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**HUMBER RIVER HOSPITAL
1235 WILSON AVENUE
TORONTO, ONTARIO
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**REQUEST FOR PROPOSAL # 2526_09
FOR THE PROVISION OF ABAMU CONSTRUCTION AND RENOVATION SERVICES**

ADDENDUM # 1 – Mechanical and Electrical

Issued Date: May 19,2026

Addendum 01

For Mechanical

This Addendum forms part of the Contract Specifications and Drawings, and modifies the Bidding Documents, with Amendments and Additions noted below. This Addendum shall be added to the front of the specifications as issued. Bidders shall acknowledge receipt of this Addendum in the space provided in the Bid Form and include in bid amount.

This addendum includes modifications to the drawings as summarized below. Unless otherwise noted, all drawings listed below are attached herewith.

Changes to Specifications:

1. 23 30 00.00 HVAC Air Distribution
 - a. 2.19 Combination Fire/Smoke Damper
 - .1 Replace .1 with
 - i. Nailor Industries Series 1221, ULC listed to CAN/ULC S112 and CAN/ULC S112.1, meeting requirements of NFPA 80, 90A, 92, 101 and 105, consisting of type A, B, or C fusible link fire dampers as required and a fail-safe, opposed air foil blade, normally closed, motor operated smoke damper complete with factory installed and tested 120 V electric actuator with auxiliary position contacts, and factory wired duct mounted smoke detector. Smoke detector shall cause damper to close if there is a failure or trouble of the detector.
 - b. Section 25 05 02 – Building Automation System Issued

Changes to Drawings:

1. M101- Mechanical Plumbing and Medical Gas Plan – Demolition
 - a. Demolish existing medical gas outlets as shown on drawing. Cut back piping and prepare for reinstallation on new headwall where shown. Coordinate with new work drawing.
2. M102- Mechanical Plumbing and Medical Gas Plan – New Work
 - a. Connect existing medical gases (O2 and Med Vac) to new headwall. Headwall by architectural trades. Provide outlets where required. Coordinate with architectural trades.
 - b. Provide new medical gas Zone Control Valve box with alarm panel for O2 and Med Vac. Coordinate with facilities for shutdown and location on floor. Reconnect new ZCV box with existing mains on floor.
 - c. Provide 120v emergency power feed from emergency panel 3EA1 located in soil utility room. Mechanical contractor to carry electrical work and coordinate with electrical trades.
3. M201 – Mechanical HVAC Plan – Demolition
 - a. Demolish existing ductwork as shown on drawing and prepare for reconnection.
4. M202 – Mechanical HVAC Plan – New Work
 - a. Remove fire dampers shown and replace with combination smoke and fire dampers.
 - b. Provide combination smoke and fire damper as shown in ductwork as shown on drawing.

- c. Reroute ductwork as shown.
 - d. Connect duct smoke detectors to building BAS. Provide all necessary control wiring and components.
- 5. M301 – Mechanical Details and Schedules
 - a. Replace detail 6/M301 with new detail “Typical Installation of Zone Control Valve with Alarm panel”.
 - b. Added “Combination Fire Smoke Damper Monitoring” into detail 7/M301
 - c. Added “Medical Gas Zone Control Valve with Alarm Panel Detail” 8M301

Note : Provide medical gas work as a separate price from base contract. Refer to drawings for exact work.

PART 1 – GENERAL

1.1 ABBREVIATIONS AND DEFINITIONS

- .1 Abbreviations used in this Specification are as follows:
 - .1 BAS building automation system;
 - .2 DDC direct digital controls;
 - .3 LAN local area network;
 - .4 PC personal computer.

1.2 SUBMITTALS

- .1 Submit shop drawings/product data sheets for BAS components. As a minimum, submit the following:
 - .1 BAS network architecture, including modes and interconnections;
 - .2 systems schematics, sequences, and flow diagrams;
 - .3 points schedule for each point in BAS, including point type, object name, expanded ID, display units, controller type, and address;
 - .4 samples of graphic display screen types and associated menus;
 - .5 detailed Bill of Materials for each system or application, identifying quantities, part numbers, descriptions, and optional features;
 - .6 control damper schedule including a separate line for each damper and a column for each of damper attributes including code number, fail position, damper type, damper operator, duct size, damper size, mounting and actuator type;
 - .7 control valve schedules including a separate line for each valve and a column for valves as for control dampers;
 - .8 room schedule including a separate line for each HVAC terminal unit indicating type, location and address;
 - .9 details of BAS interfaces and connections to other systems;
 - .10 product data sheets or marked catalogue pages including part number, photograph and description for BAS hardware and software.

