Date: April 7, 2022



This Addendum varies the Bidding and Contract Documents dated March 15, 2022 and titled:

Project Name: UHNBC Cardiac – Phase 1 Biomed 3rd Floor Project Number: N662030002

This Addendum shall form part of the Contract Documents and is to be read, interpreted and coordinated with all other parts. The cost of all work contained herein shall be included in the Contract sum. The following revisions supersede the information contained in the original specifications and drawings issued for the above-named project. Acknowledge receipt of this Addendum by inserting its number in the STIPULATED PRICE BID FORM.

1.0 <u>GENERAL</u>

1.1 TENDER SITE TOUR ATTENDANCE LIST

The Tender Site Tour Attendance List has been attached to this Addendum for your reference.

2.0 SPECIFICATIONS

2.1 Section 01 21 00 Cash Allowances

ADD Cash Allowance #3 Fire Stopping – \$50,000. As per previous questions, the exact scope of fire stopping is difficult to clarify during tender. Fire stopping costs not to be included elsewhere in the bid to avoid redundant costs in he bid.

2.2 Section 01 78 90 Project Record Drawings

Update the existing site Fire Safety Plan and Floor Plan. Work to be performed by Aztech Fire Safety Planning & Consulting. Scope to be included.

Update UHNBC Master Plumbing and Mechanical Drawings. Work to be performed by Clean Energy Consulting, contact Nick Rowe at 250-564-7910. Scope to be included.

2.3 Section 09 09 06 Interior Finishes List

Replace Armstrong Flooring products with Tarkett iQ Granit as the basis of design to match existing facility flooring standards. Standard color RSF-1 and RSF-2 to be Soft Fleece.

Delete CPT-1. Replace all CPT-1 with RSF-1.

Facility standard flooring Installation specifications:

- All installs to have a 100 millimetre (mm) continuous coved base.
- The coved base to be straight cut and finished with clear silicone caulking.
- The cove is not to be capped.

- External corners to be formed using a Butterfly Piece, otherwise known as a V-plug.
- All joints to be hot welded between products that support the hot weld process.
- Always meet or exceed manufacturer's specifications.
- New installs to be hot welded to existing floor product.
- Where there is no existing product to butt against, edging is to be finished with a flush epoxy strip as per the manufacturer's specifications.
- Protect resilient flooring with suitable non-marring covering from time of final set adhesive until just before final inspection.
- Flooring is not to be finished with sealer and/or wax, as per manufacturer's specification.

Current approved products for all rooms except wet rooms:

- Tarkett iQ Granit
- Tarkett Micro Granit
- Tarkett Optima
- Centura Sphera Element

Change paint PT-1 and PT-2 from Benjamin Moore to Dulux to match existing facility standards. Colors to be confirmed by UHN to match existing facility standard colors.

2.4 Section 22 05 00 Clause 3.9 Testing and Inspection

REVISE item 3.9.3 to be read as "No plumbing system or part thereof shall be covered until it has been inspected and approved by the Plumbing Inspector and UHNBC Facility Maintenance (FM). UHNBC FM should have an opportunity to inspect and approve the systems"

Replace section 22 05 00 in its entirety with revised section. The clause numbering has been corrected.

3.0 DRAWINGS

3.1 DRAWING A900

Replace with attached revised Drawing A900.

4.0 QUESTIONS AND ANSWERS

Question: Section 28 13 00 2.2.2 states "Provide 20 proximity cards under this contract." Please confirm details of cards to be provided including manufacturer, format and frequency.

Answer: Contractor to provide twenty (20) HID ISOproxII 125 kHZ, 26 bits cards that are compatible with Kantech card readers.

Question: Kindly review the request for alternate approval of Centura Forbo Sphera Element homogeneous flooring for use in this project. **Answer:** Centura Sphera Element is an approved alternate product.

Question: Bids and tenders pricing submission tab for the project has only 1 line entry, where do we submit the 2 additional separate prices requested on drawing M400?

Answer: The two areas outlined on drawing M400 are both part of one separate price.

5.0 CORRECTIONS - QUESTIONS AND ANSWERS

Question: Some electrical contractors have indicated that they are to price electrical directly to Northern Health. Should the General Contractor include Electrical in their pricing?

