

**International Civil Aviation Organization
New showcase layout on the 4th floor
Office Furniture**

TPSGC File : R.097036

ISSUED FOR ADDENDUM no 01
February 12th, 2019

STANTEC EXPERTS-CONSEILS



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The following information supplements and/or supersedes the bid documents issued on **17.01.2019**.

This Addendum forms part of the contract documents and is to be read, interpreted, and coordinated with all other parts. The cost of all contained herein is to be included in the contract sum. The following revisions supersede the information contained in the original drawings and specifications issued for the above-named project to the extent referenced and shall become part thereof. Acknowledge receipt of this Addendum by inserting its number and date on the Tender Form. Failure to do so may subject the Bidder to disqualification

Addendum no 01 includes the following documents :

Architecture Addendum no A01

See attached Architecture document.

Mechanical and Electrical Addendum No 1

See attached Mechanical and Electrical document

ARCHITECTURE :



Modifications to Architectural Technical Specifications :

Modifications to Architectural Technical Specifications, described in text below are part of this addendum.

1 SECTION 01 14 00 – Work restrictions

- .1 Replace the following article 1.3.3 :
« Plan and schedule work so that final completion takes place **before July 4th, 2019** »

by :
« Perform the work within 18 calendar weeks after receiving official notice that the contract has been awarded. Substantial completion must take place before July 4th, 2019. »
- .2 Replace the following article 1.3.5 :
« No parking will be available for the contractor or its subcontractors. »

By :
« A parking space will be available for the contractor at night, at the truckdock. »
- .3 Replace the following article 1.5.1 :
« The provision and installation of office furniture is excluded from the present mandate and will be part of a separate mandate. However the contractor of the furniture mandate will have to install the office furniture during the present mandate. He will have to sign the Subordination Agreement found at article 1.44 of section 01 35 29.06 – Health and Safety Requirements. »

By :
« The provision and installation of office furniture will be part of a separate mandate. Furniture installation should start by July 15th 2019 so the contractor of the present mandate must achieve final completion of the work before July 14th 2019.»

2 SECTION 10 22 19 – Stud type demountable partitions

- .1 Replace the following paragraph 2.4.4.2 :
« Single pane glazing: **STC 40** »

By :
« Single pane glazing: **STC 34** »
- .2 In article 2.5.2 , replace the following text :
« Solid tiles: **high** pressure plastic laminate on high density wood particle board (...) »

By :
« Solid tiles: **low** pressure plastic laminate on high density wood particle board (...) »
- .3 Replace the following paragraph 2.6.1.6 :
« Finish: **high** pressure plastic laminate »

By :

« Finish: **low** pressure plastic laminate »

Modifications to drawings :

Modifications to drawings described in writing below are part of the present addendum.

1 Sheet A101 – Plan d'implantation / Site plan

- .1 In the NOTES SPÉCIFIQUES / SPECIFIC NOTES :
Replace the following note #1 :
« FREIGHT ELEVATOR FOR USE OF CONTRACTOR »

By :

« FREIGHT ELEVATOR FOR USE OF CONTRACTOR.
DURING THE MONTH OF MARCH HOWEVER, THIS FREIGHT ELEVATOR WILL NOT BE
AVAILABLE AND A FREIGHT ELEVATOR LOCATED BETWEEN GRIDLINES 7 AND 8 (IN
FRONT OF WASHROOMS) WILL HAVE TO BE USED. »

2 Sheet A801 - Bordereau des portes et cadres, cloisons types / Door & frame schedule, typical partitions

- .1 In TYPE DE CLOISON / WALL TYPES, for partition type #64 :
Replace the following description :
« CLOISON AMOVIBLE - VERRE SIMPLE (STC 40) /
MOVABLE PARTITION - SINGLE GLAZED (STC 40). »

By :

