

Switchboard: MSB-1F

Location: ELECTRICAL 108

Supply From: MSB-1A

Mounting: Enclosure:

Volts: 480D/VAC

Phases: 3

Wires: 3

A.I.C. Rating: 100 KAIC

Mains Type:

Mains Rating:

MCB Rating: 800 A

Notes:

CKT	Circuit Description	# of Poles	Frame Size	Trip Rating	Load	Remarks
1	SPARE (EVOL-3 FUTURE)	1	--	800 A	0 VA	
2	EVOL-2	3	800 A	800 A	367461 VA	
3	EVOL-1	3	800 A	800 A	359148 VA	
4	BSSB-2 BSSB-2A & 2B	3	800 A	800 A	463614 VA	
5	AIR COMPRESSOR #2	3	400 A	400 A	199526 VA	
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
Total Conn. Load:					1387802 VA	
Total Amps:					1669 A	

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	1314524 VA	100.00%	1314524 VA	
Receptacle	22680 VA	72.05%	16340 VA	Total Conn. Load: 1387802 VA
Lighting	64641 VA	100.00%	64641 VA	Total Est. Demand: 1382596 VA
SITE LIGHTING	1890 VA	100.00%	1890 VA	Total Conn.: 1669 A
				Total Est. Demand: 1663 A

Notes:

Switchboard: MSB-1E

Location: ELECTRICAL 108

Supply From: MSB-1A

Mounting: Enclosure:

Volts: 480D/VAC

Phases: 3

Wires: 3

A.I.C. Rating: 100 KAIC

Mains Type:

Mains Rating:

MCB Rating: 800 A

Notes:

CKT	Circuit Description	# of Poles	Frame Size	Trip Rating	Load	Remarks
1	Spare	1	--	400 A	0 VA	
2	E CONV EAST CONVEYOR SWITCHBOARD	3	400 A	400 A	199626 VA	
3	Spare	1	--	400 A	0 VA	
4	Spare	1	--	1600 A	0 VA	
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
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:

Switchboard: MSB-1C

Location: ELECTRICAL 108

Supply From: MSB-1A

Mounting: Enclosure:

Volts: 480D/VAC

Phases: 3

Wires: 3

A.I.C. Rating: 100 KAIC

Mains Type:

Mains Rating:

MCB Rating: 800 A

Notes:

CKT	Circuit Description	# of Poles	Frame Size	Trip Rating	Load	Remarks
1	W CONV WEST CONVEYOR	3	400 A	400 A	87293 VA	
2	AIR COMPRESSOR #1	3	400 A	400 A	199526 VA	
3	BSSB-1B	3	800 A	800 A	483237 VA	
4	MCC-1	3	400 A	800 A	293803 VA	
5	Spare	1	--	800 A	0 VA	
6	RDC-SWBD ROTARY DIE CUTTER SWITCHBOARD	3	800 A	800 A	95606 VA	
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
Total Conn. Load:					1158771 VA	
Total Amps:					1394 A	

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Other	1107901 VA	100.00%	1107901 VA	
Receptacle	11960 VA	91.81%	10980 VA	Total Conn. Load: 1158771 VA
Power	17000 VA	100.00%	17000 VA	Total Est. Demand: 1158420 VA
Lighting	27711 VA	100.00%	27711 VA	Total Conn.: 1394 A
MTR	1801 VA	125.00%	2252 VA	Total Est. Demand: 1393 A
SITE LIGHTING	2813 VA	100.00%	2813 VA	

Notes:

Switchboard: MSB-1B

Location: ELECTRICAL 108

Supply From: MSB-1A

Mounting: Enclosure:

Volts: 480D/VAC

Phases: 3

Wires: 3

A.I.C. Rating: 100 KAIC

Mains Type:

Mains Rating:

MCB Rating: 800 A

Notes:

CKT	Circuit Description	# of Poles	Frame Size	Trip Rating	Load	Remarks
1	BSSB-1A	3	400 A	800 A	282390 VA	
2						
3	W.E. CORR 1	3	800 A	800 A	484623 VA	
4	TP-07 DOUBLE BACKER	3	600 A	600 A	166272 VA	
5	D.E. CORR	3	800 A	800 A	302615 VA	
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
Total Conn. Load:					1234893 VA	
Total Amps:					1485 A	

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Heating	3600 VA	100.00%	3600 VA	
Motor	54038 VA	111.54%	60274 VA	Total Conn. Load: 1234893 VA
Other	1133875 VA	100.00%	1133875 VA	Total Est. Demand: 1229319 VA
Receptacle	39420 VA	62.68%	24710 VA	Total Conn.: 1485 A
Power	3000 VA	100.00%	3000 VA	Total Est. Demand: 1479 A
Lighting	2271 VA	100.00%	2271 VA	
MTR	5760 VA	102.08%	5880 VA	
RCPT	1598 VA	100.00%	1598 VA	
SPEC	0 VA	0.00%	0 VA	

Notes:



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FEB 20, 2020



NO	DATE	REVISION

PACKAGING CORPORATION OF AMERICA

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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

ELECTRICAL MAIN
SWITCHBOARD PANEL
SCHEDULE

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

E5.01

Switchboard: BSSB-1B						
Location: ELECTRICAL 108			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:						
CKT	Circuit Description	# of Poles	Frame Size	Trip Rating	Load	Remarks
1	FP	3	200 A	200 A	75820 VA	
2	SP	3	400 A	400 A	103089 VA	
3	MAKE UP AIR UNIT #4	3	200 A	200 A	103089 VA	
4	DL-07 Dock Leveler	3	100 A	30 A	1330 VA	
5	B-01 Boiler	3	200 A	150 A	74822 VA	
6	DL-09 Dock Leveler	3	100 A	30 A	1330 VA	
7	BFWP BOILER FEED WATER PUMP	3	100 A	100 A	12470 VA	
8	DL-11 Dock Leveler	3	100 A	30 A	1330 VA	
9	TS-02	3	200 A	100 A	6551 VA	
10	DL-13 Dock Leveler	3	100 A	30 A	1330 VA	
11	CU-4 Condensing Unit #4	3	100 A	80 A	30760 VA	
12	DEA-1 DEAEATOR	3	30 A	30 A	12470 VA	
13	SPARE	1	--	60 A	0 VA	
14	SPARE	1	--	30 A	0 VA	
15	SPARE	1	--	60 A	0 VA	
16	ACD-1 AIR COMPRESSOR DRYER #1	3	100 A	20 A	6318 VA	
17	TL-05 Lighting Panel	3	100 A	40 A	19291 VA	
18	SUP-1 SUMP PUMP SCRAP/BALER ROOM 105	3	100 A	20 A	3325 VA	
19	TL-06 Lighting Panel	3	100 A	40 A	11073 VA	
20						
21	MRP Maintenance Room	3	400 A	125 A	27722 VA	
22	SPARE	1	--	40 A	0 VA	
23						
24						
25						
26						
27						
28						
Total Conn. Load:					483237 VA	
Total Amps:					581 A	
Legend:						
Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals		
Other	431673 VA	100.00%	431673 VA			
Receptacle	11960 VA	91.81%	10980 VA		Total Conn. Load:	483237 VA
Power	17000 VA	100.00%	17000 VA		Total Est. Demand:	482863 VA
Lighting	27711 VA	100.00%	27711 VA		Total Conn.:	581 A
MTR	1801 VA	125.00%	2252 VA		Total Est. Demand:	581 A
SITE LIGHTING	2813 VA	100.00%	2813 VA			
Notes:						

Switchboard: BSSB-1A							
Location: ELECTRICAL 108 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: BSSB-1A (1102A)							
CKT	Circuit Description	# of Poles	Frame Size	Trip Rating	Load	Remarks	
1	TS-01	3	200 A	200 A	67880 VA		
2	SPARE	1	--	800 A	0 VA		
3	SPARE	1	--	200 A	0 VA		
4	CS-07 Charging Station	3	100 A	50 A	24941 VA		
5	DL-08 Dock Leveler	3	100 A	30 A	1330 VA		
6	TS-03	3	200 A	100 A	20407 VA		
7	DL-10 Dock Leveler	3	100 A	30 A	1330 VA		
8	TS-04	3	200 A	100 A	4384 VA		
9	DL-12 Dock Leveler	3	100 A	30 A	1330 VA		
10	TS-08	3	200 A	100 A	1800 VA		
11	SPARE	1	--	30 A	0 VA		
12	TS-10	3	200 A	100 A	10642 VA		
13	SPARE	1	--	30 A	0 VA		
14	EF-2 EXHAUST FAN COL D.25-8	3	100 A	100 A	54038 VA		
15	WTP-1 WATER TREATMENT PANEL	3	400 A	30 A	8314 VA		
16	CS-01 Charging Station	3	100 A	50 A	24941 VA		
17	ACD-2 AIR COMPRESSOR DRYER #2	3	100 A	20 A	6318 VA		
18	CS-02 Charging Station	3	100 A	50 A	24941 VA		
19	SUP-2 SUMP PUMP WATER TREATMENT ROOM	3	100 A	20 A	3325 VA		
20	CS-06 Charging Station	3	100 A	50 A	24941 VA		
21	JP-1 Jockey Pump Controller	3	100 A	20 A	4157 VA		
22							
23							
24							
25							
26							
27							
28							
Total Conn. Load:					282390 VA		
Total Amps:					340 A		
Legend:							
Load Classification		Connected Load	Demand Factor	Estimated Demand	Panel Totals		
Heating		3600 VA	100.00%	3600 VA			
Motor		54038 VA	111.54%	60274 VA			
Other		186125 VA	100.00%	186125 VA	Total Conn. Load: 282390 VA		
Receptacle		39420 VA	62.68%	24710 VA	Total Est. Demand: 276159 VA		
Power		3000 VA	100.00%	3000 VA	Total Conn.: 340 A		
Lighting		2271 VA	100.00%	2271 VA	Total Est. Demand: 332 A		
RCPT		1598 VA	100.00%	1598 VA			
SPEC		0 VA	0.00%	0 VA			
Notes:							

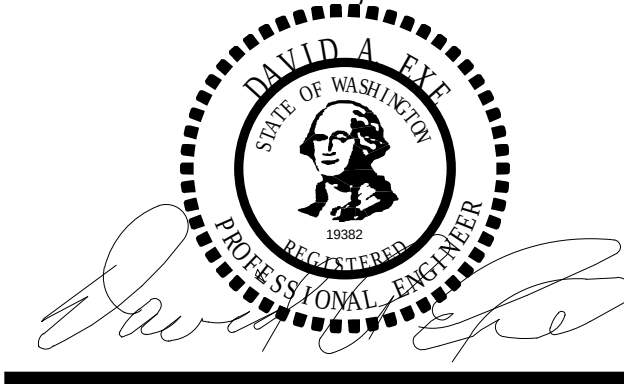


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FEB 20, 2020



NO	DATE	REVISION
1	2019.5.10	Elect Serv & HVAC
2	2019.06.18	ASI005 General Elect
3	2019.07.17	Misc Updates
5	2019	Misc Electrical

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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
 SWITCHBOARD PANEL
 SCHEDULES

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

E5.02

Switchboard: BSSB-2B						
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 with Gasket					MCB Rating: 800 A	
Notes:						
CKT	Circuit Description	# of Poles	Frame Size	Trip Rating	Load	Remarks
1	MAKE UP AIR UNIT #2	3	200 A	200 A	103089 VA	
2	SPARE	1	--	100 A	0 VA	
3	MAKE UP AIR UNIT #1	3	200 A	150 A	64015 VA	
4	TL-01 LIGHTING PANEL	3	100 A	40 A	11574 VA	
5	TL-02 LIGHTING PANEL	3	100 A	40 A	23933 VA	
6	TL-03 LIGHTING PANEL	3	100 A	40 A	18148 VA	
7	TL-04 LIGHTING PANEL	3	100 A	40 A	12210 VA	
8	SPARE	1	--	40 A	0 VA	
9	SPARE	1	--	40 A	0 VA	
10	SPARE	1	--	40 A	0 VA	
11	SPARE	1	--	30 A	0 VA	
12	SPARE	1	--	20 A	0 VA	
13	SPARE	1	--	50 A	0 VA	
14	SPARE	1	--	150 A	0 VA	
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
Total Conn. Load:					224084 VA	
Total Amps:					270 A	
Legend:						
Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals		
Other	167103 VA	100.00%	167103 VA			
Lighting	64104 VA	100.00%	64104 VA	Total Conn. Load: 224084 VA		
SITE LIGHTING	1890 VA	100.00%	1890 VA	Total Est. Demand: 224084 VA		
				Total Conn.: 270 A		
				Total Est. Demand: 270 A		
Notes:						

Switchboard: BSSB-2A						
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 with Gasket					MCB Rating: 800 A	
Notes:						
CKT	Circuit Description	# of Poles	Frame Size	Trip Rating	Load	Remarks
1	TS-05	3	200 A	100 A	16280 VA	
2	TS-06	3	200 A	100 A	9129 VA	
3	TS-07	3	200 A	100 A	3420 VA	
4	TS-09	3	200 A	100 A	5610 VA	
5	EF-01 EXHAUST FAN COL D.25-1	3	100 A	100 A	54038 VA	
6	MAKE UP AIR UNIT #3	3	200 A	150 A	64015 VA	
7	SPARE	1	--	80 A	0 VA	
8	CS-03 Charging Station	3	100 A	50 A	24941 VA	
9	CS-04 Charging Station	3	100 A	50 A	24941 VA	
10	CS-05 Charging Station	3	100 A	50 A	24941 VA	
11	DL-01 Dock Leveler	3	100 A	30 A	1330 VA	
12	DL-02 Dock Leveler	3	100 A	30 A	1330 VA	
13	DL-03 Dock Leveler	3	100 A	30 A	1330 VA	
14	DL-04 Dock Leveler	3	100 A	30 A	1330 VA	
15	DL-05 Dock Leveler	3	100 A	30 A	1330 VA	
16	DL-06 Dock Leveler	3	100 A	30 A	1330 VA	
17	SPARE	1	--	30 A	0 VA	
18	TF-7 TRANSFER FAN NEAR COL F.8-3	3	100 A	20 A	1746 VA	
19	TF-8 TRANSFER FAN NEAR COL G.3-3	3	100 A	30 A	1746 VA	
20	SPARE	1	--	20 A	0 VA	
21	EF-10 EXHAUST FAN #8 NEAR COL M-2.5	3	100 A	20 A	4157 VA	
22						
23						
24						
25						
26						
Total Conn. Load:					240263 VA	
Total Amps:					269 A	
Legend:						
Load Classification		Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other		221286 VA	100.00%	221286 VA		
Receptacle		22680 VA	72.05%	16340 VA	Total Conn. Load: 240263 VA	
Lighting		537 VA	100.00%	537 VA	Total Est. Demand: 235006 VA	
					Total Conn.: 289 A	
					Total Est. Demand: 283 A	
Notes:						

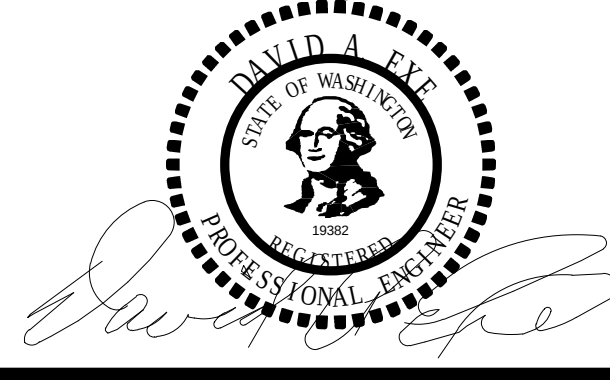


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FEB 20, 2020



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3	2019.07.17	Misc Updates

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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:

E5.02A

Branch Panel: LV-04													
Location: WAREHOUSE AREA 1 101						Volts: 120/208 Wye				A.I.C. Rating: 22 KIA			
Supply From: TS-04						Phases: 3				Mains Type: MLO			
Mounting: Surface						Wires: 4				Mains Rating: 200 A			
Enclosure: 1										MCB Rating: 200 A			
Notes:													
CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	Receptacle	20 A	1	720 VA	540 VA					1	20 A	Receptacle	2
3	IDF-3 Receptacle PRODUCTION AREA 100	20 A	1			180 VA	360 VA			1	20 A	Receptacle	4
5	Receptacle	20 A	1					180 VA	360 VA	1	20 A	Receptacle	6
7	Receptacle	20 A	1	360 VA	478 VA								8
9						478 VA	478 VA			2	20 A	OHF-2 Overhead Fan 101	10
11	OHF-11 Overhead Fan 100	20 A	2					478 VA					12
13													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
Total Load:				2023 VA		1426 VA		966 VA					
Total Amps:				17 A		12 A		8 A					
Legend:													
Load Classification		Connected Load		Demand Factor		Estimated Demand		Panel Totals					
Other		1914 VA		100.00%		1914 VA							
Receptacle		2700 VA		100.00%		2700 VA		Total Conn. Load: 4384 VA					
								Total Est. Demand: 4384 VA					
								Total Conn.: 12 A					
								Total Est. Demand: 12 A					
Notes:													

Branch Panel: LV-03

Location: PRODUCTION AREA 100

Supply From: TS-03

Mounting: Surface

Enclosure: 1

Volts: 120/208 Wye

Phases: 3

Wires: 4

A.I.C. Rating: 22 KIA

Mains Type: MLO

Mains Rating: 200 A

MCB Rating: 200 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	Receptacle	20 A	1	540 VA	540 VA					1	20 A	Receptacle	2
3	Receptacle	20 A	1			360 VA							4
5	Receptacle	20 A	1					360 VA	360 VA	1	20 A	Receptacle	6
7	Receptacle	20 A	1	360 VA	360 VA					1	20 A	Receptacle	8
9	Receptacle	20 A	1			360 VA	360 VA			1	20 A	Receptacle	10
11	Receptacle	20 A	1					180 VA	180 VA	1	20 A	DL-07 Dock Leveler	12
13	DL-08 Dock Leveler	20 A	1	180 VA	180 VA					1	20 A	DL-09 Dock Leveler	14
15	DL-10 Dock Leveler	20 A	1			180 VA	1662...			1	30 A	STARCH SPC WATER HEATER	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
Total Load:				2160 VA		17651 VA		1080 VA					
Total Amps:				19 A		148 A		9 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	16627 VA	100.00%	16627 VA	Total Conn. Load: 20407 VA Total Est. Demand: 20407 VA Total Conn.: 57 A Total Est. Demand: 57 A	
Receptacle	4500 VA	100.00%	4500 VA		

Notes:

Branch Panel: LV-02

Location: WAREHOUSE 103

Supply From: TS-02

Mounting: Surface

Enclosure: 1

Volts: 120/208 Wye

Phases: 3

Wires: 4

A.I.C. Rating: 22 KIA

Mains Type: MLO

Mains Rating: 200 A

MCB Rating: 200 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	Receptacle EN Wall	20 A	1	540 VA	540 VA					1	20 A	Receptacle ES Wall	2
3	Receptacle Columns K6 & k7	20 A	1			360 VA	360 VA			1	20 A	Receptacle Columns L6 & L7	4
5	Receptacle Columns J6 & J7	20 A	1					360 VA	540 VA	1	20 A	Receptacle Columns J8 & K & L8	6
7	GUH-3 Gas Unit Heater Columns M, 5.5	20 A	1	360 VA	478 VA								8
9	OHF-7 Overhead Fan	20 A	2			478 VA	478 VA			2	20 A	OHF-6 Overhead Fan	10
11								478 VA	478 VA				12
13	OHF-9 Overhead Fan	20 A	2	478 VA	478 VA					2	20 A	OHF-10 Overhead Fan	14
15						478 VA							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
Total Load:				2737 VA		2057 VA		1762 VA					
Total Amps:				23 A		18 A		15 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	4187 VA	100.00%	4187 VA		
Receptacle	2700 VA	100.00%	2700 VA	Total Conn. Load:	6551 VA
				Total Est. Demand:	6551 VA
				Total Conn.:	18 A
				Total Est. Demand:	18 A

Notes:

Branch Panel: LV-08															
Location: PRODUCTION AREA 100						Volts: 120/208 Wye				A.I.C. Rating: 22 KIA					
Supply From: TS-08						Phases: 3				Mains Type: MLO					
Mounting: Surface						Wires: 4				Mains Rating: 200 A					
Enclosure: 1										MCB Rating: 200 A					
Notes:															
CKT	Circuit Description			Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	Receptacle SEE Wall			20 A	1	540 VA	540 VA					1	20 A	Receptacle SE Wall	2
3	Receptacle SW Wall			20 A	1			720 VA							4
5															6
7															8
9															10
11															12
13															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
Total Load:						1080 VA		720 VA		0 VA					
Total Amps:						10 A		7 A		0 A					
Legend:															
Load Classification				Connected Load		Demand Factor		Estimated Demand		Panel Totals					
Receptacle				1800 VA		100.00%		1800 VA							
										Total Conn. Load: 1800 VA					
										Total Est. Demand: 1800 VA					
										Total Conn.: 5 A					
										Total Est. Demand: 5 A					
Notes:															

Branch Panel: LV-07

Location: WAREHOUSE AREA 1 101

Supply From: TS-07

Mounting: Surface

Enclosure: 1

Volts: 120/208 Wye

Phases: 3

Wires: 4

A.I.C. Rating: 22 KIA

Mains Type: MLO

Mains Rating: 200 A

MCB Rating: 200 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	Receptacle NW wall	20 A	1	540 VA	540 VA					1	20 A	Receptacle WSS wall	2
3	Receptacle WS wall	20 A	1			540 VA	540 VA			1	20 A	Receptacle WN wall	4
5	Receptacle N wall	20 A	1					540 VA	360 VA	1	20 A	Receptacle Columns B2 & C2	6
7	Receptacle Columns B3 & C3	20 A	1	360 VA									8
9													10
11													12
13													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
Total Load:				1440 VA		1080 VA		900 VA					
Total Amps:				12 A		9 A		8 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Receptacle	3420 VA	100.00%	3420 VA	Total Conn. Load:	3420 VA
				Total Est. Demand:	3420 VA
				Total Conn.:	9 A
				Total Est. Demand:	9 A

Notes:

Branch Panel: LV-06

Location: PRODUCTION AREA 100

Supply From: TS-06

Mounting: Surface

Enclosure: 1

Volts: 120/208 Wye

Phases: 3

Wires: 4

A.I.C. Rating: 22 KIA

Mains Type: MLO

Mains Rating: 200 A

MCB Rating: 200 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	EF-13 Exhaust Fan Restroom 112	20 A	1	240 VA	540 VA					1	20 A	Receptacle W Warehouse Side Truck Bay	2
3	Receptacle SW Warehouse Side Truck Bay	20 A	1			540 VA	540 VA			1	20 A	Receptacle S Warehouse Side Truck Bay	4
5	Receptacle W Wall Truck Bay	20 A	1					720 VA	720 VA	1	20 A	Receptacle S W Truck Bay	6
7	Receptacle Columns D2 & E2	20 A	1	360 VA	360 VA					1	20 A	Receptacle Columns D3 & E3	8
9	Receptacle Columns D4 & D5	20 A	1			360 VA	360 VA			1	20 A	Receptacle Columns E4 & E5	10
11	Receptacle Columns F4 & F5	20 A	1					360 VA	360 VA	1	20 A	Receptacle Columns G4 & G5	12
13	Receptacle	20 A	1	540 VA	540 VA					1	20 A	Receptacle N Wall	14
15	OHF-1 Overhead Fan	20 A	2			478 VA	180 VA			1	20 A	IDF-3 Receptacle PRODUCTION AREA 100	16
17								478 VA					18
19	Lighting Space 20	20 A	1	72 VA	360 VA					1	20 A	GUH-1 WAREHOUSE AREA 2 103	20
21						480 VA							22
23	EWB-3 & 4 RESTROOMS 112 & 113	20 A	3					480 VA					24
25				480 VA									26
27													28
29													30
31													32
33													34
35													36
37													38
39													40
41													42
Total Load:				3340 VA		2807 VA		2983 VA					
Total Amps:				28 A		23 A		25 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals		
Other	2998 VA	100.00%	2998 VA	Total Conn. Load: 9129 VA	9129 VA	
Receptacle	6480 VA	100.00%	6480 VA			Total Est. Demand: 9129 VA
Lighting	72 VA	100.00%	72 VA			Total Conn.: 25 A
				Total Est. Demand: 25 A		

Notes:

Branch Panel: LV-05

Location: Space 26

Supply From: TS-05

Mounting: Surface

Enclosure: 1

Volts: 120/208 Wye

Phases: 3

Wires: 4

A.I.C. Rating: 22 KIA

Mains Type: MLO

Mains Rating: 200 A

MCB Rating: 200 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	Receptacle NW Wall	20 A	1	900 VA	540 VA					1	20 A	Receptacle NWW Wall	2
3	Receptacle ME Wall	20 A	1			360 VA	540 VA			1	20 A	Receptacle NEE Wall	4
5	Receptacle S Warehouse Wall Offices	20 A	1					180 VA	540 VA	1	20 A	Receptacle EN wall Truck Bay	6
7	Receptacle ES Wall	20 A	1	360 VA	540 VA					1	20 A	Receptacle SC Wall Truck Bay	8
9	Receptacle SE Wall Truck Bay	20 A	1			360 VA	360 VA			1	20 A	Receptacle Clumns K2 & L2	10
11	Receptacle Columns H2 & J2 Truck Bay	20 A	1					360 VA	720 VA	1	20 A	Receptacle N Office Wall	12
13	Receptacle S Office Wall	20 A	1	720 VA	720 VA					1	20 A	Receptacle NE Wall	14
15	Receptacle S Wall	20 A	1			540 VA	360 VA			1	20 A	Receptacle NW Wall	16
17	Receptacle Counter N & Restroom	20 A	1					360 VA	180 VA	1	20 A	Receptacle S Counter	18
19	Lighting - Dwelling Unit	20 A	1	465 VA	1580...					1	20 A	Other WAREHOUSE AREA 2 103	20
21	CU-3 Condensing Unit #3	30 A	2			1768...	480 VA			1	20 A	ERV-2 Energy Recovery Unit Office 300	22
25								1768...	360 VA	1	20 A	GUH-2 Gas Unit Heater 103	24
27	OHF-4 Overhead Fan East 103	20 A	2	478 VA	478 VA					2	20 A	OHF-3 Overhead Fan West103	26
29	Copier Receptacle CLOSET 301	20 A	1			478 VA	478 VA		180 VA				28
31													30
33													32
35													34
37													36
39													38
41													40
													42
Total Load:				6456 VA		5435 VA		4411 VA					
Total Amps:				55 A		47 A		37 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals		
Other	7869 VA	100.00%	7869 VA	Total Conn. Load:	16280 VA	
Receptacle	8820 VA	100.00%	8820 VA		Total Est. Demand:	16280 VA
Lighting	465 VA	100.00%	465 VA		Total Conn.:	45 A
				Total Est. Demand:	45 A	

Notes:

Branch Panel: LV-12													
Location: BOILER ROOM 106				Volts: 120/208 Wye				A.I.C. Rating: 22 KAIC					
Supply From: LV-01				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	Receptacle	20 A	1	540 VA	540 VA					1	20 A	Receptacle	2
3	Receptacle	20 A	1			540 VA	721 VA						4
5													6
7					721 VA				721 VA	3	20 A	EUH-1 ELECTRIC UNIT HEATER BOILER ROOM 106	8
9													10
11													12
13													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
Total Load:				1712 VA		1197 VA		721 VA					
Total Amps:				15 A		11 A		6 A					
Legend:													
Load Classification			Connected Load		Demand Factor		Estimated Demand		Panel Totals				
Other			2162 VA		100.00%		2162 VA						
Receptacle			1620 VA		100.00%		1620 VA		Total Conn. Load: 3592 VA				
									Total Est. Demand: 3592 VA				
									Total Conn.: 10 A				
									Total Est. Demand: 10 A				
Notes:													

Branch Panel: LV-11													
Location: HALL 208				Volts: 120/208 Wye				A.I.C. Rating: 22KA					
Supply From: LV-01				Phases: 3				Mains Type: MCB					
Mounting: Flush				Wires: 4				Mains Rating: 100 A					
Enclosure: 1								MCB Rating: 100 A					
Notes:													
CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	Receptacles Break/Training 209 SE wall	20 A	1	900 VA	900 VA					1	20 A	Receptacles Break/Training 209 East Wall	2
3	Receptacles Office 203 East Wall	20 A	1			720 VA	720 VA			1	20 A	Receptacles Office 203 West Wall	4
5	Receptacles Conference 202 South Wall	20 A	1					900 VA	720 VA	1	20 A	Receptacles Conference 202 East Wall	6
7	Receptacles Conference 202 North Wall	20 A	1	720 VA	400 VA					1	20 A	Receptacles Conference Floor	8
9	Receptacles Men & Women Restrooms Sinks	20 A	1			360 VA	360 VA			1	20 A	Receptacle Men Sink 213	10
11	Receptacles Men & Women Restrooms South Wall	20 A	1					540 VA	540 VA	1	20 A	Receptacle OPEN OFFICE 201	12
13	Receptacle Water Cooler HALL 208 & Janitor 210	20 A	1	360 VA	720 VA					1	20 A	Receptacles Open Office 201 South Wall	14
15	Receptacles Open Office 201	20 A	1			1363...	360 VA			1	20 A	Receptacle Hight Conference 202	16
17	Receptacles Water Cooler & 207	20 A	1					180 VA	720 VA	1	20 A	Receptacles Break/Training 209 North Wall	18
19	Receptacles Break/Training 209 Counter	20 A	1	180 VA	180 VA					1	20 A	Receptacles Break/Training Counter	20
21	Receptacle Break Training 209 Counter	20 A	1			180 VA	535 VA			1	20 A	Lighting - Break Room	22
23	Lighting Conference 202 & 203	20 A	1					393 VA	426 VA	1	20 A	Lighting Men/Women Restrooms	24
25	Lighting BATHROOM 207	20 A	1	717 VA	1040...					2	20 A	FC-6, 7, 9, & 12 Fan Coil Units	26
27	Receptacle WAITING 200	20 A	1			900 VA	1040...						28
29	FC-03, 08, 10, & 11 Fan Coil Units	20 A	2					832 VA	600 VA				30
31	Receptacle Refrigerator 209	20 A	1	832 VA	600 VA					3	20 A	ERV-1 Energy Recovery Ventilator 214	32
35	Receptacle Vending 209	20 A	1			180 VA	600 VA						34
37	Receptacle Vending 209	20 A	1	180 VA	961 VA			180 VA	961 VA				36
39	Receptacle OFFICE 204	20 A	1			900 VA	961 VA			3	20 A	EWB-1 & EWB-2 Men & Women Restroom	38
41	Receptacles Office 206	20 A	1					720 VA	180 VA	1	20 A	Copier Receptacle OPEN OFFICE 201	40
43	Furniture Power Connection OPEN OFFICE 201	20 A	3	167 VA	167 VA								44
45						167 VA	167 VA			3	20 A	Furniture Power Connection OPEN OFFICE 201	46
47								167 VA	167 VA				48
49													50
51													52
53													54
Total Load:				8592 VA		9129 VA		7879 VA					
Total Amps:				73 A		77 A		66 A					
Legend:													
Load Classification		Connected Load		Demand Factor		Estimated Demand		Panel Totals					
Other		8427 VA		100.00%		8427 VA							
Receptacle		13680 VA		86.55%		11840 VA		Total Conn. Load: 25587 VA					
Power		1000 VA		100.00%		1000 VA		Total Est. Demand: 23797 VA					
Lighting		2071 VA		100.00%		2071 VA		Total Conn.: 71 A					
RCPT		1598 VA		100.00%		1598 VA		Total Est. Demand: 66 A					
SPEC		0 VA		0.00%		0 VA							
Notes:													

Branch Panel: LV-10

Location: SCRAP/BALER ROOM 105

Supply From: TS-10

Mounting: Surface

Enclosure: 1

Volts: 120/208 Wye

Phases: 3

Wires: 4

A.I.C. Rating: 22 KIA

Mains Type: MLO

Mains Rating: 200 A

MCB Rating: 200 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	Receptacle WN Baler Wall	20 A	1	540 VA	180 VA					1	20 A	DL-11 Dock Leveler	2
3	DL-13 Dock Leveler	20 A	1			180 VA	180 VA			1	20 A	DL-13 Dock Leveler	4
5	Receptacle NW Wall	20 A	1					540 VA	720 VA	1	20 A	Receptacle SW Wall	6
7	Receptacle SC Wall	20 A	1	720 VA	540 VA					1	20 A	Receptacle E Wall	8
9	Receptacle NE Wall	20 A	1			360 VA	2402...						10
11								2402...		3	30 A	EUH-2 Electric Unit Heater	12
13					2402...								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
Total Load:				4159 VA		3009 VA		3493 VA					
Total Amps:				35 A		25 A		30 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	7205 VA	100.00%	7205 VA		
Receptacle	3960 VA	100.00%	3960 VA	Total Conn. Load:	10642 VA
				Total Est. Demand:	10642 VA
				Total Conn.:	30 A
				Total Est. Demand:	30 A

