

BENCHES

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PART 1: GENERAL

1. PROJECT INFORMATION

Public Works and Government Services Canada (PWGSC) is renovating the heritage building located at 111 Wellington Street in downtown Ottawa, Ontario.

The 111 Wellington Building is a four-story heritage structure (a mechanical penthouse, four [4] floors above grade and two (2) partial basement levels and a partial basement mezzanine level). The building has no loading dock. Access for delivery will be provided at one or more of the building entrances.

2. REQUIRED SERVICES

PWGSC requires the services of a Contractor to supply, deliver and install Benches for public spaces located at 111 Wellington Street, Ottawa, Ontario.

There are approximately 31 Benches to be delivered and installed in 2 separate deliveries between April 1 2018 and June 2018.

3. CONSTRAINTS

Due to constraints in site access, security, scheduling requirements and site access procedures, the Contractor is required to arrange for a location in the National Capital Region where the Technical Authority can conduct an inspection of the products prior to shipping each of 2 shipments to the building site.

There is a security requirement associated with this requirement. The Contractor must ensure security clearance requests are submitted within thirty (30) days of contract award. Any Contractor not submitting the required documentation within this prescribed timeline will be charged the cost of additional security escorts that may be required during the component delivery and installation process.

PART II: SCOPE OF WORK

The scope of work is for the supply, delivery and installation of Benches as per the table below.

The table below provides the Group number, drawing reference code and quantity for each piece. Drawing codes and quantities are referenced below. Refer to Annex A.1 Benches Drawings, and Annex A.2 Location Plans for installation locations.

Group 1 Benches			
Furniture Type	Drawing Code	Quantity	Optional Additional Quantity
Corridor Benches	BCC-430	8	0
Anteroom Benches	BCC-432	17	4
Cloakroom Benches	BCC-433	2	2
Courtyard Benches	BCC-434	4	0

The Contractor will provide supply, deliver and install furniture as detailed in this document.

SECTION 1

1. SCOPE

- 1.1 This specification is for the manufacture of Benches, described below in section 1.2, and delivery and installation at 111 Wellington Street.
- 1.2 This scope represents the Benches located in Corridors, Anterooms, Cloakrooms and Courtyard.

Group 1 Benches			
Furniture Type	Drawing Code	Quantity	Optional Additional Quantity
Corridor Benches	BCC-430	8	0
Anteroom Benches	BCC-432	17	4
Cloakroom Benches	BCC-433	2	2
Courtyard Benches	BCC-434	4	0

- 1.3 These specifications are to be read in conjunction with the Benches drawings provided in Annex A.1.
- 1.4 Samples of all hardware, finishes, upholstery and veneer assembly are to be provided for approval before final manufacture of the components. Sample of upholstery to be no less than 1 m by 1 m square.
- 1.5 Contractor is to provide options for fixing the Corridor and Cloakroom benches in place, so that they may be removed for occasional maintenance, as part of the Shop Drawings Submission.
- 1.6 After contract award and approval of all finishes and hardware, a finished prototype with all hardware and accessories will be required. The purpose of the prototype is to assess craftsmanship, aesthetics, wood grain, colour and finish. The following components will require a prototype before final manufacture can proceed:
- 1.6.1 Corridor Bench
- 1.6.2 Anteroom Bench
- 1.6.3 Cloakroom Bench
- 1.6.4 Courtyard Bench

2. STANDARDS AND REGULATIONS

All products are to comply with the following standards and regulations:

2.1 Standards

- 2.1.1 AWMAC, Architectural Woodwork Manufacturers Association of Canada. Architectural Woodwork Standards. (AWS) Second Edition 2014.
- 2.1.2 AWI, Architectural Woodwork Institute
- 2.1.3 California Technical Bulletin 117A

2.1.4 ASTM B62-09. Standard Specification for Composition Bronze or Ounce Metal Castings.

Note: Undated reference refers to the latest issue.

2.2 Regulations

2.2.1 Ontario Regulations 347 "General-Waste Management Regulation R.R.O 1990 (as amended).

2.2.2 Ontario Regulation 102/94 "Waste Audits and Waste Reduction Work Plans".

2.2.3 Ontario Regulations 103/94 "Industrial, Commercial and Institutional Source Separation Programs".

3. ENVIRONMENTAL ATTRIBUTES

3.1 Only non-solvent based adhesives are to be used.

3.2 The furniture is to be manufactured in such a manner that liquid surface coatings are stored in controlled storage areas as per WHMIS requirements.

