

KEY NOTES

- FUTURE LOAD
- REFER TO MECHANICAL EQUIPMENT SCHEDULE FOR EQUIPMENT WIRING TYPES AND REQUIREMENTS.
- FIXED AIR CIRCUIT BREAKER
- COORDINATE BREAKER SIZE WITH SURGE PROTECTION DEVICE
- RELOCATED FROM UPPER LEVEL.
- NEW TRANSFORMER: PERFORMANCE SPECIFICATION TO MATCH EXISTING
- ARENA NORTH WALL EXHAUST FANS. VERIFY QUANTITY AND LOCATIONS.
- PROVIDE EXTERIOR GUTTER FOR FUTURE PROVISION OF INSTALLATION OF MONITORING CTS.

TRANSFORMER CALCULATION

TRX-UTIL	592182 VA
TOTAL DEMAND VOLT AMPERES SIZE FOR 65% OF ESTIMATED DEMAND LOAD EXISTING TRANSFORMER	546064 VA 354941 VA

ELECTRICAL LOAD ESTIMATE

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND LOAD
Power	0 VA	0.00%	0 VA
RCPT	9660 VA	100.00%	9660 VA
LITES	25282 VA	100.00%	25282 VA
MTR	486535 VA	92.90%	451974 VA
SPEC	45251 VA	80.52%	36438 VA
HEAT	22089 VA	86.32%	19067 VA
PKG-RCPT	6240 VA	100.00%	6240 VA

TOTAL VOLT AMPERES	591994 VA	546064 VA
CALCULATED AMPERES	570 A	525 A

DEMAND FACTOR DETERMINATION:
GENERAL LIGHTING (LITES): 100% OF CONNECTED LOADS.
RECEPTACLES (RCPT): FIRST 10 kVA AT 100%, REMAINDER AT 50%.
COMPUTER LOADS (COMP): INCLUDED WITH RECEPTACLES.
MOTOR LOADS (MTR): LARGEST MOTOR AT 125%, REMAINDER AT 75%.
KITCHEN (KITCH): 1st & 2nd-100%, 3rd-90%, 4th-80%, 5th-70%, REMAINDER 65%.
HEATING OR AIR COND (HEAT OR AC): LARGEST TOTAL OF HEAT OR AC.
SPECIFIC LOADS (SPEC): LARGEST AT 100%, REMAINDER AT 100%.
WELDERS (WELD): 1st & 2nd-100%, 3rd-85%, 4th-70%, REMAINDER 60%.

CONDUIT AND WIRE SCHEDULE - ALUMINUM

FEEDER NAME (# DENOTES NO. OF CONDUCTORS)	WIRE SIZE PHASE & NEUTRAL	BOND (AS REQ'D)	MIN. CONDUIT SIZE (MM)					CIRCUIT AMPACITY (A)
			2C	3C	4C	208V	600V	
60-#A	#4	#8	27	35	35	23	68	65
70-#A	#3	#6	27	35	35	25	73	75
90-#A	#2	#6	27	35	35	24	70	90
100-#A	#1	#6	35	41	41	27	78	100
125-#A	2/0	#6	41	53	53	31	90	135
150-#A	3/0	#4	41	53	53	31	90	155
175-#A	4/0	#4	53	53	63	32	94	180
200-#A	250 MCM	#4	53	63	78	31	91	205
250-#A	350 MCM	#3	63	78	78	31	91	250
300-#A	500 MCM	#3	78	78	91	32	94	310
400-#A	(2) 250 MCM	(2) #4	(2) 53	(2) 53	(2) 63	31	91	410
450-#A	(2) 300 MCM	(2) #4	(2) 53	(2) 63	(2) 78	32	92	460
500-#A	(2) 350 MCM	(2) #3	(2) 63	(2) 78	(2) 78	31	91	500
600-#A	(2) 500 MCM	(2) #3	(2) 78	(2) 78	(2) 91	32	94	620
700-#A	(2) 600 MCM	(2) #2	(2) 78	(2) 91	(2) 103	30	88	680
800-#A	(3) 500 MCM	(3) #3	(2) 78	(2) 78	(3) 91	36	106	930
1000-#A	(3) 600 MCM	(3) #2	(3) 78	(3) 91	(3) 103	32	93	1020
1200-#A	(4) 600 MCM	(4) #2	(4) 78	(4) 91	(4) 103	35	103	1360
1600-#A	(5) 600 MCM	(5) #2	(5) 78	(5) 91	(5) 103	33	96	1700
2000-#A	(6) 600 MCM	(6) #2	(6) 78	(6) 91	(6) 103	32	93	2040