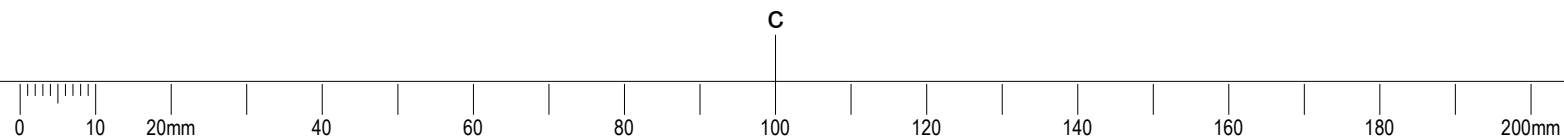
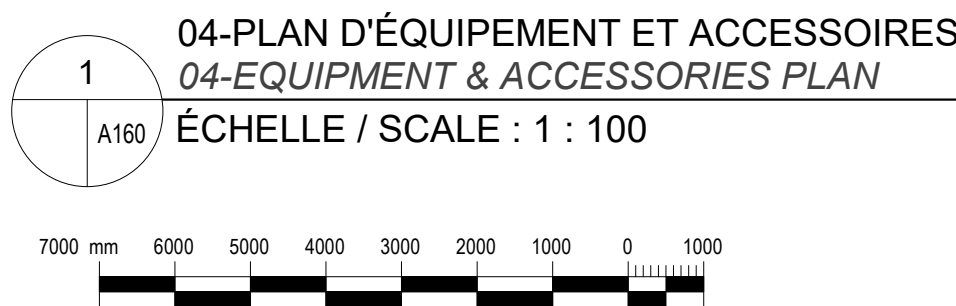
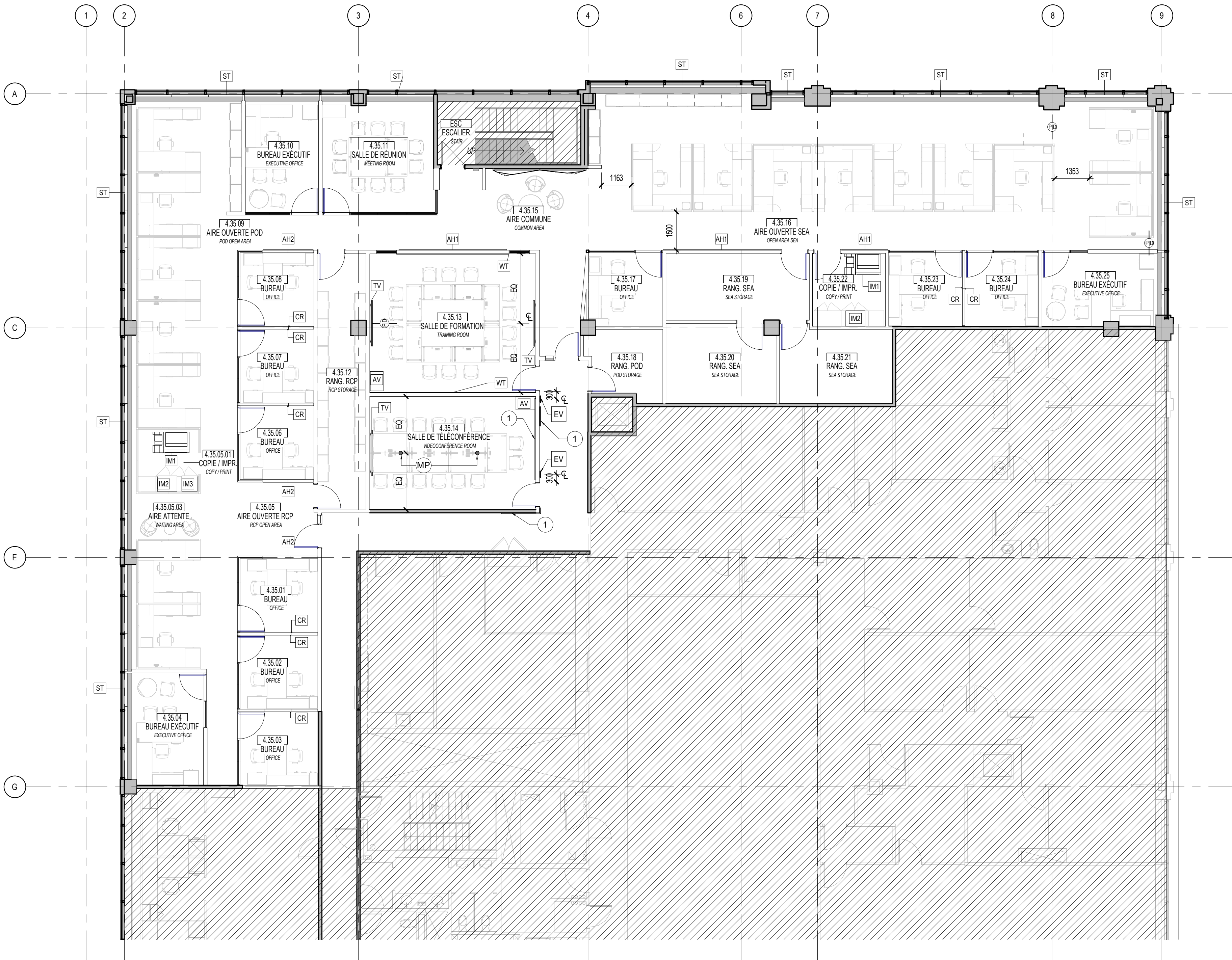
« CLOISON AMOVIBLE - VERRE SIMPLE (STC 34) /
MOVABLE PARTITION - SINGLE GLAZED (STC 34). »

New drawings issued :

Plans attached are part of the present addendum.

- 1 Sheet A160 – Plan d'équipement et accessoires / Equipment & accessories plan**
Sheet A160 was missing in the tender set. It is attached to the present document.