3.3 The furniture is to be exposed to ventilated open air prior to delivery for a minimum of 24 hours prior to packaging for shipping, to allow for off-gassing.

3.4 All wood used in the manufacture of furniture is to originate from a forest certified under PEFC International (which includes SFI, CSA) or FSC International.

3.5 The Manufacturer is to have a hazardous and toxic material management system in place at its manufacturing facilities.

3.6 Do not use any component that contains plastic foam that is manufactured or formulated using CFCs or HCFCs.

4. MATERIALS

4.1 Hardwood Lumber

4.1.1 All hardwood lumber is to be kiln dried to a maximum average moisture content of 6-8% at time of fabrication.

4.1.2 All hardwood lumber pieces are to conform to Architectural Woodwork Standards (AWS) Section 3. Selected for Premium grade construction for transparent finishes. Clear, flat cut only. Well matched for uniform colour and straight grain and to minimize the presence of medullary ray patterning.

4.1.3 All wood must be free of pinholes, sap pockets, worm holes or other visible defects. Knots are to be not more than 3.2mm in diameter or clustered. Heartwood only, no sapwood will be permitted.

4.1.4 No finger jointed, built-up or laminated lumber will be permitted. Select pieces from straight grain stock with no bow, warp, twist or hook.

4.1.5 Exposed parts (visible surfaces) are to be constructed from flat cut, select and better grade wood (species to be Black Walnut (*Juglans Nigra*) for all components, except the Courtyard

benches reveal, which is to be solid Red Oak) to AWMAC Architectural Woodwork Standards for premium grade hardwood lumber, for a transparent finish.

- 4.1.6 Semi-exposed parts (underside of benches) are to be constructed from flat cut, select and better grade (species to be Black Walnut – *Juglans Nigra*) to AWMAC, Architectural Woodwork Standards for premium grade hardwood lumber, for a transparent finish.
- 4.1.7 Concealed parts (non-visible surfaces of furniture such as underside of upholstered bench seats) are to be constructed using birch or maple species to AWMAC Architectural Woodwork Standards for custom grade or better.

4.2 Hardwood Veneer

- 4.2.1 All veneer is to conform to Architectural Woodwork Standards (AWS) Section 4. Grade AA. Veneer to be a minimum thickness of 0.60 mm. Minimum 150 mm wide flitch. Suitable for the application of transparent finishes.
- 4.2.2 Veneer to be press dried to a uniform moisture content of 10%-12%. Select only veneers that exhibit no streaks, wild grain, worm holes, pin knots or improper cutting. A limited number of pin knots are permitted provided they are not in clusters and do not detract from the overall appearance of the panel. All veneers to be selected for uniform colour presentation and straight uniform grain patterning. Select veneers to match colours and appearance of grain in adjacent solid hardwood components. Veneers to be sourced from the same flitch for all components in the same component to ensure uniformity and consistent appearance throughout.
- 4.2.3 All veneer is to be book matched, unless otherwise specified on the drawings. Exposed vertical flat panels such as back, and side panels are to be book matched. Vertical surfaces that make up a plane and are not separated from each other by a feature such as framing including the front or back of the benches are to be book matched veneer over the entire plane. Align the grain pattern balanced and aesthetic grain continuity.
- 4.2.4 Veneer for exposed parts (visible surfaces), is to be flat cut Black Walnut (*Juglans Nigra*) for a transparent finish. Flitches with narrow heart must be selected for surfaces to receive veneer.
- 4.2.5 Veneer for semi-exposed parts to be flat cut Black Walnut (*Juglans Nigra*).
- 4.2.6 Veneer for concealed parts (non-visible surfaces of furniture, including back face of parts where veneer is applied to provide balanced construction) to be flat cut hardwood veneer.

4.3 Core Material

- 4.3.1 For shop applied veneer: Plywood core to be Baltic Birch Plywood. Grade B/BB. Solid one piece faces with uniform light colour. No plugs, or open cracks/splits. A limited amount of pin knots, and minor color inconsistencies are allowed. No patches, voids, knots or mineral streaks. Sizes and thicknesses as indicated in the drawings. Void free core, 9 plies per 12 mm thickness. Provide in single thicknesses to match thickness of panel components as detailed. Laminate multiple layers of plywood as required to produce panels of non-standard thicknesses.
- 4.3.2 For factory hardwood veneer plywood: to AWS. Section 4. Veneer core, combination core or solid lumber core only. Veneers: Grade AA to both front and back faces. Minimum 150 mm wide flitch. Veneers to be specifically graded and selected to match existing heritage classified materials and to minimize medullary ray patterning. Book matched lay-up. Suitable for transparent finishes. Flat cut Black Walnut (*Juglans Nigra*) and flat cut Maple.