Addendum 2 Answer: The General Contractor shall not price directly to Northern Health.

Correct Answer: The Subcontractors shall not price directly to Northern Health. Subcontractor should submit bids to General Contractors. The site walk through attendance list is attached to this addendum for reference.

End of Addendum No. 3



TENDER SITE TOUR ATTENDANCE LIST

Project: UHNBC Cardiac Diagnostics – Phase 1 **Date:** March 21, 2022 **Consultant:** Kyle Martins - Stantec **Project Manager:** Jay Dupras – Capital Projects

| Name | Company | Telephone | Email |
|--------------------|----------------------|------------------------------|-------------------------------|
| Frank Istok | Westcana Electric | 250-564-5800 | frank@westcana.com |
| Darcy Bryant | Bryant Electric | 250-564-7685 | darcy@bryantelectric.ca |
| Robert Schulz (GC) | WIC | 250-809-1291 250-639-4384 | robertschulz@wicltd.com |
| Andre Desgagne | Houle Electric | 250-617-7963 | andre.desgagne@houle.ca |
| Tim Whitwick | Allrite Heating | 250-612-3912 | tim@allriteheating.com |
| Ritchie Lalonde | Equity Plumbing | 778-415-9896 | ritchie@equityplumbing.ca |
| Shane Newberry | Allpro Plumbing | 250-617-1632 | shane@apph.ca |
| Leif Petersen | Allpro Plumbing | 250-981-8656 | leif@apph.ca |
| Dan Webster (GC) | Vector Projects | 250-763-1013 | estimating@vpg.ca |
| Mark Johnson (GC) | IDL Projects | 250-617-4318 | mjohnson@idlprojects.com |
| Tyler Funk | Northern Electric | 250-562-0006 | tyler@northernelectricltd.com |
| | | | |

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Part 1 General

1.1 WORK INCLUDED

- .1 This Section of the Specification forms part of the Contract Documents and is to be read, interpreted and coordinated with all other parts.
- .2 The Division 23 Common Work Results for HVAC shall govern the Division 22 Plumbing sections of the work (read in conjunction with Division 1). This section covers items common to Division 22 series sections and is intended only to supplement the requirements of Division 1 and 23.
- .3 Refer to Section 23 99 60 Mechanical Forms and submit all documentation therein that is applicable to Division 22 Plumbing.

1.2 RELATED WORK

| .1 Concrete Divisio | n 3 |
|---------------------|-----|
|---------------------|-----|

.2 Electrical Division 26

1.3 COORDINATION

- .1 Systems indicated in Division 22 sections, located inside and/or on the roof of the building shall extend to a point 900 mm [36"] beyond the exterior face of the building.
- .2 Plumbing drawings are diagrammatic and approximately to scale. They establish the scope of the work and the general location and orientation of the plumbing systems. The systems shall be installed generally in the locations and generally along the routings shown, close to the building structure and coordinated with other services. Piping shall be concealed within walls, ceilings or other spaces and shall be routed to maximize head room and the intended use of the space through which they pass, unless specifically noted otherwise.

1.4 CODES, BYLAWS, STANDARDS AND APPROVALS

- .1 Where multiple versions of the same code are published, the most recent version shall be applied, unless noted otherwise by building codes and local by-laws.
- .2 Installation, workmanship and testing shall conform to the following standards:
 - .1 British Columbia Building Code
 - .2 Local Building By-Laws
 - .3 National Building Code of Canada
 - .4 CSA Standard Z7396.1 Medical Gas Pipeline Systems

1.5 SHOP DRAWINGS

- .1 Submit shop drawings in accordance with Division 1 and Division 23.
- .2 Shop drawings are required for all materials and equipment including, but not limited, to the following:
 - .1 Cleanouts and access panels.
 - .2 Floor drains.
 - .3 Plumbing fixtures.
 - .4 Trap primers.
 - .5 Valves.
 - .6 Water hammer arrestors.
 - .7 Pipe, fittings and couplings.
 - .8 All medical gas equipment
 - .9 Fire stopping.

1.6 MAINTENANCE DATA

.1 Refer to Section 23 05 00 Common Work Results for HVAC.

