PART 1 - GENERAL

1.1 REFERENCE STANDARDS

.1 Canada Green Building Council (CaGBC)
- .1 LEED Canada-NC Version 1.0-2004, LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Package For New Construction and Major Renovations (including Addendum 2007).
- .2 LEED Canada-CI Version 1.0-2007, LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Guide For Commercial Interiors.

.2 National Fire Protection Association (NFPA)
- .1 NFPA (Fire) 14, Standard for the Installation of Standpipe and Hose Systems, 2019 Edition.

1.2 ACTION AND INFORMATIONAL SUBMITTALS

.1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

PART 2 - PRODUCTS

2.1 PIPE, FITTINGS AND VALVES

.1 Pipe:
- .1 Ferrous: to NFPA (Fire) 14.
- .2 Copper tube: to NFPA (Fire) 14.

.2 Fittings and joints to NFPA (Fire) 14:
- .1 Ferrous: screwed, welded, flanged or roll grooved.
  - .1 Grooved joints designed with two ductile iron housing segments, pressure responsive gasket, and zinc-electroplated steel bolts and nuts. Cast with offsetting angle-pattern bolt pads for rigidity and visual pad-to-pad offset contact.
- .2 Copper tube: screwed, soldered, brazed.

2.2 CABINETS

.1 To NFPA (Fire) 14 and ULC listed: flush, type as indicated, constructed of 1.6 mm thick steel, 180 degrees opening door of 2.5 mm thick steel with hinge same side as water supply and latching device.

.2 Cabinets to maintain fire resistive rating of construction in which they occur.

.3 Cabinet door: with 5 mm full glass panel.

.4 Large enough to accommodate angle valve, hose rack, fire hose nozzle and spanner, fire extinguisher and NPS 2½ fire department valve.

2.3 HOSE RACK

.1 ULC listed, swivel type with pins to permit hose to be hung in folds. Locking device shall prevent flow of water into hose until last fold is removed from rack. Complete with hose, nozzle and angle valve.

2.4 FIRE HOSE AND NOZZLE

.1 Hose: ULC listed, 38 mm nominal diameter, 30 m long, synthetic jacket, synthetic rubber lined.

.2 Nozzle: ULC listed, 38 mm nominal diameter, forged brass plastic adjustable combination fog-straight stream with shut-off.

2.5 ANGLE VALVES

.1 ULC listed for fire service. NPS 1½ cast or forged brass complete with hand wheel, open or drip connections, or hydrolator valve. Where water pressure exceeds 690 kPa, provide ULC listed pressure reducing device.

2.6 FIRE DEPARTMENT VALVE

.1 ULC listed, NPS 2½ forged or cast brass angle valve: with thread compatible with local fire department, complete with handwheel, cap and chain. Cap to be part of ULC listing for valve.

2.7 FINISHES

.1 Cabinets.
.1 Door and frame: No. 4 satin finish stainless steel.

PART 3 - EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS

.1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheet.

3.2 INSTALLATION

.1 Install and test to acceptance in accordance with NFPA (Fire) 14.

END OF SECTION

PART 1 - GENERAL

1.1 REFERENCE STANDARDS

.1 National Fire Prevention Association (NFPA)
- .1 NFPA (Fire) 13, Standard for the Installation of Sprinkler Systems, 2019 Edition.
- .2 NFPA (Fire) 25, Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems, 2017 Edition.

.2 Underwriter's Laboratories of Canada (ULC).

1.2 ACTION AND INFORMATIONAL SUBMITTALS

.1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

PART 2 - PRODUCTS

2.1 DESIGN REQUIREMENTS

.1 Design automatic wet pipe fire suppression sprinkler systems in accordance with required and advisory provisions of NFPA (Fire) 13, by hydraulic calculations for uniform distribution of water over design area.

.2 Include with each system materials, accessories, and equipment inside and outside building to provide each system complete and ready for use.

