



RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:
Bid Receiving - PWGSC / Réception des soumissions - TPSGC
11 Laurier St. / 11, rue Laurier
Place du Portage, Phase III
Core 0B2 / Noyau 0B2
Gatineau, Québec K1A 0S5
Bid Fax: (819) 997-9776

REQUEST FOR PROPOSAL
DEMANDE DE PROPOSITION

Proposal To: Public Works and Government Services Canada

We hereby offer to sell to Her Majesty the Queen in right of Canada, in accordance with the terms and conditions set out herein, referred to herein or attached hereto, the goods, services, and construction listed herein and on any attached sheets at the price(s) set out therefor.

Proposition aux: Travaux Publics et Services Gouvernementaux Canada

Nous offrons par la présente de vendre à Sa Majesté la Reine du chef du Canada, aux conditions énoncées ou incluses par référence dans la présente et aux annexes ci-jointes, les biens, services et construction énumérés ici sur toute feuille ci-annexée, au(x) prix indiqué(s).

Comments - Commentaires

Title - Sujet Audio Video Supply Install Montreal	
Solicitation No. - N° de l'invitation E0272-182099/A	Date 2017-12-06
Client Reference No. - N° de référence du client 20182099	
GETS Reference No. - N° de référence de SEAG PW-\$\$HN-331-73898	
File No. - N° de dossier hn331.E0272-182099	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2017-12-21	Time Zone Fuseau horaire Eastern Standard Time EST
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input checked="" type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Turner, Louie	Buyer Id - Id de l'acheteur hn331
Telephone No. - N° de téléphone (873) 469-3342 ()	FAX No. - N° de FAX () -
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: DEPARTMENT OF PUBLIC WORKS AND GOVERNMENT SERVICES CANADA 7300 800, RUE DE LA GAUCHETIERE O. MONTREAL Quebec H5A1L6 Canada	

Instructions: See Herein

Instructions: Voir aux présentes

Vendor/Firm Name and Address
Raison sociale et adresse du fournisseur/de l'entrepreneur

Issuing Office - Bureau de distribution
Electrical & Electronics Products Division
11 Laurier St./11, rue Laurier
7B3, Place du Portage, Phase III
Gatineau, Québec K1A 0S5

Delivery Required - Livraison exigée 2018-02-01	Delivery Offered - Livraison proposée
Vendor/Firm Name and Address Raison sociale et adresse du fournisseur/de l'entrepreneur	
Telephone No. - N° de téléphone Facsimile No. - N° de télécopieur	
Name and title of person authorized to sign on behalf of Vendor/Firm (type or print) Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)	
Signature	Date



Item Article	Description	Dest. Code Dest.	Inv. Code Fact.	Qty Qté	U. of I. U. de D.	Destination	Unit Price/Prix unitaire FOB/FAM	Plant/Usine	Delivery Req. Livraison Req.	Del. Offered Liv. offerte
1	<p>Materiel informatique Montreal 201</p> <p>8</p> <p>Public Works Government Services Canada (PWGSC) has a requirement to supply and install fully functional Audio Video Systems as per Annex A Audio Video Installation - Statement of Work, Annex B....., Appendix A - Room Lists, Appendix B - Contract Data Requirement List, Appendix C - General Installation and Performance Requirements, Appendix D - Evaluation Criteria/Technical Evaluation, Appendix E - Drawings Floor Plan, Appendix F - Pricing</p> <p>• All prices must be submitted in Annex F</p>	E0272	E0272	1	Each	\$	XXXXXXXXXXXX		2018-02-01	

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Client Ref. No. - N° de réf. du client
E0272-182099

Amd. No. - N° de la modif.
File No. - N° du dossier
hn331.E0272-182099

Buyer ID - Id de l'acheteur
hn331
CCC No./N° CCC - FMS No./N° VME

Attachments:

Annex A – Audio Video Installation – Statement of Work
Appendix A – Room List
Appendix B – Contract Data Requirement List
Appendix C – General Installation and Performance Requirements
Appendix D – Mandatory Requirement/Evaluation Criteria
Appendix E – Floor Plan Drawing
Appendix F - Pricing

PART 1 - GENERAL INFORMATION

1.1 Security Requirements

There is no security requirement associated with the requirement.

1.2 Statement of Work/Requirement

The contractor must provide the goods and services in accordance with the technical requirements stated herein.

1.2.1 Delivery Requirement

The delivery requirement is mandatory and must be completed by February 1, 2018. (Refer to Annex A, note 24 for scheduled requirements)

1.3 Debriefings

Bidders may request a debriefing on the results of the bid solicitation process. Bidders should make the request to the Contracting Authority within 15 working days from receipt of the results of the bid solicitation process. The debriefing may be in writing, by telephone or in person.

1.4 Trade Agreements

The requirement is subject to the provisions of the Canadian Free Trade Agreement (CFTA).

PART 2 - BIDDER INSTRUCTIONS

2.1 Standard Instructions, Clauses and Conditions

All instructions, clauses and conditions identified in the bid solicitation by number, date and title are set out in the [Standard Acquisition Clauses and Conditions Manual](https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

Bidders who submit a bid agree to be bound by the instructions, clauses and conditions of the bid solicitation and accept the clauses and conditions of the resulting contract.

The [2003](#) (2017-04-27) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

Subsection 5.4 of [2003](#), Standard Instructions - Goods or Services - Competitive Requirements, is amended as follows:

Delete: 60 days
Insert: 90 days

2.1.1 SACC Manual Clauses

SACC Reference	Section	Date
A9033T	Financial Capability	2012-07-16
B1000T	Condition of Material	2014-06-26

2.2 Submission of Bids

Bids must be submitted ONLY TO THE BID RECEIVING UNIT by the date, time and place indicated on page 1 of the bid solicitation. Do not send proposal directly to the Contracting Officer. Email proposal not accepted.

PWGSC Bids Receiving Unit
11 Laurier Street
Place du Portage, Phase 3, Core 0B2
Gatineau, Québec, K1A 0S5
Tel.: 819-420-7201
Fax: 819-997-9776

2.3 Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than five (5) calendar days before the bid closing date. Enquiries received after that time may not be answered.

Bidders should reference as accurately as possible the numbered item of the bid solicitation to which the enquiry relates. Care should be taken by Bidders to explain each question in sufficient detail in order to enable Canada to provide an accurate answer. Technical enquiries that are of a proprietary nature must be clearly marked "proprietary" at each relevant item. Items identified as "proprietary" will be treated as such except where Canada determines that the enquiry is not of a proprietary nature. Canada may edit the question(s) or may request that the Bidder do so, so that the proprietary nature of the question(s) is eliminated, and the enquiry can be answered to all Bidders. Enquiries not submitted in a form that can be distributed to all Bidders may not be answered by Canada.

2.4 Applicable Laws

Any resulting contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Ontario.

Bidders may, at their discretion, substitute the applicable laws of a Canadian province or territory of their choice without affecting the validity of their bid, by deleting the name of the Canadian province or territory specified and inserting the name of the Canadian province or territory of their choice. If no change is made, it acknowledges that the applicable laws specified are acceptable to the Bidders.

2.5 Mandatory Site Visit

It is mandatory that the Bidder or a representative of the Bidder visit the work site. Arrangements have been made for the following:

Mandatory site visit will be held at 800 de la Gauchetière West (south east tower) on December 13, 2017 at 11:00 am. Meeting point will be at the lounge in front of Press Café.
Contact: Amy Lee Gonye (514-496-3339) or Ron George (613-716-2426).

Note that in order to be granted access to the site, both hard hats and steel toe or closed toe shoes are mandatory.

Bidders will be required to sign an attendance form at the required site visit. Bidders should confirm in their bids that they have attended the site visit. Bidders who do not attend or send a representative to the site visit will not be given an alternative appointment and their bids will be rejected as non-compliant.

The onus is on the bidders to arrive at the site visit in a timely manner. Bidders arriving late may not be permitted to attend the site visit. The Bidder must have at least one attendee at the site visit.

To apply for the site visit, contact the Contracting Authority: louie.turner@pwgsc-tpsgc.gc.ca
The request must be submitted no later than December 12, 2017 by 4:00 pm

Bidders are requested to clearly identify the name of the participant(s), the name of the company they represent, telephone number, facsimile number and e-mail address.

Bidders are advised that any clarifications or changes resulting from the site visit shall be included as an amendment to the bid solicitation document.

PART 3 - BID PREPARATION INSTRUCTIONS

3.1 Bid Preparation Instructions

Canada requests that Bidders provide their bid in separately bound sections as follows:

Section I: Technical Bid (3 hard copies and 2 soft copies on USB Memory Stick, CD or DVD)

Section II: Financial Bid (1 hard copy)

Section III: Certifications (1 hard copy)

If there is a discrepancy between the wording of the soft copy and the hard copy, the wording of the hard copy will have priority over the wording of the soft copy.

Prices must appear in the financial bid only. No prices must be indicated in any other section of the bid.

Canada requests that Bidders follow the format instructions described below in the preparation of their bid:

- (a) use 8.5 x 11 inch (216 mm x 279 mm) paper;
- (b) use a numbering system that corresponds to the bid solicitation.

In April 2006, Canada issued a policy directing federal departments and agencies to take the necessary steps to incorporate environmental considerations into the procurement process [Policy on Green Procurement](http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html) (<http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html>). To assist Canada in reaching its objectives, Bidders should:

- 1) use 8.5 x 11 inch (216 mm x 279 mm) paper containing fibre certified as originating from a sustainably-managed forest and containing minimum 30% recycled content; and
- 2) use an environmentally-preferable format including black and white printing instead of colour printing, printing double sided/duplex, using staples or clips instead of cerlox, duotangs or binders.

Section I: Technical Bid

In their technical bid, Bidders should explain and demonstrate how they propose to meet the requirements and how they will carry out the Work.

3.1.1 Equivalent Product

- 1. Products that are equivalent in form, fit, function and quality to the item(s) specified in the bid solicitation will be considered where the Bidder designates the brand name and model and/or part number and NCAGE of the substitute product;
- 2. Products offered as equivalent in form, fit, function and quality will not be considered if:
 - (a) the bid fails to provide all the information requested to allow the Contracting Authority to fully evaluate the equivalency of each substitute product; or
 - (b) the substitute product fails to meet or exceed the mandatory performance criteria specified in the bid solicitation for that item.

3. In conducting its evaluation of the bids, Canada may, but will have no obligation to, request bidders offering a substitute product to provide technical information demonstrating the equivalency (e.g. Drawing, specifications, engineering reports and/or test reports), or to demonstrate that the substitute product is equivalent to the item specified in the bid solicitation, at the sole cost of bidders, within two (2) business days of the request. If the bidder fails to provide the requested information within the specified timeframe, Canada may declare the bid non-responsive.

3.1.1.1 Equivalent Products - Samples

If the Bidder offers an equivalent product, Canada reserves the right to request a sample from the Bidder in order to determine its equivalency in form, fit, function, quality and performance to the item specified in the bid solicitation.

The Bidder must, upon request from the Contracting Authority, provide a sample to the Technical Authority, transportation charges prepaid, and without charge to Canada, within three (3) calendar days from the date of request. The sample submitted by the Bidder will remain the property of Canada and will not be considered as part of the deliverables in any resulting contract. If the sample does not meet the requirements of the bid solicitation or the Bidder fails to comply with the request of the Contracting Authority, the bid will be declared non-responsive.

Section II: Financial Bid

Bidders must submit their financial bid in accordance with the Basis of Payment. The total amount of Applicable Taxes must be shown separately.

Bid prices must include all costs associated with all requirements of the solicitation to provide fully functional rooms. These costs must be included in the price of each room. The miscellaneous equipment list and the 2 annual visits are to be priced separate from the price per room (Refer to Appendix F – Price)

3.1.2.1 Exchange Rate Fluctuation

The requirement does not offer exchange rate fluctuation risk mitigation. Requests for exchange rate fluctuation risk mitigation will not be considered. All bids including such provision will render the bid non-responsive.

Section III: Certifications

Bidders must submit the certifications required under Part 5.

3.1.4 Delivery Offered

While delivery is requested as indicated above, the best delivery that could be offered is_____.

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

You are reminded that this solicitation requires the compliance and/or completion of requirements attached as an Annex and forming part of this document.

4.1 Evaluation Procedures

- a) Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria.
- b) An evaluation team composed of representatives of Canada will evaluate the bids.

4.1.1 Technical Evaluation

All bids must be completed in full and provide all of the information requested in the bid solicitation to enable full and complete evaluation.

In the case where a bidder proposes to supply an alternate or equivalent item, the onus is on the bidder to prove that the alternative/equivalent item is actually an equivalent or better than the brand name.

4.1.1.1 Mandatory Technical Criteria

The following Mandatory requirements must be submitted with the bid for evaluation

- Technical compliance herein;
- Appendix D are mandatory requirements and will be used as the Mandatory evaluation criteria

4.1.1.2 Mandatory Criteria

- Requirements specified in the solicitation documents using the word "must" are mandatory.

4.1.2 Financial Evaluation

Bids will be evaluated by the total price of the bid. The total price of the bid will be determined by the sum of:

each room type (10 total room types) x number of rooms of each type, plus:
miscellaneous equipment list - each item (10 items total) x the quantity for each item, plus:
total price of two annual visits

4.1.2.1 Pricing Basis

The bidder must quote firm unit prices in Canadian dollars DDP Delivered Duty Paid (Place Bonaventure, Portail Sud-Est, 800 De La Gauchetiere St W Bureau 7), Applicable Taxes extra, as applicable. Freight charges to destination and all applicable Custom duties and Excise taxes must be included.

4.2 Basis of Selection

A bid must comply with the requirements of the bid solicitation and meet all mandatory technical evaluation criteria to be declared responsive. The responsive bid with the "lowest evaluated price on an aggregate basis" will be recommended for award of a contract.

PART 5 – CERTIFICATIONS AND ADDITIONAL INFORMATION

Bidders must provide the required certifications and additional information to be awarded a contract.

The certifications provided by Bidders to Canada are subject to verification by Canada at all times. Canada will declare a bid non-responsive, or will declare a contractor in default if any certification made by the Bidder is found to be untrue whether made knowingly or unknowingly, during the bid evaluation period or during the contract period.

The Contracting Authority will have the right to ask for additional information to verify the Bidder's certifications. Failure to comply and to cooperate with any request or requirement imposed by the Contracting Authority will render the bid non-responsive or constitute a default under the Contract.

5.1 Certifications Required with the Bid

Bidders must submit the following duly completed certifications as part of their bid.

5.1.1 Integrity Provisions - Declaration of Convicted Offences

In accordance with the Integrity Provisions of the Standard Instructions, all bidders must provide with their bid, **if applicable**, the declaration form available on the Forms for the Integrity Regime website (<http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html>), to be given further consideration in the procurement process.

5.2 Certifications Precedent to Contract Award and Additional Information

The certifications and additional information listed below should be submitted with the bid, but may be submitted afterwards. If any of these required certifications or additional information is not completed and submitted as requested, the Contracting Authority will inform the Bidder of a time frame within which to provide the information. Failure to provide the certifications or the additional information listed below within the time frame provided will render the bid non-responsive.

5.2.1 Integrity Provisions – Required Documentation

In accordance with the section titled Information to be provided when bidding, contracting or entering into a real procurement agreement of the Ineligibility and Suspension Policy (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>), the Bidder must provide the required documentation, as applicable, to be given further consideration in the procurement process.