4.4 Adhesives

- 4.4.1 Use adhesive type recommended by AWMAC to suit application. Provide only waterproof and non-solvent based adhesives. Adhesives for hardwood veneering and joinery to be polyvinyl acetate resin emulsion or cross-linkable polyvinyl acetate resin emulsion type. Elastomeric solvent dispersed adhesives are not acceptable.

4.5 Wood Finishes

- 4.5.1 An example of an acceptable finish for the Black Walnut is:
 - 4.5.1.1 Mohawk Wiping Stain, 2 parts 229 Brown Mahogany, 1 part 209 Extra Dark Walnut, and 1 part Van Dyke Brown.
- 4.5.2 Red Oak reveal finish is to match sample to be provided by Technical Authority.
- 4.5.3 Finish all solid wood surfaces to premium grade quality standards, transparent, catalyzed lacquer finish system consisting of vinyl wash coat, stain, vinyl sealer, sand (220 grit) and catalyzed lacquer top coat to match colour and sheen.

4.6 Upholstery

- 4.6.1 Dust panel: Typar – Black, or equivalent
- 4.6.2 Burlap: 340 to 399g. (12-14 oz.) heavy duty grade
- 4.6.3 Muslin: light to medium weight, plain fabric
- 4.6.4 Upholstery Fabric (for Anteroom Benches):
 - Manufacturer: Design-Tex
 - Pattern: Sugar Shoots 3247
 - Color: Tea 102
 - Finish/Backing: Stain resistant, Acrylic, or equivalent
- 4.6.5 Upholstery Fabric (for Cloakroom Benches):
 - Manufacturer: Winter Creation
 - Pattern: Canva
 - Color: Lava 7930
 - Finish/Backing: Stain resistant, Acrylic, or equivalent
- 4.6.6 Upholstery Leather (for Corridor Benches):
 - Manufacturer: Edelman Leather
 - Pattern: Dream Cow Earth
 - Color: Shale DRC-E8
 - Finish/Backing: N/A
- 4.6.7 Upholstery Leather to be European Full Grain Aniline Dyed Cowhide. Top grain hides only, split hides will not be accepted. Leather is to be free of blemishes, discoloration, and other visible defects.

- 4.6.8 The Contractor may provide two acceptable equivalent alternates for approval by the Technical Authority. The onus of responsibility is on the Contractor to prove equivalency for acceptance by the Technical Authority.

4.7 Foam Padding

- 4.4.1 Foam is to be non-allergenic CFC free high density polyurethane, fire retardant foam.
- 4.4.2 Seat foam must have a minimum density of 40.0 to 41.6 kg per cubic meter (2.5-2.6 lbs per cubic foot).
- 4.4.3 Seat firmness is to be between 138-156 Newtons (31-35 pounds).
- 4.4.4 Bonding cement to be used must be as recommended by foam manufacturer.
- 4.4.5 Tacking tape to be used must be as recommended by foam manufacturer.

4.8 Metal Fabrications

- 4.8.1 Metal for decorative purposes is to be solid bronze with a dark oil rubbed finish. Gauge to be suitable for purpose and able to withstand reasonable use without denting, scraping or warping.
- 4.8.2 Contractor is to provide colour for approval prior to fabrication.

4.9 Stone Seat

- 4.9.1 To be Limestone Marble. Adair Dolomitic Limestone: to ASTM C568, Category III - High Density. Quarried from the Amabel formation near Wiarton ON. Provide in shapes and sizes as indicated. Typical average properties as follows:
- 4.9.1.1 Compressive Strength: 158 MPa, to ASTM C170.
- 4.9.1.2 Absorption: 0.75 percent, to ASTM C97.
- 4.9.1.3 Density: 2675 kg per cubic meter, to ASTM C97.
- 4.9.1.4 Modulus of Rupture: 15.5 MPa, to ASTM C99.
- 4.9.1.5 Flexural Strength: 11.0 MPa, to ASTM C880.
- 4.9.1.6 Abrasion Resistance: 18.0 to ASTM C241.
- 4.9.1.7 Color: Sepia.
- 4.9.1.8 Pattern: veined.
- 4.9.1.9 Finish: fine-dressed.

