELECTRIC ELECTRICAL	JBOX	JUNCTION BOX	PE	PULL BOX OR PUSHBUTTON	TYP	TYPICAL
ALT	ALTERNATE	EM	EMERGENCY	KV	KILOVOLT	PA	PNEUMATIC ELECTRIC		
AMP	AMPERE	EMS	ENERGY MANAGEMENT SYSTEM	KVA	KILOVOLT-AMPERE	PED	PEDESTAL		
AMPL	AMPLIFIER	EMT	ELECTRICAL METAL TUBING	KVA	KILOVOLT-AMPERE	PH	PHASE		
ANNU	ANNUNCIATOR	EP	EQUIPMENT	KW	KILOWATT	PI	POST INDICATING VALVE		
APPROX	APPROXIMATELY	EQ	EQUIPMENT	KW	KILOWATT	PL	POWER POLE		
AQ-STAT	AQUASTAT	EXIST	EXISTING	LOC	LOCATION OR LOCATION	PP	PAR		
ARCH	ARCHITECT, ARCHITECTURAL	EXPL	EXPLOSION PROOF	LTG	LIGHTING	PR	PRIMARY		
AS	AMTCH	FA	FIRE ALARM	LV	LOW VOLTAGE	PROJ	PROJECTION		
AT	AMP TRIP	FACP	FIRE ALARM CONTROL PANEL	MAX	MAXIMUM	PRT	POWER ROOF VENTILATOR		
ATS	AUTOMATIC TRANSFER SWITCH	FCU	FAN COIL UNIT	MAGS	MAGNETIC STARTER	PVT	POTENTIAL TRANSFORMER		
AUTO	AUTOMATIC	FXC	FIXTURE	MC	MOMENTARY CONTACT	PVC	POLYVINYL CHLORIDE (CONDUIT)		
AUX	AUXILIARY	FL	FLOOR	MCB	MAIN CIRCUIT BREAKER	PWR	POWER		
AV	AUDIO VISUAL	FUSE	FUSED SAFETY DISCONNECT SWITCH	MCC	MAIN CONTROL CENTER	QMT	QUANTITY		
AWG	AMERICAN WIRE GAUGE	FLDS	FLOOR	MDC	MAIN DISTRIBUTION CENTER	RCP	RECEPTACLE		
				MDF	MAIN DISTRIBUTION PANEL	RCQ	REQUIRED		
BATT	BATTERY	GA	GAUGE	MFR	MANUFACTURER	RM	ROOM		
BD	BOARD	GAL	GALLON	MFS	MAIN FUSED DISCONNECT SWITCH	RSC	RIGID STEEL CONDUIT		
BLDG	BUILDING	GALV	GALVANIZED	MH	MANHOLE	RTU	ROOF TOP UNIT		
BMS	BUILDING MANAGEMENT SYSTEM	GEN	GENERATOR	MC	MICROPHONE	SC	SURFACE CONDUIT		
		GF	GROUND FAULT CIRCUIT INTERRUPTER	MIN	MINIMUM	SC2	SECONDARY		
C	CONDUIT	GEN	GENERATOR	MISC	MISCELLANEOUS	SH	SHEET		
CAB	CABINET	GFI	GROUND FAULT CIRCUIT INTERRUPTER	MLO	MANUAL LOCK OUT	SH	SHIELD		
CAT	CATALOG	GFP	GROUND FAULT PROTECTOR	MMS	MANUAL MOTOR STARTER	SH	SHIELD		
CTV	CABLE TELEVISION	GRD	GROUND	MNS	MANUAL MOTOR STARTER	SPK	SPEAKER		
CB	CIRCUIT BREAKER	GRS	GALVANIZED RIGID STEEL (CONDUIT)	MSB	MAIN SWITCHBOARD	SS	SURFACE RACEWAY		
CCTV	CLOSED CIRCUIT TELEVISION	GYP	GYPSON BOARD	MOUNT	MOUNT	SR	STAINLESS STEEL		
CLG	CEILING	H	HANDS-OF-AUTOMATIC SWITCH	MTC	MANUAL TRANSFER SWITCH	SS	STAINLESS STEEL		
COMB	COMBINER	HOA	HANDS-OF-AUTOMATIC SWITCH	MTR	MOTOR, MOTORIZED	STA	STATION		
CONN	CONNECTION	HPC	HORSEPOWER	N.C.	NORMALLY CLOSED	STB	STOP/START PUSHBUTTONS		
CONST	CONSTRUCTION	HPF	HIGH POWER FACTOR	NEC	NATIONAL ELECTRICAL CODE	SURF	SURFACE MOUNTED		
CONT	CONTINUATION OR CONTINUOUS					SW	SWITCH		
CONTR	CONTRACTOR								
CONV	CONVERTER								
CRC	CIRCULATING PUMP								
CRT	CATHODE RAY TUBE								
CT	CURRENT TRANSFORMER								
CTR	CENTER								
CU	COPPER								

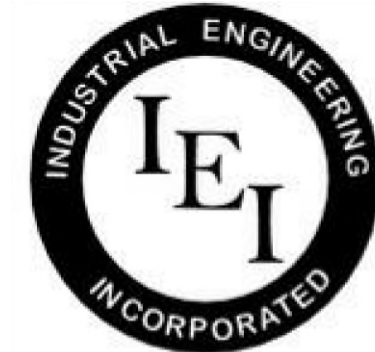
SPECIFIC CODE NOTES

FIRE PROTECTION REQUIREMENTS

- A. PENETRATIONS IN WALLS REQUIRING PROTECTED OPENINGS MUST BE FIRESTOPPED WITH AN APPROVED MATERIAL.
1. CONDUITS MAY PENETRATE WALLS OR PARTITIONS, PROVIDED THEY ARE FIRE-STOPPED.
2. OPENINGS FOR STEEL ELECTRICAL BOXES NOT EXCEEDING 16 SQUARE INCHES ARE PERMITTED PROVIDED OPENINGS DO NOT AGGREGATE MORE THAN 100 SQUARE INCHES FOR ANY 100 SQUARE FEET OF WALL OR PARTITION.
3. OUTLET BOXES ON OPPOSITE SIDES OF WALLS OR PARTITIONS MUST BE SEPARATED BY A HORIZONTAL DISTANCE OF 24 INCHES.
- B. LIGHT FIXTURES AND OTHER APPARATUS SUPPORTED BY THE ACOUSTICAL CEILING GRID MUST MEET THE REQUIREMENTS OF NFPA SECTION 410.6, MEANS OF SUPPORT.
- C. RECESSED LIGHTING FIXTURES INSTALLED IN RATED CEILING ASSEMBLIES SHALL BE FIRE RATED FIXTURES BEARING THE UL FIRE RATING LABEL. FIXTURES SHALL BE INSTALLED IN ACCORDANCE WITH THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE A RATED ENCLOSURE INSTALLED OVER THE FIXTURE THAT MEETS THE REQUIREMENTS OF THE UL FIRE RESISTANCE DIRECTORY.

ELECTRICAL SYMBOL NOTES

[illegible]



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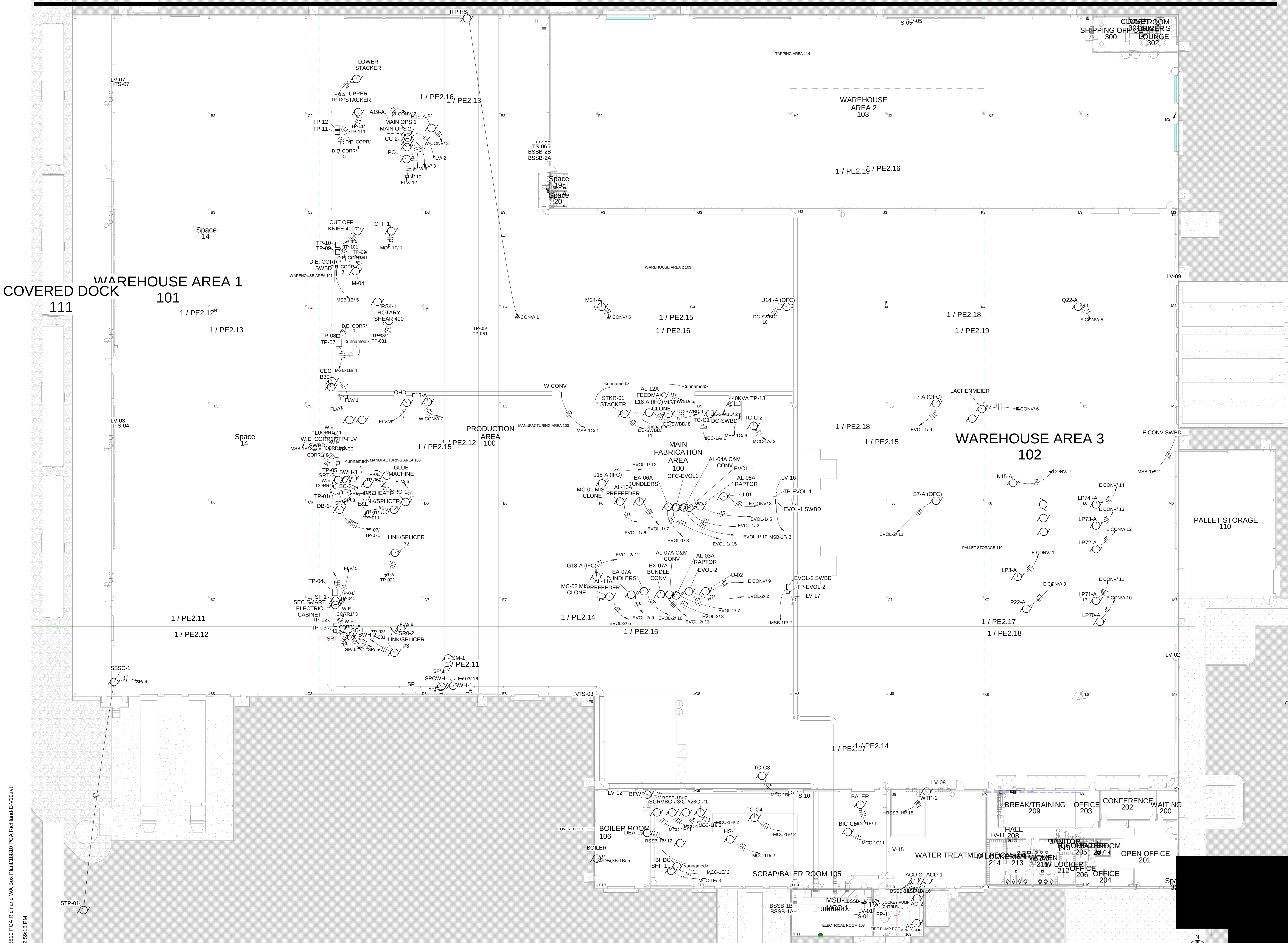
ELECTRICAL CONSTRUCTION PLAN SET
REV 3 ASI 11 2019.11.4

FINAL AS-BUILT PLAN SET
FEBRUARY 20, 2020

PROCESS EQUIPMENT
OVERALL VIEW

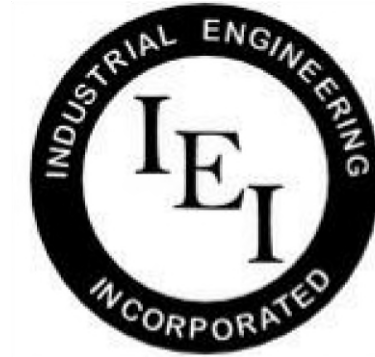
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PE2.10



1 Process Equipment 3/64" scale
3/64" = 1'-0"

KEYPLAN



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FINAL AS-BUILT PLAN SET
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ELECTRICAL PROCESS
EQUIPMENT AREA 1 LB

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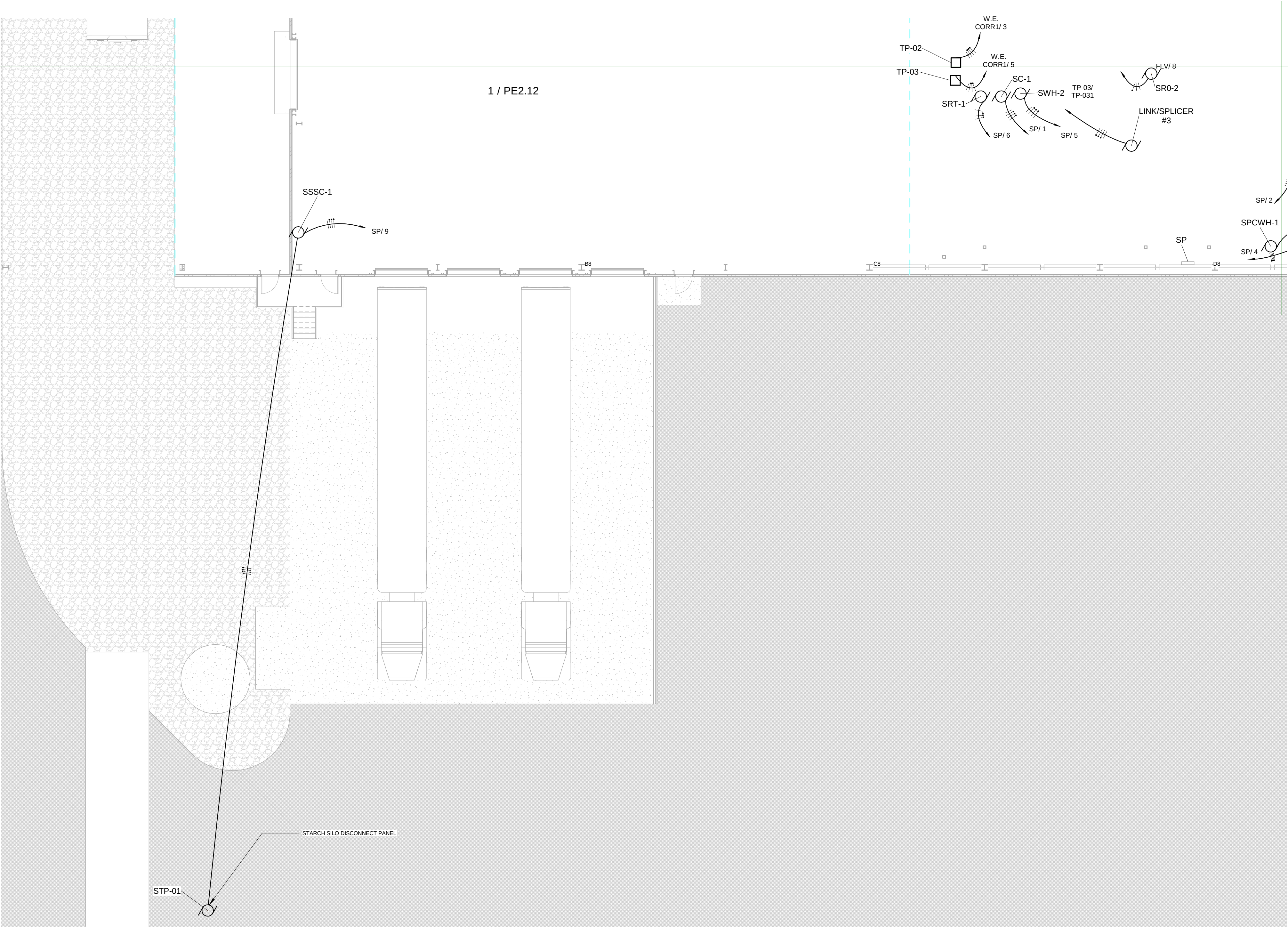
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ELECTRICAL KEYED NOTES

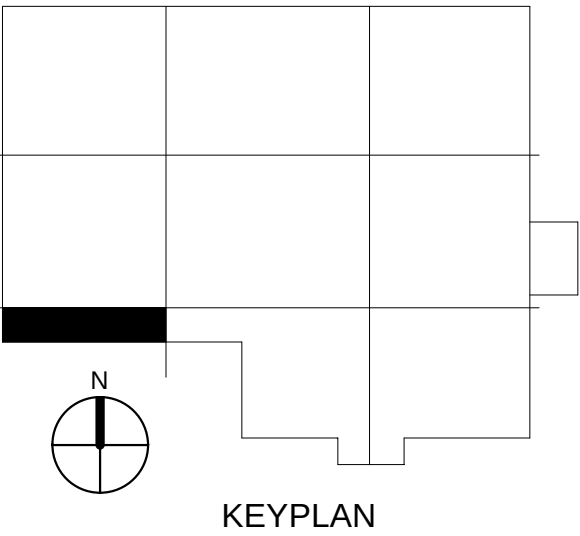
- Dock Levelers (typical of 6). Install 480V/3P/#10 to dock level controller. Coordinate location with dock level installer. Install dedicated 120V/20A circuit to dock level retainer. Coordinate location with dock level installer.

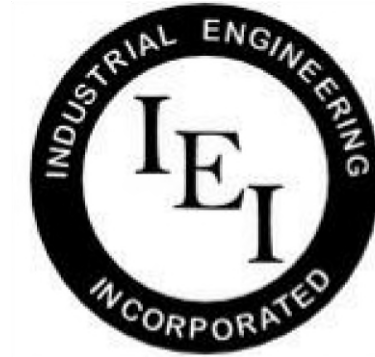
ELECTRICAL GENERAL NOTES

- MOUNT OUTLETS IN PRODUCTION/PROCESS AREA 3'-0" ABOVE FINISHED FLOOR.
- PROCESS TRANSFORMERS TO BE FLOOR MOUNTED IN LOCATIONS SHOWN ON FLOOR PLAN.



1 Process Equipment Electrical Power - AREA 1 DV-LB
3/32" = 1'-0"





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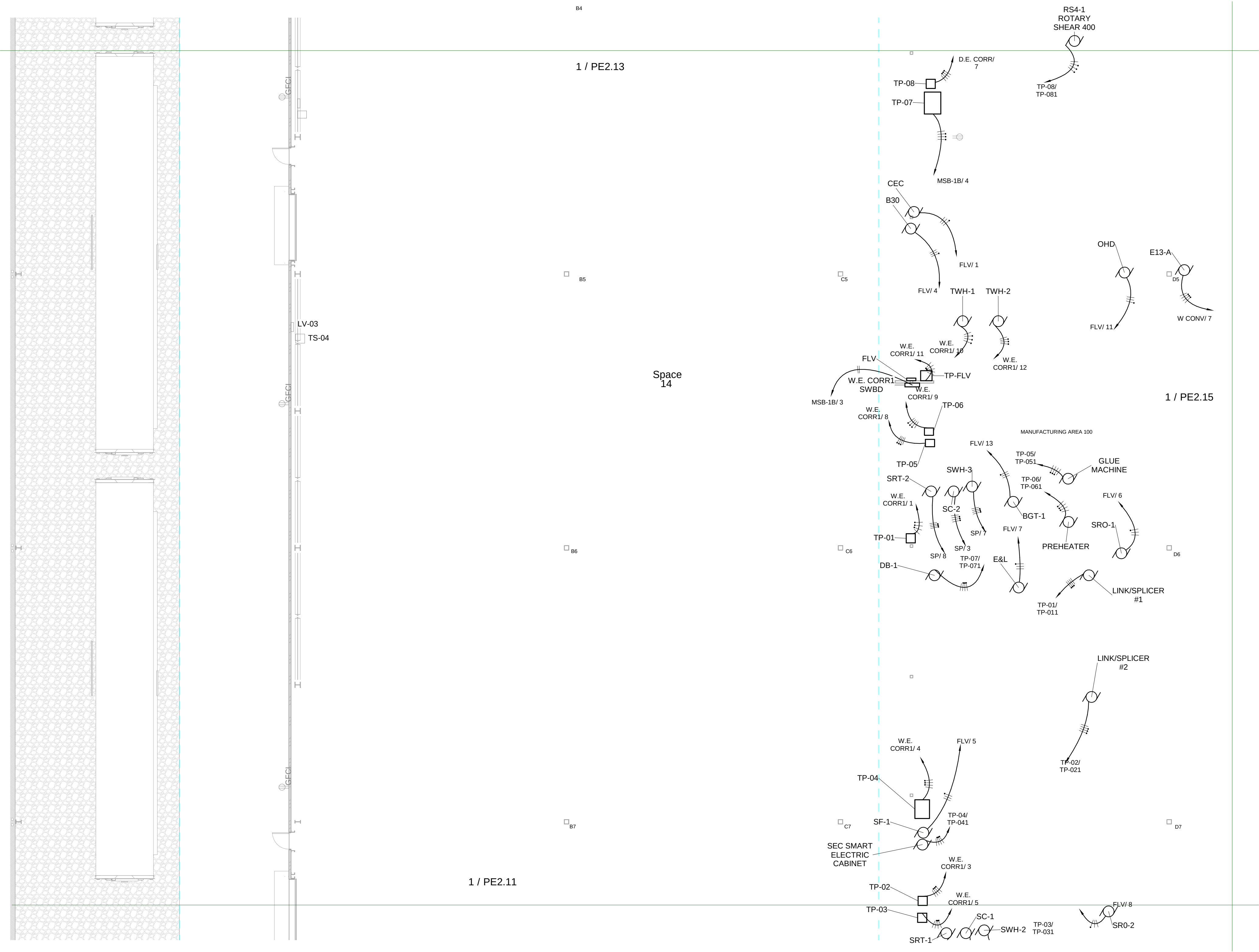
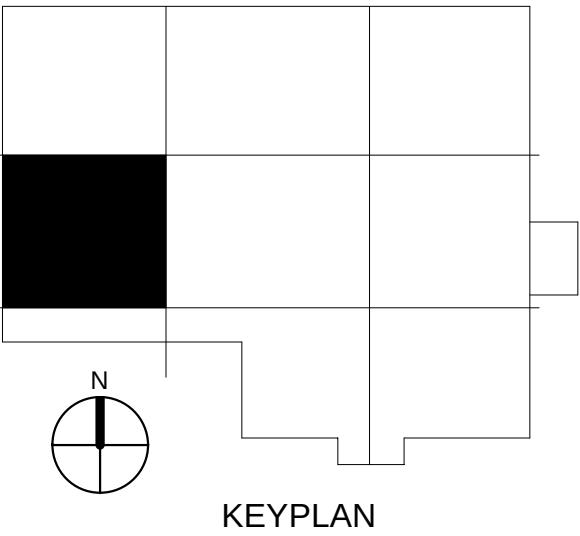
ELECTRICAL PROCESS
EQUIPMENT AREA 2 LC

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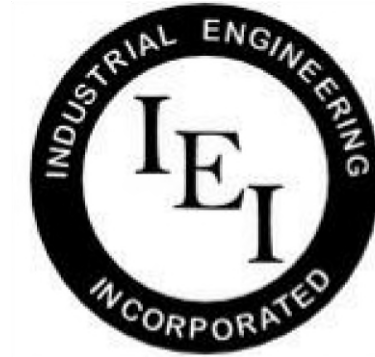
PE2.12

ELECTRICAL GENERAL NOTES

1. MOUNT OUTLETS IN PRODUCTION/PROCESS AREA 3'-0" ABOVE FINISHED FLOOR.
2. PROCESS TRANSFORMERS TO BE FLOOR MOUNTED IN LOCATIONS SHOWN ON FLOOR PLAN.