END OF ADDENDUM no A01



NOTES GÉNÉRALES

1. LES SYSTÈMES DE BUREAU ET MOBILIER SONT EXCLUS DU PRÉSENT MANDAT CAR IL FERONT L'OBJET D'UN APPEL D'OFFRES DISTINCT. ILS SERONT INSTALLÉS PAR UN ENTREPRENEUR SPÉCIALISÉ AU COURS DU PRÉSENT MANDAT. LES SYSTÈMES DE BUREAU ET MOBILIER DÉCRITS SUR LA FEUILLE A160 SONT MONTRES POUR INFORMATION.
2. L'ENTREPRENEUR DOIT COORDONNER TOUS LES TRAVAUX D'AMEUBLEMENT ET LES ÉQUIPEMENTS, FOURNIS ET INSTALLÉS PAR D'AUTRES.
3. SE RÉFÉRER AUX DESSINS ÉLECTRIQUES POUR L'ALIMENTATION ÉLECTRIQUE ET DE TÉLÉCOMMUNICATION. VOIR LE DEVIS POUR L'EMPLACEMENT GÉNÉRAL DES PRISES ÉLECTRIQUES ET DE TÉLÉCOMMUNICATION DANS LES CLOISONS DES POSTES DE TRAVAIL.
4. LE POINT DE BRANCHEMENT DES CLOISONS DE MOBILIER DE BUREAU DOIT ÊTRE COORDONNÉ AVEC LES PLANS D'ÉLECTRICITÉ.

GENERAL NOTES

1. ALL DESKING SYSTEMS AND FURNITURE ARE EXCLUDED FROM THE PRESENT MANDATE AS THEY ARE PART OF A SEPARATE TENDER. THEY WILL BE INSTALLED BY A SPECIALISED CONTRACTOR DURING THE COURSE OF THIS PRESENT MANDATE. THE DESKING SYSTEMS AND FURNITURE SHOWN ON SHEET A160 IS FOR INFORMATION ONLY.
2. THE GENERAL CONTRACTOR IS RESPONSABLE FOR THE COORDINATION OF ALL WORK FOR FURNITURE AND EQUIPMENT THAT ARE SUPPLIED AND INSTALLED BY SUB-TRADES.
3. REFER TO THE ELECTRICAL DRAWINGS FOR THE LOCATIONS OF POWER AND TELECOMMUNICATION FEEDING THE WORKSTATIONS. REFER TO THE SPECIFICATIONS FOR THE GENERAL LOCATIONS OF THE POWER/TELECOM OUTLETS WITHIN THE WORKSTATION PANELS.
4. THE POINT OF CONNECTION IN FURNITURE PARTITIONS MUST BE COORDINATED WITH ELECTRICAL PLANS.

NOTES SPÉCIFIQUES

- 1 ÉLÉMENTS GRAPHIQUES MURAUX EN PANNEAU DE TOILE TENDU OU PANNEAU MÉTALLIQUE "WAYFINDING". RÉFÉRER AU A170 PLANS DES FINIS

SPECIFIC NOTES

- 1 STRETCHED FABRIC WALL GRAPHIC OR METAL "WAYFINDING" PANEL. REFER TO A170 FINISHES PLAN

SYMBOLS ET RÉFÉRENCES

ÉQUIPEMENT ET ACCESSOIRES

N.B. : RÉFÉRER AUX ÉLÉVATIONS POUR LES DIMENSIONS D'INSTALLATION TYPIQUES DES ÉCRANS, ET LES "WALL TALKERS". SAUF INDICATION CONTRAIRE, TOUS LES ÉQUIPEMENT DOIVENT ÊTRE FOURNI PAR L'ENTREPRENEUR

SYMBOLS & REFERENCES

EQUIPMENT & ACCESSORIES

N.B. : REFER TO ELEVATIONS FOR TYPICAL INSTALLATION DIMENSIONS OF THE TV SCREENS AND "WALL TALKERS". UNLESS OTHERWISE INDICATED, ALL EQUIPMENT TO BE SUPPLIED BY THE GENERAL CONTRACTOR.