5. CONSTRUCTION

5.1 General

- 5.1.1 Furniture is to be constructed in accordance with the drawings provided in Annex A.1 and approved shop drawings and must meet the requirements of AWMAC Architectural

Woodwork Standards for premium grade woodwork. In case of conflict, the most stringent requirements apply.

- 5.1.2 Furniture parts, unless otherwise indicated on the drawings provided, are to be constructed from shop applied veneered Baltic Birch plywood.
- 5.1.3 All veneered plywood parts are to be veneered both sides to provide balanced construction.
- 5.1.4 Provide solid blocking where indicated on drawings.
- 5.1.5 Finger jointed solid hardwood is not acceptable for exposed and semi-exposed locations.
- 5.1.6 Edges of plywood parts in exposed locations to be edged with same veneer species and quality as face, except where fully concealed by solid hardwood edging or molding. Finger jointed veneer edging will not be accepted.
- 5.1.7 The benches must support continuous loads without sagging.

5.2 Workmanship

- 5.2.1 Wood and wood veneer surfaces and edges must be smoothly sanded and free of blemishes or defects such as tool marks, machine marks, sanding marks, surplus glue, raised grain, delamination or water marks.
- 5.2.2 Face veneers to be tightly joined and properly matched and be similar in grain pattern and colour throughout any given area.
- 5.2.3 Moldings and solid wood edgings are to be cleanly run, smoothly sanded, free of machine marks and with sharply defined detail.
- 5.2.4 Exposed joints to be neatly executed, rigid, tight and flush, with no tool, machine or cross sanding marks, slivering or patching which may impair the strength or appearance of the furniture piece.
- 5.2.5 All fastenings are to be completely concealed and must be set flush.
- 5.2.6 The application of material, drying time, sanding, cleaning, rubbing and waxing, is to be controlled to produce items of uniform finish without sags, runs, overspray or other defects detrimental to a smooth quality appearance.
- 5.2.7 All surfaces to be sanded smooth and exposed nails to be set. Apply wood filler in exposed nail indentations. Use wood filler which matches surrounding surfaces and of types recommended for applied finishes.

5.3 Upholstery

- 5.3.1 The covering is to be properly positioned, clean and well-tailored in appearance.
- 5.3.2 All excess covering is to be trimmed and any surplus removed.
- 5.3.3 Seat pan method of attachment must accommodate ease of removal for reupholstering.
- 5.3.4 Seaming: seat pan must be sewn; single stitch only. Double top stitch must be 6 mm from seam (fabric upholstery only). Seams must lie flat and be free of puckers or other defects.

5.3.5 Fastening devices, such as staples, are to be positioned so as not to be visible.

6. FINISH

- 6.1 As a minimum, all exposed and semi-exposed solid wood and wood veneer surfaces, are to be finished using the following process:
 - 6.1.1 One coat of sub stain followed by
 - 6.1.2 One coat of wiping stain followed by
 - 6.1.3 One coat of sealer followed by
 - 6.1.4 One coat of lacquer followed by
 - 6.1.5 Top surfaces are to receive a second coat of lacquer.
- 6.2 All units will go through the drying oven three times. Once after the wiping stained has been wiped off, once after a coat of sealer has been applied and once after the final coat of lacquer is applied. Every unit is to be scuff sanded and cleaned of all dust particles.
 - 6.2.1 The colour value and sheen must match the validated and approved sample.
- 6.3 The exposed finishes must enhance the beauty of the wood through colour, clarity and sheen. Finish is to consist of at least the processing steps stated in paragraph 6.1 and is to be resistant to minor everyday usage.
- 6.4 All interior surfaces exposed during normal use, are to be compatible in colour with the exterior surface.

SECTION 2: SUBMITTALS

1. GENERAL

- 1.1. The Contractor **MUST**, prior to final manufacturing, submit the following listed deliverables to the Project Authority: Shop Drawings and Product Data (as per section 2 below) and Prototype (as per section 3 below) and Submission samples (as per section 4 below). Deliverables are to be submitted in accordance with the schedule in PART IV: SUPPLY, DELIVERY AND INSTALLATION REQUIREMENTS.
- 1.2. The Contractor **MUST** not proceed with manufacturing until review and acceptance of submittals is complete by the Project and Technical Authority.
- 1.3. Submittals not stamped, signed, dated and identified as to specific project may be rejected.
- 1.4. The Contractor must be able to communicate in both official languages, French and English. All deliverables, i.e. reports, must be in English.

