1.0 GENERAL

1.1 Related UBC Guidelines

.1 Division 26

1.2 Coordination Requirements

.1 UBC *Facilities Electrical* (Vancouver)
.2 UBC Facility Management (Okanagan)

2.0 MATERIAL AND DESIGN REQUIREMENTS

2.1 *General*

.1 Wiring exposed to excessive vibration (i.e. generators) shall be copper and type SIS.

.2 Components used to fasten, mount or secure electrical equipment and cables outdoors or in other corrosive locations shall be suitable and rated for such.

.3 Drilling is the only allowed method for mounting of electrical equipment. Powder actuated methods are not allowed.

.4 Permanent motors are required to be hardwired. Cord connected motors are allowed with limited exception where industry standard and hardwired connection is uncommon such as: condensate pumps, glycol tanks with pump and alarm and fractional motors for fans.

.5 *Electrical equipment that is designed by the manufacturer to be surface mounted on vertical surfaces containing pushbuttons, switches or doors shall not be horizontally mounted in ceiling spaces.*

.6 *Stored energy devices are not allowed to be installed above ceiling tiles or architectural panels.*

2.2 *Receptacles*

.1 The maximum general use duplex receptacles per circuit shall be installed as per the following:
  .1 Offices: 3 5-15R or 5 5-20R.
    .1 Circuits may not be shared between adjacent offices.
    .2 Designers should allow for 500W motorized desk in a workstation space circuited to general receptacles noted above.
  .2 Meeting/Conference Rooms: 4 5-15R
  .3 Break / Printer Rooms: 4 5-15R
    .1 Copiers and other equipment rated at over 1000W require a dedicated circuit.
    .2 Multi-function printers require a dedicated 5-20R
  .4 Reception Areas: 3 5-15R or 5 5-20R
  .5 Kitchen/Kitchenette Countertop Areas: 15-20R
  .6 Washrooms: 2 5-15R
  .7 Locker/Shower Room: 2 5-15R or 3 5-20R

.8 Service Rooms: 2 5-20R
.9 Study Carrells: 8 5-15R
.10 Study Rooms: 4 5-15R
.11 Corridors / Lobbies / Atrium: 4 5-15R
.12 Laboratories: 3 5-15R or 4 5-20R
.1 Equipment rated at over 1000W require a dedicated circuit.
.13 Lecture Hall / Auditorium: 9 5-15R
.14 Classroom: 4 5-15R
.15 Gymnasium/Recreation/Exhibition Rooms: 4 5-15R
.16 Building Exterior: 2 5-15R
.17 *Bicycle Rooms containing e-bikes: Maximum of 25% of total bicycle capacity in the space.*

2.3 ***Floor wireway systems:***

.1 On floor wireway systems shall employ an outside the wall configuration*. For power only applications connections shall be made to standard wall receptacles. For mixed power and A/V applications connections shall be made to an outside the wall box to allow for ease of repair/replacement of the system without any modification to architectural finishes.*

.2 *Power and A/V are the only systems allowed to utilize a on floor wireway system. Voice and Data is not allowed and must adhere to the requirements outlined in Section 27 05 28.*

.3 *Pre-wired track systems comprised of modular interconnecting raceway segments are not allowed.*

2.4 ***In floor systems:***

.1 *Poke through floor boxes is the default method for in floor systems. Cast in place system may only be utilized when technical challenges are present with poke through boxes. 4" round is the standard size that shall be utilized.*

.2 *4" round floor boxes utilizing 1 or 2 gangs shall have covers utilizing side hinged opening flip lids. Covers with a top or bottom hinged opening flip lid that open the entire round cover are not acceptable.*

.3 *Floor boxes shall be sized appropriately for the application. Usage of large capacity floor boxes in applications where they are underutilized and oversized is not acceptable.*

2.5 **Boxes:**

.1 The following values shall supersede the requirements of CEC Table 22 Space for insulated conductors in boxes:
14 AWG - 30.8mL
12 AWG – 35.9mL
10 AWG – 46.1mL
8 AWG – 56.4mL
6 AWG – 92.1mL

.2 4 11/16" boxes shall not be used as pullboxes and shall only be used when required for a specific device.

.3 A gutter box is required for all new panelboards. The box shall be located a maximum of 600mm from the panelboard and can be located on the top or bottom depending on installation requirements. A minimum of 4 – 2" conduits are required between the panelboard and box.

2.6 Raceways:

.1 Cable ties are not permitted for supporting conduit or armoured cable.

.2 Raceways shall not be permitted to be utilized as support for other raceways or armoured cables.

.3 The maximum conduit fill % for 3 or more conductors shall not exceed 32%.

*****END OF SECTION*****