5.2.2 General Environmental Criteria Certification

The Bidder must select and complete one of the following two certification statements.

- A) The Bidder certifies that the Bidder is registered or meets ISO 14001.

Bidders' Authorized Representative Signature

Date

or

- B) The Bidder certifies that the Bidder meets and will continue to meet throughout the duration of the contract, a minimum of four (4) out of six (6) criteria identified in the table below.

The Bidder must indicate which four (4) criteria, as a minimum, are met.

Green Practices within the Bidders' organization	Insert a checkmark for each criterion that is met
Promotes a paperless environment through directives, procedures and/or programs	
All documents are printed double sided and in black and white for day to day business activity unless otherwise specified by your client	
Paper used for day to day business activity has a minimum of 30% recycled content and has a sustainable forestry management certification	
Utilizes environmentally preferable inks and purchase remanufactured ink cartridges or ink cartridges that can be returned to the manufacturer for reuse and recycling for day to day business activity.	
Recycling bins for paper, newsprint, plastic and aluminum containers available and emptied regularly in accordance with local recycling program.	
A minimum of 50% of office equipment has an energy efficient certification.	

Bidders' Authorized Representative Signature

Date

5.2.3 Federal Contractors Program for Employment Equity - Bid Certification

By submitting a bid, the Bidder certifies that the Bidder, and any of the Bidder's members if the Bidder is a Joint Venture, is not named on the Federal Contractors Program (FCP) for employment equity "[FCP Limited Eligibility to Bid](#)" list available at the bottom of the page of the [Employment and Social Development Canada \(ESDC\) - Labour's](#) website (http://www.esdc.gc.ca/en/jobs/workplace/human_rights/employment_equity/federal_contractor_program.page?&_ga=1.229006812.1158694905.1413548969).

Canada will have the right to declare a bid non-responsive if the Bidder, or any member of the Bidder if the Bidder is a Joint Venture, appears on the "[FCP Limited Eligibility to Bid](#)" list at the time of contract award.

PART 6 - RESULTING CONTRACT CLAUSES

The following clauses and conditions apply to and form part of any contract resulting from the bid solicitation.

6.1 Security Requirements

6.1.1 There is no security requirement applicable to this Contract.

6.2 Statement of Work/Requirement

The contractor must provide the goods and services in accordance with the technical requirements stated herein.

6.2.1 SACC Manual Clauses

SACC Reference	Section	Date
B1501C	Electrical Equipment	2006-06-16
B7500C	Excess Goods	2006-06-16

6.3 Standard Clauses and Conditions

All clauses and conditions identified in the Contract by number, date and title are set out in the [Standard Acquisition Clauses and Conditions Manual](https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) (https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) issued by Public Works and Government Services Canada.

6.3.1 General Conditions

[2010A](#) (2016-04-04), [General Conditions - Goods \(Medium Complexity\)](#), apply to and form part of the Contract.

And

[2010C](#) (2016-04-04), [General Conditions - Services \(Medium Complexity\)](#) sections 2010C 16 and 2010C 17 apply to and form part of the Contract.

6.4 Term of Contract

6.4.1 Delivery Date

All the deliverables must be received on or before _____ (Delivery as offered and as accepted will be inserted at contract award).

6.5 Authorities

6.5.1 Contracting Authority

The Contracting Authority for the Contract is:
Louie Turner, Supply Specialist
Public Works and Government Services Canada - Acquisitions Branch
Logistics, Electrical, Fuel and Transportation Directorate - "HN" Division
7B3, Place du Portage, Phase III, 11 Laurier Street, Gatineau, QC, K1A 0S5
Telephone: (873) 469-3342 Facsimile: (819) 953-4944
E-mail address: louie.turner@pwgsc-tpsgc.gc.ca

The Contracting Authority is responsible for the management of the Contract and any changes to the Contract must be authorized in writing by the Contracting Authority. The Contractor must not perform work in excess of or outside the scope of the Contract based on verbal or written requests or instructions from anybody other than the Contracting Authority.

6.5.2 Project Authority

The Project Authority for the Contract is: (will be inserted at contract)
Name:
Title:
Telephone: (xxx) xxx-xxxx Facsimile: (xxx) xxx-xxxx
E-mail:

The Project Authority is the representative of the department or agency for whom the Work is being carried out under the Contract and is responsible for all matters concerning the technical content of the Work under the Contract. Technical matters may be discussed with the Project Authority; however the Project Authority has no authority to authorize changes to the scope of the Work. Changes to the scope of the Work can only be made through a contract amendment issued by the Contracting Authority.

6.5.3 Technical Authority

The Technical Authority for the Contract is: (will be inserted at contract)
Name:
Title:
Telephone: (xxx) xxx-xxxx Facsimile: (xxx) xxx-xxxx
E-mail:

The Technical Authority named above is the representative of the department or agency for whom the Work is being carried out under the Contract and is responsible for all matters concerning the technical content of the Work under the Contract. Technical matters may be discussed with the Technical Authority; however the Technical Authority has no authority to authorize changes to the scope of the Work. Changes to the scope of the Work can only be made through a contract amendment issued by the Contracting Authority.

6.5.4 Contractor's Representative

Name and telephone number of the person responsible for: (will be inserted at contract)

General enquiries

Name: _____
Telephone: _____ Facsimile: _____
E-mail: _____

Delivery follow-up

Name: _____
Telephone: _____ Facsimile: _____
E-mail: _____

6.6 Payment

6.6.1 Basis of Payment

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid firm unit prices as specified in the contract (Annex F) for a cost of \$ _____ (insert the amount at contract award). Customs duties are included and Applicable Taxes are extra.

6.6.2 Limitation of Price

Canada will not pay the Contractor for any design changes, modifications or interpretations of the Work unless they have been approved, in writing, by the Contracting Authority before their incorporation into the Work.

6.6.3 Single Payment or Multiple Payments

SACC Manual clause H1001C (2008-05-12) Multiple Payments

6.6.4 SACC Manual Clauses

SACC Reference	Section	Date
<u>G1005C</u>	Insurance	2016-01-28

6.7 Invoicing Instructions

1. The Contractor must submit invoices in accordance with the section entitled "Invoice Submission" of the general conditions. Invoices cannot be submitted until all work identified in the invoice is completed.
2. Invoices must be distributed as follows:
 - (a) The original and one (1) copy must be forwarded to the address shown on page 1 of the Contract for certification and payment.

- (b) One (1) copy must be forwarded to the Contracting Authority identified under the section entitled "Authorities" of the Contract.
Department of Public Works and Government Services - "HN" Division
7B3 Place du Portage, Phase III, 11 Laurier Street, Gatineau, QC, K1A 0S5
Attention: Louie Turner

6.8 Certifications

6.8.1 Compliance

The continuous compliance with the certifications provided by the Contractor in its bid and the ongoing cooperation in providing additional information are conditions of the Contract. Certifications are subject to verification by Canada during the entire period of the Contract. If the Contractor does not comply with any certification, fails to provide the additional information, or if it is determined that any certification made by the Contractor in its bid is untrue, whether made knowingly or unknowingly, Canada has the right, pursuant to the default provision of the Contract, to terminate the Contract for default.

6.9 Applicable Laws

The Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in _____. (Insert the name of the province or territory as specified by the Bidder in its bid, if applicable)

6.10 Priority of Documents

If there is a discrepancy between the wording of any documents that appear on the list, the wording of the document that first appears on the list has priority over the wording of any document that subsequently appears on the list.

- (a) the Articles of Agreement;
(b) the general conditions [2010A \(2016-04-04\), General Conditions - Goods \(Medium Complexity\), and 2010C \(2016-04-04\), General Conditions - Services \(Medium Complexity\)](#) sections 2010C 16 and 2010C 17;
(c) Statement of Work/Requirement;
(d) the Contractor's bid dated _____, as clarified on _____ " **or** ", as amended on _____ "

6.11 SACC Manual Clauses (Delivery)

SACC Reference	Section	Date
D9002C	Incomplete Assemblies	2007-11-30

6.11.1 Shipping Instructions - Delivery at Destination

Goods must be consigned to the destination specified in the Contract and delivered:

- (a) Delivered Duty Paid (DDP) Place Bonaventure, Portail Sud-Est, 800 De La Gauchetiere St W Bureau 7 Inco terms 2000 for shipments from a commercial contractor.

6.11.2 Shipping - Scheduling

The Contractor must deliver the goods to Place Bonaventure, Montreal. All deliveries, installation and project requirements must be coordinated with (To be complete at Contract award)

Appendix F – Pricing

<u>Description</u>	<u>Quantity</u>	<u>Price</u>
Meeting Room - Type 6	1	_____ (each room)
Meeting Room - Type 7	1	_____ (each room)
Meeting Room - Type 8	1	_____ (each room)
Meeting Room - Type 9	2	_____ (each room)
Meeting Room - Type 10	1	_____ (each room)
Meeting Room - Type 11	3	_____ (each room)
Meeting Room - Type 12	2	_____ (each room)
Meeting Room - Type 13	1	_____ (each room)
Meeting Room - Type 14	1	_____ (each room)
Meeting Room - Type 15	1	_____ (each room)
Miscellaneous Equipment – for rooms	See Table below	Complete in Table
Annual Visits – to be priced each visit (Refer Annex A, Article 18)	2 visits	_____ (all 14 rooms each visit)

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Client Ref. No. - N° de réf. du client
E0272-182099

Amd. No. - N° de la modif.
File No. - N° du dossier
hn331.E0272-182099

Buyer ID - Id de l'acheteur
hn331
CCC No./N° CCC - FMS No./N° VME

Miscellaneous Equipment list – prices to be priced as each.

Description	Manufacturer	Model	Qty	PRICE
Room c712 - TH84EF1U - 84" Full HD LED LCD Display (1920 x 1080, 350	Panasonic	TH84EF1U	1	-----
Room c712 - Security SmartMount® Universal Flat Mount For 46in to 90in TV's	Peerless	SF670	1	-----
Room 703 - Saros® Sound Bar 200, Powered, Black	Crestron	SAROS SB-200-P-B	1	-----
Room 704 - Saros® Sound Bar 200, Powered, Black	Crestron	SAROS SB-200-P-B	1	-----
LIBERTY APPLICATION OF DL-AR	LIBERTY	T10PD-LIBE-AVA-T10PD	4	-----
Room c712 - Table cubby with data Directly connected with marettes, 2AC, 2USB	Extron Cable Cubby	500 or equivalent	1	-----
Room c712 - Table cubby with 25' HDMI retractable, data and voice Directly connected with marettes, 2AC, 2USB	Extron Cable Cubby	700 or equivalent	1	-----
Room c703 - Table cubby with data Directly connected with marettes, 2AC, 2USB	Extron Cable Cubby	500 or equivalent	1	-----
Room c703 - Table cubby with 25' HDMI retractable, data and voice Directly connected with marettes, 2AC, 2USB	Extron Cable Cubby	700 or equivalent	1	-----
Room s733 - Table cubby with 10' HDMI retractable, data Indirectly connected with plug, 2AC, 2USB	Extron Cable Cubby	700 or equivalent	1	-----

ANNEX A: STATEMENT OF WORK

Audio Visual Installation

Public Services and Procurement Canada

Project Montreal 2018

800 de la Gauchetière (South-West Tower), 7th floor

Montreal, QC

INTRODUCTION

Background. The Client is moving into newly constructed facilities located at 800 de la Gauchetière, Montreal, Quebec. As part of this move, there is a requirement to deliver presentation and video conferencing systems for the building. These systems must share common components and function as local presentation systems, audio voice lift or video conferencing.

Scope. The work includes: equipment, engineering, design, project management, fabrication, assembly, software programming, installation, documentation, training, and warranty of the audiovisual systems.

Requirement. Public Services and Procurement Canada (PSPC) has a requirement to outfit a numerous rooms with audio video systems in a newly refitted floor (South-West Tower) space at 800 de la Gauchetière, Montréal QC.

PROJECT AUTHORITY

The PSPC Project Authority is (to be completed at contract award).

UNDERSTANDING AND INSTRUCTIONS

1. The contractor must provide the following local presentation, voice lift or video conferencing rooms. Details of each room type can be find in the corresponding tab of Appendix A – Room Type list:
 - a. One (1) Type 6 Rooms;
 - b. One (1) Type 7 Room;
 - c. One (1) Type 8 Room;
 - d. Two (2) Type 9 Rooms;
 - e. One (1) Type 10 Room;
 - f. One (3) Type 11 Room;
 - g. One (2) Type 12 Room;
 - h. One (1) Type 13 Room;
 - i. One (1) Type 14 Room;
 - j. One (1) Type 15 Room;
 - k. Misc Items;

NOTE: Room types 1 through 5 are not applicable for this project.

2. The Contractor must provide all system engineering and design necessary to develop the complete systems described herein. Engineering and design must include preparation of all electronic schematics, hardware drawings, systems diagrams, schedules and lists as per CDRL. These documents must be provided in both hard copy (paper) and soft copy (USB drive) at the time of bid. Data file formats must be in PDF and AutoCAD Version 2015.

3. The Contractor must provide all necessary project management and supervisory personnel required to assure the accurate, professional and timely implementation of the project.
4. The Contractor must procure and assemble all hardware and equipment and any additional materials, as required, to produce completely functioning systems. The Contractor must test its installation work with the PSPC laptops to be issued by the Project Authority.
5. The Contractor must perform all control systems software programming on site required to develop a complete operational system in accordance with these specifications, including all control logic and graphical user interface programming. The Contractor must revisit the site, up to 90 days from the acceptance date, if minor changes are required to the touch panel layout and operation.
6. The Contractor must install all GFE provided equipment, including but not limited to videoconference camera and codec.
7. The Contractor must install all equipment, cables, wiring, connectors, plates and other material at the Montreal facility and provide a fully functioning audio video solutions.
8. The Contractor must provide integrated AV racks and connectivity within the 2 designated areas.
9. The Contractor must follow all installation and performance requirements as outlined in Appendix C.
10. Before acceptance tests are scheduled, the Contractor must perform its own system revision. The Contractor must furnish all required test equipment and must perform all work necessary to determine and/or modify performance of the system to meet the requirements of the statement of work. When these initial tests and adjustments are completed, the Contractor must notify the Project Authority that the systems are in compliance with the specifications and are ready and complete for acceptance tests.
11. The Contractor must provide technical training to users as outlined in CDRL.
12. The Contractor must provide users reference guides in both official languages.
13. The Contractor must provide warranty coverage and support services as per PSPC standard clauses and must include the following:
 - a. response time (call back) for warranty service no longer than 4 hours from time of request for servicing;
 - b. a warranty period that is automatically extended by the duration of any period or periods where the systems are unavailable for use or cannot be used because of a defect or non-

conformance during the original warranty period. This warranty applies to any part of the systems replaced, repaired or corrected, for the greater of:

- i. The warranty period remaining, including the extension; or
- ii. Ninety (90) days or such other period as may be specified for that purpose by agreement between the Contractor and Project Authority.

- 14. For the duration of the warranty, the Contractor must provide two (2) annual visits, to be scheduled at PSPC’s discretion, to perform operational checks of the equipment, to clean equipment or equipment parts, as required to maintain optimum system performance.
- 15. The Contractor must obtain any permits required for the installation of the audio-visual system.
- 16. The Contractor must respect all deadlines of the overall project schedule.
- 17. The Contractor must update and deliver to the Project Authority the Weekly Checklist below. The report is due every Tuesday by noon for the duration of the contract via email (email address to be provided at contract award).

