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## **Annex A**

### **WORK SPACES**

TABLE OF CONTENTS

- PART I: GENERAL.....
- 1. PROJECT INFORMATION.....
- 2. REQUIRED SERVICES.....
- 3. CONSTRAINTS .....
- PART II: SCOPE OF WORK.....
- SECTION 1: DESCRIPTION
- SECTION 2: SUBMITTALS.....
- 1. GENERAL.....
- 2. SHOP DRAWINGS & PRODUCT DATA.....
- 3. ~~PROTOTYPE.....~~
- PART III: CORPORATE REQUIREMENTS.....
- PART VI: SUPPLY, DELIVERY & INSTALLATIONS REQUIREMENTS.....
- PART V: HEALTH & SAFETY.....
- PART VI: INSPECTION & DEFICIENCY PROCEDURES.....
- 1. INSPECTIONS.....
- 2. DEFICIENCIES & ACCEPTANCE.....

## **PART 1: GENERAL**

### **1. PROJECT INFORMATION**

Public Works and Government Services Canada (PSPC) 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**

PSPC requires the services of a Contractor to supply, deliver and install Work Space furniture components for offices and meeting rooms located at 111 Wellington Street, Ottawa, Ontario.

The furniture will be delivered in 3 separate phased deliveries between February 2018 and April 2018.

### **3. CONSTRAINTS**

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**

### **SECTION 1: DESCRIPTION**

The scope of work is for the supply, delivery and installation of furniture components listed below.

Annex A: This Statement of Requirement for Furniture for Work Spaces is the Technical Specification and detailed provisions associated with the work to be performed for the supply, delivery and installation of a newly manufactured interconnecting panel system, complete with supported and freestanding components as listed in the five (5) categories below :

Category 1	Category 2	Category 3	Category 4	Category 5
Interconnecting Panels and Freestanding Systems	Freestanding Height Adjustable Desk/, Table Products	Metal Filing and Storage Cabinets	Wood Veneer – Freestanding Products	Ancillary and Lighting Products

The same manufacturer must supply all the required components in Categories 1, 2, and 4 to ensure a cohesive finished product.

Annex A includes the following:

Annex A-1 – General Specifications related to the five (5) Categories listed above.

Annex A-2 – Environmental Requirements for Furniture for Work Spaces

Annex A-3 –Work Spaces Typical Layouts

Annex A-4 – Performance and Finish Mandatory specifications for Work Space Furniture by component codes

Annex A-5 – CAD Drawings

Annex A-6 – Location Plans

#### **1. Supply the Products**

- 1.1 The Contractor must supply all the components listed in Annex A-4, including all parts and pieces, to provide a complete assembly as per the configurations shown on A-3 and A-5.
- 1.2 All products supplied must conform to the Specifications contained in Annex A-3, A-4 and the Environmental Requirements in Annex A-2
- 1.3 The Contractor must supply all necessary components (e.g. trim, connectors, supports, wall mounts, electrical covers etc.) to allow for the configurations as indicated in the typical layouts provided in Annex A-3 Typical Layouts
- 1.4 The Contractor must configure the interconnected panel system to maintain the footprint and components as illustrated in the typical layouts provided in Annex A-4: CAD Drawings

#### **2. Deliver the Products**

- 2.1 The Contractor must deliver the products in accordance with the delivery instructions and security requirements of the building site as specified in the PART IV SUPPLY, DELIVERY AND INSTALLATION REQUIREMENTS.

- 2.2 The Contractor must perform a building condition inspection and prepare a report indicating all visible damage to walls, floors and ceilings for the floor(s) / area(s) that form part of the resulting Contract with the Project Authority, Technical Authority and Construction Manager.
- 2.3 Access to the floor(s) / area(s) must be coordinated with the Project Authority (PA) the inspections must occur no later five (5) days before the scheduled delivery to the building site.

### **3. Install the Products**

Notwithstanding General Condition 2010A - Inspection and Acceptance of the Work the following applies.