① Process Equipment Electrical Power - AREA 2 DV- LC
3/32" = 1'-0"

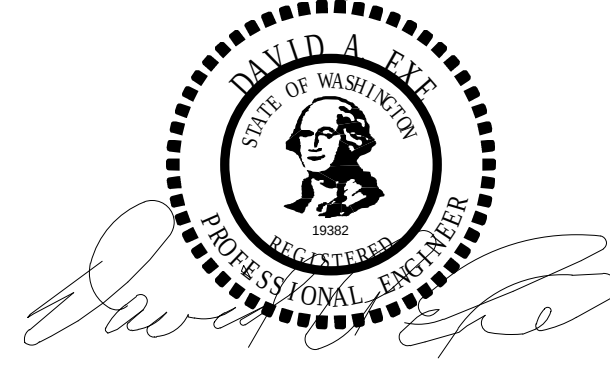


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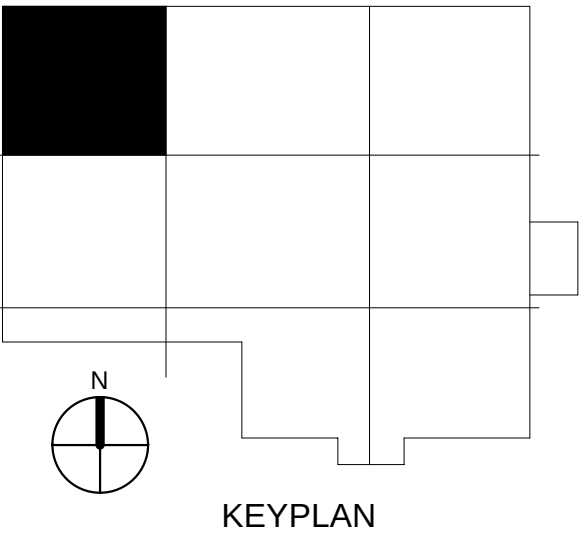
ELECTRICAL PROCESS
EQUIPMENT AREA 3 LT

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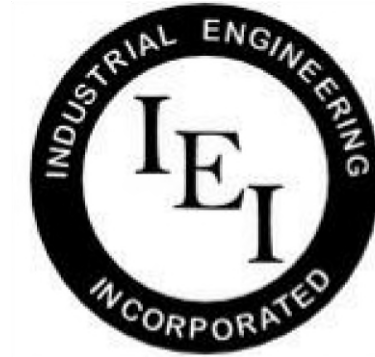
PE2.13

ELECTRICAL GENERAL NOTES

1. MOUNT OUTLETS IN PRODUCTION/PROCESS AREA 3'-0" ABOVE FINISHED FLOOR.
2. PROCESS TRANSFORMERS TO BE FLOOR MOUNTED IN LOCATIONS SHOWN ON FLOOR PLAN.



1 Process Equipment Electrical Power - AREA 3 DV-LT
3/32" = 1'-0"



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ELECTRICAL PROCESS
EQUIPMENT AREA 4 CB

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PE2.14

ELECTRICAL KEYED NOTES

1. BOILER EMERGENCY SHUTOFF SWITCH, INSTALL AND ROUTE CONDUIT TO BOILER CONTROL SYSTEM AS PER MANUFACTURER'S AND INSTALLER'S DIRECTIONS.

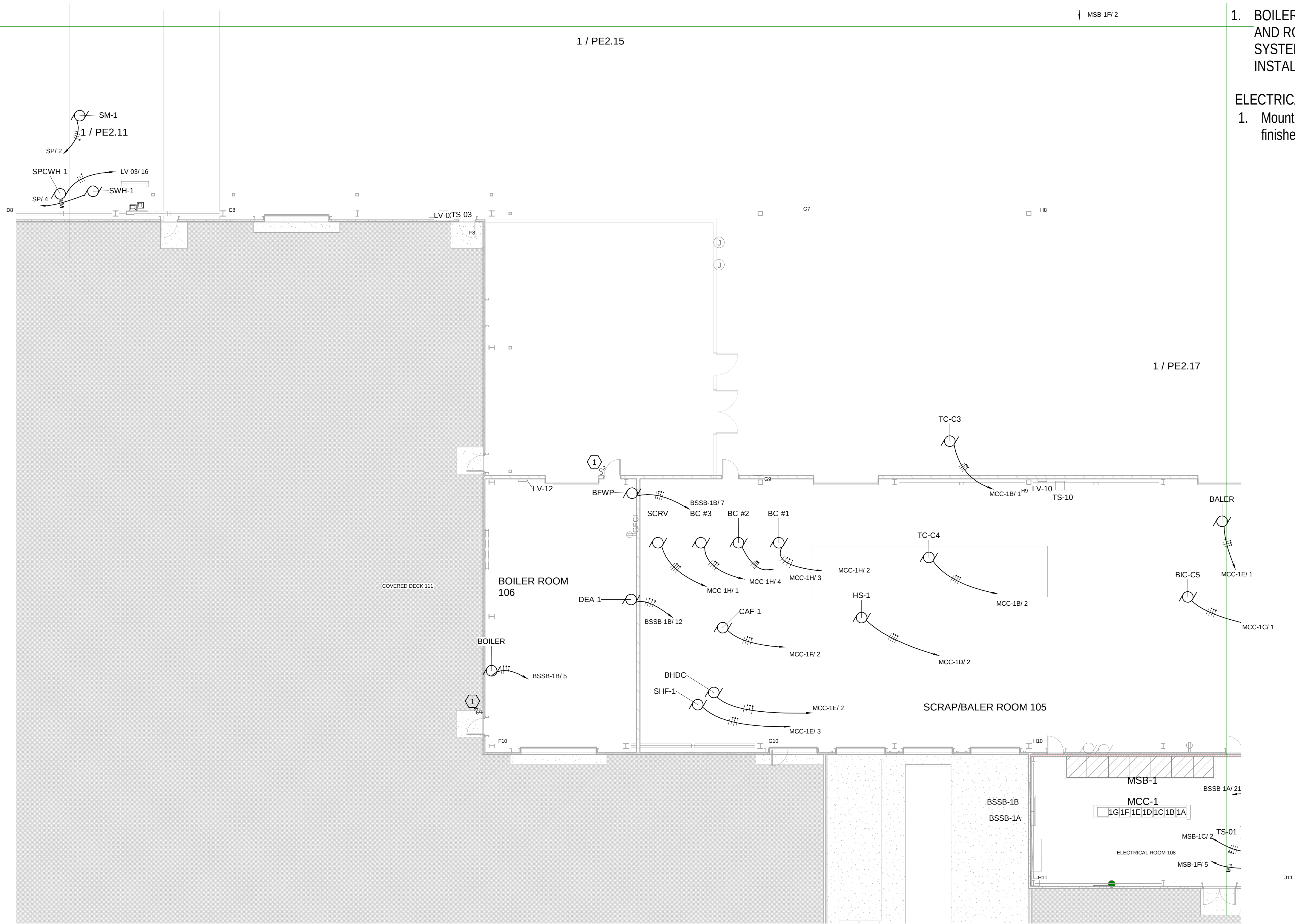
ELECTRICAL GENERAL NOTES

1. Mount outlets in production/process area 3'-0" above finished floor.

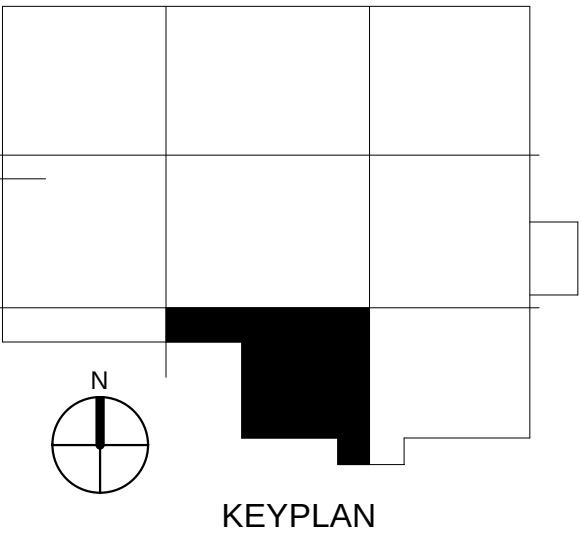
1 / PE2.15

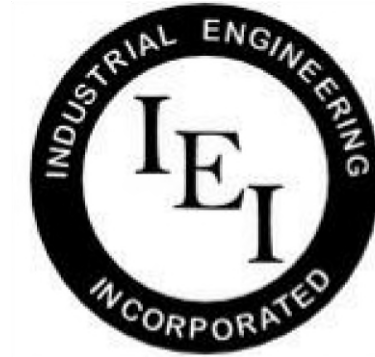
MSB-1F/ 2

1 / PE2.17



1 Process Equipment Electrical Power - AREA 4 DV-CB
3/32" = 1'-0"



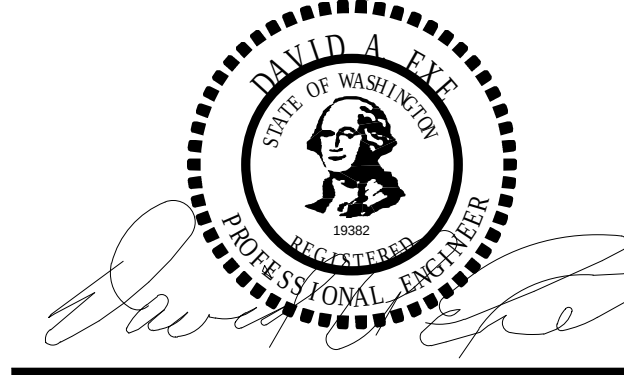


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7	2019.10.7	Misc Electrical

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ELECTRICAL PERMIT PLAN SET
ASI 002 2019.5.10

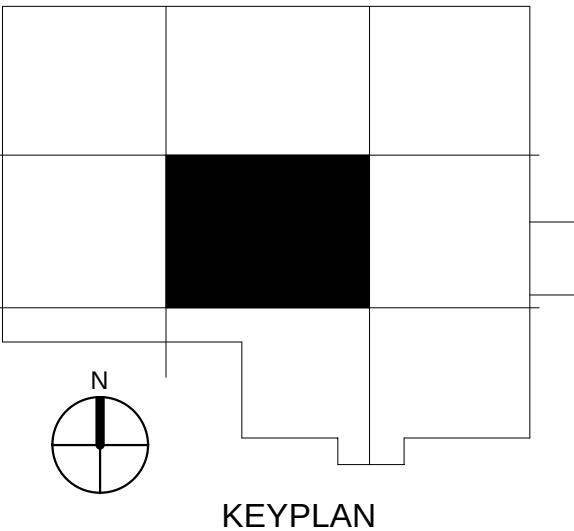
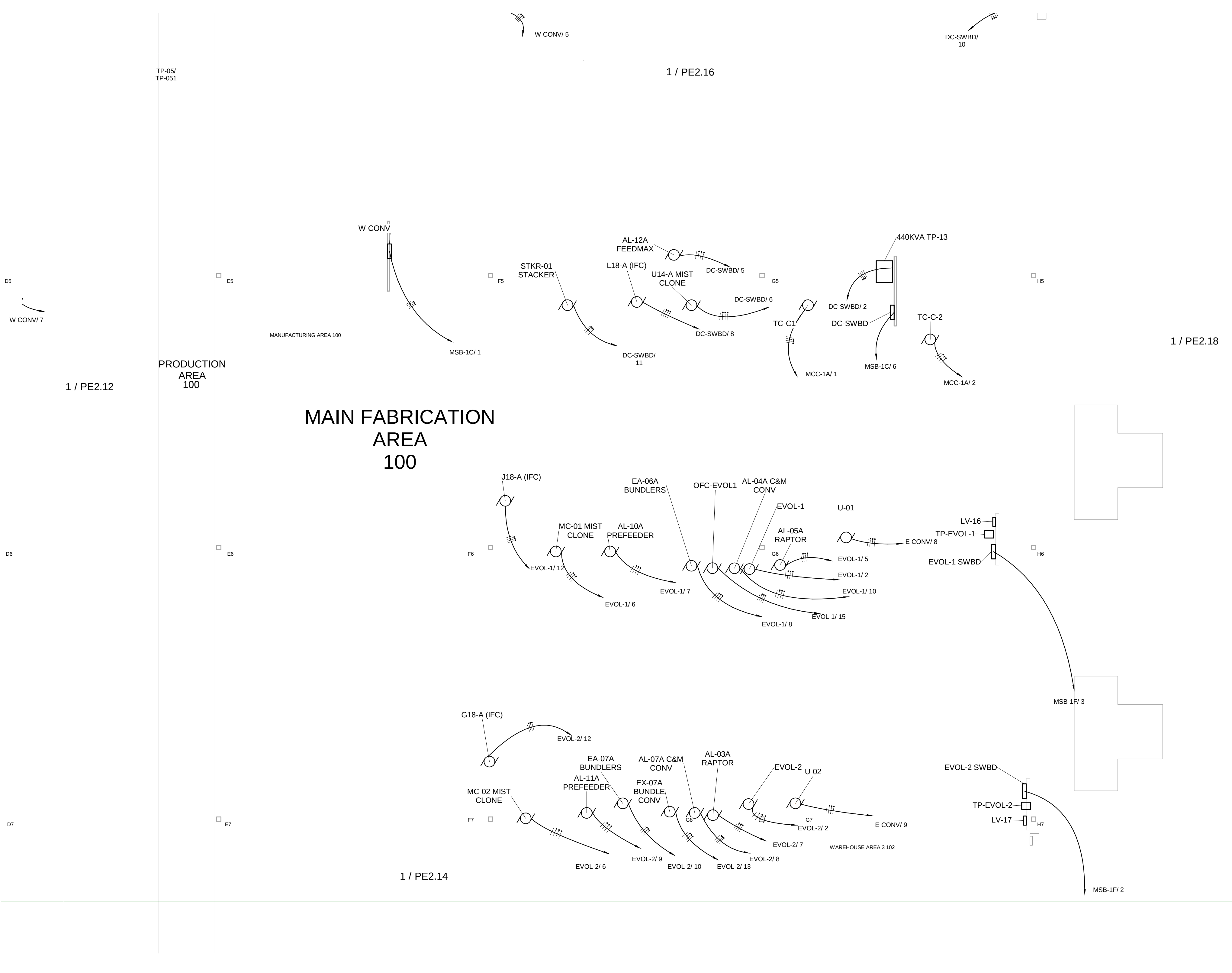
ELECTRICAL CONSTRUCTION PLAN SET
REV 3 ASI 11 2019.11.4

FINAL AS-BUILT PLAN SET
FEBRUARY 20, 2020

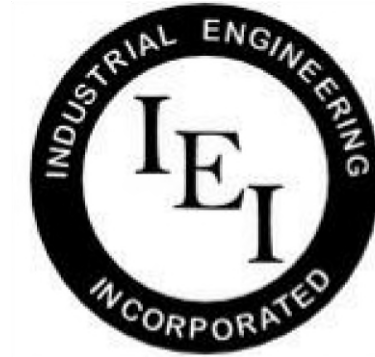
ELECTRICAL PROCESS
EQUIPMENT AREA 5 CC

FILE: 18810
DRAWN BY: DAE
CHECKED BY: DAE
PROJ. NO: 18810
DATE: FEB 20, 2020
DRAWING NO:

PE2.15



1 Process Equipment Electrical Power - AREA 5 DV-CC
3/32" = 1'-0"

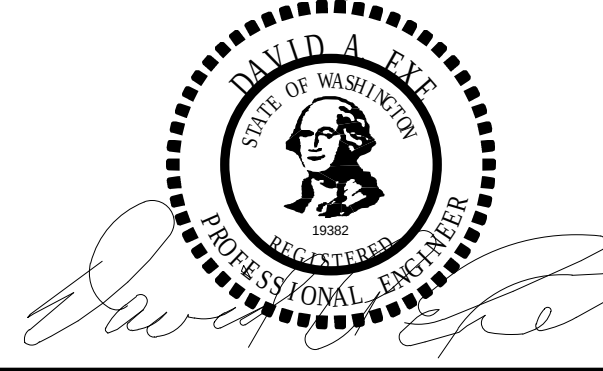


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REV 3 ASI 11 2019.11.4

FINAL AS-BUILT PLAN SET
FEBRUARY 20, 2020

ELECTRICAL PROCESS
EQUIPMENT AREA 6 CT

FILE: 18810
DRAWN BY: DAE
CHECKED BY: DAE
PROJ. NO: 18810
DATE: FEB 20, 2020
DRAWING NO:

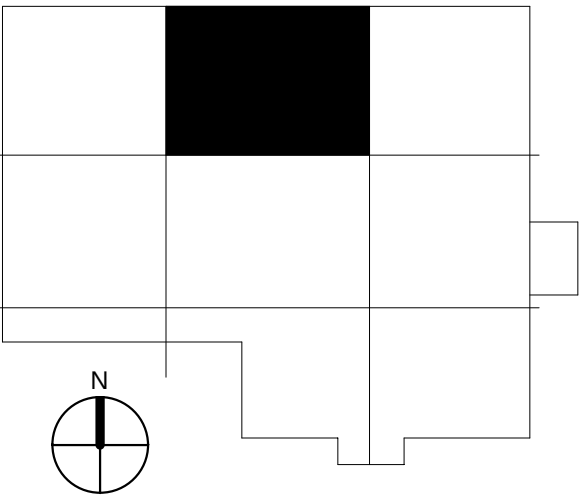
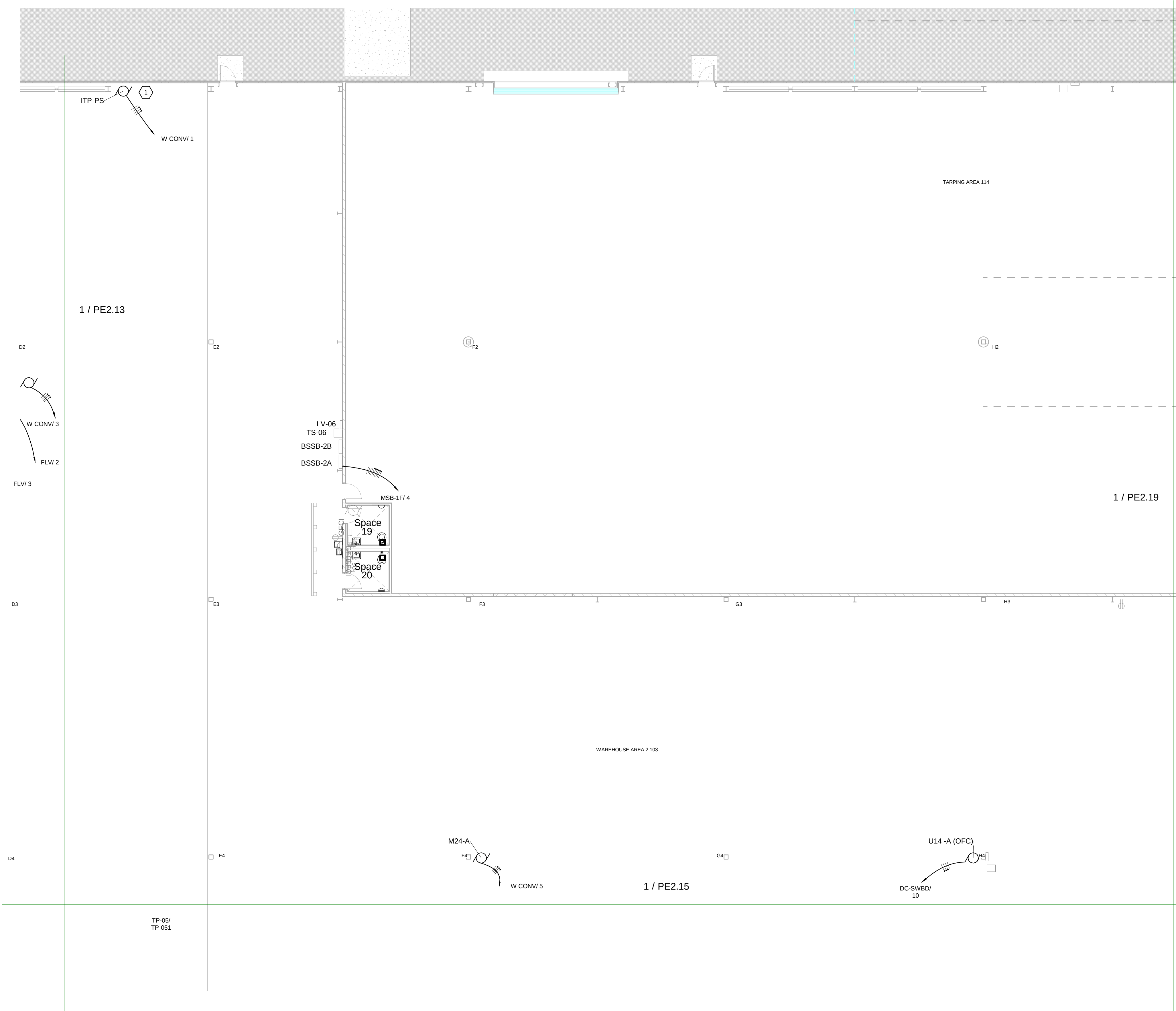
PE2.16

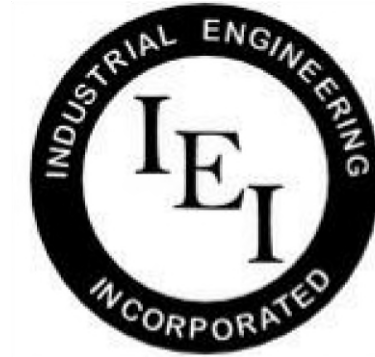
ELECTRICAL KEYED NOTES ①

1. ELECTRICAL CONTRACTOR TO LOCATE 60A DISCONNECT AT WALL IN APPROXIMATE LOCATION SHOWN. VERIFY EXACT LOCATION AND MOUNTING REQUIREMENTS WITH OWNER'S REPRESENTATIVE PRIOR TO ROUGH-IN. COORDINATE WITH EQUIPMENT INSTALLER PRIOR TO ROUGH-IN.

ELECTRICAL GENERAL NOTES

1. MOUNT OUTLETS IN PRODUCTION/PROCESS AREA 3'-0" ABOVE FINISHED FLOOR.





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ELECTRICAL PERMIT PLAN SET
ASI 002 2019.5.10

ELECTRICAL CONSTRUCTION PLAN SET
REV 3 ASI 11 2019.11.4

FINAL AS-BUILT PLAN SET
FEBRUARY 20, 2020

ELECTRICAL PROCESS
EQUIPMENT AREA 7 RB

FILE: 18810
DRAWN BY: DAE
CHECKED BY: DAE
PROJ. NO: 18810
DATE: FEB 20, 2020
DRAWING NO:

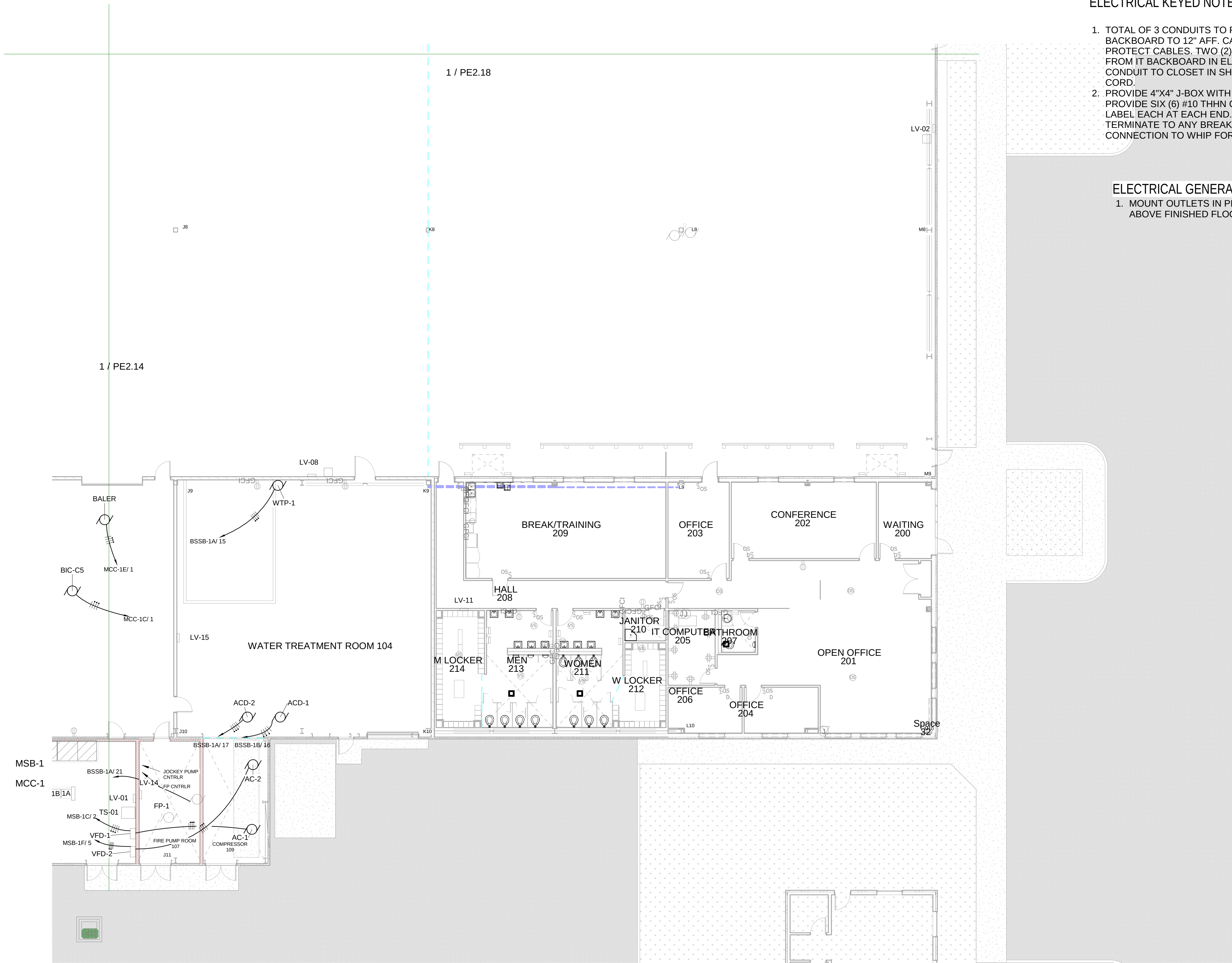
PE2.17

ELECTRICAL KEYED NOTES ①

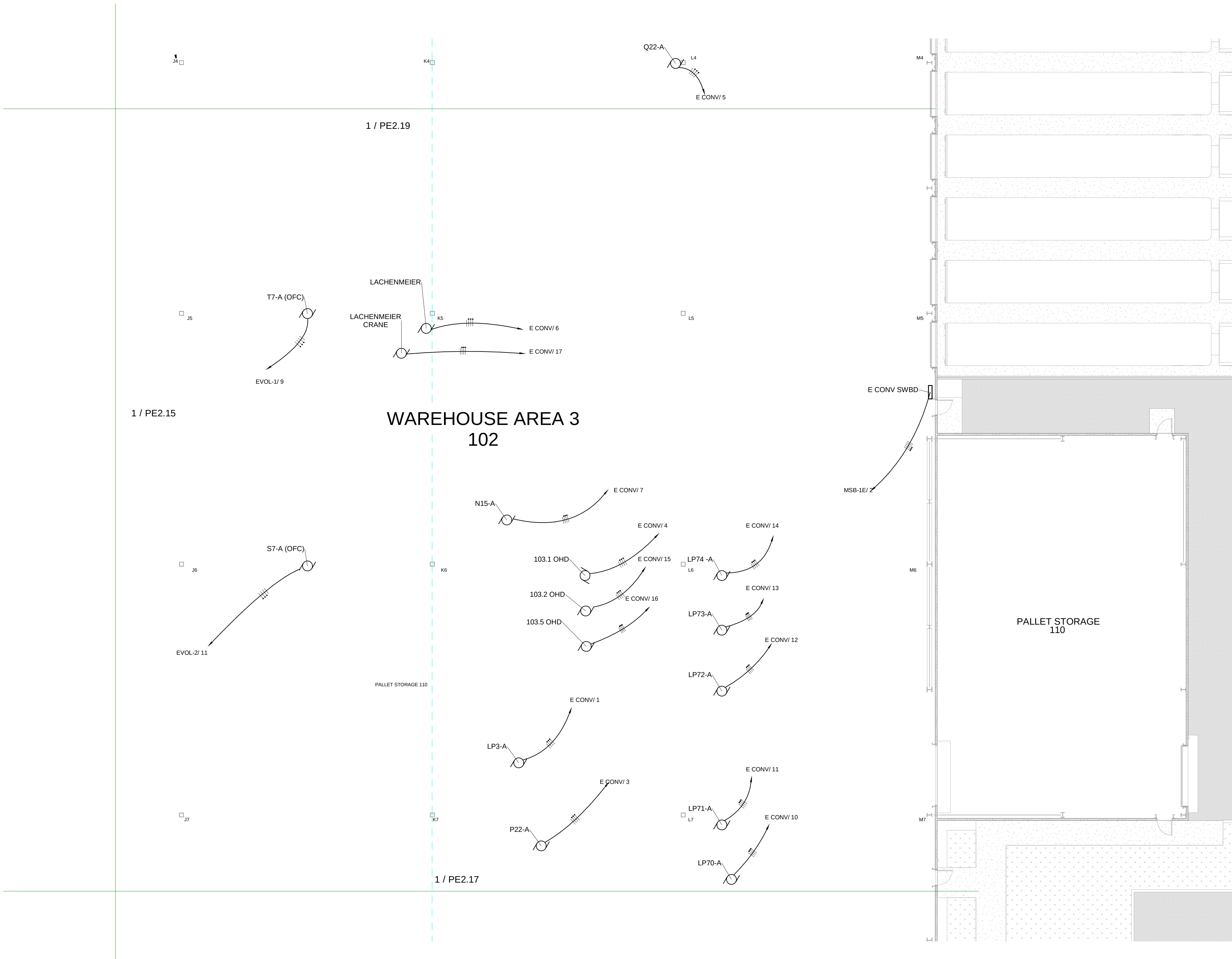
- TOTAL OF 3 CONDUITS TO RISE AT BOTTOM OF IT BACKBOARD TO 12" AFF. CAP WITH PROTECTIVE RING TO PROTECT CABLES. TWO (2) 3" CONDUITS, WITH PULL CORDS FROM IT BACKBOARD IN ELECTRICAL ROOM. ONE (1) 2" CONDUIT TO CLOSET IN SHIPPING OFFICES. PROVIDE PULL CORD.
- PROVIDE 4"x4" J-BOX WITH 1" CONDUIT TO PANEL LV-18. PROVIDE SIX (6) #10 THHN CU CONDUCTORS + #10 GND & LABEL EACH AT EACH END. PROVIDE ENOUGH EXCESS TO TERMINATE TO ANY BREAKER IN LV-18 AND FOR CONNECTION TO WHIP FOR POWER TO SERVER CABINET.

ELECTRICAL GENERAL NOTES

- MOUNT OUTLETS IN PRODUCTION/PROCESS AREA 3'-0" ABOVE FINISHED FLOOR.



① Process Equipment Electrical Power - AREA 7 DV-RB
3/32" = 1'-0"

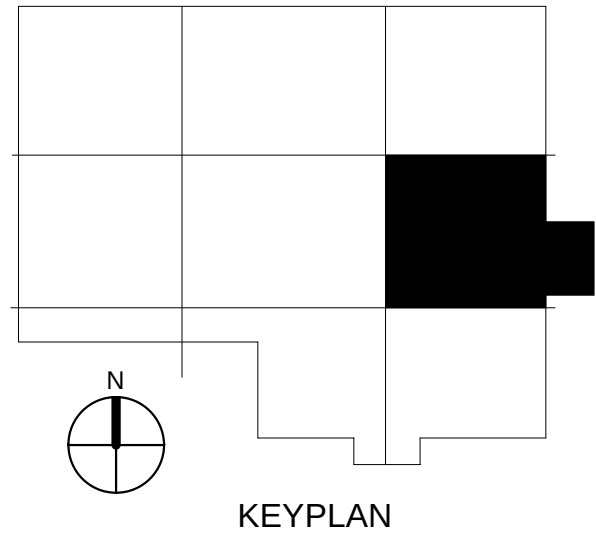


ELECTRICAL KEYED NOTES

1. Dock Levelers (typical of 6). Install 480V/3P/#10 to dock level controller. Coordinate location with dock level installer. Install dedicated 120V/20A circuit to dock level retainer. Coordinate location with dock level installer.

ELECTRICAL GENERAL NOTES

1. MOUNT OUTLETS IN PRODUCTION/PROCESS AREA 3'-0" ABOVE FINISHED FLOOR.



KEYPLAN

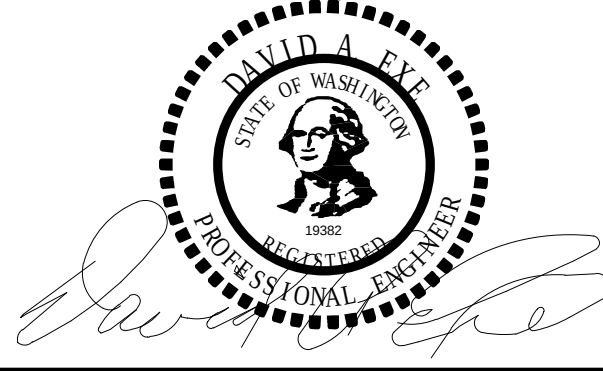


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ELECTRICAL PERMIT PLAN SET
ASI 002 2019.5.10

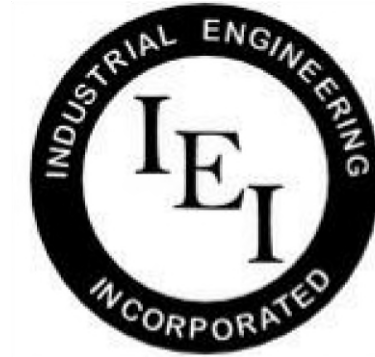
ELECTRICAL CONSTRUCTION PLAN SET
REV 3 ASI 11 2019.11.4

FINAL AS-BUILT PLAN SET
FEBRUARY 20, 2020

ELECTRICAL PROCESS EQUIPMENT AREA 8 RC

FILE: 18810
DRAWN BY: DAE
CHECKED BY: DAE
PROJ. NO: 18810
DATE: FEB 20, 2020
DRAWING NO:

PE2.18

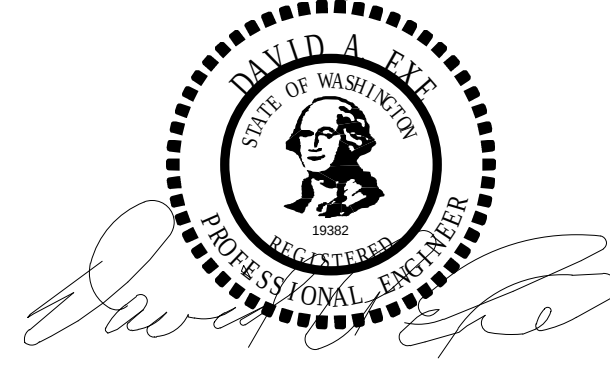


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ELECTRICAL PERMIT PLAN SET
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ELECTRICAL CONSTRUCTION PLAN SET
REV 3 ASI 11 2019.11.4

FINAL AS-BUILT PLAN SET
FEBRUARY 20, 2020

ELECTRICAL PROCESS
EQUIPMENT AREA 9 RT

FILE: 18810
DRAWN BY: DAE
CHECKED BY: DAE
PROJ. NO: 18810
DATE: FEB 20, 2020
DRAWING NO:

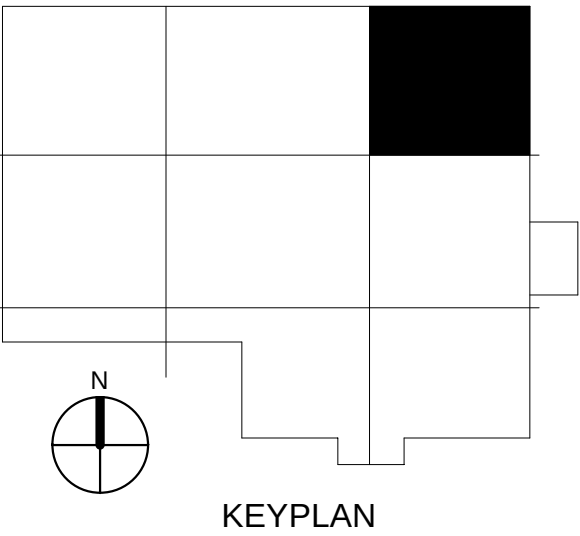
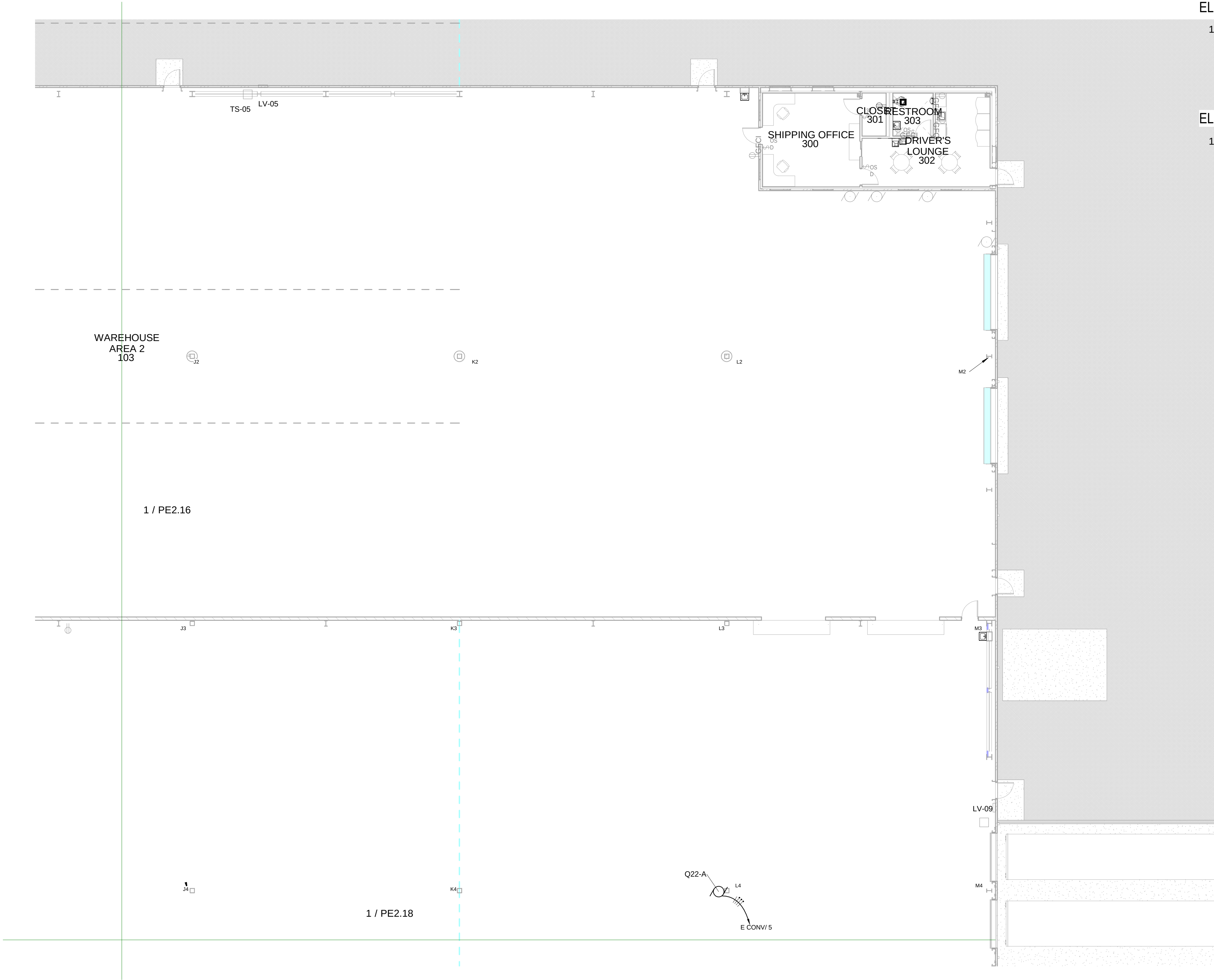
PE2.19

ELECTRICAL KEYED NOTES

1. Dock Levelers (typical of 6). Install 480V/3P/#10 to dock level controller. Coordinate location with dock level installer. Install dedicated 120V/20A circuit to dock level retainer. Coordinate location with dock level installer.