Weekly Checklist			
	Report Items	Date Completed	Comments
1	Contract awarded		
2	Contract received		
3	Contractor site review completed		
4	Identification of all critical dimensions		
5	Detailed AV project schedule		
6	Detailed Acceptance Test		
7	Provide preliminary screen shots of the touch panel layout depicting “Look and Feel”		
8	Weekly progress summary		
9	Schedule percentage complete		
10	Identified schedule pressures		
11	Installation complete		
12	Acceptance testing complete		

13	Documentation delivered		
14	Training		
15	Final deliverables received (CDRL)		
16	Project sign off		

18. The Contractor must ensure supplied equipment can be transported from the loading area, to the installation area.
19. The Contractor must protect the structures and furniture within the building contracted work area.
20. The security of any equipment and/or tools provided by the Contractor for the purpose of installing this system remains the responsibility of the Contractor.
21. The contractor must coordinate secure on-site storage for all equipment with the Project Authority.
22. Five (5) days prior to the commencement of on-site work, the Contractor must have completed the following items:
 - a. a review of all relevant project documentation, including HVAC requirements, electrical power and grounding/earth connection;
 - b. a visit to the project site to ensure familiarity with physical conditions of the project affecting the work conditions;
 - c. a finalized detailed project schedule to the Project Authority; and
 - d. preliminary screen shots of the touch panel layout depicting “Look and Feel” for Project Authority concept acceptance.
23. At project completion, the Contractor must deliver the following items:
 - a. System Operating Handbook in both official languages describing the basic operation of the AV system by end users and technical support staff. This document must be graphical and written in non-technical terminology for ease of use. It must include a principle of operation for all components of the system;
 - b. Manufacturers Operating/User Manuals for each piece of equipment installed;

- c. Complete system design documentation including electronic schematics, hardware drawings, system diagrams schedules and lists for approval by the Project Authority as specified in CDRL;
- d. Maintenance Warranty Report.

24. The Contractor must deliver rooms to the Project Authority in the order listed below no later than February 1st, 2018. Any work conducted post January 12th, 2018 must be completed Monday to Friday between 16:00hrs - 06:00hrs and weekends.

Priority	Room ID	Room Type
1	Room A-701a	Type 14
2	Room C-700b	Type 15
3	Room A-703	Type 11
4	Room A-704	Type 11
5	Room A-705	Type 11
6	Room A-708	Type 8
7	Room A-709	Type 6
8	Room C-709	Type 10
9	Room C-714	Type 12
10	Room C-716	Type 12
11	Room C-717	Type 13
12	Room A-710	Type 7
13	Room C-702	Type 9
14	Room E-704	Type 9
15	All other equipment	Misc Items tab of Appendix A - Room Type list

The AV design for 800 de la Gauchetiere (South-West Tower), 7th floor will revolve around individual room architecture where audio, video and control signals will be routed directly to the displays or through local switchers located in two LAN rooms. Below is the detailed description of the rooms by room type. The equipment presented represents the expected standard and quality as described in the SOW and associated documents.

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APPENDIX A

Type 6 - (1 room) - Meeting room - a709

Description: This room will be used for presentations and videoconferencing meetings. Meeting room to seat 12 participants at a table. The system must be terminated in the floor monuments and extended up to the table boxes. The Bidder must provide all cabling from the floor boxes up to the table boxes in a finished flexible sleeve ("Sock").

Replacement for display devices shall meet the following specifications:

- Same specs or better;
- Display size listed plus or minus 3" in size; and
- No WiFi capability

Item	Description	Manufacturer	Model
1			
<u>Display Devices (and related accessories)</u>			
2	75in Full HD LED LCD Display 1920 x 1080, 350cd/m ² with HDMI x 2, DVI-D, Composite, PC, RS232C, LAN	Panasonic	TH75EF1U or equivalent
3	Security SmartMount® Universal Tilt Mount	Peerless	ST680 or equivalent
<u>Video Devices (and related accessories)</u>			
5	AV Presentation switcher	Crestion DMPS3	DMPS3-300-C or equivalent
6	PC (GFE)	GFE	
7	Receiver (Rx) (Behind displays)	Crestion DM	DM-RMC-4k-Scaler-C or equivalent
<u>Audio Devices (and related accessories)</u>			
9	Saros® Sound Bar 200, Powered, Black	Crestion	SAROS SB-200-P-B or equivalent
10	Ceiling microphones, white	Shure	MXA910W or equivalent
<u>Control Devices (and related accessories)</u>			
11			
12	TesiraFORTÉ DSP fixed I/O server with 12 anal	Biamp	TesiraFORTE DAN TI or equivalent
13	3-Series Control System	Crestion	CP3N or equivalent
14	Touch Screen 10", black smooth	Crestion	TSW-1060-B-S or equivalent
15	Universal mounting bracket for touch screen	Crestion	TSW-UMB-60 or equivalent
<u>Miscellaneous (and related accessories)</u>			
16			
17	Crestion certified HDMI Interface cable - 12 ft	Crestion	CBL-HD-12 or equivalent
18	Crestion certified VGA interface cable/with audio - 12 ft	Crestion	CBL-VGA-AUD12 or equivalent
19	Wall Plate 4K DigitalMedia 8G+® Transmitter 100, Black Textured	Crestion	DM-TX-4K-100-C-1G-B-T or equivalent
20	Wall Plate DigitalMedia 8G+® Transmitter 200, Black Textured	Crestion	DM-TX-200-C-2G-B-T or equivalent
21	Wall Plate 4K DigitalMedia 8G+® Receiver Room Controller 100, Black Textured	Crestion	DM-RMC-4K-100-C-1G-B-T or equivalent
22	16-Port Managed PoE Switch	Crestion	CEN-SWPOE-16 or equivalent
23	Crestion® Certified HDMI® Interface Cable, 18 Gbps, 6 ft	Crestion	CBL-HD-6 or equivalent
24	Crestion® Certified HDMI® Interface Cable, 18 Gbps, 3 ft	Crestion	CBL-HD-3 or equivalent
25	Table cubby with data Directly connected with marettes, 2AC, 2USB	Extron Cable Cubby	500 or equivalent
26	Table cubby with 25' HDMI retractable, data and voice Directly connected with marettes, 2AC, 2USB	Extron Cable Cubby	700 or equivalent
27	LIBERTY DIGITALINX HDMI ADAPTER RING. Includes: Base security clamp(DL-CL), Adapter Cable USB "C"(m)-HDMI, DP-HDMI, mini HDMI "C"(m)-HDMI "A", Mini DP-HDMI	LIBERTY DIGITALINX	or equivalent
28	Clickshare CS100	Barco	Clickshare CS100 (no substitution)
29	All cables and misc small parts not listed above for a complete and functional turn-key system		
30	Documentation (Cut Sheets, Owner's Manual, Control System Manual)		

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Montreal 2018
Type 7 - (1 room) - meeting room - A710

Description: This room will be used for presentations meetings. The system must be terminated in the floor monuments and extended up to the table boxes. The Bidder must provide all cabling from the floor boxes up to the table boxes in a finished flexible sleeve ("Sock"). Replacement for display devices shall meet the following specifications:

- Same specs or better;
- Display size listed plus or minus 3" in size; and
- No WiFi capability

Item	Description	Manufacturer	Model	Qty
<u>Display Devices (and related accessories)</u>				
1				
2	.75in Full HD LED Display 1920 x 1080, 350cd/m² with HDMI x 2, DV/D, Composite, PC, RS232C, LAN	Panasonic	TH76F1U or equivalent	1
3	Security SmartMount® Universal Tilt Mount For 46in to 90in TV	Peerless	ST670 or equivalent	1
4				
5				
<u>Video Devices (and related accessories)</u>				
6				
7				
8				
9				
<u>Audio Devices (and related accessories)</u>				
10				
11				
12				
13				
<u>Control Devices (and related accessories)</u>				
14				
15				
16				
17				
<u>Miscellaneous (and related accessories)</u>				
18				
19	Decora Wall Plate HDMI F/F White	Cables to Go (C2G)	39710 or equivalent	1
20	10ft SELECT IN WALL HDMI HS W ETHER CBL	Cables to Go (C2G)	50628 or equivalent	1
21	15ft SELECT IN WALL HDMI HS W ETHER CBL	Cables to Go (C2G)	50630 or equivalent	1
22	Table cubby with data Table directly connected with marettes, 2AC, 2USB	Extron Cable Cubby	500 or equivalent	1
23	Table cubby with 25' HDMI retractable, data and voice Table directly connected with marettes, 2AC, 2USB	Extron Cable Cubby	700 or equivalent	1
24	LIBERTY DIGITALINX HDMI ADAPTER RING. Includes: Base security clamp(DL-CL), Adapter Cable USB "C"(m)-HDMI, DP-HDMI, mini HDMI "C"(m)-HDMI "A", Mini DP-HDMI	LIBERTY DIGITALINX	or equivalent	1
25	Clickshare CS100	Barco	Clickshare CS100 (no substitution)	1
26				
27	All cables and misc small parts not listed above for a complete and functional turn-key system			0
28	Documentation (Cut Sheets, Owner's Manual, Control System Manual)			0

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Type 8 - (1 room) - meeting room a708

Description: This room will be used for presentations meetings. The system must be terminated in the floor monuments and extended up to the table boxes. The Bidder must provide all cabling from the floor boxes up to the table boxes in a finished flexible sleeve ("Sock"). Replacement for display devices shall meet the following specifications:

- Same specs or better;
- Display size listed plus or minus 3" in size; and
- No WiFi capability

Item	Description	Manufacturer	Model
<u>Display Devices (and related accessories)</u>			
1			
2	75in Full HD LED LCD Display 1920 x 1080, 350cd/m ² with HDMI x 2, DVI-D, Composite, PC, RS232C, LAN	Panasonic	TH75EF1U or equivalent
3	65in full,HD display	Panasonic	TH65EF1U or equivalent
4	Security SmartMount® Universal Tilt Mount For 60in to 95in TV's	Peerless	ST680 or equivalent
5	Security SmartMount® Universal Tilt Mount For 46in to 90in TV's	Peerless	ST670 or equivalent
6			
7			
<u>Video Devices (and related accessories)</u>			
8	HDBaseT® Certified 4K DigitalMedia 8G+® Input Card for DM® Switchers	Creston	DMC-4K-C-HDCP2 or equivalent
32	Wall Plate 4K DigitalMedia 8G+® Transmitter 100, Black Textured	Creston	DM-TX-4K-100-C-1G-B-T or equivalent
33	Wall Plate DigitalMedia 8G+® Transmitter 200, Black Textured	Creston	DM-TX-200-C-2G-B-T or equivalent
34	Wall Plate 4K DigitalMedia 8G+® Receiver Room Controller 100, Black Textured	Creston	DM-RMC-4K-100-C-1G-B-T or equivalent
9	4K HDMI® Input Card for DM® Switchers	Creston	DMC-4K-HD-HDCP2 or equivalent
10	2-Channel 4K Scaling HDMI® Output Card for DM® Switchers	Creston	DMC-4K-HDO or equivalent
11	16-Port Managed PoE Switch	Creston	CEN-SWPOE-16 or equivalent
12	8x8 DigitalMedia™ Switcher	Creston	DM-MD8X8 or equivalent
13	2-Channel HDBaseT® Certified 4K DigitalMedia 8G+® Output Card for DM® Switchers	Creston	DMC-4K-CO-HD-HDCP2 or equivalent
14			
15			
<u>Audio Devices (and related accessories)</u>			
16			
17	Saros® Sound Bar 200, Powered, Black	Creston	SAROS SB-200-P-B or equivalent
18	Tesira DSP server	Blamp	Tesira SERVER-IO or equivalent
19	Tesira 4 chnl mic/line input card	Blamp	Tesira SEC-4 or equivalent
20	Tesira 4 chnl mic/line output card	Blamp	Tesira SOC-4 or equivalent
21	Tesira 2 line POTS phone interface card	Blamp	Tesira STC-2 or equivalent
22	Tesira 64x64 Dante mod for use in SERVER or SERVER-IO chassis	Blamp	Tesira DAN-1 or equivalent
23	Ceiling microphones, white	Shure	MXA910W or equivalent
24			
<u>Control Devices (and related accessories)</u>			
25			
26	4K DigitalMedia 8G+® Receiver Room Controller w/Scaler	Creston	DM-RMC-4K-SCALER-C or equivalent
<u>Miscellaneous (and related accessories)</u>			
28	10.1" Touch Screen, Black Smooth	Creston	TSW-1060-B-S or equivalent
29	Universal Mounting Bracket for TSW-560, TSW-760, TSW-1060	Creston	TSW-UMB-60 or equivalent
30			
31			
35	DigitalMedia 8G™ Cable, plenum, 500 ft. spool	Creston	DM-CBL-8G-P-SP500 or equivalent

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Type 8 - (1 room) - meeting room a708

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36	Connectors for DM-CBL DigitalMedia™ Cable DM-CBL-ULTRA DigitalMedia Ultra Cable, 20-Pack	Crestron	DM-CONN-20 or equivalent
37	Crestron® Certified HDMI® Interface Cable, 18 Gbps, 6 ft. 1.8 m	Crestron	CBL-HD-6 or equivalent
38	Crestron® Certified HDMI® Interface Cable, 18 Gbps, 3 ft. 0.91 m	Crestron	CBL-HD-3 or equivalent
39	Crestron® Certified HDMI® Interface Cable, 18 Gbps, 12 ft. 3.6 m	Crestron	CBL-HD-12 or equivalent
40	Crestron® Certified Computer VGA Interface Cable w/Audio, 12 ft	Crestron	CBL-VGA-AUD-12 or equivalent
42	Table cubby with 25' HDMI retractable, data and voice Directly connected with marettes, 2AC, 2USB	Extron Cable Cubby	700 or equivalent
43	LIBERTY DIGITALINX HDMI ADAPTER RING. Includes: Base security clamp(DL-CL), Adapter Cable USB "C" (m)- HDMI, DP-HDMI, mini HDMI "C"(m)-HDMI "A",Mini DP-HDMI	LIBERTY DIGITALINX	or equivalent
44	Clickshare CS100	Barco	Clickshare CS100 (no substitution)
45			
19	All cables and misc small parts not listed above for a complete and functional turn-key system		
20	Documentation (Cut Sheets, Owner's Manual, Control System Manual)		

Qty

2
2
2
2

1
1
1
1
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1
1
1
2

2

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2
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2

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APPENDIX A

**Montreal 2018
Type 9 - (2 rooms) Lounge areas C-702 & E-704**

Description: These rooms will be used as lounge areas and the system will be used for audio and visual presentations and events.

