




Public Works and
Government Services
Canada

Travaux publics et
Services gouvernementaux
Canada

REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest



SNC-LAVALIN
Buildings & Facilities - Western Canada
640 - 5th Avenue SW, Suite 300
Calgary | Alberta | Canada | T2P 3G4
Tel.: 403 970-7300

PERMIT TO PRACTICE
SNC-LAVALIN INC. ENGINEERING, DESIGN
AND PROJECT MANAGEMENT
RM SIGNATURE: 
RM APEGA ID #: 77406
DATE: 2021-03-11
PERMIT NUMBER: P009643
The Association of Professional Engineers and
Geoscientists of Alberta (APEGA)



PROFESSIONAL ENGINEER ALBERTA
HYUNSO RYAN RM
2021/03/10

5		
4		
3		
2		
1		
0	ISSUED FOR TENDER	2021/03/10
Revision	Description	Date
Client		Client
<div>Public Services and Procurement Canada</div>		
Project	<div>Bowden Institution Bowden, Alberta</div>	
<div>CSC BOWDEN CORCAN A28 AHU REPLACEMENT</div>		
Designed by	CSCA par	
RK		
Drawn by	Dessiné par	
RK		
Approved by	approuvé par	
RL		
PWSSC Project Manager	administrateur de Projets TPSC	
YB		
Drawing title	Titre du dessin	
<div>ELECTRICAL POWER PLAN DEMOLITION</div>		
Project no./Nbr. du projet	Drawing no./Nbr. du dessin	Revision no.
664341	<div>E1</div> <div>OF 3</div>	0