ELECTRICAL GENERAL NOTES

1. MOUNT OUTLETS IN PRODUCTION/PROCESS AREA 3'-0" ABOVE FINISHED FLOOR.



① Process Equipment Electrical Power - AREA 9 DV-RT
3/32" = 1'-0"



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ELECTRICAL PERMIT PLAN SET
ASI 002 2019.5.10

ELECTRICAL CONSTRUCTION PLAN SET
REV 3 ASI 11 2019.11.4

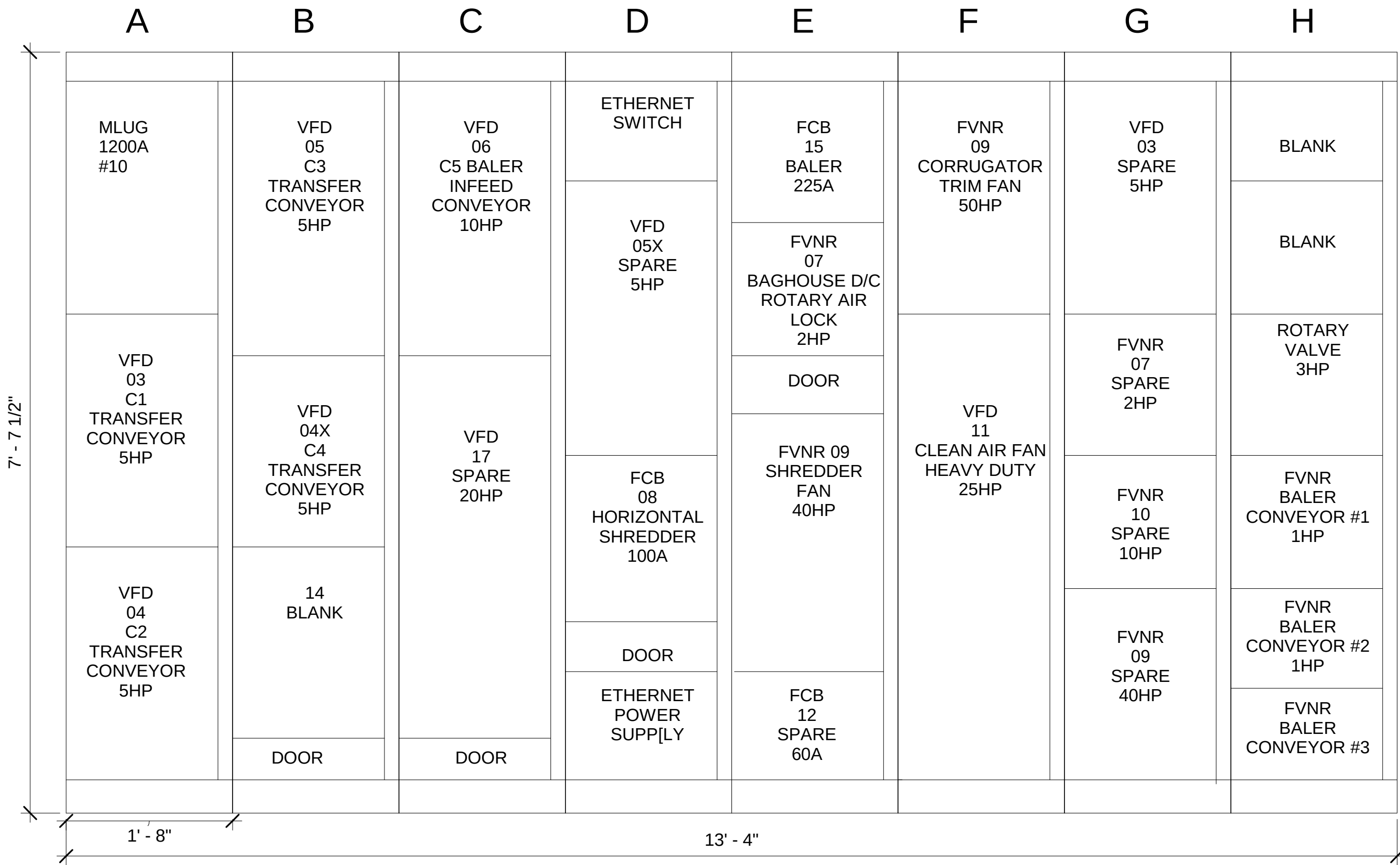
FINAL AS-BUILT PLAN SET
FEBRUARY 20, 2020

MCC ELEVATIONS

FILE: 18810
DRAWN BY: DAE
CHECKED BY: DAE
PROJ. NO: 18810
DATE: FEB 20, 2020
DRAWING NO:

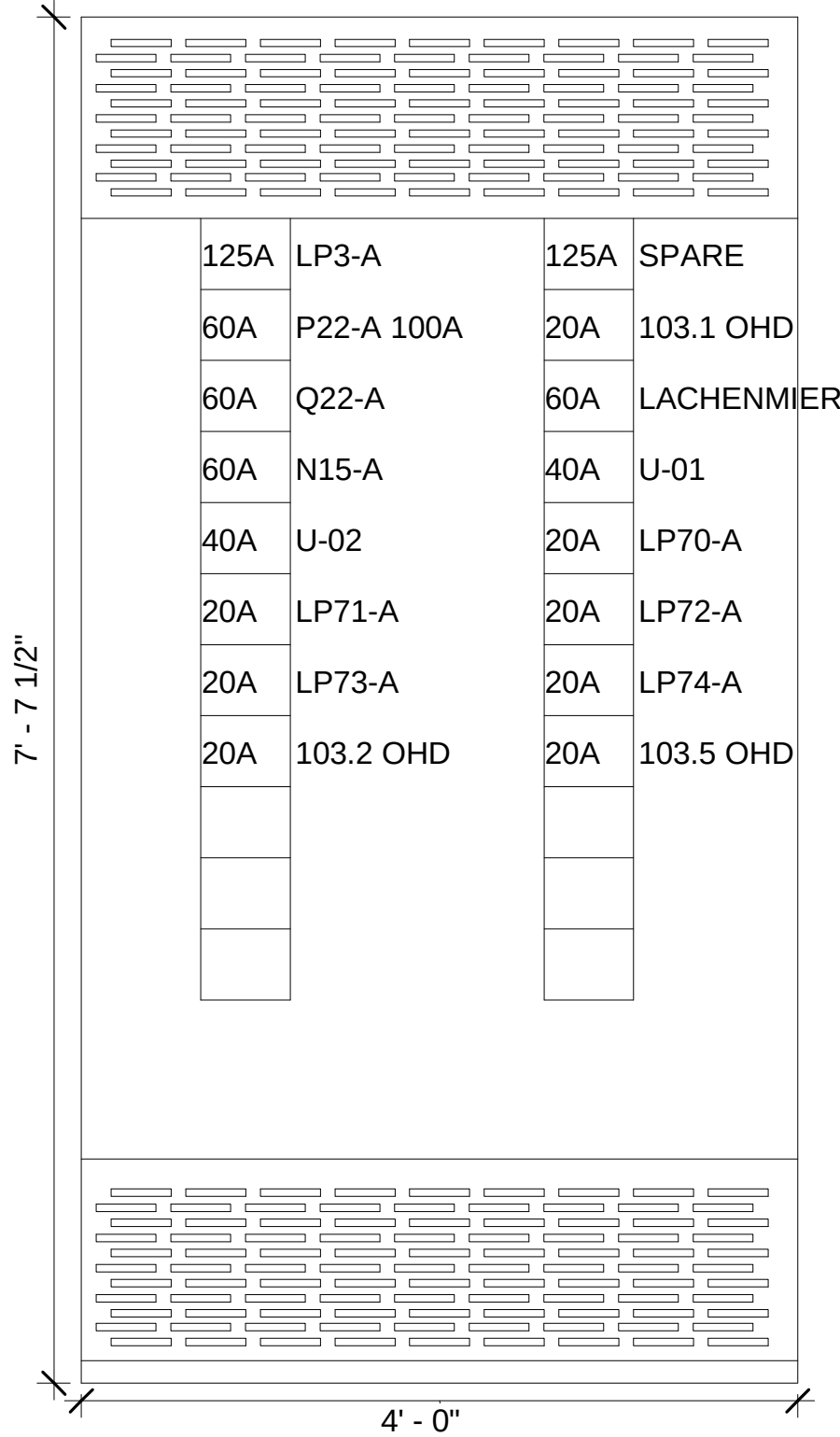
PE4.03

MCC-1110

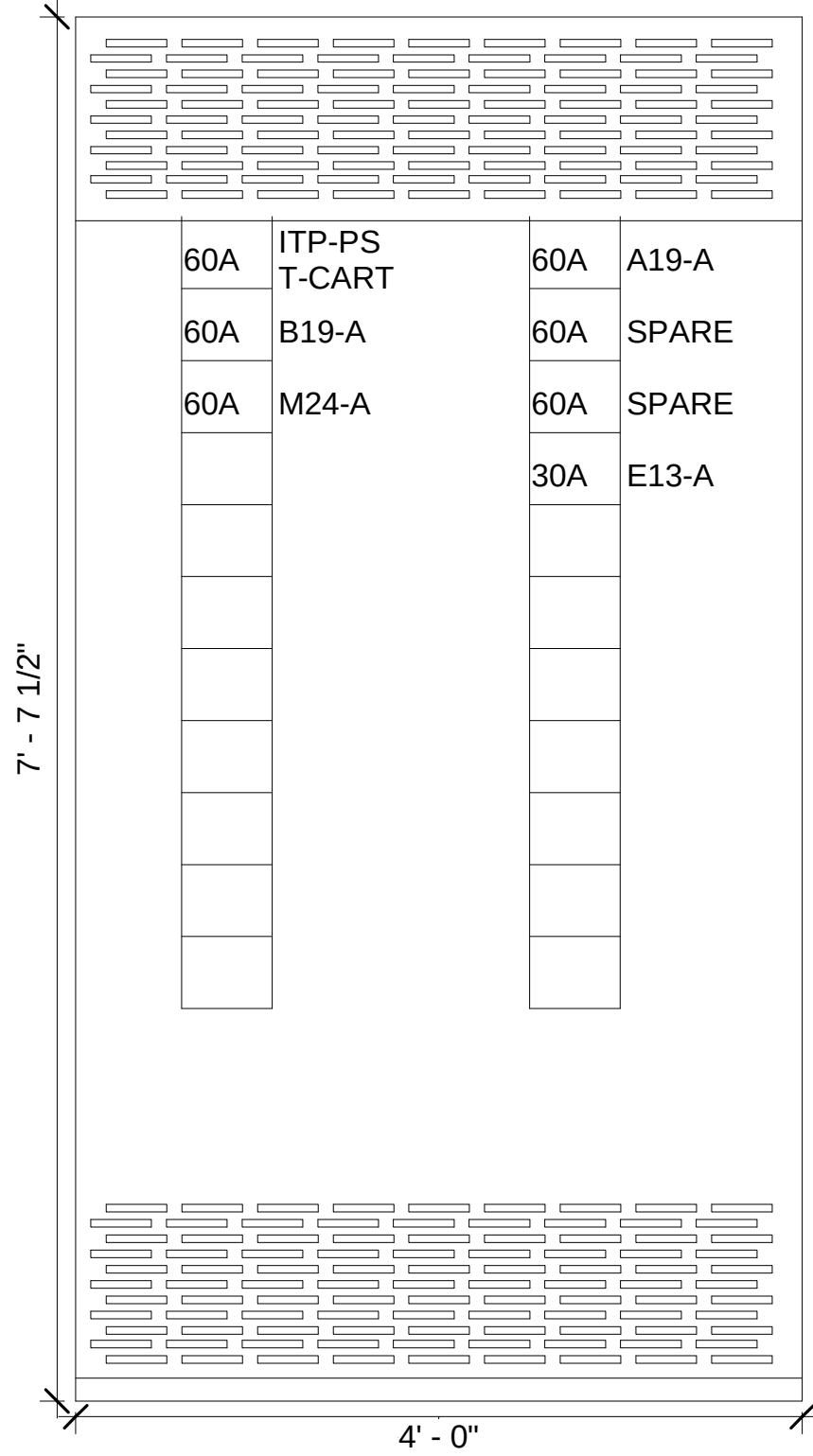


MCC-1110 ELEVATION
1" = 1'-0"