Replacement for display devices shall meet the following specifications:

- Same specs or better;
- Display size listed plus or minus 3" in size; and
- No WiFi capability

Item	Description	Manufacturer	Model	Qty
<u>Display Devices (and related accessories)</u>				
1	TH84EF1U - 84" Full HD LED LCD Display	Panasonic	TH84EF1U or equivalent	1
2	Security SmartMount® Universal Flat Mount For 46in TV` ` s	Peerless	SF670 or equivalent	1
3				
4				
5				
6				
7				
8				
9				
<u>Video Devices (and related accessories)</u>				
10				
<u>Audio Devices (and related accessories)</u>				
11	Format-A Two-Pair Audio Sndr	RDL	FP-TPS4A or equivalent	1
12	6.5" 2-Way Surface Mount Media Presentation Speaker, White. Single must be ordered in multiples of 2	Crestripm	FS6-W-EACH or equivalent	4
13	4 channel, 60W half-rack amplifier with mounting bracket	Biamp	AMP-A460H or equivalent	1
14	TesiraFORTE DSP fixed I/O server with 12 anal	Biamp	TesiraFORTE AI or equivalent	1
15	In-line antenna signal amplifier for WMS 4500 system BNC connector - 470 to 952 MHz.	AKG	AB4000 EW or equivalent	1
16	Tesira PoE Ethernet ctri in-wall mount	Biamp	Tesira TEC-1i or equivalent	1
17	Antenna cable for Wireless systems for connecting external antennas, antenna boosters, antenna booster supplies, antenna power splitter and receivers; RG 58 cable 50 Ohms, length 5m, gold plated BNC connectors on both ends.	AKG	MKA 5 or equivalent	2
18	Wireless microphone system that supports the use of rechargeable batteries, includes: 1 x SR 420 stationary receiver, 1 x HT 420 handheld transmitter. Freq: 614,100 - 629,900MHz - 614,100 - 629,900MHz	AKG	WMS 420 Vocal Set Band U2 or equivalent	1
19	Remote antenna, omni-directional, dipole, active 18dB amplifier - diversity system require two antennas - 470 to 952 MHz.	AKG	RA4000 B/EW or equivalent	1
20	Antenna cable for Wireless systems, 20m length, BNC connectors for connecting external antennas, antenna boosters, antenna booster supplies, antenna power splitter;and receivers; RG 58 cable 50 Ohms, length 20m, gold plated BNC connectors on both ends.	AKG	MKA20 or equivalent	2
21				
22				
23				
24				
<u>Control Devices (and related accessories)</u>				
25				
26				
27				
28				
<u>Miscellaneous (and related accessories)</u>				
29	25ft HDMI High Speed Plenum M/M Cable	Cables to Go (C2G)	41191 or equivalent	1
30	15ft UNIVERSAL POWER CORD	Cables to Go (C2G)	9482 or equivalent	1
31	USB over Ethernet Extender with Routing, Host Module	Crestron	USB-EXT-DM-LOCAL or equivalent	1
32	USB over Ethernet Extender with Routing, 4-Port Device Module	Crestron	USB-EXT-DM-REMOTE or equivalent	1
33	24 Vdc Switching Power Supply,	RDL	PS-24AS or equivalent	1
34	Passive Sgl-Pair Sndr	RDL	D-TPS7A or equivalent	1
35	Active Three-Pair Rcvr - Twstd Pair Format-A	RDL	D-TPR3A or equivalent	1
36	Sgl Plate - stainless steel	RDL	CP-1S or equivalent	1
37	5-Port PoE Switch	Crestron	CEN-SW-POE-5 or equivalent	1
38	Decora Wall Plate HDMI F/F White	Cables to Go (C2G)	39710 or equivalent	1

**Montreal 2018
Type 9 - (2 rooms) Lounge areas C-702 & E-704**

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29	15ft SELECT IN WALL HDMI HS W/ ETHER CBL	Cables to Go (C2G)	50630 or equivalent	1
	DigitalMedia 8G™ Cable, plenum, 500 ft spool	Crestron	DM-CBL-8G-P-SP500 or equivalent	1
	Connectors for DM-CBL DigitalMedia™ Cable DM-CBL-UL TRA DigitalMedia Ultra Cable, 20-Pack	Crestron	DM-CONN-20 or equivalent	1
	2m USB 2.0 A MALE/A MALE CBL BLK	Cables to Go (C2G)	28106 or equivalent	1
30	HALF RACK UNIVERSAL SHELF	Middle Atlantic	UTR1 or equivalent	1
	Rear rack rail Mntng kit for any TX series Mod	RDL	TX-RRB1 or equivalent	1
	Ceiling Plate For 8inx8in Unistrut® and Structural Ceiling	Peerless	CMJ310 or equivalent	1
	5' Fixed Extension Column	Peerless	EXT105 or equivalent	1
	Remote antenna power supply unit for large-scale antenna distribution or small antenna systems where no PS4000 W is in use. Provides necessary power for up to three active antenna elements RA4000 B, SRA2 B, AB4000 via antenna cable. WITHOUT POWER SUPPLY	AKG	ASU 4000 BNC/none or equivalent	1
	Remote antenna, omni-directional, dipole, passive - diversity system require two antennas - 470 to 952 MHz.	AKG	RA4000 EW or equivalent	1
	1.1 Belden Not Listed 20.83% 6300UE SPK cable 18AWG, 2cond., 7stand	1.1 Belden	6300UE or equivalent	1
31	Clickshare CS100	Barco	Clickshare CS100 (no substitution)	1
32				
33	All cables and misc small parts not listed above for a complete and functional turn-key system			1
34	Documentation (Cut Sheets, Owner's Manual, Control System Manual)			1

**Montreal 2018
Type 10 - (1 room) - C709**

APPENDIX A

Description: This room will be used for presentations meetings. The system must be terminated in the floor monuments and extended up to the table boxes. The Bidder must provide all cabling from the floor boxes up to the table boxes in a finished flexible sleeve ("Sock"). Replacement for display devices shall meet the following specifications:

- Same specs or better;
- Display size listed plus or minus 3" in size; and
- No WiFi capability

Item	Description	Manufacturer	Model	Qty
Display Devices (and related accessories)				
1	80in Full HD Interactive LED LCD Display 1920 x 1080, 350cd/m ² with HDMIx2, DVI-D, Component, Composite, PC IN/OUT, Digital Link, SLOT2.0 and RS232C /LAN Control	Panasonic	TH84EF1U or equivalent	2
2	65in full HD display	Panasonic	TH65EF1U or equivalent	2
3	Security SmartMount® Universal Tilt Mount For 60in to 95in TV's	Peerless	ST680 or equivalent	2
4	Security SmartMount® Universal Tilt Mount For 46in to 90in TV's	Peerless	ST670 or equivalent	2
Video Devices (and related accessories)				
5	Wall Plate 4K DigitalMedia 8G+ @ Transmitter 100, Black Textured	Creston	DM-TX-4K-100-C-1G-B-T or equivalent	3
6	Wall Plate DigitalMedia 8G+ @ Transmitter 201	Creston	DM-TX-201-C or equivalent	1
7	Wall Plate DigitalMedia 8G+ @ Receiver Room Controller 100, Black Textured	Creston	DM-TX-200-C-2G-B-T or equivalent	1
8	5-Port PoE Switch	Creston	DM-RMC-4K-100-C-1G-B-T or equivalent	3
9	16-Port Managed PoE Switch	Creston	CEN-SW-POE-5 or equivalent	1
10	8x8 DigitalMedia™ Switcher	Creston	CEN-SWPOE-16 or equivalent	1
11	HDBaseT® Certified 4K DigitalMedia 8G+ @ Input Card for DM® Switchers	Creston	DM-MD8X8 or equivalent	1
12	4K HDMI @ Input Card for DM® Switchers	Creston	DMC-4K-C-HDCP2 or equivalent	2
13	2-Channel 4K Scaling HDMI @ Output Card for DM® Switchers	Creston	DMC-4K-HD-HDCP2 or equivalent	2
14	2-Channel HDBaseT® Certified 4K DigitalMedia 8G+ @ Output Card for DM® Switchers	Creston	DMC-4K-HDO or equivalent	1
15	4K DigitalMedia 8G+ @ Receiver Room Controller w/Scaler	Creston	DMC-4K-CO-HD-HDCP2 or equivalent	2
16		Creston	DM-RMC-4K-SCALER-C or equivalent	4
17				
18				
19				
Audio Devices (and related accessories)				
20				
21	Saros® Sound Bar 200, Powered, Black	Creston	SAROS SB-200-P-B or equivalent	3
22	Tesira DSP server	Blamp	Tesira SERVER-IO or equivalent	1
23	Tesira 4 chnl mic/line input card	Blamp	Tesira SEC-4 or equivalent	4
24	Tesira 4 chnl mic/line output card	Blamp	Tesira SOC-4 or equivalent	3
25	Tesira 2 line POTS phone interface card	Blamp	Tesira STC-2 or equivalent	1
26	Tesira 64x64 Dante mod for use in SERVER or SERVER-IO chassis	Blamp	Tesira DAN-1 or equivalent	1
27	Ceiling microphones, white	Shure	MXA910W or equivalent	2
28				
Control Devices (and related accessories)				
29	3-Series Control System®	Creston	CP3N or equivalent	1
30	10.1" Touch Screen, Black Smooth	Creston	TSW-1060-B-S or equivalent	1
31	Universal Mounting Bracket for TSW-560, TSW-760, TSW-1060	Creston	TSW-UMB-60 or equivalent	1
32				
33				
Miscellaneous (and related accessories)				
34	DigitalMedia 8G™ Cable, plenum, 500 ft spool	Creston	DM-CBL-8G-P-SF500 or equivalent	2
35	Connectors for DM-CBL DigitalMedia™ Cable DM-CBL-ULTRA DigitalMedia Ultra Cable, 20-Pack	Creston	DM-CONN-20 or equivalent	1
36	Creston® Certified HDMI @ Interface Cable, 18 Gbps, 6 ft 1.8 m	Creston	CBL-HD-6 or equivalent	10
37	Creston® Certified HDMI @ Interface Cable, 18 Gbps, 3 ft 0.91 m	Creston	CBL-HD-3 or equivalent	6
38	Creston® Certified HDMI @ Interface Cable, 18 Gbps, 12 ft 3.6 m	Creston	CBL-HD-12 or equivalent	1
	Ceiling Plate For 8inx8in Unistrut® and Structural Ceiling	Peerless	CMJ310 or equivalent	2
	5 Fixed Extension Column	Peerless	EXT105 or equivalent	2
39	Creston® Certified Computer VGA Interface Cable w/Audio, 12 ft	Creston	CBL-VGA-AUD-12 or equivalent	1
40	Table cubby with data Indirectly connected with plugs, 2AC, 2USB	Extron Cable Cubby	500 or equivalent	4

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Type 10 - (1 room) - C709

APPENDIX A

41	Table cubby with 25' HDMI retractable, data indirectly connected with plugs, 2AC, 2USB	Extron Cable Cubby	700 or equivalent	2
42	Table cubby with data and vox	Extron Cable Cubby	500 or equivalent	1
43	Indirectly connected with plugs, 2AC, 2USB	LIBERTY DIGITALINX	or equivalent	2
44	HDMI, DP-HDMI, mini HDMI "C"(m)-HDMI "A", Mini DP-HDMI	Barco	Clickshare CS100 (no substitution)	2
45	Clickshare CS100			1
46	All cables and misc small parts not listed above for a complete and functional turn-key system			1
	Documentation (Cut Sheets, Owner's Manual, Control System Manual)			

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Type 11 - (1 room) - Integrated setup of training rooms a703-a704-a705, that can be opened into one large room

Description: This room consists of three (3) training rooms between which dividers can be removed to form one large training room. The system must enable usage of each room individually, or usage as one system when dividers are removed between rooms.

Replacement for display devices shall meet the following specifications:

- Same specs or better;
- Display size listed plus or minus 3" in size; and

Item	Description	Manufacturer	Model	Qty
<u>Display Devices (and related accessories)</u>				
1		Panasonic	TH84EF1U or equivalent	1
2	TH84EF1U - 84" Full HD LED LCD Display	Panasonic	TH75EF1U or equivalent	2
3	75in Full HD LED LCD Display 1920 x 1080, 350cd/m ² with HDMI x2, DVI-D, Composite, PC, RS232C, LAN	Peerless	ST680 or equivalent	1
4	Security SmartMount® Universal Tilt Mount For 60in to 95in TV's	Peerless	ST670 or equivalent	2
5	Security SmartMount® Universal Tilt Mount For 46in to 90in TV's			
6				
<u>Video Devices (and related accessories)</u>				
8	Wall Plate 4K DigitalMedia 8G+® Transmitter 100, Black Textured	Creston	DM-TX-4K-100-C-1G-B-T or equivalent	3
9	Wall Plate DigitalMedia 8G+® Transmitter 200, Black Textured	Creston	DM-TX-200-C-2G-B-T or equivalent	3
10	Wall Plate 4K DigitalMedia 8G+® Receiver Room Controller 100, Black Textured	Creston	DM-RMC-4K-100-C-1G-B-T or equivalent	3
11	5-Port PoE Switch	Creston	CEN-SW-POE-5 or equivalent	1
12	8x8 DigitalMedia™ Switcher	Creston	DM-MD8X8 or equivalent	1
13	16-Port Managed PoE Switch	Creston	CEN-SWPOE-16 or equivalent	1
14	HDBaseT® Certified 4K DigitalMedia 8G+® Input Card for DM® Switchers	Creston	DMC-4K-C-HDCP2 or equivalent	3
15	4K HDMI® Input Card for DM® Switchers	Creston	DMC-4K-HD-HDCP2 or equivalent	2
16	2-Channel 4K Scaling HDMI® Output Card for DM® Switchers	Creston	DMC-4K-HDO or equivalent	1
17	2-Channel HDBaseT® Certified 4K DigitalMedia 8G+® Output Card for DM® Switchers	Creston	DMC-4K-CO-HD-HDCP2 or equivalent	2
18	4K DigitalMedia 8G+® Receiver Room Controller w/Scaler	Creston	DM-RMC-4K-SCALER-C or equivalent	5
19				
<u>Audio Devices (and related accessories)</u>				
21	Saros® Sound Bar 200, Powered, Black	Creston	SAROS SB-200-P-B or equivalent	3
22	Tesira DSP server	Blamp	Tesira SERVER-IO or equivalent	1
23	Tesira 4 chnl mic/line input card	Blamp	Tesira SEC-4 or equivalent	6
24	Tesira 4 chnl mic/line output card	Blamp	Tesira SOC-4 or equivalent	3
25	Tesira 2 line POTS phone interface card	Blamp	Tesira STC-2 or equivalent	2
26	Tesira 64x64 Dante mod for use in SERVER or SERVER-IO chassis	Blamp	Tesira DAN-1 or equivalent	1
27	Ceiling microphones, white	Shure	MXA910W or equivalent	3
28				
<u>Control Devices (and related accessories)</u>				
29	3-Series Control System®	Creston	CP3N or equivalent	1
30	10.1" Touch Screen, Black Smooth	Creston	TSW-1060-B-S or equivalent	3
31	Universal Mounting Bracket for TSW-560, TSW-760, TSW-1060	Creston	TSW-UMB-60 or equivalent	3
32				
33				
34				
<u>Miscellaneous (and related accessories)</u>				
36	DigitalMedia 8G™ Cable, plenum, 500 ft spool	Creston	DM-CBL-8G-P-SP500 or equivalent	2

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APPENDIX A
Type 11 - (1 room) - Integrated setup of training rooms a703-a704-a705, that can be opened into one large room

37	Connectors for DM-CBL DigitalMedia™ Cable DM-CBL-ULTRA DigitalMedia Ultra Cable, 20-Pack	Creston	DM-CONN-20 or equivalent	1
38	Creston® Certified HDMI® Interface Cable, 18 Gbps, 6 ft 1.8 m	Creston	CBL-HD-6 or equivalent	10
39	Creston® Certified HDMI® Interface Cable, 18 Gbps, 3 ft 0.91 m	Creston	CBL-HD-3 or equivalent	6
40	Creston® Certified HDMI® Interface Cable, 18 Gbps, 12 ft 3.6 m	Creston	CBL-HD-12 or equivalent	3
41	Creston® Certified Computer VGA Interface Cable w/Audio, 12 ft	Creston	CBL-VGA-AUD-12 or equivalent	3
42	24 Vdc Switching Power Supply.	RDL	PS-24AS or equivalent	1
43	Cresnet® Partition Sensor	Creston	GLS-PART-CN or equivalent	2
44	Dual Bal/Unbal Line Amp: -12 to 20 dB Gain	RDL	STA-1 or equivalent	1
45	Cresnet® Control Cable, Plenum-Rated, Teal, 500 ft 152 m spool	Creston	CRESNET-P-TL-SP500 or equivalent	1
46	LIBERTY DIGITALINX HDMI ADAPTER RING. Includes: Base security clamp(DL-CL), Adapter Cable USB "C"(m)-HDMI, DP-HDMI, mini HDMI "C"(m)-HDMI "A", Mini DP-HDMI	LIBERTY DIGITALINX	or equivalent	3
47	Clickshare CS100	Barco	Clickshare CS100 (no substitution)	3
48	All cables and misc small parts not listed above for a complete and functional turn-key system			1
49	Documentation (Cut Sheets, Owner's Manual, Control System Manual)			1

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Type 12 - (1 room) - Integrated setup of contiguous rooms c714-c716, that can be opened to have one large boardroom

Description: Two (2) contiguous boardrooms that can be used as one (1) integrated boardroom. The room will be used for presentations and videoconferencing meetings in both official languages. The system must be terminated in the floor monuments and extended up to the table boxes. The Bidder must provide all cabling from the floor boxes up to the table boxes in a finished flexible sleeve ("Sock").