1.7 RECORD DRAWINGS

- .1 Provide project record drawings for all plumbing systems as specified in Section 23 05 00 Common Work Results for HVAC.
- .2 Submit hard copies of all "as-built" record drawings for inclusion in the paper maintenance manual.
- .3 Provide digital files in pdf for inclusion in the digital format manuals.

1.8 OCCUPANCY DOCUMENTATION REQUIREMENTS

- .1 Provide occupancy documentation for all plumbing work as specified in Section 23 05 00 Common Work Results for HVAC.
- .2 The contractor shall submit the following documentation to the Consultant a minimum of 5 working days prior to the project occupancy site walk-through or occupancy date, whichever is scheduled first. The dates will be established by the project architect, project manager or Certified Professional. It is the contractor's responsibility to provide all documentation to the Consultant in a timely manner. If all documentation is not received, the Consultant may not be able to issue their associated Schedule C-B in support of the building occupancy application and any associated consequences shall become the responsibility of the contractor.
- .3 Seismic restraint system letters of assurance Schedules B and C-B from the plumbing contractor's seismic restraint engineer.
- .4 Letter confirming that all penetrations of rated assemblies have been firestopped in conformance with CAN4-S115, on the firestopping installing agencies letterhead.
- .5 Copies of pressure test reports for all piping systems on contractor's letterhead.
- .6 Chlorination certificates for potable water systems.
- .7 Balancing reports for domestic hot water recirculation systems.
- .8 Plumbing inspector's final certificate.
- .9 Medical gas piping system test certificate.
- .10 Medical gas system compliance certification.
- .11 Maintenance manuals for plumbing systems.

1.9 TEMPORARY USAGE OF PLUMBING EQUIPMENT

.1 Plumbing equipment and systems shall not be used without the written permission of the Design Authority and in no circumstances shall be used prior to testing and inspection.

1.10 CHROMIUM PLATED PIPING

.1 Use strap wrenches only on chromium plated pipe or fittings. Surfaces damaged by wrench marks shall be replaced. Joints shall be threaded or slip joints.

1.11 EXISTING PIPING AND EQUIPMENT TO BE REMOVED

- .1 All existing plumbing piping systems that become obsolete as a result of the work or depicted on the drawings for abandonment shall be removed, and/ or disposed of if the Owner declines to retain, in the following situations:
 - .1 Where specifically noted on the drawings for removal.
 - .2 Where plumbing piping systems are exposed.
 - .3 Where ceilings are opened-up for any reason that would permit such removal to be implemented. In such a case only those portions of the plumbing system that can be removed without taking down more ceiling shall be removed.

- .2 All existing plumbing equipment that become obsolete as a result of the work or depicted on the drawings for removal shall be removed, and/ or disposed of if the Owner declines to retain.
 - .1 If the Owner is to keep the equipment, move to a location as identified by the Owner.
- .3 Provide fire-stopping for all existing piping at fire separations.

1.12 ACOUSTICAL TREATMENT

- .1 The insulation for wall, ceilings and pipe chases as outlined herein is to be provided and installed under another division of work. This section is responsible for ensuring that all special requirement for plumbing systems have been met before the wall or ceilings have been closed in.
- .2 General Scope of Work
 - .1 All plumbing systems located in any walls or within 2 metres [6½'] in any direction of the enclosing walls of the following areas (or of similar areas not specifically named) shall be especially protected against noise transmission as defined herein:
 - .1 Conference rooms.
 - .2 Private offices.
 - .3 Quiet Rooms.
- .3 Summary of Requirements
 - .1 Drain, Waste and Vent Stacks and Rainwater Leaders:
 - .1 Cast iron pipe and mechanical or neoprene compression gasket hub fittings shall be used. Plastic and copper piping are unacceptable. Waste piping over sound sensitive areas shall be insulated with pre-formed glass fiber insulation.
 - .2 Stubs from appliances in the kitchens or lounge areas may be copper, but a minimum length should be used.
 - .3 Waste connections from appliances and fixtures may be copper to the waste stack.
 - .4 All copper dry vent pipes in walls, chases and ceiling plenums shall be lagged with 25 mm [1"] preformed glass fiber pipe insulation, canvas wrapped and sealed airtight and with one or more coats of heavy enamel paint.
 - .5 Rainwater leader chases shall be airtight and contain non-compressed RSI 2.11 [R-12] glass fibre insulation in the stud cavities.
 - .2 Domestic Water Operating Parameters:
 - .1 The maximum pressure at any faucet or outlet shall be 275 kPa [40 psi] with at least 10% of maximum rated flow through any pressure reducing valve in the system.
 - .3 Pipe Sizes:
 - .1 The minimum pipe size to faucets or mixing values of each fixture shall be 12 mm [$\frac{1}{2}$ "]. The use of 9 mm [$\frac{3}{8}$ "] pipes is strictly prohibited.
 - .4 Plumbing Fixtures and Trim:
 - .1 Mixing Valves and Faucets: Quiet cartridge shall be used at mixing faucets and shower valves. Any which subsequently become noisy during the warranty period shall be replaced at no extra charge to the owner.