- 3.1 The Contractor, as a minimum, must provide all of the services below for the products supplied.
  - a) If requested, move the products to the staging and/or installation site.
  - b) Unpack all pieces and inspect products for shipping damage.
  - c) Install all products in accordance with the manufacturers' specifications.
  - d) Ensure all products function properly and when necessary make minor adjustment/repairs.
  - e) Touch up all minor nicks and scratches on the products that may have occurred during installation.
  - f) Clean the products once installed.
  - g) Clean up the installation site. It must present a neat, orderly and workman like appearance at all times. This activity must be accomplished by the removal of all scrap material and packaging from the building site.
- 3.2 The Contractor must install the components in accordance with the requirements of PART IV SUPPLY, DELIVERY AND INSTALLATION REQUIREMENTS.

### **4. Site Inspection and Documentation**

The Contractor must provide all of the services below for the components to be supplied.

The Contractor must conduct a site condition inspection for the floor(s) / area(s) that form part of the Contract to ascertain the exact AS BUILT conditions. Access to the floor(s) / area(s) must be coordinated with the Project Authority (PA). The inspections must occur no later than the date(s) to be described in a schedule prepared by the Contractor and approved by the Project Authority (PA).

- 4.1 Using the information from the site condition inspection(s), and no later than five business days from the date of the inspection(s), the Contractor must prepare and deliver, to the PA, for Technical Authority review, at no additional cost to Canada, a complete draft installation drawing for the floor(s) / area(s) inspected.
- 4.2 The draft installation drawing must show the following, as a minimum:
  - a) All furniture (including sizes and dimensions);
  - b) Furniture location and critical dimensions required to ensure conformance with all applicable codes, standards and regulations;
  - c) Workstations and room numbers;

- d) Indications of powered and non-powered screens/panels;
  - e) Indications of power poles locations;
  - f) Electrical outlets;
  - g) Telecommunications/data and power;
  - h) Lighting components requirements;
- 4.3 If, due to site conditions, panel cutting and work surface cutting are required, the PA must be notified in writing before it is incorporated into the installation drawings.
- 4.4 If the PA, and Technical Authority (TA) are satisfied with the above requested documentation, the PA will provide the Contractor the written authority to proceed with the supply, delivery and installation of the goods. The deliverables as part of this process will include as a minimum the following:
- a) The final installation drawing
  - b) The final component list
  - c) The final floor plan

## **5. Inspect the Products**

The Contractor must adhere to the following procedures:

- 5.1 Refer to PART VI INSPECTION & DEFICIENCY PROCEDURES for additional requirements, including inspection prior to delivery to site and inspection upon delivery and inspections during installation.
- 5.2 Inspection and Post-Installation Deficiency Procedures
- 5.2.1 The Contractor must notify the Project Authority when the installation is completed. Notification must be given no later than one business day following completion of the installation.
  - 5.2.2 The Project Authority must arrange for the initial walk-through inspection with the Contractor and the Technical Authority (TA).
    - 5.2.2.1 The walk-through inspection must take place no later than five business days after installation is completed unless an alternate time frame has been confirmed by the Project Authority and the Technical Authority (TA).
    - 5.2.2.2 For a phased installation, the walk-through inspection must take place no later than five business days after the completion of each phase unless an alternative time frame has been confirmed by the Project Authority and the Technical Authority (TA). Any missing or delayed components from the delivery package are to be reported 2 business days prior to delivery.
  - 5.2.3 The Project Authority, in consultation with the Contractor and the Technical Authority (TA) will prepare the deficiency list documenting all problems in every area, and will forward the deficiency list to the Supplier and the Technical Authority (TA) within three business days of the inspection
  - 5.2.4 Within three business days of receipt of this deficiency list, the Contractor must complete all minor deficiencies and make all adjustments not requiring new parts unless an alternate time frame has been confirmed by the Project Authority and the Technical Authority (TA). For all other listed deficiencies, within ten business days of receipt of the deficiencies list, the Contractor must submit, to the Project Authority, the remedial action plan showing delivery and completion dates to occur within 15 calendar days from the submission date of the remedial action plan. The Project Authority may request a shorter remedy period and the

Contractor may accept, if possible. The Project Authority may, at his/her discretion also accept a longer remedial period.

- 5.2.5 The Contractor must notify the Project Authority when all deficiencies have been remedied. If the Project Authority and the Technical Authority (TA) are satisfied with the deficiency corrections, the Project Authority must provide the Supplier a final sign-off indicating that the deficiencies have been rectified.