Notes:

Branch Panel: LV-09

Location: WAREHOUSE 103

Supply From: TS-09

Mounting: Surface

Enclosure: 1

Volts: 120/208 Wye

Phases: 3

Wires: 4

A.I.C. Rating: 22 KIA

Mains Type: MLO

Mains Rating: 200 A

MCB Rating: 200 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	DL-01 Dock Leveler	20 A	1	180 VA	540 VA					1	20 A	Receptacle S Warehouse Wall Truck Bay	2
3	Receptacle EN Wall	20 A	1			540 VA	180 VA			1	20 A	DL-02 Dock Leveler	4
5	Receptacle Columns K4 & L4	20 A	1					360 VA	180 VA	1	20 A	DL-03 Dock Leveler	6
7	Receptacle Columns H4 & J4	20 A	1	360 VA	360 VA					1	20 A	Receptacle Columns H5 & J5	8
9	Receptacle Columns K5 & L5	20 A	1			360 VA	478 VA						10
11	Other PRODUCTION AREA 100	20 A	2					478 VA	478 VA	2	20 A	OHF-9 Overhead Fan	12
13				478 VA	180 VA								
15	DL-05 Dock Leveler	20 A	1			180 VA	180 VA			1	20 A	DL-04 Dock Leveler	16
17	Receptacle ESS Wall	20 A	1					360 VA	0 VA	1	20 A	DL-06 Dock Leveler	18
19					0 VA					2	125 A	Supervisor's Office PRODUCTION AREA 100	20
21													22
23													24
25													26
27													28
29													30
31													32
33													34
35													36
37													38
39													40
41													42
Total Load:				2023 VA		1845 VA		1762 VA					
Total Amps:				17 A		15 A		15 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	1914 VA	100.00%	1914 VA	Total Conn. Load:	5610 VA
Receptacle	3960 VA	100.00%	3960 VA		Total Est. Demand:
				Total Conn.:	16 A
				Total Est. Demand:	16 A

Notes:

Branch Panel: LV-16

Location: PRODUCTION AREA 100

Supply From: TP-EVOL-1

Mounting: Surface

Enclosure: NEMA 4

Volts: 120/208 Wye

Phases: 3

Wires: 4

A.I.C. Rating: 22 KAIC

Mains Type: MLO

Mains Rating: 100 A

MCB Rating: 100 A

Notes:

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT	
1										2	
3										4	
5										6	
7										8	
9										10	
11										12	
13										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	
		Total Load:		0 VA	0 VA	0 VA					
		Total Amps:		0 A	0 A	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:											

Branch Panel: LV-15

Location: Space 36

Supply From: LV-01

Mounting: Surface

Enclosure: NEMA 4

Volts: 120/208 Wye

Phases: 3

Wires: 4

A.I.C. Rating: 22 KAIC

Mains Type: MLO

Mains Rating: 100 A

MCB Rating: 100 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	Receptacle NW Wall	20 A	1	540 VA	1260...					1	20 A	Receptacle Space 36	2
3	Receptacle E Wall	20 A	1			540 VA	360 VA			1	20 A	Receptacle NE Wall	4
5								2402...	360 VA	1	20 A	IKCC-1 INK KITCHEN CONTROL CONSOLE	6
7	EUH-3 Electric Unit Heater	30 A	3	2402...	360 VA					1	20 A	Receptacle W & S Wall	8
9						2402...	1201...						10
11	Receptacle	20 A	1					540 VA	1201...	3	20 A	EUH-4 ELECTRIC UNIT HEATER AIR COMP 109	12
13	Receptacle	20 A	1	360 VA	1201...								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
Total Load:				5818 VA		4356 VA		4356 VA					
Total Amps:				48 A		36 A		36 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	10808 VA	100.00%	10808 VA	Total Conn. Load:	14497 VA
Receptacle	4320 VA	100.00%	4320 VA		
				Total Est. Demand:	14497 VA
				Total Conn.:	40 A
				Total Est. Demand:	40 A

Notes:

Branch Panel: LV-14													
Location: FIRE PUMP 107				Volts: 120/208 Wye				A.I.C. Rating: 22 KAIC					
Supply From: LV-01				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	Receptacle N & E Wall	20 A	1	540 VA	540 VA					1	20 A	Receptacle W & S Wall	2
3						1201...							4
5	EUH-5 ELECTRIC UNIT HEATER FIRE PUMP 107	20 A	3					1201...					6
7				1201...									8
9													10
11													12
13													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
				Total Load:	2164 VA		1201 VA		1201 VA				
				Total Amps:	18 A		10 A		10 A				
Legend:													
Load Classification		Connected Load		Demand Factor		Estimated Demand		Panel Totals					
Other		3603 VA		100.00%		3603 VA		Total Conn. Load:		4513 VA			
Receptacle		1080 VA		100.00%		1080 VA		Total Est. Demand:		4513 VA			
								Total Conn.:		13 A			
								Total Est. Demand:		13 A			
Notes:													

Branch Panel: LV-13

Location: IT ROOM 205

Supply From: LV-01

Mounting: Flush

Enclosure: 1

Volts: 120/208 Wye

Phases: 3

Wires: 4

A.I.C. Rating: 22KA

Mains Type: MCB

Mains Rating: 100 A

MCB Rating: 100 A

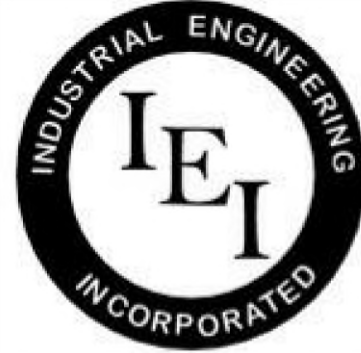
Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	Receptacle North Wall	20 A	1	360 VA	360 VA					1	20 A	Receptacle East Wall	2
3	Receptacle East South Wall	20 A	1			360 VA	360 VA			1	20 A	Receptacle IT Backboard	4
5	Receptacle IT Backboard	20 A	1					360 VA	360 VA	1	20 A	Receptacle West Center Wall	6
7				250 VA	250 VA								8
9	Power IT Rack J-Box	20 A	2			250 VA	250 VA			2	20 A	Power IT Rack	10
11	Receptacle East South Wall	20 A	1					360 VA	360 VA	1	20 A	Receptacle South Wall	12
13													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
Total Load:				1220 VA		1220 VA		1440 VA					
Total Amps:				10 A		10 A		12 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Receptacle	2880 VA	100.00%	2880 VA	Total Conn. Load: Total Est. Demand: Total Conn.: Total Est. Demand:	3880 VA 3880 VA 11 A 11 A
Power	1000 VA	100.00%	1000 VA		

Notes:

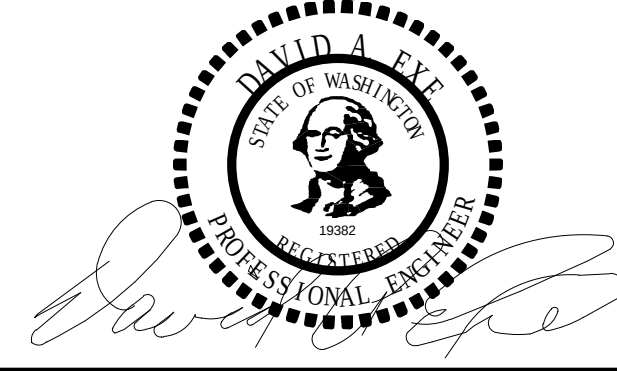


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4	2019.8.9	Misc Electrical

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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

ELECTRICAL LV & LP
PANELBOARD
SCHEDULES

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

E5.07

Branch Panel: LP-02

Location: PRODUCTION AREA 100
Supply From: TL-02
Mounting: Surface
Enclosure: 1

Volts: 480/277 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 65 KAIC
Mains Type: MCB
Mains Rating: 125 A
MCB Rating: 125 A

Notes:

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT	
1	Lighting GL B.6 North	20 A	1	1640...	1919...			1	20 A	Lighting GL C North	2
3	Lighting GL C.4 North	20 A	1		1846... 1846...			1	20 A	Lighting GL C.7 North	4
5	Lighting GL D.3 North	20 A	1			1456... 1248...		1	20 A	Lighting GL D.7 North	6
7	Lighting GL E.3 North	20 A	1	1529... 2002...				1	20 A	Lighting GL B.6 South	8
9	Lighting GL C South	20 A	1		2002... 2002...			1	20 A	Lighting GL C.4 South	10
11	Lighting GL C.7 South	20 A	1			2002... 1945...		1	20 A	Lighting GL D.3 South	12
13	Lighting GL D.7 South	20 A	1	1040... 1456...				1	20 A	Lighting GL E.3 South	14
15											16
17											18
19											20
21											22
23											24
Total Load:				9586 VA	7696 VA	6651 VA					
Total Amps:				35 A	28 A	24 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Lighting	23933 VA	100.00%	23933 VA	
				Total Conn. Load: 23933 VA
				Total Est. Demand: 23933 VA
				Total Conn.: 29 A
				Total Est. Demand: 29 A

Notes:

Branch Panel: LP-01

Location: WAREHOUSE AREA 1 101
Supply From: TL-01
Mounting: Surface
Enclosure: 1

Volts: 480/277 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 65 KAIC
Mains Type: MCB
Mains Rating: 125 A
MCB Rating: 125 A

Notes:

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT		
1	Lighting GL AA.1 North	20 A	1	700 VA	1582...			1	20 A	Lighting GL AA.5 North	2	
3	Lighting GL AA.2 North	20 A	1		392 VA	884 VA		1	20 A	Lighting GL A.3 North	4	
5	Lighting GL A.7 North	20 A	1				735 VA	735 VA	1	20 A	Lighting GL B.3 North	6
7	Lighting GL AA.1 South	20 A	1	700 VA	392 VA			1	20 A	Lighting GL AA.5 South	8	
9	Lighting GL AA.2 South	20 A	1		1582...	1089...		1	20 A	Lighting GL A.3 South	10	
11	Lighting GL A.7 South	20 A	1				1046...	910 VA	1	20 A	Lighting GL B.3 South	12
13	Lighting Exterior	20 A	1	582 VA	328 VA			1	20 A	Lighting Exterior	14	
15											16	
17											18	
19											20	
21											22	
23											24	
Total Load:				4212 VA	3944 VA	3425 VA						
Total Amps:				15 A	15 A	12 A						

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Lighting	11574 VA	100.00%	11574 VA	
				Total Conn. Load: 11574 VA
				Total Est. Demand: 11574 VA
				Total Conn.: 14 A
				Total Est. Demand: 14 A

Notes:

Branch Panel: LV-18

Location: Backflow Preventer Building
Supply From: LV-01
Mounting: Surface
Enclosure: NEMA 4

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 22 KAIC
Mains Type: MCB
Mains Rating: 60 A
MCB Rating: 60 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	Lighting	20 A	1	200 VA	360 VA					1	20 A	Receptacle	2
3	Receptacle	20 A	1			180 VA	1947...			1	20 A	H-02 Electric Heater	4
5	H-01 Electric Heater	20 A	1					1947...	500 VA	1	20 A	SIGNAGE	6
7	SIGNAGE	20 A	1	500 VA									8
9													10
11													12
13													14
15													16
17													18
19													20
21													22
23													24
Total Load:				1060 VA		2099 VA		2379 VA					
Total Amps:				9 A		19 A		21 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Heating	3600 VA	100.00%	3600 VA	
Other	0 VA	0.00%	0 VA	Total Conn. Load: 5428 VA
Receptacle	900 VA	100.00%	900 VA	Total Est. Demand: 5428 VA
Power	1000 VA	100.00%	1000 VA	Total Conn.: 15 A
Lighting	200 VA	100.00%	200 VA	Total Est. Demand: 15 A

Notes:

Branch Panel: LV-17

Location: PRODUCTION AREA 100
Supply From: TP-EVOL-2
Mounting: Surface
Enclosure: NEMA 4

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 22 KAIC
Mains Type: MLO
Mains Rating: 100 A
MCB Rating: 100 A

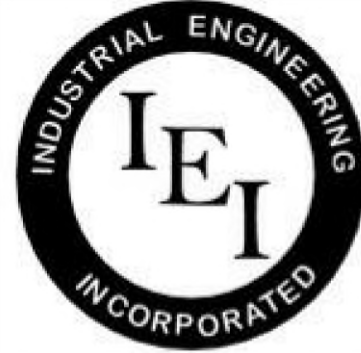
Notes:

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
1										2
3										4
5										6
7										8
9										10
11										12
13										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
		Total Load:		0 VA	0 VA	0 VA				
		Total Amps:		0 A	0 A	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:



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FEB 20, 2020



NO	DATE	REVISION
6	2019.9.6	Schmitt Add Work #1

PACKAGING CORPORATION OF AMERICA

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FEBRUARY 20, 2020

ELECTRICAL LP
PANELBOARD
SCHEDULES

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

E5.08

Branch Panel: LP-06

Location: ELECTRICAL 108
Supply From: TL-06
Mounting: Surface
Enclosure: 1

Volts: 480/277 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 65 KAIC
Mains Type: MCB
Mains Rating: 125 A
MCB Rating: 125 A

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	Lighting Boiler Room	20 A	1	1189...	1217...					1	20 A	Lighting Baler Room Em	2
3	Lighting Baler Room West	20 A	1			715 VA	1144...			1	20 A	Lighting Baler Room Center	4
5	Lighting Water Treatment Room	20 A	1					2049...	285 VA	1	20 A	Lighting Fire Pump Room	6
7	Lighting Electrical Room	20 A	1	482 VA	328 VA					1	20 A	Lighting Exterior	8
9	Lighting Exterior	20 A	1			266 VA	827 VA			1	20 A	SITE LIGHTING	10
11	SITE LIGHTING	20 A	1					517 VA	1260...	1	20 A	SITE LIGHTING	12
13	SITE LIGHTING	20 A	1	210 VA	800 VA					1	20 A	Lighting Water Treatment Room	14
15													16
17													18
19													20
21													22
23													24
Total Load:				4185 VA		2882 VA		4027 VA					
Total Amps:				16 A		10 A		15 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Lighting	8424 VA	100.00%	8424 VA	
SITE LIGHTING	2813 VA	100.00%	2813 VA	
				Total Conn. Load: 11073 VA
				Total Est. Demand: 11073 VA
				Total Conn.: 13 A
				Total Est. Demand: 13 A

Notes:

Branch Panel: LP-05

Location: PRODUCTION AREA 100
Supply From: TL-05
Mounting: Surface
Enclosure: 1

Volts: 480/277 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 65 KAIC
Mains Type: MCB
Mains Rating: 125 A
MCB Rating: 125 A

Notes:

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT	
1	Lighting GL 6.2 West	20 A	1	2002... 2002...				1	20 A	Lighting GL 6.7 West	2
3	Lighting GL 7.3 West	20 A	1		1456... 1456...			1	20 A	Lighting GL 6.2 East	4
5	Lighting GL 6.7 East	20 A	1			1248... 1248...		1	20 A	Lighting GL 7.7 East	6
7	Lighting GL 7.7 East	20 A	1	1945... 1529...				1	20 A	Lighting GL 7.7 West	8
9	Lighting GL 8.3 West	20 A	1		1248... 1321...			1	20 A	Lighting GL 8.7 West	10
11	Lighting GL 8.7 East	20 A	1			1529... 704 VA		1	20 A	Lighting Pallet Storage	12
13	Lighting Exterior	20 A	1	1248... 392 VA				1	20 A	Lighting Exterior	14
15											16
17											18
19											20
21											22
23											24
Total Load:				9082 VA	5481 VA	4729 VA					
Total Amps:				33 A	20 A	17 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Lighting	19291 VA	100.00%	19291 VA	
				Total Conn. Load: 19291 VA
				Total Est. Demand: 19291 VA
				Total Conn.: 23 A
				Total Est. Demand: 23 A

Notes:

Branch Panel: LP-04

Location: WAREHOUSE AREA 2 103
Supply From: TL-04
Mounting: Surface
Enclosure: 1

Volts: 480/277 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 65 KAIC
Mains Type: MCB
Mains Rating: 125 A
MCB Rating: 125 A

Notes:

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT	
1	Lighting GL 1.2 West	20 A	1	1529...	1664...			1	20 A	Lighting GL 1.7 West	2
3	SITE LIGHTING	20 A	1		226 VA	1040...		1	20 A	Lighting GL 1.2 East	4
5	Lighting GL 2.2 West	20 A	1			1456...	1248...	1	20 A	Lighting GL 2.7 West	6
7	Lighting GL 2.2 East	20 A	1	1456...	1456...			1	20 A	Lighting GL 2.7 East	8
9	Lighting Exterior	20 A	1		448 VA	630 VA		1	20 A	SITE LIGHTING	10
11	SITE LIGHTING	20 A	1			630 VA					12
13	SITE LIGHTING	20 A	1	630 VA							14
15											16
17											18
19											20
21											22
23											24
Total Load:				6679 VA	2285 VA	3283 VA					
Total Amps:				25 A	8 A	12 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Lighting	10460 VA	100.00%	10460 VA	
SITE LIGHTING	1890 VA	100.00%	1890 VA	
				Total Conn. Load: 12210 VA
				Total Est. Demand: 12210 VA
				Total Conn.: 15 A
				Total Est. Demand: 15 A

Notes:

Branch Panel: LP-03

Location: PRODUCTION AREA 100
Supply From: TL-03
Mounting: Surface
Enclosure: 1

Volts: 480/277 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 65 KAIC
Mains Type: MCB
Mains Rating: 125 A
MCB Rating: 125 A

Notes:

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT	
1	Lighting GL 3.7 West	20 A	1	1248...	1248...			1	20 A	Lighting GL 3.3 West	2
3	Lighting GL 3.7 East	20 A	1		1456...	1664...		1	20 A	Lighting GL 3.3 East	4
5							1456...	1	20 A	Lighting GL 4.2 East	6
7	Lighting GL 4.8 East	20 A	1	1456...	1560...			1	20 A	Lighting GL 4.2 West	8
9	Lighting GL 4.8 West	20 A	1		1560...	1716...		1	20 A	Lighting GL 5.4 West	10
11	Lighting GL 5.4 East	20 A	1			1534...	1716...	1	20 A	Lighting GL 5.7 West	12
13	Lighting GL 5.7 East	20 A	1	1534...							14
15											16
17											18
19											20
21											22
23											24
Total Load:				7046 VA	6396 VA	4706 VA					
Total Amps:				26 A	24 A	17 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Lighting	18148 VA	100.00%	18148 VA	
				Total Conn. Load: 18148 VA
				Total Est. Demand: 18148 VA
				Total Conn.: 22 A
				Total Est. Demand: 22 A

Notes:

BIM 360//18810 PCA Richland WA Box Plant18810 PCA Richland E-V13.rvt
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Switchboard: SP						
Location: PRODUCTION AREA 100			Volts: 480D/VAC		A.I.C. Rating: 65 KAIC	
Supply From: BSSB-1B			Phases: 3		Mains Type: MLO	
Mounting: Surface			Wires: 3		Mains Rating: 400 A	
Enclosure: 1					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:						

Switchboard: FP						
Location:			Volts: 480D/VAC		A.I.C. Rating: 65 KAIC	
Supply From: BSSB-1B			Phases: 3		Mains Type: MLO	
Mounting: Surface			Wires: 3		Mains Rating: 400 A	
Enclosure: 1					MCB Rating: 400 A	
Notes:						
CKT	Circuit Description	# of Poles	Frame Size	Trip Rating	Load	Remarks
1	EF-3 Exhaust Fan	3	100 A	20 A	6318 VA	
2	EF-4 Exhaust Fan	3	100 A	20 A	6318 VA	
3	EF-5 Exhaust Fan	3	100 A	20 A	6318 VA	
4	EF-6 Exhaust Fan	3	100 A	20 A	6318 VA	
5	EF-7 Exhaust Fan	3	100 A	40 A	6318 VA	
6	EF-8 Exhaust Fan	3	100 A	20 A	6318 VA	
7	TF-1 Transfer Fan	3	400 A	20 A	6318 VA	
8	TF-2 Transfer Fan	3	100 A	20 A	6318 VA	
9	TF-3 Transfer Fan	3	400 A	20 A	6318 VA	
10	TF-4 Transfer Fan	3	100 A	20 A	6318 VA	
11	TF-5 Transfer Fan	3	100 A	20 A	6318 VA	
12	TF-6 Transfer Fan	3	100 A	20 A	6318 VA	
13	SPARE	1	--	20 A	0 VA	
14	SPARE	1	--	20 A	0 VA	
15						
16						
17						
18						
Total Conn. Load:					75820 VA	
Total Amps:					91 A	
Legend:						
Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals		
Other	75820 VA	100.00%	75820 VA		Total Conn. Load:	75820 VA
					Total Est. Demand:	75820 VA
					Total Conn.:	91 A
					Total Est. Demand:	91 A
Notes:						

Branch Panel: MRP											
Location: PRODUCTION AREA 100						Volts: 480D/VAC			A.I.C. Rating: 2		
Supply From: BSSB-1B						Phases: 3			Mains Type: MLO		
Mounting: Surface						Wires: 3			Mains Rating: 125 A		
Enclosure: 1									MCB Rating: 125 A		
Notes:											
CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT	
1				2487... 2833...						2	
3	TS-11 MAINTENANCE ROOM PANEL LV-19	100 A	3		2309... 2833...			3	30 A K-01 KARDEX UNIT	4	
5						2487... 2833...				6	
7				1167... 2833...						8	
9	MRP MAINTENANCE ROOM PANEL	125 A	3		1167... 2833...			3	30 A K-02 KARDEX UNIT	10	
11						1167... 2833...				12	
13										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	
Total Load:				9301 VA	9121 VA	9301 VA					
Total Amps:				34 A	33 A	34 A					
Legend:											
Load Classification		Connected Load		Demand Factor		Estimated Demand		Panel Totals			
Other		0 VA		0.00%		0 VA					
Receptacle		9260 VA		100.00%		9260 VA		Total Conn. Load:		27722 VA	
Power		17000 VA		100.00%		17000 VA		Total Est. Demand:		28094 VA	
MTR		1801 VA		125.00%		2252 VA		Total Conn.:		33 A	
								Total Est. Demand:		34 A	
Notes:											

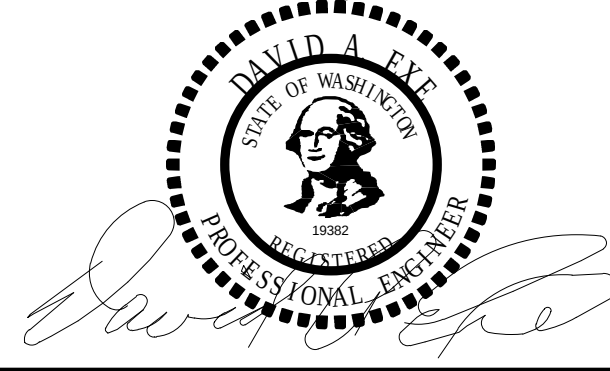


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FEB 20, 2020



NO DATE REVISION

PACKAGING CORPORATION OF AMERICA

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FEBRUARY 20, 2020

480V PANEL SCHEDULES

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

E5.08A

ELECTRICAL EQUIPMENT SCHEDULE PHASE 2 (SHELL CONSTRUCTION)										
ID	DESCRIPTION	SERVED FROM	VOLT	PHASE	LOAD AMPS	BREAKER	WIRE SIZE	DISCONNECT	CONNECTED BY	NOTES
BC-1	VRF CONTROL CABINET	LV-11	208 V	2	2 A	20 A	#10	30	Electrical Contractor	7
CS-01	CHARGING STATION	BSSB-1A	480 V	3	30 A	50 A	#6	30	Electrical Contractor	10
CS-02	CHARGING STATION	BSSB-1A	480 V	3	30 A	50 A	#6	60	Electrical Contractor	10
CS-03	CHARGING STATION	BSSB-2A	480 V	3	30 A	50 A	#6	60	Electrical Contractor	10
CS-04	CHARGING STATION	BSSB-2A	480 V	3	30 A	50 A	#6	60	Electrical Contractor	10
CS-05	CHARGING STATION	BSSB-2A	480 V	3	30 A	50 A	#6	60	Electrical Contractor	10
CS-06	CHARGING STATION	BSSB-1A	480 V	3	30 A	50 A	#6	60	Electrical Contractor	10
CS-07	CHARGING STATION	BSSB-1A	480 V	3	30 A	50 A	#6	60	Electrical Contractor	10
CU-1	CONDENSING UNIT #1	LV-01	208 V	2	20 A	35 A	#8	60	Electrical Contractor	1
CU-2	CONDENSING UNIT #2	LV-01	208 V	2	20 A	35 A	#8	60	Electrical Contractor	1
CU-3	CONDENSING UNIT #3	LV-05	208 V	2	17 A	30 A	#8	60	Electrical Contractor	1
CU-4	CONDENSING UNIT #4	BSSB-1A	480 V	3	37 A	50 A	#6	100	Electrical Contractor	1
DL-01	DOCK LEVELER	BSSB-2A	480 V	3	2 A	30 A	#10	30	Electrical Contractor	2
DL-02	DOCK LEVELER	BSSB-2A	480 V	3	2 A	30 A	#10	30	Electrical Contractor	2
DL-03	DOCK LEVELER	BSSB-2A	480 V	3	2 A	30 A	#10	30	Electrical Contractor	2
DL-04	DOCK LEVELER	BSSB-2A	480 V	3	2 A	30 A	#10	30	Electrical Contractor	2
DL-05	DOCK LEVELER	BSSB-2A	480 V	3	2 A	30 A	#10	30	Electrical Contractor	2
DL-06	DOCK LEVELER	BSSB-2A	480 V	3	2 A	30 A	#10	30	Electrical Contractor	2
DL-07	DOCK LEVELER	BSSB-1A	480 V	3	2 A	30 A	#10	30	Electrical Contractor	2
DL-08	DOCK LEVELER	BSSB-1A	480 V	3	2 A	30 A	#10	30	Electrical Contractor	2
DL-09	DOCK LEVELER	BSSB-1A	480 V	3	2 A	30 A	#10	30	Electrical Contractor	2
DL-10	DOCK LEVELER	BSSB-1A	480 V	3	2 A	30 A	#10	30	Electrical Contractor	2
DL-11	DOCK LEVELER	BSSB-1A	480 V	3	2 A	30 A	#10	30	Electrical Contractor	2
DL-12	DOCK LEVELER	BSSB-1A	480 V	3	2 A	30 A	#10	30	Electrical Contractor	2
DL-13	DOCK LEVELER	BSSB-1A	480 V	3	2 A	30 A	#10	30	Electrical Contractor	2
EF-1	AXIAL EXHAUST FAN	BSSB-2A	480 V	3	65 A	90 A	#3	100	Electrical Contractor	3
EF-2	AXIAL EXHAUST FAN	BSSB-1B	480 V	3	65 A	90 A	#3	100	Electrical Contractor	3
EF-3	EXHAUST FAN	BSSB-1A	480 V	3	8 A	30 A	#10	30	Electrical Contractor	2
EF-4	EXHAUST FAN	BSSB-1A	480 V	3	8 A	30 A	#10	30	Electrical Contractor	2
EF-5	TRANSFER FAN	BSSB-1A	480 V	3	8 A	30 A	#10	30	Electrical Contractor	2
EF-6	EXHAUST FAN	BSSB-1A	480 V	3	8 A	30 A	#10	30	Electrical Contractor	2
EF-7	EXHAUST FAN	BSSB-1B	480 V	3	8 A	20 A	# 10	30	Electrical Contractor	3
EF-8	EXHAUST FAN	BSSB-1B	480 V	3	8 A	20 A	#10	30	Electrical Contractor	3
EF-9	SIDEWALL EXHAUST FAN	LV-05	120 V	3	8 A	20 A	# 10	30	Electrical Contractor	3
EF-10	SIDEWALL EXHAUST FAN	BSSB-2A	480 V	3	5 A	20 A	# 10	30	Electrical Contractor	3
EF-11	INLINE CENTRIFIGAL FAN	LV-06	120 V	1	2 A	20 A	# 10	30	Electrical Contractor	4
EF-14	EXHAUST FAN	LV-01	120 V	1	3 A	20 A	# 10	30	Electrical Contractor	4
EF-14	EXHAUST FAN	LV-01	208 V	1	3 A	20 A	# 10	30	Electrical Contractor	
ERV-1	ENERGY RECOVERY VENTILATOR	LV-11	208 V	3	5 A	20 A	# 10	30	Electrical Contractor	5
ERV-2	ENERGY RECOVERY VENTILATOR	LV-05	120 V	1	4 A	20 A	# 10	30	Electrical Contractor	5
EUH-1	ELECTRIC UNIT HEATER	LV-12	208 V	3	6 A	20 A	# 10	30	Electrical Contractor	6
EUH-2	ELECTRIC UNIT HEATER	LV-10	208 V	3	20 A	30 A	# 10	30	Electrical Contractor	6
EUH-3	ELECTRIC UNIT HEATER	LV-15	208 V	3	20 A	30 A	# 10	30	Electrical Contractor	6
EUH-4	ELECTRIC UNIT HEATER	LV-13	208 V	3	10 A	20 A	# 10	30	Electrical Contractor	6
EUH-5	ELECTRIC UNIT HEATER	LV-14	208 V	3	10 A	20 A	# 10	30	Electrical Contractor	6
EWB-1	ELECTRIC WALL HEATER	LV-11	208 V	3	4 A	20 A	# 10	30	Electrical Contractor	6
EWB-2	ELECTRIC WALL HEATER	LV-11	208 V	3	4 A	20 A	# 10	30	Electrical Contractor	6
EWB-3	ELECTRIC WALL HEATER	LV-06	208 V	3	2 A	20 A	# 10	30	Electrical Contractor	6
EWB-4	ELECTRIC WALL HEATER	LV-06	208 V	3	2 A	20 A	# 10	30	Electrical Contractor	6
FC-1	FAN COIL UNIT	LV-11	208 V	2	2 A	20 A	# 10	30	Electrical Contractor	6
FC-2	FAN COIL UNIT	LV-11	208 V	2	2 A	20 A	# 10	30	Electrical Contractor	7
FC-3	FAN COIL UNIT	LV-11	208 V	2	2 A	20 A	# 10	30	Electrical Contractor	7
FC-4	FAN COIL UNIT	LV-05	208 V	2	2 A	20 A	# 10	30	Electrical Contractor	7
FC-5	FAN COIL UNIT	LV-05	208 V	2	2 A	20 A	# 10	30	Electrical Contractor	7
FC-6	FAN COIL UNIT	LV-11	208 V	2	2 A	20 A	# 10	30	Electrical Contractor	7
FC-7	FAN COIL UNIT	LV-11	208 V	2	2 A	20 A	# 10	30	Electrical Contractor	7
FC-8	FAN COIL UNIT	LV-11	208 V	2	2 A	20 A	# 10	30	Electrical Contractor	7
FC-9	FAN COIL UNIT	LV-11	208 V	2	2 A	20 A	# 10	30	Electrical Contractor	7
FC-10	FAN COIL UNIT	LV-11	208 V	2	2 A	20 A	# 10	30	Electrical Contractor	7
FC-11	FAN COIL UNIT	LV-11	208 V	2	2 A	20 A	# 10	30	Electrical Contractor	7
FC-12	FAN COIL UNIT	LV-11	208 V	2	2 A	20 A	# 10	30	Electrical Contractor	7
FP-1	FIRE PUMP	Shellbetter	480 V	3	180 A	200 A	#3/0	200	Electrical Contractor	
GUH-1	GAS UNIT HEATER	LV-11	120 V	1	3 A	20 A	# 10	30	Electrical Contractor	6
GUH-2	GAS UNIT HEATER	LV-05	120 V	1	3 A	20 A	# 10	30	Electrical Contractor	6
GUH-3	GAS UNIT HEATER	LV-02	120 V	1	3 A	20 A	# 10	30	Electrical Contractor	6
JP-1	JOCKEY PUMP	BSSB-1B	480 V	3	5 A	20 A	#3/0	200	Electrical Contractor	
MAU-1	MAKE UP AIR UNIT #1	BSSB-2A	480 V	3	77 A	150A	#2/0	200	Electrical Contractor	8, 11
MAU-2	MAKE UP AIR UNIT #2	BSSB-2A	480 V	3	124 A	200 A	#3/0	200	Electrical Contractor	8, 12
MAU-3	MAKE UP AIR UNIT #3	BSSB-2A	480 V	3	77 A	150 A	#2/0	200	Electrical Contractor	8, 11
MAU-4	MAKE UP AIR UNIT #4	BSSB-1B	480 V	3	124 A	200 A	#3/0	200	Electrical Contractor	8, 12
OHF-1	OVERHEAD FAN #4	LV-06	208 V	2	5 A	20 A	# 10	30	Electrical Contractor	9
OHF-2	OVERHEAD FAN #3	LV-04	208 V	2	5 A	20 A	# 10	30	Electrical Contractor	9
OHF-2	OVERHEAD FAN #3	LV-04	208 V	2	5 A	20 A	# 10	30	Electrical Contractor	9
OHF-3	OVERHEAD FAN #1	LV-05	208 V	2	5 A	20 A	# 10	30	Electrical Contractor	9
OHF-4	OVERHEAD FAN #2	LV-05	208 V	2	5 A	20 A	# 10	30	Electrical Contractor	9
OHF-4	OVERHEAD FAN #2	LV-9	208 V	2	5 A	20 A	# 10	30	Electrical Contractor	9
OHF-6	OVERHEAD FAN #2	LV-05	208 V	2	5 A	20 A	# 10	30	Electrical Contractor	9
OHF-7	OVERHEAD FAN #2	LV-05	208 V	2	5 A	20 A	# 10	30	Electrical Contractor	9
OHF-8	OVERHEAD FAN #2	LV-05	208 V	2	5 A	20 A	# 10	30	Electrical Contractor	9
OHF-9	OVERHEAD FAN #2	LV-05	208 V	2	5 A	20 A	# 10	30	Electrical Contractor	9
OHF-10	OVERHEAD FAN #2	LV-05	208 V	2	5 A	20 A	# 10	30	Electrical Contractor	9
SUP-1	SUMP PUMP	BSSB-1B	480 V	3	4 A	20 A	# 10	30	Electrical Contractor	13
SUP-2	SUMP PUMP	BSSB-1B	480 V	3	4 A	20 A	# 10	30	Electrical Contractor	13
TF-1	TRANSFER FAN	BSSB-1B	480 V	3	8 A	20 A	# 10	30	Electrical Contractor	3
TF-2	TRANSFER FAN	BSSB-1B	480 V	3	8 A	20 A	# 10	30	Electrical Contractor	3
TF-3	TRANSFER FAN	BSSB-1B	480 V	3	8 A	20 A	# 10	30	Electrical Contractor	3
TF-4	TRANSFER FAN	BSSB-1B	480 V	3	8 A	20 A	# 10	30	Electrical Contractor	3
TF-5	TRANSFER FAN	BSSB-1B	480 V	3	8 A	20 A	# 10	30	Electrical Contractor	3
TF-6	TRANSFER FAN	BSSB-1B	480 V	3	8 A	20 A	# 10	30	Electrical Contractor	3
TF-7	SIDEWALL EXHAUST FAN	BSSB-1B	480 V	3	2 A	20 A	# 10	30	Electrical Contractor	3
TF-8	SIDEWALL EXHAUST FAN	BSSB-1B	480 V	3	2 A	20 A	# 10	30	Electrical Contractor	3