ÉQUIPEMENT SPÉCIALISÉ	XX	SPECIALTY EQUIPMENT
SYSTÈMES DE BUREAU ET MOBILIER - HORS CONTRAT		DESKING SYSTEMS & FURNITURE - NOT IN CONTRACT
PASSE-FILS DE SURFACE AU PLANCHER POUR CÂBLAGE ÉLECTRIQUE ET TÉLÉCOM		FLOOR SURFACE WIRE MOLDS FOR POWER AND TELECOM
APPAREIL "EVOKO ROOM MANAGER" MONTÉ AU MUR 1500mm DU PLANCHER FINI (CENTRE), HORS CONTRAT		"EVOKO" ROOM MANAGER, WALL-MOUNTED 1500mm AFF (CENTRED). NOT IN CONTRACT
ÉCRAN TACTILE PLAT DE 2032mm AVEC CAMÉRA & HAUT-PARLEURS. INSTALLATION MURALE. HORS CONTRAT		WALL-MOUNTED 2032mm FLAT TOUCH SCREEN WITH CAMERA & SPEAKER. NOT IN CONTRACT
RONDELLE MICROPHONE-HAUT PARLEURS SUR LA TABLE DE CONFÉRENCE. HORS CONTRAT		MICROPHONE SPEAKER PUCK ON SURFACE OF CONFERENCE TABLE. NOT IN CONTRACT
CROCHET POUR TABLEAU - ACCESSOIRE DES CLOISONS AMOVIBLES - INSÉRÉ DANS LES JOINTS VERTICAUX		ART HOOK MOVEABLE PARTITION ACCESSORY INSTALLED IN REVEAL
SYSTÈME D'ACCROCHAGE MONTÉS SUR MURS POUR EXPOSITIONS AH1 : SYSTÈME RAIL POUR LES MURS DE GYPSE AH2 : SYSTÈME DE CROCHET POUR LES PARTITIONS AMOVIBLES		WALL-MOUNTED ART HANGING SYSTEM AH1: TOP RAIL FOR GYPSUM PARTITIONS AH2: HOOK SYSTEM FOR MOVEABLE PARTITIONS
STORES EXISTANTS RELOCALISÉS FOURNIS PAR LE CLIENT		MANUAL WINDOW SCREENS FURNISHED BY THE CLIENT
CENTRE DE CONTRÔLE CONSOLE AUDIOVISUELLE AVEC TROUS DE VENTILATION POUR UN ORDINATEUR. HORS CONTRAT 760mm L x 508mm P x 737mm H		AUDIO-VISUAL CONTROL CENTRE CONSOLE WITH VENTILATION HOLES FOR COMPUTER. NOT IN CONTRACT. 760mm W x 508mm D x 737mm H
SURFACE D'ÉCRITURE "WALL TALKER" BLANC LUSTRE SANS JOINTS APPARENTS. HAUTEUR D'INSTALLATION 102mm DU PLANCHER FINI JUSQU'AU PLAFOND SUSPENDU, PLEINE LARGEUR.		SEAMLESS "WALL TALKER" WRITEABLE SURFACE, WHITE GLOSS. 102mm INSTALLATION HEIGHT TO UNDERSIDE OF SUSPENDED CEILING.
IMPRIMANTE/COPIEUR FOURNI PAR LE CLIENT 1143mm W x 760mm D x 1397mm H		LARGE PRINTER/COPIER, FURNISHED BY CLIENT 1143mm W x 760mm D x 1397mm H
IMPRIMANTE SUR SURFACE DE TRAVAIL FOURNI PAR LE CLIENT IM2: 760mm W x 610mm D x 483mm H IM3: 610mm W x 610mm D x 533mm H		PRINTER ON WORK SURFACE, FURNISHED BY CLIENT IM2: 760mm W x 610mm D x 483mm H IM3: 610mm W x 610mm D x 533mm H

Travaux publics et
Services gouvernementaux
Canada

Direction générale

Real Property Branch

Région du Québec

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PLAN-CLÉ
KEY PLAN

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Stantec

CONSULTANT LEED / LEED CONSULTANT :

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Sceau / Seal

Note:
L'entrepreneur doit vérifier toutes les dimensions et informations sur le site et aviser immédiatement l'architecte de toutes erreurs ou omissions.
Contractor shall verify all information and dimensions on site and immediately report any errors or omissions to the architect.

00	APPEL D'OFFRES / FOR TENDER	2019-01-17
<div>A B C</div>	<div>A no. du détail detail no. B no. de la feuille - où détail exigé sheet no. - where detail required C no. de la feuille - où détaillé sheet no. - where detailed</div>	
Projet	Project:	
ORGANISATION DE L'AVIATION CIVILE INTERNATIONALE (OACI) INTERNATIONAL CIVIL AVIATION ORGANIZATION (ICAO) 999, Boul Robert-Bourassa, Montréal Qc H3C 5H7		
AMÉNAGEMENT D'UNE VITRINE DE DEMONSTRATION AU 4 ^e ÉTAGE NEW SHOWCASE LAYOUT ON THE 4th FLOOR		
Dessin	Drawing:	
PLAN D'ÉQUIPEMENT ET ACCESSOIRES EQUIPMENT & ACCESSORIES PLAN		
Conçu par: MM	Design by: 01/16/19 Date:	
Dessiné par: MM	Drawn by: 01/16/19 Date:	
Approuvé par: SD	Approved by: 2019-01-17 Date:	
Soumission: Gestionnaire de projet TPSGC: APPEL D'OFFRES / FOR TENDER Eliza Rudkowska Tender: PWGSC Project Manager:		
No de projet: TPSGC: P-R.097036-A211-EL-IN.dwg	Project number: PWGSC Client	No de projet: Project number: Client
R.097036		
No du plan ou du dessin: P-R.097036-A160-PN-AM	File name: No de classement: Client	
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ICAO
New showcase layout on the 4th floor
Project: R.0974036

ADDENDUM No. 1
MECHANICAL / ELECTRICAL

Prepared by:

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Stantec Consulting Ltd.
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Mechanical
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February 12, 2019

ICAO
New showcase layout on the 4th floor
Project: R.0974036

ADDENDUM No. 1
MECHANICAL / ELECTRICAL

This addendum completes, modifies or eliminates certain elements of the tender documents, which the addendum refers to. It is an integral part of the tender documents.

