

Electrical Design Summary

Project description/name and address: _____

General information:

1. This document **must** be completed and attached to the application submission. When necessary, additional analyses shall be provided and included with the submission.
2. All code references refer to the Manitoba Electrical Code (MEC), including Canadian Electrical Code, unless indicated otherwise.
3. Indicate all items that are not applicable.

1. General																
a. Wiring methods suitable for non-combustible construction are required	<input type="checkbox"/> Yes <input type="checkbox"/> No															
b. Electrical specification provided	<input type="checkbox"/> on drawings <input type="checkbox"/> in specifications book															
c. Sprinklered	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Partially sprinklered specify location(s) _____															
d. Consumer's Service	A: _____ V: _____ phase: _____ wire: _____															
e. Service conductor routing:	<input type="checkbox"/> O/H <input type="checkbox"/> U/G <input type="checkbox"/> thru wall <input type="checkbox"/> other (describe routing details): _____															
f. Ground fault protection required	<input type="checkbox"/> Yes <input type="checkbox"/> No															
g. Single line diagram provided	<input type="checkbox"/> Yes															
h. U/G cable ampacities	diagram: _____ detail: _____ table: _____															
i. Service grounding conductor size and type (specify):	_____															
j. Grounding electrode:	<input type="checkbox"/> metallic water pipe or <input type="checkbox"/> artificial															
k. Grounding detail provided	<input type="checkbox"/> Yes <input type="checkbox"/> Existing															
l. IC ratings:	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">Service entry</td> <td style="border-bottom: 1px solid black; width: 30%;"></td> <td style="text-align: right; width: 10%;">kA</td> </tr> <tr> <td>600V CDP</td> <td style="border-bottom: 1px solid black;"></td> <td style="text-align: right;">kA</td> </tr> <tr> <td>600V panel</td> <td style="border-bottom: 1px solid black;"></td> <td style="text-align: right;">kA</td> </tr> <tr> <td>208V CDP</td> <td style="border-bottom: 1px solid black;"></td> <td style="text-align: right;">kA</td> </tr> <tr> <td>208V panel</td> <td style="border-bottom: 1px solid black;"></td> <td style="text-align: right;">kA</td> </tr> </table>	Service entry		kA	600V CDP		kA	600V panel		kA	208V CDP		kA	208V panel		kA
Service entry		kA														
600V CDP		kA														
600V panel		kA														
208V CDP		kA														
208V panel		kA														
m. Dielectric filled transformer clearance (utility or customer-owned)	<p>Outdoor location <input type="checkbox"/> ≥3m or <input type="checkbox"/> transformer as per 26-242(2) if <3m</p> <p>Indoor location as per 26-010, req'd to be in a vault compliant w/ MBC 3.6.2.7 <input type="checkbox"/> Yes <input type="checkbox"/> N/A</p>															
n. Working space requirements	<input type="checkbox"/> 2-308 (1m) and/or <input type="checkbox"/> 2-310 (1.5m)															
o. Panel locations shown	<input type="checkbox"/> Yes															

p. Exits from electrical rooms as per 2-310	<input type="checkbox"/> Yes	<input type="checkbox"/> N/A
q. Sprinkler shielding provided	<input type="checkbox"/> Yes	<input type="checkbox"/> N/A (only in unsprinklered areas)
r. Flood hazard zone details _____	or	<input type="checkbox"/> N/A
s. Landfill requirement details _____	or	<input type="checkbox"/> N/A
t. Wiring and equipment in plenums meet MBC 3.1.5.21, 3.1.5.23 & 3.6.4.3 requirements	<input type="checkbox"/> Yes	<input type="checkbox"/> N/A
2. Exit signage (see MBC Subsection 3.4.5)	Check if not applicable <input type="checkbox"/>	
a. Exit sign locations shown	<input type="checkbox"/> Yes	
b. Dedicated exit sign cct. or exit sign/emergency lighting cct.	<input type="checkbox"/> Yes	
c. Type of signs provided	<input type="checkbox"/> red EXIT (to match existing)	or <input type="checkbox"/> green pictogram
d. Power supply	<input type="checkbox"/> hard-wired <input type="checkbox"/> photoluminescent (checklist attached) <input type="checkbox"/> other (specify) _____	
3. Emergency lighting (see MBC Subsection 3.2.7)	Check if not applicable <input type="checkbox"/>	
a. Emergency lighting locations shown	<input type="checkbox"/> Yes	
b. Emergency power supply	<input type="checkbox"/> battery	or <input type="checkbox"/> generator
c. Emergency power duration	<input type="checkbox"/> ½ hour	<input type="checkbox"/> 1 hour <input type="checkbox"/> 2 hours
d. MEC compliance	<input type="checkbox"/> 46-106	and <input type="checkbox"/> 46-304(4) – for unit equipment only
4. Fire alarm system (see MBC Subsection 3.2.4)	Check if not applicable <input type="checkbox"/>	
a. Fire alarm system required	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Voluntary
b. Fire alarm system:	<input type="checkbox"/> Existing	<input type="checkbox"/> New
c. Fire alarm system specifications provided	<input type="checkbox"/> Yes	
d. Fire alarm riser diagram relevant to this project provided	<input type="checkbox"/> Yes	<input type="checkbox"/> N/A
e. Zone schedule provided	<input type="checkbox"/> Yes	<input type="checkbox"/> N/A
f. Type of fire alarm:	<input type="checkbox"/> 1 stage or <input type="checkbox"/> 2 stage and <input type="checkbox"/> addressable or <input type="checkbox"/> conventional	
g. Fire alarm annunciator location(s) shown	<input type="checkbox"/> Yes	
h. Manual pull stations shown	<input type="checkbox"/> Yes	
i. Fire detectors shown	<input type="checkbox"/> Yes	<input type="checkbox"/> N/A
j. Sprinkler system supervision provided	<input type="checkbox"/> Yes	<input type="checkbox"/> N/A
k. Standpipe supervision provided	<input type="checkbox"/> Yes	<input type="checkbox"/> N/A
l. Latching supervisory zones provided	<input type="checkbox"/> Yes	<input type="checkbox"/> N/A
m. Elevator emergency return/alternate floor recall provided	<input type="checkbox"/> Yes	<input type="checkbox"/> N/A