1.3 CLOSEOUT SUBMITTALS

- .1 Submit a site inspection and start-up report from manufacturer's representative as specified in Part 3 of this Section.
 - .2 Record "as-built" drawings are to include:
 - .1 schematic outline of BAS for quick reference of overall system scope;
 - .2 adequate record of work as installed, including locations and routing of system wiring.
 - .3 O&M Manual is to include:
 - .1 hardware specification manual which gives a functional description of hardware components.
 - .2 operator's manual which outlines concise instructions for operation of system and an explanation and recovery route for system alarms;
 - .3 engineering manual which outlines and defines system set-up, definition and application;
 - .4 data manual which indicates applications data programmed into system;
 - .5 system software documentation.
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1.4 QUALITY ASSURANCE

- .1 BAS hardware and software is to be installed by experienced personnel employed and trained by manufacturer/supplier of field equipment controllers. System wiring is to be installed by journeyman electricians or under direct on-site supervision of journeyman electricians.
- .2 All work to be completed by Facio Corp. Coordinate with facilities for contacts

PART 2 - PRODUCTS

2.1 GENERAL RE: BUILDING AUTOMATION SYSTEM

- .1 Control system components (field devices) other than those specified in this Section are generally specified in Section 25 05 01 - Automatic Control Systems. Components factory installed with equipment or supplied with equipment are specified in mechanical work Sections with equipment.
- .2 BAS specified in this Section represents an expansion of the existing Carrier I-Vu building automation system with ESC automation with Facio as the service provider in accordance with drawing control diagrams and sequences, and points lists.
- .3 Manufacturers:
 - .1 Carrier I-Vu with Facio as the service provider

2.2 FIELD EQUIPMENT CONTROLLERS

- .1 Each field equipment controller is to be a fully user programmable BACnet Testing Labs (BTL) certified and labelled digital controller that communicates via BACnet MS/TP protocol. Each controller is to be housed in a plenum rated plastic housing with removable base to permit pre-wiring of analog and binary input/output field points without controller in place.
 - .2 Each controller is to employ a finite state control engine to eliminate unnecessary conflicts between control functions at crossover points in their operational sequences, and is to be factory programmed with a continuous adaptive tuning algorithm that sense changes in physical environment and continually adjusts loop tuning parameters appropriately.
 - .3 Each field equipment controller is to:
 - .1 include troubleshooting LEDs to identify following conditions:
 - .1 Power On;
 - .2 Power Off;
 - .3 Download or Start-Up In Progress-Not Ready For Normal Operation;
 - .4 No Faults;
 - .5 Device Fault;
 - .6 Field Controller Bus-Normal Data Transmission;
 - .7 Field Controller Bus-No Data Transmission;
 - .8 Field Controller Bus-No Communication;
 - .9 Sensor Actuator Bus-Normal Data Transmission;
 - .10 Sensor Actuator Bus-No Data Transmission;
 - .11 Sensor Actuator Bus-No Communication.
 - .2 support universal inputs, configured to monitor any of following:
 - .1 analog input, voltage mode;
 - .2 analog output, current mode;
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- .3 analog input, resistive mode;
 - .4 binary input, dry contact-maintained mode;
 - .5 binary input, pulse counter mode.
 - .3 support binary inputs configured to monitor either of following:
 - .1 dry contact-maintained mode;
 - .2 pulse counter mode.
 - .4 support analog outputs configured to output either of following:
 - .1 analog output, voltage mode;
 - .2 analog output, current mode.
 - .5 support binary outputs, 24 VAC Triac;
 - .6 support configurable outputs capable of following:
 - .1 analog output, voltage mode;
 - .2 binary output mode.
 - .7 have ability to reside on a master-slave/token-passing field controller bus supporting BACnet standard protocol as follows:
 - .1 support communications, including input/output communications between field controllers and network automation engines;
 - .2 support a minimum of one hundred input/output modules and field equipment controllers in any combination;
 - .3 operate at a maximum distance of 4560 m (15,000') between field controller and furthest connected device.
 - .8 have ability to monitor and control a network of sensors and actuators over a master-slave/token-passing sensor-actuator bus supporting BACnet standard protocol as follows:
 - .1 bus is to support a minimum of ten devices per trunk;
 - .2 bus is to operate at a maximum distance of 365 m (1200') between field controller and furthest connected device.
 - .9 capability of executing complex control sequences involving direct wired input/output points as well as input and output devices communicating over field controller bus or sensor-actuator bus;
 - .10 support, but not limited to, following:
 - .1 hot water, chilled water/central plant applications;
 - .2 custom air handling units for special applications;
 - .3 terminal units;
 - .4 special programs as required for systems control.