Replacement for display devices shall meet the following specifications:

- Same specs or better;

Item	Description	Manufacturer	Model
<u>Display Devices (and related accessories)</u>			
1			
2	65in full,HD display	Panasonic	TH65EF1U or equivalent
3	75in Full HD LED LCD Display 1920 x 1080, 350cd/m ² with HDMI x 2, DVI-D, Composite, PC, RS232C, LAN	Panasonic	TH75EF1U or equivalent
4	Security SmartMount® Universal Tilt Mount For 60in to 95in TV's	Peerless	ST680 or equivalent
5	Security SmartMount® Universal Tilt Mount For 46in to 90in TV's	Peerless	ST670 or equivalent
6			
7			
<u>Video Devices (and related accessories)</u>			
8			
9	2-Channel 4K Scaling HDMI® Output Card for DM® Switchers	Crestron	DMC-4K-HDO or equivalent
10	2-Channel HDBaseT® Certified 4K DigitalMedia 8G+® Input Card for DM® Switchers	Crestron	DMC-4K-C-HDCP2 or equivalent
11	4K DigitalMedia 8G+® Receiver Room Controller w/Scaler	Crestron	DM-RMC-4K-SCALER-C or equivalent
12	Wall Plate 4K DigitalMedia 8G+® Transmitter 100, Black Textured	Crestron	DM-TX-4K-100-C-1G-B-T or equivalent
13	Wall Plate DigitalMedia 8G+® Transmitter 200, Black Textured	Crestron	DM-TX-200-C-2G-B-T or equivalent
14	Wall Plate 4K DigitalMedia 8G+® Receiver Room Controller 100, Black Textured	Crestron	DM-RMC-4K-100-C-1G-B-T or equivalent
15	16-Port Managed PoE Switch	Crestron	CEN-SWPOE-16 or equivalent
16	8x8 DigitalMedia™ Switcher	Crestron	DM-MD8X8 or equivalent
17	HDBaseT® Certified 4K DigitalMedia 8G+® Input Card for DM® Switchers	Crestron	DMC-4K-C-HDCP2 or equivalent
18	4K HDMI® Input Card for DM® Switchers	Crestron	DMC-4K-HD-HDCP2 or equivalent
19			
<u>Audio Devices (and related accessories)</u>			
20	Saros® Sound Bar 200, Powered, Black	Crestron	SAROS SB-200-P-B or equivalent
21	Tesira DSP server	Blamp	Tesira SERVER-IO or equivalent
22	Tesira 4 chnl mic/line input card	Blamp	Tesira SEC-4 or equivalent
23	Tesira 4 chnl mic/line output card	Blamp	Tesira SOC-4 or equivalent
24	Tesira 2 line POTS phone interface card	Blamp	Tesira STC-2 or equivalent
25	Tesira 64x64 Dante mod for use in SERVER or SERVER-IO chassis	Blamp	Tesira DAN-1 or equivalent
26	Ceiling microphones, white	Shure	MXA910W or equivalent
27			
<u>Control Devices (and related accessories)</u>			
28	3-Series Control System®	Crestron	CP3N or equivalent
29	10.1" Touch Screen, Black Smooth	Crestron	TSW-1060-B-S or equivalent
30	Universal Mounting Bracket for TSW-560, TSW-760, TSW-1060	Crestron	TSW-UMB-60 or equivalent
31			
32			
33			
<u>Miscellaneous (and related accessories)</u>			
34	DigitalMedia 8G™ Cable, plenum, 500 ft spool	Crestron	DM-CBL-8G-P-SP500 or equivalent
35	Connectors for DM-CBL DigitalMedia™ Cable DM-CBL-UL-TRA DigitalMedia Ultra Cable, 20-Pack	Crestron	DM-CONN-20 or equivalent
36	Crestron® Certified HDMI® Interface Cable, 18 Gbps, 6 ft 1.8 m	Crestron	CBL-HD-6 or equivalent

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APPENDIX A

Type 12 - (1 room) - Integrated setup of contiguous rooms c714-c716, that can be opened to have one large boardroom

37	Cresstron® Certified HDMI® Interface Cable, 18 Gbps, 3 ft 0.91 m	Cresstron	CBL-HD-3 or equivalent
38	Cresstron® Certified HDMI® Interface Cable, 18 Gbps, 12 ft 3.6 m	Cresstron	CBL-HD-12 or equivalent
39	Cresstron® Certified Computer VGA Interface Cable w/Audio, 12 ft	Cresstron	CBL-VGA-AUD-12 or equivalent
43	Cresnet® Partition Sensor	Cresstron	GLS-PART-CN or equivalent
41	Table cubby with data Indirectly connected with plugs, 2AC, 2USB	Extron Cable Cubby	500 or equivalent
42	Table cubby with 25' HDMI retractable, data, vox Indirectly connected with plugs, 2AC, 2USB	Extron Cable Cubby	700 or equivalent
43	LIBERTY DIGITALINX HDMI ADAPTER RING. Includes: Base security clamp(DL-CL), Adapter Cable USB "C"(m)- HDMI, DP-HDMI, mini HDMI "C"(m)-HDMI "A", Mini DP-HDMI	LIBERTY DIGITALINX	or equivalent
44	Clickshare CS100	Barco	Clickshare CS100 (no substitution)
45			
46	All cables and misc small parts not listed above for a complete and functional turn-key system		
47	Documentation (Cut Sheets, Owner's Manual, Control System Manual)		

Qty

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2
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1

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2

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1
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1

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Type 13 - (1 room) - Boardroom - C717

Description: The room will be used for presentations and videoconferencing meetings in both official languages and extended up to the table boxes. The Bidder must provide all cabling from the floor boxes up to the table. Replacement for display devices shall meet the following specifications:

- Same specs or better;
- Display size listed plus or minus 3" in size; and
- No WiFi capability

Item	Description
1	<u>Display Devices (and related)</u>
2	75in Full HD LED LCD Display 1920 x 1080, 350cd/m ² with HDMI x 2, DVI-D, Composite, PC, RS232C, LAN
3	Security SmartMount® Universal Tilt Mount For 60in to 95in TV`s
4	
5	
6	<u>Video Devices (and related)</u>
7	
8	Wall Plate 4K DigitalMedia 8G+® Transmitter 100, Black Textured
9	Wall Plate DigitalMedia 8G+® Transmitter 200, Black Textured
10	Wall Plate 4K DigitalMedia 8G+® Receiver Room Controller 100, Black Textured
11	16-Port Managed PoE Switch
12	<u>Audio Devices (and related)</u>
13	Saros® Sound Bar 200, Powered, Black
14	Ceiling microphones, white
15	<u>Control Devices (and related)</u>
16	3-Series Control System®
17	10.1" Touch Screen, Black Smooth
18	Universal Mounting Bracket for TSW-560, TSW-760, TSW-1060
19	
20	
21	<u>Miscellaneous (and related)</u>
22	DigitalMedia 8G™ Cable, plenum, 500 ft spool
23	Connectors for DM-CBL DigitalMedia™ Cable DM-CBL-ULTRA DigitalMedia Ultra Cable, 20-Pack
24	Crestron® Certified HDMI® Interface Cable, 18 Gbps, 6 ft 1.8 m
25	Crestron® Certified HDMI® Interface Cable, 18 Gbps, 3 ft 0.91 m
26	Crestron® Certified HDMI® Interface Cable, 18 Gbps, 12 ft 3.6 m
27	Crestron® Certified Computer VGA Interface Cable w/Audio, 12 ft
28	Table cubby with data Directly connected with marettes, 2AC, 2USB
29	Table cubby with 25' HDMI retractable, data and voice Directly connected with marettes, 2AC, 2USB
30	LIBERTY DIGITALINX HDMI ADAPTER RING. Includes: Base security clamp(DL-CL), Adapter Cable USB "C"(m)-HDMI, DP-HDMI, mini HDMI "C"(m)-HDMI "A",Mini DP-HDMI
31	Clickshare CS100
32	
33	All cables and misc small parts not listed above for a complete and functional turn-key system
34	Documentation (Cut Sheets, Owner's Manual, Control System Manual)

APPENDIX A

ages. The system must be terminated in the floor monuments
e boxes in a finished flexible sleeve ("Sock").

Manufacturer	Model	Qty
<u>accessories)</u>		
Panasonic	TH75EF1U or equivalent	2
Peerless	ST680 or equivalent	2
<u>accessories)</u>		
Crestron	DM-TX-4K-100-C-1G-B-T or equivalent	3
Crestron	DM-TX-200-C-2G-B-T or equivalent	2
Crestron	DM-RMC-4K-100-C-1G-B-T or equivalent	4
Crestron	CEN-SWPOE-16 or equivalent	1
<u>accessories)</u>		
Crestron	SAROS SB-200-P-B or equivalent	1
Shure	MXA910W or equivalent	1
<u>accessories)</u>		
Crestron	CP3N or equivalent	1
Crestron	TSW-1060-B-S or equivalent	1
Crestron	TSW-UMB-60 or equivalent	1
<u>accessories)</u>		
Crestron	DM-CBL-8G-P-SP500 or equivalent	1
Crestron	DM-CONN-20 or equivalent	1
Crestron	CBL-HD-6 or equivalent	6
Crestron	CBL-HD-3 or equivalent	4
Crestron	CBL-HD-12 or equivalent	1
Crestron	CBL-VGA-AUD-12 or equivalent	1
Extron Cable Cubby	500 or equivalent	1
Extron Cable Cubby	700 or equivalent	1
LIBERTY DIGITALINX	or equivalent	1
Barco	Clickshare CS100 (no substitution)	1
		1
		1

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APPENDIX A

Type 14 - (1 AV Rack Storage closet) - A701a

Description: The room will be used as a rack storage closet.

Item	Description	Manufacturer
1	<u>Hardware accessories</u>	
2	BGR CASTER KIT W/ HDWARE	Middle Atlantic
3	24 OUTLET HIGH-DENSITY POWER STRIP,15A W/CORD	Middle Atlantic
4	BGR 276CFM FAN TOP W/FC	Middle Atlantic
5	9 OUTLET, SINGLE 15 AMP CIRCUIT, SURGE/ SPIKE	Middle Atlantic
6	2 SPACE 3 1/2in FLANGED ALUMINUM BLANK PANEL	Middle Atlantic
7	inLin SHAPED LACING BAR, 4 PACK	Middle Atlantic
8	1 Sp UM Shelf, 5.5inD	Middle Atlantic
9	1 Sp UM Shelf, 11.5inD	Middle Atlantic
10	18in IEC POWER CORD	Middle Atlantic
11	1 SPACE 1 3/4in FLANGED ALUMINUM BLANK PANEL	Middle Atlantic
12	41SP27D MULTIBAY BGR RACK	Middle Atlantic
13	CAT6+ Unshielded Cabling System Category 6.plenum	Others
14		
15	All cables and misc small parts not listed above for a complete and functional turn-key system	
16	Documentation (Cut Sheets, Owner's Manual, Control System Manual)	

	Model	Qty
	CBS-BGR or equivalent	1
	PD-2415SC-NS or equivalent	1
	BGR-276FT-FC or equivalent	1
	PD-915R or equivalent	1
	PBL-2 or equivalent	4
	LB-1A-4PK or equivalent	2
	UMS1-5.5 or equivalent	4
	UMS1-11.5 or equivalent	1
	IEC-18X4 or equivalent	1
	PBL-1 or equivalent	8
	BGR-4127 or equivalent	1
	AV6UP or equivalent	1
		1
		1

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APPENDIX A

Type 15 - (1 AV Rack Storage closet) - c700b

Description: The room will be used as a rack storage closet.

Item	Description	Manufacturer	Model
1	<u>Hardware accessories</u>		
2	BGR CASTER KIT W/ HDWARE	Middle Atlantic	CBS-BGR or equ
3	24 OUTLET HIGH-DENSITY POWER STRIP, 15A W/CORD	Middle Atlantic	PD-2415SC-NS c
4	BGR 276CFM FAN TOP W/FC	Middle Atlantic	BGR-276FT-FC c
5	9 OUTLET, SINGLE 15 AMP CIRCUIT, SURGE/ SPIKE	Middle Atlantic	PD-915R or equiv
6	70Hin,3-1/4inW SLOT LACER	Middle Atlantic	LACE-40-OP or e
7	inLin SHAPED LACING BAR, 4 PACK	Middle Atlantic	LB-1A-4PK or equ
8	1 Sp UM Shelf, 5.5inD	Middle Atlantic	UMS1-5.5 or equi
9	1 Sp UM Shelf, 11.5inD	Middle Atlantic	UMS1-11.5 or equ
10	18in IEC POWER CORD	Middle Atlantic	IEC-18X4 or equi
11	500 PC 10/32 PHILLIPS RACKSCREW WITH WASHER	Middle Atlantic	HP500 or equival
12	1 SPACE 1 3/4in FLANGED ALUMINUM BLANK PANEL	Middle Atlantic	PBL-1 or equivale
13	41SP27D MULTIBAY BGR RACK	Middle Atlantic	BGR-4127 or equ
14	22 AWG, 2 Pair, Individually Shielded,plenum	Others	1325A or equivale
15			
16	All cables and misc small parts not listed above for a complete and functional turn-key system		
17	Documentation (Cut Sheets, Owner's Manual, Control System Manual)		

	Qty

ivalent	1
or equivalent	1
or equivalent	1
valent	1
equivalent	1
ivalent	2
ivalent	4
ivalent	1
valent	1
ent	1
ent	8
ivalent	1
ent	1
	1
	1

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Miscelanious additional items

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Description: This lists areas where a small number of items are required. The system must be terminated in the extended up to the table boxes. The Bidder must provide all cabling from the floor boxes up to the table boxes in ("Sock").