ELECTRICAL EQUIPMENT SCHEDULE NOTES

- CONTRACTOR TO PROVIDE DISCONNECT AT WALL. PROVIDE 120V WEATHERPROOF GFCI OUTLET PER CODE.
- ELECTRICAL CONTRACTOR TO ROUTE DOCK LEVELER 480V POWER TO LEFT SIDE OF DOCK DOOR WHEN VIEWING FROM DOOR FROM INSIDE. EXTEND 1" CONDUIT FROM DOCK LEVEL CONTROLLER TO DOCK LEVELER PIT PER DETAIL AND MOUNT 4"x4" J-BOX ON INTERIOR OF PIT. EXTEND 1" CONDUIT FROM DOCK LEVELER CONTROLLER TO EXTERIOR FACE OF DOCK LEVELER WITH 4"x4" J-BOX ON FACE.
- MECHANICAL CONTRACTOR TO PROVIDE EXHAUST FAN AND VFD FOR EXHAUST FAN. ELECTRICAL CONTRACTOR TO PROVIDE LOCKABLE RATED DISCONNECT AND MOUNT VFD AND DISCONNECT BELOW EXHAUST FAN. WIRE COMPLETE TO EXHAUST FAN. VFD CONTROL AND PROGRAM BY OTHERS.
- CEILING MOUNTED EXHAUST FAN PROVIDED AND INSTALLED BY OTHERS. ELECTRICAL CONTRACTOR PROVIDE DEDICATED CIRCUIT. FAN TO RUN CONTINUOUS.
- ERV UNITS PROVIDED, CONTROLLED AND INSTALLED BY OTHERS. ELECTRICAL CONTRACTOR TO PROVIDE POWER PER PLANS.
- ELECTRIC HEATERS PROVIDED, CONTROLLED AND INSTALLED BY OTHERS. ELECTRICAL CONTRACTOR TO CIRCUIT PER PLANS.
- FAN COIL UNITS PROVIDED, CONTROLLED AND INSTALLED BY OTHERS. ELECTRICAL CONTRACTOR TO CIRCUIT PER PLANS.
- MAKEUP AIR UNITS PROVIDED, CONTROLLED AND INSTALLED BY OTHERS. ELECTRICAL CONTRACTOR TO PROVIDE LOCKABLE RATED DISCONNECT AT WALL. CIRCUIT TO MAU COMPLETE. PROVIDE 120V DEDICATED CIRCUIT TO MAU. PROVIDE SEPARATE 120V WEATHERPROOF GFCI RECEPTACLE PER CODE.
- OVERHEAD FANS PROVIDED, CONTROLLED AND INSTALLED BY OTHERS. ELECTRICAL CONTRACTOR TO CIRCUIT PER PLANS.
- ELECTRICAL CONTRACTOR TO WIRE FORKLIFT CHARGE STATIONS COMPLETE. VERIFY SPECIFIC TERMINATION REQUIREMENTS WITH OWNER PRIOR TO ROUGH-IN.
- Use Belden 29530
- Use Belden 29531
- ELECTRICAL CONTRACTOR TO CIRCUIT FROM BSSB-1B VIA OVERHEAD CABLE TRAY AND RIGID CONDUIT TO UNDERFLOOR FEED TO SUMP PUMP.

ELECTRICAL EQUIPMENT GENERAL NOTES

- Unless otherwise specified, all smaller wall fans shall use the following Belden Cables; #12 - Belden 29502, #10 - Belden 29503, #8 - Belden 29504.



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FEB 20, 2020



NO	DATE	REVISION
2	2019.06.18	ASI005 General Elect
4	2019.8.9	Misc Electrical
5	2019	Misc Electrical

PACKAGING CORPORATION OF AMERICA

3003 KINGSGATE WAY
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

EQUIPMENT SCHEDULES

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

E5.09

BIM 360/18810 PCA Richland WA Box Plant/18810 PCA Richland E-V19.rvt
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INTERIOR LIGHT FIXTURE SCHEDULE								
Count	TYPE	Manufacturer	Catalog Number	DESCRIPTION	FINISH	VOLTAGE	INPUT	NOTES
53	A	BIG ASS FANS	----	2X4 RECESSED ARCHITECTURAL TROFFER, RIBBED FROSTED ACRYLIC LENS, DLC RATED	TBD	120/277	36 W	
20	A1	BIG ASS FANS	----	2X4 RECESSED ARCHITECTURAL TROFFER, RIBBED FROSTED ACRYLIC LENS, DLC RATED EMERGENCY	TBD	120/277	35 W	
28	B	BIG ASS FANS	----	LED WALL PACK	BRONZE	120/277	71 W	
29	EX	BIG ASS FANS	----	EDGE LIT EXIT SIGN, NICAD BATTERY, GREEN LETTERS, VERIFY FACES WITH DRAWING, CEILING/END MOUNT, SELF-DIAGNOSTICS, DLC RATED	WHITE BODY WHITE STENCIL	120/277	2 W	
56	P01	BIG ASS FANS	BAF-DBL1-48050102	20"X48" HIGH BAY EFFICIENCY LUMINAIRE, WIDE DISTRIBUTION, CORD AND PLUG CONNECTED, DLC RATED	WHITE	277	286 W	
28	P01-EM	BIG ASS FANS	BAF-DBL1-48050102 xxxxxxS1	20"X48" HIGH BAY EFFICIENCY LUMINAIRE, WIDE DISTRIBUTION, CORD AND PLUG CONNECTED, DLC RATED	WHITE	277	286 W	
197	P02	BIG ASS FANS	BAF-DBL1-36050102	20"X48" HIGH BAY EFFICIENCY LUMINAIRE, WIDE DISTRIBUTION, CORD AND PLUG CONNECTED, DLC RATED	WHITE	277	208 W	
48	P02-EM	BIG ASS FANS	BAF-DBL1-36050102 xxxxxxS1	20"X48" HIGH BAY EFFICIENCY LUMINAIRE, WIDE DISTRIBUTION, CORD AND PLUG CONNECTED, DLC RATED	WHITE	277	208 W	
6	P03	BIG ASS FANS	BAF-SBL1-3050103	4' LENSED LINEAR FIXTURE, ALUMINUM AND STEEL CONSTRUCTION, AIRCRAFT CABLE HUNG, FROSTED ACRYLIC SHIELD, BIDIRECTIONAL	WHITE	277	188 W	
3	P03-EM	BIG ASS FANS	BAF-SBL1-30050103 xxxxxxS1	4' LENSED LINEAR FIXTURE, ALUMINUM AND STEEL CONSTRUCTION, AIRCRAFT CABLE HUNG, FROSTED ACRYLIC SHIELD, BIDIRECTIONAL	WHITE	277	188 W	
3	P04	BIG ASS FANS	BAF-SBL1-30050102	4' LENSED LINEAR FIXTURE, ALUMINUM AND STEEL CONSTRUCTION, AIRCRAFT CABLE HUNG, FROSTED ACRYLIC SHIELD, BIDIRECTIONAL	WHITE	277	186 W	
3	P04-EM	BIG ASS FANS	BAS-SBL1-30050102 xxxxxxS1	4' LENSED LINEAR FIXTURE, ALUMINUM AND STEEL CONSTRUCTION, AIRCRAFT CABLE HUNG, FROSTED ACRYLIC SHIELD, BIDIRECTIONAL	WHITE	277	186 W	
15	P05	BIG ASS FANS	BAF-SBL1-214050102	4' LENSED LINEAR FIXTURE, ALUMINUM AND STEEL CONSTRUCTION, AIRCRAFT CABLE HUNG, FROSTED ACRYLIC SHIELD, BIDIRECTIONAL	WHITE	277	143 W	
6	P05-EM	BIG ASS FANS	BAF-SLB1-24050102 xxxxxxS1	4' LENSED LINEAR FIXTURE, ALUMINUM AND STEEL CONSTRUCTION, AIRCRAFT CABLE HUNG, FROSTED ACRYLIC SHIELD, BIDIRECTIONAL	WHITE	277	143 W	
26	P06	BIG ASS FANS	BAIF-SBL1-18050103	4' LENSED LINEAR FIXTURE, ALUMINUM AND STEEL CONSTRUCTION, AIRCRAFT CABLE HUNG, FROSTED ACRYLIC SHIELD, BIDIRECTIONAL	WHITE	277	105 W	
22	P06-EM	BIG ASS FANS	BAF-SBL1-18050103 xxxxxxS1	4' LENSED LINEAR FIXTURE, ALUMINUM AND STEEL CONSTRUCTION, AIRCRAFT CABLE HUNG, FROSTED ACRYLIC SHIELD, BIDIRECTIONAL	WHITE	277	105 W	
5	P07	BIG ASS FANS	BAF-SBL1-12050103	4' LENSED LINEAR FIXTURE, ALUMINUM AND STEEL CONSTRUCTION, AIRCRAFT CABLE HUNG, FROSTED ACRYLIC SHIELD, BIDIRECTIONAL	WHITE	277	68 W	
1	P07-EM	BIG ASS FANS	BAF-SBL1-1250103x xxxxxS1	4' LENSED LINEAR FIXTURE, ALUMINUM AND STEEL CONSTRUCTION, AIRCRAFT CABLE HUNG, FROSTED ACRYLIC SHIELD, BIDIRECTIONAL	WHITE	277	68 W	
14	P08	BIG ASS FANS	BAS-01-VHL2F57619 35OU	4' LENSED LINEAR FIXTURE, ALUMINUM AND STEEL CONSTRUCTION, AIRCRAFT CABLE HUNG, FROSTED ACRYLIC SHIELD, BIDIRECTIONAL	WHITE	277	226 W	
14	P08-EM	BIG ASS FANS	BAS-01-VHL2F57619 35OU-B	4' LENSED LINEAR FIXTURE, ALUMINUM AND STEEL CONSTRUCTION, AIRCRAFT CABLE HUNG, FROSTED ACRYLIC SHIELD, BIDIRECTIONAL	WHITE	120/277	56 W	
29	P09	BIG ASS FANS	BAS-01-VHL2F28808 25OU	4' LENSED LINEAR FIXTURE, ALUMINUM AND STEEL CONSTRUCTION, AIRCRAFT CABLE HUNG, FROSTED ACRYLIC SHIELD, BIDIRECTIONAL	WHITE		100 W	
12	P10	BIG ASS FANS	BAS-01-VHL2F38413 05OU	4' LENSED LINEAR FIXTURE, ALUMINUM AND STEEL CONSTRUCTION, AIRCRAFT CABLE HUNG, FROSTED ACRYLIC SHIELD, BIDIRECTIONAL	WHITE	120/277	56 W	
8	P11	BIG ASS FANS	TBD	TBD	WHITE	277	100 W	

MOTOR CONTROL CENTER SCHEDULE			
ID	CONNECTED LOAD	CONNECTED CURRENT	COMMENTS
MCC-1	293803 VA	353 A	
MCC-1A	10309 VA	12 A	
MCC-1B	13135 VA	16 A	
MCC-1C	3991 VA	5 A	
MCC-1D	43231 VA	52 A	
MCC-1E	149146 VA	179 A	
MCC-1F	64015 VA	77 A	
MCC-1G	0 VA	0 A	
MCC-1H	9976 VA	12 A	

TRANSFORMER SCHEDULE (PHASE 2 SHELL CONSTRUCTION)												
XFMR	LOCATION	PROVIDED BY	KVA RATING	PRIMARY CONDUCTORS	PRIMARY VOLTAGE	SECONDARY CONDUCTORS	SECONDARY VOLTAGE	TOTAL LOAD	ENCLOSURE	MOUNTING	PHASE INSTALLED	FED FROM
TL-01	WAREHOUSE AREA 1 101	Electrical Contractor	30KVA	1"C,(3)#8 + #10 GND	480 V/3-0 VA	1 1/2"C,(3)#3 + #8 GND	480/277V WYE	11574 VA	NEMA 1	Floor	Phase 2 (Shell Construction)	BSSB-2B
TL-02	PRODUCTION AREA 100	Electrical Contractor	30KVA	1"C,(3)#8 + #10 GND	480 V/3-0 VA	1 1/2"C,(3)#3 + #8 GND	480/277V WYE	23933 VA	NEMA 1	Floor	Phase 2 (Shell Construction)	BSSB-2B
TL-03	PRODUCTION AREA 100	Electrical Contractor	30KVA	1"C,(3)#8 + #10 GND	480 V/3-0 VA	1 1/2"C,(3)#3 + #8 GND	480/277V WYE	18148 VA	NEMA 1	Floor	Phase 2 (Shell Construction)	BSSB-2B
TL-04	WAREHOUSE AREA 2 103	Electrical Contractor	30KVA	1"C,(3)#8 + #10 GND	480 V/3-0 VA	1 1/2"C,(3)#3 + #8 GND	480/277V WYE	12210 VA	NEMA 1	Floor	Phase 2 (Shell Construction)	BSSB-2B
TL-05	PRODUCTION AREA 100	Electrical Contractor	30KVA	1"C,(3)#8 + #10 GND	480 V/3-0 VA	1 1/2"C,(3)#3 + #8 GND	480/277V WYE	19291 VA	NEMA 1	Floor	Phase 2 (Shell Construction)	BSSB-1B
TL-06	ELECTRICAL 108	Electrical Contractor	30KVA	1"C,(3)#8 + #10 GND	480 V/3-0 VA	1 1/2"C,(3)#3 + #8 GND	480/277V WYE	11073 VA	NEMA 1	Floor	Phase 2 (Shell Construction)	BSSB-2B
TS-01	ELECTRICAL 108	Electrical Contractor	150KVA	2"C,(3)#3/0 + #6 GND	480 V/3-0 VA	2"C,(3)#3/0 + #6 GND	208V/120V Wye	67880 VA	NEMA 1	Floor	Phase 2 (Shell Construction)	BSSB-1
TS-02	WAREHOUSE 103	Electrical Contractor	75KVA	1 1/2"C,(3)#2 + #8 GND	480 V/3-0 VA	2"C,(3)#3/0 + #6 GND	208V/120V Wye	6551 VA	NEMA 1	Floor	Phase 2 (Shell Construction)	BSSB-1
TS-03	PRODUCTION AREA 100	Electrical Contractor	75KVA	1 1/2"C,(3)#2 + #8 GND	480 V/3-0 VA	2"C,(3)#3/0 + #6 GND	208V/120V Wye	20407 VA	NEMA 1	Floor	Phase 2 (Shell Construction)	BSSB-1
TS-04	WAREHOUSE AREA 1 101	Electrical Contractor	75KVA	1 1/2"C,(3)#2 + #8 GND	480 V/3-0 VA	2"C,(3)#3/0 + #6 GND	208V/120V Wye	4384 VA	NEMA 1	Floor	Phase 2 (Shell Construction)	BSSB-1
TS-05	WAREHOUSE AREA 2 103	Electrical Contractor	75KVA	1 1/2"C,(3)#2 + #8 GND	480 V/3-0 VA	2"C,(3)#3/0 + #6 GND	208V/120V Wye	16280 VA	NEMA 1	Floor	Phase 2 (Shell Construction)	BSSB-2
TS-06	PRODUCTION AREA 100	Electrical Contractor	75KVA	1 1/2"C,(3)#2 + #8 GND	480 V/3-0 VA	2"C,(3)#3/0 + #6 GND	208V/120V Wye	9129 VA	NEMA 1	Floor	Phase 2 (Shell Construction)	BSSB-2
TS-07	WAREHOUSE AREA 1 101	Electrical Contractor	75KVA	1 1/2"C,(3)#2 + #8 GND	480 V/3-0 VA	2"C,(3)#3/0 + #6 GND	208V/120V Wye	3420 VA	NEMA 1	Floor	Phase 2 (Shell Construction)	BSSB-2
TS-08	PRODUCTION AREA 100	Electrical Contractor	75KVA	1 1/2"C,(3)#2 + #8 GND	480 V/3-0 VA	2"C,(3)#3/0 + #6 GND	208V/120V Wye	1800 VA	NEMA 1	Floor	Phase 2 (Shell Construction)	BSSB-1
TS-09	WAREHOUSE 103	Electrical Contractor	75KVA	1 1/2"C,(3)#2 + #8 GND	480 V/3-0 VA	2"C,(3)#3/0 + #6 GND	208V/120V Wye	5610 VA	NEMA 1	Floor	Phase 2 (Shell Construction)	BSSB-2
TS-10	SCRAP/BALER ROOM 105	Electrical Contractor	75KVA	1 1/2"C,(3)#2 + #8 GND	480 V/3-0 VA	2"C,(3)#3/0 + #6 GND	208V/120V Wye	10642 VA	NEMA 1	Floor	Phase 2 (Shell Construction)	BSSB-1
TS-11	PRODUCTION AREA 100	Electrical Contractor	75KVA	1 1/2"C,(3)#2 + #8 GND	480 V/3-0 VA	2"C,(3)#3/0 + #6 GND	208V/120V WYE	7282 VA	NEMA 1	Wall @ 10' AFF	Phase 2 (Shell Construction)	BSSB-1

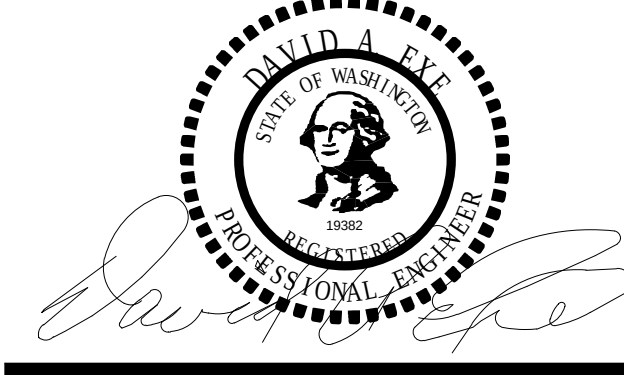


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FEB 20, 2020



NO	DATE	REVISION
2	2019.06.18	ASI005 General Elect

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 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

LIGHT FIXTURE &
 EQUIPMENT SCHEDULES

FILE: 18810
 DRAWN BY: DAE
 CHECKED BY: DAE
 PROJ. NO: 18810
 DATE: FEB 20, 2020
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E5.10



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NO	DATE	REVISION
2	2019.06.18	ASI005 General Elect
6	2019.9.6	Schmitt Add Work #1

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FINAL AS-BUILT PLAN SET
FEBRUARY 20, 2020

ELECTRICAL EXTERIOR
LIGHT FIXTURE
SCHEDULE

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

E5.11

EXTERIOR LIGHT FIXTURE SCHEDULE								
COUNT	TYPE	MANUFACTURER	CATALOG NUMBER	DESCRIPTION	FINISH	VOLTAGE	INPUT	NOTES
28	PX-01	BIG ASS FANS	BAS-01-VL30	2,533 LUM, 29 W, WALL SCONCE OVER MAN DOORS	VERIFY	120/277	29 W	
2	PX-02	BIG ASS FANS	BAS-01-MWP-5028R-LED-MV	2360 LIM, 22 W, SMALL WALL PACK	VERIFY	120/277	22 W	
1	PX-03	BIG ASS FANS	BAS-01-LWP-5055-LED-MV	6622 LUM, 53 W, WALL PACK	VERIFY	120/277	43 W	
21	PX-04	BIG ASS FANS	BAS-01-LWP-5075-LED-MV	9456 LIM, 79 W, WALL PACK	VERIFY	120/277	79 W	
5	PX-05	BIG ASS FANS	BAS-01-LWP-5090-LED-MV	12008 LUNM, 95 W, LARGE WALL PACK	VERIFY	120/277	95 W	
5	PX-06	BIG ASS FANS	BAS-01-UFAMD74	ADJUSTABLE OUTPUT SET TO 1 11309 LIM 73 W	VERIFY	120/277	73 W	
5	PX-07	BIG ASS FANS	BAS-02-SLM-12L-3-UNV-DIM-50	13201 LUM, 93 W, TYPE 3	VERIFY	120/277	93 W	
6	PX-08	BIG ASS FANS	BAS-02-SLM-12L-FW-UNV-DIM-50	12246 LUM, 93 W, TYPE 5 WIDE	VERIFY	120/277	93 W	
6	PX-09	BIG ASS FANS	BAS-02-SLM-12L-FT-UNV-DIM-50	12246 LIM, 93 W, TYPE 5 WIDE	VERIFY	120/277	93 W	
5	PX-10	BIG ASS FANS	BAS-02-LSM-12L-FT-UNV-DIM-50-IL	13140 LIM, 93 W, TYPE FT	VERIFY	120/277	93 W	
10	PX-11	BIG ASS FANS	BAS-02-SLM-24L-FT-UNV-DIM-50	25280 LUM, 180 W, TYP FT	VERIFY	120/277	189 W	
3	PX-12	BIG ASS FANS	BAS-02-SLM-24L-FT-UNV-DIM-50-IL	15885 LIM, 189 W, TYPE FT, INTEGRAL LOUVERS	VERIFY	120/277	189 W	
4	PX-13	BIG ASS FANS	BAS-02-SLM-24L-2-UNV-DIM-50-IL	15198 LIM, 189 W, TYPE 2, INTEGRAL LOUVERS	VERIFY	120/277	189 W	
1	PX-15	BIG ASS FANS	BAS-02-SLM-24L-3-UNV-DIM-50	259676 LUM, 189 W, TYPE 3	VERIFY	120/277	189 W	
3	PX-16	BIG ASS FANS	BAS-02-SLM-24L-5W-UNV-DIM-50	23823 LUM, 189 W, TYPE 5 WIDE	VERIFY	120/277	189 W	



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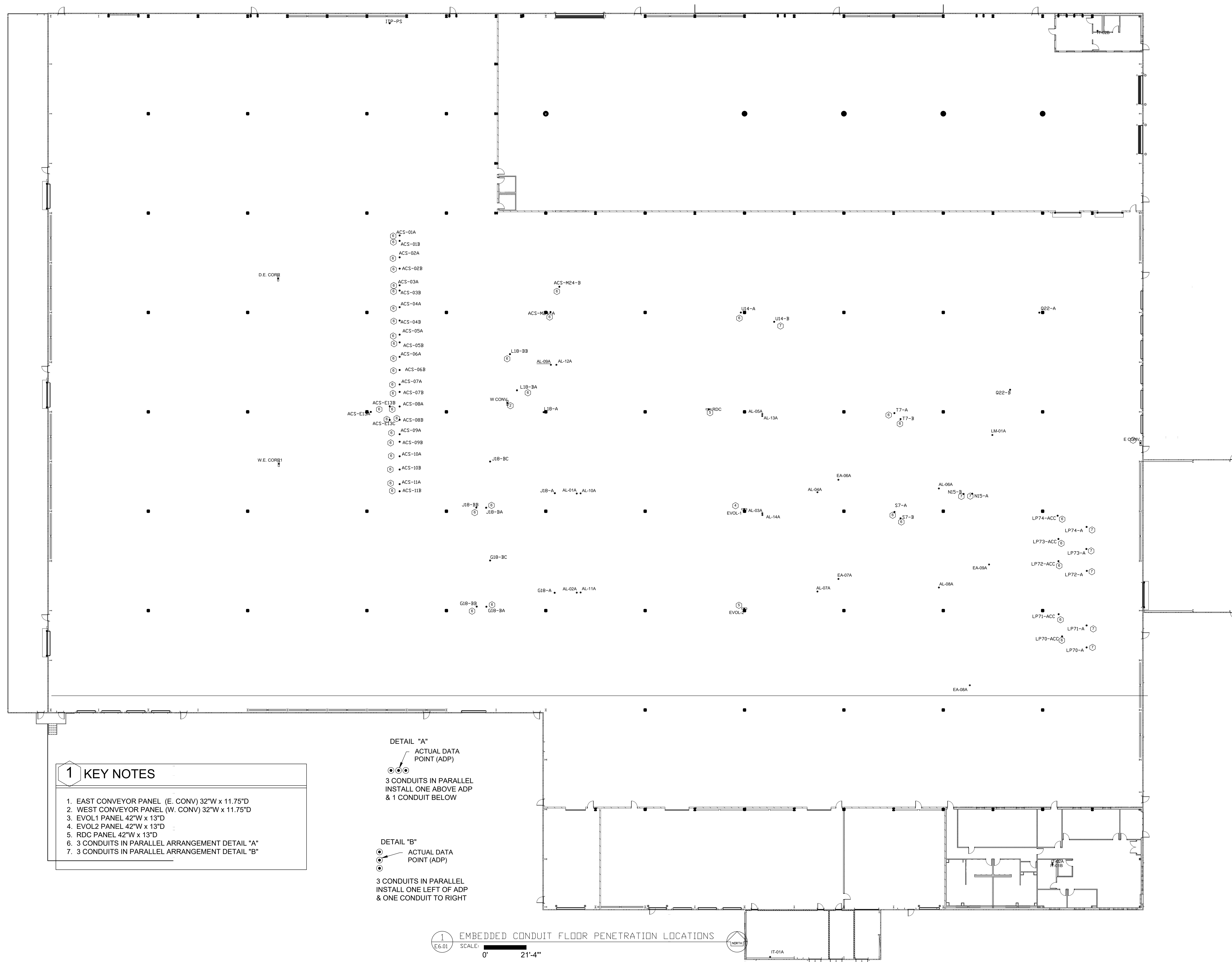
ELECTRICAL PERMIT PLAN SET
ASI 002 2019.5.10

ELECTRICAL CONSTRUCTION PLAN SET
REV 3 2019.11.4

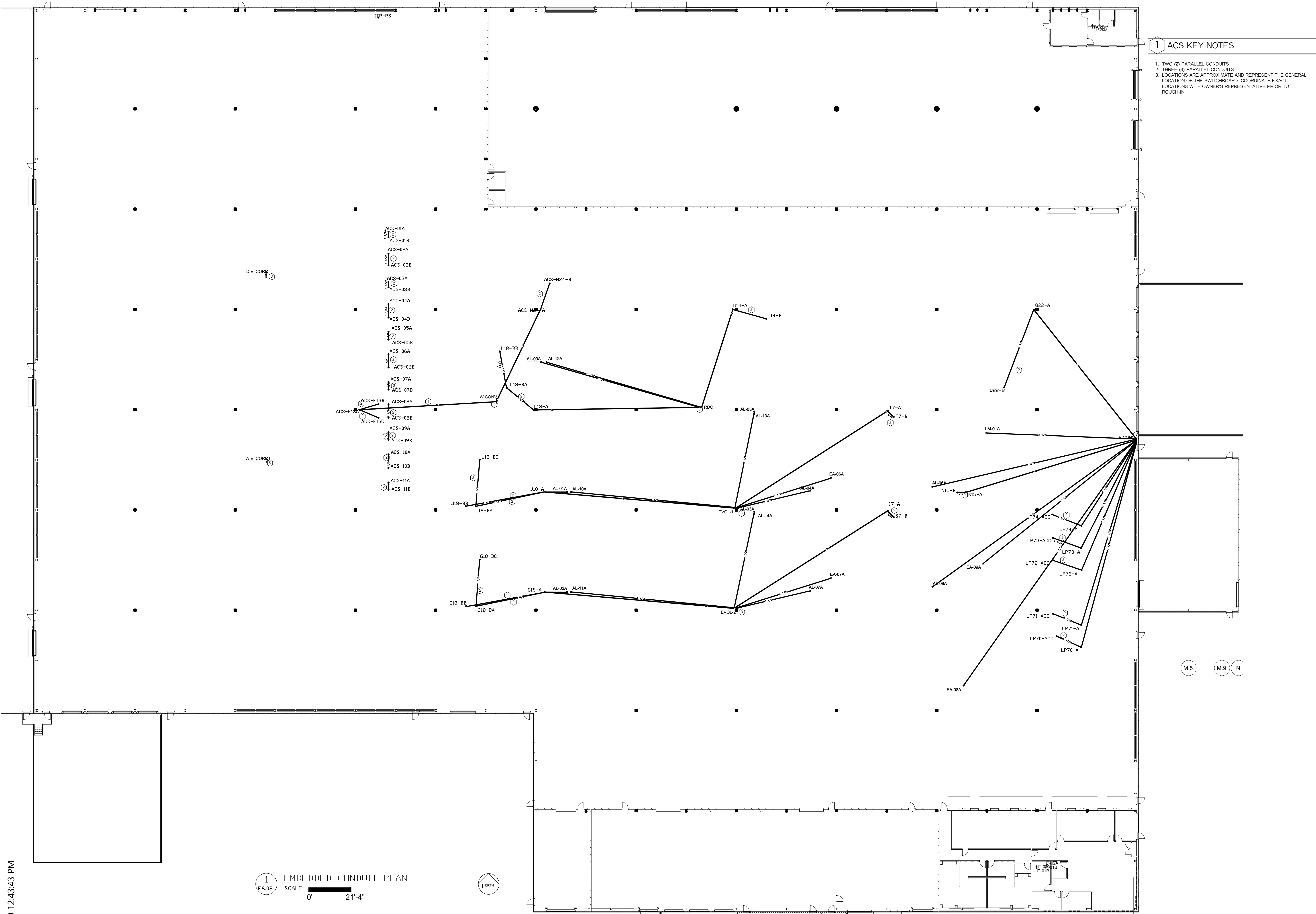
FINAL AS-BUILT PLAN SET
FEBRUARY 20, 2020