1. SPECIFICATIONS

Section 23 07 13 (5 pages) and Section 27 05 28 (4 pages) are modified and issued with de current addendum.

2. DRAWINGS

2.1 ELECTRICAL

The following sketch is issued with the current addendum:

Drawing

E08/08, rev. 01

Sketch issued

EL-CE01

2.1.1 Drawing no. E08/08, rev. 01

- The lighting control diagram is replaced with the diagram on sketch EL-CE01.

Part 1 General**1.1 REFERENCE STANDARDS**

- .1 American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE).
 - .1 ANSI/ASHRAE/IESNA 90.1-04, SI; Energy Standard for Buildings Except Low-Rise Residential Buildings.
- .2 ASTM International (ASTM).
 - .1 ASTM B209M-07, Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate (Metric).
 - .2 ASTM C449/C449M-00, Standard Specification for Mineral Fiber-Hydraulic-Setting Thermal Insulating and Finishing Cement.
 - .3 ASTM C553-02e1, Standard Specification for Mineral Fiber Blanket Thermal Insulation for Commercial and Industrial Applications.
 - .4 ASTM C612-04e1, Standard Specification for Mineral Fiber Block and Board Thermal Insulation.
 - .5 ASTM C921-03a, Standard Practice for Determining the Properties of Jacketing Materials for Thermal Insulation.
- .3 Canadian General Standards Board (CGSB).
 - .1 CGSB 51-GP-52Ma-89, Vapour Barrier, Jacket and Facing Material for Pipe, Duct and Equipment Thermal Insulation.
- .4 Green Seal Environmental Standards (GSES).
 - .1 Standard GS-36-00, Commercial Adhesives.
- .5 South Coast Air Quality Management District (SCAQMD), California State.
 - .1 SCAQMD Rule 1168-A2005, Adhesive and Sealant Applications.
- .6 Thermal Insulation Association of Canada (TIAC): National Insulation Standards (2005).
- .7 Underwriters Laboratories of Canada (ULC).
 - .1 CAN/ULC-S102-03, Method of Test for Surface Burning Characteristics of Building Materials and Assemblies.
 - .2 CAN/ULC-S701-05, Standard for Thermal Insulation, Polystyrene, Boards and Pipe Covering.

1.2 DEFINITIONS

- .1 For purposes of this Section:
 - .1 "CONCEALED" - insulated mechanical services and equipment in suspended ceilings and non-accessible chases and furred-in spaces.
 - .2 "EXPOSED" - means "not concealed" as previously defined.
 - .3 Insulation systems - insulation material, fasteners, jackets, and other accessories.

- .2 TIAC Codes:
 - .1 CRD: Code Round Ductwork.
 - .2 CRF: Code Rectangular Finish.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
 - .1 Provide manufacturer's printed product literature and datasheets for duct insulation, and include product characteristics, performance criteria, physical size, finish, and limitations.
 - .1 Description of equipment giving manufacturer's name, type, model, year, and capacity.
- .3 Samples:
 - .1 Submit for approval: Complete assembly of each type of insulation system, insulation, coating, and adhesive proposed.
 - .2 Mount sample on 12-mm plywood board.
 - .3 Affix typewritten label beneath sample indicating service.
- .4 Manufacturers' Instructions:
 - .1 Provide manufacture's written duct insulation jointing recommendations and special handling criteria, installation sequence, and cleaning procedures.
- .5 Sustainable Design Submittals:
 - .1 LEED Submittals: In accordance with Section 01 35 21 - LEED Requirements.

1.4 DELIVERY, STORAGE, AND HANDLING

- .1 Deliver, store, and handle in accordance with Section 01 61 00 - Common Product Requirements.
- .2 Deliver materials to site in original factory packaging, labelled with manufacturer's name, address and ULC markings.
- .3 Packaging Waste Management: Remove for recycling in accordance with Section 01 74 19 - Waste Management and Disposal.

Part 2 Products

2.1 FIRE AND SMOKE RATING

- .1 To CAN/ULC-S102:
 - .1 Maximum flame spread rating: 25.
 - .2 Maximum smoke developed rating: 50.

2.2 INSULATION

- .1 Thermal conductivity ("k" factor) not to exceed specified values at 24°C mean temperature when tested in accordance with ASTM C335.
- .2 TIAC Code C-1: Rigid mineral fibre board to ASTM C612, with factory applied vapour retarder jacket to CGSB 51-GP-52Ma (as scheduled in PART 3 of this Section).
- .3 TIAC Code C-2: Mineral fibre blanket to ASTM C553, with factory applied vapour retarder jacket to ASTM E96.
 - .1 Mineral fibre blanket to ASTM C553.
 - .2 Vapour retarder jacket to ASTM E96.
 - .3 Thermal conductivity "K" not exceeding 0.035 W/m •°C (0.24 Btu-po/hr•ft²•°F) at an average temperature of 24°C (75°F).
 - .4 Temperature limit: 120°C (250°F).
 - .5 Density: 24 kg/m³ (1.5 lb/ft³).