.3 Design and provide each system to give full consideration to blind spaces, piping, electrical equipment, ducts, and other construction and equipment in accordance with detailed shop drawings.

.4 Locate sprinkler heads in consistent pattern with ceiling grid, lights, and air supply diffusers.

.5 Devices and equipment for fire protection service: ULC approved for use in wet pipe sprinkler systems.

.6 Design systems for earthquake protection.

.7 Location of Sprinkler Heads:
- .1 Locate heads in relation to ceiling and spacing of sprinkler heads not to exceed that permitted by NFPA (Fire) 13 for light hazard occupancy.
- .2 Uniformly space sprinklers on branch.

.8 Water Distribution:
- .1 Make distribution uniform throughout the area in which sprinkler heads will open.
- .2 Discharge from individual heads in hydraulically most remote area to be 100% of specified density.

.9 Density of Application of Water:
- .1 Size pipe to provide specified density when system is discharging specified total maximum required flow.

2.2 ABOVE GROUND PIPING SYSTEMS

.1 Provide fittings for changes in direction of piping and for connections.
  .1 Make changes in piping sizes through tapered reducing pipe fittings, bushings will not be permitted.

.2 Conceal piping in areas with suspended ceiling.

2.3 PIPE, FITTINGS AND VALVES

.1 Pipe:
  .1 Ferrous: to NFPA (Fire) 13.
  .2 Copper tube: to NFPA (Fire) 13.

.2 Fittings and joints to NFPA (Fire) 13:
  .1 Ferrous: screwed, welded, flanged or roll grooved.
    .1 Grooved joints designed with two ductile iron housing segments, pressure responsive gasket, and zinc-electroplated steel bolts and nuts. Cast with offsetting angle-pattern bolt pads for rigidity and visual pad-to-pad offset contact.
  .2 Copper tube: screwed, soldered, brazed, grooved.
  .3 Provide welded, threaded or grooved-end type fittings into which sprinkler heads, sprinkler head riser nipples, or drop nipples are threaded.
  .4 Plain-end fittings with mechanical couplings and fittings which use steel gripping devices to bite into pipe when pressure is applied will not be permitted.
  .5 Rubber gasketted grooved-end pipe and fittings with mechanical couplings are permitted in pipe sizes 32 mm and larger.
  .6 Fittings: ULC approved for use in wet pipe sprinkler systems.
  .7 Ensure fittings, mechanical couplings, and rubber gaskets are supplied by same manufacturer.
  .8 Side outlet tees using rubber gasketted fittings are not permitted.
  .9 Sprinkler pipe and fittings: metal.

.3 Pipe hangers:
  .1 ULC listed for fire protection services in accordance with NFPA.

2.4 SPRINKLER HEADS

.1 General: to NFPA (Fire) 13 and ULC listed for fire services.

.2 Semi-recessed Sprinkler:
  .1 Semi-recessed pendent, quick response for hazard coverage as indicated, 5.6 K factor, extended adjustable escutcheon, chrome finish, glass bulb type; 68°C rated, 13 mm orifice.

.3 Upgright Sprinkler:
  .1 Upright bronze, quick response for hazard coverage as indicated, 5.6 K factor, chrome finish, glass bulb type c/w wire guard; 68°C rated, 13 mm orifice.

PART 3 - EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS

.1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheet.

3.2 INSTALLATION

.1 Install, inspect and test to acceptance in accordance with NFPA (Fire) 13 and NFPA (Fire) 25.

3.3 PIPE INSTALLATION

.1 Install piping straight and true to bear evenly on hangers and supports. Do not hang piping from plaster ceilings.

.2 Keep interior and ends of new piping and existing piping thoroughly cleaned of water and foreign matter.

.3 Keep piping systems clean during installation by means of plugs or other approved methods. When work is not in progress, securely close open ends of piping to prevent entry of water and foreign matter.

.4 Inspect piping before placing into position.

END OF SECTION