EMBEDDED CONDUIT ENDING LOCATIONS

E6.01



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1 ACS KEY NOTES

1. TWO (2) PARALLEL CONDUITS

2. THREE (3) PARALLEL CONDUITS

3. LOCATIONS ARE APPROXIMATE AND REPRESENT THE GENERAL LOCATION OF THE SWITCHBOARD. COORDINATE EXACT LOCATIONS WITH OWNER'S REPRESENTATIVE PRIOR TO ROUGH-IN

INDUSTRIAL ENGINEERING
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FEB 20, 2020

DAVID A. ELLIOTT
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER

NO	DATE	REVISION

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FINAL AS-BUILT PLAN SET
FEBRUARY 20, 2020

ELECTRICAL EMBEDDED
CONDUITS

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E6.02



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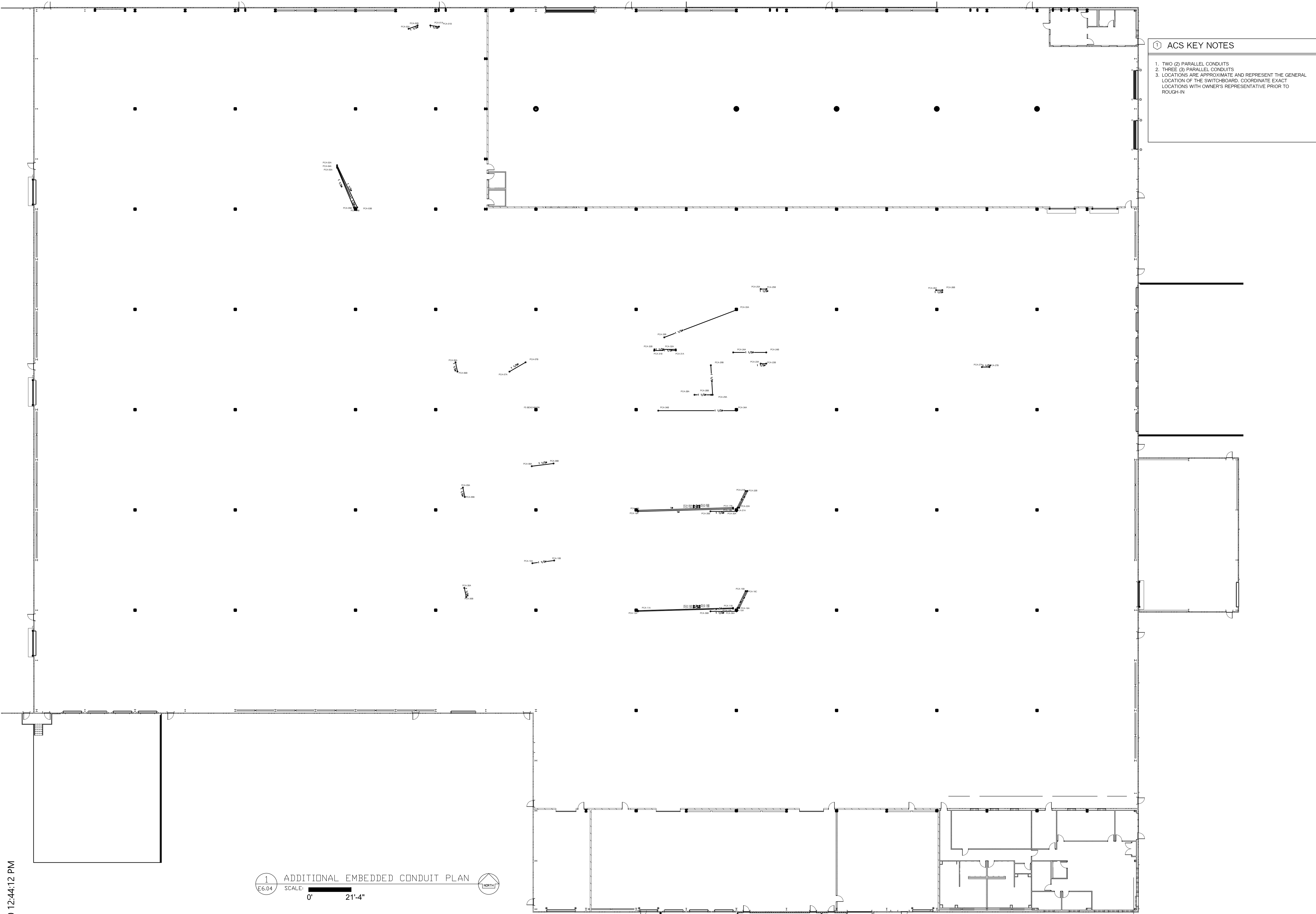
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PROJ. NO: 18810
DATE: FEB 20, 2020
DRAWING NO:

E6.03

UNDERFLOOR CONDUIT SCHEDULE							
START LOCATION	END LOCATION	LENGTH		DEPTH	COND SIZE	COMMENTS	NOTES
		INCHES	FEET				
ACS-01A	ACS-01B	32.3	2'-8"	-24"	1 1/2"	THREE (3) IN PARALLEL	
ACS-02A	ACS-02B	68.2	5'-8"	-24"	1 1/2"	THREE (3) IN PARALLEL	
ACS-03A	ACS-03B	31.6	2'-8"	-24"	1 1/2"	THREE (3) IN PARALLEL	
ACS-04A	ACS-04B	80.6	6'-9"	-24"	1 1/2"	THREE (3) IN PARALLEL	
ACS-05A	ACS-05B	46.9	3'-11"	-24"	1 1/2"	THREE (3) IN PARALLEL	
ACS-06A	ACS-06B	79.6	6'-8"	-24"	1 1/2"	THREE (3) IN PARALLEL	
ACS-07A	ACS-07B	44.9	3'-9"	-24"	1 1/2"	THREE (3) IN PARALLEL	
ACS-08A	ACS-08B	80.3	6'-8"	-24"	1 1/2"	THREE (3) IN PARALLEL	
ACS-09A	ACS-09B	45.3	3'-9"	-24"	1 1/2"	THREE (3) IN PARALLEL	
ACS-10A	ACS-10B	79.8	6'-8"	-24"	1 1/2"	THREE (3) IN PARALLEL	
ACS-11A	ACS-11B	43.3	3'-7"	-24"	1 1/2"	THREE (3) IN PARALLEL	
ACS-E13A	ACS-E13B	119	9'-11"	-18"	1 1/2"	THREE (3) IN PARALLEL	
ACS-E13A	ACS-E13C	125.2	10'-5"	-18"	1 1/2"	THREE (3) IN PARALLEL	
ACS-G18-A	ACS-G18-BA	421.1	35'-1"	-18"	1 1/2"	THREE (3) IN PARALLEL	
ACS-G18-A	ACS-G18-BB	482	40'-2"	-24"	1 1/2"	THREE (3) IN PARALLEL	
ACS-G18-BA	ACS-G18-BC	276.8	23'-1"	-18"	1 1/2"	THREE (3) IN PARALLEL	
ACS-J18-A	ACS-J18-BA	423.9	35'-4"	-18"	1 1/2"	THREE (3) IN PARALLEL	
ACS-J18-A	ACS-J18-BB	482	40'-2"	-18"	1 1/2"	THREE (3) IN PARALLEL	
ACS-J18-BA	ACS-J18-BC	279.7	23'-4"	-18"	1 1/2"	THREE (3) IN PARALLEL	
ACS-L18-A	ACS-L18-BA	208	17'-4"	-18"	1 1/2"	THREE (3) IN PARALLEL	
ACS-L18-BA	ACS-L18-BB	222.1	18'-6"	-18"	1 1/2"	THREE (3) IN PARALLEL	
ACS-M24-A	ACS-M24-B	161.6	13'-6"	-18"	1 1/2"	THREE (3) IN PARALLEL	
ACS-N15-A	ACS-N15-B	52.3	4'-4"	-18"	1 1/2"	THREE (3) IN PARALLEL	
ACS-S7-A	ACS-S7-B	52.9	4'-5"	-18"	1 1/2"	THREE (3) IN PARALLEL	
ACS-T7-A	ACS-T7-B	51.6	4'-4"	-18"	1 1/2"	THREE (3) IN PARALLEL	
ACS-U14-A	ACS-U14-B	209.2	17'-5"	-18"	1 1/2"	THREE (3) IN PARALLEL	
E-CONV SWBD	AL-06A	1,250.1	104'-2"	-18"	1 1/2"		
E-CONV SWBD	AL-08A	1,496.4	124'-8"	-18"	1 1/2"		
E-CONV SWBD	EA-08A	1,786.2	148'-10"	-18"	1 1/2"		
E-CONV SWBD	EA-09A	1,174.5	97'-11"	-18"	1 1/2"		
E-CONV SWBD	LM-01A	894.8	74'-7"	-18"	1 1/2"		
E-CONV SWBD	LP70-A	1,262.8	105'-3"	-18"	1 1/2"		
E-CONV SWBD	LP71-A	1,135.6	94'-8"	-18"	1 1/2"		
E-CONV SWBD	LP72-A	825.4	68'-9"	-18"	1 1/2"		
E-CONV SWBD	LP73-A	708.1	59'-0"	-18"	1 1/2"		
E-CONV SWBD	LP74-A	597.8	49'-10"	-18"	1 1/2"		
E-CONV SWBD	Q22-A	986.8	82'-3"	-18"	2"		
EVOL-1 SWBD	AL-04A	441.2	36'-9"	-18"	1 1/2"		
EVOL-1 SWBD	AL-05A	586.4	48'-10"	-60"	1 1/2"		
EVOL-1 SWBD	AL-10A	980	81'-8"	-90"	1 1/2"		1
EVOL-1 SWBD	EA-06A	586.8	48'-11"	-60"	1 1/2"		
EVOL-1 SWBD	J18-A	1,135.8	94'-8"	-24"	2"		
EVOL-1 SWBD	T7-A	1,071.2	89'-3"	-18"	2"		
EVOL-2 SWBD	AL-03A	586.8	48'-11"	-60"	1 1/2"		
EVOL-2 SWBD	AL-07A	449.9	37'-6"	-60"	1 1/2"		
EVOL-2 SWBD	AL-11A	979.2	81'-7"	-90"	1 1/2"		1
EVOL-2 SWBD	EA-07A	591.1	49'-3"	-60"	1 1/2"		
EVOL-2 SWBD	G8-A	1,135.7	94'-8"	-24"	2"		
EVOL-2 SWBD	S7-A	1,084.2	90'-4"	-18"	2"		
G18-A	AL-02A	135.2	11'-3"	-18"	1 1/2"		
J18-A	AL-01A	135.2	11'-3"	-18"	1 1/2"		
LP70-A	LP70-ACC	162.2	13'-6"	-18"	1 1/2"	THREE (3) IN PARALLEL	
LP71-A	LP71-ACC	181.9	15'-2"	-18"	1 1/2"	THREE (3) IN PARALLEL	
LP72-A	LP72-ACC	181	15'-1"	-18"	1 1/2"	THREE (3) IN PARALLEL	
LP73-A	LP73-ACC	179.2	14'-11"	-18"	1 1/2"	THREE (3) IN PARALLEL	
LP74-A	LP74-ACC	187.5	15'-7"	-18"	1 1/2"	THREE (3) IN PARALLEL	
RDC SWBD	AL-09A	980.4	81'-8"	-90"	1 1/2"		
RDC SWBD	AL-12A	952.2	79'-4"	-90"	1 1/2"		
RDC SWBD	L18-A	983.2	81'-11"	-90"	2"		
RDC SWBD	U14-A	611	50'-11"	-24"	2"		
W CONV SWBD	ACS-E13A	823.2	68'-7"	-18"	2"		
W CONV SWBD	M24-A	595.6	49'-8"	-24"	2"		

1. CONDUITS SHALL BE ROUTED UNDERNEATH SCRAP BALER CONVEYOR. COORDINATE WITH OTHER TRADES AND OWNER'S REPRESENTATIVE PRIOR TO ROUGH-IN.

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① ACS KEY NOTES

1. TWO (2) PARALLEL CONDUITS
2. THREE (3) PARALLEL CONDUITS
3. LOCATIONS ARE APPROXIMATE AND REPRESENT THE GENERAL LOCATION OF THE SWITCHBOARD. COORDINATE EXACT LOCATIONS WITH OWNER'S REPRESENTATIVE PRIOR TO ROUGH-IN

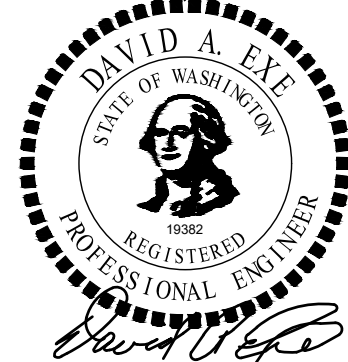


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FINAL AS-BUILT PLAN SET
FEBRUARY 20, 2020

ADDITIONAL ELECTRICAL
EMBEDDED CONDUITS

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

E6.04

EMBEDDED CONDUIT FLOOR PENETRATION LOCATIONS SCHEDULE						
ID	KEY	DISTANCE TO ORIGIN				NOTES
		X FEET	X INCHES	Y FEET	Y INCHES	
F5 BENCHMARK	●	0	0	0	0	
PCA-01A	●	-52.669	-632.026	191.587	2299.043	
PCA-01B	●	-48.374	-580.49	190.991	2291.892	
PCA-02A	●	-63.503	-762.037	189.95	2279.405	
PCA-02B	●	-59.021	-708.249	191.587	2299.043	
PCA-03A	●	-99.219	-1190.632	121.879	1462.547	
PCA-03B	●	-89.139	-1069.662	100.859	1210.306	
PCA-04A	●	-99.219	-1190.632	121.246	1454.951	
PCA-04B	●	-90.124	-1081.484	100.754	1209.044	
PCA-05A	●	-99.219	-1190.632	120.636	1447.627	
PCA-05B	●	-90.824	-1089.885	100.715	1208.581	
PCA-06A	●	-40.105	-481.262	23.618	283.418	
PCA-06B	●	-39.142	-469.698	18.963	227.558	
PCA-07A	●	-13.215	-158.58	18.95	227.394	
PCA-07B	●	-5.157	-61.886	23.618	283.418	
PCA-08A	●	-2.085	-25.024	-28.206	-338.469	
PCA-08B	●	8.777	105.318	-26.865	-322.376	
PCA-09A	●	-36.441	-437.293	-38.879	-466.546	
PCA-09B	●	-35.478	-425.73	-43.534	-522.406	
PCA-10A	●	-1.764	-21.162	-76.579	-918.948	
PCA-10B	●	9.098	109.179	-75.238	-902.854	
PCA-11A	●	50.835	610.021	-100.202	-1202.418	
PCA-11B	●	98.326	1179.917	-98.875	-1186.499	
PCA-12A	●	50.856	610.271	-100.571	-1206.855	
PCA-12B	●	98.347	1180.167	-99.245	-1190.937	
PCA-13A	●	78.696	944.352	-98.623	-1183.481	
PCA-13B	●	81.693	980.313	-98.623	-1183.481	
PCA-14A	●	78.696	944.352	-97.816	-1173.793	
PCA-14B	●	81.693	980.313	-97.816	-1173.793	
PCA-15A	●	100.551	1206.615	-98.902	-1186.828	
PCA-15B	●	104.644	1255.731	-90.474	-1085.682	
PCA-16A	●	101.345	1216.144	-98.902	-1186.828	
PCA-16C	●	105.457	1265.488	-90.474	-1085.682	
PCA-17A	●	50.835	610.021	-50.202	-602.418	
PCA-17B	●	98.326	1179.917	-48.875	-586.499	
PCA-18A	●	50.903	610.833	-50.79	-609.48	
PCA-18B	●	98.394	1180.729	-49.464	-593.562	
PCA-19A	●	78.623	943.477	-48.656	-583.875	
PCA-19B	●	81.62	979.438	-48.656	-583.875	
PCA-20A	●	78.623	943.477	-47.849	-574.188	
PCA-20B	●	81.62	979.438	-47.849	-574.188	
PCA-21A	●	100.551	1206.615	-48.902	-586.828	
PCA-21B	●	104.639	1255.662	-40.571	-486.855	
PCA-22A	●	101.345	1216.144	-48.902	-586.828	
PCA-22B	●	105.452	1265.418	-40.571	-486.855	
PCA-23A	●	112.114	1345.372	22.945	275.343	
PCA-23B	●	114.886	1378.627	22.945	275.343	
PCA-24A	●	98.417	1181.002	28.529	342.343	
PCA-24B	●	114.916	1378.991	28.529	342.343	
PCA-25A	●	112.114	1345.372	60.13	721.56	
PCA-25B	●	115.01	1380.125	60.13	721.56	
PCA-26A	●	199.658	2395.89	59.582	714.984	
PCA-26B	●	202.752	2433.019	59.582	714.984	
PCA-27A	●	222.493	2669.919	21.248	254.977	
PCA-27B	●	226.212	2714.549	21.248	254.977	
PCA-28A	●	79.113	949.35	7.389	88.662	
PCA-28B	●	87.415	1048.98	7.389	88.662	
PCA-29A	●	88.154	1057.85	7.389	88.662	
PCA-29B	●	87.257	1047.079	22.129	265.547	
PCA-30A	●	-35.729	-428.743	-88.903	-1066.838	
PCA-30B	●	-34.765	-417.179	-93.433	-1121.198	
PCA-31A	●	69.818	837.818	29.502	354.026	
PCA-31B	●	59.005	708.063	29.43	353.156	
PCA-32A	●	69.77	837.243	30.056	360.676	
PCA-32B	●	59.114	709.362	30.056	360.676	
PCA-33A	●	99.957	1199.48	49.701	596.407	
PCA-33B	●	64.026	768.308	36.05	432.595	
PCA-34A	●	99.946	1199.352	- .499	-5.991	
PCA-34B	●	61.03	732.365	- .499	-5.991	
PCA-35A	●	100.094	1201.13	-50.701	-608.41	
PCA-35B	●	87.052	1044.623	-50.701	-608.41	
PCA-36A	●	100.051	1200.616	-100.569	-1206.833	
PCA-36B	●	87.084	1045.005	-100.569	-1206.833	

UNDERFLOOR CONDUIT SCHEDULE							
START LOCATION	END LOCATION	LENGTH		DEPTH	COND SIZE	COMMENTS	NOTES
		INCHES	FEET				
PCA-01A	PCA-01B	421.3	35'-1"	-18"	1 1/2"		
PCA-02A	PCA-02B	422	35'-2"	-18"	1 1/2"		
PCA-03A	PCA-03B	279.7	23'-4"	-18"	1 1/2"		
PCA-04A	PCA-04B	269	22'-5"	-18"	1 1/2"		
PCA-05A	PCA-05B	259.4	21'-7"	-18"	1 1/2"		
PCA-06A	PCA-06B	57	4'-9"	-18"	1 1/2"		
PCA-07A	PCA-07B	111.8	9'-4"	-18"	1 1/2"		
PCA-08A	PCA-08B	131.3	10'-11"	-18"	1 1/2"		
PCA-09A	PCA-09B	57	4'-9"	-18"	1 1/2"		
PCA-10A	PCA-10B	131.3	10'-11"	-18"	1 1/2"		
PCA-11A	PCA-11B	570.1	47'-6"	-18"	1"		1
PCA-12A	PCA-12B	570.1	47'-6"	-18"	1"		1
PCA-13A	PCA-13B	36	3'-0"	-18"	3"		2
PCA-14A	PCA-14B	36	3'-0"	-18"	3"		2
PCA-15A	PCA-15B	455	37'-11"	-18"	4"		
PCA-16A	PCA-16B	455	37'-11"	-18"	4"		
PCA-17A	PCA-17B	570.1	47'-6"	-18"	1"		
PCA-18A	PCA-18B	570.1	47'-6"	-18"	1"		
PCA-19A	PCA-19B	36	3'-0"	-18"	3"		
PCA-20A	PCA-20B	36	3'-0"	-18"	3"		
PCA-21A	PCA-21B	842.5	70'-2"	-18"	4"		
PCA-22A	PCA-22B	842.5	70'-3"	-18"	4"		
PCA-23A	PCA-23B	33.3	2'-9"	-18"	1 1/2"		
PCA-24A	PCA-24B	198	16'-6"	-18"	1 1/2"		
PCA-25A	PCA-25B	34.8	2'-11"	-18"	1 1/2"		
PCA-26A	PCA-26B	37.1	3'-1"	-18"	1 1/2"		
PCA-27A	PCA-27B	44.6	3'-9"	-18"	1 1/2"		
PCA-28A	PCA-28B	99.6	8'-4"	-18"	1 1/2"		
PCA-29A	PCA-29B	177.2	14'-9"	-18"	1 1/2"		
PCA-30A	PCA-30B	55.6	4'-8"	-18"	1 1/2"		
PCA-31A	PCA-31B	129.8	10'-10"	-18"	1 1/2"		3
PCA-32A	PCA-32B	127.9	10'-8"	-18"	1 1/2"		3
PCA-33A	PCA-33B	473.3	39'-5"	-18"	1 1/2"		4
PCA-34A	PCA-34B	467.3	38'-11"	-18"	1 1/2"		4
PCA-35A	PCA-35B	156.5	13'-1"	-18"	1 1/2"		4
PCA-36A	PCA-36B	156.5	13'-1"	-18"	1 1/2"		4

NOTES:
1. 1" CONDUIT TO COLUMN
2. 3" CONDUIT TO SCRAP PIT
3. CONDUITS ARE ROUTED TO SIDE OF PIT. CONTRACTOR TO CORE DRILL SIDE OF PIT.
4. (2) 1 1/2" SPARE CONDUITS FROM COLUMN TO SIDE OF PIT. CORE DRILL AS REQUIRED.

EMBEDDED CONDUIT FLOOR PENETRATION LOCATIONS SCHEDULE							
ID	KEY	DESCRIPTION	DISTANCE TO ORIGIN				NOTES
			X FEET	X INCHES	Y FEET	Y INCHES	
D.E. CORR	●	DRY END CORRUGATOR SWB	-134.667	-1616.005	67.07	804.838	1
E CONV	●	EAST CONVEYOR SWB	299.171	3590.047	-15.7	-188.395	1
EVOL-1	●	EVOL-2 SWB	99.832	1197.978	-48.94	-587.284	1
EVOL-2	●	EVOL-1 SWB	99.845	1198.135	-98.983	-1187.797	1
IT-01A	●	INTERNET INCOMMING TERMINATION	112.88	1354.563	-274.229	-3290.75	1
IT-01B	●	INTERNET FEED FROM INCOMING	254.906	3058.875	-227.922	-2735.063	1
IT-02A	●	INERNET FEED TO SHIPPING OFFICE	254.875	3058.5	-227.005	-2724.063	1
IT-02B	●	INTERNET FEED FROM MAIN OFFICE	277.589	3331.063	191.667	2300	1
RDC	●	ROTARY DIE CUTTER SWB	82.002	984.025	1.293	15.519	1
W CONV	●	WEST CONVEYOR SWB	-19.345	-232.144	4.503	54.032	1
W.E. CORR1	●	WET END CORRUGATOR SWB	-134.326	-1611.915	-26.117	-313.401	1

NOTES:
1. LOCATION OF CABINETS IS APPROXIMATE. VERIFY ACTUAL SIZE AND LOCATION OF CABINETS & SWITCHBOARDS FOR LOCATION OF EMBEDDED CONDUITS IN APPROPRIATE LOCATION OF CABINETS AND SWITCHBOARDS.

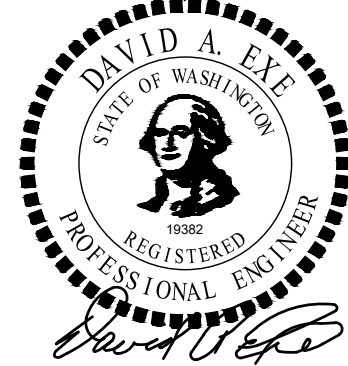


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ELECTRICAL PERMIT PLAN SET
ASI 002 2019.5.10

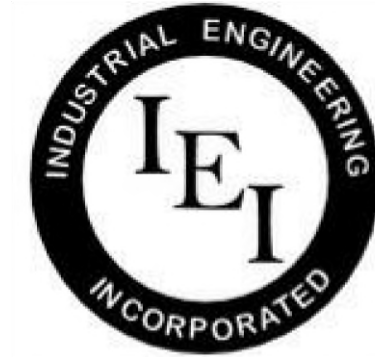
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ADDITIONAL EMBEDDED
CONDUIT SCHEDULE

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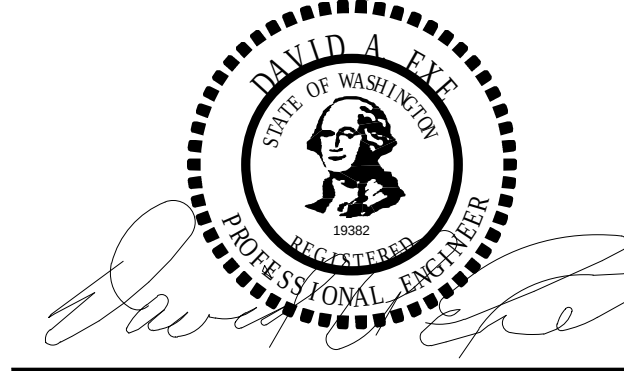


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2	2019.06.18	ASI005 General Elect
4	2019.8.9	Misc Electrical

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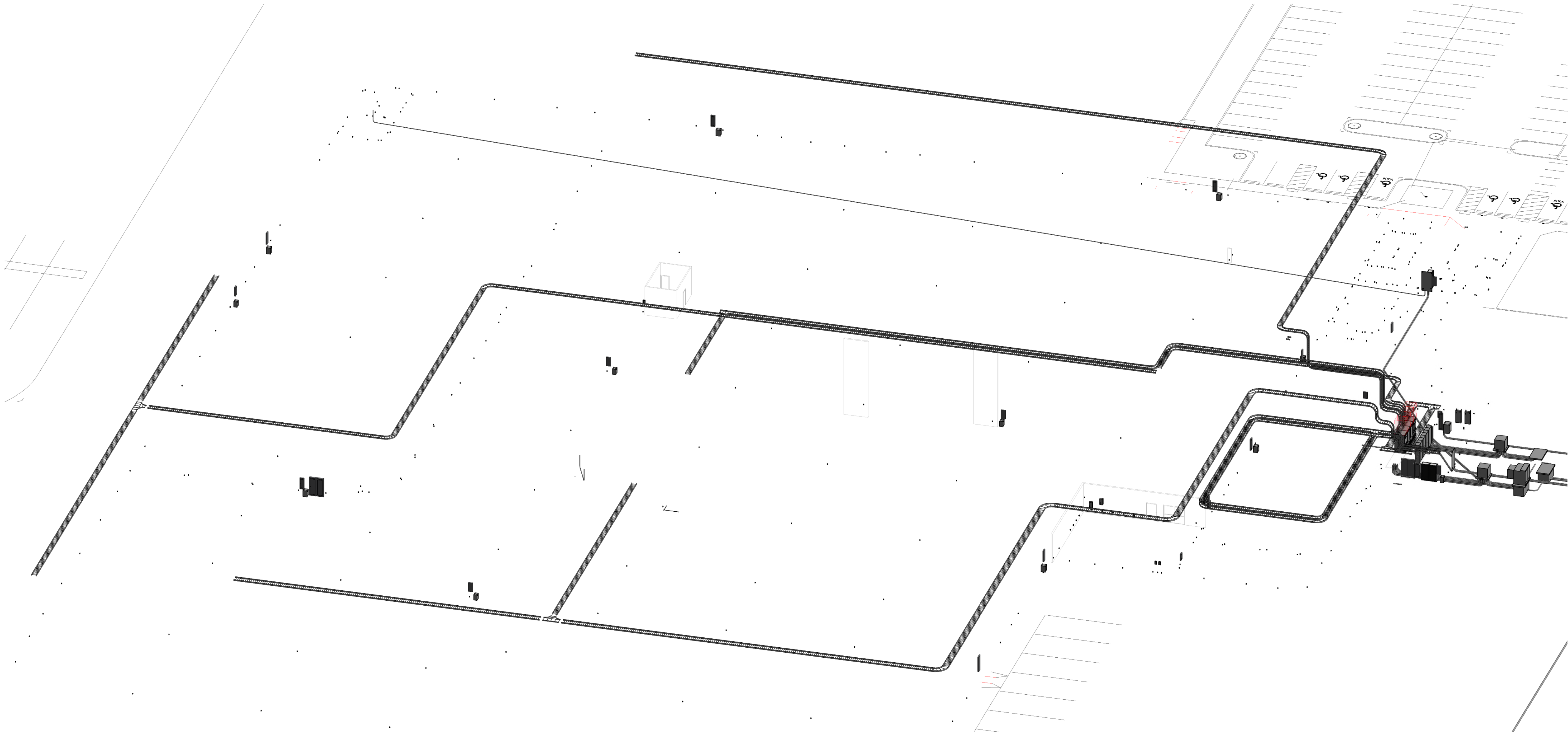
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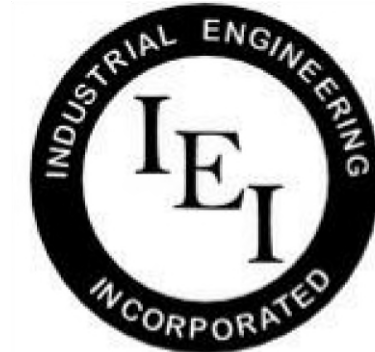
CABLE TRAY OVERALL
ISOMETRIC VIEW

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1 Cable Tray Isometric View



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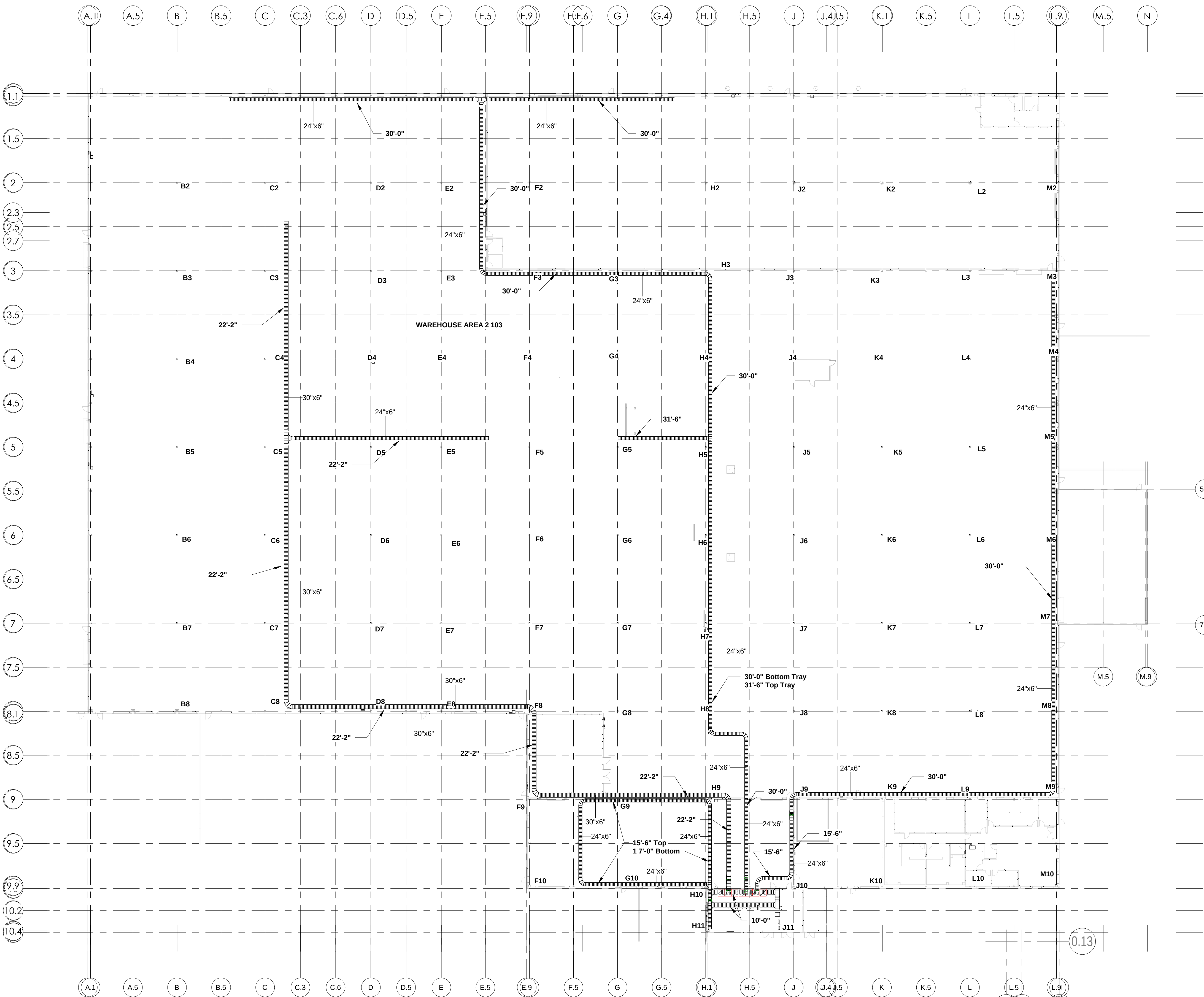
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CABLE TRAY SYSTEM
OVERVIEW

