
York University Building Standards

Note to the Designer/Architect/Engineer: These standards are basic minimum criteria to be met in preparing the final project specifications for this section, which is the responsibility of the Designer

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1.0 GENERAL

1.1 Conditions

- .1 This section defines relevant York University standards related to Toilet and Washroom accessories

1.2 Sustainable Design Requirements

- .1 Only high efficiency low water consumption per flush commercial/institutional grade toilets with a high Maximum Performance (MaP) score indicating a high efficiency flush performance are acceptable.
- .2 Waterless urinals have been tested in several Canadian universities and other institutions and have proven to perform poorly in institutional or public applications, as a result this type of urinal shall not be specified for any new construction or major renovation

1.3 Scope of Work

- .1 Toilet and washroom accessories for a variety of washroom types including but not limited to:
 - .1 Men and Women Gang Washrooms
 - .2 Single Men and Single Women Washrooms

However, this standard does not cover accessories required for the following types of washrooms:

- .1 Universal Washrooms
- .2 Gender Neutral Washrooms
- .3 Accessible Washrooms

1.4 Guideline Principles

- .1 When converting university space from low user occupancy intensity (such as office space, or faculty offices) to higher occupancy intensity, considerations shall be given for an accurate assessment of the washroom requirements.
- .2 This is particularly relevant when converting space through renovations of older (pre 1980s) buildings where existing plumbing and particularly drainage may be a limiting factor.

- .3 For new construction and major renovation, (and particularly for washrooms located near new or renovated lecture halls, classrooms, seminar rooms and laboratories) the design team shall take into consideration York University's population gender distribution when planning toilet count. Additionally, for washrooms located near lecture halls and classrooms, York University requires 150% above Ontario Building Code requirements for toilet count. This is to lessen the washroom demand between classes.
- .4 In new construction and major renovations architects/designers shall consider incorporating "no touch" motion activated accessories such as: faucets, urinals, and toilets. If motion activated accessories are selected these shall be hard wired and not battery operated.

1.5 Related York University Standards

- .1 Interior Signage Standard Manual, York University, Construction and Renovation Standards
- .2 Toilet Partitions Standard, 10 22 00, York University, Construction and Renovation Standards
- .3 Glazing of Interior Applications Section 08 81 00 York University Construction and Renovation Standards
- .4 Plumbing Fixtures Section 22 42 00 York University Construction and Renovation Standards
- .5 Accessible Washrooms Section 10 81 00 York University Construction and Renovation Standards
- .6 Metal Supports for Gypsum and Cement Board Section 09 21 00

1.6 Performance Standards References

- .1 Comply with all applicable municipal, provincial, federal and trade standards in this specification, unless more stringent requirements are given herein.
- .2 Ontario Building Code, most recent iteration and any related amendments
- .3 Draft Initial Proposed Accessible Built Environment Standard (January 2009) AODA
- .4 CSA and ULC
- .5 CAN/CSA-B651-04 (R2010) - Accessible Design for the Built Environment
- .6 ASTM B88-03 Standard Specification for Seamless Copper Water Tube

- .7 ANSI B16.22-2001 (R2010) Wrought Copper and Copper Alloy Solder Joint Pressure Fittings
- .8 ANSI B16.18-2001 (R2005) Cast Copper Alloy Solder Joint Pressure Fittings
- .9 ASTM B32-08 Standard Specification for Solder Metal
- .10 CSA-B70-06 Cast Iron Soil Pipe, Fittings, and Means of Joining, Includes Update No. 3 (2008)
- .11 ASTM B306-09 Standard Specification for Copper Drainage Tube (DWV)
- .12 ASME A112.19.2-2008/CSA B45.1-08 Ceramic plumbing fixtures
- .13 Comply with the latest iteration of the Ontario Electrical Safety Code

1.7 Submittals

- .1 Technical data (T.D.) sheets:
- .2 Submit to the York University project representative complete technical data sheet for each type of hardware, with installation Instructions.
- .3 Submit the Hardware Schedule to the York University project representative at the earliest possible time, where acceptance of the hardware schedule must precede fabrication of other work which is critical in the project's schedule.
- .4 Include with the hardware schedule the project data, samples, shop drawings of other work affected by finish hardware and other information essential to the coordinated review of hardware schedule. Submit initial draft of schedule after samples, product data, coordination with shop drawings of other work, delivery, schedules, and similar information has been completed and accepted.