Replacement for display devices shall meet the following specifications:

- Same specs or better;
- Display size listed plus or minus 3" in size; and
- No WiFi capability

Item	Description	Manufacturer
1	<u>Display Devices (and related accessories)</u>	
2	Room c712 - TH84EF1U - 84" Full HD LED LCD Display (1920 x 1080, 350	Panasonic
3	Room c712 - Security SmartMount® Universal Flat Mount For 46in to 90in TV` ` s	Peerless
5		
6	<u>Audio Devices (and related accessories)</u>	
7	Room e703 - Saros® Sound Bar 200, Powered, Black	Crestron
8	Room e704 - Saros® Sound Bar 200, Powered, Black	Crestron
9		
10	<u>Miscellaneous (and related accessories)</u>	
11	LIBERTY APPLICATION OF DL-AR	LIBERTY
12	Room c712 - Table cubby with data Directly connected with marettes, 2AC, 2USB	Extron Cable Cubby
13	Room c712 - Table cubby with 25' HDMI retractable, data and voice Directly connected with marettes, 2AC, 2USB	Extron Cable Cubby
14	Room c703 - Table cubby with data Directly connected with marettes, 2AC, 2USB	Extron Cable Cubby
15	Room c703 - Table cubby with 25' HDMI retractable, data and voice Directly connected with marettes, 2AC, 2USB	Extron Cable Cubby
16	Room s733 - Table cubby with 10' HDMI retractable, data Indirectly connected with plug, 2AC, 2USB	Extron Cable Cubby
17		



floor monuments and
a finished flexible sleeve

Model	Qty
-------	-----

TH84EF1U or equivalent	1
SF670 or equivalent	1

SAROS SB-200-P-B or equivalent	1
SAROS SB-200-P-B or equivalent	1

T10PD - LIBE-AVA-T10PD or equivalent	4
500 or equivalent	1
700 or equivalent	1
500 or equivalent	1
700 or equivalent	1
700 or equivalent	1

APPENDIX B

Contract Data Requirements List

(CDRL)

Contract Data Requirements List

Appendix B

CONTRACT DATA REQUIREMENTS LIST

ITEM No.	TITLE/SOW PARA	QTY	DELIVER TO	DUE DATE	REMARKS
01	Acceptance Test Plan	1	Technical Authority	Acceptance plan due 5 days prior to room testing and acceptance	Electronic copy
02	Acceptance Tests	3	Technical Authority	Acceptance test results due 3 days following sign-off from the Technical Authority	Hardcopies (qty 2) and electronic copy
03	System Operating Materials	1 per type of room	Technical Authority	Draft materials due 20 days prior to room testing and acceptance. Final materials due 30 days following room testing and acceptance	Hardcopies (qty 2) and electronic copy
04	Training	12 hours	Technical Authority	8 hours end user training 4 hours technical training	
05	Manufacturer Data Sheets/User Manuals	1	Technical Authority	Data Sheets and User Manuals due 3 days following sign-off from Project Authority	Hardcopy and/or electronic copy
06	As-Built Drawings / Equipment Inventory	1 set per type of room	Technical Authority	Draft drawings and inventory due 5 days prior to room testing and acceptance. As-Built drawings and inventory due 30 days following room testing and acceptance	Hardcopies (qty 2) and electronic copy
07	Programming Source and DSP Code	1 set per room (as applicable)	Technical Authority	Due 30 days following room testing and acceptance	Electronic copies

DATA ITEM DESCRIPTION	
TITLE: Acceptance Testing SUBTITLE: Acceptance Test Plan Hardware and System	

DESCRIPTION/PURPOSE

1. The Acceptance Test Plan must include the procedures on how to perform the tests that will be used by the Contractor to demonstrate the complete integration and proper operation of the hardware and system software. It will describe the general procedures terms and conditions governing the planning, preparation and completion of acceptance tests covering the system submitted for acceptance.
2. The Contractor must submit an outline of a sample acceptance test plan with the bid. Outline must contain sufficient detail to understand sequence and timing.

PREPARATION OF THE ACCEPTANCE TEST PLAN

3. The Contractor must prepare and submit an Acceptance Test Plan. It must include step-by-step procedures on how each test will be performed. The tests procedures must be in a table format. The table must contain columns for the following information:
 - a. System/sub-system name scope of the test;
 - b. Control parameters;
 - c. Test equipment provided by Contractor to perform the test(s);
 - d. Results: Pass/Fail; and
 - e. Spaces/columns at each test for Contractor and Project Authority signatures.
4. Test Parameters – The Contractor must perform end-to-end testing of all signal flows to verify proper functionality. The testing must adhere to the suggested manufacturer testing protocol.
5. Cable Testing – All Contractor-fabricated cables must be tested and results submitted to the Project Authority:
 - a. Continuity tests;
 - b. Short tests; and
 - c. Wiremap tests.
6. The audiovisual system must be tested in accordance to the InfoComm International Standard for Audiovisual Systems performance verification (ANSI/INFOCOMM 10:2013).
 - a. As part of ANSI/INFOCOMM 10:2013, the functional categories to be tested must include the following:
 - (1) Audio System Performance;
 - (2) Video System Performance;
 - (3) Audio/Video System Performance:

Contract Data Requirements List

Appendix B

- (4) Cable Management, Termination and Labeling:
- (5) Control System Performance;
- (6) System and record Documentation:
- (7) Electrical:
- (8) Information Technology;
- (9) Operations and Support;
- (10) Physical Environment;
- (11) Physical Installation; and
- (12) Serviceability.

Contract Data Requirements List

Appendix B

DATA ITEM DESCRIPTION	
TITLE: Documentation SUBTITLE: System Operating Materials	

DESCRIPTION/PURPOSE

1. The purpose of the System Operating Materials is to show the users how to set-up, use and operate the presentation and audio conferencing systems as well as basic troubleshooting procedures.

PREPARATION OF SYSTEM OPERATING MATERIALS

2. The Contractor must submit to the Project Authority for his review and approval a manual titled System Operating Materials. These materials must contain the required information for a novice user to set-up the presentation or make an audio call. Use of block diagrams, laminated "cheat sheets" and cross-references to the Manufacturer Operating Manuals shall be included in the technical section of the materials. One copy of the quick reference guides "cheat sheets" (final version) must be left in each room. One copy, in handbook form, must be delivered to the Project Authority.

3. As a minimum, the handbook must include the following information:

- a. Overview of the local presentation, audio conferencing, video conferencing and annotating components;
- b. How to set-up, adjust and use all the features of all the components procured or installed;
- c. Pictorial representation of the steps needed to start, connect and present using the different equipment installed within each room. Written verbiage to accompany each step in the process.
- d. The technical section of the System Operating Materials must contain:
 - I. A complete list of all the settings for the equipment used, including a snap shot or screen capture of each configuration page.
 - II. A troubleshooting guide section that contains sufficient information to allow a technician to pinpoint which equipment has failed in case of problems, and to ensure that the problem is not due to a bad set up or connection;
 - III. It shall also include directions on how to bypass the video and audio switching equipment in case of failure to allow the conference or local presentation to be conducted by manually switching the audio and video sources;
 - IV. Provide a description of each module used in the local presentation installation, unless this information is contained somewhere else in the off-the-shelf documentation. In this case, it must provide a reference to this information;
- e. If necessary, the Materials must make reference to sections of the documentation contained in the Off-the-Shelf Equipment Operating Manuals.

4. The System Operating Materials must be prepared in English and French.

5. The System Operating Materials must also be provided on USB media, in Microsoft Word format, version 2010 or later to the Departmental Representative.

Note: The technical section of the System Operating Materials must be included with the As-Built/Installed Drawings.

DATA ITEM DESCRIPTION	
TITLE: Training SUBTITLE: Training Syllabus	

DESCRIPTION/PURPOSE

1. To provide detailed training sessions to end users and technical staff.

PREPARATION OF TRAINING SYLLABUS

The Contractor must provide on-site training to end users and technical staff instructing them on the AV systems capabilities, maintenance and troubleshooting. Specific structure and scheduling of training must be established in cooperation with Project Authority prior to the completion of the installation. The Contractor must provide a total of 8 hour of end user training and 4 hours of technical training. The Project Authority will create the training schedule and allocate the number of training hours based on the room complexity.

As the rooms can accommodate a large number of end users and technical staff, the number of participants attending the training session will not be limited.

1. The training syllabus must be centered on content of the System Operating Handbook and must cover system set-up, functions, operations, and instructions.
2. The training must teach end users with no previous experience:
 - a. How to set-up and display a local presentation;
 - b. How to set-up a teleconference call;
 - c. How to use voice lift system;
 - d. How to set-up a video conference call; and
 - e. How to set-up, adjust and use all of the system features.
3. In addition to the end user syllabus, the technical staff training must cover:
 - a. Determine which equipment has failed and determine the cause of the problem;
 - b. Steps to bypass the video and audio switching equipment; and
 - c. Review the as-built drawings including schematics, rack layouts and floor plans.
4. Training must take place at the Project location using the equipment as a training aid.
5. Training must be available in English or French. Coordinate with Technical Authority.

Contract Data Requirements List

Appendix B

DATA ITEM DESCRIPTION	
TITLE: Drawing SUBTITLE: As-Built Drawings and Equipment Inventory	

DESCRIPTION/PURPOSE

1. The as-built drawings must indicate the location of all major components of each system and how these components are interconnected.

PREPARATION OF AS-BUILT DRAWINGS AND EQUIPMENT INVENTORY

As-Built Drawings

2. The Contractor must supply drawings pertinent to those components, systems, and work supplied under the contract.
3. The as-built drawings must include a schematic comprising of video, audio and control interconnectivity, rack layout and floor plan of each room.
4. The as-built drawings must be submitted to the Project Authority for his review and approval no later than 15 days after site testing and acceptance.
5. Two (2) copies of all as-built drawings must be delivered to the Project Authority.
6. An electronic version of all as-built drawings must be provided to the Project Authority on a USB drive (AutoCAD 2015 and PDF).

Equipment Inventory

7. The Contractor must provide a spreadsheet itemizing the make, model number, serial number, location, and warranty information of all installed equipment.
8. The spreadsheet must be provided to the Project Authority on a USB drive (Microsoft Excel 2010).

APPENDIX C

GENERAL INSTALLATION AND PERFORMANCE REQUIREMENTS

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GENERAL INSTALLATION

INSTALLATION

1. Installation must include the following:
 - a. Uncrating, setting in place, fastening to walls, floors, ceilings, counters, or other structures where required of all equipment except as otherwise noted;
 - b. Interconnect wiring of the components of the system;
 - c. Equipment alignment and adjustment; and
 - d. All other work whether or not expressly required herein which is necessary to result in a completely tested and operating system.
2. All equipment must be firmly secured in place unless requirements of portability dictate otherwise. Fastenings and supports must be adequate to support their loads.
3. All boxes, equipment, etc. must be plumb and square.

CONTRACTOR PERFORMANCE

4. All assembly and material cutting must be limited to a working area specifically designated for this purpose.
 5. Cable and wire stripping scrap and conductor strands must be kept away from sensitive electronic equipment such that loose pieces do not become lodged inside equipment.
 6. All racks, consoles, connection boxes and other equipment enclosures must be degreased and vacuum cleaned prior to installation of equipment or panels.
 7. The Contractor must take measures to protect all cabinets, casework, finished flooring, wall coverings, equipment, etc. from damage resulting from its work. This must include, but not limited to, the installation of temporary protective coverings. Any such damage must be corrected by the Contractor at no additional cost to the Client.
 8. All equipment racks and sub-assemblies must be substantially constructed at the Contractor's premises. This will include, but not be limited to, wiring, labeling, dressing, supports, and ventilation.
 9. All spaces must be cleaned as an ongoing activity. The Contractor must vacuum clean all work areas and remove all debris, scrap and waste at least daily and after any substantial debris accumulation. At the conclusion of the work in a given room area, a final vacuum cleaning of all such access spaces must be performed. All loose items, including those which were existing at the start of the project must be removed. Wet mopping must be performed on flooring only when other dry cleaning methods are insufficient. No brushing or wet cleaning of equipment must be permitted.
 10. The Contractor must generate any additional drawings or information required for fabrication, installation and wiring of the system.
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11. The Contractor must be responsible for the proper alignment, adjustment and calibration of all audiovisual equipment and must provide all personnel and test equipment for the system test and adjust.
12. The Contractor must be responsible for verifying the compatibility of all equipment and related hardware with related work performed by others. This includes, but is not limited to, electrical, mechanical, structural, and all finish work.
13. The Contractor must furnish all software necessary to operate software controlled audiovisual equipment or sub-systems (e.g. remote control system, audio DSP). Whether produced by the Contractor or supplied by a software manufacturer, all software will be installed and tested prior to the delivery of equipment to the site.

EQUIPMENT RACKS

14. The Contractor must use equipment racks of required height to mount all necessary equipment.
 15. Equipment mounting must conform to the industry standards of 1-3/4" rackunits.
 16. The Contractor must only use rack rails that are tapped for #10-32 screws (no clip nuts shall be used). A #10-32 x 3/4" inch black truss head Philips rack screw with nylon washer must be utilized throughout the facility.
 17. The Contractor must implement a general ventilation scheme for all racks in the systems.
 18. All racks must be vacuumed and wiped clean prior to new equipment installation.
 19. All racks must be inspected carefully prior to installation of equipment. All rough or sharp edges that may cause injury to personnel or damage equipment or cabling must be deburred or a permanent protective covering applied.
 20. Provide blank rack panels in all rack openings not occupied by equipment. Blank filler panels must not exceed three rack units in size. Panel color must be matte black. Perforated panels may be used to aid in proper ventilation.
 21. Allow sufficient space for installation of all owner furnished equipment such as notebooks, etc.
 22. Allow some space for future expansion where possible. All devices within equipment racks must be mounted to the equipment rack. No devices shall be resting atop (monitor excepted) or mounted to other devices within the equipment racks unless otherwise noted.
 23. Devices will be mounted in the racks in logical order. Generally, signal flow should move from the top of the rack to bottom. Heavier devices should be mounted in the lower portion to ensure that the assembly is not too top heavy. Frequently used devices will be mounted at the optimal elevation for operator use.
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24. Contractor rack logo panels shall not be accepted.