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1 Cable Tray System Overview
1" = 30'-0"



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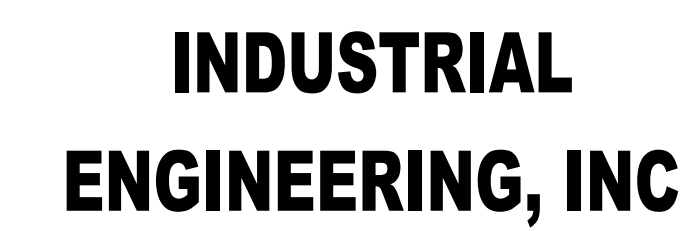
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CABLE TRAY SCHEDULES

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Count	Size	Type	Bend Radius
1	24"x6"-24"x6"	Standard	24"
1	30"x6"-30"x6"	Standard	24"
1	30"x6"-30"x6"	Standard	30"
1	24"x6"-24"x6"	Standard	24"
1	24"x6"-24"x6"	Standard	24"
1	30"x4"-30"x4"-24"x4"	24" Radius	
1	24"x4"-24"x4"-24"x4"	24" Radius	
1	24"x6"-24"x6"	Standard	24"
1	24"x6"-24"x4"	Standard	
1	30"x6"-30"x6"	Standard	24"
1	30"x6"-30"x6"	Standard	30"
1	30"x6"-30"x6"	Standard	30"
1	30"x6"-30"x6"	Standard	30"
1	24"x6"-24"x6"	Standard	24"
1	24"x6"-24"x6"	Standard	24"
1	24"x6"-24"x6"	Standard	24"
1	24"x6"-24"x6"	Standard	24"
1	24"x6"-24"x6"	Standard	24"
1	24"x6"-24"x6"	Standard	24"
1	24"x6"-24"x6"	Standard	24"
1	24"x6"-24"x6"	Standard	24"
1	24"x6"-24"x6"	Standard	24"
1	24"x6"-24"x6"	Standard	24"
1	24"x6"-24"x6"	Standard	24"
1	24"x6"-24"x6"	Standard	24"
1	24"x6"-24"x4"	Standard	
1	24"x6"-24"x4"	Standard	
1	30"x6"-30"x6"-30"x6"	12" Radius	
1	30"x6"-30"x6"-30"x6"	12" Radius	
1	30"x6"-30"x6"-30"x6"	12" Radius	
1	30"x6"-30"x6"-30"x6"	12" Radius	
1	30"x6"-30"x6"	Standard	24"
1	24"x6"-24"x6"	Standard	24"
1	24"x6"-24"x6"	Standard	24"
1	24"x6"-24"x6"	Standard	24"
1	24"x6"-24"x6"	Standard	24"
1	24"x6"-24"x6"	Standard	24"
1	24"x4"-24"x4"	Standard	24"
1	30"x6"-30"x4"	Standard	
1	30"x6"-30"x4"	Standard	
1	24"x6"-24"x4"	Standard	
1	24"x6"-24"x6"	Standard	24"
1	24"x6"-24"x6"-24"x6"	12" Radius	
1	24"x6"-24"x6"	Standard	24"
1	24"x6"-24"x6"	Standard	24"
1	24"x6"-24"x6"	Standard	24"
1	24"x6"-24"x6"	Standard	24"
1	24"x6"-24"x6"	Standard	24"
1	24"x6"-24"x6"	Standard	24"
1	24"x6"-24"x6"-24"x6"	12" Radius	
1	24"x6"-24"x6"	Standard	12"
1	24"x6"-24"x6"	Standard	12"
1	24"x6"-24"x6"	Standard	12"
1	24"x6"-24"x6"	Standard	12"
1	24"x6"-24"x6"-24"x6"	12" Radius	
Grand total: 53			

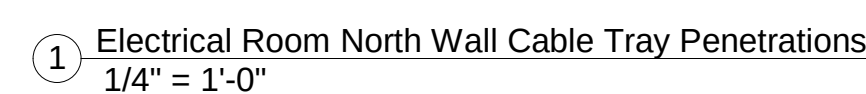


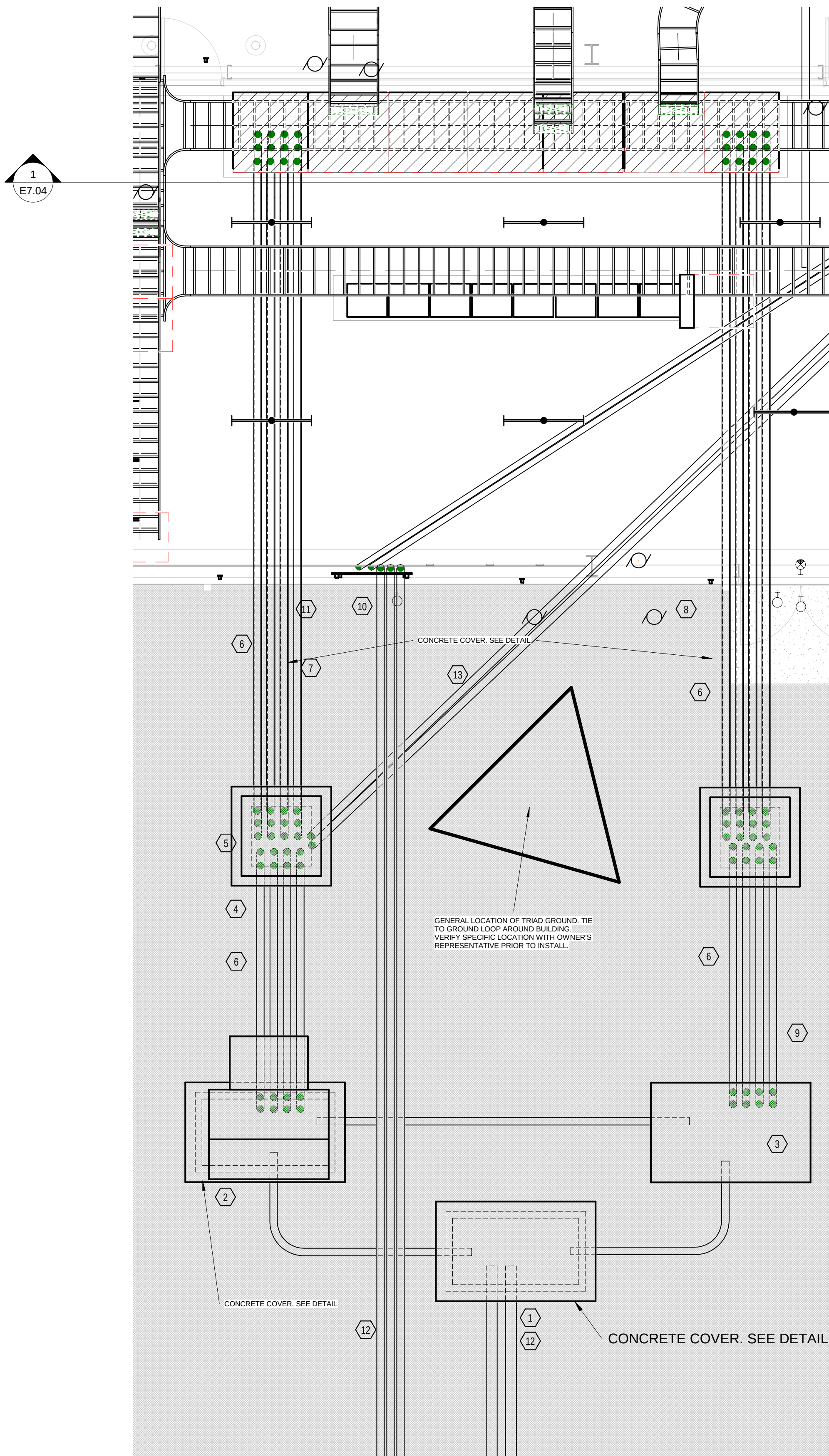
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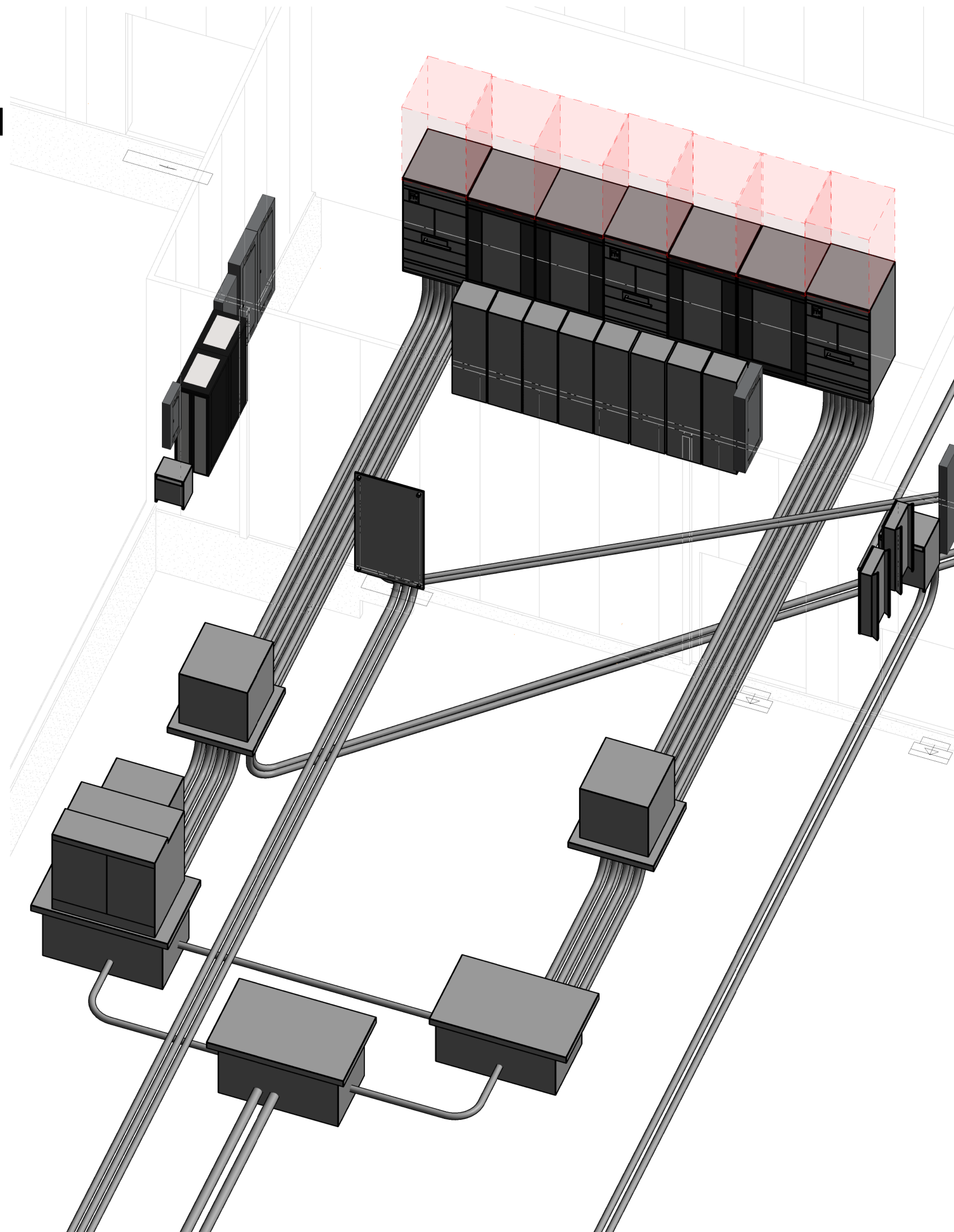
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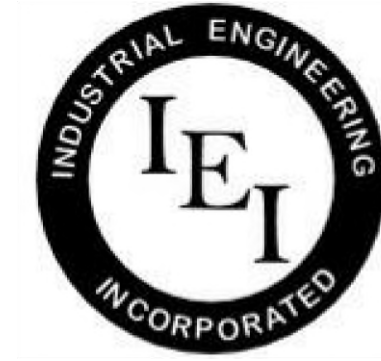
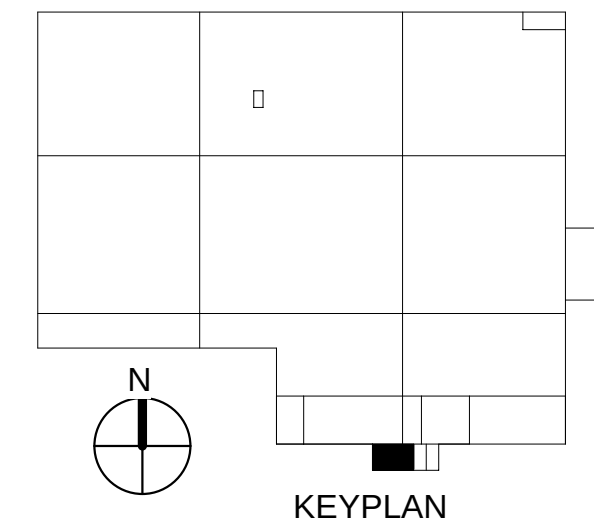
1 Electrical Service Entrance Enlarged View
1/4" = 1'-0"



2 Electrical Utility Service Entrance Isometric

KEY NOTES:

1. ELECTRICAL SERVICE UTILITY CONDUITS. TWO (2) 6" C, EMPTY OR PER UTILITY REQUIREMENTS. COORDINATE WITH UTILITY FOR REQUIREMENTS FOR TRENCHING AND COVER.
2. TRANSFORMER BY UTILITY. CONTRACTOR TO PROVIDE VAULT WITH COVER UNDER TRANSFORMER. SEE UTILITY REQUIREMENTS FOR FAULT, SUB-BASE FOR VAULT AND SPECIFIC SIZE AND OPENINGS.
3. PROVIDE 2ND VAULT AND INTERCONNECTING CONDUITS FOR FUTURE TRANSFORMER AS SHOWN ON PLANS.
4. EIGHT (8) 6" C, (3) 500KCMIL CU CONDUCTORS WITH #3/0 GROUND IN EACH. COORDINATE WITH UTILITY FOR SPECIFIC REQUIREMENTS FOR CONNECTING BETWEEN TRANSFORMER VAULT AND SHALLBETTER CABINET.
5. SHALLBETTER STEI-40-60-3-3-CU-GA-WI CABINET. VERIFY CABINET REQUIREMENTS WITH UTILITY PRIOR TO ORDERING.
6. DISTANCE BETWEEN BUILDING STRUCTURE AND TRANSFORMER AS SHOWN. DISTANCE BETWEEN TRANSFORMER AND SHALLBETTER CABINET & SHELLBETTER AND BUILDING SHALL BE 10'.
7. ELEVEN 4" C, (3) 500KCMIL CU + #3/0 GND EACH. ONE 4" C, EMPTY SPARE.
8. PROVIDE TWELVE 4" C, EMPTY. EXTEND 6' BEYOND FOUNDATION. CAP AND MARK.
9. PROVIDE QTY SIX 6" C, EMPTY BETWEEN VAULTS AS SHOWN ON PLANS.
10. EXTEND (3) EMPTY 4" CONDUITS FROM BOTTOM OF 4'X8' IP BACKBOARD TO PROPERTY LINE. SEE CIVIL PLAN FOR EXTENSION. ONE 4" C TO KINGSGATE C.O.R. FIBER BOX (COLUMBIA); ONE 4" C TO KINGSGATE C.O.R. FIBER BOX (POCKET INET); AND ONE 4" C TO SE CORNER OF PROPERTY TO (FRONTIER) COMMUNICATION PEDESTAL.
11. PROVIDE SLEEVES FOR UTILITY POWER CONDUITS, DATA CONDUITS & GROUND. SEE PLANS AND COORDINATE WITH OTHER TRADES TO ASSURE ALL SLEEVES ARE ACCOUNTED FOR.
12. WHERE CONDUIT CROSS UNDER ANY ROADWAY ELECTRICAL CONDUITS TO BE IN DUCT BANK. SEE DETAIL.
13. EXTEND (2) 4" CONDUITS FROM THE WEST SHELLBETTER CABINET TO THE FIRE PUMP CONTROLLER. COORDINATE WITH FIRE PUMP CONTROL CABINET INSTALLER FOR EXACT LOCATION.



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3	2019.07.17	Misc Updates
4	2019.8.9	Misc Electrical

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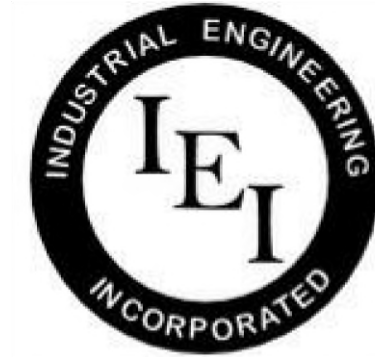
ELECTRICAL CONSTRUCTION PLAN SET
REV 3 ASI 11 2019.11.4

FINAL AS-BUILT PLAN SET
FEBRUARY 20, 2020

ELECTRIC SERVICE ENTRANCE LAYOUT

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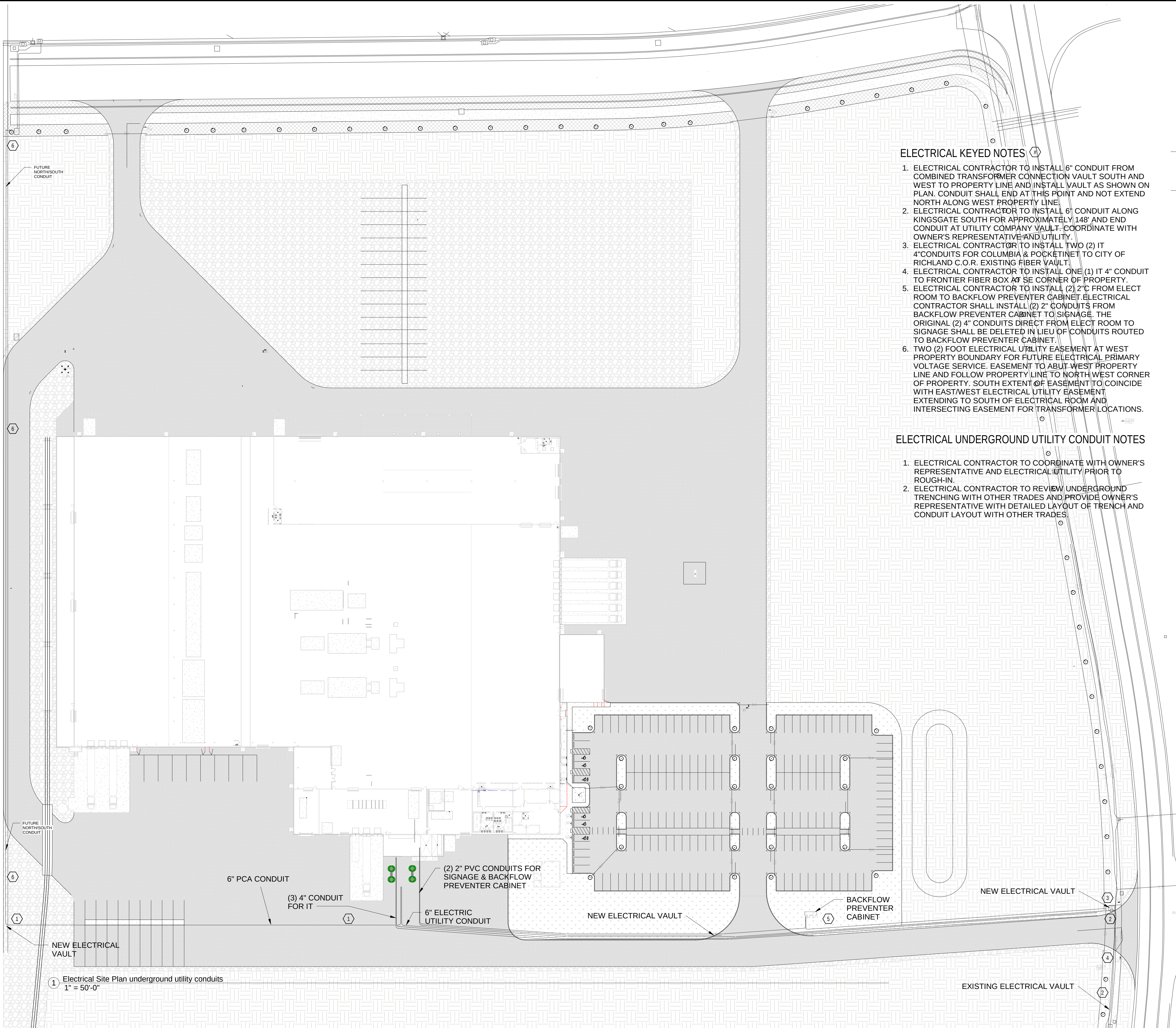
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FINAL AS-BUILT PLAN SET
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ELECTRICAL
UNDERGROUND UTILITY
CONDUITS

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ELECTRICAL KEYED NOTES

1. ELECTRICAL CONTRACTOR TO INSTALL 6" CONDUIT FROM COMBINED TRANSFORMER CONNECTION VAULT SOUTH AND WEST TO PROPERTY LINE AND INSTALL VAULT AS SHOWN ON PLAN. CONDUIT SHALL END AT THIS POINT AND NOT EXTEND NORTH ALONG WEST PROPERTY LINE.
2. ELECTRICAL CONTRACTOR TO INSTALL 6" CONDUIT ALONG KINGSGATE SOUTH FOR APPROXIMATELY 148' AND END CONDUIT AT UTILITY COMPANY VAULT. COORDINATE WITH OWNER'S REPRESENTATIVE AND UTILITY.
3. ELECTRICAL CONTRACTOR TO INSTALL TWO (2) IT 4" CONDUITS FOR COLUMBIA & POCKETINET TO CITY OF RICHLAND C.O.R. EXISTING FIBER VAULT.
4. ELECTRICAL CONTRACTOR TO INSTALL ONE (1) IT 4" CONDUIT TO FRONTIER FIBER BOX AT SE CORNER OF PROPERTY.
5. ELECTRICAL CONTRACTOR TO INSTALL (2) 2" C FROM ELECT ROOM TO BACKFLOW PREVENTER CABINET. ELECTRICAL CONTRACTOR SHALL INSTALL (2) 2" CONDUITS FROM BACKFLOW PREVENTER CABINET TO SIGNAGE. THE ORIGINAL (2) 4" CONDUITS DIRECT FROM ELECT ROOM TO SIGNAGE SHALL BE DELETED IN LIEU OF CONDUITS ROUTED TO BACKFLOW PREVENTER CABINET.
6. TWO (2) FOOT ELECTRICAL UTILITY EASEMENT AT WEST PROPERTY BOUNDARY FOR FUTURE ELECTRICAL PRIMARY VOLTAGE SERVICE. EASEMENT TO ABUT WEST PROPERTY LINE AND FOLLOW PROPERTY LINE TO NORTH WEST CORNER OF PROPERTY. SOUTH EXTENT OF EASEMENT TO COINCIDE WITH EAST/WEST ELECTRICAL UTILITY EASEMENT EXTENDING TO SOUTH OF ELECTRICAL ROOM AND INTERSECTING EASEMENT FOR TRANSFORMER LOCATIONS.

ELECTRICAL UNDERGROUND UTILITY CONDUIT NOTES

1. ELECTRICAL CONTRACTOR TO COORDINATE WITH OWNER'S REPRESENTATIVE AND ELECTRICAL UTILITY PRIOR TO ROUGH-IN.
2. ELECTRICAL CONTRACTOR TO REVIEW UNDERGROUND TRENCHING WITH OTHER TRADES AND PROVIDE OWNER'S REPRESENTATIVE WITH DETAILED LAYOUT OF TRENCH AND CONDUIT LAYOUT WITH OTHER TRADES.

1 Electrical Site Plan underground utility conduits
1" = 50'-0"

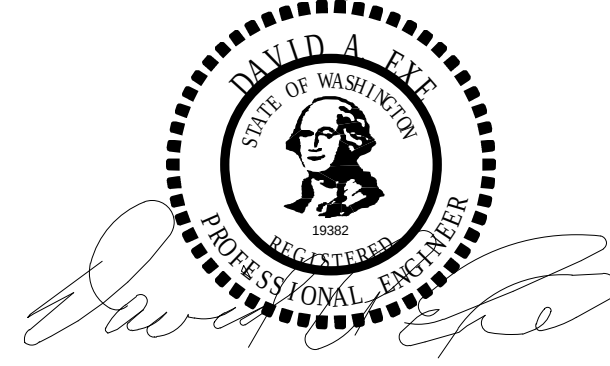


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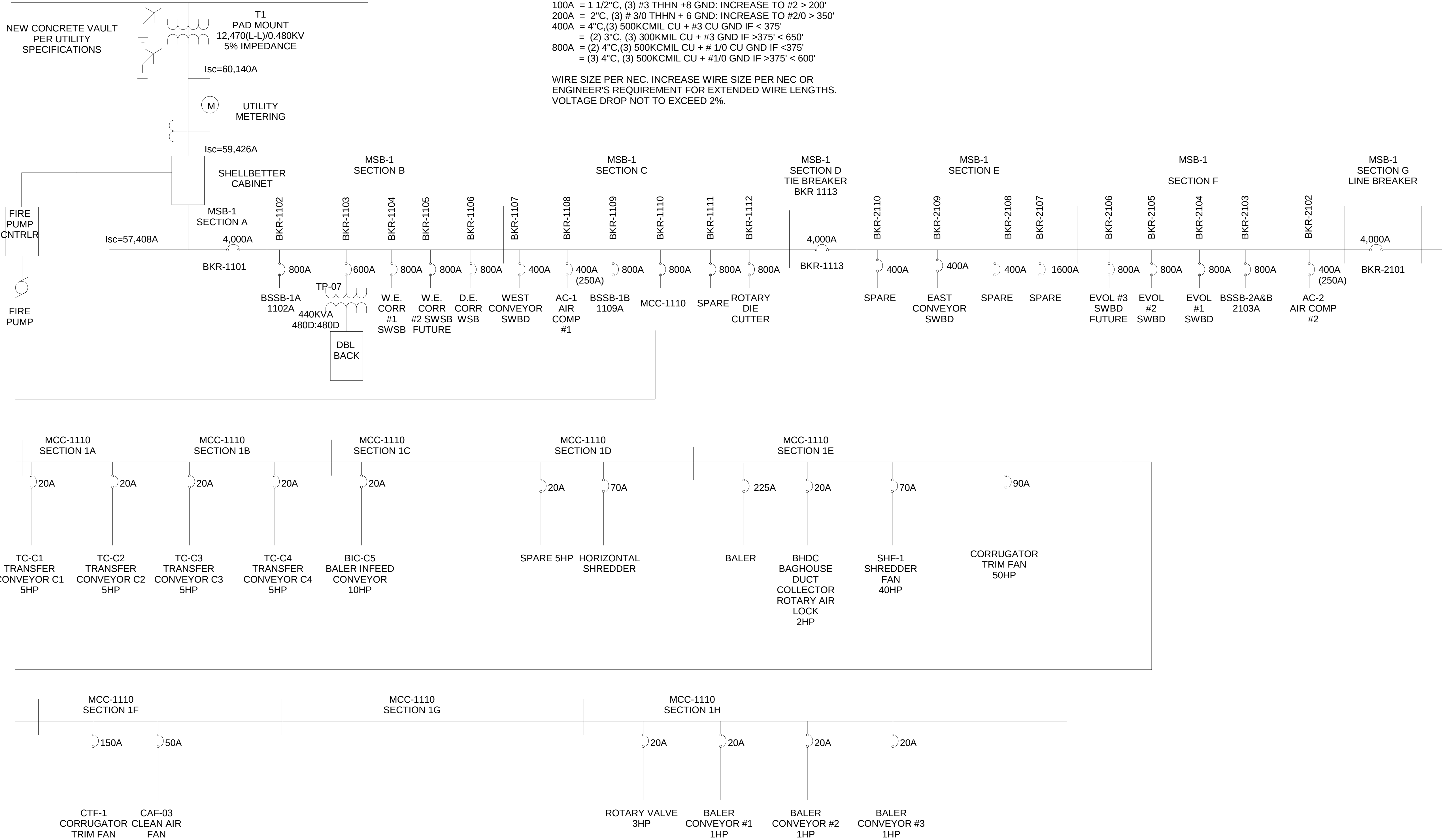
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1-LINE DIAGRAM SHEET
1 OF 2

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PROPOSED SERVICE ENTRANCE
CITY OF RICHLAND UILITY
12,470, 3P/3W UTILITY POWER



1-Line Diagram - Main Switchboard & MCC's
3/16" = 1'-0"