1.8 Product samples (P.S.):

- .1 Include samples of products, hardware and accessories including material and colour selections

1.9 Standard Warranties and Extended Warranties

- .1 Provide warranty in writing on both product and installation for a period of one year from the date of system acceptance

2.0 Materials

2.1 Water Closets (Toilets)

Dual Flush Water Closets

- .1 Shall meet minimum definition of HET (High Efficiency Water Closet) when used with a 4.85 Lpf high efficiency flush valve.
- .2 Shall be equipped with have a Flush-o-meter valve (or similarly operating device)
- .3 Shall be equipped with a Condensation channel
- .4 Must have a high score on the Commercial/Institutional grade toilets Map rating having the most efficient water flush rate on the market at the time
- .5 Minimum Water flush rate of shall be no less than 6.0 litres per flush but preferably less
- .6 Shall be constructed of white vitreous china
- .7 Shall be Wall-mounted wherever possible
- .8 Shall have an elongated siphon jet flush action bowl fully glazed 54 mm with ball pass internal trapway
- .9 Flush controls (toilet controls) shall be on the transfer side of the water closet (toilet) easily accessible and either single lever, or preferable automatic operated (either through motion sensor or other electronic device). If manual hand controls are used, these shall comply with AODA requirements.
- .10 Flushing mechanism shall be mounted not greater than 1070 mm
- .11 Shall not be equipped with a spring-activated seat
- .12 For barrier free washrooms and in accessible washrooms that are part of a gang style washroom - shall have a back support where there is no seat lid tank
- .13 Shall be located centerline to wall, dimensions to meet AODA requirements
- .14 rough in installation rim height to meet AODA requirements (top of the seat height range between 430mm and 460 mm above the floor)
- .15 Clear transfer space adjacent to toilet to meet AODA requirements
- .16 Toilet seat shall be constructed of heavy duty material with an open front-less cover in white, the seat surface material shall inhibit the growth of stain- and odor-causing bacteria, mold, and mildew on the surface

2.2 Urinals

- .1 Waterless Urinals shall not be used in institutional or public applications on campus
- .2 Shall be constructed of white vitreous china

- .3 Shall meet minimum definition of HEU (High Efficiency Urinal) having a maximum water use of no more than 1.89 litres per flush, but preferable less
- .4 To ensure high performance and water savings, choose a valve and fixture combination with matching rated flush volumes.
- .5 Urinals shall employ automatic flush valve
- .6 Shall be equipped with strainer screen assembly
- .7 Shall be stall or wall-hung with a rim not more than 650 mm from the floor

2.3 Twin Toilet Tissue Dispensers

Presently, York University employs the “Megamatic” tissue dispensing system from Wood Wyant Inc., This product has been tested and has been awarded a multi year contract. Twin Toilet Paper dispenser shall be supplied by Custodial Services, CSBO through this vendor. No substitutions are permitted.

- .1 Twin toilet tissue dispensers shall be used in high traffic use washrooms
- .2 Shall be capable of accepting rolls of toilet tissue paper of a standard size from specify the size that can be accommodated in the Wood Wyant Inc “Megamatic” twin tissue dispensers
- .3 Shall be equipped with a push lever mechanism
- .4 Shall be manufactured from a vandal resistant material such as stainless steel or heavy duty impact resistant poly-carbonate and ABS plastic.
- .5 Dispenser must be lockable, locked alike with all other accessories
- .6 Tumbler lock is to be positioned on the side of the cabinet
- .7 Dispenser must accept tissue roll 1,463 metres (4800') of 1 ply, (600 to 750 metres range) (2400') of 2 ply
- .8 Dimensions: 317 mm X 546 mm X 140 mm (12.5" X 21.5" X 5.5")
- .9 One twin toilet tissue dispenser per water closet (toilet)
- .10 Twin tissue dispensers shall not be used for universal washrooms that are part of a gang style washroom

2.4 Single roll toilet tissue dispensers

Presently, York University employs the “P-11 Jumbomatic” tissue dispensing system from Wood Wyant Inc., This

product has been tested and has been awarded a multi year contract. Single Toilet Paper dispenser shall be supplied by Custodial Services, CSBO through this vendor. No substitutions are permitted.

- .1 Single tissue dispensers shall be used for medium to low traffic use washrooms
- .2 Shall be manufactured from a vandal resistant material such as stainless steel or heavy-duty impact resistant polycarbonate and ABS plastic.
- .3 Dispenser must be lockable, locked alike with all other accessories
- .4 Tumbler lock is to be positioned on the side of the cabinet
- .5 Dispenser must accept large roll of toilet paper (dimensions)
- .6 dimensions: 394 mm X 279 mm X 171 mm (15.5" X 11" X 6.25")
- .7 one single toilet roll dispenser per water closet
- .8 Single toilet roll dispensers shall be used for universal washrooms that are part of gang style washrooms

2.5 Paper Towel Dispensers

Presently, York University employs the "P-1 Jumbomatic" paper towel dispensing system from Wood Wyant Inc., This product has been tested and has been awarded a multi year contract. Paper towel dispenser shall be supplied by Custodial Services, CSBO through this vendor. No substitutions are permitted.