- .2 Back-to-back Fixtures: Drain line and water supply lines shall be divided at the riser. Tee takeoffs serving back-to-back fixtures are not permitted.
- .3 Quick Acting Valves: All solenoid operated, or other quick acting valves shall be equipped with water hammer arresters located as close to the valves as possible.
- .5 Fastening to the structure:
 - .1 Piping shall not contact any framing stud or wall surface; or any other conduit, electrical or ventilation fixture that is connected to any wall or ceiling surface.
 - .2 Piping shall not be fastened to a partition which forms part of an adjacent room not served by the pipe in question. Do not secure piping to gypsum wallboard or its supporting frame.
 - .3 Riser clamps shall be isolated from the structure using an approved resilient material between the support collar and the floor structure (Vibro-Acoustics type SN, 30 durometer, 57.15 mm [2¼"] x 57.15 mm [2¼"] in size, or an approved equal). An alternate method is to wrap the pipe with neoprene prior to clamping.
 - .4 Pipe hangers shall be oversized to suit the insulation and shall have a protection shield between the insulation and the hanger.
 - .5 Pipe hangers shall contain 50 durometer, 3.2 mm [1/8"] thick neoprene pads inserted between the hanger saddle and pipe.
- .6 Clearance Around Pipes:
 - .1 All pipe (bare or insulated) shall be clear of contact with studs or gypsum wallboard.
 - .2 Pipes in acoustically critical walls shall be wrapped with a minimum thickness of 6 mm [¼"] of Armaflex or Rubatex sleeving and secured by use of oversized clamps. This is not necessary where the piping is insulated if pipe clamps are mounted around the exterior of the insulation. Hard plastic pipe sleeves shall not be used.
- .7 Wall and Slab Penetration by Pipes:
 - .1 Slab penetrating pipes shall be glass fiber wrapped prior to grouting. The grout shall not contact pipes.
 - .2 Gypsum wallboard or plaster wall pipe penetrations shall be 3 mm [¹/₈"] to 6 mm [¹/₄"] oversized with the pipe centred in the hole and the gap caulked with silicone or other non-hardening sealant.
 - .3 Pipe expansion joints shall be for noise free operation.
- .8 Ceiling, Wall and Other Plumbing Pipe Chases:
 - .1 The interior spaces shall be insulated with non-compressed RSI 2.11 [R-12] batt insulation in the following proportions:
 - .1 Ceiling plenum 80% of area.
 - .2 Chases 100% of all four vertical surfaces.
 - .3 Walls 50% of space containing pipe, and 100% of adjacent stud space.

1.13 COLD WEATHER PROTECTION

- .1 Roof Penetrations:
 - .1 All vent penetrations of roof structure shall be 100 mm [4"] minimum size.

1.14 SEISMIC PROTECTION

.1 Refer to Section 22 05 49 Seismic Restraint Systems for Plumbing Piping and Equipment.

1.15 BUILDING OPERATION DURING CONSTRUCTION

- .1 In order to minimize operational difficulties for the building's staff, the Contractor must cooperate with the Owner throughout the entire construction period and particularly ensure that noise is minimized.
- .2 Convenient access for the staff and public to the building must always be maintained . Minor inconvenience and interruption of services will be tolerated, provided advance notice is given, but the Contractor will be expected to coordinate his work, in consultation with the owner, so the operation of the facility can be maintained as nearly normal as possible.