**6. Hours of Service**

- 6.1 The Contractor agrees to deliver the components and provide all services on the days and at the times set out in PART IV SUPPLY, DELIVERY AND INSTALLATION REQUIREMENTS.

## **Annex A-1**

### **General Specifications**

#### **GENERAL SPECIFICATIONS FOR WORK SPACES**

##### **1. SCOPE**

- 1.1. This specification details the technical requirements, which apply to the furniture components for work spaces to be purchased by the federal government.
- 1.2. These specifications must be read in conjunction with article 2.0, Publication and Testing Requirements of this annex. All products must meet the latest publications and testing requirements in effect at date of the response to this solicitation, with the exception of CAN/CGSB-44.227-2008 Free-standing Office Desk Products and Components paragraph 6.5.3 - Usable Space and of CAN/CGSB-44.229-2008 Interconnecting Panel Systems and Supported Components paragraph 6.6.3 - Usable Space.
- 1.3. Furniture for Work Spaces is separated into five categories to support the furniture requirements for this project.
- 1.4. The Contractor is responsible for supplying all necessary hardware, trim, connectors, supports, components (including electrical components) and wall mounts etc. to allow the furniture to be installed.

##### **2.0 PUBLICATIONS AND TESTING REQUIREMENTS**

###### **2.1. Publications**

The Product offering must meet all the Standards and requirements listed in this section. All references to the publications refer to the latest issue.

###### **2.1.1. General Standards Board**

2.1.1.1. CAN/CGSB-44.227 Free-standing Office Desk Products and Components.

2.1.1.2. CAN/CGSB-44.229 Interconnecting Panel Systems and Supported Components.

2.1.1.3. CAN/CGSB 12.1-2017 Tempered or Laminated Safety Glass.

###### **2.1.2. American National Standards Institute – Business Institutional Furniture Manufacturers Association (ANSI/BIFMA)**

2.1.2.1. ANSI/BIFMA X5.6 Panel Systems.

2.1.2.2. ANSI/BIFMA X5.9 Storage.

2.1.2.3. ANSI/BIFMA X5.5 Desk/Table Products.

2.1.2.4. ANSI/BIFMA X5.3 Vertical Files.

- 2.1.3. American National Standards Institute / National Particleboard Association (ANSI/NPA)
  - 2.1.3.1. ANSI A 208.1- 2009 Particleboard
  - 2.1.3.2. ANSI/HPVA HP-1-2016. American National Standard for Hardwood and Decorative Plywood
  - 2.1.3.3. ANSI Z97.1-2015. Safety Glazing Materials Used in Buildings - Safety Performance Specifications and Methods of Test\_
  - 2.1.3.4. ANSI/NEMA LD 3-2005. High-Pressure Decorative Laminates.
- 2.1.4. Underwriter Laboratory Inc. (UL).
  - 2.1.4.1. UL 1286-2011, Section 35 Standards for Office Furnishings.
- 2.1.5. Architectural Woodwork Manufacturers Association of Canada (AWMAC).
- 2.1.6. CAN/ULC-S102-10. Standard Method of Test for Surface Burning Characteristics of building Materials and Assemblies

## 2.2. Testing Requirements

The Product offering must meet all the test requirements listed in this section. All references to the test methods refer to the latest issue.

- 2.2.1. All interconnecting panels and supported components must be tested and meet the acceptance levels as described in ANSI/BIFMA X5.6 – Panel Systems and CAN/CGSB.44.229 Interconnecting Panel System and Supported Components.
- 2.2.2. The complete electrical system and all components must comply with CSA C22.2 No 203- Modular Wiring System for Office Furniture.
- 2.2.3. All panel frames with glazing materials must meet the requirements of UL 1286-2011, Section 35.
- 2.2.4. All freestanding office desk products and components must be tested and meet the acceptance levels as described in ANSI/BIFMA X5.5– Desk/Table Products and CAN/CGSB.44.227 Freestanding Office Desk Products and Components.
- 2.2.5. All storage products must be tested and meet the acceptance levels as described in ANSI/BIFMA X5.9 - Storage.
- 2.2.6. All vertical filing products must be tested and meet the acceptance levels as described in ANSI/BIFMA X5.9 – Storage.
- 2.2.7. High Pressure decorative laminate (HPDL) must meet ANSI/BIFMA LD3
- 2.2.8. Ancillary products must be tested and meet ANSI/BIFMA X5.5. Also accepted are 5.6 for Keyboard Support and Input Device Support Adjustment.
- 2.2.9. The keyboard support must be tested and meet CAN/CGSB-44.229.