CABLE DRESS

25. In general, cable dressing must be considered from a maintenance standpoint. Suitable service loops must be provided to allow removal of equipment, or to extend equipment that is mounted in the rack on rack slides. Where there is no rear access to the rack mounted equipment, this requirement must be carefully addressed, and cabling must be of sufficient length to enable the removal and replacement of any individual piece of equipment with all others in place.
 26. It is expected that the Contractor will fabricate some portions of the system off-site. Pre-wiring is acceptable provided that the pre-wired assembly can easily be transported to its final location without complication, and without risk of cable or equipment damage.
 27. The Contractor must be responsible for determining the proper length of all cables whether manufactured on or off the job site.
 28. The Contractor must determine the desired method of securing cables. All of the following requirements must be met by the system:
 - a. Velcro cable ties are the preferred method of cable lacing. Lay-in systems are not acceptable except as applied to a horizontal cable tray;
 - b. Wires and cables must be installed in a neat and orderly fashion, with like cable types following similar paths. Groups of cables must be neatly combed and harnessed. Harnessed groups of cables must be anchored at suitable intervals to reduce and relieve wire strain, especially strain on connections. Adequate service loops must be provided at all cable endpoints;
 - c. Some rack-mounted equipment utilizes slide assemblies for front extension while in operation. For this type of mounting, additional, carefully dressed service loops on all cables must be provided and installed with spring operated cable retractor assemblies to gather and recoil the service loop;
 - d. For all schemes of cable routing, no point in the path shall be subjected to a bend radius of less than eight (8) times the cable diameter, or minimum cable bend radius specified by the manufacturer;
 - e. Captive cables must not be laced in such a manner as to prevent removal of the equipment to which they are captive;
 - f. Wires and cables must be segregated according to signal type. In addition, audio cable must be subdivided into three (3) classes: microphone level circuits, line level circuits, and speaker level circuits;
 - g. Microphone level audio circuits must be kept at least three inches (3") from any other type of parallel signal circuits and at least six inches (6") from any parallel AC power circuits;
 - h. Speaker level audio circuits must be kept a minimum of three inches (3") from line level audio and AC power circuits. All other signal circuits must be kept at least three inches (3") away from any parallel AC power circuits;
 - i. Where circuits of different types must cross, they must do so at right angles and then return to the above required separations in as short a distance as possible;
 - j. Conductors, wires, and cables must be continuous between termination points. Splices are not acceptable; and
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- k. Rack mounting rails must not be used for cable lacing. Lacing bars and/or tie mount bases mounted to cabinets or console must be provided where appropriate.

CABLE TYPES

- 29. All cables installed must meet appropriate governing codes and standards.
- 30. The Contractor is encouraged to suggest alternate cable types where a significant cost savings may be realized without any loss of quality, reliability and performance. Alternates must be approved by the Departmental Representative prior to use.
- 31. The Contractor must determine building and other regulating authority requirements for cables installed as part of the AV scope of the Project. This requirement applies to cables in return air plenums as well as other areas. If the cable type indicated does not comply with these requirements, the Contractor shall propose alternate cable types, and/or encasement in complying raceways or conduits. All cabling not in conduit must be plenum-rated.

POWER CORDS

- 32. All equipment power cords must terminate in a standard plug that must be wired in compliance with governing codes and standards.
- 33. The power cord connector type at the equipment must be provided by the manufacturer. Custom field terminated power connectors must not be ordered. If the manufacturer provides a choice, a removable power cord that attaches to the equipment with an IEC 320/CEE 22 connector is preferred. The use of factory manufactured custom length cables are acceptable.
- 34. The power cord may be laced to the rack as long as the cord is removable at the power connector on the piece of equipment. This is to allow removal of the equipment without undoing the cable lacing. Power cords must not be laced in the same bundle with signal or control cables. If the power cord is an active component of the equipment, the cable must be dressed separately from all other cables terminating at the equipment to facilitate easy removal of the equipment. All power cords must be plugged into an AC power distribution strip which will be pre-wired into the rack prior to delivery to site.

CABLE TERMINATION

- 35. Wire and cable termination must be performed in accordance with industry standards and the guidelines of generally accepted installation practices.
- 36. With respect to audio equipment interconnects, the Contractor must make every effort to use equipment with balanced inputs and outputs. When this is not possible, such as the case to meet specification, the following are recommended (in order of preference):

- a. An electronic balancing device (professional interface) or balancing transformer should be utilized;
 - b. In the case of an unbalanced output driving a balanced input, forward referencing should be utilized; and
 - c. An active-balanced to unbalanced interconnect is not recommended.
37. It is ultimately the Contractor's responsibility to choose the best wiring practices to achieve maximum sonic quality.
38. Wire and cable termination must include all aspects of equipment connection, including, but not limited to, the following:
- a. Wire and cable length;
 - b. Protective jacket removal;
 - c. Conductor separation, dressing and trimming;
 - d. Conductor stripping; and
 - e. Connector device installation including, but not limited to, the following:
 - i. Conductor termination;
 - ii. Shell assembly;
 - iii. Strain relief installation; and
 - iv. Locking/latching device installation.
39. Cable designation installation on each distinct wire or cable, except where the color code or pair number of individuals of pairs of a multi-pair eliminates the need for this.
- a. These must be installed within two inches of connectors, unless this interfered with disassembly of the connector.
 - b. These must be installed in such a manner as to be visible without unlacing any harnesses.
40. Continuity affirmation.
41. Mating of connecting devices to equipment.
42. All cables and patch points on input panels shall be labelled to denote their source device or input panel location, cable number and destination device.
- a. The cable shall be individually identified with a cable designator, which shall be clearly indicated on the engineering drawings;
 - b. Label both ends of each cable;
 - c. The label shall be a Panduit Self Laminating Ink Jet or Laser Labels (e.g. LJSL5-Y3-2.5 for small diameter cables and LJSL11-Y3-1 for larger diameter Video, VGA and RGBHV). Cables lettering shall be a minimum of 3/32 inch (2.5 mm) high and shall be black ink on a white background; and
 - d. Cable Numbering shall start with the Upper Case A for Audio Cables, C for Control Cables, N for Network Cable, P for Remote Power Cables and V for Video, S-Video, VGA or HDMI. Cables followed by a three digit numeric designation (e.g. V015, C001, etc). Hand Lettered Labels or PAN Code tm Tape style markers will not be accepted.
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43. It is the responsibility of the Contractor to determine and affirm the type and extender of all required mating connectors. Since manufacturers of equipment may exercise their right to make changes in connector types and wiring, it must remain the responsibility of the Contractor to verify this aspect of the design prior to cable fabrication and installation.
44. Exposed portions of shield must be protected with PVC heat shrinkable sleeving. Exposed ends of outer jackets on shielded cables must be insulated with sleeves to eliminate the possibility of portions of the cut off foil shielded touching adjacent shields or metal. Either rubber "Kellerman" type sleeves or heat shrink sleeves must be used. Bare shield drain wires must be insulated with small diameter clear Teflon or PVC heat shrink (as appropriate) from under the sleeve to within 0.125 inch of the point of termination.
45. Conductors and/or cables interconnecting assemblies shall be formed into a bundled harness and dressed to preclude damage from adjacent surfaces and sharp edges,
46. Cabling required in pedestrian areas such as hallways, shall be contained in conduit and conform to the vertical and horizontal directions of the walls and ceilings;
47. Cable runs shall be continuous, without splices or adapters from terminal to terminal;
48. Primary power and electronic wiring shall not be co-located in conduit;
49. Marett type connectors are not permitted, nor is the use of nail rings or staples to secure cable harnesses to structures.

CABLE AND CONDUCTOR PREPERATION

50. All cables must be prepared in such a way that the individual conductors, shield or their insulation are not nicked or cut in any way. The cable outer jacket must be cut square.
51. Insulation must be removed from conductor in such a manner that conductor strands must be nicked to the extent that base metal shows through the plating and wire strands remain in the original lay, and are not combed out. The conductor's insulation must be cut square within $\frac{1}{4}$ " of the outer diameter of the insulated conductor. If required, the conductor must be tinned with a minimum amount of 60-40 or 63-37 solder (tin/lead with resin flux).

CONNECTORS

52. Only premium quality cable connectors shall be used. All cable mounted connectors must be covered by a metal shell connector hood or must have crimp ferrules which securely grasp the cable outer jacket to provide protection to the rear connections made on the connector and provide strain relief for the cable. All connectors must have incorporated a mechanical means of attaching the connector to its mate to assure that a connector will not fall off unless intentionally removed.
53. Audio Connector Requirements - Circular (XLR type): These must be premium quality connectors with tarnish resistant contact surfaces. No connection must be made to the shell unless specifically called out in the drawings.

54. Video Connector Requirements: Only connectors with tarnish resistant contact surfaces must be used. Kings TRS finish (“bright nickel”) or equal is recommended. The CENTRE conductor pin and socket must be captive and finished with gold or silver surfaced over nickel. All connectors must be specified by the manufacturer as to be acceptable with the specific cable being used. Kings crimp BNC connectors or approved alternate must be used.
55. Panel Mounted Connectors: Care must be taken to insure that the sleeves of panel mount connectors to not make contact with the mounting panel.
 - a. Audio (microphone, line level): Locking XLR type;
 - b. Audio (speaker level): locking/latching “Speakon” type;
 - c. Audio (line level): ¼” diameter locking/latching, tip/ring/sleeve;
 - d. Video: HDMI or DVI type;
 - e. Serial Data: DB-9 or DB-25, metal shell; and
 - f. Video/Audio: Shielded Cat cable from Manufacturer of Video extenders (Tx / Rx).

SOLDER CONNECTIONS

56. Only the finest quality 60-40 or 63-37 solder (tin/lead) with rosin flux must be used. The solder must be as manufactured by Kester, Ersin, or approved alternate, and must be designed for electronic use. Solder fillets must wet and flow around conductor and terminal. In no case shall the general outline of the conductor be visible in excessive solder. The insulation must not be charred, melted or burned by the soldering operation. There must be no evidence of either lead or terminal contamination. The final solder joint must be bright and shiny and must show no evidence of being a “cold” joint.
57. Mechanical connections made to terminals prior to soldering must be the minimum required to reliably retain wire, usually a simple bend around solder eyelet or post. Avoid practice of multiple wraps on solder terminals, as that practice makes conductor removal very difficult after soldering.

INSULATION DISPLACEMENT CONNECTIONS

58. Insulation displacement connections such as ribbon cables and the telephone connector technology must only be installed with termination tooling as specified by the connector manufacturer. If shown in the connector manufacturer’s data, the controlled-cycle crimp tool must be selected. If the manufacturer has a multi-conductor mass-termination tool available, this must be selected for all connectors of ten pins or more.
 59. Individual conductors of cables installed on terminal blocks must not be stripped, and must be punched down with a spring loaded impact tool designed for this specific purpose. Bare cable conductors must be insulated with Teflon, PVC heat shrink or other insulating sleeve (as appropriate) prior to being punched down on terminal block. During the punch down process, the free end of the conductor must be cut off, and the installer must ascertain that this cut off end is not left within the block or block assembly.
 60. Only cables designed specifically for insulation displacement termination with the specific termination device employed must be used.
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CRIMP CONNECTIONS

61. Where crimp connectors are utilized, they must be installed using the manufacturer recommended controlled cycle crimp tool that assures that the proper crimp pressure has been applied. The Contractor must develop a procedure to insure that the crimp tooling is properly checked for compliance with the manufacturer's standards, and that it is producing crimp-type connections within the required tolerances. The frequency of this depends on the usage and on the length of time a particular tool holds its calibration.
62. Only tooling recommended by the manufacturer must be used. Only pins and connectors of the proper size and design for the cable to which they are to be applied must be used. There must be no abnormal deformation of the contact during the crimping operation. There must be no damage to the contact during the crimping operation that could interfere with its retention in its shell or its mating. There must be no damage done to the conductor which either severs strands or exposes the individual strands base metal by the crimping operation.

SCREW CONNECTIONS

63. Only insulated crimp on spade terminals must be used for application to barrier strips. Multiple gang lugs or ring lugs are not acceptable for this purpose. This is only applicable to stranded conductor wires. It is suggested that stranded conductor wire be "double over" on the crimp end prior to crimping. Solid conductors may be attached directly to the barrier strip.
64. All conductors must be stripped prior to installation underneath screws on terminals. Unlike the stranded control cable, solid conductor wire does not require crimp lugs on individual conductors. All screw terminated solid connectors must be wrapped in the same direction as screw rotation during tightening.

GROUNDING PRACTICES

65. The audiovisual system will be serviced by the earthing conductor that is provided with the mains supply.
 - a. All devices in the audiovisual system racks will be serviced with a grounded AC outlet. Devices having two (2) prong power cords will also have a fourteen (14) gauge green copper wire connected from the chassis to the grounded copper buss bar mounted to the equipment rack frame. Under no circumstances will the prong of a three (3) prong power cord be removed;
 - b. Audio cables shield must be connected to ground at one point only. Exceptions may be made for phantom powered microphones and some ICM and IFB systems. This ground point must be at the system ground of the destination device, which must be strapped to the system ground in the rack. For intra-rack wiring this requires the shield to be connected at both ends, but grounded at only one end;
 - c. All video receptacles must be insulated from the mounting panel, outlet box, or wireway. Unless otherwise detailed, this must be accomplished by using insulated-from-panel type receptacles; and
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- d. The Contractor should take care to consider ground references within each device and the grounding factors on site.

MATERIALS

66. General: Materials used in installations must be chosen with due consideration being given to the intended use, safety, durability, retention of appearance and avoidance of corrosion or other chemical effects.
67. Toxic Materials: Material capable of producing harmful toxic effects under operating conditions, equipment malfunction, or accidental other causes, must not be used.
68. Metals: Metals used must be corrosion-resistant or treated to resist corrosion in atmospheric conditions to which the installation will be subjected.
69. Plastics: Plastics must be durable and resistant to cracking, brittleness, discoloration, deformation or similar defects, upon ageing or when subjected to hot or cold thermal extremes.
70. Natural Rubber: The use of natural rubber is prohibited unless directly specified, or approved for its use is obtained from the Departmental Representative.

GENERAL PERFORMANCE REQUIREMENTS**STANDARDS**

71. General Standards used in the design and installation of the audiovisual system must conform to the highest quality Broadcast Industry standards. The following list provides a general indication of the type of industry organizations with published technical standards, and is not intended to be all-inclusive.

- a. AVIXA AudioVisual and Integrated Experience Association (Formally Infocomm)
- b. AES Audio Engineering Society: Audio Standards
- c. EIA Electronic Industry Association: Equipment mounting, construction, tooling
- d. IEEE Institute of Electrical and Electronic Engineers: Electrical/ Signal Standards
- e. CEC Canadian Electrical Code: Electrical Standards
- f. NCAC National Council of Acoustical Consultants: Acoustic Standards
- g. ASTM American Society for Testing and Materials: Test and materials Standards
- h. BICSI Building Industry Consulting Service International
- j. CSA Canadian Standards Association

MAINTAINABILITY

72. The Contractor must provide a fully functioning system that is easily accessible for service while the system is operational. Where this is not practical due to mutually accepted circumstances, service functions will be designed to allow a minimal amount of equipment and support disassembly. The audiovisual system design, construction and installation will allow components to be accessible for inspection, maintenance and repair with a minimal disassembly of other components or surrounding equipment.

SAFETY

73. The audiovisual system will be inherently safe, when operated and maintained in compliance with the Contractor provided operations and maintenance / technical manuals. In addition, equipment will meet or exceed governing standards and requirements for safety. This must include provisions and installation of seismic bracing and restraints.

EQUIPMENT MODIFICATIONS

74. The audiovisual systems must be designed to utilize new “off the shelf” equipment. Every effort must be made to avoid the use of custom or modified equipment. However, some AV equipment may require modifications to accommodate installation, remote control or other integration requirements.

75. Where equipment must be modified to conform to system specifications and design parameters, the modifications made must in no way affect the performance of the equipment as published by the manufacturer. Equipment modifications may also be impacted by and must comply with the terms of other sections of this AV Specification.