2. SHOP DRAWINGS AND PRODUCT DATA

- 2.1. The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by Contractor to illustrate details of a portion of Work.
- 2.2. The Contractor **MUST** indicate materials, methods of construction and attachment or anchorage, connections, explanatory notes and other information necessary for completion of Work. Where articles or equipment attach or connect to other articles or equipment, indicate that such items have been coordinated. Indicate cross references to design drawings and specifications.
- 2.3. Allow fifteen (15) working days for Technical Authority's review of each submission.
- 2.4. The Contractor **MUST** make changes in shop drawings as the Technical Authority may require, consistent with the requirements. When resubmitting, notify the Technical Authority in writing of revisions other than those requested.
- 2.5. If upon review by the Technical Authority, no errors or omissions are discovered or if only minor corrections are made, copies will be returned and fabrication and installation of Work may proceed. If shop drawings are rejected, noted copy will be returned and resubmission of corrected shop drawings, through same procedure indicated above, **MUST** be performed before fabrication and installation of Work may proceed.
- 2.6. The review of shop drawings by the Technical Authority is for the sole purpose of ascertaining conformance with the detail design. The Technical Authority's review of shop drawings **DOES NOT** relieve the Contractor of responsibility for errors or omissions in the shop drawings.
- 2.7. The Contractor **MUST** include a transmittal letter with all submissions. The transmittal letter **MUST** contain the following:
 - 2.7.1 Date
 - 2.7.2 Contract title and number
 - 2.7.3 Contractor's name and address
 - 2.7.4 Identification and quantity of each shop drawing, submittal, product data and sample

- 2.8. All submissions made by the Contractor MUST include:
 - 2.8.1 Date and revision dates.
 - 2.8.2 Contract title and number.
 - 2.8.3 Name and address of Contractor.
 - 2.8.4 Name and address of Manufacturer
 - 2.8.5 Details of appropriate portions of Work as applicable:
 - 2.8.6 Fabrication details
 - 2.8.7 Dimensions
 - 2.8.8 Performance characteristics
 - 2.8.9 Standards
 - 2.8.10 Relationship to adjacent components
- 2.9. For Technical Authority's review, the Contractor MUST submit:
 - 2.9.1 Two (2) hard copies and a digital copy in pdf format of shop drawings for each furniture piece.
 - 2.9.2 Two (2) hard copies and a digital copy in pdf format of product data sheets or brochures for accessories and finishes where shop drawings will not be prepared due to standardized manufacture of product.
 - 2.9.3 Two (2) hard copies and a digital copy in pdf format of test reports for specified materials and as requested by the Technical Authority:
 - 2.9.3.1 Report signed by authorized official of testing laboratory that material, product or system identical to material, product or system to be provided has been tested in accord with specified requirements.
 - 2.9.4 Testing MUST have been on or after January 1, 2011.
 - 2.9.5 Two (2) hard copies and a digital copy in pdf format of a statement certifying compliance with all environmental attributes detailed in the requirements.
 - 2.9.6 Certificates MUST be dated after award of contract complete with project name.
 - 2.9.7 Two (2) hard copy prints and a digital copy in pdf format of manufacturer's instructions for materials and components and as requested by the Technical Authority.
 - 2.9.8 Pre-printed material describing the product, system or material, including special notices and Material Safety Data Sheets concerning impedances, hazards and safety precautions.

3. PROTOTYPE

- 3.1 The Contractor MUST prepare one (1) prototype for each furniture item listed in Part II Scope of Work for review by the Technical Authority. The prototype MUST be built in accordance with the reviewed shop drawings. The purpose of the prototype will be to allow the Technical Authority to review and verify furniture details, quality of finishing, confirm ease of cabling installation and verify the ease of use and of disassembly of the furniture (where required) and any associated moving cart.
- 3.2 Prototypes MUST be delivered to a site within the National Capital Region specified by the Technical Authority. The prototypes are to be available for review and comment for ten (10) working days. Final modifications or adjustments will be examined and reviewed by Technical Authority prior to manufacturing and delivery of the final furniture products.
- 3.3 The Contractor MUST remove the prototypes when advised in writing to do so, by the Contract Authority.
- 3.4 Prototypes may form part of final work and are to be the last items installed.