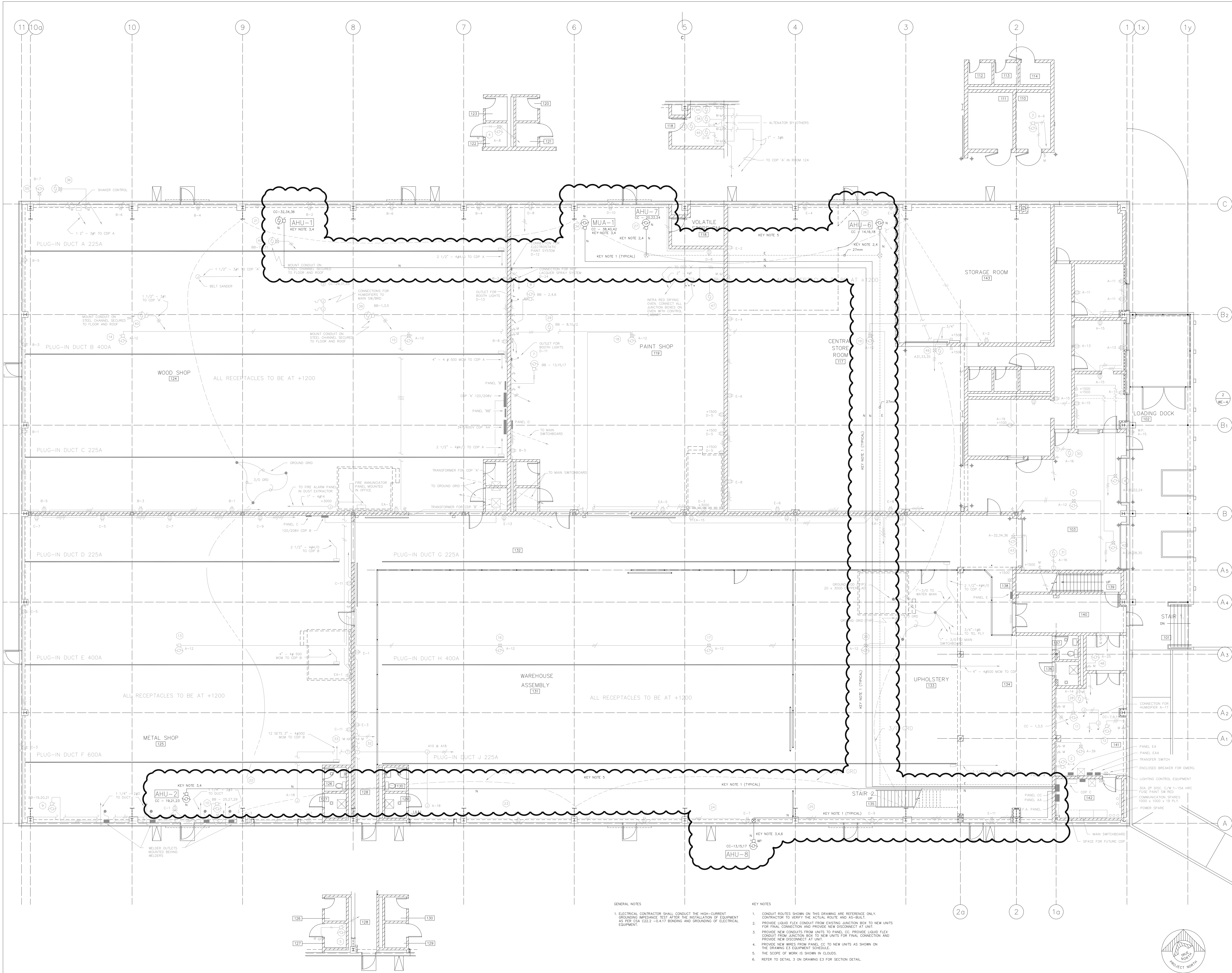
ELECTRICAL POWER PLAN
DEMOLITION

664341

E1
OF 3

0

SCALE 1:100 METRIC



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0	ISSUED FOR TENDER	2021/03/10
Revision	Description	Date

Public Services and
Procurement Canada

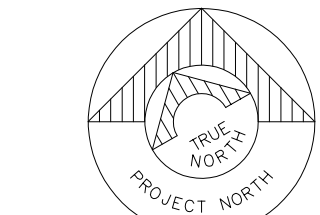
Project Bowden Institution
Bowden, Alberta

**CSC BOWDEN
CORCAN A28
AHU REPLACEMENT**

Designed by RK	Concep. par
Drawn by RK	Designé par
Reviewed by RL	Approuvé par
PWSG: Project Manager YB	Administrateur de Projets TPSG
Drawing title	Titre du dessin

**ELECTRICAL POWER PLAN
RENOVATION**

Project no./Nbr. du projet	Drawing no./Nbr. du dessin	Revision no.
664341	E2 OF 3	0



SCALE 1:100 METRIC

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0	ISSUED FOR TENDER	2021/03/10
Revision	Description	Date
Client		client

Public Services and
Procurement Canada

Project	Bowden Institution Bowden, Alberta	Projet
Designed by	RK	Conçu par
Drawn by	RK	Dessiné par
Approved by	RL	Approuvé par
PWSSC Project Manager	Administrateur de Projets TPSSC	
YB		
Drawing title		Titre du dessin

ELECTRICAL DETAILS
AND SCHEDULES

Project no./Nbr. du projet	Drawing no./Nbr. du dessin	Revision no.
664341	E3 OF 3	0

PANEL – CC													
MAIN BUS: 225A AMPS 600/347 VOLTS 3 PHASE 4 WIRE													
LOAD SERVED: PANEL LOCATION: ELECTRICAL ROOM													
CIR. NO. NO. P.C.	TRIP AMPS		CONNECTED KVA	ØA	ØB	ØC	CONNECTED KVA	ØA	ØB	ØC		TRIP AMPS	CIR. NO. NO. P.C.
1	40		–	–	–	–		–	–	–	AIR SYSTEM AS-4	15	2
3		FURNACE HF-1	–	–	–	–		–	–	–		3	4
5	3		–	–	–	–		–	–	–		3	6
7	15		–	–	–	–		–	–	–	AIR SYSTEM AS-5	15	8
9		FURNACE HF-2	–	–	–	–		–	–	–		3	10
11	3		–	–	–	–		–	–	–		3	12
13	40		–	–	–	–		–	–	–		15	14
15		AIR SYSTEM AS-1	–	–	–	–		–	–	–	AIR SYSTEM AS-6	3	16
17	3		–	–	–	–		–	–	–		3	18
19	40		–	–	–	–		–	–	–		20	20
21		AIR SYSTEM AS-2	–	–	–	–		–	–	–	AIR SYSTEM AS-7	3	22
23	3		–	–	–	–		–	–	–		3	24
25	15		–	–	–	–		–	–	–		40	26
27		AIR SYSTEM AS-3	–	–	–	–		–	–	–	MAKE UP AIR UNIT	3	28
29	3		–	–	–	–		–	–	–		3	30
31	15		–	–	–	–		–	–	–		–	32
33		SPARE	–	–	–	–		–	–	–		–	34
35	3		–	–	–	–		–	–	–		–	36
37			–	–	–	–		–	–	–		–	38
39			–	–	–	–		–	–	–		–	40
41			–	–	–	–		–	–	–		–	42

1

E3

ELECTRICAL PANEL SCHEDULE - DEMO

SCALE: N.T.S.