CONDUIT AND WIRE SCHEDULE - COPPER

FEEDER NAME (# DENOTES NO. OF CONDUCTORS)	WIRE SIZE PHASE & NEUTRAL	BOND (AS REQ'D)	MIN. CONDUIT SIZE (MM)					CIRCUIT AMPACITY (A)
			2C	3C	4C	208V	600V	
20-#	#12	#14	21	21	21	19	55	20
30-#	#10	#12	21	21	21	21	61	30
50-#	#8	#10	21	21	21	19	55	50
60-#	#6	#8	21	27	27	24	70	65
70-#	#4	#8	27	27	35	31	91	85
80-#	#4	#8	27	27	35	27	80	85
90-#	#3	#6	27	35	35	29	86	100
100-#	#3	#6	27	35	35	26	77	100
115-#	#2	#6	27	35	35	28	81	115
125-#	#1	#6	35	35	41	31	90	130
150-#	1/0	#6	41	41	53	32	94	150
175-#	2/0	#6	41	41	53	32	93	175
200-#	3/0	#4	53	53	53	33	97	200
225-#	4/0	#4	53	53	63	34	100	230
250-#	250 MCM	#4	53	53	63	34	98	255
300-#	350 MCM	#3	63	63	78	34	99	310
400-#	600 MCM	#3	78	78	91	34	99	420
450-#	(2) 4/0	(2) #4	(2) 53	(2) 53	(2) 63	34	100	460
500-#	(2) 250 MCM	(2) #4	(2) 53	(2) 53	(2) 63	34	98	510
600-#	(2) 350 MCM	(2) #3	(2) 63	(2) 63	(2) 78	34	99	620
700-#	(2) 500 MCM	(2) #3	(2) 63	(2) 78	(2) 91	34	100	760
800-#	(2) 600 MCM	(2) #2	(2) 78	(2) 78	(2) 91	32	94	840
1000-#	(3) 500 MCM	(3) #3	(3) 63	(3) 78	(3) 91	36	105	1140
1200-#	(3) 600 MCM	(3) #2	(3) 78	(3) 78	(3) 91	32	94	1260
1600-#	(4) 600 MCM	(4) #2	(4) 78	(4) 78	(4) 91	32	94	1680
2000-#	(5) 600 MCM	(5) #2	(5) 78	(5) 78	(5) 91	32	94	2100
2500-#	(6) 600 MCM	(6) #2	(6) 78	(6) 78	(6) 91	31	94	2520

EQ EQUIPMENT FEEDER - REFER TO ELECTRICAL EQUIPMENT SCHEDULE

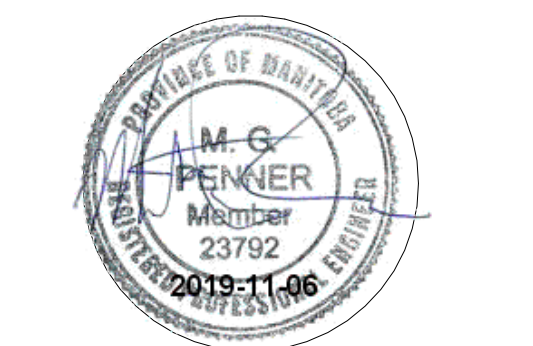
FEEDER DESIGNATION	CONDUCTOR MATERIAL:
200-4A	(BLANK) - COPPER
	(A) - ALUMINUM
	CONDUCTOR QUANTITY:
	(2) - 10 2W
	(3) - 10 3W OR 30 3W
	(4) - 30, 4W
	CONDUCTOR AMPACITY:
	(SEE FEEDER SCHEDULE)

GENERAL NOTES:

- THE ABOVE FEEDER SCHEDULE IS A SCHEDULE OF TYPICAL FEEDERS AND SOME SIZES MAY NOT BE UTILIZED.
- ALL CONDUCTOR AMPACITIES ARE BASED ON TABLE 2 OF THE CEC FOR COPPER CONDUCTOR TYPE RW90.
- FEEDER SIZES SHOWN ON THE RISER DIAGRAM INDICATE FEEDER AMPACITIES AND DO NOT NECESSARILY CORRESPOND TO CIRCUIT BREAKER AMPACITIES. CERTAIN FEEDERS MAY BE SIZED FOR THE DERATION FACTORS REQUIRED BY CODE AND/OR ARE OVSIZED FOR VOLTAGE DROP.
- WHERE MULTIPLE CONDUITS AND CONDUCTORS ARE INDICATED FOR A SINGLE FEEDER, EACH CONDUIT SHALL CONTAIN 1 PARALLEL PHASE, NEUTRAL, AND GROUND CONDUCTORS INDICATED.
- CONDUIT ABOVE GRADE INDOORS SHALL BE EMT. CONDUIT ABOVE GRADE OUTDOORS SHALL BE GALVANIZED IMC OR RMC. CONDUIT BELOW GRADE SHALL BE PVC WITH GALVANIZED RMC ELBOWS. CONDUIT SIZE INDICATED IS MINIMUM SIZE REGARDLESS OF CONDUIT TYPE.



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Project
ST. JAMES CIVIC CENTRE

Drawing
ELECTRICAL SINGLE LINE DIAGRAM - RENO 1 OF 2

Drawn By: JA
Scale: NTS
Date: 11/06/19
Sheet: E5.2

Review By: MP
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