4. SUBMISSION SAMPLE

- 4.1 The Contractor MUST provide one (1) Submission Sample for each area of the component which is

identified "Submission Sample Required" on the bid documents. These submission samples should be submitted with the Shop Drawing submission for the respective furniture component.

- 4.2 The size and extent of the Submission Samples are noted on the drawings. The purpose of the Submission Samples is to review and verify the furniture details, quality of workmanship, detailing at junctions of materials and the quality of finishes.

PART III: CORPORATE REQUIREMENTS

1. Corporate Background

- 1.1. Contractor MUST identify the manufacturing company, delivery company and installation company of the requirements.

2. Qualifications

- 2.1. The Furniture manufacturer MUST have a minimum of seven (7) years' experience in the manufacturing and sales of custom furniture.
- 2.2. The Lead furniture installer resource MUST have a minimum of five (5) years' of experience as a furniture installer.
- 2.3. All installers MUST be trained in the installation and functioning of the furniture specified in PART II: SCOPE OF WORK before the delivery of product to site.

3. Warranty

- 3.1. All furniture pieces as contained within PART II: SCOPE OF WORK, MUST be warranted for a period of at least ten (10) years for manufacturer's defects, from the final date of acceptance.
- 3.2. The Contractor MUST provide a plan for dealing with warranty issues. The plan MUST clearly identify what constitutes replacement or repair, timelines for service and any costs involved.
- 3.3. The Contractor MUST respond to telephone and e-mail contact by PSPC or the Technical Authority within 24 hours.
- 3.4. The Contractor MUST have a local representative available to address issues relating to warranty.

4. Quality Assurance

- 4.1. The Contractor MUST have a written quality assurance program, ISO Certification or ISO Certification equivalent.
- 4.2. The Contractor MUST provide a written summary of the key quality assurance steps that the Contractor will follow to produce a consistent product of high quality for the Scope of Work described in Part II.

5. Storage Services

- 5.1 The Contractor MUST have the ability to store the product, if required, in an environment appropriate to the product, to insure no damage occurs during the stored time period.

6. Contractor Representative Responsibilities and Tasks

- 6.1 The Contractor must assign a representative to be the sole contact with the Project Authority.
- 6.2 The named Contractor Representative must be available when requested (through conference call or on-site) for all meetings. In addition, the Contractor Representative must be available for weekly coordination.
- 6.3 The named Contractor Representative will be responsible for the following:
 - a) to schedule deliveries and installation;
 - b) to ensure the Contractor's security clearances and health and safety training is acquired as required;
 - c) to track and address component deliveries, deficiencies and acceptance; and
 - d) to provide installation instructions for components to be installed by a third party.
- 6.4 The named Contractor Representative must respond to telephone and e-mail contact by the Project Authority and Contract Authority within 24 hours.
- 6.5 The minimum level of service required is detailed below:
 - 6.5.1 Coordinate deliveries with the Project Authority
 - 6.5.2 Assemble components off-site
 - 6.5.3 Uncrate product in designated staging area
 - 6.5.4 Provide all required component delivery documentation (packing slips) at delivery
 - 6.5.5 Inspect product for damage with Project Authority and Technical Authority
 - 6.5.6 Make minor adjustments / repairs as required
 - 6.5.7 Clean product once installed
 - 6.5.8 Remove and recycle all waste material

PART IV: SUPPLY, DELIVERY AND INSTALLATION REQUIREMENTS

1.0 SUPPLY, DELIVERY AND INSTALLATION

- 1.1 The Contractor MUST supply all material and labour necessary for the supply, delivery and installation of all furniture required and detailed in PART II: SCOPE OF WORK.
- 1.2 As described in PART II: SCOPE OF WORK, Section 2.0. Submittals, the Contractor MUST submit shop drawings, mock-ups and prototypes prior to manufacturing. Below is a table that provides estimated duration for shop drawings, prototype, manufacturing and delivery per room.

