1. GENERAL

1.01 SECTION INCLUDES

.1 Wall and ceiling outlet boxes.

.2 Pull and junction boxes.

1.02 RELATED REQUIREMENTS

.1 Section 26 09 23 – Lighting Control Devices.

.2 Section 26 27 16 – Electrical Cabinets and Enclosures.

.3 Section 26 27 26 – Wiring Devices: Wall plates in finished areas, floor box service fittings, fire-rated poke-through fittings, and access floor boxes.

.4 Section 26 27 26.13 – Floor Box Assemblies.

1.03 REFERENCES

.1 CSA Group:

.1 CSA C22.1:21, Canadian Electrical Code, Part 1 (25th Edition), Safety Standard for Electrical Installations.

.2 Ontario Electrical Safety Code (28th edition/2021).

.1 CSA C22.2 No. 18.1:13 (R2022), Metallic outlet boxes.

.2 CSA C22.2 No. 18.1-13 (R2022) – Metallic Outlet Boxes (Tri-national standard, with UL 514A and ANCE NMX-J-023/1).

.3 CSA C22.2 No. 40-17 - Junction and Pull Boxes.

.4 CSA C22.2 No. 85-14 (R2018) – Rigid PVC Boxes and Fittings.

1.04 CLOSEOUT SUBMITTALS

.1 Record actual locations and mounting heights of outlet, pull, and junction boxes on project record documents.

1.05 REGULATORY REQUIREMENTS

.1 Provide products listed and classified by CSA (Canadian Standards Association) as suitable for the purpose specified and indicated.

2. PRODUCTS

2.01 OUTLET BOXES

.1 Sheet Metal Outlet Boxes: CSA C22.2 No. 18.1, galvanized steel.

.1 Luminaire and Equipment Supporting Boxes: Rated for weight of equipment supported; include 13 mm male fixture studs where required.

.2 Concrete Ceiling Boxes: Concrete type.

.2 Non-metallic Outlet Boxes: CSA C22.2 No. 18.1.

.3 Cast Boxes: CSA C22.2 No. 18.1, Type FD, aluminum. Provide gasketed cover by box manufacturer. Provide threaded hubs.

.4 Wall Plates for Finished Areas: As specified in Section 26 27 26.

2.02 PULL BOXES AND JUNCTION BOXES

.1 Sheet Metal Boxes: CSA C22.2 No. 18.1, galvanized steel.

.2 Hinged Enclosures: As specified in Section 26 27 16.

.3 Surface Mounted Cast Metal Box: CSA C22.2 No. 18.1, Type 4; flat-flanged, surface mounted junction box:

.1 Material: Cast aluminum.

.2 Cover: Provide with ground flange, neoprene gasket, and stainless steel cover screws.

2.03 OUTLET BOXES

.1 Conform to CSA C22.2 No. 18.1.

.2 Where 103 mm (4 in) square outlet boxes are installed in exposed concrete or cinder block finished areas, blocks will be cut as described in Division 04 as instructed under this Section. Cut openings to provide a close fit to boxes and covers so that edges of openings are not visible after installation of plates. Use of mortar to patch up openings that are cut too large or to patch ragged edges is not permitted.

.3 Ceiling boxes: 103 mm (4 in) octagon or square, complete with fittings, where required to support fixtures.

.4 Switch and receptacle boxes:

.1 103 mm (4 in) square with plaster ring, where flush mounted in plaster walls.

.2 Iberville 1104 series box, or equal, where flush mounted in wood or drywall, with stud fasteners as required.

.3 Masonry boxes in masonry walls.

.5 Where boxes are surface mounted in unfinished areas they shall be FS conduits.

.6 Standard outlet boxes manufactured from code gauge galvanized steel.

.7 Provide a suitable outlet box for each light, switch, receptacle, or other outlet, approved for the area it is to be installed.

.8 Support outlet boxes independently of conduit and cable.

.9 Locate outlet boxes, mounted in hung ceiling space, so they do not obstruct or interfere with the removal of lay-in ceiling tiles.

.10 Offset outlet boxes, shown back to back in partitions, horizontally a minimum 150 mm (6 in) to minimize noise transmission between adjacent rooms.

.11 Use gang boxes at locations where more than one device, of the same system only, is to be mounted. Utilize separate boxes for each system.

.12 Use tile wall covers where 103 mm (4 in) square outlet boxes are installed in exposed concrete or cinder block in finished areas.

.13 Provide flush mount boxes, panels, cabinets, and electrical devices, which are installed in finished areas, with suitable flush trims and doors or covers, unless specifically noted otherwise.

.14 Provide pre-formed polyethylene vapour barriers for all boxes located in walls with internal vapour barriers.

3. EXECUTION

3.01 EXAMINATION

.1 Verify locations of floor boxes prior to rough-in.

3.02 INSTALLATION

.1 Install boxes to CSA C22.1.

.2 Install in locations as shown on drawings, and as required for splices, taps, wire pulling, equipment connections and compliance with regulatory requirements.

.3 Set wall mounted boxes at elevations to accommodate mounting heights indicated.

.4 Electrical boxes are shown on drawings in approximate locations unless dimensioned. Adjust box location up to 3 m (10 ft) if required to accommodate intended purpose.

.5 Orient boxes to accommodate wiring devices oriented as specified in Section 26 27 26.

.6 Maintain headroom and present neat mechanical appearance.

.7 Install pull boxes and junction boxes above accessible ceilings and in unfinished areas only.

.8 Inaccessible Ceiling Areas: Install outlet and junction boxes no more than 150 mm (6 in) from ceiling access panel or from removable recessed luminaire.

.9 Install boxes to preserve fire resistance rating of partitions and other elements, using materials and methods.

.10 Coordinate mounting heights and locations of outlets mounted above counters, benches, and backsplashes.

.11 Locate outlet boxes to allow luminaires positioned as shown on reflected ceiling plan.

.12 Align adjacent wall mounted outlet boxes for switches, thermostats, and similar devices.

.13 Use flush mounting outlet box in finished areas.

.14 Locate flush mounting box in masonry wall to require cutting of masonry unit corner only. Coordinate masonry cutting to achieve neat opening.

.15 Do not install flush mounting box back-to-back in walls; provide minimum 150 mm (6 in) separation. Provide minimum 600 mm (24 in) separation in acoustic rated walls.

.16 Secure flush mounting box to interior wall and partition studs. Accurately position to allow for surface finish thickness.

.17 Use stamped steel bridges to fasten flush mounting outlet box between studs.

.18 Install flush mounting box without damaging wall insulation or reducing its effectiveness.

.19 Use adjustable steel channel fasteners for hung ceiling outlet box.

.20 Do not fasten boxes to ceiling support wires.

.21 Support boxes independently of conduit.

.22 Use gang box where more than one device is mounted together. Do not use sectional box.

.23 Use gang box with plaster ring for single device outlets.

.24 Use cast outlet box in exterior locations exposed to the weather.

.25 Use cast outlet box in wet locations.

.26 Set floor boxes level.

.27 Large pull boxes: Use hinged enclosure in interior dry locations, surface-mounted cast metal box in other locations.

3.03 ADJUSTING

.1 Adjust floor box flush with finish flooring material.

.2 Adjust flush-mounting outlets to make front flush with finished wall material.

.3 Install knockout closures in unused box openings.

3.04 CLEANING

.1 Clean interior of boxes to remove dust, debris, and other material.

.2 Clean exposed surfaces and restore finish.

End of Section