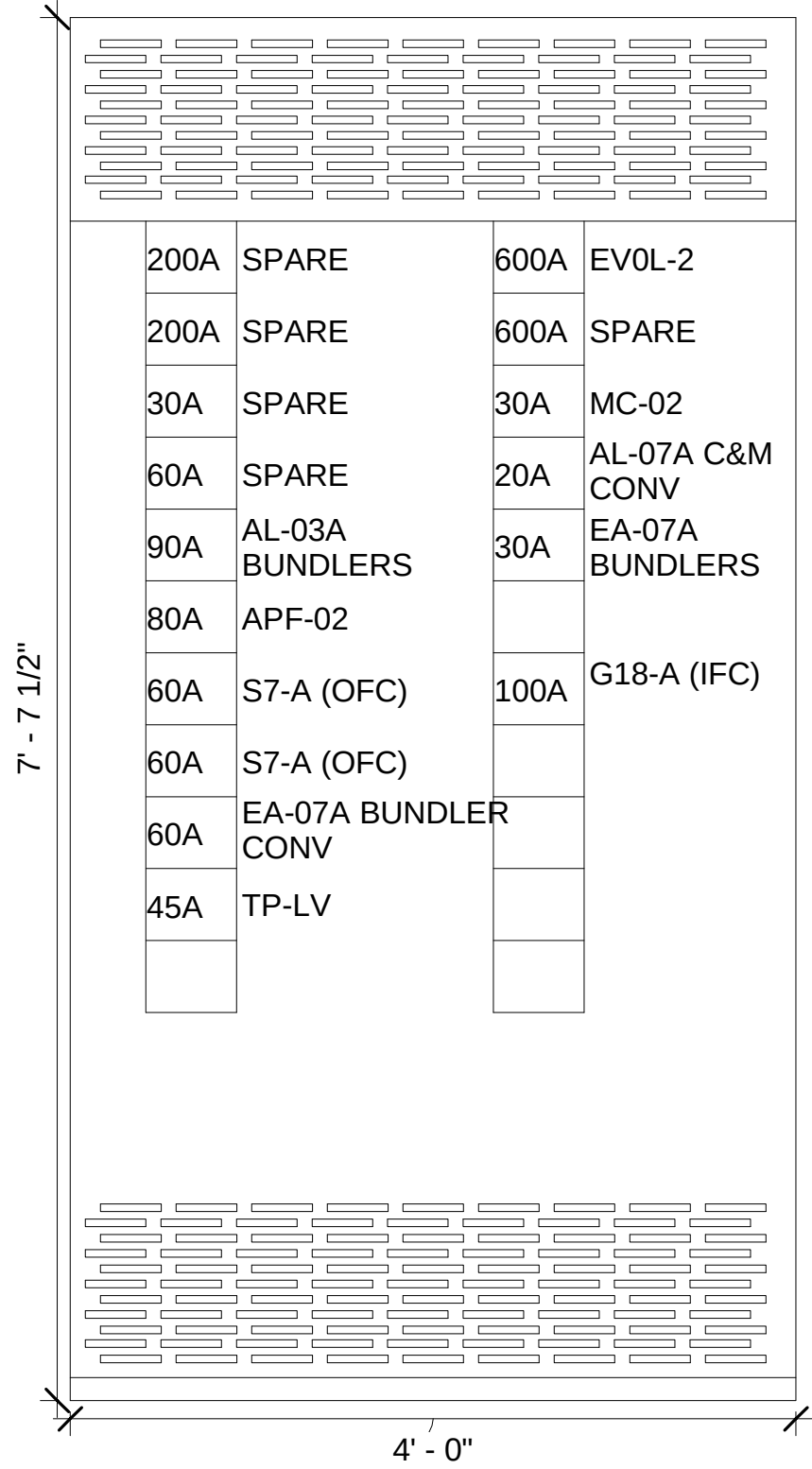
EAST CONVEYOR SWBD



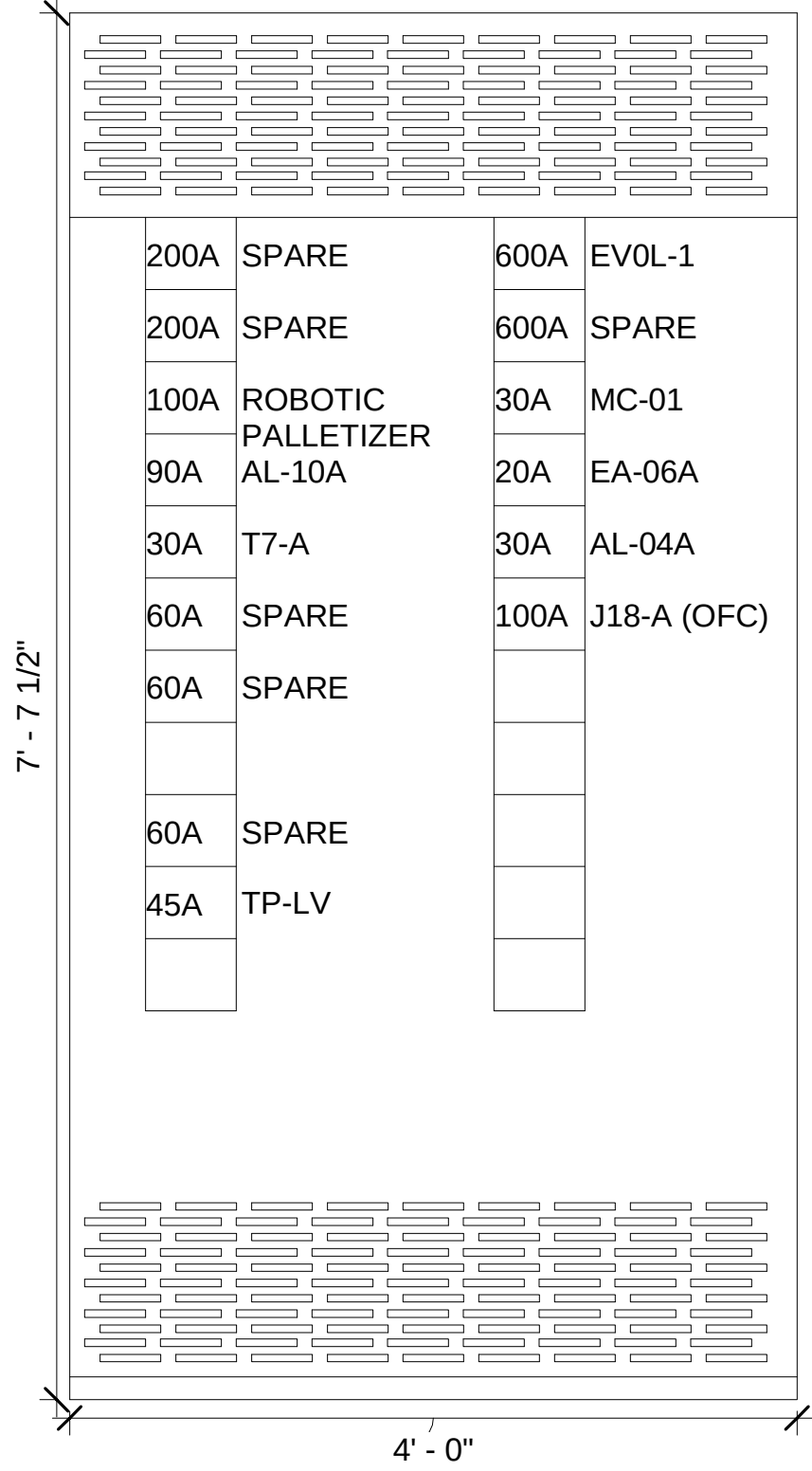
WEST CONVEYOR SWBD



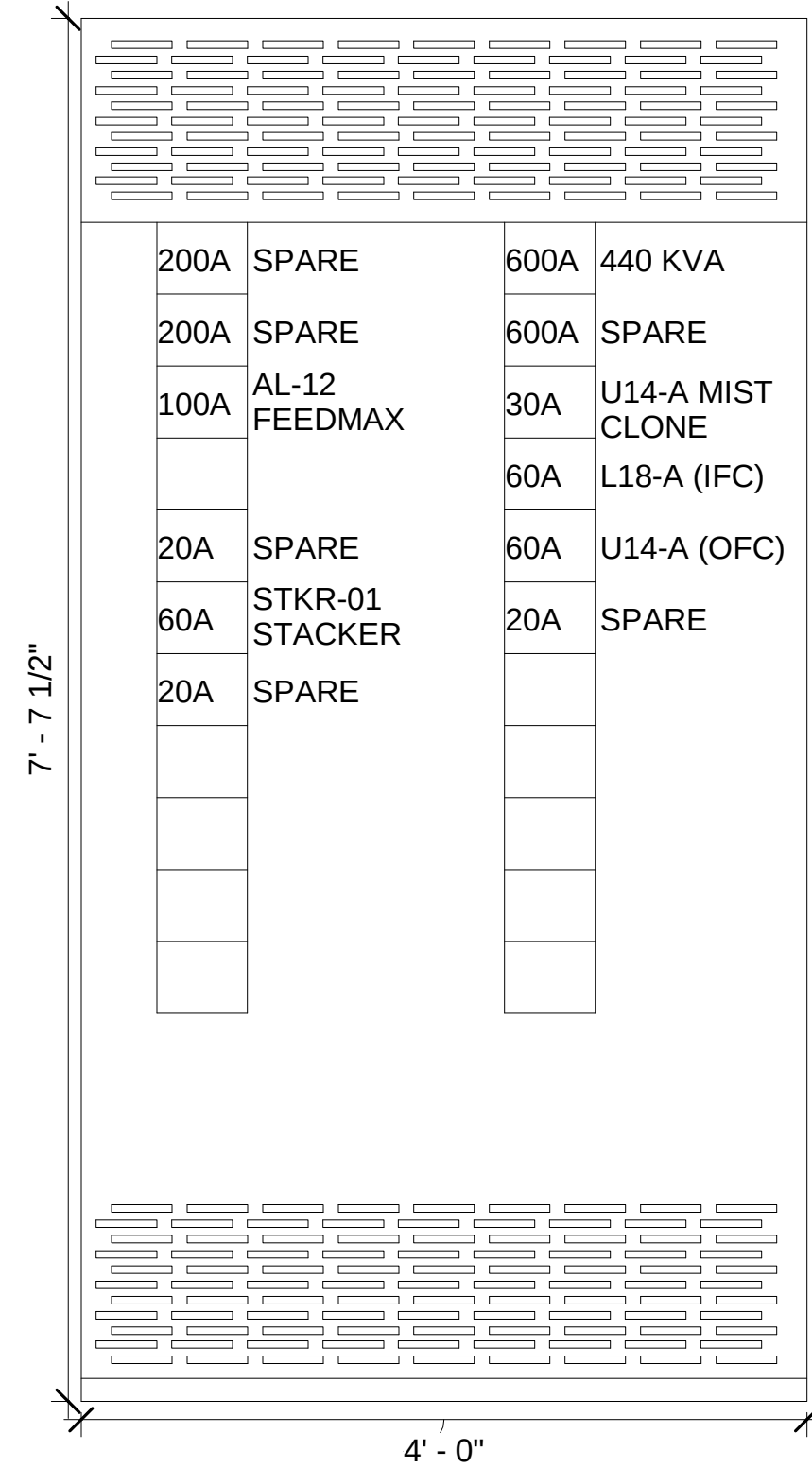
EVOL-2



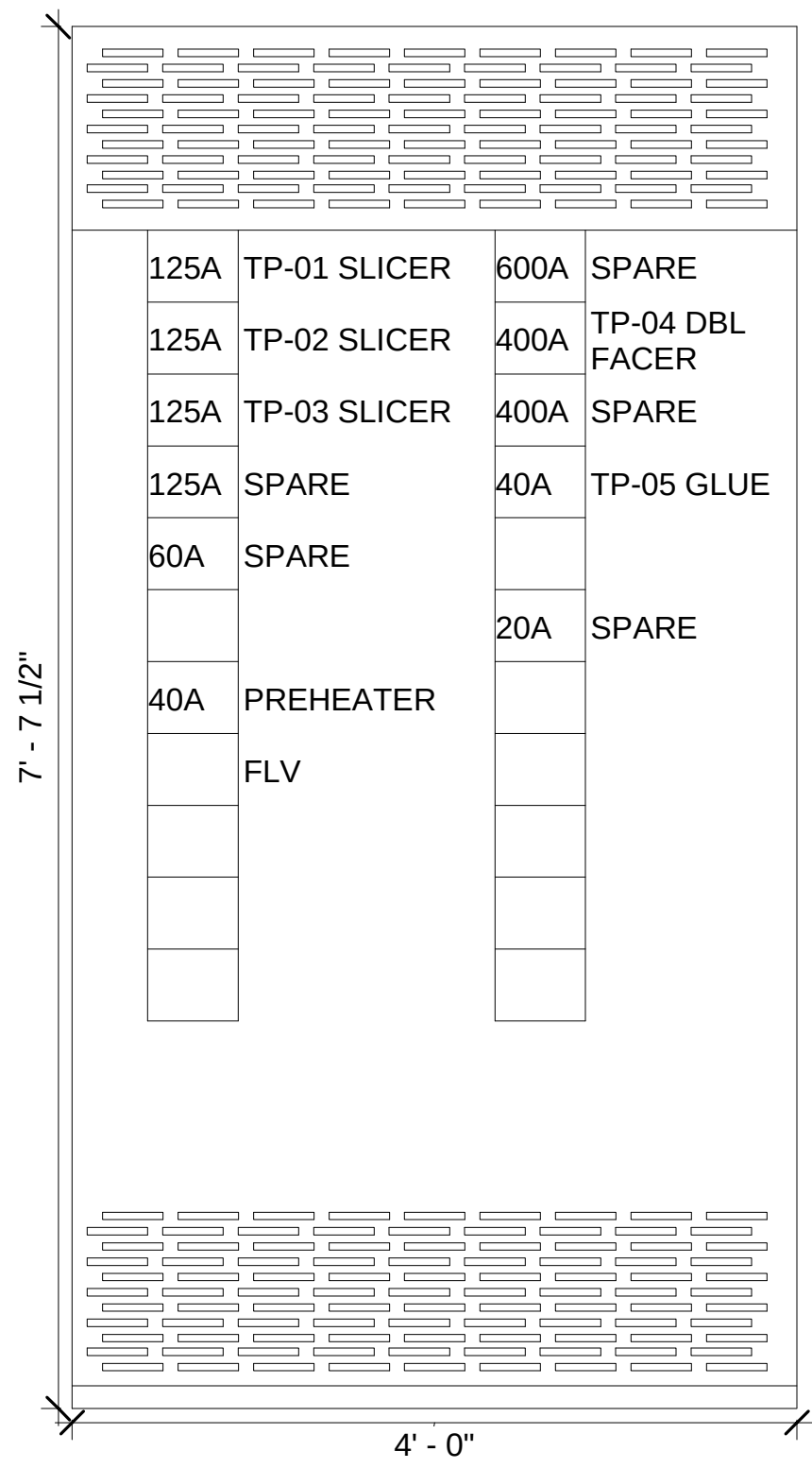
EVOL-1



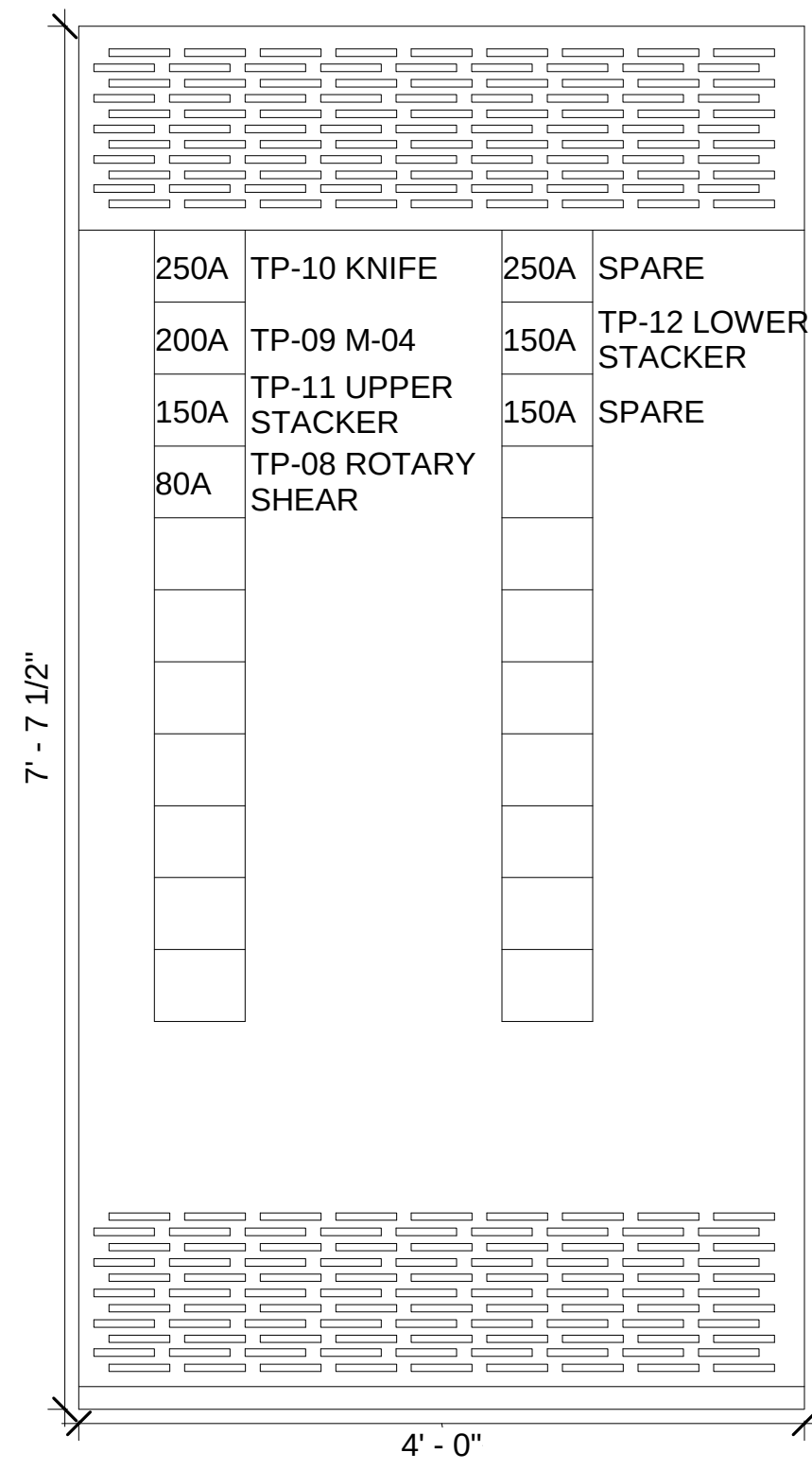
DIE CUTTER SWBD



W.E. CORRUGATOR PANEL



D.E. CORRUGATOR PANEL

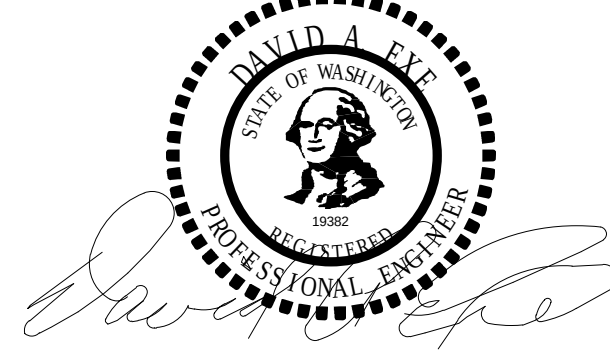


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ELECTRICAL PERMIT PLAN SET
ASI 002 2019.5.10

ELECTRICAL CONSTRUCTION PLAN SET
REV 3 ASI 11 2019.11.4

FINAL AS-BUILT PLAN SET
FEBRUARY 20, 2020

ELECTRICAL
DISTRIBUTION
PANELBOARD
ELEVATIONS

FILE: 18810
DRAWN BY: DAE
CHECKED BY: DAE
PROJ. NO: 18810
DATE: FEB 20, 2020
DRAWING NO:

PE4.04

Switchboard: W CONV

Location: PRODUCTION AREA 100

Supply From: MSB-1C

Mounting: Surface

Enclosure: 1

Volts: 480D/VAC

Phases: 3

Wires: 3

A.I.C. Rating: 65 KAIC

Mains Type: MLO

Mains Rating: 800 A

MCB Rating: 800 A

Notes:
MSB-1C-1107

CKT	Circuit Description	# of Poles	Frame Size	Trip Rating	Load	Remarks
1	ITP-PS T-CART	3	100 A	60 A	12470 VA	
2	A19-A CORR UPPER DISCHARGE CONVEYOR	3	100 A	60 A	12470 VA	
3	B19-A CORR LOWER DISCHARGE CONVEYOR	3	100 A	60 A	37411 VA	
4	SPARE	1	--	60 A	0 VA	
5	M24-A MAINLINE CONVEYOR	3	100 A	60 A	12470 VA	
6	SPARE	1	--	60 A	0 VA	
7	E13-A WIP CONVEYORS	3	100 A	30 A	12470 VA	
8	SPARE	1	--	30 A	0 VA	
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
Total Conn. Load:					87293 VA	
Total Amps:					105 A	

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	87293 VA	100.00%	87293 VA	
				Total Conn. Load: 87293 VA
				Total Est. Demand: 87293 VA
				Total Conn.: 105 A
				Total Est. Demand: 105 A

Notes:
(1) 500 KCMIL TC-ER CABLE VIA CABLE TRAY

Switchboard: E CONV

Location: WAREHOUSE 103

Supply From: MSB-1E

Mounting: Surface

Enclosure: 1

Volts: 480D/VAC

Phases: 3

Wires: 3

A.I.C. Rating: 65 KAIC

Mains Type: MLO

Mains Rating: 800 A

MCB Rating: 800 A

Notes:
MSB-1E-2109

CKT	Circuit Description	# of Poles	Frame Size	Trip Rating	Load	Remarks
1	LP3-A	3	200 A	125 A	12470 VA	
2	SPARE	1	--	20 A	125 VA	
3	P22-A BANDING AREA CONVEYOR	3	100 A	60 A	12470 VA	
4	103.1 OHD OVERHEAD DOOR	3	400 A	20 A	4157 VA	
5	Q22-A LOADOUT CONVEYOR	3	100 A	60 A	12470 VA	
6	LM-1 LACHENMEIER	3	100 A	60 A	16627 VA	
7	N15-A MAINLINE CONVEYOR	3	100 A	60 A	12470 VA	
8	U-01 UNITIZER	3	100 A	40 A	16627 VA	
9	U-02 UNITIZER	3	100 A	40 A	16627 VA	
10	LP70-A PALLET FEEDER	3	100 A	20 A	12470 VA	
11	LP71-A PALLET FEEDER	3	100 A	20 A	12470 VA	
12	LP72-A PALLET FEEDER	3	100 A	20 A	12470 VA	
13	LP73-A PALLET FEEDER	3	100 A	20 A	12470 VA	
14	LP74-A PALLET FEEDER	3	100 A	20 A	12470 VA	
15	103.2 OHD OVERHEAD DOOR	3	400 A	20 A	4157 VA	
16	103.5 OHD OVERHEAD DOOR	3	400 A	20 A	4157 VA	
17	LACENMEIER CRANE	3	100 A	30 A	24941 VA	
18	SPARE	1	--	20 A	0 VA	
19	SPARE	1	--	60 A	0 VA	
20						
Total Conn. Load:					199626 VA	
Total Amps:					240 A	

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	199526 VA	100.00%	199526 VA	
Spare	125 VA	100.00%	125 VA	
				Total Conn. Load: 199626 VA
				Total Est. Demand: 199626 VA
				Total Conn.: 240 A
				Total Est. Demand: 240 A

Notes:
(1) 500 KCMIL TC-ER CABLE VIA CABLE TRAY

Switchboard: W.E. CORR1

Location: PRODUCTION AREA 100

Supply From: MSB-1B

Mounting: Surface

Enclosure: 1

Volts: 480D/VAC

Phases: 3

Wires: 3

A.I.C. Rating: 65 KAIC

Mains Type: MLO

Mains Rating: 800 A

MCB Rating: 800 A

Notes:
MSB-1B-1104

CKT	Circuit Description	# of Poles	Frame Size	Trip Rating	Load	Remarks
1	TP-01 LINK/SPLICER #1	3	200 A	125 A	66509 VA	
2	Spare	1	--	600 A	0 VA	
3	TP-02 LINK/SPLICER #2	3	200 A	125 A	66509 VA	
4	TP-04 DOUBLE FACER	3	400 A	400 A	207840 VA	
5	TP-03 LINK/SPLICER #3	3	200 A	125 A	66509 VA	
6	Spare	1	--	400 A	0 VA	
7	Spare	1	--	40 A	0 VA	
8	TP-05 CREST GLUE MACHINE	3	100 A	40 A	19121 VA	
9	TP-06 MPH PREHEATER	3	100 A	60 A	24941 VA	
10	TWH-1 TANKLESS WATER HEATER #1	3	400 A	50 A	12470 VA	
11	FLV PANEL NO. 1104A-8	3	100 A	45 A	8254 VA	
12	TWH-2 TANKLESS WATER HEATER #2	3	400 A	50 A	12470 VA	
13						
14						
15						
16						
17						
18						
19						
20						
Total Conn. Load:					484623 VA	
Total Amps:					583 A	

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	478863 VA	100.00%	478863 VA	
MTR	5760 VA	102.08%	5880 VA	
				Total Conn. Load: 484623 VA
				Total Est. Demand: 484743 VA
				Total Conn.: 583 A
				Total Est. Demand: 583 A

Notes:
(3) 350KCMIL TC-ER CABLE VIA CABLE TRAY

Switchboard: D.E. CORR

Location: PRODUCTION AREA 100

Supply From: MSB-1B

Mounting: Surface

Enclosure: 1

Volts: 480D/VAC

Phases: 3

Wires: 3

A.I.C. Rating: 65 KAIC

Mains Type: MLO

Mains Rating: 800 A

MCB Rating: 800 A

Notes:
MSB-1B-1106

CKT	Circuit Description	# of Poles	Frame Size	Trip Rating	Load	Remarks
1	TP-10 CUT OFF KNIFE 400	3	400 A	250 A	137174 VA	
2	SPARE	1	--	250 A	0 VA	
3	TP-09 M-04 SLITTER SCORER	3	200 A	200 A	56532 VA	
4	TP-12 LOWER STACKER	3	200 A	150 A	38243 VA	
5	TP-11 UPPER STACKER	3	200 A	150 A	37411 VA	
6	SPARE	1	--	150 A	0 VA	
7	TP-08 ROTARY SHEAR	3	100 A	80 A	20784 VA	
8	TWH-3 TANKLESS WATER HEATER #3	3	400 A	50 A	12470 VA	
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
Total Conn. Load:					302615 VA	
Total Amps:					364 A	

