

ADDENDUM MEC-001

Project: Canadian Space Agency - Cleaning of the ventilation and distribution

Description: Modifications to specifications

Project no.: 2020-134-1012

Division: Mechanical

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NUMÉRIQUEMENT



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1. This addendum forms an integral part of the original plans, specifications and contractual documents. Bidders shall make sure that the cost of this addendum is included in the bid amount.
2. Documents:
 - 2.1 Included documents:
 - 2.1.1 Specifications:
 - Section 23 01 31, pages 4 and 4a.
 - Section 23 05 00, page 3.
 - Section 23 33 00, page 5.
3. Description of work:

See attached documents.
4. Clarification following questions from bidders:
 - 4.1 As mentioned in section 23 07 13 – Duct insulation, the insulation work must be carried out by qualified labor with at least three years of proven experience for similar scale construction projects.
 - 4.2 All modification work on the ventilation ducts, including the installation of access doors for cleaning must be carried out by a ventilation Contractor with a license to carry out such work (reference: sub-category 15.8) in accordance with the requirements of SMACNA HAVAC depending on type of duct in which they are installed.
 - 4.3 As mentioned in section 23 05 93 – Testing, adjusting and balancing for HVAC, the Contractor shall perform a complete balancing of the systems covered by the scope of work.

- .2 For each system, submit the inspection report prior to carrying out the work for analysis to the Owner and the Engineer.
- .3 Submit the detailed video controlled cleaning plan following the inspection.
 - .1 Carry out a visual examination of the systems to be cleaned to be able to establish the type of work, tools and equipment required in order to perform the cleaning of the systems.
 - .2 Verify the accuracy of plans and specification.
 - .3 Verify flow rates for balancing purposes.
 - .4 Make sure that the inspection plan clearly indicates the camera entry points.
 - .5 Attach photos of each insertion point allowing the analysis of the accumulation of dust in the ventilation ducts.
- .4 Provide the following number of camera entry points, depending on the type of ventilation system inspected:
 - .1 Air Handler Unit: two (2) points verification points in the system.
 - .2 Low pressure returns ducts: at least four (4) verification points, two (2) in the main branches and two (2) in the limit terminal runs upstream of the diffusers.
 - .3 Cold supply ducts: at least four (4) verification points, two (2) in the main branches and two (2) in the limit terminal runs upstream of the diffusers.
 - .4 Hot supply ducts: at least two (2) verification points.
 - .5 Exhaust ducts: at least two (2) verification points.
 - .6 Fresh air duct: at least two (2) verification points upstream of the ventilation system.
- .5 The inspection of the systems must not disturb the normal operations of the premises nor have an impact on the environment.

1.5 SUBMITTALS

- .1 Submit documents in accordance with section 01 00 10 – Mechanical and electrical general instructions.
- .2 Submit the detailed video controlled cleaning plan following a site visit.
 - .1 Ensure that the plan clearly indicates the sequence of operations, the camera and cleaning device insertion points, as well as the work calendar.
- .3 Product data:
 - .1 Submit the required data sheets, as well as the manufacturer documentation relating to antimicrobial agents used in the work. Data sheets must list the product characteristics, performance criteria and limitations.
 - .2 Submit, for antimicrobial agents and coatings, the MSDS required by WHMIS.



- .4 Testing laboratory: provide the name and address of the testing laboratory whose services are retained for the work.
 - .1 Submit the report for the analysis of the collected particles, which must contain the following:
 - .1 Location that particles were collected.
 - .2 Type of particles.



- .2 The following sections are included in the scope of the ventilation work and complement each other to form a whole.
 - .1 23 01 31 – Air duct cleaning for HVAC systems.
 - .2 23 05 00 – Common work results for HVAC.
 - .3 23 05 93 – Testing, adjusting and balancing for HVAC.
 - .4 23 07 13 – Duct insulation.
 - .5 23 31 13.01 – Metal Ducts – Low pressure to 500 Pa.
 - .6 23 33 00 – Air duct accessories.
- .3 Scope of work:
 - .1 Work included:
 - .1 The work includes, in general, labor, supply, and installation of all materials and equipment necessary for ventilation – air-conditioning work indicated on the drawings and in the specification.
 - .2 This work includes, but is not limited to:
 - .1 Inspection and cleaning of ventilation ducts according to the requirement of section 23 01 31 – Air duct cleaning for HVAC systems.
 - .2 All access doors required for inspection and cleaning.
 - .3 The insulation repair work required following the inspection and cleaning work.
 - .4 All tests.
 - .5 All balancing and adjustment of air quantities.
 - .3 Access doors installed on exposed painted ventilation ducts must be painted the same color as the duct on which they are installed. This also applies where there is exposed external thermal insulation.
- .4 Documents to provide:
 - .1 Provide the following documents:
 - .1 The certificates of approval from the concerned authorities.
 - .2 Shop drawings, device drawings, and coordination drawings.
 - .2 A full report of the results requested in the article "VENTILATION SYSTEMS' TAB REPORT" from the section 23 05 93 – Testing, adjusting and balancing for HVAC
- .5 Submissions – Prices to provide:
 - .1 Provide with the submission, a global inclusive price covering all the "VENTILATION – AIR-CONDITIONING" work.

Part 2 Product

2.1 NOT USED

- .1 Not Used.



- .2 Adhesive and fabric:
 - .1 The adhesive and the fabric must be UL approved, have been tested according to the method ASTM-E-84-81A, and conform to the following maximum indexes:
 - .1 Flame spread: 25
 - .2 Combustibility: 50
 - .3 Smoke developed: 50

2.4 ACCESS DOORS

- .1 Non-insulated ducts: double-walled doors (sandwich panels), the same material as used for the ducts, but of the next largest thickness (not be thinner than 0.6 mm), with angle iron frame.
- .2 Insulated ducts: double-walled doors (sandwich panels), the same material as used for the ducts, but of the next largest thickness (not be thinner than 0.6 mm), with angle iron frame and rigid insulation, fiberglass, 25 mm thick.
- .3 Seals: neoprene.
- .4 Hardware parts:
 - .1 Doors measuring up to 300 mm wide: two (2) latches for the frame.
 - .2 Doors measuring between 301 mm and 450 mm wide: four (4) latches for the frame.
 - .3 Doors measuring between 451 mm and 1000 mm wide: a piano hinge and at least two (2) latches for the frame.
 - .4 Doors measuring over 1000 mm side: a piano hinge and two (2) handles operable from the inside and from the outside.
 - .5 Device to hold the open position.
- ① .5 Finish: access doors installed on exposed painted ventilation ducts must be painted the same color as the duct on which they are installed. This also applies where there is exposed external thermal insulation.

2.5 MANUFACTURER LIST

- .1 Comply with article "PRODUCTS USED FOR TENDERS AND EQUIVALENCES" from section 01 00 10.
- .2 List of manufacturers, section 23 33 00:
 - .1 Openings for air velocity and air temperature readings:
 - .1 Duro-Dyne
 - .2 Lawson Taylor Ltd
 - .2 Pressure relief dampers:
 - .1 American Warming & Ventilating
 - .3 Adjustable volume dampers:
 - .1 Anémostat
 - .2 E.H. Price Ltd
 - .3 Nailor Industries Inc.
 - .4 Titus