- NOTES:
- REPLACE EXISTING BREAKER WITH NEW BREAKER AS SHOWN ON DETAIL 2 ELECTRICAL PANEL SCHEDULE – RENO.
 - RELOCATE FEEDER AS SHOWN ON DETAIL 2 ELECTRICAL PANEL SCHEDULE – RENO.
 - PROVIDE NEW BREAKER AS SHOWN ON DETAIL 2 ELECTRICAL PANEL SCHEDULE – RENO.

PANEL – CC													
MAIN BUS: 225A AMPS 600/347 VOLTS 3 PHASE 4 WIRE													
LOAD SERVED: PANEL LOCATION: ELECTRICAL ROOM													
CIR. NO. NO. P.C.	TRIP AMPS		CONNECTED KVA	ØA	ØB	ØC	CONNECTED KVA	ØA	ØB	ØC		TRIP AMPS	CIR. NO. NO. P.C.
1	40		–	–	–	–		–	–	–	SPARE	15	2
3		FURNACE HF-1	–	–	–	–		–	–	–		3	4
5	3		–	–	–	–		–	–	–		3	6
7	15		–	–	–	–		–	–	–	SPARE	15	8
9		FURNACE HF-2	–	–	–	–		–	–	–		3	10
11	3		–	–	–	–		–	–	–		3	12
13	40		6.3	–	–	–	3.4	–	–	–		20	14
15		AIR SYSTEM AHU-8	6.3	–	–	–	3.4	–	–	–	AIR SYSTEM AHU-6	3	16
17	3		–	6.3	–	–	3.4	–	–	–		3	18
19	20		3.4	–	–	–	3.4	–	–	–		20	20
21		AIR SYSTEM AHU-2	3.4	–	–	–	3.4	–	–	–	AIR SYSTEM AHU-7	3	22
23	3		–	3.4	–	–	3.4	–	–	–		3	24
25	15		–	–	–	–	–	–	–	–	SPARE	40	26
27		SPARE	–	–	–	–	–	–	–	–		28	
29	3		–	–	–	–	–	–	–	–		3	30
31	15		–	–	–	–	4.2	–	–	–		25	32
33		SPARE	–	–	–	–	4.2	–	–	–	AIR SYSTEM AHU-1	3	34
35	3		–	–	–	–	4.2	–	–	–		3	36
37			–	–	–	–	5.7	–	–	–		30	38
39			–	–	–	–	5.7	–	–	–	MAKE UP AIR UNIT MUA-1	40	40
41			–	–	–	–	5.7	–	–	–		3	42












TOTAL CONNECTED LOAD : 79KVA(NEW AHU'S) + 30KVA(EXISTING FURNACE LOAD)=109KVA
EXISTING FURNACE LOAD : 30KVA ASSUMED BASED ON BREAKER SIZE.
PHASE LOAD : A–36KVA, B–36KVA, C–36KVA