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	302615 VA	100.00%	302615 VA	
				Total Conn. Load: 302615 VA
				Total Est. Demand: 302615 VA
				Total Conn.: 364 A
				Total Est. Demand: 364 A

Notes:
(3) 350KCMIL TC-ER CABLE VIA CABLE TRAY



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ELECTRICAL PERMIT PLAN SET
ASI 002 2019.5.10

ELECTRICAL CONSTRUCTION PLAN SET
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FINAL AS-BUILT PLAN SET
FEBRUARY 20, 2020

ELECTRICAL
SWITCHBOARD PANEL
SCHEDULES

FILE: 18810
DRAWN BY: DAE
CHECKED BY: DAE
PROJ. NO: 18810
DATE: FEB 20, 2020
DRAWING NO:

PE5.12

Switchboard: DC-SWBD						
Location: PRODUCTION AREA 100			Volts: 480D/VAC		A.I.C. Rating: 65 KAIC	
Supply From: MSB-1C			Phases: 3		Mains Type: MLO	
Mounting: Surface			Wires: 3		Mains Rating: 800 A	
Enclosure: 1					MCB Rating: 800 A	
Notes: MSB-1C-1112						
CKT	Circuit Description	# of Poles	Frame Size	Trip Rating	Load	Remarks
1	SPARE	1	--	200 A	0 VA	
2	TP-13 440KVA RDC ISOLATION TRANSFORMER	3	600 A	600 A	0 VA	
3	SPARE	1	--	200 A	0 VA	
4	SPARE	1	--	600 A	0 VA	
5	AL-12 ALLIANCE FEEDMAX	3	100 A	100 A	33254 VA	
6	U14-A MIST CLONE	3	100 A	30 A	8314 VA	
7						
8	L18-A INFEEED CONVEYOR	3	100 A	60 A	20784 VA	
9	SPARE	1	--	20 A	0 VA	
10	U14-A OUTFEED CONVEYOR	3	100 A	60 A	12470 VA	
11	STKR-01 RDC STACKER	3	100 A	60 A	20784 VA	
12	SPARE	1	--	20 A	0 VA	
13	SPARE	1	--	20 A	0 VA	
14						
15						
16						
17						
18						
19						
20						
Total Conn. Load:					95606 VA	
Total Amps:					115 A	
Legend:						
Load Classification		Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other		95606 VA	100.00%	95606 VA	Total Conn. Load:	95606 VA
					Total Est. Demand:	95606 VA
					Total Conn.:	115 A
					Total Est. Demand:	115 A
Notes: (3) 350KCMIL TC-ER CABLE VIA CABLE TRAY						

Switchboard: EVOL-2

Location: PRODUCTION AREA 100

Supply From: MSB-1F

Mounting: Surface

Enclosure: 1

Volts: 480D/VAC

Phases: 3

Wires: 3

A.I.C. Rating: 65 KAIC

Mains Type: MLO

Mains Rating: 800 A

MCB Rating: 800 A

Notes:

MSB-1F-2105

CKT	Circuit Description	# of Poles	Frame Size	Trip Rating	Load	Remarks
1	SPARE	1	--	200 A	0 VA	
2	EVOL-2	3	800 A	600 A	258553 VA	
3	SPARE	1	--	200 A	0 VA	
4	SPARE	1	--	600 A	0 VA	
5	SPARE	1	--	30 A	0 VA	
6	MC-02 MIST CLONE	3	100 A	30 A	8314 VA	
7	AL-03A RAPTOR LOADFORMER	3	200 A	90 A	16627 VA	
8	AL-07A C&M CONV	3	100 A	30 A	16627 VA	
9	AL-11A ALLIANCE PRE-FEEDER	3	100 A	80 A	8314 VA	
10	EA-07A BUNDLERS	3	100 A	20 A	7482 VA	
11	S7-A (OFC)	3	100 A	60 A	12470 VA	
12	G18-A (IFC)	3	100 A	100 A	29098 VA	
13	EA-07A BUNDLE CONVEYOR	3	100 A	60 A	9976 VA	
14						
15						
16						
17	SPARE	1	--	60 A	0 VA	
18						
19	TP-EVOL-2	3	100 A	45 A	0 VA	
20						
Total Conn. Load:					367461 VA	
Total Amps:					442 A	

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	367461 VA	100.00%	367461 VA	Total Conn. Load:	367461 VA
				Total Est. Demand:	367461 VA
				Total Conn.:	442 A
				Total Est. Demand:	442 A

Notes:

(3) 350KCMIL TC-ER CABLE VIA CABLE TRAY

Switchboard: EVOL-1						
Location: PRODUCTION AREA 100			Volts: 480D/VAC		A.I.C. Rating: 65 KAIC	
Supply From: MSB-1F			Phases: 3		Mains Type: MLO	
Mounting: Surface			Wires: 3		Mains Rating: 800 A	
Enclosure: 1					MCB Rating: 800 A	
Notes: MSB-1F-2104						
CKT	Circuit Description	# of Poles	Frame Size	Trip Rating	Load	Remarks
1	SPARE	1	--	200 A	0 VA	
2	EVOL-1	3	600 A	600 A	258553 VA	
3	SPARE	1	--	200 A	0 VA	
4	SPARE	1	--	600 A	0 VA	
5	AL-05A RAPTOR LOADFORMER	3	200 A	100 A	16627 VA	
6	MC-01 MIST CLONE	3	100 A	30 A	8314 VA	
7	AL-10A ALLIANCE PREFEEDER	3	100 A	90 A	8314 VA	
8	EA-06A BUNDLERS	3	100 A	20 A	7482 VA	
9	T7-A OUTFEED CONVEYOR	3	100 A	30 A	12470 VA	
10	AL-04A C&M CONV	3	100 A	30 A	8314 VA	
11	SPARE	1	--	60 A	0 VA	
12	J18-A INFEEED CONVEYOR	3	100 A	100 A	29098 VA	
13	SPARE	1	--	60 A	0 VA	
14						
15	EA-06A BUNDLE CONVEYOR	3	100 A	60 A	9976 VA	
16						
17	SPARE	1	--	60 A	0 VA	
18						
19	TP-LV EVOL-1 LOW VOLTAGE PANEL	3	100 A	45 A	0 VA	
20						
Total Conn. Load:					359148 VA	
Total Amps:					432 A	
Legend:						
Load Classification		Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other		359148 VA	100.00%	359148 VA		
					Total Conn. Load:	359148 VA
					Total Est. Demand:	359148 VA
					Total Conn.:	432 A
					Total Est. Demand:	432 A
Notes: (3) 350KCMIL TC-ER CABLE VIA CABLE TRAY						

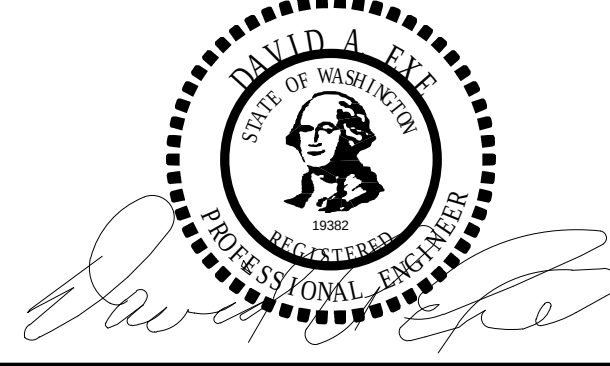


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FEB 20, 2020



NO DATE REVISION

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RICHLAND, WA 99354
BOX MANUFACTURING PLANT

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ELECTRICAL PERMIT PLAN SET
ASI 002 2019.5.10

ELECTRICAL CONSTRUCTION PLAN SET
REV 3 ASI 11 2019.11.4

FINAL AS-BUILT PLAN SET
FEBRUARY 20, 2020

ELECTIRCAL
SWITCHBOARD PANEL
SCHEDULES

FILE: 18810
DRAWN BY: DAE
CHECKED BY: DAE
PROJ. NO: 18810
DATE: FEB 20, 2020
DRAWING NO:

PE5.13

Motor Control Center MCC-1D

Location: ELECTRICAL 108

Supply From: MCC-1

Mounting:

Enclosure: Type 1

Volts: 480Y/277 Vac

Phases: 3

Wires: 4

A.I.C. Rating: 65 KAIC

Mains Type:

Mains Rating:

MCB Rating:

Notes:

CKT	Circuit Description	# of Poles	Frame Size	Trip Rating	Load	Remarks
1	SPARE 5HP	1	--	20 A	0 VA	
2	HS-1 HORIZONTAL SHREDDER	3	100 A	70 A	43231 VA	
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
Total Conn. Load:					43231 VA	
Total Amps:					52 A	

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	43231 VA	100.00%	43231 VA	
				Total Conn. Load: 43231 VA
				Total Est. Demand: 43231 VA
				Total Conn.: 52 A
				Total Est. Demand: 52 A
Notes:				

Motor Control Center MCC-1B

Location: ELECTRICAL 108

Supply From: MCC-1

Mounting:

Enclosure: Type 1

Volts: 480Y/277 Vac

Phases: 3

Wires: 4

A.I.C. Rating: 65 KAIC

Mains Type:

Mains Rating:

MCB Rating:

Notes:

CKT	Circuit Description	# of Poles	Frame Size	Trip Rating	Load	Remarks
1	TC-C3 TRANSFER CONVEYOR C3 5 HP	3	100 A	20 A	9145 VA	
2	TC-C4 TRANSFER CONVEYOR C4 5 HP	3	100 A	20 A	3991 VA	
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
Total Conn. Load:					13135 VA	
Total Amps:					16 A	

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	13135 VA	100.00%	13135 VA	
				Total Conn. Load: 13135 VA
				Total Est. Demand: 13135 VA
				Total Conn.: 16 A
				Total Est. Demand: 16 A
Notes:				

Motor Control Center MCC-1C

Location: ELECTRICAL 108

Supply From: MCC-1

Mounting:

Enclosure: Type 1

Volts: 480Y/277 Vac

Phases: 3

Wires: 4

A.I.C. Rating: 65 KAIC

Mains Type:

Mains Rating:

MCB Rating:

Notes:

CKT	Circuit Description	# of Poles	Frame Size	Trip Rating	Load	Remarks
1	BIC-C5 BALER INFEED CONVEYOR 10 HP	3	100 A	20 A	3991 VA	
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
Total Conn. Load:					3991 VA	
Total Amps:					5 A	

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	3991 VA	100.00%	3991 VA	
				Total Conn. Load: 3991 VA
				Total Est. Demand: 3991 VA
				Total Conn.: 5 A
				Total Est. Demand: 5 A
Notes:				

Motor Control Center MCC-1A

Location: ELECTRICAL 108

Supply From: MCC-1

Mounting:

Enclosure: Type 1

Volts: 480Y/277 Vac

Phases: 3

Wires: 4

A.I.C. Rating: 65 KAIC

Mains Type:

Mains Rating:

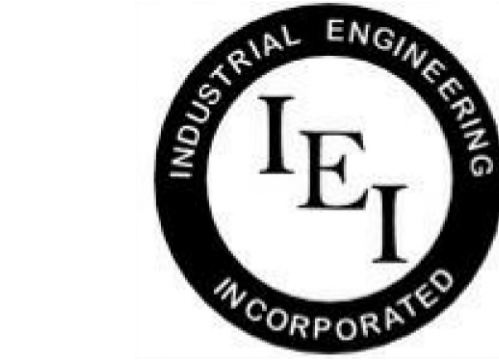
MCB Rating:

Notes:

CKT	Circuit Description	# of Poles	Frame Size	Trip Rating	Load	Remarks
1	TC-C1 TRANSFER CONVEYOR C1 5 HP	3	100 A	20 A	6318 VA	
2	TC-C2 TRANSFER CONVEYOR C2 5 HP	3	100 A	20 A	3991 VA	
3						
4						
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6						
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9						
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14						
15						
16						
17						
18						
19						
20						
Total Conn. Load:					10309 VA	
Total Amps:					12 A	

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	10309 VA	100.00%	10309 VA	
				Total Conn. Load: 10309 VA
				Total Est. Demand: 10309 VA
				Total Conn.: 12 A
				Total Est. Demand: 12 A
Notes:				



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ELECTRICAL PERMIT PLAN SET
ASI 002 2019.5.10

ELECTRICAL CONSTRUCTION PLAN SET
REV 3 ASI 11 2019.11.4

FINAL AS-BUILT PLAN SET
FEBRUARY 20, 2020

ELECTRICAL MCC PANEL
SCHEDULES

FILE: 18810
DRAWN BY: DAE
CHECKED BY: DAE
PROJ. NO: 18810
DATE: FEB 20, 2020
DRAWING NO:

PE5.13A

Motor Control Center MCC-1H

Location: ELECTRICAL 108
 Supply From: MCC-1
 Mounting:
 Enclosure: Type 1

Volts: 480Y/277 Vac
 Phases: 3
 Wires: 4

A.I.C. Rating: 65 KAIC
 Mains Type:
 Mains Rating:
 MCB Rating:

Notes:

CKT	Circuit Description	# of Poles	Frame Size	Trip Rating	Load	Remarks
1	SCRAP SEPARATOR ROTARY VALVE 3 HP	3	100 A	20 A	2494 VA	
2	BC-#1 BALER CONVEYOR #1 1 HP	3	100 A	20 A	2494 VA	
3	BC-#2 BALER CONVEYOR #2 1 HP	3	100 A	20 A	2494 VA	
4	BC-#3 BALER CONVEYOR #3 1 HP	3	100 A	20 A	2494 VA	
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

Total Conn. Load: 9976 VA
 Total Amps: 12 A

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	9976 VA	100.00%	9976 VA	
				Total Conn. Load: 9976 VA
				Total Est. Demand: 9976 VA
				Total Conn.: 12 A
				Total Est. Demand: 12 A

Notes:

Motor Control Center MCC-1G

Location: ELECTRICAL 108
 Supply From: MCC-1
 Mounting:
 Enclosure: Type 1

Volts: 480Y/277 Vac
 Phases: 3
 Wires: 4

A.I.C. Rating: 65 KAIC
 Mains Type:
 Mains Rating:
 MCB Rating:

Notes:

CKT	Circuit Description	# of Poles	Frame Size	Trip Rating	Load	Remarks
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

Total Conn. Load: 0 VA
 Total Amps: 0 A

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
				Total Conn. Load: 0 VA
				Total Est. Demand: 0 VA
				Total Conn.: 0 A
				Total Est. Demand: 0 A

Notes:

Motor Control Center MCC-1F

Location: ELECTRICAL 108
 Supply From: MCC-1
 Mounting:
 Enclosure: Type 1

Volts: 480Y/277 Vac
 Phases: 3
 Wires: 4

A.I.C. Rating: 65 KAIC
 Mains Type:
 Mains Rating:
 MCB Rating:

Notes:

CKT	Circuit Description	# of Poles	Frame Size	Trip Rating	Load	Remarks
1	CTF-1 CORRUGATOR TRIM FAN 50 HP	3	200 A	150 A	43231 VA	
2	CAF-1 CLEAN AIR FAN 25HP	3	100 A	50 A	20784 VA	
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

Total Conn. Load: 64015 VA
 Total Amps: 77 A

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	64015 VA	100.00%	64015 VA	
				Total Conn. Load: 64015 VA
				Total Est. Demand: 64015 VA
				Total Conn.: 77 A
				Total Est. Demand: 77 A

Notes:

Motor Control Center MCC-1E

Location: ELECTRICAL 108
 Supply From: MCC-1
 Mounting:
 Enclosure: Type 1

Volts: 480Y/277 Vac
 Phases: 3
 Wires: 4

A.I.C. Rating: 65 KAIC
 Mains Type:
 Mains Rating:
 MCB Rating:

Notes:

CKT	Circuit Description	# of Poles	Frame Size	Trip Rating	Load	Remarks
1	BALER 225A	3	400 A	225 A	103089 VA	
2	BHDC BAGHOUSE DUST COLLECTOR ROTARY AIR LOCK 2 HP	3	100 A	20 A	2827 VA	
3	SHF-1 SHREDDER FAN 40 HP	3	100 A	70 A	43231 VA	
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

Total Conn. Load: 149146 VA
 Total Amps: 179 A

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	149146 VA	100.00%	149146 VA	
				Total Conn. Load: 149146 VA
				Total Est. Demand: 149146 VA
				Total Conn.: 179 A
				Total Est. Demand: 179 A

Notes:



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FEB 20, 2020



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 ASI 002 2019.5.10

ELECTRICAL CONSTRUCTION PLAN SET
 REV 3 ASI 11 2019.11.4

FINAL AS-BUILT PLAN SET
 FEBRUARY 20, 2020

ELECTRICAL MCC PANEL
SCHEDULES

FILE: 18810
 DRAWN BY: DAE
 CHECKED BY: DAE
 PROJ. NO: 18810
 DATE: FEB 20, 2020
 DRAWING NO:

PE5.14

ELECTRICAL PROCESS SWITCHBOARD/PANELBOARD SCHEDULE						
Panel Name	DESCRIPTION	LOCATION	FED FROM	CONDUIT & CONDUCTORS		Comments
D.E. CORR	PROCESS SWITCHBOARD	C.4 - 3.6	MSB-1B-1106	(3) 350KCMIL TC-ER CABLE	VIA CABLE TRAY	IN 3" RIGID CONDUIT WHERE REQUIRED
DC-SWBD	PROCESS SWITCHBOARD	G.5 - 5..3	MSB-1C-1112	(3) 350KCMIL TC-ER CABLE	VIA CABLE TRAY	IN 3" RIGID CONDUIT WHERE REQUIRED
E CONV	PROCESS SWITCHBOARD	M - 5.5	MSB-1E-2109	(1) 500 KCMIL TC-ER CABLE	VIA CABLE TRAY	IN 4" RIGID CONDUIT WHERE REQUIRED
EVOL-1	PROCESS SWITCHBOARD	H-7	MSB-1F-2104	(3) 350KCMIL TC-ER CABLE	VIA CABLE TRAY	IN 3" RIGID CONDUIT WHERE REQUIRED
EVOL-2	PROCESS SWITCHBOARD	G.8 - 5.8	MSB-1F-2105	(3) 350KCMIL TC-ER CABLE	VIA CABLE TRAY	IN 3" RIGID CONDUIT WHERE REQUIRED
MCC-1	PROCESS SWITCHBOARD	H.5 - 10.5	MSB-1C	(3) 350KCMIL TC-ER CABLE	VIA CABLE TRAY	
W CONV	PROCESS SWITCHBOARD	LE.5 - 4.8	MSB-1C-1107	(1) 500 KCMIL TC-ER CABLE	VIA CABLE TRAY	IN 4" RIGID CONDUIT WHERE REQUIRED
W.E. CORR1	PROCESS SWITCHBOARD	C.5 - 5.25	MSB-1B-1104	(3) 350KCMIL TC-ER CABLE	VIA CABLE TRAY	IN 3" RIGID CONDUIT WHERE REQUIRED