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- .11 support a password protected local controller LCD back-lit display with 6 key keypads as an integral part of field controller or as a remote device communicating over sensor-actuator bus to permit user to view monitored points without logging into system, and to view and change set-points, modes of operation, and parameters.

2.3 INPUT/OUTPUT MODULES

- .1 Input/output modules to facilitate additional inputs and outputs for use in field equipment controllers are to be similar to field equipment controllers but less display and with a minimum of 4 and a maximum of 17 points.

2.4 WIRING MATERIALS

- .1 System wiring, conduit, boxes, and similar materials are to be in accordance with requirements specified in Division 26 – Electrical.

PART 3 - EXECUTION

3.1 GENERAL RE: INSTALLATION OF THE BAS

- .1 Provide an expansion of the existing building automation system in accordance with requirements of this Section of the Specification, Controls Sequences, Section 25 05 01 - Automatic Control Systems, drawings, and the input/output points list(s).
- .2 BAS to include updates to existing BAS graphics and sequences to suit the project requirements.
- .3 Unless otherwise specified, perform BAS work in accordance with system manufacturer's instructions.

3.2 INSTALLATION OF DIRECT DIGITAL CONTROL SYSTEM COMPONENTS

- .1 Provide required direct digital control hardware, software, accessories, and wiring for a complete BAS. Refer to drawing control diagrams and sequences, points list(s), and Section 25 05 01 - Automatic Control Systems.
 - .2 DDC work is to be performed by skilled technicians, properly trained and are qualified for this work.
 - .3 Materials and equipment used are to be standard components, regularly manufactured for this and/or other systems, and not custom designed especially for this project. Systems and components are to have been thoroughly tested and proven in actual use.
 - .4 System is to be modular, permitting expansion by adding hardware and software without changes in communication or processing equipment.
 - .5 Provide new communications bus as required complete with required ancillaries. Connect and extend existing communications bus.
 - .6 Provide necessary quantity of SC to accomplish requirements of this specification, and to minimize number of mechanical systems that would be inoperative in event of a FEC failure. A maximum of 2 major mechanical systems are to be controlled by 1 FEC.
 - .7 Surface wall mount SC and FEC control units in Mechanical Rooms ensuring they are not mounted on vibrating surfaces, and connect to 15A-1P circuit breakers dedicated for control system applications, in branch panel circuit boards in adjacent spaces. Power wiring from control units to circuit breakers is to be the responsibility of the controls contractor. Wiring is to be in conduit and conduit and wiring are to be in accordance with standards and requirements of Division 26 – Electrical. Refer to electrical drawings for locations of branch circuit panelboards with dedicated circuits for controls system applications.
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- .8 Indicate via number, and systems controlled by SC and FEC. Indicate via a lamacoid label mounted inside panel the identification number of electrical panel supplying power to SC and FEC.
 - .9 Submit schedule(s) of input/output points to Consultant for review. Directly connect each SC and FEC to point devices in accordance with control diagrams and schedule of miscellaneous control points as shown on drawings. Sensor wires for each analogue input are to be No. 18AWG twisted-shielded cable. Other types of wire required are to be as recommended by system supplier.
 - .10 Provide required sensors, remote devices, etc., and required interface accessories. Mount duct and/or plenum sensors half-way across duct or plenum.
 - .11 Supply and turn over to Consultant prior to application for a Certificate of Substantial Performance of the Work, reports to be used in assisting Owner in defining and debugging DDC programs. These reports are to consist, as a minimum, of following:
 - .1 process control language (PCL) logs;
 - .2 control loop logs;
 - .3 PCL master point.
 - .12 Submit Point Data Input forms to Consultant that Owner will fill out with DDC system supplier's assistance. Input this point data into the system.
 - .13 Contacts will be supplied as part of mechanical work or electrical work for alarm and status points for systems and equipment other than building environmental systems and equipment. Connect to DDC system in accordance with point schedule.