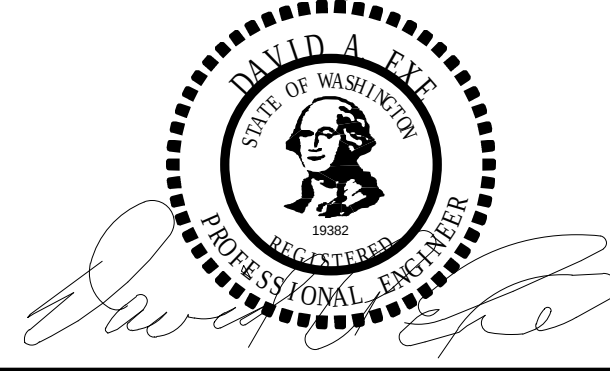


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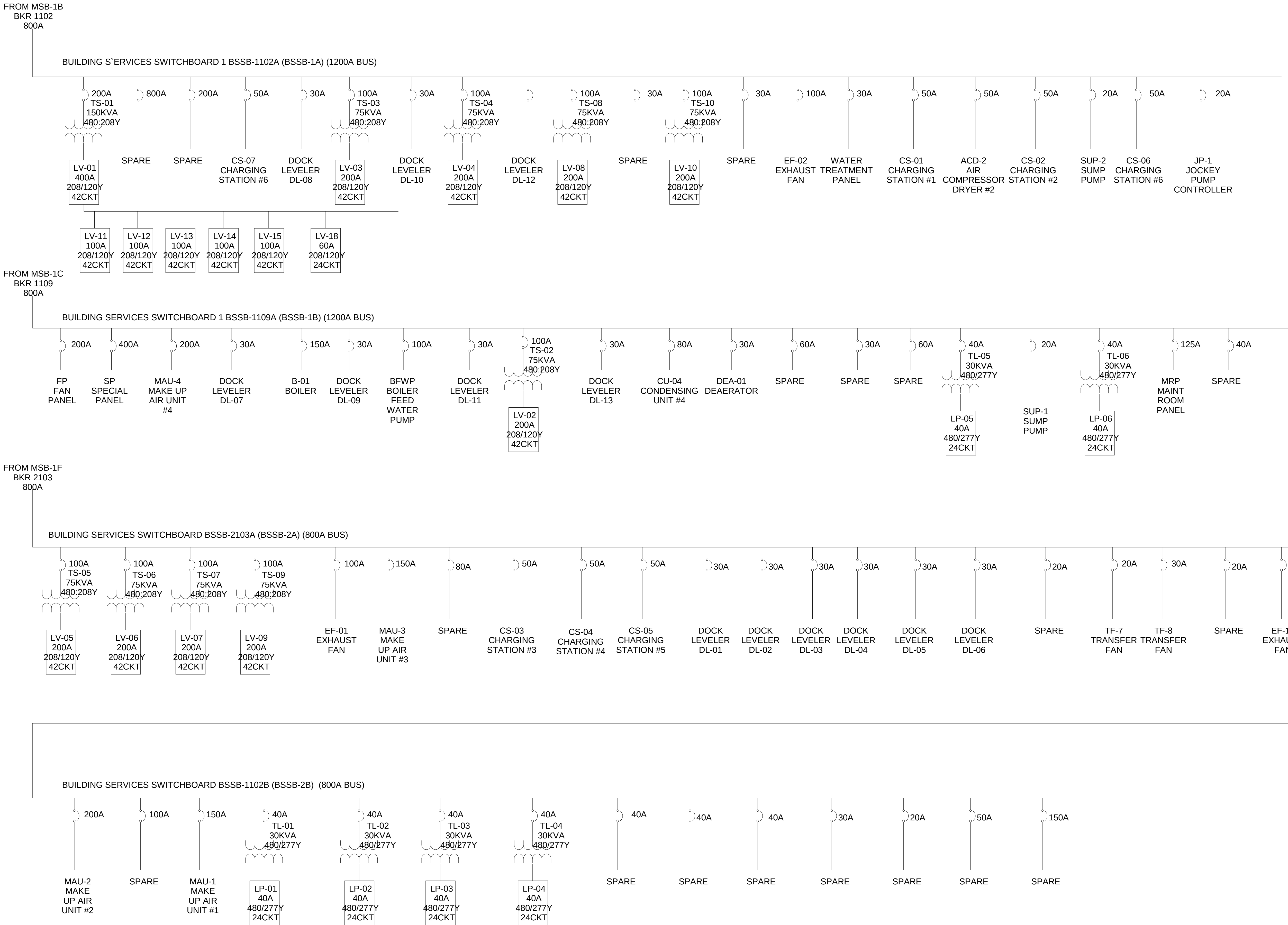
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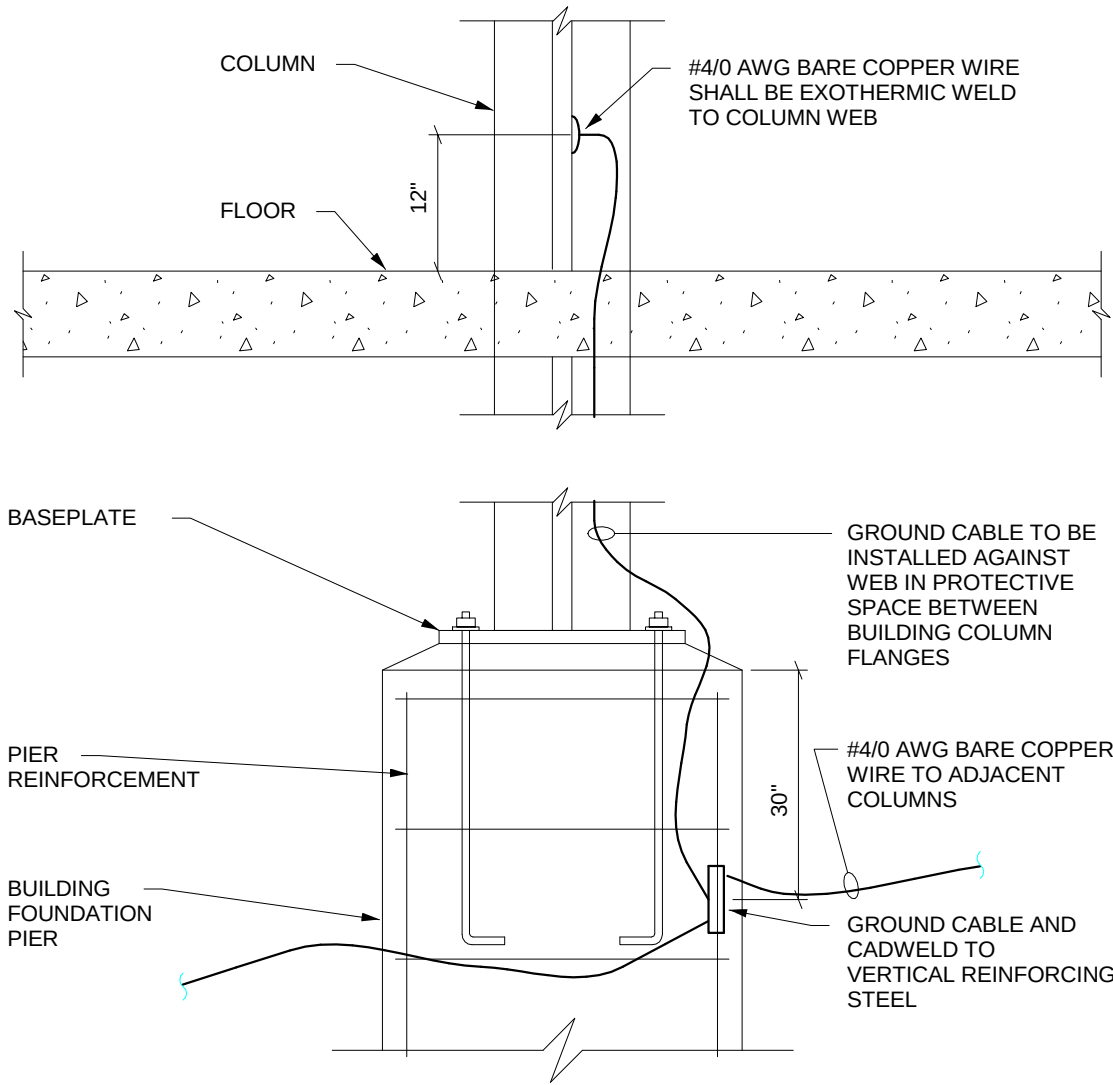
1-LINE DIAGRAM SHEET
2 OF 2

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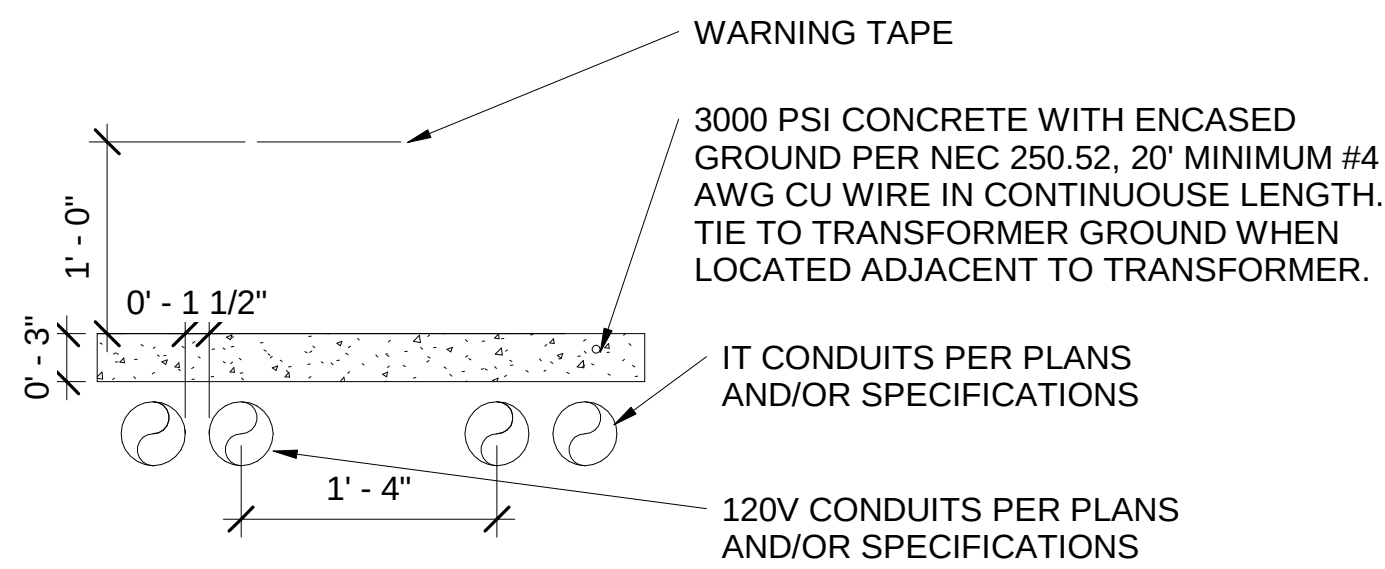
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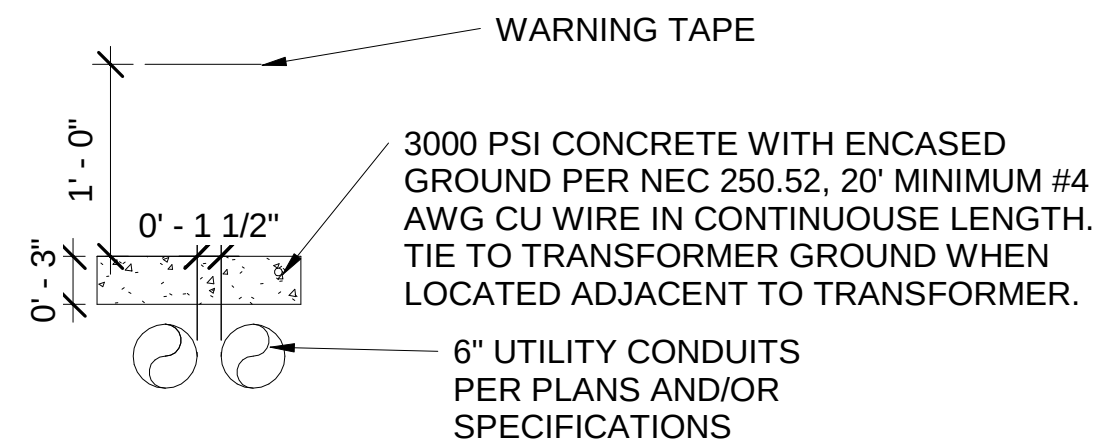
1 1-Line Diagram - Building Services Switchboards
3/16" = 1'-0"



10 typ column grounding detail
1/8" = 1'-0"



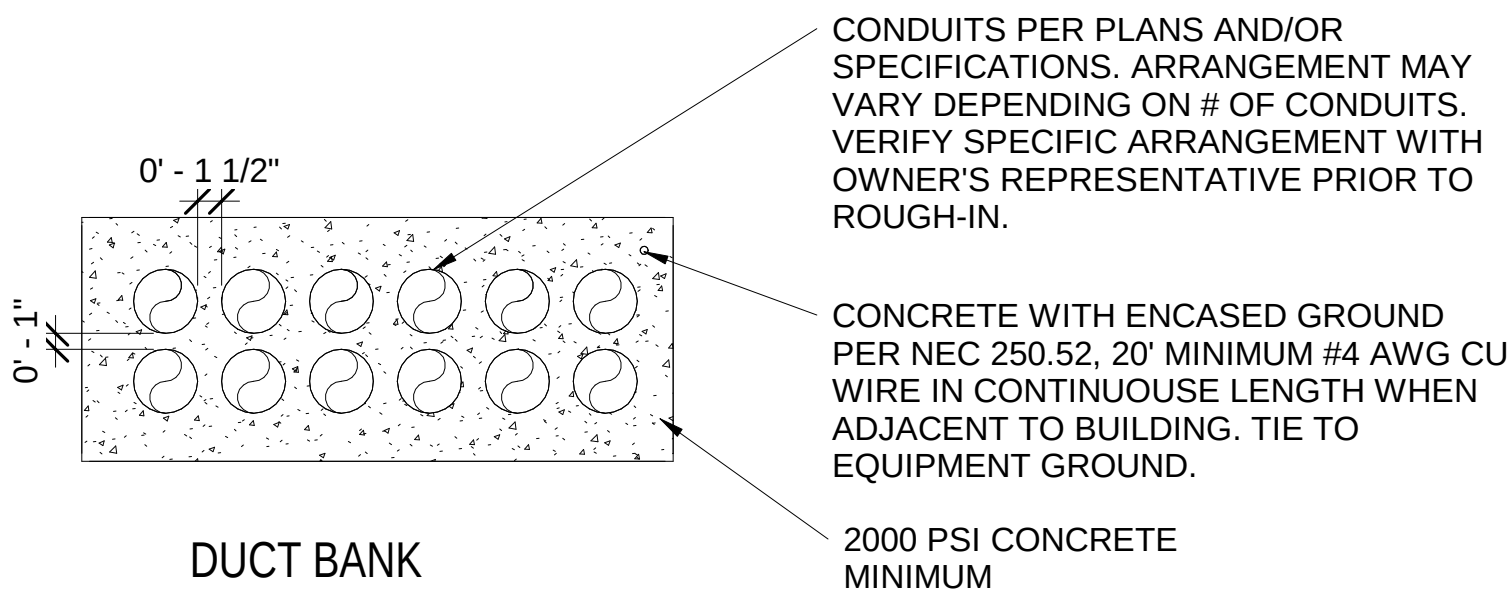
0-600V BURIAL DEPTH PER NEC 300.5 BUT NOT LESS THAN 24"



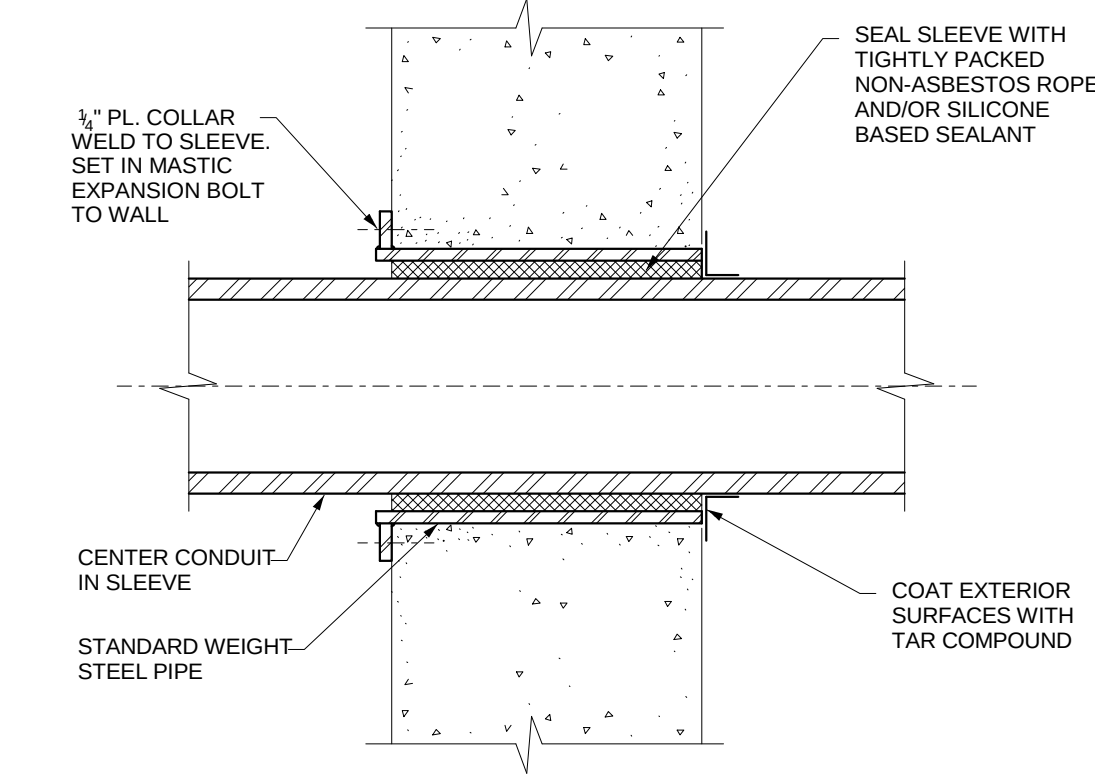
GREATHER THAN 10000V BURIAL DEPTH PER NEC 300.50 BUT NOT LESS THAN 36"

NOTE:
IF ELECTRICAL CONDUITS ARE BURIED IN COMMON TRENCH WITH OTHER UTILITIES, CONTRACTOR TO PROVIDE TRENCHING DETAIL TO OWN'ER'S REPRESENTATIVE PRIOR TO TRENCHING.

3 utility and low voltage trenching detail
1" = 1'-0"

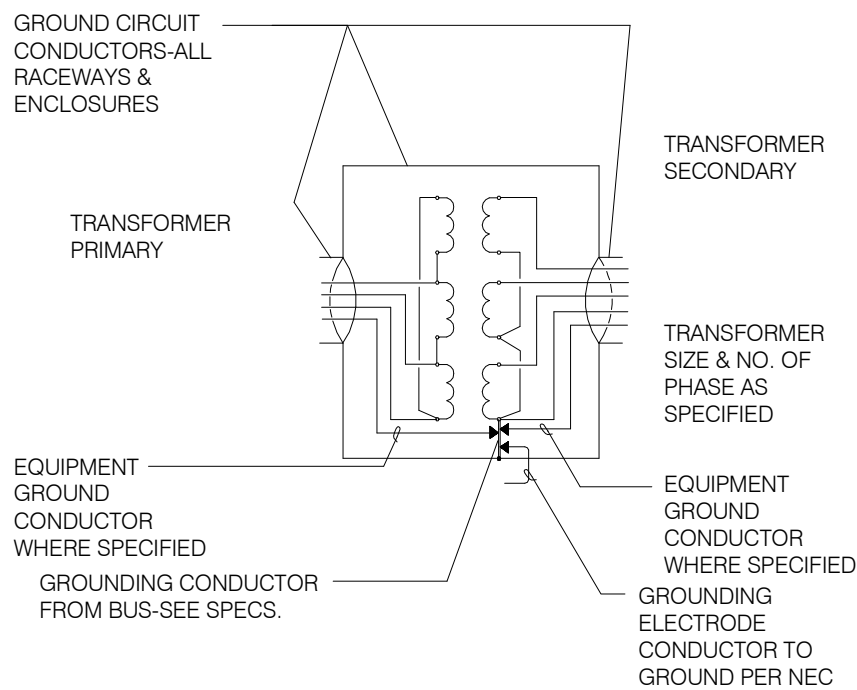


7 Concrete Cover & Duct Bank Detail
1" = 1'-0"



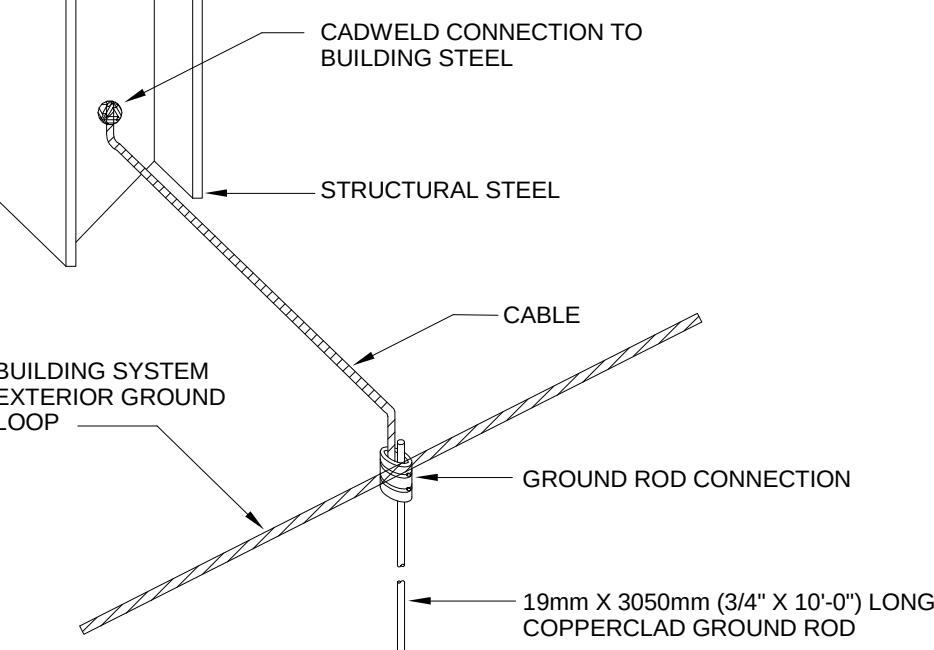
6 conduit wall penetration
1/8" = 1'-0"

NOTE:
THIS INFORMATION MAY NOT CONTAIN ALL DETAILS REQUIRED FOR CONSTRUCTION. APPROPRIATE MODIFICATION MAY BE REQUIRED TO ENSURE SUITABILITY OF THESE DRAWINGS FOR THE SPECIFIC APPLICATION. IT IS THE USER'S RESPONSIBILITY TO ENSURE INSTALLATION OF THE EQUIPMENT/SYSTEM IS IN ACCORDANCE WITH BUILDING/PROJECT SPECIFICATIONS, APPLICABLE CODES AND STANDARDS.

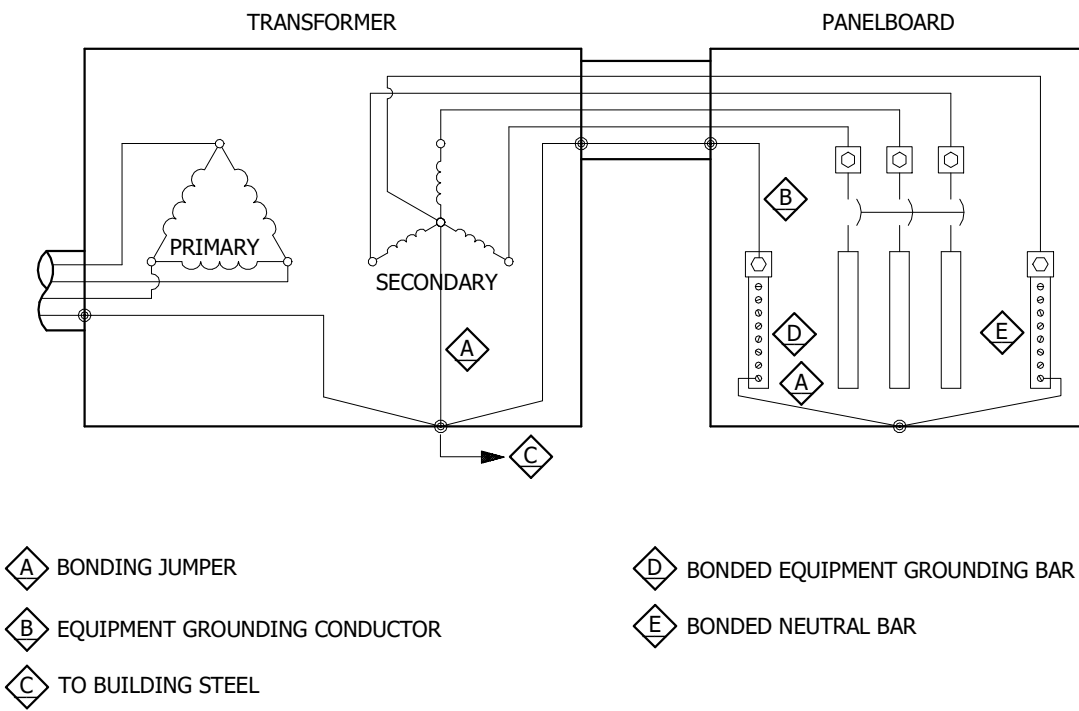


5 dry type transformer grounding
1/8" = 1'-0"

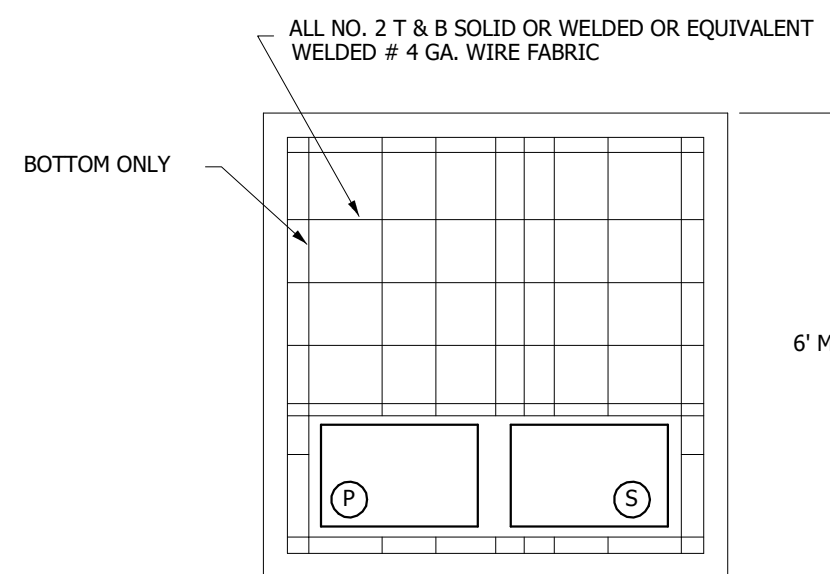
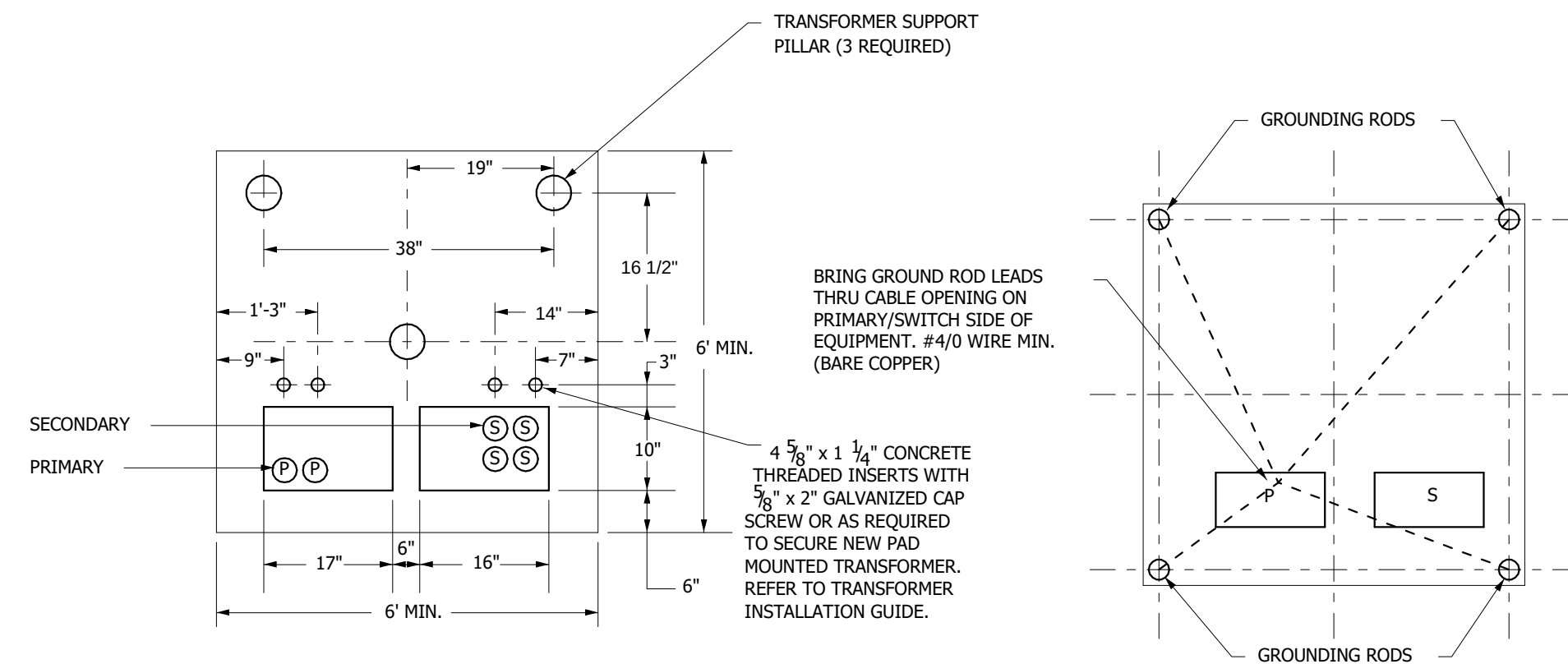
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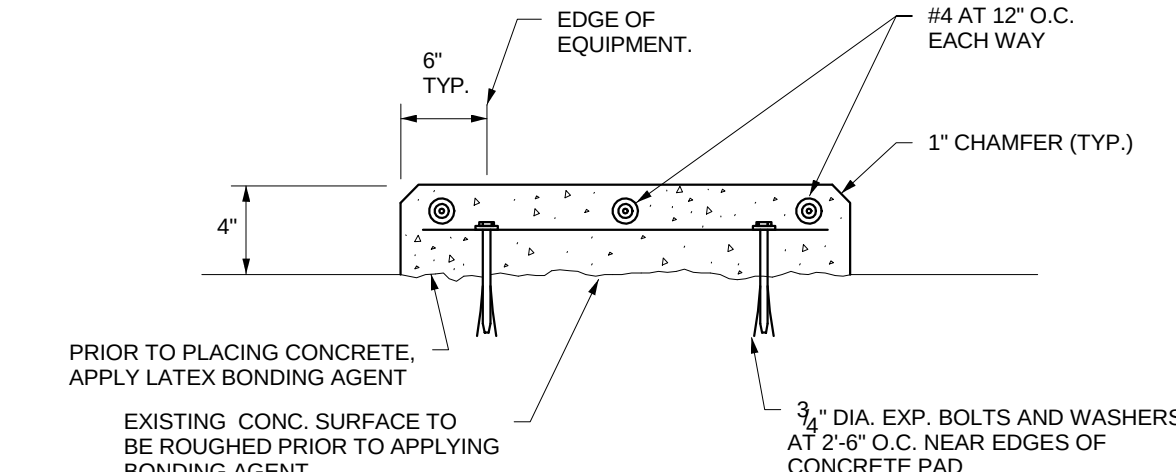
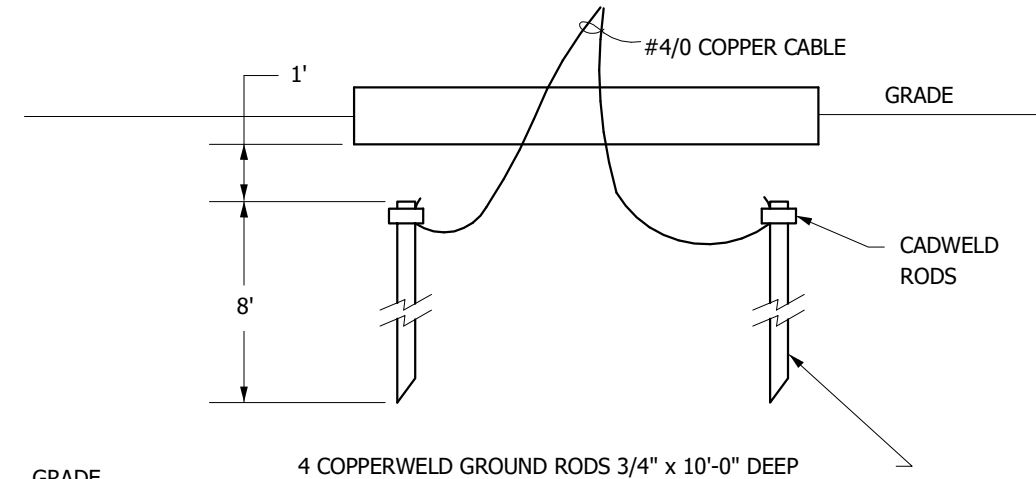
4 gnd rod structural steel connection detail
1/8" = 1'-0"



2 step down xfmr wiring diagram
1/8" = 1'-0"



1 xfmr pad grounding detail
1/8" = 1'-0"



9 concrete equipment pad
1/8" = 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