1.2.1 Activities to supply, deliver and install furniture items

Activities for Supply , Delivery and Installation	Responsible Authority	Approximate Duration in Weeks
Submit Schedule and Shop Drawings	Contractor	6
Review Shop Drawings	Technical Authority	3
Submit Revised Shop Drawings	Contractor	2
Shop Drawing Review	Technical Authority	3
Submit Revised Shop Drawings (if Required)	Contractor	2
Production and Submission of Prototype	Contractor	6
Prototype Review and Acceptance	Technical Authority	3
Manufacture	Contractor	TBD
Deliver and Install	Contractor	phased deliveries

- 1.3 Locations of the furniture pieces are available in Annex A.2 - Location Plans for installation.
- 1.4 For information on building entrance locations and general site access information refer Refer to Annex A.3 for building Access Plans.
- 1.5 Approximate installation timeframe is April 1 2018 to June 2018. Final schedule to be confirmed by the Project Authority two (2) months prior to delivery.
- 1.6 The final date and time of delivery will be confirmed by the Project Authority ten (10) calendar days in advance. The schedule for deliveries shall include considerations for site and loading dock constraints, volume of deliveries, and resource constraints regarding reviews and acceptances.
- 1.7 The Contractor will be responsible to take the necessary steps to ensure all interior finishes i.e., door frames, flooring finishes, elevators, etc. are protected against damage.
- 1.8 The minimum level of service required is detailed below:
- 1.8.1 Inspect product prior to shipping, remove any pieces not meeting acceptable standards
 - 1.8.2 Arrange products for Technical Authority inspection prior to delivery to building site
 - 1.8.3 Deliver product to designated building access locations
 - 1.8.4 Uncrate product
 - 1.8.5 Inspect product for damage
 - 1.8.6 Install product
 - 1.8.7 Ensure all products function properly, i.e., test lock mechanisms, level guides, etc.
 - 1.8.8 Make minor adjustments/repairs as required.
 - 1.8.9 Clean product once installed.
 - 1.8.10 Place all waste material in designated receptacle at the loading dock, or as instructed by Project Authority.

- 1.8.11 Clean up the installation site. The site MUST present a neat and orderly appearance at all times

1.9 Delivery Services:

- 1.9.1 Deliveries are only to be scheduled after hours between 7:00pm and 6:00am, Monday to Saturday via the entrances designated for delivery by the Project Authority. All delivered materials are to be moved from the loading entry to their respective rooms by 5:00 am each day. For information regarding the site conditions, off hours work and work restrictions involved in after hours work please refer to Annex A.4, Site Instructions.
- 1.9.2 If the Contractor should need to work during hours outside of the regular work hours they shall obtain an "off hours work permit" and conform with all requirements of the Construction Manager's Project Specific Health Safety and Environment Plan.
- 1.9.3 All deliveries to be scheduled five (5) working days in advance with the Project Authority.
- 1.9.4 At no time is space on the exterior of the building to be used for removals, or staging deliveries, unless approved in writing by the Project Authority in advance of the delivery.
- 1.9.5 Each driver coming to site MUST review and understand the *Traffic Control Plan* provided by the Construction Manager in the Health and Safety Plan (refer to Annex A.4 Site Instructions) prior to the delivery being made.
- 1.9.6 There is no loading dock serving the building. Most trucks can access the site.
- 1.9.7 There will be no opportunity for jockeying or maneuvering the contents of the delivery vehicle while at the delivery entrance location. The item(s) to be delivered MUST be the first accessible item(s) in the delivery vehicle.
- 1.9.8 The 111 Wellington Street building has one (1) freight elevator (Elevator C) which serves all levels and two (2) large passenger elevators (Elevators G+H) serving levels 0 (=B1) through 3 inclusive. These elevators will be available for transportation of materials to floors during the times noted above. Elevator C: inside dimensions, Length 2191mm (86") x Width 1554mm (61") x Height 2940mm.(115") Clear opening, Width 1219mm (48") x Height 2133mm (84"), Capacity 1815 kg. Elevators G+H: inside dimensions, Length 2410mm (94") x Width 1625mm(63") x Height 2455mm.(96") Clear opening, Width 1219mm (48") x Height 2133mm (84"), Capacity 1815 kg.
- 1.9.9 The Contractor MUST include a packing slip with all deliveries that clearly identifies the following information:
 - 1.9.9.1 Date
 - 1.9.9.2 Contract Title and Number
 - 1.9.9.3 Contractor's Name and Address
 - 1.9.9.4 Description of item(s) including all product code numbers
 - 1.9.9.5 Checklist of items delivered as listed under Amendment 1 to Annex A,
 - 1.9.9.6 Total quantity of item(s) delivered
 - 1.9.9.7 Total quantity of item(s) delivered to date versus remaining quantities to be delivered.