2.3 JACKETS

- .1 Canvas:
 - .1 220 gm/m² cotton, plain weave, treated with dilute fire-retardant lagging adhesive to ASTM C921.
- .2 Lagging adhesive: Compatible with insulation.

2.4 ACCESSORIES

- .1 Vapour Retarder Lap Adhesive:
 - .1 Water based, fire retardant type, compatible with insulation.
- .2 Indoor Vapour Retarder Finish:
 - .1 Vinyl emulsion type acrylic, compatible with insulation.
- .3 Insulating Cement: Hydraulic setting on mineral wool, to ASTM C449.
- .4 ULC Listed Canvas Jacket:
 - .1 220 gm/m² cotton, plain weave, treated with dilute fire-retardant lagging adhesive to ASTM C921 Standard.
- .5 Outdoor Vapour Retarder Mastic:
 - .1 Vinyl emulsion type acrylic, compatible with insulation.
 - .2 Reinforcing fabric: Fibrous glass, untreated 305 g/m².
- .6 Tape: self-adhesive, aluminum, plain reinforced, 75 mm wide minimum.
- .7 Contact Adhesive: Quick-setting.
- .8 Canvas Adhesive: Washable.
- .9 Tie Wire: 1.5 mm stainless steel.

- .10 Banding: 19 mm wide, 0.5 mm thick stainless steel.
- .11 Facing: 25 mm galvanized steel hexagonal wire mesh stitched on one face of insulation with expanded metal lath on other face or both faces of insulation.
- .12 Fasteners: 4 mm diameter pins with 35 mm diameter, square clips, length to suit thickness of insulation.

Part 3 Execution

3.1 APPLICATION

- .1 Manufacturer's Instructions: Comply with manufacturer's written recommendations, including product technical bulletins, handling, storage and installation instructions, and datasheets.

3.2 PRE-INSTALLATION REQUIREMENTS

- .1 Pressure test ductwork systems complete, witness, and certify.
- .2 Ensure surfaces are clean, dry, free from foreign material.

3.3 INSTALLATION

- .1 Install in accordance with TIAC National Standards.
- .2 Apply materials in accordance with manufacturers instructions and as indicated.
- .3 Use 2 layers with staggered joints when required nominal thickness exceeds 75 mm.
- .4 Maintain uninterrupted continuity and integrity of vapour retarder jacket and finishes.
 - .1 Ensure hangers, and supports are outside vapour retarder jacket.
- .5 Apply high compressive strength insulation where insulation may be compressed by weight of ductwork.
- .6 Fasteners: Install at 300 mm on centre in horizontal and vertical directions, minimum 2 rows each side.

3.4 DUCTWORK INSULATION SCHEDULE

- .1 Insulation types and thicknesses: Conform to following table:

TIAC CODE	VAPOUR RETARDER	THICKNESS (MM)
Rectangular Warm and Cold Air Ducts	C-1	25
Round Warm and Cold Air Ducts	C-2	25



3.5 CLEANING

- .1 Clean in accordance with Section 01 74 00 - Cleaning.
 - .1 Remove surplus materials, excess materials, rubbish, tools, and equipment.

- .2 Waste Management: Separate waste materials for recycling in accordance with Section 01 74 19 - Waste Management and Disposal.

END OF SECTION

Part 1 General**1.1 RELATED REQUIREMENTS**

- .1 Section 27 05 26 – Grounding and bonding for communications systems;

1.2 REFERENCE STANDARDS

- .1 American National Standards Institute (ANSI) / Telecommunications Industry Association (TIA)
 - .1 ANSI/TIA-607-C (2015) – Generic telecommunications bonding and grounding (earthing) for customer premises.
 - .2 ANSI/TIA-569-D (2015) – Telecommunications pathways and spaces
 - .3 ANSI/TIA-606-C – Administration Standard for Telecommunications Infrastructure.
- .2 Building Industry Consultant Service International (BICSI)
 - .1 BICSI TDMM-13 – Telecommunications distribution methods manual.
- .3 National Building Code – Canada, 2015
- .4 Electrical code of Canada 2018.

1.3 ABBREVIATIONS

- .1 GND – Grounding;
- .2 BND – Bounding;
- .3 Contractor; designates the telecommunications contractor.

1.4 DOCUMENTS TO SUBMIT FOR APPROVAL

- .1 After the award of the contract, the bidding Contractor must provide a copy of shop drawings in electronic format (PDF) for approval. These drawings must identify the items chose by the bidding Contractor;
- .2 The submitted shop drawings must include, in a clean and legible way, the following information:
 - .1 The item number (as identified in the list of products) – see part 3;
 - .2 If the document contains more than one item, identification of the proposed products must be done in a clean, easy to read and not misleading way;
 - .3 The drawing must include a schematic, a picture and/or a technical drawing of the item, a product description and technical specifications;
 - .4 The shop drawing will enable the Applicant to order a spare and/or an equivalent product in the future.
- .3 The Applicant's representative has the right to reject a product that is not in accordance with the present specification. Only approved products can be installed.