n. Smoke detector(s) provided for air-handler shutdown	<input type="checkbox"/> Yes	<input type="checkbox"/> N/A
o. Central vacuum shutdown required/provided	<input type="checkbox"/> Yes	<input type="checkbox"/> N/A
p. Cooking exhaust hood extinguisher connection to FA system provided	<input type="checkbox"/> Yes	<input type="checkbox"/> N/A
q. Audible signal devices provided/shown	<input type="checkbox"/> Yes	
r. Visual signal devices provided/shown	<input type="checkbox"/> Yes	<input type="checkbox"/> N/A
s. Central reporting required	<input type="checkbox"/> Yes	<input type="checkbox"/> N/A
t. Emergency power supply <input type="checkbox"/> battery or <input type="checkbox"/> generator		
u. Lock-on breaker painted red and c/w red lamicaid label	<input type="checkbox"/> Yes	
5. Carbon monoxide alarms (see MBC 6.9.3.1 and 6.9.3.2)		
Not applicable (i.e.: the building does not contain a fuel-burning appliance, storage garage or other sources of carbon monoxide)		<input type="checkbox"/> (check)
a. CO alarms required/provided <input type="checkbox"/> Yes, to meet MBC 6.9.3.1 or <input type="checkbox"/> Yes, to meet MBC 6.9.3.2		
b. CO alarm locations required in item a. have been coordinated with the mechanical engineer		<input type="checkbox"/> Yes
c. CO alarms shown on: <input type="checkbox"/> electrical drawings <input type="checkbox"/> mechanical drawings		
6. Smoke or Combination Smoke/Fire dampers (see MBC 3.1.8.7. and 3.1.8.11.)		
a. Smoke or combination smoke/fire dampers	<input type="checkbox"/> Yes	<input type="checkbox"/> N/A
b. Locations required in item (a.) have been coordinated with the mechanical engineer	<input type="checkbox"/> Yes	
c. Smoke or combination smoke/fire dampers shown on: <input type="checkbox"/> electrical drawings <input type="checkbox"/> mechanical drawings		
d. Smoke detector required/provided	<input type="checkbox"/> Yes	<input type="checkbox"/> N/A
e. Smoke detector connected to fire alarm	<input type="checkbox"/> Yes	<input type="checkbox"/> N/A
7. Door hardware/control (or other closure) Check if not applicable <input type="checkbox"/>		
a. Door holders provided and indicated on drawings	<input type="checkbox"/> Yes	<input type="checkbox"/> N/A
Door holder FA release provided	<input type="checkbox"/> Yes	<input type="checkbox"/> N/A
Smoke detection for door holders located per CAN/ULC-S524	<input type="checkbox"/> Yes	<input type="checkbox"/> N/A
b. Electromagnetic door locks provided and indicated on drawings	<input type="checkbox"/> Yes	<input type="checkbox"/> N/A
Completed electromagnetic locks checklist attached	<input type="checkbox"/> Yes	<input type="checkbox"/> N/A
8. Emergency generator Check if not applicable <input type="checkbox"/>		
a. Emergency generator location shown	<input type="checkbox"/> Yes	
b. Compliance with MBC 3.6.2.8.(1)	<input type="checkbox"/> Yes	<input type="checkbox"/> N/A
c. Compliance with <input type="checkbox"/> CAN/CSA C-282 <input type="checkbox"/> CSA Z32		
d. Generator trouble supervision	<input type="checkbox"/> Local	<input type="checkbox"/> Remote