1.10 Installation Services

- 1.10.1 The site is considered a construction site. Installation will be carried out during normal working hours, which are defined as Monday to Friday, from 7:00am to 5:00pm, excluding statutory holidays. Installations will be scheduled by the Project Authority. For information regarding the

site conditions, off hours work and work restrictions involved in after-hours work please refer to Annex A.4 Site Instructions

- 1.10.2 If the Contractor should need to work during hours outside of the regular work hours they shall obtain an “off hours work permit” and conform with all requirements of the Construction Manager’s Project Specific Health Safety and Environment Plan.
- 1.10.3 The Construction Manager (CM) is responsible for scheduling the use of the elevator.
- 1.10.4 Installers are required to have a designated Supervisor on site while the work is being carried out. The Site Supervisor is responsible for obtaining site-access, the on-site delivery personnel and liaising with the Project Authority as required. Refer to Annex A.4, Site Instructions, for instructions on the Site Supervisor’s responsibilities.

PART V: HEALTH AND SAFETY

1. General:

- 1.1 Until the Base Building Substantial Completion date, the Construction Manager (CM), assumes the role of “Constructor” as defined in the Occupational Health and Safety Act and Regulations for construction Projects and is fully responsible for ensuring compliance with OSHA for all aspects of the Project.
- 1.2 The Contractor MUST comply with the Construction Manager Health and Safety Procedures and Policy described below and attached under Annex A.4.
- 1.3 A Site Orientation Course will be provided by the CM to all of the Contractor’s personnel required to access the worksite.
- 1.4 All personnel accessing the site (beyond the delivery entrances) are required to have valid WHMIS and Basics of Fall Protection training cards during their time on site. Copies of the training cards will be taken by Construction Manager at the site orientation course.
- 1.5 The Construction Manager complies with and enforces the requirements of:
 - 1.5.1 The National Building Code of Canada 2005 (NBC), Part 8 Safety Measures at Construction and Demolition Sites and Provincial Regulations for Construction Projects.
 - 1.5.2 The Designated Substances Report.
 - 1.5.3 The Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage and disposal of hazardous materials; and labeling and the provision of Material Safety Data Sheets (MSDS) acceptable to Human Resources and Skills Development Canada, Labour Program.

PART VI: INSPECTION & DEFICIENCY PROCEDURES

The Contractor MUST adhere to the following inspection process and deficiency procedure:

1. INSPECTIONS

1.1. At Manufacturer's Premises

- 1.1.1. The Project Authority and Technical Authority reserve the right to visit the manufacturer's premises.

1.2. Inspection Prior to Delivery to Site

- 1.2.1. The Contractor must arrange for components to be delivered and uncrated at a location in the National Capital Region for Technical Authority review and approval of each shipment prior to shipping to the building site.

1.3. Inspection Upon Delivery

- 1.3.1. The Project Authority will inspect all products arriving on-site.
- 1.3.2. There will be an inspection of the building prior to any deliveries by the Contractor. Damages will be formally documented by the Project Authority and a copy provided to the Contractor.

1.4. Inspection During Installation

- 1.4.1. The Project Authority and Technical Authority will inspect all products during installation.

1.5. Inspection Upon Completion of Installation

- 1.5.1. The Contractor MUST notify the Project Authority when the installation is completed.
- 1.5.2. The Project Authority and the Technical Authority will perform the inspection within five (5) business days after notification of the completed installation.;

2. DEFICIENCIES

- 2.1. The Project Authority will prepare a deficiency list documenting all deficiencies upon installation completion.
- 2.2. The deficiency list will be forwarded to the Contractor.
- 2.3. Within three (3) working days of receipt of this deficiency list, the Contractor MUST complete all minor deficiencies and make all adjustments not requiring new parts.
- 2.4. For all outstanding deficiencies, the Contractor MUST submit a deficiency rectification plan with delivery dates and completion dates, within five (5) working days from receipt of the deficiency list.
- 2.5. In instances where replacement furniture pieces are required before deficiency rectification can be scheduled, temporary pieces of furniture will need to be supplied. These pieces will be identified at the time of the walk-through inspections and itemized on the deficiency list.

- 2.6. The Contractor MUST notify the Project Authority and the Contracting Authority when all deficiencies have been rectified.
- 2.7. A final inspection will be coordinated by the Project Authority with the Contractor and other stakeholders. Once all rectified deficiencies pass inspection, the Contracting Authority will provide the Contractor a final sign-off that the work is accepted.