- 2.2.10. Test reports must not be more than five years old from the date the test was performed with the exception of the fabric tests applicable to the ACT Voluntary Performance Guidelines.
- 2.2.11. Revised Test Standard(s): Reference is made to the testing Standards listed within this annex and to the requirement that all products offered in the RFP have successfully passed the referenced testing Standards. If the referenced test Standards change, the products must successfully pass the revised test Standard(s). Only the tests that have been revised must be performed, and, this testing must occur within nine months from the date of the revised test Standard(s).
- 2.2.12. Product Changes: When physical changes are made to products already tested against the above referenced test Standards, the changed product(s) must also be tested within nine months from the date of the product change. The applicable tests and the applicable test Standards will be those deemed by an Acceptable Test Facility.
- 2.2.13. For all test reports that are not specific to the products in the Contractors response to the RFP, the Contractor must provide an explanation to Canada as to why the “worst-case condition” applies to the products. The definition of “worst-case condition” can be found in BIFMA PD-1.
- 2.2.14. All tests must be completed by an acceptable test facility.

2.3. Priority of Documents

2.3.1. In the event of a discrepancy between this ANNEX A-1 and the Publications and Testing Requirements at section 2.0, the following priority of documents apply:

- i. ANNEX A-1 Specifications for Work Spaces;
- ii. CAN/CGSB-44.227;
- iii. CAN/CGSB-44.229;
- iv. All other publications referenced within ii. and iii.

2.3.2 In the event of a discrepancy between the Work Spaces Category 01, 02, 04, 03 05 documents, the following priority of documents apply:

- ~~i. Work Spaces Typical Layouts including the Performance mandatory~~
- ~~ii. Performance and Finish Mandatory specifications for Work Space or by component codes~~
- ~~iii. General Specifications related to the four (4) Categories listed above~~
- ~~iv. Location Plans~~
- ~~v. CAD Drawings~~
  - i. Annex A-1 Specifications for Workstations; with this Annex A Specification /Statement of work General Specifications related to the four (4) Categories listed above

- ii. Performance and Finish Mandatory specifications for Work Space or by component codes
- iii. Workstation Typicals
- iv. Location Plans
- v. CAD Drawings

~~2.3.3 In the event of a discrepancy between the Work Spaces Category 03 documents, the following priorities of documents apply:~~

- ~~i. Performance and Finish Mandatory specifications for Work Space Furniture by component codes~~
- ~~ii. General Specifications related to the one (1) Category listed above~~
- ~~iii. Location Plans~~

### **3.0 TERMINOLOGY**

For the purpose of this specification, the following definitions apply:

- 3.1. Acceptable Test Facility: An Acceptable Test Facility is defined as a laboratory that is accredited by a nationally recognized body such as Standards Council of Canada, A2LA (American Association for Laboratory Accreditation) or is listed on the Canadian General Standards Board (CGSB) Laboratory Acceptance Program for the applicable scope of testing requested.
- 3.2. Modular: Collection of related units, some of which are dimensional multiples of others, into various horizontal and/or vertical arrangements, to serve various purposes including storage, display, or shelving.
- 3.3. Ancillary: Products providing an enhancement to the primary operation of a system.  
Examples: CPU support, keyboard and mouse support surface, monitor arm and lighting.
- 3.4. Panel Heights are identified as Base Panel Height, Transaction Height and Full Height and are defined as follows:
  - 3.4.1. Base Panel Height – must be within the range of 889mm-940mm (35-37in.)
  - 3.4.2. Transaction Height – must be within the range of 356-406mm (14-16 in.) except for panels at countertops which are to be full height.
  - 3.4.3. Full Height – must be within the range of 1651mm 1702mm (65-67 in.) inclusive.
- 3.5. Hang-on component: A product intended to be fully supported by a panel system.
- 3.6. Continuous Height Adjustable Surface: A surface that is intended to be adjusted vertically by the user, to allow working in the seated or sit/stand position.
- 3.7. Off Module Component: An off module component allows the panel-dependent product to be mounted without having to be the same width as the panel.
- 3.8. Pedestal: A self-contained unit that is deeper than wide, and must be able to be stored completely beneath the work surface. , and having extendible elements. The extendible elements are typically used for multi-functional general storage or filing. It must be mobile with casters and can be easily moved by the user.
- 3.9. Credenza Unit: A self-contained storage unit.