Custodial Services, CSBO has adopted the standard of not deploying Paper Towel Dispensers in washrooms, rather hand dryers are employed. As part of the Zero Waste program, environmental conservation in sustainable cleaning practices. IN instances where existing paper towel dispensers need to be retrofitted in a major renovation the following applies:

- .1 Paper dispenser shall be locked alike to all lockable accessories.
- .2 Shall be manufactured from a vandal resistant material such as stainless steel or heavy-duty impact resistant polycarbonate and ABS plastic.
- .3 Shall operate hands free
- .4 Dimensions 375 mm x 292 mm x 241 mm (14.75" x 11.5" x 9.5")

2.6 Hand Soap Dispensers

- .1 one-hand soap dispenser for every two washbasins
- .2 QFS hand soap dispensers with a container capacity of 1250 mL
- .3 gray colour
- .4 Purell FMX hand foam dispenser in grey (for out side washrooms or public spaces)
- .5 Wall-mounted soap dispensers shall be surface-mounted, self-contained and mounted above sinks. Use corrosion-resistant valves to dispense liquid soaps
- .6 Shall be installed on counter top or wall mounted just above counter top, installation shall comply with AODA requirements
- .7 If hands free soap dispensers are deployed these shall not be battery operated but shall be hard wired
- .8 Hand free operated soap dispensers shall be used for accessible individual or universal washrooms

2.7 Lavatories (Sinks)

- .1 shall be white vitreous china with centre set hole
- .2 Dimensions such as minimum height shall meet latest iteration of Ontario Building Code
- .3 Ideally, lavatories should be incorporated within a vanity counter cabinet,
- .4 Where lavatories are not installed within a vanity counter then the lavatory shall be installed using a concealed support system, this system shall be a wall mounted lavatory support with concealed arms (such as MIFAB MC-5) or equivalent

2.8 Faucets

- .1 motion sensor activated (consideration) if so these shall not be battery operated but shall be hard wired
- .2 Shall be operated by AC power with one power supply linking multiple faucets
- .3. 0.5 gpm / 1.9L/min
- .4 Vandal resistant
- .5 Aerator complete with optional thermostat mixing valve

2.9 Hand Dryer

- .1 Shall be installed surface mounted
- .2 Shall utilize an infrared sensor so that as to operate automatically when hands are placed in the sensor zone

- .3 motor and heating element shall have internal resetting automatic thermal protection
- .4 Casing shall be manufactured of one piece, 16 gauge thick steel or type 304 stainless steel or white enamel casing
- .5 All exposed surfaces must be finished with acid, chip and scratch resistant porcelain enamel
- .6 Fixed directional air vanes shall be heavy duty, rust proof and tamper resistant
- .7 Circuitry shall have self-adjusting time-out and fail safe off protection controlled by a microprocessor that shall detect and reject false signals and shall automatically self calibrate to provide uniform sensitivity over the dryers' life span
- .8 Hand dryer shall be internally grounded
- .9 Hand dryer shall be installed in accordance with AODA at a height not greater than 1000mm from the floor (where the activation sensor or button is not greater than 1200 mm from floor)

2.10 Sanitary Napkin Dispensers

- .1 Sanitary Napkin Dispensers shall not be deployed in washrooms

2.11 Sanitary Napkin Disposal Bins

- .1 One sanitary napkin disposal bin per water closet (toilet) stall in all women's and individual accessible gender-neutral universal washrooms
- .2 Shall be constructed of stainless steel
- .3 Installation shall meet AODA requirements

2.12 Grab Bars

- .1 Stainless steel finish with slip resistant surface (peened finish)
- .2 shall be at least 760 mm in length
- .3 shall be installed at a 30° to 50° angle (preferably 45° angle)
- .4 shall be installed to resist a load of at least 1.3 kN applied vertically or horizontally
- .5 be not less than 32 mm and not more than 51 mm in diameter
- .6 have a clearance of 30 mm to 40 mm from the wall
- .7 shall be manufactured of steel tube type 304 with 18 gauge wall (or thicker)

- .8 Flanges must be heliarc welded to the bar (full 360 degree weld) for maximum strength
- .9 Install grab bars on built-in anchors provided by the manufacturer.
- .10 Use tamper proof theft proof stainless steel screws/bolts for exposed fasteners, and corrosion resistant type for concealed fasteners.