ELECTRICAL DETAILS

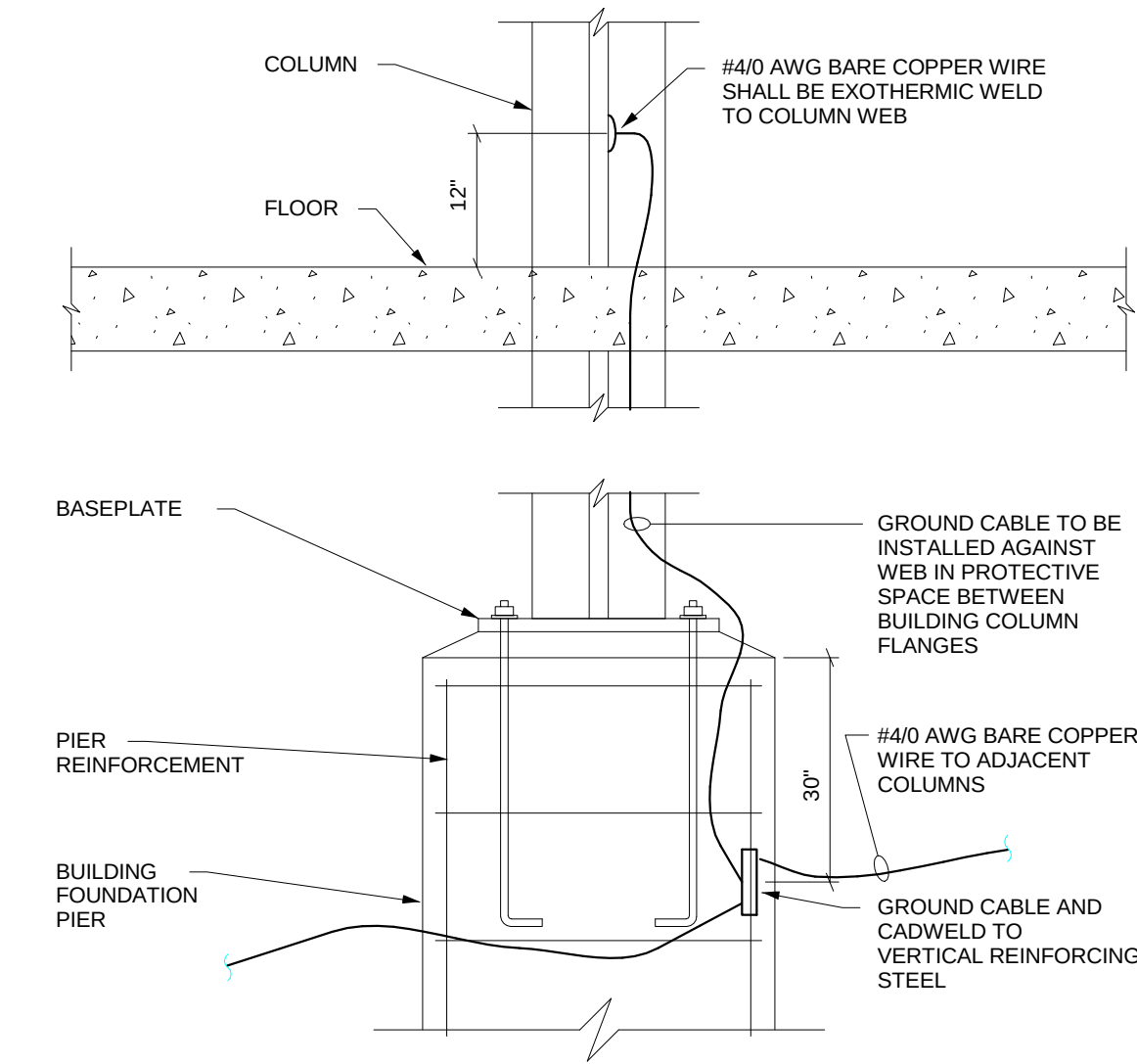
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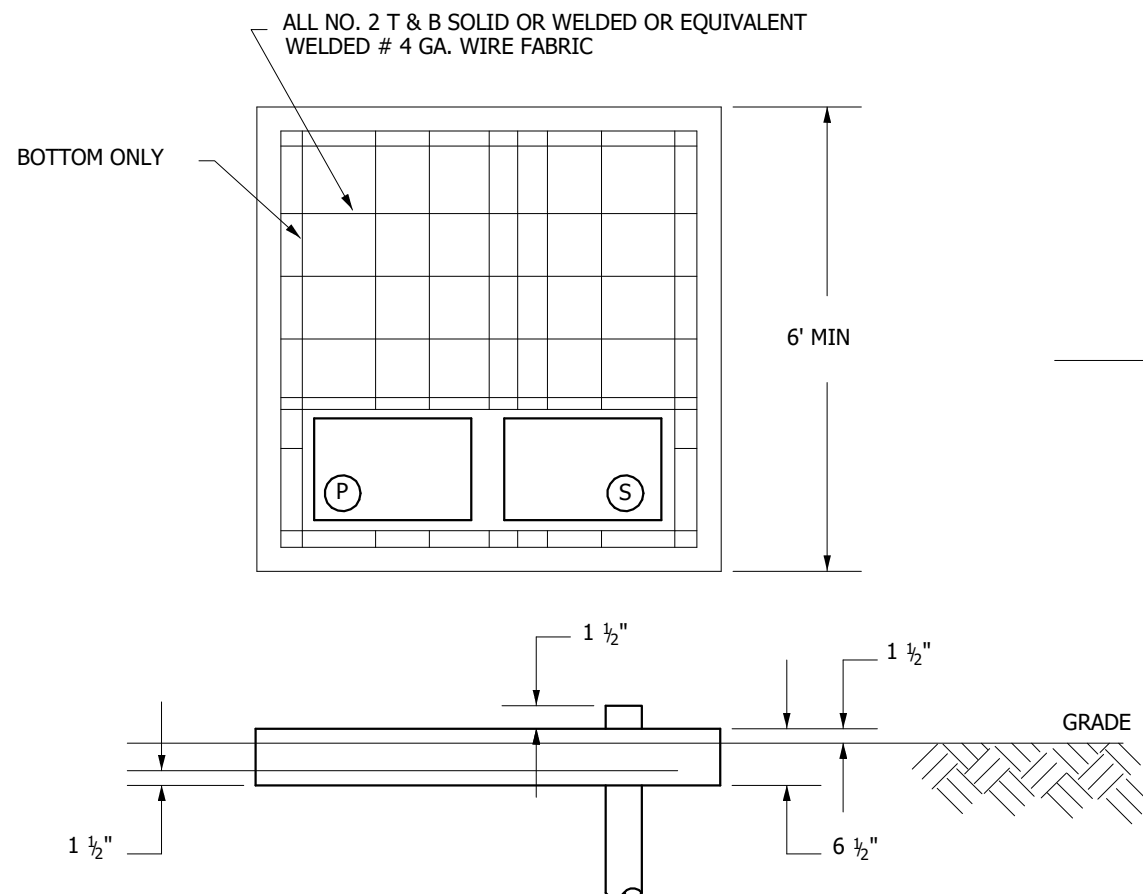
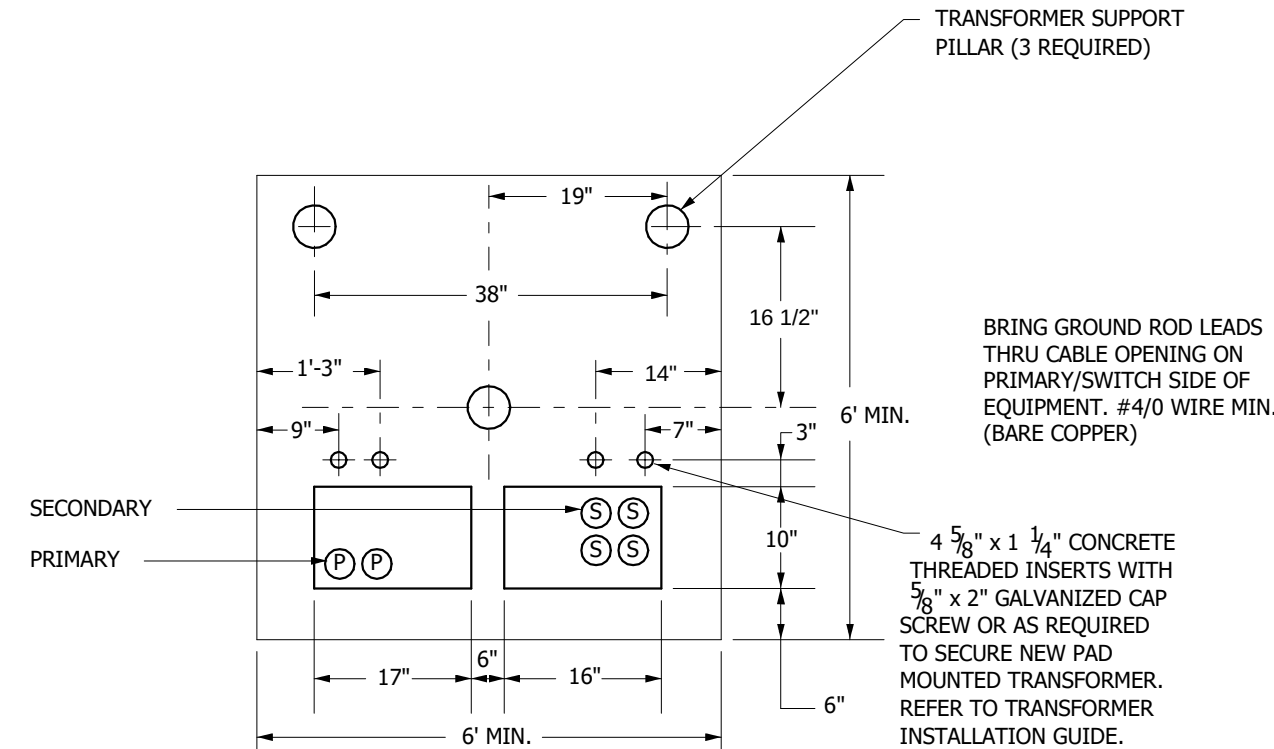
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1. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL GROUNDING AS MAY BE NECESSARY OR REQUIRED TO MAKE A COMPLETE GROUNDING SYSTEM AS REQUIRED BY THE LATEST NATIONAL ELECTRICAL CODE (NFPA 70) IN FORCE AND FM—STD-019e (LIGHTNING AND SURGE PROTECTION, GROUNDING, BONDING, AND SHIELDING REQUIREMENTS FOR FACILITIES AND ELECTRONIC EQUIPMENT). THE RELIABILITY OF THE GROUNDING SYSTEM IS DEPENDENT ON CAREFUL, PROPER INSTALLATION AND CHOICE OF MATERIALS. IMPROPER PREPARATION OF SURFACES TO BE JOINED TO MAKE AN ELECTRICAL PATH, LOOSE JOINTS OR CORROSION CAN INTRODUCE IMPEDANCE THAT WILL SERIOUSLY IMPAIR THE ABILITY OF THE GROUND PATH TO PROTECT PERSONNEL AND EQUIPMENT AND TO ABSORB TRANSIENTS THAT CAN CAUSE NOISE IN COMMUNICATIONS CIRCUITS. THE FOLLOWING FUNCTIONS ARE PARTICULARLY IMPORTANT TO ENSURE A RELIABLE GROUND SYSTEM:
2. FURNISH AND INSTALL GROUND RODS AS DETAILED HEREIN. GROUND RODS FOR AIRFIELD LIGHTING (RUNWAY LIGHTING, TAXIWAY LIGHTING, TAXI GUIDANCE SIGNS & NAVAIDS) SHALL BE MINIMUM 3/4—IN. DIAMETER BY 20—FT LONG, UL—LISTED COPPER CLAD WITH 10—MIL MINIMUM COPPER COATING (TWO 3/4—IN. DIAMETER BY 10—FT LONG, UL—LISTED, COPPER CLAD GROUND RODS COUPLED TOGETHER). GROUND RODS FOR OTHER APPLICATIONS SHALL BE MINIMUM 3/4—IN. DIAMETER BY 30—FT LONG, UL—LISTED, COPPER CLAD WITH 10—MIL MINIMUM COPPER COATING. GROUND RODS SHALL BE SPACED OR AS DETAILED ON THE RESPECTIVE PLANS, AND IN NO CASE SPACED LESS THAN ONE ROD LENGTH APART. ALL CONNECTIONS TO GROUND RODS AND THE GROUND RING SHALL BE MADE WITH EXOTHERMIC WELD TYPE CONNECTORS, CADWELD BY PENTAIR ERICO PRODUCTS, INC., THERMOWELD BY CONTINENTAL INDUSTRIES, INC., ULTRAWELD BY HARGER, OR APPROVED EQUAL. EXOTHERMIC WELD CONNECTIONS SHALL BE INSTALLED IN CONFORMANCE WITH THE RESPECTIVE MANUFACTURER'S DIRECTIONS USING MOLDS AS REQUIRED FOR EACH RESPECTIVE APPLICATION. BOLTED CONNECTIONS WILL NOT BE PERMITTED AT GROUND RODS OR AT BURIED GROUNDING ELECTRODE CONDUCTORS.
3. CONTRACTOR SHALL TEST EACH MADE ELECTRODE GROUND ROD/GROUND FIELD/GROUND RING WITH AN INSTRUMENT SPECIFICALLY DESIGNED FOR TESTING GROUND FIELD SYSTEMS. IF GROUND RESISTANCE EXCEEDS 25 OHMS, CONTACT THE PROJECT ENGINEER FOR FURTHER DIRECTION. COPIES OF GROUND ROD TEST RESULTS SHALL BE FURNISHED TO THE RESIDENT ENGINEER/RESIDENT TECHNICIAN, AND THE PROJECT ENGINEER.
4. ALL PRODUCTS ASSOCIATED WITH THE GROUNDING SYSTEM SHALL BE UL—LISTED AND LABELED.
5. ALL BOLTED OR MECHANICAL CONNECTIONS SHALL BE COATED WITH A CORROSION PREVENTATIVE COMPOUND BEFORE JOINING, SANCHEM INC. "NO—OX—ID "A—SPECIAL" COMPOUND, BURNDY PENTROX E, OR APPROVED EQUAL
6. METALLIC SURFACES TO BE JOINED SHALL BE PREPARED BY THE REMOVAL OF ALL NON—CONDUCTIVE MATERIAL PER 2017 NATIONAL ELECTRICAL CODE ARTICLE 250-12. ALL COPPER BUS BARS MUST BE CLEANED PRIOR TO MAKING CONNECTIONS TO REMOVE SURFACE OXIDATION.
7. METALLIC RACEWAY FITTINGS SHALL BE MADE UP TIGHT TO PROVIDE A PERMANENT LOW IMPEDANCE PATH FOR ALL CIRCUITS. METAL CONDUIT TERMINATIONS IN ENCLOSURES SHALL BE BONDED TO THE ENCLOSURE WITH UL—LISTED FITTINGS SUITABLE FOR GROUNDING. PROVIDE GROUNDING BUSHINGS WITH BONDING JUMPERS FOR ALL METAL CONDUITS ENTERING SERVICE EQUIPMENT (METER BASE, CT CABINET, MAIN SERVICE BREAKER ENCLOSURE, ETC.). PROVIDE GROUNDING BUSHINGS WITH BONDING JUMPERS FOR ALL METAL CONDUITS ENTERING AN ENCLOSURE THROUGH CONCENTRIC OR ECCENTRIC KNOCKOUTS THAT ARE PUNCHED OR OTHERWISE FORMED SO AS TO IMPAIR THE ELECTRICAL CONNECTION TO GROUND. STANDARD LOCKNUTS OR BUSHINGS SHALL NOT BE THE SOLE MEANS FOR BONDING WHERE A CONDUIT ENTERS AN ENCLOSURE THROUGH A CONCENTRIC OR ECCENTRIC KNOCKOUT
8. ALL CONNECTIONS, LOCATED ABOVE GRADE, BETWEEN THE DIFFERENT TYPES OF GROUNDING CONDUCTORS SHALL BE MADE USING UL—LISTED DOUBLE COMPRESSION CRIMP TYPE CONNECTORS OR UL—LISTED BOLTED GROUND CONNECTORS. FOR GROUND CONNECTIONS TO ENCLOSURES, CASES AND FRAMES OF ELECTRICAL EQUIPMENT NOT SUPPLIED WITH GROUND LUGS THE CONTRACTOR SHALL DRILL REQUIRED HOLES FOR MOUNTING A BOLTED GROUND CONNECTOR. ALL BOLTED GROUND CONNECTORS SHALL BE BURNDY, THOMAS AND BEI IS, OR EQUAL. TIGHTEN CONNECTIONS TO COMPLY WITH TIGHTENING TORQUES IN UL STANDARD 486A TO ASSURE PERMANENT AND EFFECTIVE GROUNDING.
9. ALL METAL EQUIPMENT ENCLOSURES, CONDUITS, CABINETS, BOXES, RECEPTACLES, MOTORS, ETC. SHALL BE BONDED TO THE RESPECTIVE GROUNDING SYSTEM.
10. PROVIDE ALL BOXES FOR PROPOSED OUTLETS, SWITCHES, CIRCUIT BREAKERS, ETC. WITH GROUNDING SCREWS. PROVIDE ALL PANELBOARD, SWFTCHGEAR, ETC., ENCLOSURES WITH GROUNDING BARS WITH INDIVIDUAL SCREWS, LUGS, CLAMPS, ETC., FOR EACH OF THE GROUNDING CONDUCTORS THAT ENTER THEIR RESPECTIVE ENCLOSURES.
11. EACH NEW FEEDER CIRCUIT AND/OR BRANCH CIRCUIT SHALL INCLUDE AN EQUIPMENT GROUND WIRE. METAL RACEWAY OR CONDUIT SHALL NOT MEET THIS
12. REQUIREMENT. THE EQUIPMENT GROUND WIRE FROM EQUIPMENT SHALL NOT BE SMALLER THAN ALLOWED BY 2017 NEC TABLE 250-122 "MINIMUM SIZE CONDUCTORS OR GROUNDING RACEWAY AND EQUIPMENT." WHEN CONDUCTORS ARE ADJUSTED IN SIZE TO COMPENSATE FOR VOLTAGE DROP, EQUIPMENT—GROUNDING CONDUCTORS SHALL BE ADJUSTED PROPORTIONATELY ACCORDING TO CIRCULAR MIL AREA. ALL EQUIPMENT GROUND WIRES SHALL BE COPPER, EITHER BARE OR INSULATED GREEN IN COLOR. WHERE THE EQUIPMENT GROUNDING CONDUCTORS ARE INSULATED, THEY SHALL BE IDENTIFIED BY THE COLOR GREEN, AND SHALL BE THE SAME INSULATION TYPE AS THE PHASE CONDUCTORS.
13. ALL EXTERIOR METAL CONDUIT, WHERE NOT ELECTRICALLY CONTINUOUS BECAUSE OF MANHOLES, HANDHOLES, NON—METALLIC JUNCTION BOXES, ETC., SHALL BE BONDED TO ALL OTHER METAL CONDUIT IN THE RESPECTIVE DUCT RUN, AND AT EACH END, WITH A COPPER—BONDING JUMPER SIZED IN CONFORMANCE WITH 2017 NEC 250-102. WHERE METAL CONDUITS TERMINATE IN AN ENCLOSURE (SUCH AS A MOTOR CONTROL CENTER, SWITCHBOARD, ETC) WHERE THERE IS NOT ELECTRICAL CONTINUITY WITH THE CONDUIT AND THE RESPECTIVE ENCLOSURE, PROVIDE A BONDING JUMPER FROM THE RESPECTIVE ENCLOSURE GROUND BUS TO THE CONDUIT SIZED PER 2017 NEC 250-102.
14. IT IS THE INTENT OF THIS SPECIFICATION THAT ALL MOTOR FRAMES, PUMP BASES ELECTRICAL EQUIPMENT ENCLOSURES, PANEL HOUSINGS, CONDUITS, BOXES, ETC. HAVE A CONTINUOUS COPPER WIRE GROUND CONNECTION AND SHALL BE POSITIVELY BONDED TO THE RESPECTIVE GROUNDING SYSTEM. CONDUIT CONNECTORS WILL NOT BE CONSIDERED AS ADEQUATE GROUNDING.
15. PROVIDE A POSITIVE GROUND BOND FOR ALL OUTLET BOXES, ELECTRICAL EQUIPMENT ENCLOSURES, GROUNDING RECEPTACLES, TOGGLE SWITCHES, ETC. INSTALL A GROUNDING CONDUCTOR IN ALL WIRE AND CABLE RACEWAYS. GROUND CONDUCTOR TO HAVE 600—VOLT INSULATION AND BE IDENTIFIED BY A CONTINUOUS GREEN COLOR COATING. THEY SHALL BE USED SOLELY FOR GROUNDING PURPOSES AND BE ENTIRELY SEPARATE FROM WHITE GROUNDED NEUTRAL CONDUCTOR, EXCEPT AT SUPPLY SIDE OF SERVICE DISCONNECTING MEANS, WHERE GROUNDING AND NEUTRAL SYSTEMS ARE TO BE CONNECTED TO SERVICE GROUND.
16. EACH AND ALL GROUNDED CASED AND METAL PARTS ASSOCIATED WITH ELECTRICAL EQUIPMENT SHALL BE TESTED FOR CONTINUITY OF CONNECTION WITH GROUND BUS SYSTEM BY CONTRACTOR IN PRESENCE OF OWNER'S REPRESENTATIVE.
17. ALL CONNECTIONS BETWEEN THE DIFFERENT TYPES OF GROUNDING CONDUCTORS ABOVE GRADE SHALL BE MADE USING BOLTED GROUND CONNECTORS. GROUND LUGS SHALL BE PROVIDED IN ALL ENCLOSURES AND WIRING TERMINATION JUNCTION BOXES. EQUIPMENT GROUNDS AND GROUNDING CONDUCTOR SHALL BE CONNECTED TO THESE GROUND LUGS. FOR GROUND CONNECTIONS TO ENCLOSURES, CASES AND FRAMES OF ELECTRICAL EQUIPMENT NOT SUPPLIED WITH GROUND LUGS THE CONTRACTOR SHALL DRILL REQUIRED HOLES FOR MOUNTING A BOLTED GROUND CONNECTOR. ALL BOLTED GROUND CONNECTORS SHALL BE BURNDY, THOMAS & BEI IS OR APPROVED EQUAL.
18. BOND ALL NONCURRENT—CARRYING PARTS OF METAL EQUIPMENT TO GROUND SYSTEM.
19. BUILDING STRUCTURAL STEEL SYSTEM SHALL BE BONDED TO ELECTRICAL GROUND SYSTEM.
20. INSTALL GROUNDING ELECTRODE CONDUCTORS, LIGHTNING PROTECTION DOWN CONDUCTORS AND SEPARATE GROUND CONDUCTORS IN SCHEDULE 40 OR SCHEDULE 80 PVC CONDUIT OR EXPOSED WHERE ACCEPTABLE TO LOCAL CODES. WHERE GROUNDING ELECTRODE CONDUCTORS, LIGHTNING PROTECTION DOWN CONDUCTORS OR INDIVIDUAL GROUND CONDUCTORS ARE RUN IN PVC CONDUIT, DO NOT COMPLETELY ENCIRCLE CONDUIT WITH FERROUS AND/OR MAGNETIC MATERIALS. USE NON—METALLIC REINFORCED FIBERGLASS STRUT SUPPORT. WHERE METAL CONDUIT CLAMPS ARE INSTALLED, USE NYLON BOLTS, NUTS, WASHERS AND SPACERS TO INTERRUPT A COMPLETE METALLIC PATH FROM ENCIRCLING THE CONDUIT. THIS IS REQUIRED TO AVOID GIRDLING OF GROUND CONDUCTORS. GIRDLING OF A GROUND CONDUCTOR IS THE RESULT OF PLACING THE CONDUCTOR IN A RING OF MAGNETIC MATERIAL THIS RING COULD BE A METALLIC CONDUIT, U—BOLT OR STRUT SUPPORT PIPE CLAMP, OR OTHER SUPPORT HARDWARE. THE RESULT OF GIRDLING GROUND CONDUCTORS SIGNIFICANTLY INCREASES THE INDUCTIVE IMPEDANCE OF THE GROUND CONDUCTOR. INDUCTIVE AND CAPACITIVE IMPEDANCE IS A TYPE OF RESISTANCE THAT OPPOSES THE FLOW OF ALTERNATING CURRENT. ANY INCREASE IN THE IMPEDANCE OF A GROUND CONDUCTOR REDUCES ITS ABILITY TO EFFECTIVELY MITIGATE RADIO FREQUENCY NOISE IN THE GROUND SYSTEM. THE CONDITION WHERE A GROUND CONDUCTOR IS GIRDLED DURING A LIGHTNING STRIKE RESULTS IN PHENOMENA KNOWN AS SURGE IMPEDANCE LOADING. SURGE IMPEDANCE LOADING IS A RESULT OF VOLTAGE AND CURRENT REACHING 500,000 VOLTS AND 10,000 AMPS FOR A SHORT DURATION. GIRDLING FURTHER INCREASES THE IMPEDANCE AT LIGHTNING FREQUENCIES OF 100 KILOHERTZ TO 100 MEGAHERTZ. AT THESE POWER AND FREQUENCY LEVELS ANY INCREASE IN THE IMPEDANCE OF THE GROUND CONDUCTOR MUST BE CONTROLLED. DURING LIGHTNING DISCHARGE CONDITIONS A LOW INDUCTIVE IMPEDANCE PATH IS MORE IMPORTANT THAN A LOW DC RESISTANCE PATH.
21. IF LOCAL CODES DICTATE THAT INDIVIDUAL GROUNDING CONDUCTORS MUST BE RUN IN METAL CONDUIT OR RACEWAY, THEN THE CONDUIT OR RACEWAY MUST BE BONDED AT EACH END OF THE RUN WITH A BONDING JUMPER SIZED EQUAL TO THE INDIVIDUAL GROUNDING CONDUCTOR OR AS REQUIRED BY 2017 NEC 250-102. NOTE THIS DOES NOT APPLY TO AC EQUIPMENT GROUNDING CONDUCTORS RUN WITH AC CIRCUITS.
22. WHERE A CONFLICT IS DETERMINED WITH RESPECT TO GROUNDING REQUIREMENTS PER MANUFACTURER INSTALLATION INSTRUCTIONS, NEC, AND/OR THE CONTRACT DOCUMENTS, CONTACT THE RESIDENT ENGINEER OR PROJECT ENGINEER FOR FURTHER DIRECTIONS.
23. GROUND RODS SHALL BE MANUFACTURED IN THE UNITED STATES OF AMERICA FROM 100 PERCENT DOMESTIC STEEL TO COMPLY WITH THE AIRPORT IMPROVEMENT PROGRAM BUY AMERICAN REQUIREMENTS AND THE STEEL PRODUCTS PROCUREMENT ACT.

① grounding notes1
1/16" = 1'-0"

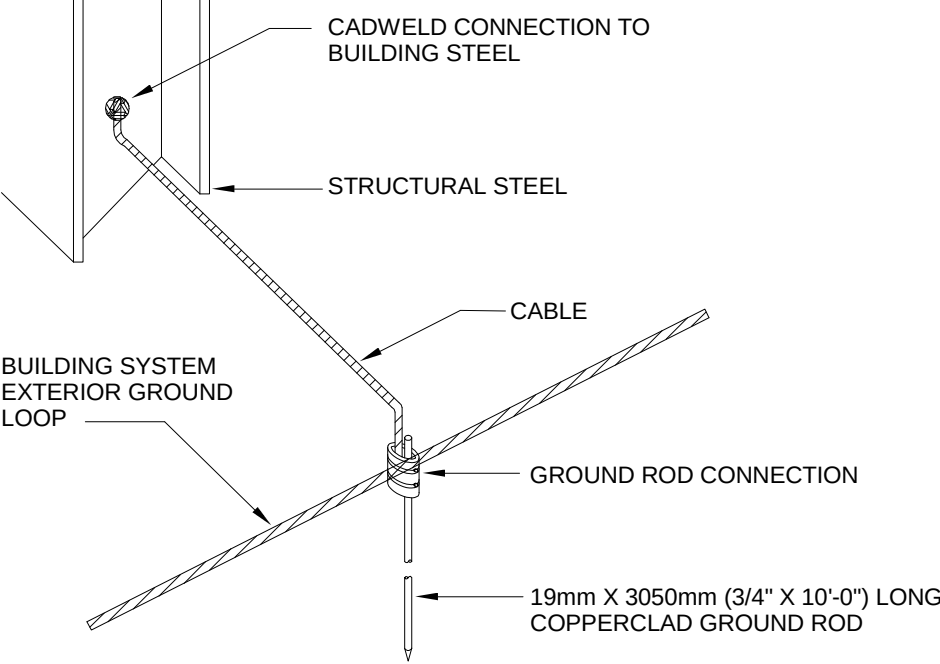


② typ column grounding detail1
1/8" = 1'-0"

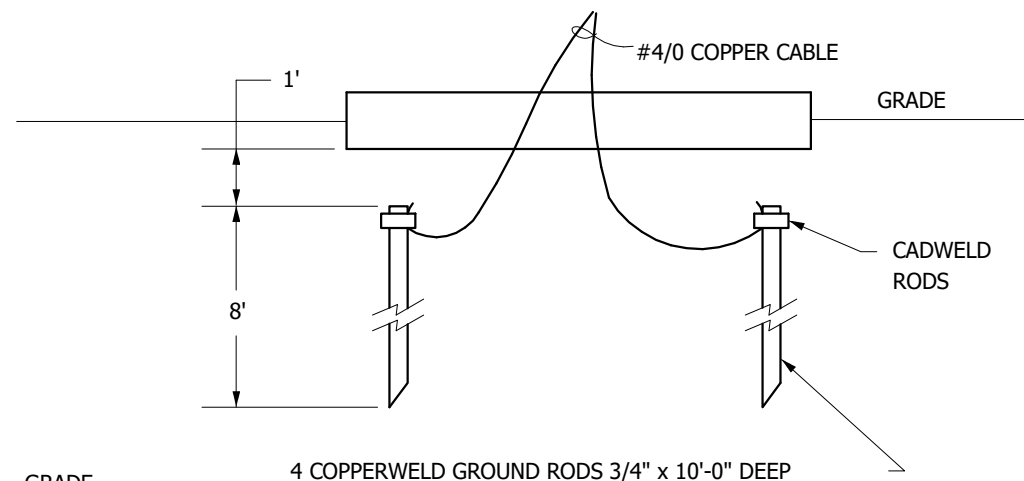
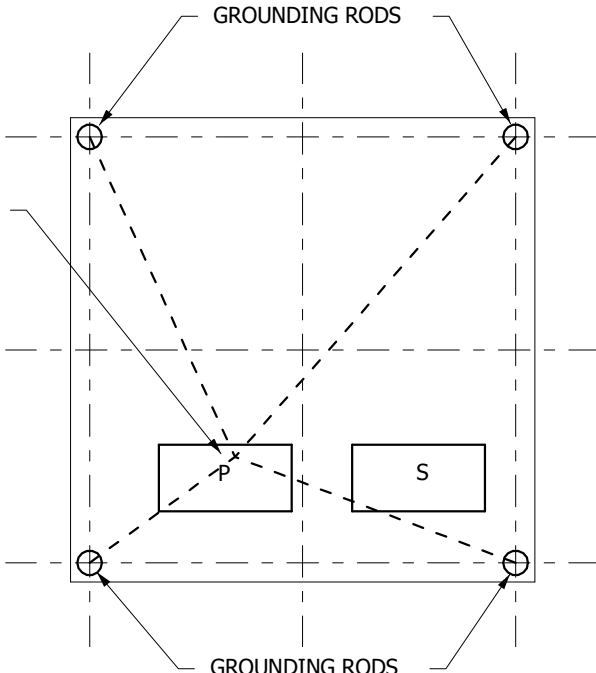


④ xfmr pad grounding detail1
1/8" = 1'-0"

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③ gnd rod structural steel connection detail1
1/8" = 1'-0"