- 3.10. Panel Add-on Module: A panel add-on module is supported by the base panel.
- 3.11. Stackable Panel: A stackable panel consists of a base panel with additional panel add-on module. The stackable panel allows for an increase in height or decrease in height with minimal dismantling of the panel station. Each add-on module of the stackable panel must be load bearing.
- 3.12. Panel Frame with Glazing: A frame designed to hold glazing material.
- 3.13. Face Mounted Power Data Module: A face mounted power data module can be specified on the front and back of a panel frame, which will accommodate duplex power outlets and voice and data outlets at predetermined locations on the surface of a panel frame. It is designed for easy access without the use of access doors.
- 3.14. Work surfaces must be of a similar construction and appearance and must allow the integration of work surfaces within a workspace.
- 3.15. Power and data above the work surface: Power and data above the work surface can be achieved by integrating power and data components into the upper portion of the Base Panel Height or by integrating power and data components into the Panel Add-on module.
- 3.16. Power and data below the work surface: Power and data below the work surface can be achieved by integrating power and data components into the base race way or anywhere within the panel fascia, provided it is below the work surface.

#### **4.0 CATEGORIES – For furniture for Work Spaces**

**4.1** Work Spaces are comprised of the following Categories:

- 4.1.1. Category 1 – Interconnecting Panels and Freestanding Systems
- 4.1.2. Category 2 – Freestanding Height Adjustable Desk/Table Products
- 4.1.3. Category 3 – Metal Filing and Storage Cabinets
- 4.1.4. Category 4 – Wood Veneer – Freestanding Products
- 4.1.5. Category 5 – Ancillary and Lighting Products

#### **5.0 GENERAL REQUIREMENTS**

Category All

- 5.1. Interchangeability: Each component must have the capability of being assembled, disassembled, and reconfigured without damage or loss of serviceability when changes are required. Parts must be capable of being replaced.
- 5.2. All brackets hardware and electrical components required to ensure an installation that meets the manufactures installation requirements and the requirements of Annex A must be supplied in order to complete the installation.

#### Categories 1, 2 and 4

- 5.3. Work surfaces must be of a similar construction and appearance and must allow the integration of work surfaces within a workspace.
  - 5.3.1. All work surfaces must be supplied with either high pressure laminate and/or wood veneer finishes.
- 5.4. When wire management openings pass through a work surface, a meeting table surface, a support or a modesty panel the openings must be provided with a grommet. Reusable covers must be provided for each grommet to conceal the openings when not in use.
  - 5.4.1. If a grommet is used within a plastic laminate work surfaces measuring 1219mm (48 in.) wide and less must have one grommet as part of the work surface. All work surfaces greater than 1219mm (48 in.) wide must have two grommets incorporated into the work surfaces.

#### Categories 1, 3 and 4

- 5.5. Resilient bumpers must be provided on all doors and drawers assemblies to minimize impact noise when closing doors and drawers. An alternate means to minimize impact noise is acceptable.
- 5.6. All drawers and doors must be lockable.
  - 5.6.1. All locks within a single workstation must be keyed alike.
  - 5.6.2. A minimum of three (3) sets of keyed alike keys per workstation must be supplied.

#### Categories 1, 2 and 4

- 5.7. All work surfaces and meeting table surfaces with electrical and data cabling must provide wire management for routing and concealing electrical and data cabling.
  - 5.7.1. The wire management system must be a grommet or a gap where the work surface meets a perpendicular panel or upper storage when specified.
  - 5.7.2. The method of wire management must not cause the face of a pedestal to protrude beyond the front edge of the work surface when the pedestal is placed beneath the work surface.

#### Categories All

- 5.8. Workmanship: The finished product must be uniform in quality, style, material and workmanship and must be clean and free from any defects that may affect appearance, serviceability or safety. When assembled in all possible configurations there must be no visible unfinished edges or surfaces.
  - 5.8.1. All edges and corners with which the user is intended to come in contact must be eased or radius.
  - 5.8.2. Metal edges must have rounded corners or be covered with protective caps.