1.16 OTHER CONTRACTS ON THIS SITE

- .1 Cooperation with respect to on-site coordination of all piping connections is an integral part of the responsibility of this section of the work all within the basic tender price. No extra cost will be allowed based on a failure to allow for scheduling of piping connections to produce a complete workable system whether shown on the drawings or not.
- .2 Special coordination will need to be carried out with respect to capped off plumbing systems that are to be extended above slab within concealed architectural walls under a future contract. Dimensioned architectural drawings will be available to coordinate under slab piping installation with respect to future wall placement as an integral responsibility of this section of the work. These dimensioned architectural drawings shall be used for all wall dimension requirements where roughed-in plumbing is to be concealed in walls as shown on the drawings.

1.17 DIRECT DIGITAL CONTROL (DDC)

- .1 The following equipment and systems shall include contacts and/or electronic relays as required as an integral part of the equipment supplied and installed in the Plumbing Section of the work to allow connection from such equipment to a DDC computer terminal in a location remote from each plumbing system location.
- .2 The plumbing systems and each condition to be monitored and/or controlled within each plumbing system for remote readout on the DDC system is as follows:
 - .1 Domestic hot water recirc temperature
 - .2 Domestic hot water temperature
- .3 Refer to Division 25 for further detail. Connection from plumbing systems equipment to DDC by Division 25.

1.18 EXISTING SERVICES

- .1 Protect all existing services encountered. Every effort has been made to show the known existing services. However, the removal of concealing surfaces may reveal other existing services. Work with the Owner's staff to trace the originating source and points served. Obtain instructions from the Consultant when existing services require relocation or modifications, other than those already indicated in the Contract Documents.
- .2 Arrange work to avoid shutdowns of existing services. Where shutdowns are unavoidable, obtain the Owner's approval of the timing, and work to minimize any interruptions.
- .3 In order to maintain existing services in operation, temporary relocations and/or bypasses of piping may be required.
- .4 Be responsible for any damages to existing system by this work.

.5 The Owner reserves the right to withhold permission for a reasonable period with respect to any shutdown, if shutting off a service will interfere with important operations.

Part 2 Products

2.1 PRODUCT CONSISTENCY

- .1 All products utilized on the project shall be as per the shop drawing submissions.
- .2 All products of a similar nature used in a similar system or application shall be of the same manufacturer throughout the project.

2.2 ACCESS DOORS

.1 Refer to Section 23 05 00 Common Work Results for HVAC.

2.3 CLEANOUTS

.1

- .1 Cleanouts shall be full size for pipe sizes up to 100 mm [4"] and not less than 100 mm [4"] on larger sizes. Cleanouts in inside finished areas shall all be of the same shape either round or square.
- .2 Cleanouts passing through a waterproofed floor or a slab on grade subject to hydrostatic pressure shall possess a clamping collar which shall be clamped to the floor membrane or lead flashing.
- .3 Pipe manufacturers' cleanouts are acceptable for vertical installation at the base of soil and waste stacks or rainwater leaders only.
- .4 Make cleanouts with Barrett type fitting that has a bolted cover plate and gasket, fitting that has a threaded plug, or a cleanout ferrule that is installed in a wye or extended wye.
- .5 Unfinished concrete area cleanouts shall be of heavy-duty construction and have a fully exposed scoriated cover. Standard of Acceptance: Zurn Z1400, Jay R. Smith 4229, Watts, Mifab
- .6 Lino or lino tiled area cleanouts shall have the centre portion of cover recessed to receive a piece of tile that matches the adjoining tile. Standard of Acceptance: Zurn ZN 1400-X or ZN 1400-TX, Jay R. Smith 4140, Ancon, Mifab
- .7 Terrazzo tile floor area cleanouts have the centre portion of cover recessed to receive terrazzo that matches the adjoining terrazzo finish. Standard of Acceptance: Zurn ZN 1400-Z, Jay R. Smith 4180, Ancon, Mifab
- .8 Latex deck area cleanouts. Standard of Acceptance: Zurn ZN 1400-DX, Jay R. Smith DX4343/2646Y, Mifab
- .9 Carpet area cleanouts shall be fully concealed with a small raised marker. Standard of Acceptance: Zurn ZN 1400-CM, Jay R. Smith 4020-Y, Ancon, Mifab

2.4 SERVICE PENETRATIONS IN RATED FIRE SEPARATIONS

.1 Refer to Section 23 05 00 Common Work Results for HVAC.