TRANSFORMER SCHEDULE (PHASE 3 PROCESS CONSTRUCTION)											
TRANSFO RMER	LOAD SERVED	PROVIDED BY	PRIMARY CONDUCTORS	PRIMARY VOLTAGE	SECONDARY CONDUCTORS	SECONDARY VOLTAGE	TOTAL LOAD	ENCLOSU RE	MOUNTI NG	PHASE INSTALLED	FED FROM
TP-01	LINK/SPLICER #1 93KVA	VENDOR	1 1/2"C,(3)#1 CU + #8 GND	480 V/3-0 VA	1 1/2"C,(3)#1 CU + #8 GND	480V/480V D	66509 VA	NEMA 1	Floor	Phase 3 (Process Construction)	W.E. CORRUGATOR PANEL
TP-02	LINK/SPLICER #2 93KVA	VENDOR	1 1/2"C,(3)#1 CU + #8 GND	480 V/3-0 VA	1 1/2"C,(3)#1 CU + #8 GND	480V/480V D	66509 VA	NEMA 1	Floor	Phase 3 (Process Construction)	W.E. CORRUGATOR PANEL
TP-03	LINK/SPLICER #93KVA	VENDOR	1 1/2"C,(3)#1 CU + #8 GND	480 V/3-0 VA	1 1/2"C,(3)#1 CU + #8 GND	480V/480V D	66509 VA	NEMA 1	Floor	Phase 3 (Process Construction)	W.E. CORRUGATOR PANEL
TP-04	SINGLE FACER	VENDOR	3 1/2"C,(3) 500KCMIL + #3 GND	480 V/3-0 VA	3 1/2"C,(3) 500KCMIL + #3 GND	480V/480V D	207840 VA	NEMA 1	Floor	Phase 3 (Process Construction)	W.E. CORRUGATOR PANEL
TP-05	CREST 27KVA	VENDOR	1"C,(3)#8 + #10 GND	480 V/3-0 VA	1"C,(3)#8 _ #10 GND	480V/480V D	19121 VA	NEMA 1	Floor	Phase 3 (Process Construction)	W.E. CORRUGATOR PANEL
TP-06	MPH 34KVA	VENDOR	1"C,(3)#8 + #10 GND	480 V/3-0 VA	1"C,(3)#8 _ #10 GND	480V/480V D	24941 VA	NEMA 1	Floor	Phase 3 (Process Construction)	W.E. CORRUGATOR PANEL
TP-07	DOUBLE FACER	VENDOR	(2)3"C,(3)350KCMIL + #1 GND	480 V/3-0 VA	(2)3"C,(3)350KCMIL + #1 GND	480V/480V D	166272 VA	NEMA 1	Floor	Phase 3 (Process Construction)	MSB - 1103
TP-08	SHEAR 51KVA	VENDOR	1"C,(3)#4 + #8 GND	480 V/3-0 VA	1"C,(3)#4 + #8 GND	480V/480V D	20784 VA	NEMA 1	Floor	Phase 3 (Process Construction)	D.E. CORRUGATOR PANEL
TP-09	TWIN 145KVA	VENDOR	2"C,(3)#3/0 + #6 GND	480 V/3-0 VA	2"C,(3)#3/0 + #6 GND	480V/480V D	56532 VA	NEMA 1	Floor	Phase 3 (Process Construction)	D.E. CORRUGATOR PANEL
TP-10	KNIFE 220KVA	VENDOR	2 1/2"C,(3)250KCMIL + #4 GND	480 V/3-0 VA	2 1/2"C,(3)250KCMIL + #4 GND	480V/480V D	137174 VA	NEMA 1	Floor	Phase 3 (Process Construction)	D.E. CORRUGATOR PANEL
TP-11	UPPER STACKER 118KVA	VENDOR	1 1/2"C,(3) #1/0 + #6 GND	480 V/3-0 VA	1 1/2"C,(3) #1/0 + #6 GND	480V/480V D	37411 VA	NEMA 1	Floor	Phase 3 (Process Construction)	D.E. CORRUGATOR PANEL
TP-12	LOWER STACKER 118KVA	VENDOR	1 1/2"C,(3) #1/0 + #6 GND	480 V/3-0 VA	1 1/2"C,(3) #1/0 + #6 GND	480V/480V D	38243 VA	NEMA 1	Floor	Phase 3 (Process Construction)	D.E. CORRUGATOR PANEL
TP-13	REMOTE DIE CUTTER 440KVA	CONTRACTOR	(2)3"C,(3)350KCMIL + #1 GND	480 V/3-0 VA	(2)3"C,(3)350KCMIL + #1 GND	480V/480V D	332544 VA	NEMA 1	Floor	Phase 3 (Process Construction)	DC-SWBD
TP-EVOL-1	EVOL-1 208V/120V LOADS	VENDOR	1"C,(3)#8 + #10 GND	480 V/3-0 VA	1 1/2"C,(3)#3 + #8 GND	208V/120V Y	0 VA	NEMA 1	Floor	Phase 3 (Process Construction)	EVOL-2
TP-EVOL-2	EVOL-2 208V/120V LOADS	VENDOR	1"C,(3)#8 + #10 GND	480 V/3-0 VA	1 1/2"C,(3)#3 + #8 GND	208V/120V Y	0 VA	NEMA 1	Floor	Phase 3 (Process Construction)	EVOL-2
TP-FLV	120V CORRUGATOR LOADS	VENDOR	1"C,(3)#8 + #10 GND	480 V/3-0 VA	1 1/2"C,(3)#3 + #8 GND	208V/120V Y	8254 VA	NEMA 1	Floor	Phase 3 (Process Construction)	D.E. CORRUGATOR PANEL

Switchboard: SP

Location: PRODUCTION AREA 100

Supply From: BSSB-1B

Mounting: Surface

Enclosure: 1

Volts: 480D/VAC

Phases: 3

Wires: 3

A.I.C. Rating: 65 KAIC

Mains Type: MLO

Mains Rating: 400 A

MCB Rating: 400 A

Notes:

CKT	Circuit Description	# of Poles	Frame Size	Trip Rating	Load	Remarks
1	SC-1 STARCH CHILLER	3	100 A	30 A	8314 VA	
2	SM-1 STARCH MIXER	3	100 A	100 A	24941 VA	
3	SC-2 STARCH CHILLER	3	100 A	30 A	8314 VA	
4	SWH-1 STARCH WATER HEATER	3	100 A	30 A	8314 VA	
5	SWH-2 STARCH WATER HEATER	3	100 A	30 A	8314 VA	
6	SRT-1 STARCH RUN TANK	3	100 A	30 A	8314 VA	
7	SWH-3 STARCH WATER HEATER	3	100 A	30 A	8314 VA	
8	SRT-2 STARCH RUN TANK	3	100 A	30 A	8314 VA	
9	SSTC-1 STARCH SILO STARTERS & CONTROL	3	100 A	30 A	19953 VA	
10	Spare	1	--	30 A	0 VA	
11						
12						
13						
14						
15						
16						
17						
18						
Total Conn. Load:					103089 VA	
Total Amps:					124 A	

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	103089 VA	100.00%	103089 VA	
				Total Conn. Load: 103089 VA
				Total Est. Demand: 103089 VA
				Total Conn.: 124 A
				Total Est. Demand: 124 A

Notes:

Branch Panel: FLV													
Location: PRODUCTION AREA 100				Volts: 208Y/120 Vac				A.I.C. Rating: 22 KAIC					
Supply From: TP-FLV				Phases: 3				Mains Type: MLO					
Mounting: Surface				Wires: 4				Mains Rating: 100 A					
Enclosure: NEMA 4										MCB Rating: 100 A			
Notes:													
CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	CEC+	20 A	1	480 VA	480 VA					1	20 A	MAIN OPS CONSOLE 1	2
3	MAIN OPS CONSOLE 2	20 A	1			480 VA	480 VA			1	20 A	B30 NETWORK CABINET	4
5	SF-1 SINGLE FACER 1	20 A	1					480 VA	480 VA	1	20 A	SRO-1 SYNCRO REMOTE OPS 1	6
7	E&L BRIDGE GUIDE	20 A	1	480 VA	480 VA					1	20 A	SRO-2 SYNCRO REMOTE OPS 2	8
9	CAMERA CONSOLE 1	20 A	1			480 VA	480 VA			1	20 A	CAMERA CONSOLE 2	10
11	OVERHEAD DISPLAY	20 A	1					480 VA	480 VA	1	20 A	PROCARE	12
13	Other PRODUCTION AREA 100	20 A	1	2494...									14
15													16
17													18
19													20
21													22
23													24
25													26
27													28
29													30
31													32
33													34
35													36
37													38
39													40
41													42
43													44
45													46
47													48
49													50
51													52
53													54
				Total Load:	4414 VA	1920 VA		1920 VA					
				Total Amps:	37 A	16 A		16 A					
Legend:													
Load Classification		Connected Load		Demand Factor		Estimated Demand		Panel Totals					
Other		2494 VA		100.00%		2494 VA							
MTR		5760 VA		102.08%		5880 VA							
								Total Conn. Load: 8254 VA					
								Total Est. Demand: 8374 VA					
								Total Conn.: 23 A					
								Total Est. Demand: 23 A					
Notes:													

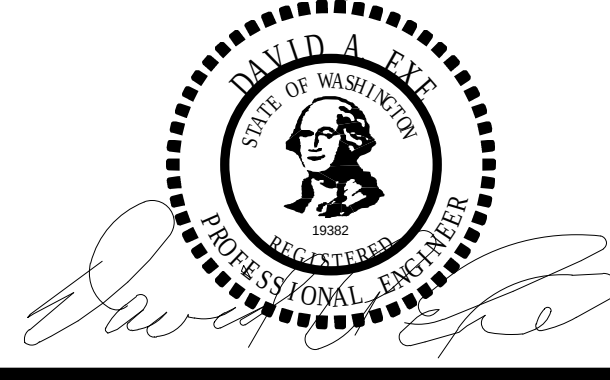


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ELECTRICAL PERMIT PLAN SET
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ELECTRICAL CONSTRUCTION PLAN SET
REV 3 ASI 11 2019.11.4

FINAL AS-BUILT PLAN SET
FEBRUARY 20, 2020

PROCESS PANELBOARD
SCHEDULES &
TRANSFORMER
SCHEDULE

FILE: 18810
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PE5.15

ELECTRICAL EQUIPMENT SCHEDULE PHASE 3 (PROCESS CONSTRUCTION)													
ID	VENDOR	DESCRIPTION	LOAD AMPS	VOLT	PHASE	BREAKER	SERVED FROM	WIRE SIZE	PHASE 3 (PROCESS EQUIPMENT)	PROVIDED BY	CONNECTED BY	COMMENTS	
103.1 OHD	-	103.1 OHD	5 A	480 V	3	20 A	E-CONV	#10	Process Construction Phase	VENDOR	CONTRACTOR		
103.2 OHD	-	103.2 OHD	5 A	480 V	3	20 A	E-CONV	#10	Process Construction Phase	VENDOR	CONTRACTOR		
103.5 OHD	-	103.2 OHD	5 A	480 V	3	20 A	E-CONV	#10	Process Construction Phase	VENDOR	CONTRACTOR		
A19-A	FOSBER	CORRUGATOR DISCHARGE PANEL	15 A	480 V	3	60 A	W-CONV	#6	Process Construction Phase	VENDOR	CONTRACTOR		
AC #1	-	AIR COMPRESSOR #1	240 A	480 V	3	400 A	MSB-1C	500 KCMIL	Process Construction Phase	VENDOR	CONTRACTOR		
AC #2	-	AIR COMPRESSOR #2	240 A	480 V	3	400 A	MSB-1F	500 KCMIL	Process Construction Phase	VENDOR	CONTRACTOR		
ACD-1	-	AIR COMPRESSOR DRYER #1	8 A	480 V	3	20 A	BSSB-1A	# 10	Process Construction Phase	VENDOR	CONTRACTOR		
ACD-2	-	AIR COMPRESSOR DRYER #2	8 A	480 V	3	20 A	BSSB-1A	# 10	Process Construction Phase	VENDOR	CONTRACTOR		
APF-01	ALLIANCE	ALLIANCE PRE-FEEDER	10 A	480 V	3	80 A	EVOL 1	#4	Process Construction Phase	VENDOR	CONTRACTOR		
APF-02	ALLIANCE	ALLIANCE PRE-FEEDER	10 A	480 V	3	80 A	EVOL 2	#4	Process Construction Phase	VENDOR	CONTRACTOR		
B19-A	FOSBER	CORRUGATOR DISCHARGE PANEL	45 A	480 V	3	60 A	W-CONV	#3	Process Construction Phase	VENDOR	CONTRACTOR		
B-1&2	mitsubishi	BUNDLER 1 & 2 EVOL 1	9 A	480 V	3	20 A	EVOL 1	#10	Process Construction Phase	VENDOR	CONTRACTOR		
B-1&2	mitsubishi	BUNDLER 1 & 2 EVOL 2	9 A	480 V	3	20 A	EVOL 2	#10	Process Construction Phase	VENDOR	CONTRACTOR		
BALER	-	BALER	124 A	480 V	3	200 A	MCC-1E	# 3/0	Process Construction Phase	VENDOR	CONTRACTOR	FDR BKR IN MCC	
BC-#1	-	BALER CONVEYOR #1	3 A	480 V	3	20 A	MCC-1H	# 10	Process Construction Phase	VENDOR	CONTRACTOR		
BC-#2	-	BALER CONVEYOR #2	3 A	480 V	3	20 A	MCC-1H	# 10	Process Construction Phase	VENDOR	CONTRACTOR		
BC-#3	-	BALER CONVEYOR #3	3 A	480 V	3	20 A	MCC-1H	# 10	Process Construction Phase	VENDOR	CONTRACTOR		
BFWP	-	BOILER FEED WATER PUMP	15 A	480 V	3	100 A	BSSB-1B	# 2	Process Construction Phase	VENDOR	CONTRACTOR		
BGT-01	FOSBER	BRIDGE GUIDE/TENSION	12 A	120 V	3	20 A	FLV	# 10	Process Construction Phase	VENDOR	CONTRACTOR		
BHDC	-	BAG HOUSE ROTARY AIR LOCK	3 A	480 V	3	20 A	MCC-1E	# 10	Process Construction Phase	VENDOR	CONTRACTOR		
BIC-C5	-	C5 BALER INFEED CONVEYOR	5 A	480 V	3	20 A	MCC-1C	# 10	Process Construction Phase	VENDOR	CONTRACTOR	#10 Wire use Beldon 29503	
BO-1	-	BOILER	90 A	480 V	3	200 A	BSSB-1B	# 3/0	Process Construction Phase	VENDOR	CONTRACTOR		
CAF-1	-	CLEAN AIR FAN	25 A	480 V	3	20 A	MCC-1H	# 10	Process Construction Phase	VENDOR	CONTRACTOR		
CTF-1	FOSBER	CORRUGATOR TRIM FAN	52 A	480 V	3	150A	MCC-1F	#2/0	Process Construction Phase	VENDOR	CONTRACTOR		
DB-1	FOSBER	DOUBLE BACKER	200 A	480 V	3	400 A	MSB-1B	(2)#350	Process Construction Phase	VENDOR	CONTRACTOR		
DEA-1	-	DEAERATOR	15 A	480 V	3	30 A	BSSB-1B	# 8	Process Construction Phase	VENDOR	CONTRACTOR		
E13-A	-	WORK-IN-PROGRESS PANEL	15 A	480 V	3	30A	W-CONV	#8	Process Construction Phase	VENDOR	CONTRACTOR		
FM-01	-	FEEDMAX	40 A	480 V	3	100 A	DC-SWBD	#3	Process Construction Phase	VENDOR	CONTRACTOR		
G18-A	-	EVOL #2 INFEED PANEL	35 A	480 V	3	90 A	EVOL 2	#1/0	Process Construction Phase	VENDOR	CONTRACTOR		
GM-1	FOSBER	CREST GLUE MACHINE	23 A	480 V	3	40 A	W.E. CORRUGATOR	# 8	Process Construction Phase	VENDOR	CONTRACTOR		
HS-1	-	HORIZONTAL SHREDDER	52 A	480 V	3	70 A	MCC-1D	#4	Process Construction Phase	VENDOR	CONTRACTOR	FDR BKR IN MCC	
IFC-DC-01	-	INFEED CONVEYOR DIE CUTTER	25 A	480 V	3	60A	DC-SWBD	#6	Process Construction Phase	VENDOR	CONTRACTOR		
IFC-EVOL-1	mitsubishi	IFC-EVOL1 INFEED CONVEYOR EVOL-1	10 A	480 V	3	60 A	EVOL-1	#6	Process Construction Phase	VENDOR	CONTRACTOR		
IFC-EVOL-2	mitsubishi	IFC-EVOL2 INFEED CONVEYOR EVOL-2	20 A	480 V	3	60 A	EVOL-2	#6	Process Construction Phase	VENDOR	CONTRACTOR		
ITP-PS	-	CONVEYOR MOTOR	15 A	480 V	3	60 A	W-CONV	#6	Process Construction Phase	VENDOR	CONTRACTOR		
J18-A	-	EVOL #1 INFEED PANEL	35 A	480 V	3	90 A	EVOL 1	#3	Process Construction Phase	VENDOR	CONTRACTOR		
LM-01	-	LACHENMEIER	20 A	480 V	3	60 A	E-CONV	#6	Process Construction Phase	VENDOR	CONTRACTOR		
LMC-01	-	LACHENMEIER	30 A	480 V	3	30 A	E-CONV	#8	Process Construction Phase	VENDOR	CONTRACTOR		
LOS-1 (TP12)	FOSBER	LOWER STACKER	46 A	480 V	3	160 A	D.E. CORRUGATOR	# 2/0	Process Construction Phase	VENDOR	CONTRACTOR		
LP3-A	-	CONVEYOR MOTOR	15 A	480 V	3	125 A	E-CONV	#1	Process Construction Phase	VENDOR	CONTRACTOR		
LP70-A	-	CONVEYOR PANEL	15 A	480 V	3	20 A	E-CONV	#10	Process Construction Phase	VENDOR	CONTRACTOR		
LP71-A	-	CONVEYOR MOTOR	15 A	480 V	3	20 A	E-CONV	#10	Process Construction Phase	VENDOR	CONTRACTOR		
LP72-A	-	CONVEYOR MOTOR	15 A	480 V	3	20 A	E-CONV	#10	Process Construction Phase	VENDOR	CONTRACTOR		
LP73-A	-	CONVEYOR MOTOR	15 A	480 V	3	20 A	E-CONV	#10	Process Construction Phase	VENDOR	CONTRACTOR		
LP74-A	-	CONVEYOR PANEL	15 A	480 V	3	20 A	E-CONV	#10	Process Construction Phase	VENDOR	CONTRACTOR		
LS-1	FOSBER	LINK/SPLICER #1	80 A	480 V	3	125 A	W.E. CORRUGATOR	#1	Process Construction Phase	VENDOR	CONTRACTOR		
LS-2	FOSBER	LINK/SPLICER #2	80 A	480 V	3	125 A	W.E. CORRUGATOR	#1	Process Construction Phase	VENDOR	CONTRACTOR		
LS-3	FOSBER	LINK/SPLICER #3	80 A	480 V	3	125 A	W.E. CORRUGATOR	#1	Process Construction Phase	VENDOR	CONTRACTOR		
M24-A	-	M24-A	15 A	480 V	3	60A	W-CONV	#6	Process Construction Phase	VENDOR	CONTRACTOR		
M-03 (TP-10)	FOSBER	CUT OFF KNIFE	165 A	480 V	3	250 A	D.E. CORRUGATOR	250 KCMIL	Process Construction Phase	VENDOR	CONTRACTOR		
M-04 (TP-09)	FOSBER	SLITTER/SCORER	68 A	480 V	3	200 A	D.E. CORRUGATOR	250 KCMIL	Process Construction Phase	VENDOR	CONTRACTOR		
M-EV1	mitsubishi	MACHINE	311 A	480 V	3	600 A	EVOL 1	(2)#350	Process Construction Phase	VENDOR	CONTRACTOR		
M-EV2	mitsubishi	MACHINE	311 A	480 V	3	600 A	EVOL 2	(2)#350	Process Construction Phase	VENDOR	CONTRACTOR		
MC-01	-	MIST CLONE	10 A	480 V	3	30 A	EVOL 1	#10	Process Construction Phase	VENDOR	CONTRACTOR		
MC-02	-	MIST CLONE	10 A	480 V	3	30 A	EVOL 2	#10	Process Construction Phase	VENDOR	CONTRACTOR		
MC-03	-	MIST CLONE	10 A	480 V	3	30 A	DC-SWBD	#10	Process Construction Phase	VENDOR	CONTRACTOR		
MPH	FOSBER	MPH	30 A	480 V	3	40 A	W.E. CORRUGATOR	#8	Process Construction Phase	VENDOR	CONTRACTOR		
N15-A	-	MAINLINE & STAGE 1 STRAPPER AREA PANEL	15 A	480 V	3	60 A	E-CONV	#6	Process Construction Phase	VENDOR	CONTRACTOR		
OFC-EVOL-1	mitsubishi	OFC-EVOL1 OUTFEED CONVEYOR EVOL-1	12 A	480 V	3	30 A	EVOL 1	#10	Process Construction Phase	VENDOR	CONTRACTOR		
OFC-EVOL-2	mitsubishi	OFC-EVOL2 OUTFEED CONVEYOR EVOL-2	12 A	480 V	3	30 A	EVOL-2	#10	Process Construction Phase	VENDOR	CONTRACTOR		
P22-A	-	STAGE 2 STRAPPER AREA PANEL	15 A	480 V	3	100 A	E-CONV	#3	Process Construction Phase	VENDOR	CONTRACTOR		
Q22-A	-	STRAPPER DISPATCH AREA PANEL	15 A	480 V	3	100 A	E-CONV	#6	Process Construction Phase	VENDOR	CONTRACTOR		
RP-1	mitsubishi	RAPTOR PALLETIZER	20 A	480 V	3	110 A	EVOL 1	# 2/0	Process Construction Phase	VENDOR	CONTRACTOR		
RP-2	mitsubishi	RAPTOR PALLETIZER	20 A	480 V	3	110 A	EVOL 2	# 2/0	Process Construction Phase	VENDOR	CONTRACTOR		
RS4-1	FOSBER	ROTARY SHEAR 400	25 A	480 V	3	80 A	D.E. CORRUGATOR	#4	Process Construction Phase	VENDOR	CONTRACTOR		
S7-A	-	EVOL #1 LOAD FORMER DISCHARGE PANEL	15 A	480 V	3	60 A	EVOL 1	#6	Process Construction Phase	VENDOR	CONTRACTOR		
SC-1	-	STARCH CHILLER	10 A	480 V	3	30 A	SP	#10	Process Construction Phase	VENDOR	CONTRACTOR		
SC-2	-	STARCH CHILLER	10 A	480 V	3	30 A	SP	#10	Process Construction Phase	VENDOR	CONTRACTOR		
SCRV	-	SCRAP CONVEYOR ROTARY VALVE	3 A	480 V	3	20 A	MCC-1H	# 10	Process Construction Phase	VENDOR	CONTRACTOR		
SEC	FOSBER	SMART ELECTRIC CABINET	250 A	480 V	3	400 A	W.E. CORRUGATOR	#500	Process Construction Phase	VENDOR	CONTRACTOR		
SHF-1	-	SHREDDER FAN	52 A	480 V	3	70 A	MCC-1E	#4	Process Construction Phase	VENDOR	CONTRACTOR	FVNR IN MCC	
SM-1	-	STARCH MIXER	30 A	480 V	3	100 A	SP	#3	Process Construction Phase	VENDOR	CONTRACTOR		
SPCWH-1	STARCH SYSTEM	STARCH SPC WATER HEATER	80 A	120 V	3	30 A	LV-03	#10	Process Construction Phase	VENDOR	CONTRACTOR		
SRT-1	-	STARCH RUN TANK	10 A	480 V	3	30 A	SP	#10	Process Construction Phase	VENDOR	CONTRACTOR		
SRT-2	-	STARCH RUN TANK	10 A	480 V	3	30 A	SP	#10	Process Construction Phase	VENDOR	CONTRACTOR		
SSTC-1	-	STARCH SILO STARTER & CNTRL	10 A	480 V	3	30 A	SP	#10	Process Construction Phase	VENDOR	CONTRACTOR		
STKR-01	-	STACKER	25 A	480 V	3	60 A	DC-SWBD	#6	Process Construction Phase	VENDOR	CONTRACTOR		
STP-01	-	STARCH PUMP	14 A	480 V	3	80 A	SSSC-1	#4	Process Construction Phase	VENDOR	CONTRACTOR		
SWH-1	-	STARCH WATER HEATER	10 A	480 V	3	30 A	SP	#10	Process Construction Phase	VENDOR	CONTRACTOR		
SWH-2	-	STARCH WATER HEATER	10 A	480 V	3	30 A	SP	#10	Process Construction Phase	VENDOR	CONTRACTOR		
SWH-3	-	STARCH WATER HEATER	10 A	480 V	3	100 A	SP	#1	Process Construction Phase	VENDOR	CONTRACTOR		
T7-A	-	EVOL #2 LOAD FORMER DISCHARGE PANEL	15 A	480 V	3	60 A	EVOL 2	#6	Process Construction Phase	VENDOR	CONTRACTOR		
TC-C1	-	C1 TRANSFER CONVEYOR	8 A	480 V	3	20 A	MCC-1A	# 10	Process Construction Phase	VENDOR	CONTRACTOR	#10 Wire use Beldon 29503	
TC-C2	-	C2 TRANSFER CONVEYOR	5 A	480 V	3	20 A	MCC-1A	# 10	Process Construction Phase	VENDOR	CONTRACTOR	#10 Wire use Beldon 29503	
TC-C3	-	C3 TRANSFER CONVEYOR	11 A	480 V	3	20 A	MCC-1B	# 10	Process Construction Phase	VENDOR	CONTRACTOR	#10 Wire use Beldon 29503	
TC-C4	-	C4 TRANSFER CONVEYOR	5 A	480 V	3	20 A	MCC-1B	# 10	Process Construction Phase	VENDOR	CONTRACTOR	#10 Wire use Beldon 29503	
TWH-1	-	TANKLESS WATER HEATE #1	15 A	480 V	3	50A	W.E. CORR1	#8	Process Construction Phase	VENDOR	CONTRACTOR		
TWH-2	-	TANKLESS WATER HEATE #2	15 A	480 V	3	50A	W.E. CORR1	#8	Process Construction Phase	VENDOR	CONTRACTOR		
TWH-3	-	TANKLESS WATER HEATE #3	15 A	480 V	3	50A	DE CORR	#8	Process Construction Phase	VENDOR	CONTRACTOR		
U14-A	-	CONVEYOR MOTOR	15 A	480 V	3	60 A	DC-SWBD	#3	Process Construction Phase	VENDOR	CONTRACTOR		
U-01	-	UNITIZER	20 A	480 V	3	40 A	E-CONV	# 8	Process Construction Phase	VENDOR	CONTRACTOR		
U-02	-	UNITIZER	20 A	480 V	3	40 A	E-CONV	# 8	Process Construction Phase	VENDOR	CONTRACTOR		
UPS-1 (TP-11)	FOSBER	UPPER STACKER	45 A	480 V	3	160 A	D.E. CORRUGATOR	# 2/0	Process Construction Phase	VENDOR	CONTRACTOR		
WTP-1	-	WATER TREATMENT PNL	10 A	480 V	3	20 A	BSSB-1B	# 10	Process Construction Phase	VENDOR	CONTRACTOR		