EQUIPMENT SUBSTITUTION

76. Requests for use of alternate equipment to that recommended in the Equipment Specification will be considered on an item by item basis. Equipment substitutions will be considered in cases where a specific component of the system is no longer available, or where the alternate equipment is shown to provide equal or greater quality and performance.
77. All proposed equipment substitutions must be submitted to the Departmental Representative with the Contractor's bid. Proposed substitution submittals must include full information, specifications, and data sheets for the proposed alternative equipment. All equipment must be new and must meet or exceed the last published specifications of the manufacturer in all respects.
78. Equipment substitutions will be considered after commencement of work on the Project only where the contracted equipment becomes unavailable, where unanticipated lead times could delay the Project for other legitimate practical considerations. Equipment substitutions submitted after commencement of work on the Project must be approved by the DEPARTMENTAL REPRESENTATIVE in writing.
79. Approval of equipment substitutions must not imply release of Contractor responsibility for meeting all requirements and design objectives as outlined in this AV Specification.

CUSTOM / MODIFIED EQUIPMENT

80. It must be the responsibility of the Contractor to provide all appropriate design, engineering and fabrication in the provision of specified custom or modified equipment.
81. All specified custom or modified equipment must be included in the scope of the Contractor's work. No portion may be omitted from the scope of the Contractor's work. Bids excluding any portion of the custom or modified equipment will be deemed non-responsive.
 - a. Substitutions of "off the shelf" equipment for specified custom equipment will be considered when submitted per the procedures noted for Equipment Substitutions.

SYSTEM SOFTWARE AND SOFTWARE PROGRAMMING

82. The Contractor must be responsible for providing a complete and working system in the provision of software programming.
 83. All software programming must be included in the scope of the Contractor's work and performed on site. No portion may be omitted from the scope of the Contractor's work. Bids excluding any portion of the software programming will be deemed non-responsive.
 84. Contractor must supply system software as specified in the Assembly and Installation Requirements.
 85. The Contractor must supply a complete set of system software, software programming code and documentation as follows
 86. In the case of commercial software, a complete set of software including the license and documentation for all devices, utilities, and tools used in the operation and maintenance of the
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audiovisual system.

87. In the case of non-commercial or custom software, a complete set of software is required, including license (if applicable) and documentation for all devices, utilities, and tools used in the operation and maintenance of the audiovisual system. Documentation must be presented in such a way as to allow the Client the ability to perform unassisted operation, maintenance, troubleshooting and programming.
88. All commercial software provided by the Contractor as part of the Project must be procured and transferred in full compliance with the publisher's copyright, licensing and other requirements of ownership and use. All software license agreements must be registered in Client's name.
89. Client must retain full rights to all custom software, programming, and software programming code developed by the Contractor as part of the project. This must include the right to use, reproduce and modify the software and software programming code as reasonably required to operate the audiovisual systems and to support their ongoing maintenance and development.

APPENDIX D
Montreal 2018

MANDATORY REQUIREMENTS CHECK LIST

1. Instructions to Bidders

In addition to the Bid Preparation Instructions stipulated in Part 2 of this RFP, the following information and instructions relate to the submission and evaluation of the mandatory evaluation criteria contained in this RFP.

- i. Simply stating a compliance to a criteria is insufficient. Bidders must present a clearly organized, printed (i.e. not handwritten) proposal that includes all necessary technical and descriptive information, in order to clearly demonstrate their compliance to all items presented in RFP- SOW-AV-Montreal 2018 and all related specifications and appendices. Responses will be evaluated on a simple, stringent pass/fail basis. Proposals not meeting each mandatory requirement will be considered non-responsive (non-compliant) and given no further consideration
- ii. PWGSC reserves the right to verify any information provided in the mandatory tables. This will be done by contacting the client contact using the contact information provided by the Bidder and providing this to the client. The client will then be asked to verify the information.
- iii. Technical proposal must not include any financial data or prices.
- iv. Technical proposal must comply with RFP- SOW-AV-Montreal2018 and related Appendices.

2. Mandatory Corporate Evaluation Criteria

Proposals will be evaluated in accordance with the mandatory evaluation criteria as detailed herein. Bidders are advised to address each requirement in sufficient depth to permit a complete requisite analysis and assessment by the evaluation team. Proposals failing to adequately respond to the mandatory evaluation criteria will be excluded from further consideration.

Mandatory Requirements-As per references			
Vendor			Comply
Reference	Description	Bidder Response location in bid	Yes No
M.1	The Bidder must include completed room data sheets for each room listed on spreadsheet in Appendix A (Appendix A - Montreal2018 Room Type List). Each room data sheet will list all equipment, including detailed list of all proposed equipment, display technology, control and cabling proposed for the room and detailed list of all proposed equipment. Bidder must submit room data sheets in the format outlined in Appendix A. Equivalent products and part numbers may be submitted, but bidder must clearly identify what equivalencies are being offered and submit specifications to clearly demonstrate the technical equivalency. Any equivalency not meeting the mandatory technical requirements will be considered as non-compliant.		

Mandatory Requirements check list

Appendix D

2017-12-04

M.2	<p>The Bidder must provide three separate and distinct reference contracts where they have delivered an Audio Visual system project of similar design and scope (or greater) within the last five year, one of which must be in a government facility (Federal, Provincial or Municipal) and a minimum value of \$1M.</p> <p>For each reference to be considered:</p> <ul style="list-style-type: none"> i. The Bidder must fully complete the Corporate Reference Contract Table contained in Attachment 1A, including complete contact information; ii. The reference project must have been contracted directly with the Bidder; <p>The Bidder must provide CV for the Senior Project Manager who will be assigned to this project (max 5 pages) whom has at least 5 years project management experience.</p>																							
M.3	<p>The Bidder must provide CV for the Lead Technician I Onsite Installer/Implementation Manager who will be assigned to this project (max 5 pages).</p>																							
M.4	<p>The Lead Technician I Onsite Installer/Implementation Manager must :</p> <ul style="list-style-type: none"> i. Have a minimum of 10 years of relevant experience ii. Be certified to design, engineer and implement digital media platforms, mix minus matrix voice lift systems and touch panel control systems. 																							
M.5	<p>The Bidder must provide a detailed technical narrative and reference block diagrams / drawings describing the rational of the bidder's design concept that meets the functional requirements.</p>																							
M.6	<p>The Bidder must deliver rooms to the Project Authority in the order listed below no later than February 1st, 2018. Any work conducted post January 12th, 2018 must be completed Monday to Friday between 16:00hrs - 06:00hrs and weekends.</p> <table border="1" data-bbox="1088 1365 1282 1711"> <thead> <tr> <th>Priority</th> <th>Room ID</th> <th>Room Type</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Room A-701a</td> <td>Type 14</td> </tr> <tr> <td>2</td> <td>Room C-700b</td> <td>Type 15</td> </tr> <tr> <td>3</td> <td>Room A-703</td> <td>Type 11</td> </tr> <tr> <td>4</td> <td>Room A-704</td> <td>Type 11</td> </tr> <tr> <td>5</td> <td>Room A-705</td> <td>Type 11</td> </tr> <tr> <td>6</td> <td>Room A-708</td> <td>Type 8</td> </tr> </tbody> </table>	Priority	Room ID	Room Type	1	Room A-701a	Type 14	2	Room C-700b	Type 15	3	Room A-703	Type 11	4	Room A-704	Type 11	5	Room A-705	Type 11	6	Room A-708	Type 8		
Priority	Room ID	Room Type																						
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Mandatory Requirements check list

Appendix D

2017-12-04

7	Room A-709	Type 6		
8	Room C-709	Type 10		
9	Room C-714	Type 12		
10	Room C-716	Type 12		
11	Room C-717	Type 13		
12	Room A-710	Type 7		
13	Room C-702	Type 9		
14	Room E-704	Type 9		
15	All other equipment	Misc Items tab of Appendix A - Room Type list		

Attachment 1A – Corporate Reference Contract Response Table

NOTE: Please provide information for the two contracts in Table 1, 2 & 3.

Table 1 – Mandatory Criteria – Corporate Experience (Contract #1)

Contract Reference, Contract # __	
Client Identification	Bidder Company
Client Organization Name	
Project Title	
Client Address	
Client Contact Name	
Title	
Telephone No. or Email Address	
Contact Procedure	
1. Provide a brief description of the project delivered under this contract, including an overview of the Bidder's scope of work.	
2. Value of project (\$)	
3. Specify contract start and end date (mm/yyyy to mm/yyyy).	
4. The reference contract was completed in the last five years.	
5. The contract was with a government facility	
6. If yes in question 4 – which level	
<input type="checkbox"/> Federal <input type="checkbox"/> Provincial <input type="checkbox"/> Municipal	

Table 2 – Mandatory Criteria – Corporate Experience (Contract #2)

Contract Reference, Contract # ____	
Bidder Company	
Client Identification	Client Organization Name
	Project Title
	Client Address
	Client Contact Name
	Title
	Telephone No. or Email Address
	Contact Procedure
7. Provide a brief description of the project delivered under this contract, including an overview of the Bidder's scope of work.	
8. Value of project (\$)	
9. Specify contract start and end date (mm/yyyy to mm/yyyy).	
10. The reference contract was completed in the last five years.	<input type="checkbox"/> NO <input type="checkbox"/> YES
11. The contract was with a government facility	<input type="checkbox"/> NO <input type="checkbox"/> YES
12. If yes in question 4 – which level	<input type="checkbox"/> Federal <input type="checkbox"/> Provincial <input type="checkbox"/> Municipal

Table 3 – Mandatory Criteria – Corporate Experience (Contract #3)

Contract Reference, Contract # ____	
	Bidder Company
Client Identification	Client Organization Name
	Project Title
	Client Address
	Client Contact Name
	Title
	Telephone No. or Email Address
	Contact Procedure
13. Provide a brief description of the project delivered under this contract, including an overview of the Bidder's scope of work.	
14. Value of project (\$)	
15. Specify contract start and end date (mm/yyyy to mm/yyyy).	
16. The reference contract was completed in the last five years.	<input type="checkbox"/> NO <input type="checkbox"/> YES
17. The contract was with a government facility	<input type="checkbox"/> NO <input type="checkbox"/> YES
18. If yes in question 4 – which level	<input type="checkbox"/> Federal <input type="checkbox"/> Provincial <input type="checkbox"/> Municipal

NOTES GÉNÉRALES

1. LE PLAN DE CROQUIS DES CONTOURS SÉLECTÉS INCLURE LES ÉLÉMENTS DE TRACÉ ET NE PAS S'APPUYER SUR LES CONTOURS DE CONTRÔLE PAVÉS ET DE SÉCURITÉ.

2. CONSERVER LA COORDINATION ENTRE LES ÉLÉMENTS DE CONTRÔLE PAVÉS ET DE SÉCURITÉ AVEC L'ENTREPRISE EN CONTRÔLE PAVÉS ET SÉCURITÉ.

NOTES SPÉCIFIQUES

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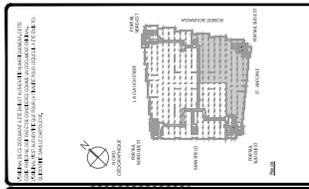
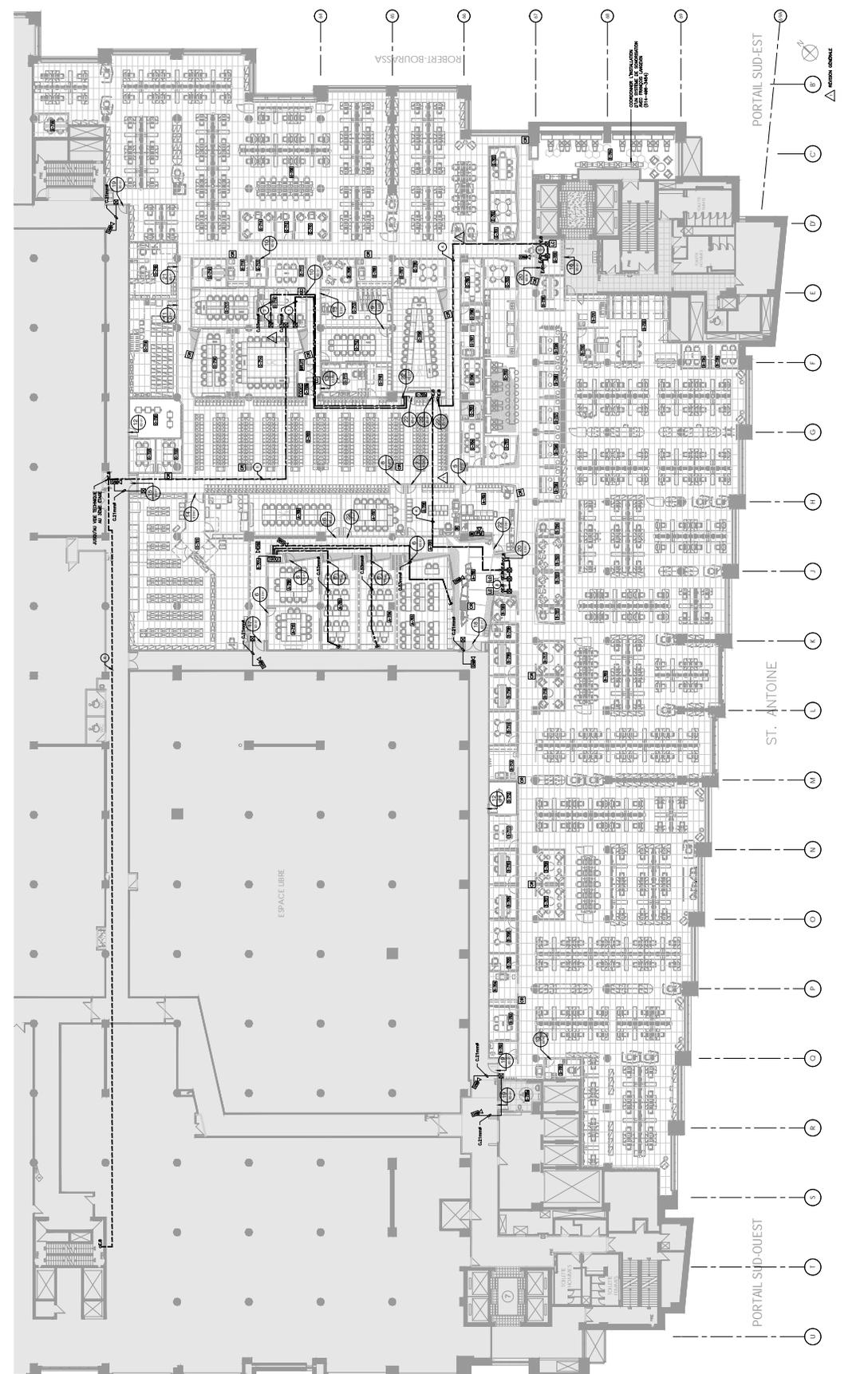
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LES SERVICES EXP INC. 100 RUE DE LA COMMUNIQUE, SUITE 1000, MONTRÉAL, QUÉBEC H3T 1M6 TEL: 514-399-3333 WWW.EXP.CA	
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PROJET PLACE BONAVENTURE 800, de la Gauchetière Ouest, suite 7800, Montréal, Québec	
PROPOSE ÉLECTRICITÉ SERVICES AUXILIAIRES	
DATE DE RÉVISION 1. 2014-01-15	ÉLÉMENTS 1. 2014-01-15
N. BILLET (PROJ.) 1. 2014-01-15	N. BILLET (PROJ.) 1. 2014-01-15
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