e. Emergency lighting c/w TVSS provided in generator room	<input type="checkbox"/> Yes	<input type="checkbox"/> N/A
f. Emergency lighting c/w TVSS provided in transfer switch room	<input type="checkbox"/> Yes	<input type="checkbox"/> N/A
g. Dedicated ULC transfer switches for life safety and non-life safety loads	<input type="checkbox"/> Yes	<input type="checkbox"/> N/A
h. Isolation & manual by-pass provided for Groups B & C occupancies per CSA C282	<input type="checkbox"/> Yes	<input type="checkbox"/> N/A
9. Fire pump	Check if not applicable <input type="checkbox"/>	
a. Shown on single line diagram	<input type="checkbox"/> Yes	
b. Required emergency generator power provided	<input type="checkbox"/> Yes	
c. Remote trouble supervision provided	<input type="checkbox"/> Yes	
d. Fire alarm supervision provided	<input type="checkbox"/> Yes	
e. Dedicated transfer switch approved for fire pump service as per 32-308	<input type="checkbox"/> Yes	
f. Overcurrent protection for normal and emergency sources provided as per 32-306	<input type="checkbox"/> Yes	
10. Other electrical design considerations		
a. High buildings requirements (MBC Subsection 3.2.6)	<input type="checkbox"/> Yes	<input type="checkbox"/> N/A
b. Hazardous locations (MEC Sections 18 and 20)	<input type="checkbox"/> Yes	<input type="checkbox"/> N/A
If yes, locations/classifications indicated on drawings	<input type="checkbox"/> (check)	
c. Patient care areas (MEC Section 24)	<input type="checkbox"/> Yes	<input type="checkbox"/> N/A
If yes, locations/classifications:	<input type="checkbox"/> indicated on drawings or <input type="checkbox"/> provided by facility administrator	
d. Wet and/or corrosive environments (MEC Section 22)	<input type="checkbox"/> Yes	<input type="checkbox"/> N/A
If yes, locations indicated on drawings	<input type="checkbox"/> (check)	
e. Solar PV installation (MEC Section 64)	<input type="checkbox"/> Yes	<input type="checkbox"/> N/A
f. Non-life-safety generator	<input type="checkbox"/> Yes	<input type="checkbox"/> N/A
If yes, location indicated on drawings and on single line diagram	<input type="checkbox"/> (check)	
11. Barrier-free requirements	Check if not applicable <input type="checkbox"/>	
a. Fire-resistance for elevator conductors required/provided – MBC 3.3.1.7.(1)(a)	<input type="checkbox"/> Yes	<input type="checkbox"/> N/A
b. Assistive listening system required/provided – MBC 3.8.3.19.	<input type="checkbox"/> Yes	<input type="checkbox"/> N/A
12. Residential units	Check if not applicable <input type="checkbox"/>	
a. Smoke alarms – locations / circuiting / interconnection	<input type="checkbox"/> Yes	
b. Carbon monoxide alarms – locations / circuiting	<input type="checkbox"/> Yes	<input type="checkbox"/> N/A
c. Heat detector provided / shown per MBC 3.2.4.10.(2)(g)	<input type="checkbox"/> Yes	<input type="checkbox"/> N/A

- | | |
|---|---|
| d. Fire alarm audible device(s) provided / shown | <input type="checkbox"/> Yes |
| Isolated from other suites per MBC 3.2.4.18.(9) | <input type="checkbox"/> Yes |
| On a separate signal circuit from devices in public areas per MBC 3.2.4.18.(10) | <input type="checkbox"/> Yes |
| e. Fire alarm visual devices provided / shown | <input type="checkbox"/> Yes |
| f. GFCI protection for receptacles provided per MEC Section 26 | <input type="checkbox"/> Yes |
| g. Switches/communication outlets in bathrooms not < 1m from tubs / showers | <input type="checkbox"/> Yes |
| h. Mandatory circuits provided as per MEC Section 26 | <input type="checkbox"/> Yes |
| i. Electric heat control in each area | <input type="checkbox"/> Yes <input type="checkbox"/> N/A |

12a. Additional requirements for dwelling units

- | | |
|--|------------------------------|
| a. Dwelling unit panel locations shown | <input type="checkbox"/> Yes |
| b. Kitchen receptacles and circuits as per MEC Section 26 | <input type="checkbox"/> Yes |
| c. Lighting / switched outlets provided / shown in each room | <input type="checkbox"/> Yes |
| d. AFCI protection provided | <input type="checkbox"/> Yes |

13. Electrical systems installed under separate permit Check if not applicable

- a. _____
- b. _____
- c. _____

14. Integration of fire protection and life safety systems (CAN/ULC-S1001)

Standard for Integrated Systems Testing of Fire Protection and Life Safety Systems

- | | | |
|---|------------------------------|------------------------------|
| a. Building subject to CAN/ULC-S1001 standard (3.2.9.1) | <input type="checkbox"/> Yes | <input type="checkbox"/> N/A |
|---|------------------------------|------------------------------|

Affix seal with signature and date