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NO	DATE	REVISION
4	2019.8.9	Misc Electrical

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ELECTRICAL PERMIT PLAN SET
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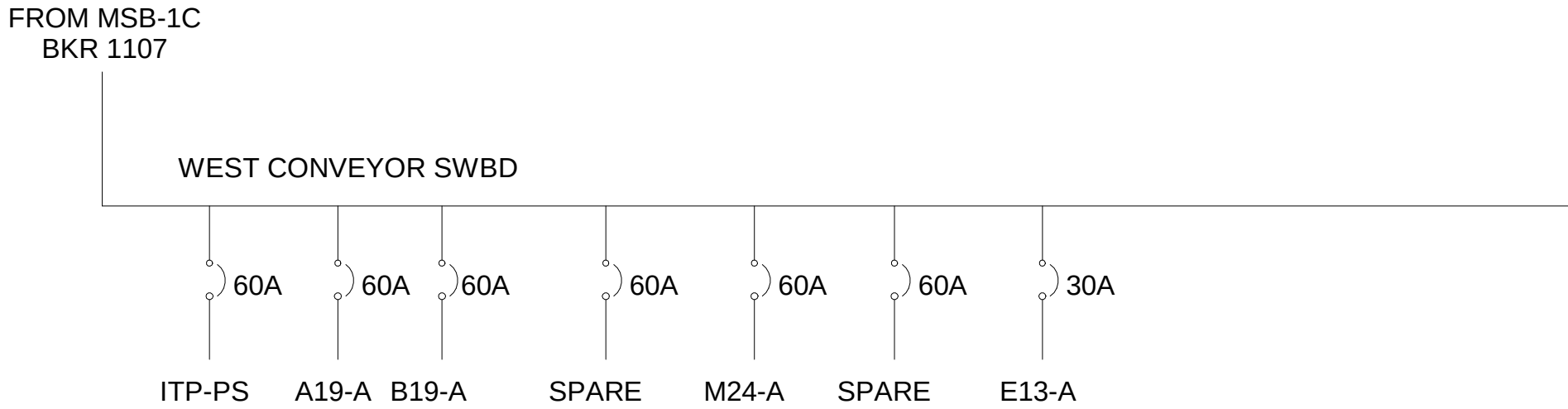
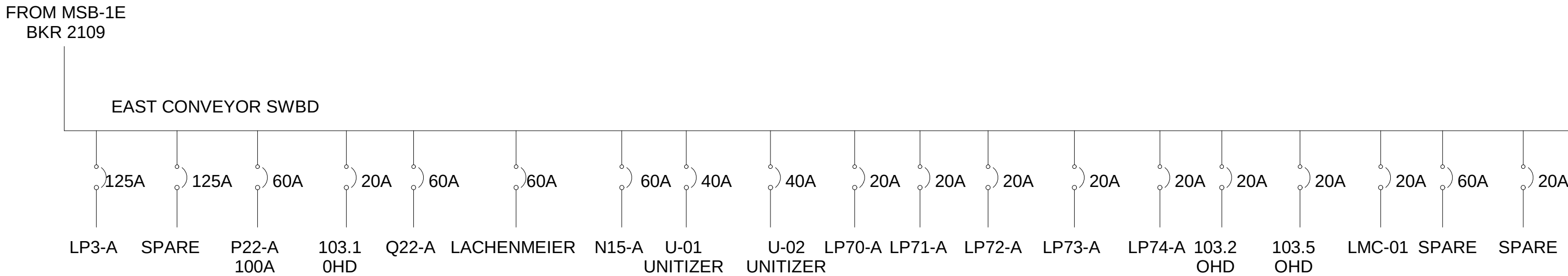
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FINAL AS-BUILT PLAN SET
FEBRUARY 20, 2020

PROCESS EQUIPMENT
1-LINE DIAGRAM SHEET
1 OF 2

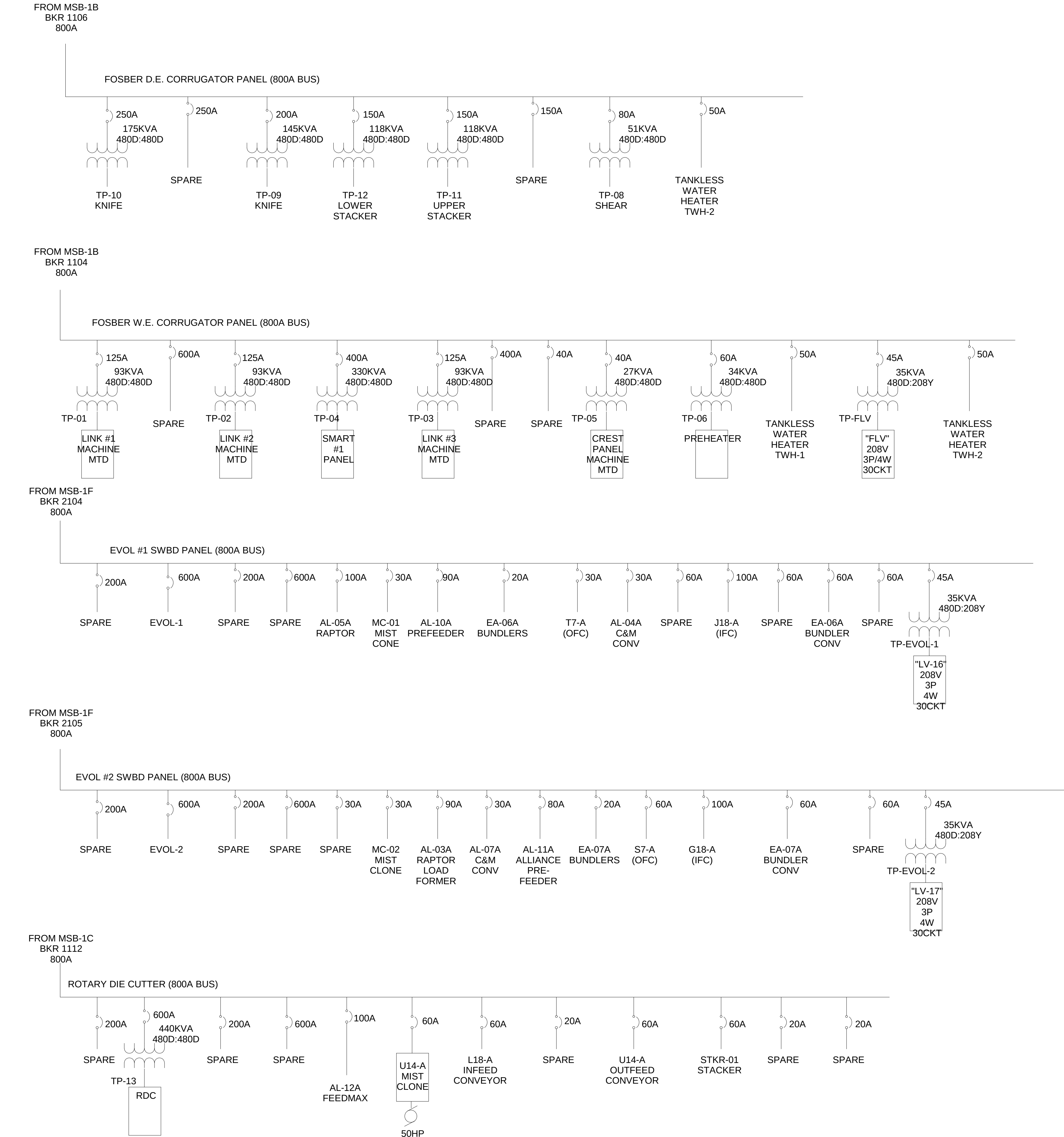
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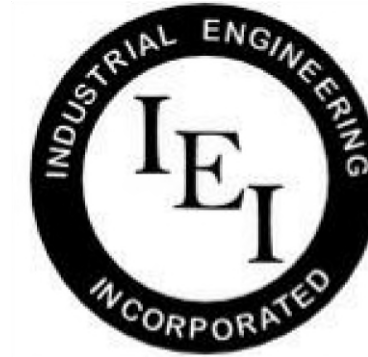


1 1-Line Diagram - Conveyors
3/16" = 1'-0"

BIM 360/18810 PCA Richland WA Box Plant18810 PCA RichlandE-V13.rvt
2/21/2020 1:00:14 PM



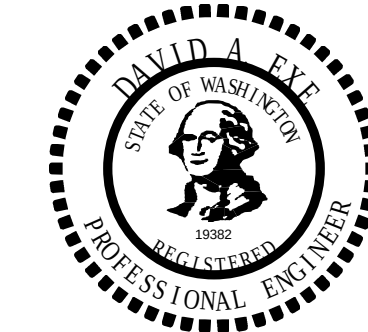
① 1-Line Diagram - Process Equipment Switchboards
3/16" = 1'-0"



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RICHLAND, WA BOX MFG PLANT

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PROCESS EQUIPMENT
1-LINE DIAGRAM SHEET
2 OF 2

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ELECTRICAL CONSTRUCTION PLAN SET
REV 3 ASI 11 2019.11.4

FINAL AS-BUILT PLAN SET
FEBRUARY 20, 2020

GROUNDING DETAILS

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DATE: FEB 2
DRAWING NO:

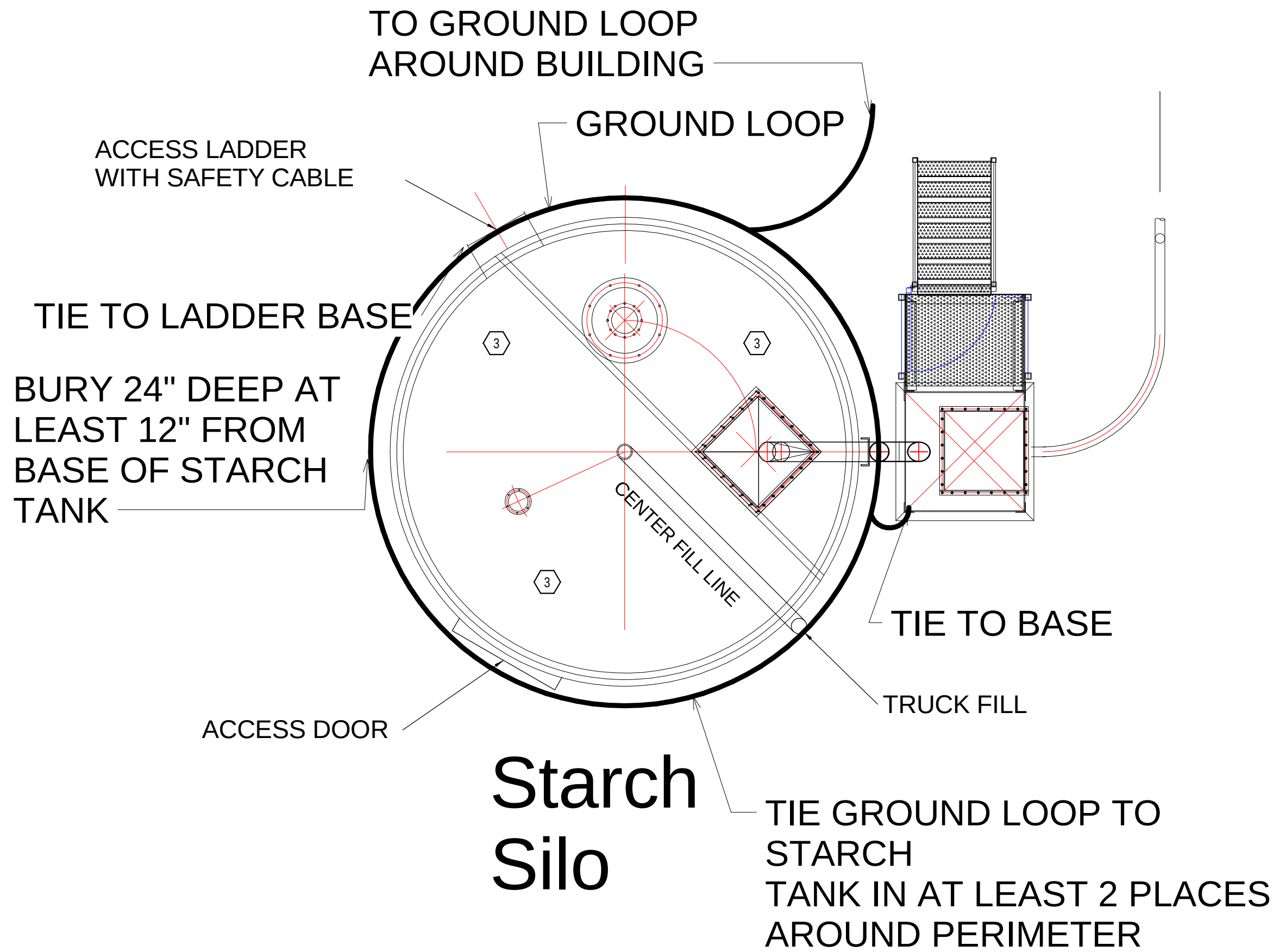
PE9.06

ELECTRICAL GENERAL NOTES

1. FOR CLASS II, DIV 1, GROUP G CONTRACTOR SHALL INSTALL RIGID METAL CONDUIT WITH SEAL OFFS AT EACH END. CONDUIT SHALL BE BROUGHT OUT OF CLASS II, DIV I AREA AND BE TERMINATED IN A VENTILATED JUNCTION BOX MOUNTED TO THE STRUCTURE OR ON A UNISTRUT FRAME. CONDUIT FROM THE VENTILATED JUNCTION BOX TO THE BULK STARCH CONTROL PANEL, OR ASSOCIATED PANEL, SHALL NOT BE REQUIRED TO BE CLASS II, DIV 1.

ELECTRICAL KEYED NOTES

1. ELECTRICAL CONTRACTOR TO WIRE FEED FROM SSSC-1 BOX IN SW CORNER OF FACILITY TO STARCH SYSTEM BREAKER BOX AT THE STARCH SYSTEM LOCATED ADJACENT TO THE STARCH SILO. INSTALL WITH 1 1/2" RMC AND 3 #8 AWG CU CONDUCTORS ROUTED ALONG THE BLOWLINE SUPPORTS.
2. CONTRACTOR SHALL INSTALL ELECTRICAL CONNECTIONS FOR 15HP, 1 HP, .75HP, .33 HP AND 120V CIRCUIT SHOWN ON ELEVATION VIEW. WIRING INSIDE STARCH SILO SHALL BE CLASS II, DIV I, GROUP G PER NEC. VERIFY SPECIFIC AREA CLASSIFICATIONS WITH OWNER'S REPRESENTATIVE PRIOR TO ROUGH-IN.
3. THE AREA INSIDE THE SILO SKIRTING IS CLASS II, DIV I, GROUP G CLASSIFICATION.



① Starch Tank Grounding Detail
3/8" = 1'-0"