3.3 CONTROL WIRING

- .1 Perform required control wiring work for control systems except:
 - .1 power wiring connections to equipment and panels, except as noted below;
 - .2 control wiring associated with mechanical plant equipment and systems whose control is not part of work specified in this Section;
 - .3 starter interlock wiring.
- .2 Except as specified below, install wiring in conduit. Unless otherwise specified, final 600 mm (2') connections to sensors and transmitters, and wherever conduit extends across flexible duct connections is to be liquid-tight flexible conduit.
- .3 Control wiring in ceiling spaces and wall cavities may be plenum rated cable installed without conduit but neatly harnessed, secured, and identified.
- .4 Wiring work is to be in accordance with BAS manufacturer's certified wiring schematics and instructions, and wiring standards specified in electrical work Division of this Specification.

3.4 IDENTIFICATION AND LABELLING OF EQUIPMENT AND CIRCUITS

- .1 Refer to Section 20 05 00 – Common Work Results for Mechanical.
 - .2 Identify BAS equipment as follows:
 - .1 enclosures: engraved laminated nameplates with lettering such as BAS Panel CP2, or BAS Relays, or BAS E/P Transformers, with all wording listed and approved prior to manufacture of nameplates;
 - .2 panel points: a weather-proof input/output layout sheet for each controller with the name of each point connected to controller, and associated wire labelling information;
 - .3 wiring: numbered sleeves or plastic rings at both ends of conductor, with numbering corresponding to conductor identification on shop drawings and "as-built" record drawings;
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- .4 interface components: a weather-proof layout sheet clearly illustrating/identifying purpose of each component within enclosure such that an operator or service technician can quickly identify exact use of each relay, transducer, contactor, etc., with each sheet fastened securely to back of enclosure door.

3.5 SYSTEM STARTUP

- .1 For equipment/system manufacturer certification requirements, refer to Section 20 05 00 – Common Work Results for Mechanical.
- .2 For equipment/system start-up requirements, refer to Section 20 05 00 – Common Work Results for Mechanical.

END OF SECTION

Document for Mechanical Reference:

- 1. File “ Addendum 01 MECH - Qstn 60 – 1”
 - 2. File Addendum 01 MECH - Qstn 60 – 2
 - 3. File Addendum 01 MECH - Qstn 60 - 3
 - 4. File “Addendum 01 - HRH ABAMU MECH DRAWINGS”
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Addendum 01

For Electrical

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This addendum includes modifications to the drawings as summarized below. Unless otherwise noted, all drawings listed below are attached herewith.

Changes to Drawings:

1. Drawing E-100: Site Plan (Drawing Re-issued)
 - 1.1. Revise location of existing and new electrical panels.
 - 1.2. Update Electrical Scope of Work.
2. Drawing E-200: Lighting – Demolition Plan (Drawing Re-issued)
 - 2.1. Update info regarding night light fixtures and UVC light fixtures
3. Drawing E-250: Lighting – New Work Plan (Drawing Re-issued)
 - 3.1. Update Lighting fixture type, control and circuit info.
 - 3.2. Add relocation of existing UVC light fixtures.
4. Drawing E-300: Power & Systems – Demolition Plan (Drawing Re-issued)
 - 4.1. Update key notes 1 and 2.
5. Drawing E-350: Power & Systems – New Work Plan (Drawing Re-issued)
 - 5.1. Add power requirement for smoke fire smoke dampers.
 - 5.2. Add power requirement for patient lifts.
 - 5.3. Add circuits for faucet plumbing fixture control.
 - 5.4. Add Patient Care receptacle and wiring requirement.
 - 5.5. Update keynotes.
6. Drawing E-700: Single Line Diagram (Drawing Re-issued)
 - 6.1. Delete detail 1 and 2.
 - 6.2. Add lighting control details.
7. Drawing E-900: Electrical Schedules (Drawing Re-issued)

Update panel schedules and lighting fixture schedules.

Document for Electrical Reference:

1. File “Addendum 01 - HRH ABAMU ELEC DRAWINGS”