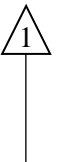
Part 2 Constraints**2.1 DUCTS, CABLE TRAYS, PATHWAYS, CONDUITS, ETC.**

- .1 Cable Trays
 - .1 A telecom cable tray is exclusively dedicated to voice, network, multimedia and physical security cables. No electrical or grounding cables may occupy the same tray.
 - .2 In a mechanical or equipment room, for any cable tray providing a cabinet, rack or wall panel, the Contractor must provide and install a drop section with corner guides. Cables' bending radius must be protected while exiting a cable tray.
 - .3 The cable tray system must be type basket tray(mesh) and must be 305 mm width by 100 mm depth install with tie rod.
 - .4 Supply and install by division 26.
- .2 Ducts and conduits
 - .1 All used conduits are provided and installed by the electrical contractor. Installation of conduits is necessary in specific cases:
 - .1 Passage of cables in a public zone, a closed or inaccessible ceiling and in an aggressive environment like a warehouse;
 - .2 Passage of cables in a floor slab or a wall;
 - .3 Passage of outdoor cable in a building towards a mechanical room with a flammability standard of FT1 or less;
 - .4 Vertical transit toward another floor or through a hard to access space;
 - .5 When mechanical protection is required.
- .3 Before using any conduit, the Contractor must verify the following:
 - .1 That a pull box be installed if there are two or more 90° elbows or if the length of a conduit exceeds 100 feet (30 m). When a pull box is required, it must be easily accessible and used in a straight part of the conduit. A pull box may not be used to replace an elbow;
 - .2 An elbow made from a conduit must be bent with appropriated equipment and respect a bend radius of at least six times it's diameter;
 - .3 The use of a "condulet" (lb) type prefabricated connection is prohibited since its internal bend radius does not respect telecommunication standards;
 - .4 No conduit may have a diameter lower than 19 mm;
 - .5 Conduit, whether they are used or not, must have a functional pull rope in nylon. The pull rope must be attached to each end of the conduit;
 - .6 A conduit must be protected at each end with a protective fitting to protect the cables from its sharp edges;
 - .7 Conduits, pull boxes, junction boxes and outlet boxes must be grounded following the current standards;
 - .8 Coupling connectors must be made of steel with retaining bolts.

- .4 If at least one of the above points has not been observed, inform an Applicant's representative as soon as possible;
- .5 All ducts and conduits used in a project must be installed by the electrical contractor. Installation of conduits is required in specific cases:
 - .1 For passage through a continuous slab to slab wall with minimal fire resistance;
 - .2 For passage through a floor slab to access another floor.
- .6 Exclusive use of trays, conduits and ducts
 - .1 Cable trays, conduits or ducts used for telecom are to be used for telecom only and cannot be shared with other services such as electric cables, fire alarms cables, etc.
 - .2 Each conduit is dedicated to one service only and cannot be shared with another. It is not permitted to install telecommunication cables with video, security or even optical fiber cables.
- .7 Filling constraints for conduits and ducts
 - .1 In telecommunications, unless otherwise stated, the filling level of conduits must be equal or less than 35% of their capacity. To optimise conduit use, the table below presents the maximum number of cables inside a conduit of a given diameter:

Nominal diameter of conduit mm	Maximum quantity of PTNB 24 AWG caliber, CAT 6A unshielded cables
21	5
27	8
35	14
41	20
53	33
78	72

Note: the use of conduits bigger than 78 mm in diameter is not authorised.



Part 3 Products**3.1 ~~J HOOKS FOR CATEGORY 6 CABLES~~**

- ~~.1 Must be specifically designed for telecommunications to support telecom distribution cables.~~