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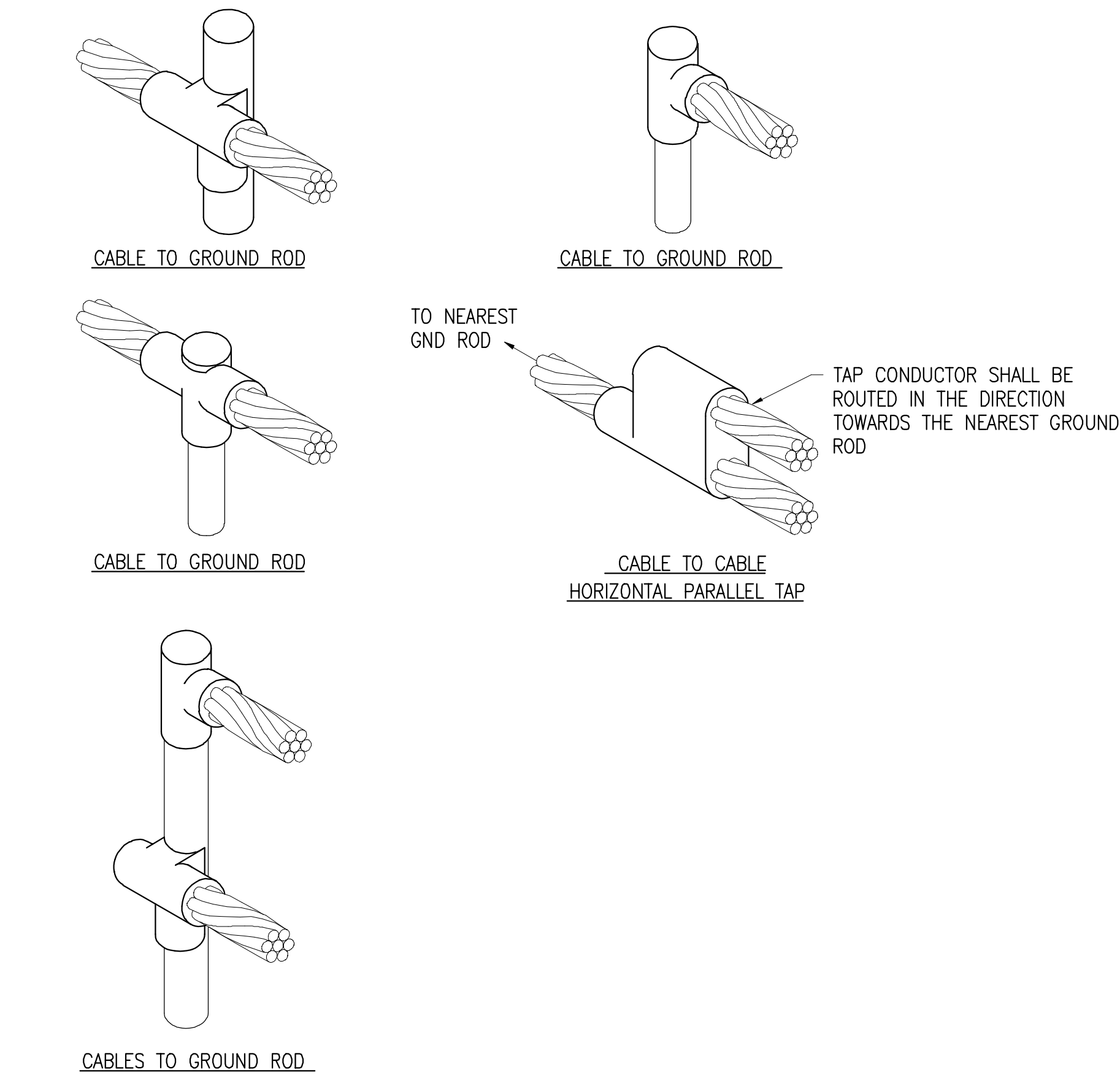
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FINAL AS-BUILT PLAN SET
FEBRUARY 20, 2020

GROUNDING DETAILS

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PROJ. NO: 18810
DATE: FEB 20, 2020
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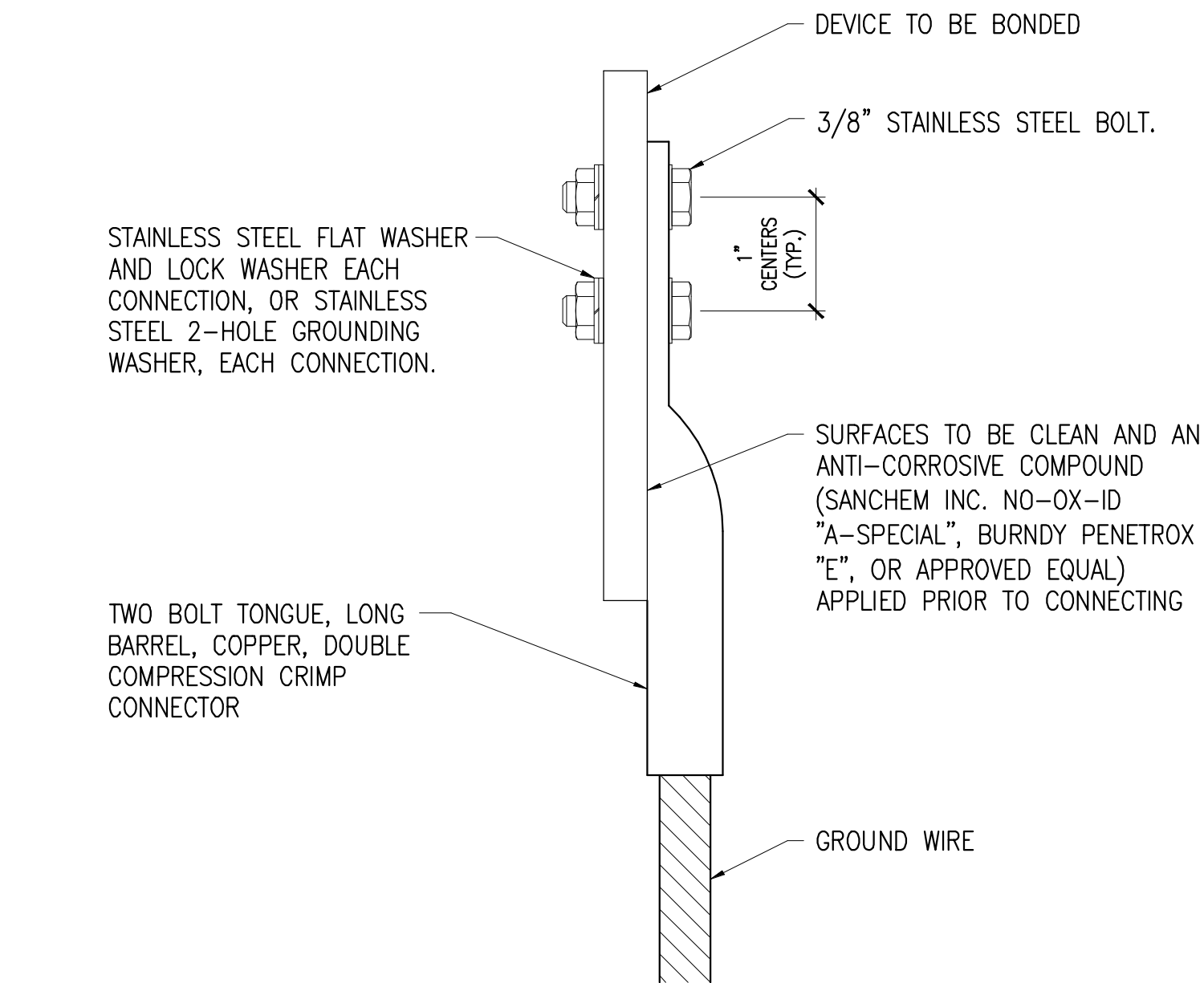
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DETAIL NOTES

- ALL BELOW GRADE CONNECTIONS TO GROUND RODS & GROUND RING CONDUCTORS SHALL BE EXOTHERMIC WELD TYPE CONNECTIONS. EXOTHERMIC WELDS SHALL BE CADWELD AS MANUFACTURED BY PENTAIR ERICO PRODUCTS, ULTRAWELD AS MANUFACTURED BY HARGER LIGHTNING PROTECTION & GROUNDING EQUIPMENT, OR THERMOWELD AS MANUFACTURED BY CONTINENTAL INDUSTRIES OR APPROVED EQUAL. VERIFY PROPER SIZES, MOLDS, TYPES, AND REQUIREMENTS FOR THE RESPECTIVE APPLICATION WITH THE MANUFACTURER, AND INSTALL PER THEIR DIRECTIONS.
- FOR APPLICATIONS TO GALVANIZED STEEL OR PAINTED STEEL, REMOVE GALVANIZING AND/OR PAINT & CLEAN THE SURFACE TO EXPOSE BARE STEEL BEFORE MAKING EXOTHERMIC WELD CONNECTION.
- INDIVIDUAL GROUNDING ELECTRODE CONDUCTORS SHALL NOT BE INSTALLED IN METAL CONDUIT. INSTALL GROUNDING ELECTRODE CONDUCTORS IN SCHED 40 PVC CONDUIT AS REQUIRED IN FOUNDATIONS, FOR PROTECTION, WHERE ENTERING ENCLOSURES, ETC. WHERE PLASTIC CONDUIT IS USED FOR INDIVIDUAL GROUND WIRES, DO NOT COMPLETELY ENIRCLE THE CONDUIT WITH FERROUS AND/OR MAGNETIC MATERIALS. WHERE METAL CLAMPS ARE INSTALLED USE NYLON BOLTS, NUTS, WASHERS, & SPACERS TO INTERRUPT A COMPLETE METALLIC PATH FROM ENCIRCLING THE CONDUIT.

EXOTHERMIC WELD DETAILS

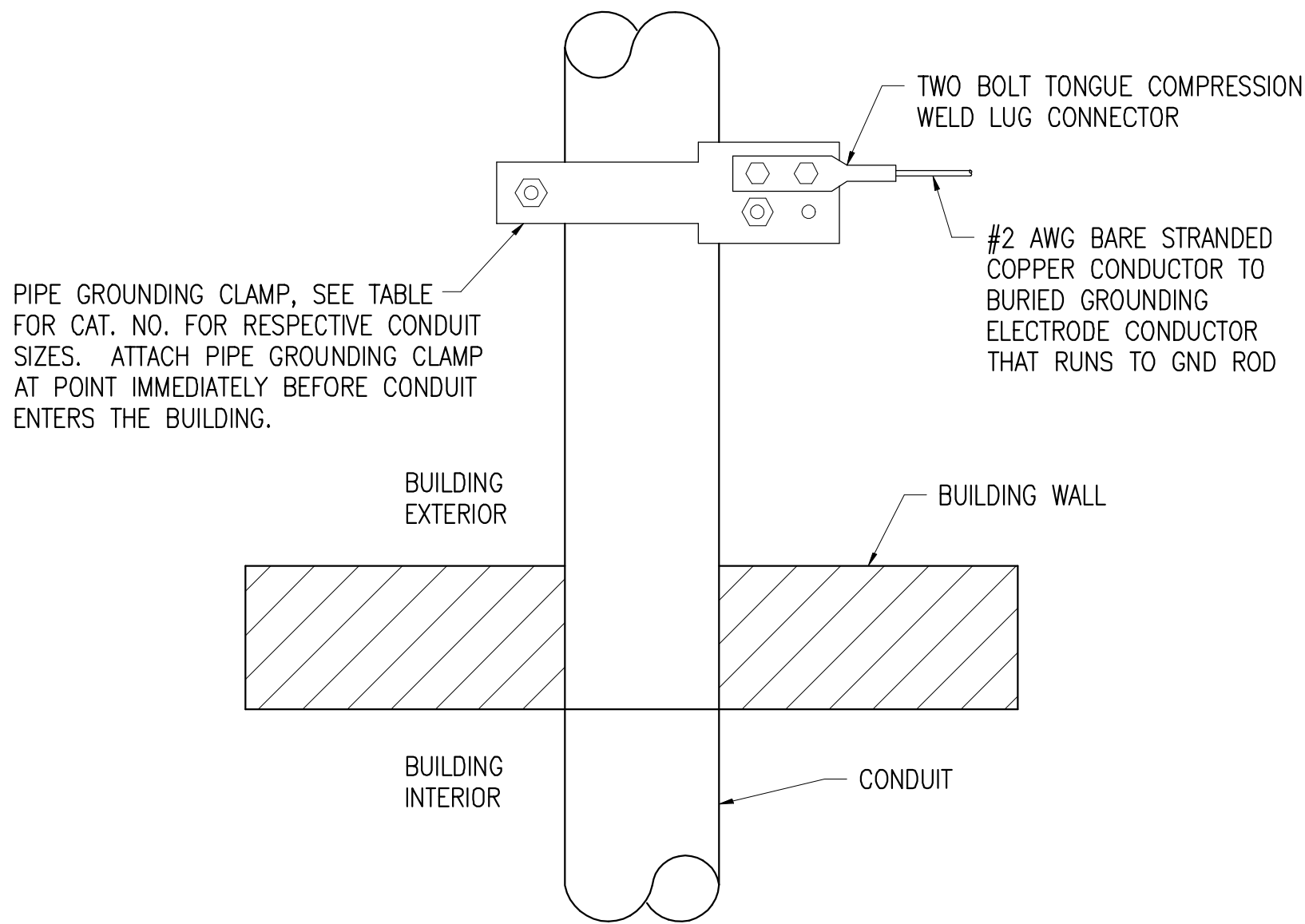


2 HOLE LONG BARREL COMPRESSION LUG TABLE (OR APPROVED EQUAL)			
WIRE SIZE	BURNDY CAT. NO.	THOMAS & BETTS CAT. NO.	PENN-UNION CAT. NO.
#8 AWG STRANDED	YA8C-2TC38	256-30695-1157	BBLU-8D-2TC38
#6 AWG SOLID	YA8C-2TC38 OR YGA6C-2TC38E2G1		
#6 AWG STRANDED	YA6C-2TC38	256-30695-1158	BBLU-6D-2TC38
#4 AWG STRANDED	YA4C-2TC38	256-30695-1159	BBLU-4D-2TC38
#2 AWG STRANDED	YA2C-2TC38	256-30695-1160	BBLU-2D-2TC38
#2 AWG SOLID	YA3C-2TC38	256-30695-1160	BBLU-3D-2TC38
#1/0 AWG STRANDED	YA25-2TC38	256-30695-1162	BBLU-1/0D-2TC38
#2/0 AWG STRANDED	YA26-2TC38	256-30695-1116	BBLU-2/0D-2TC38
#3/0 AWG STRANDED	YA27-2TC38	54816BE	BBLU-3/0D-2TC38
#4/0 AWG STRANDED	YA28-2TC38	256-30695-1117	BBLU-4/0D-2TC38

NOTES

- ALL CONNECTIONS TO GROUND BUS BAR SHALL BE WITH 2 HOLE TONGUE LONG BARREL COMPRESSION LUGS BOLTED TO THE BUS BAR.
- GROUND WIRE CONNECTIONS TO EQUIPMENT SHALL BE WITH 2 HOLE TONGUE LONG BARREL COMPRESSION LUGS BOLTED TO THE DEVICE OR WITH THE RESPECTIVE EQUIPT MANUFACTURER'S LUG OR TERMINAL WHERE APPLICABLE.
- GROUNDING ELECTRODE CONDUCTORS, BONDING JUMPERS, & INDIVIDUAL GROUND WIRES SHALL NOT BE INSTALLED IN METAL CONDUIT. WHERE PLASTIC CONDUIT IS USED FOR INDIVIDUAL GROUND WIRES, DO NOT COMPLETELY ENIRCLE THE CONDUIT WITH FERROUS AND/OR MAGNETIC MATERIALS. WHERE METAL CLAMPS ARE INSTALLED USE NYLON BOLTS, NUTS, WASHERS, & SPACERS TO INTERRUPT A COMPLETE METALLIC APTH FROM ENCIRCLING THE CONDUIT.
- ALL CONNECTIONS SHALL BE COATED WITH A CORROSION PREVENTATIVE COMPOUND (SANCHEM INC. NO-OX-ID "A-SPECIAL", BURNDY PENETROX E, OR APPROVED EQUAL) BEFORE JOINING. ALL COPPER BUS BARS SHALL BE CLEANED PRIOR TO MAKING CONNECTIONS TO REMOVE SURFACE OXIDATION. CLEAN SURFACES, OF RESPECTIVE DEVICES TO BE BONDED, TO BARE METAL, PER NEC 250-12.

GROUNDING LUG CONNECTION DETAIL



PIPE GROUNDING CLAMP TABLE (OR APPROVED EQUAL)		
HUBBELL ELECTRICAL CAT. NO.	BURNDY CAT. NO.	CONDUIT SIZE
GAR3902TC	GAR3902TC	1/2" - 1"
GAR3903TC	GAR3903TC	1 1/4" - 2"
GAR3904TC	GAR3904TC	2 1/2" - 3 1/2"
GAR3905TC	GAR3905TC	4" - 5"
GAR3906TC	GAR3906TC	6"
GAR3907TC	GAR3907TC	8"

NOTES

- EXTERIOR CONDUIT GROUNDING IS REQUIRED FOR THE PHOTOCELL CONDUIT, RADIO ANTENNA CONDUIT, & OTHER CONDUITS EXTENDING TO THE ROOF LEVEL.
- CONNECTIONS TO BURIED GROUNDING ELECTRODE CONDUCTOR SHALL BE EXOTHERMIC WELD.

EXTERIOR CONDUIT GROUNDING DETAIL



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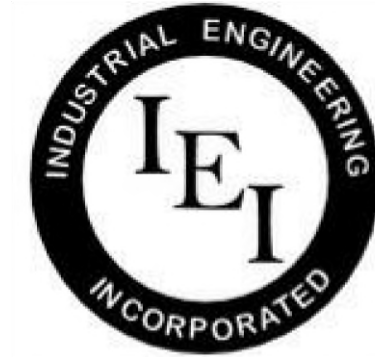
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FEBRUARY 20, 2020

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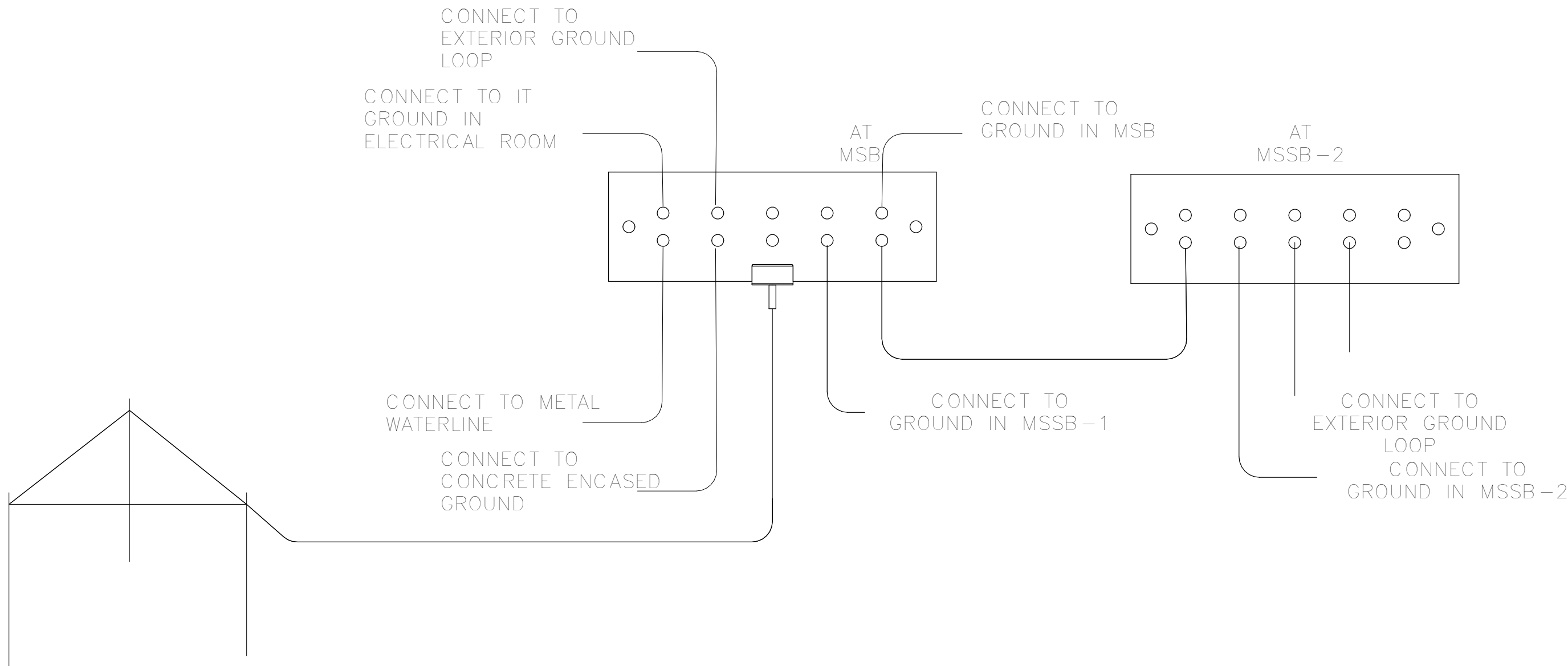
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GROUND BAR DETAILS

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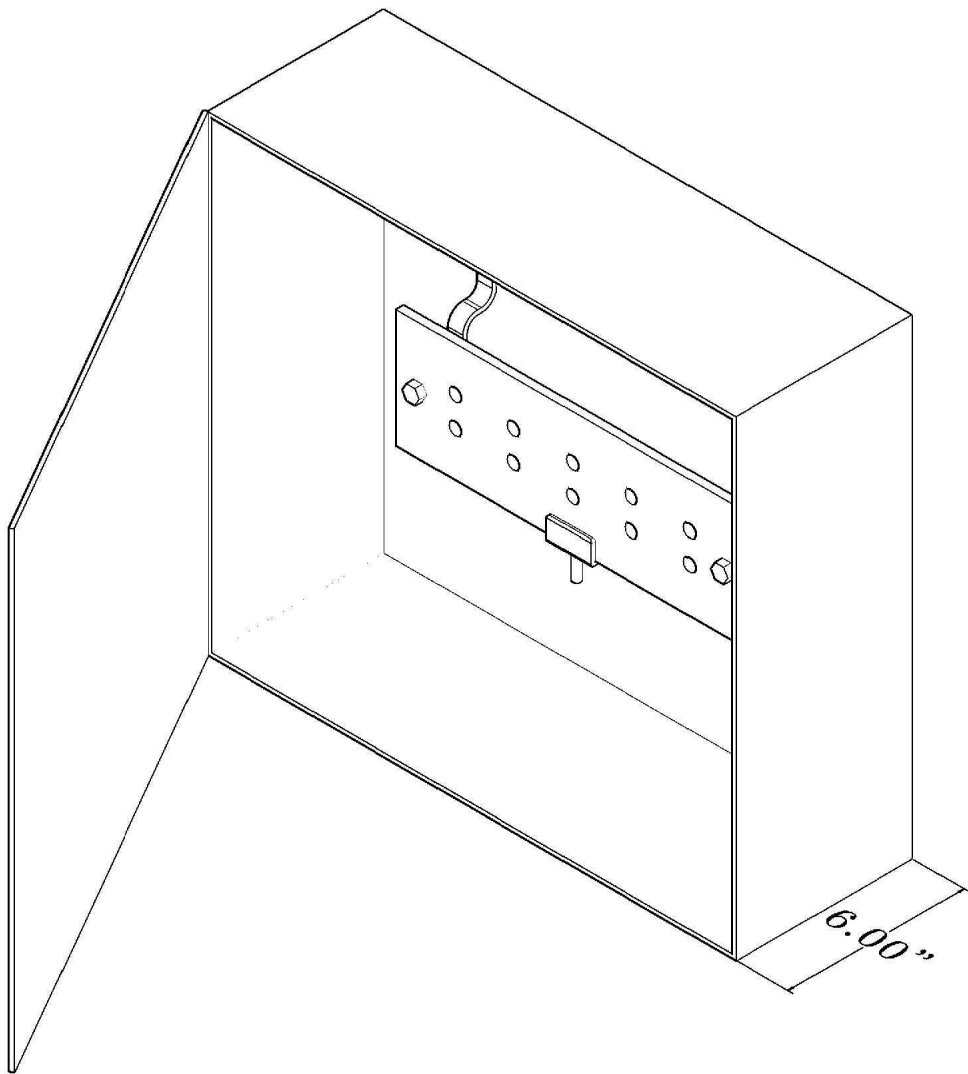
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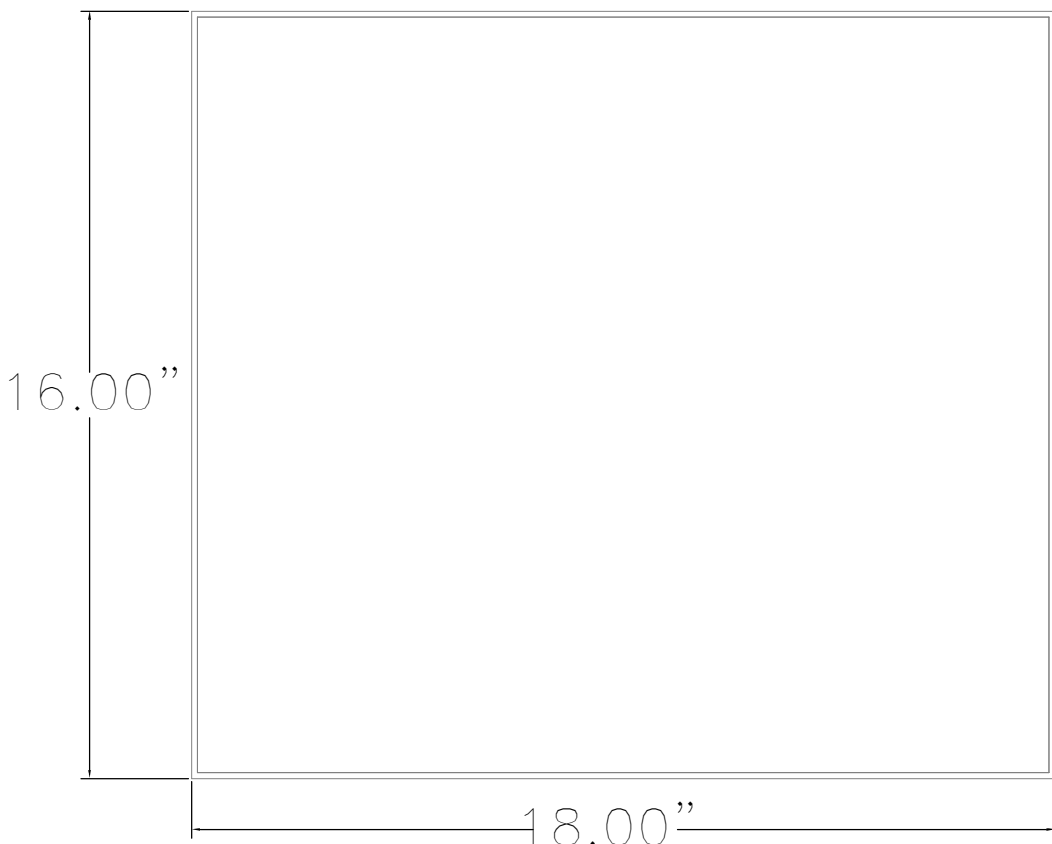
② Grounding Wiring Detail
3" = 1'-0"

GROUNDING NOTES

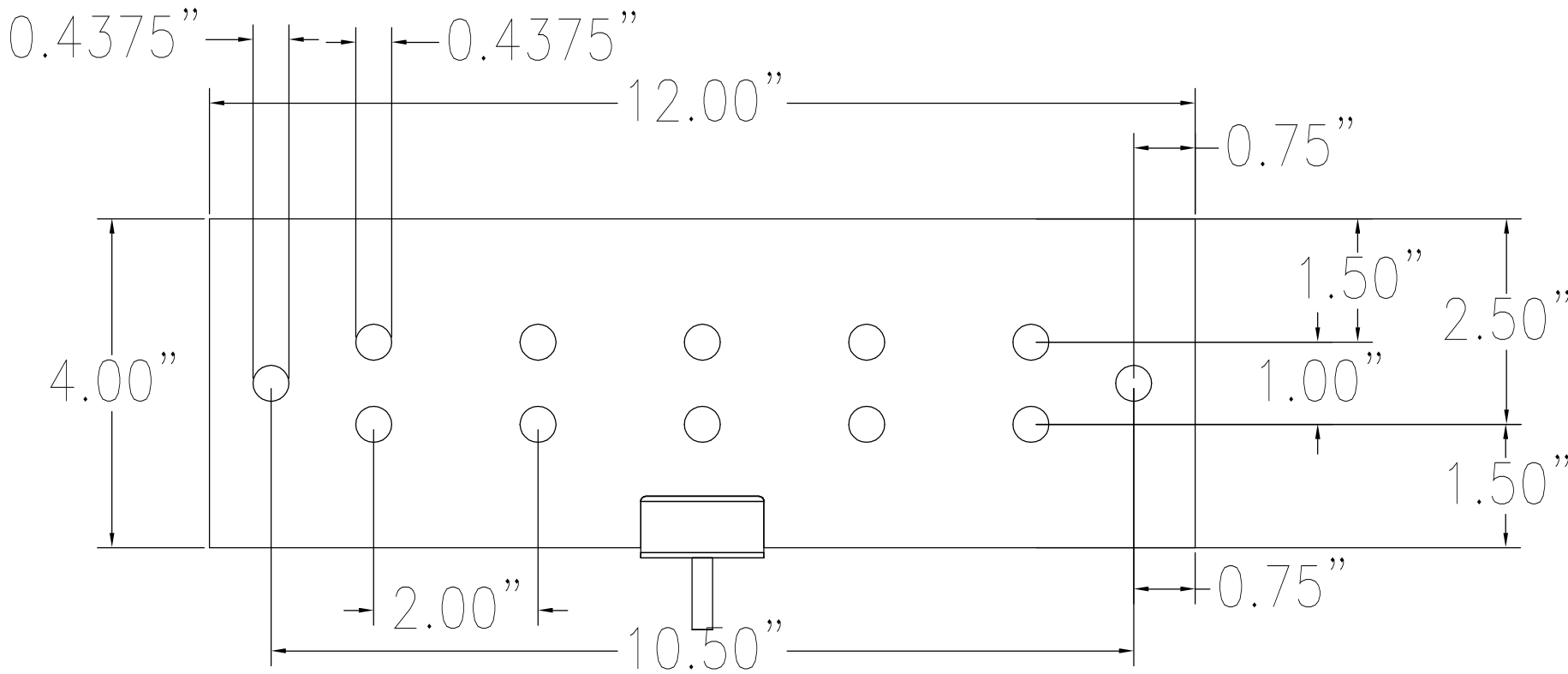
1. TRIAD GROUND. PROVIDE (3) 10"X5/8" GROUND RODS 10' APART. CONNECT WITH #4/0 COPPER CONDUCTOR TO INTERNAL GROUND BAR. VERIFY LOCATION WITH OWNER'S REPRESENTATIVE PRIOR TO ROUGH-IN.
2. STORM COPPER COMPONENTS SCGB-7 4"X16" GROUND BAR WITH STANDOFFS. VERIFY LOCATION WITH OWNER'S REPRESENTATIVE PRIOR TO ROUGH-IN. TIE GROUND BARS TOGETHER WITH #4/0 COPPER AND TIE TO BUILDING GROUNDS.



⑤ Grounding Box Isometric View
3/4" = 1'-0"



③ Grounding Box Dimensioned
3" = 1'-0"



① Ground Bar Dimensioned
6" = 1'-0"

BIM 360/18810 PCA Richland WA Box Plant18810 PCA Richland E-V13.rvt
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1 Overall Grounding Layout
 1" = 30'-0"



GROUNDING GENERAL NOTES

1. PROVIDE A CONTINUOUS, BONDED 4/0 GROUNDING LOOP AROUND ENTIRE BUILDING AND EXTEND TO STARCH TANK. PROVIDE 4/0 GROUND ACROSS BUILDING AT GRID LINES C & H BONDING TO COLUMNS EVERY 100'. EXTEND 4/0 GROUND TO BUILDING SERVICES SWITCHBOARD (BSSB2).
2. PROVIDE GROUND BAR AT BSSB1 AND BSSB2. EXTEND 4/0 GROUND FROM BUS BAR AT BSSB1 UNDER FLOOR TO EACH 4000A MSB CABINETS AT EACH END OF SWITCHBOARD LINEUP.
3. PROVIDE 4/0 UNDER FLOOR GROUND FROM BUS BAR AT BSSB1 TO MCC SECTION IN ELECTRIC ROOM.
4. TIE UNDERGROUND 4/0 GROUND LOOP TO EXTERNAL TRIAD GROUND.
5. TIE UNDERGROUND 4/0 GROUND LOOP TO CONCRETE ENCASED GROUND IN FOUNDATION.
6. TIE UNDERGROUND 4/0 GROUND LOOP TO METAL WATER LINES AT CLOSEST LOCATION.
7. PROVIDE UNDERGROUND 4/0 GROUND FROM GROUND LOOP TO GROUND BAR IN IT ROOM 205.



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FEB 20, 2020



NO	DATE	REVISION

PACKAGING CORPORATION OF AMERICA

3003 KINGSGATE WAY
 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

GROUNDING OVERALL
 LAYOUT PLAN

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