2.13 Garbage Containers

- .1 one 26 US gallon container external
- .2 garbage containers shall not be wall inserts

2.14 Mirrors see Section 08 40 00 Glazing of Interior Applications

2.15 Vanity Counter

- .1 acrylic solid surface
- .2 non-porous antimicrobial
- .3 installation height requirements to meet AODA and latest iteration of Ontario Building Code

2.16 Toilet Stalls

- .1 Gang style washroom stalls minimum dimension are 810 mm wide by 1524 mm deep
- .2 Accessible stalls located within a gang style washroom shall meet AODA requirements for minimum dimensions 1500 mm wide by 1500 mm deep
- .3 Individual accessible washrooms shall meet dimension requirements of AODA
- .4 Toilet stalls shall contain Coat hooks (to be mounted not more than 1200 mm from floor)
- .5 Toilet Stall doors shall be:
 - .1 capable of being locked from the inside by a device that is operable with one hand
 - .2 provide a clear opening at least 810 mm with the door in the open position
 - .3 Shall provide a minimum door opening of 850 mm for the accessible stalls located as part of a gang style washroom
 - .4 Shall employ a slide style bolt opening device rather than a twist style

2.17 Qualifications (P.Q.):

- .1 The supplier must be a member in good standing of DHI and have a certified AHC on staff.
- .2 The installer of electronic hardware must be a firm with at least 5 years experience with these types of products, have manufacturers' references and a good knowledge of the products specified.
- .3 The installer of electronic hardware must select a qualified labour force of established competence.

2.18 Hardware items

- .1 Only hardware items that satisfy standards shall be employed
- .2 Use Type FAST.18 – Fasteners for toilet and other accessories: Concealed screws and bolts hot dip galvanized (Type GV.F.1), expansion shields, fibre, lead or rubber as recommended by accessory manufacturer for component and its intended use. Exposed fasteners to match colour of accessory.

2.19 Anchoring

- .1 Provide all required steel anchor plates and, bolts, plugs and other fasteners for proper installation of accessories on the substrates.

2.20 Fabrication

- .1 Weld and grind joints of fabricated components flush and smooth. Use mechanical fasteners only where approved.
- .2 Wherever possible form exposed surfaces from one sheet of stock, free of joints.
- .3 Brake form sheet metal work with 1.6 mm (1/16") radius bends.
- .4 Form surfaces flat without distortion. Maintain flat surfaces without scratches or dents.
- .5 Back paint or separate with neoprene strip any component where contact is made with building finishes to prevent electrolysis.
- .6 Use hot-dip galvanized ferrous metal anchors and concealed fastening devices.
- .7 Shop assemble components and package complete with anchors and fittings.
- .8 All lockable accessories keyed alike.
- .9 Manufacturer's or brand names on face of units is not acceptable.

3.0 EXECUTION

3.1 Installation

- .1 Obtain University project representative's approval for the typical positioning of all accessory types before making the cutouts in the walls or attaching accessories.
- .2 Install plumb and level, at standard heights, or as shown on drawings, according to the manufacturer's written instructions and best accepted practice of the industry.
- .3 Comply with OBC and CAN/CSA-B651 requirements for barrier-free access.
- .4 Install and secure fixtures rigidly in place as follows:
 - .1 Stud walls: install steel back-plate to stud prior to drywall finish. Provide plate with threaded studs or plugs.
 - .2 Masonry: use 4.7 mm (3/16") diameter toggle bolts drilled into cell or wall cavity, in lead or plastic shields.
 - .3 Toilet partitions: use male/female through bolts.
- .5 Install grab bars on built-in anchors provided by the manufacturer.
- .6 Use tamper proof theft proof stainless steel screws/bolts for exposed fasteners, and corrosion resistant type for concealed fasteners.
- .7 Do not use wood for the installation of the accessories.
- .8 Hand dryer installation must be in accordance with applicable sections of the electrical code
- .9 Seal around all accessories with Type CLKG.2/MR sealing compound
- .10 As built drawings for hot and cold water distribution and for drainage if piping is different from construction drawings
- .11 Piping materials: domestic cold and hot water above grade less than 3" (75mm) – use copper, type "L" to ASTM B88-03, wrought copper solder joint fittings to ANSI B16.18 Solder material used for joint shall be 95-5 tin-Antimony, or Tin-Silver solder to ASTM B32
- .12 Sanitary drain and vent above ground shall be cast iron to CSA-B70 or copper DWV to ASTM B306
- .13 Insulation – All domestic hot and cold water piping shall be covered with 1" thick preformed thermal insulation with vapour barrier jacket. Conductivity 0.22 to 0.28 BTU-IN/SQ.Ft.HrDegr.F with all joints/seams sealed and taped
- .14 All horizontal suspended piping shall be supported from building structure on adjustable clevis hangers spaced to ensure no pipe sagging or pipe joint failure. Hangers shall be installed at each fitting/pipe joint for each length of the pipe.
- .15 The hot and cold water distribution pipes shall be terminated with isolating valves before fixtures. Trapped and vented drains shall be provided for all domestic sinks.

3.1 Coordination

- .1 Coordinate with York University's project representative, Electrical contractor and York University's Custodial Services

End of Section