3.2 ~~INDOOR SERVICE POLES FOR J HOOKS~~

- ~~.1 Mounted on the ceiling and can have multiple J hooks attached to it.~~

Part 4 Execution**4.1 CONDUITS**

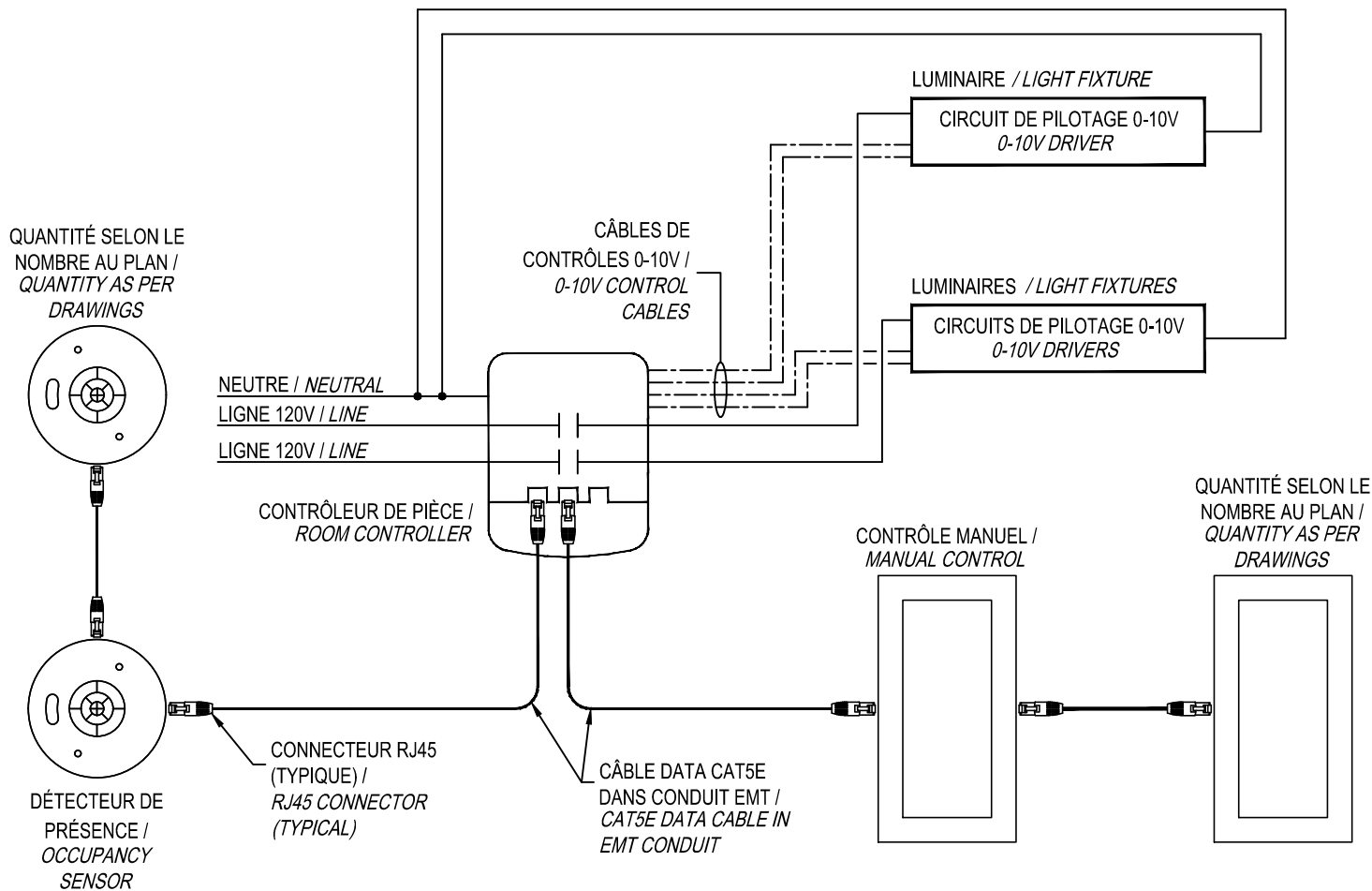
- .1 A series of conduits will be provided and installed by division 26. These conduits will lead away from the IT room towards the rented space. No cable can cross the public zone outside of a conduit;
- .2 The telecommunication horizontal pathways must be compliant with ANSI/TIA 569 standard and be installed at a far enough distance from electrical circuits so as to minimize the effect of electromagnetic interferences (EMI).

4.2 ~~J HOOKS~~

- ~~.1 Use the layout plan for distribution of location's cabling network;~~
- ~~.2 The Contractor has the responsibility to choose the cable run with the shortest distance without exceeding the 90 meters maximum length;~~
- ~~.3 Regroup, if possible, a maximum of the the cables to form arteries. Cables may exit the artery in the last meters of its run in the ceiling.~~
- ~~.4 Provide and install J hooks with a maximum of 1 500 mm between each;~~
- ~~.5 Every path must be dedicated to one IT service. Network cables may not share the same hooks as A/V cables.~~

END OF SECTION

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2019/02/11 3:27 Par: Manseau-Nguyen, Alexandre



NOTE :

1. LES APPAREILS SUR RÉSEAU D'URGENCE, NE SONT PAS CONTRÔLÉS. / LIGHT FIXTURES ON EMERGENCY POWER ARE NOT CONTROLLED.



DIAGRAMME DE CONTRÔLE D'ÉCLAIRAGE / LIGHTING CONTROL DIAGRAM

ÉCHELLE/SCALE: AUCUNE



Stantec Experts-conseils ltée
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Projet

OACI VITRINE DE DÉMONSTRATION AU 4E ÉTAGE / ICAO SHOWCASE LAYOUT ON 4TH FLOOR

Ville, Prov./Pays

Nom Fichier: R_097036_001-E08_DT-PLN

19-02-15

AA-MM-JJ

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J. Morneau

Préparé

Dessiné

A. Manseau-Nguyen, ing.

-

Vérifié

Chargé de projet

Client

TPSGC /
PWGSC

Titre

DÉTAILS /
DETAILS

Projet No.

157102433

Échelle

AUCUNE

Extrait de

E08

Rév. Extr.

01

Dessin No.

CE-01

Date Révision

2019-02-15

Émission - Révision

1