2.5 SERVICE PENETRATIONS IN NON-RATED FIRE SEPARATIONS

.1 Refer to Section 23 05 00 Common Work Results for HVAC.

2.6 FIRE STOPPING AND SMOKE SEAL MATERIALS

Refer to Section 23 05 00 Common Work Results for HVAC.

2.7 MISCELLANEOUS METAL RELATED TO PLUMBING SYSTEMS

.1 Frames shall be of welded construction consisting of angle iron sections with 7.9 mm [5/16"] locating strips and anchoring lugs at a minimum of 900 mm [36"] centres.

- .2 Cover plates shall be constructed of minimum 7.9 mm [5/16"] checker plate in sections not exceeding 0.93 square metres [10 ft²] in size with lifting holes at each end of each section. Cover plates shall be provided complete with at least two lifting keys.
- .3 Gasketing between frames and cover plates on sanitary systems shall be of rubber construction.
- .4 Backing Plates shall be adequate to support the use intended and shall be a minimum 4.76 mm [3/16"] in thickness.

Part 3 Execution

3.1 PIPING INSTALLATION

- .1 General:
 - .1 Install piping straight, parallel and close to walls and ceilings, with a fall of not less than 1:100 for gravity piping and with a slope to drain cocks, fixtures or equipment for all pressure piping unless otherwise indicated on drawings. Use standard fittings for direction changes. Provide drain cocks as required.
 - .2 Install groups of piping parallel to each other; spaced to permit application of insulation, identification, and service access, on trapeze hangers.
 - .3 Where pipe size differs from connection size to equipment, install reducing fitting close to equipment. Reducing bushings are not permitted.
 - .4 Brass and copper pipe and tubing shall be free from surface damage. Replace damaged pipe or tubing.
 - .5 Ream ends of pipe and tubes before installation.
 - .6 Lay copper pipe so that it is not in contact with dissimilar metal and will not be crimped or collapsed. All joints on cast or ductile iron pressure service piping shall be made electrically conductive.
 - .7 Install flanges or unions to permit removal of equipment without disturbing piping systems.
 - .8 Clean ends of pipes or tubing and recesses of fittings to be jointed. Assemble joints without binding.
 - .9 Install piping to connections at fixtures, equipment, outlets and all other appurtenances requiring service. Trap and vent waste connections to fixtures. Grade all vents to drain back to waste piping.
 - .10 Plug or cap pipe and fittings to keep out debris during construction.
 - .11 Jointing of pipe shall be compatible with type of pipe used.
 - .12 Non-corrosive lubricant or Teflon tape shall be applied to the male thread of threaded joints.
 - .13 Flush and clean out piping systems after testing.
- .2 Equipment Drainage:
 - .1 Install drain valves at low points.
 - .2 Extend equipment drain piping to discharge into floor or hub drain.
- .3 Expansion and Contraction and Building Seismic Joints:
 - .1 Support piping to prevent any stress or strain.
- .4 Install pressure piping with loops and offsets which will permit expansion and contraction to occur without damaging the pressure piping system.

3.2 ACCESS DOORS

.1 Install access doors at all concealed cleanouts, traps, unions, expansion joints, valves, control valves, air vents, water hammer arrestors, special equipment, trap primers,

vacuum breakers and any other equipment for which subsequent periodic access will be required during the life of said equipment.

- .2 Locate access doors so that all concealed items are readily accessible for adjustment, operation, maintenance and replacement.
- .3 Do not locate access doors in feature walls or ceilings without the prior approval of the Consultant. Locate in service areas and storage rooms wherever possible.