2

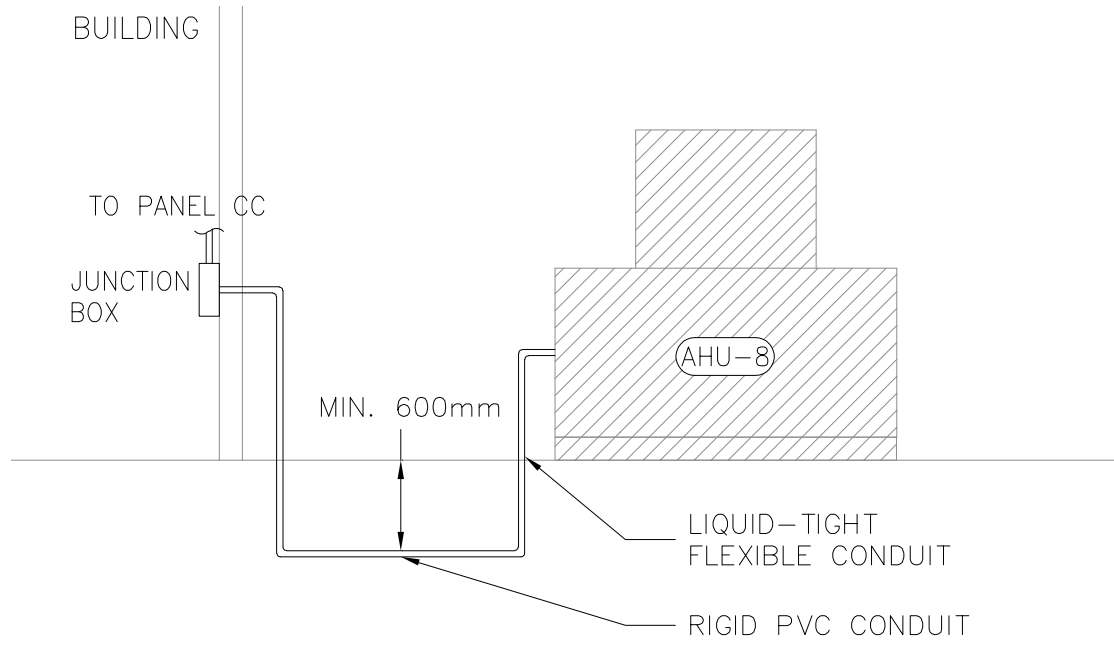
E3

ELECTRICAL PANEL SCHEDULE - RENO

SCALE: N.T.S.

SWITCH/MOTOR LEGEND	
	FUSIBLE SAFETY DISCONNECT SWITCH
	NON-FUSIBLE SAFETY DISCONNECT SWITCH
	MAGNETIC STARTER
	COMBINATION MAGNETIC STARTER
	MOTOR
	CEILING MOUNTED JUNCTION BOX
	WALL MOUNTED JUNCTION BOX
	EXISTING DEVICE TO REMAIN
	NEW DEVICE
	REMOVE EXISTING DEVICE
	WEATHER PROOF

EQUIPMENT SCHEDULE						
EQUIP NO	DESCRIPTION LOCATION	LOAD	VOLTS	PHASE	FEED PROTECTION CIRCUIT	COMMENTS/CONTROLS
MUA-1	MAKE-UP AIR UNIT –PAINT SHOP INDOOR SUSPENDED	17.2 KVA	600	3P	3#10+ #12GND,RW90,CU-21mmC 30A CC-38,40,42	PROVIDE NEW 3PH 30A DISCONNECT AT UNIT
AHU-1	AIR HANDLING UNIT –WOOD SHOP INDOOR SUSPENDED	12.5 KVA	600	3P	3#12+ #12GND,RW90,CU-21mmC 25A CC-32,34,36	PROVIDE NEW 3PH 30A DISCONNECT AT UNIT
AHU-2	AIR HANDLING UNIT –METAL SHOP INDOOR SUSPENDED	10.1 KVA	600	3P	3#12+ #12GND,RW90,CU-21mmC 20A CC-19,21,23	PROVIDE NEW 3PH 30A DISCONNECT AT UNIT
AHU-6	AIR HANDLING UNIT –CENTRAL STORES INDOOR SUSPENDED	10.1 KVA	600	3P	3#12+ #12GND,RW90,CU-21mmC 20A CC-14,16,18	PROVIDE NEW 3PH 30A DISCONNECT AT UNIT. REUSE EXISTING CONDUIT AS SHOWN ON DRAWING E2
AHU-7	AIR HANDLING UNIT –PAINT SHOP INDOOR SUSPENDED	10.1 KVA	600	3P	3#12+ #12GND,RW90,CU-21mmC 20A CC-20,22,24	PROVIDE NEW 3PH 30A DISCONNECT AT UNIT. REUSE EXISTING CONDUIT AS SHOWN ON DRAWING E2
AHU-8	AIR HANDLING UNIT –COMBINED UNIT EXTERIOR AT GRADE	19.0 KVA	600	3P	3#10+ #12GND,RW90,CU-21mmC 40A CC-13,15,17	PROVIDE NEW WEATHER PROOF 3PH 30A DISCONNECT AT UNIT



3

E3

AHU-8 SECTION DETAIL

SCALE: N.T.S.