3.3 CLEANOUTS

- .1 Install cleanouts at the following locations:
 - .1 Building drain leaving building on the upstream side of exterior wall.
 - .2 Changes of direction of more than 45 degrees in drainage piping.
 - .3 Nominally horizontal branch or building drain at intervals of not more than 7.5 metres [25'] for pipe sizes 65 mm [2½"] and less, 15 metres [50'] for 75 mm [3"] and 100 mm [4"] pipe sizes, and 26 metres [85'] for pipe sizes larger than 100 mm [4"].
 - .4 Fixture drain of a sink, kitchen piping or grease waste piping at intervals not exceeding 7.5 metres [25'] for pipe all sizes.
 - .5 Base of soil or waste stacks and rainwater leaders.
 - .6 As called for by the applicable codes.
- .2 Cleanouts which are located low on walls shall be located 75 mm [3"] minimum above the top of the baseboard or minimum 200 mm [8"] above finished floor level where there is no baseboard.
- .3 Cleanouts shall be coordinated with all millwork and with all other obstructions, shall be placed in readily accessible locations and shall have enough clearance for rodding and cleaning.
- .4 Extend cleanouts to the finished floor or wall unless exposed in a basement room, pipe tunnel or accessible crawlspace.
- .5 Cleanouts in wet floor areas shall extend above the floor in walls or be provided with gasketed waterproofed tops.
- .6 Cleanouts on outside drains shall be brought to grade and anchored in a concrete collar.
- .7 Cleanouts serving hand hygiene sinks (HHS-1) shall be located a minimum of 150mm [6"] above the flood level trim of the fixture.

3.4 HANGERS AND SUPPORTS

.1 Refer to section 22 05 29 for Hangers and Supports for Plumbing Systems.

3.5 PIPE SLEEVES AND ESCUTCHEONS

.1 Refer to Section 23 05 00 Common Work Results for HVAC.

3.6 CUTTING, PATCHING, DIGGING, CANNING, AND CORING

.1 Refer to Section 23 05 00 Common Work Results for HVAC.

3.7 MISCELLANEOUS METALS

.1 Refer to Section 23 05 00 Common Work Results for HVAC.

3.8 PIPING EXPANSION

- .1 All piping systems, including all take-offs shall be so installed within the building that the piping and connected equipment will not be distorted by expansion, contraction or settling.
- .2 If circumstances on the job require additional changes in direction from those shown on the drawings, the configuration shall be adjusted to suit at no extra cost.

.3 Anchors shall be installed where necessary to control expansion. Expansion joints or loops shall be installed on hot water piping where required.

3.9 TESTING AND INSPECTION

- .1 Furnish all labour, materials, instruments, etc. necessary for all required tests. All work shall be subject to inspection by local plumbing inspector and review by the Consultant. At least forty-eight (48) business hours [2 business days] notice shall be given in advance of making the required tests for projects within 40 km of Stantec's Vancouver office.
- .2 All leaks shall be corrected by remaking the joints. The systems shall be retested until no leaks are observed.
- .3 No plumbing system or part thereof shall be covered until it has been inspected and approved by the Plumbing Inspector and UHNBC Facility Maintenance (FM). UHNBC FM should have an opportunity to inspect and approve the systems.
- .4 If any plumbing system or part thereof is covered before being inspected or approved, it shall be uncovered upon the direction of the Plumbing Inspector or Consultant.

3.10 PROJECT PHOTOGRAPHS

- .1 Contractor shall provide digital progress photographs in "jpeg" format to the Consultant. Submit the photographs via email and/or disc as requested by the Consultant.
- .2 Provide additional digital photographs of the work as requested by the Consultant to assist in the resolution of RFIs, prior to covering the work.

END OF SECTION



| FINISH ABBREVIATIONS | | | |
|----------------------|---------------------------------|--|--|
| ACT | CEILING - ACOUSTIC CEILING TILE | | |
| COV | COVE BASE | | |
| CPT | CARPET TILE | | |
| EXT | EXISTING FINISH TO REMAIN | | |
| GWB | GYPSUM WALL BOARD | | |
| PT | PAINT | | |
| RB | BASE SHEET RUBBER | | |
| RSF | RESILIENT SHEET FLOORING | | |
| WP | WALL PROTECTION | | |