- 5.8.3. Doors and drawers must fit squarely and evenly on all sides, when closed.
- 5.8.4. Lubricated parts must be protected against accidental contact with the user, the user's clothes or documents.
- 5.8.5. Welds: All welds must be structurally sound, free from cracks and surface voids. They must be clean, smooth and uniform in appearance and free from scale, flux, trapped foreign matter or any other inclusions that may be detrimental to the application of the primer or final finish.
- 5.8.6. Finish: All exposed aluminum components must be anodized, painted or otherwise treated to prevent oxidation.
- 5.8.7. Safety: Fixed, movable or adjustable parts must be constructed so that they cannot unintentionally become loose, dislodged or cause personal injury.
- 5.8.8. The keyboard and mouse support surface must not interfere with leg clearance.
- 5.8.9. The location of the top of the keyboard and mouse support surface (in particular, the home row of the keyboard) must allow the user to maintain neutral shoulder, elbow and wrist postures.

#### Category 4

- 5.9 Workmanship: Wood and wood veneer surfaces and edges must be smoothly sanded and free of blemishes or defects such as tool or machine marks, sanding marks, surplus glue, raised grain, de-lamination or watermarks.
  - 5.9.1 All veneer MUST be book matched; in addition MUST be center matched for horizontal surfaces and for all vertical exterior planes (which may be made up of surfaces such as doors, gables, end panels, modesty panels, drawer fronts, pedestal backs and computer table backs). Where the surfaces that make up a plane are not separated from each other by a feature such as framing, the veneer MUST be center matched over the entire plane. One heart MUST be provided for the vertically stacked drawer faces in each pedestal and the grain MUST be aligned from drawer face to drawer face for aesthetic grain continuity. This requirement MUST be applied to all similar vertically stacked conditions, including drawer and door combinations.
  - 5.9.2 All veneer MUST be a minimum thickness of 0.60- 0.79mm
  - 5.9.3 Veneer MUST be press dried to a uniform moisture content of 10%-12%. Red streaks, wild grain, worm holes and improper cut are not permitted. 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.
  - 5.9.4. Face veneers must be tightly joined, properly matched and similar in grain pattern or colour throughout any given area. The natural characteristics of wood and veneer are acceptable.
  - 5.9.5 Wood core surfaces must be of a balanced construction to prevent warping.

#### **6.0 DETAILED REQUIREMENTS – Category 1 (Interconnecting Panels and Freestanding Systems)**

## Panels

All interconnecting panels must be supplied in width height and composition as indicated on the documents. For appropriate panel configurations the following priority of documents apply:

- i. Work Spaces Typicals
- ii. Performance and Finish Mandatory specifications for Work Space or by component codes

- 6.1** All Interconnecting panels must be segmented not monolithic
- 6.2** All interconnecting panels must be stackable, de-stackable and load bearing.
- 6.3. The overall panel height, including any panel mounted component must not exceed 1702mm (67 in.).
- 6.4. All variations of interconnected panel assemblies to be achieved through the use of base panels and add-ons. Transaction Height and Full Height must consist of a Base Panel Height plus one or more Panel Add-on Modules.
- 6.4.1. Base Panel Height: provides no privacy to the end-user.
- 6.4.2. Transaction Panel Height: provides a standing work surface to the end-user
- 6.4.3. Full Panel Height: provides standing privacy to the end-user
- 6.5 All variations of interconnected panel assemblies must be available in the following widths: 610mm (24 in.), 914mm (36 in.), 1067mm (42 in.).
- 6.6. The tolerance for all panel widths is +/- 25.4mm (1 in.)
- 6.7. Panel widths must allow for the enclosure of freestanding desk/table and storage product system components with panels on three sides, while maintaining a 90-degree corner.
- 6.8 All interconnecting panels must have fabric upholstered skins unless otherwise noted. Fabric must be from a full range of colour range of standard fabric available.
- 6.9 All Panel frames with glazing must have the height of no more that 610mm (24 in.).
- 6.10 Panel Dividers: Add-on modules must be offered in upholstered fabric and/or tack-able surfaces, and/or whiteboard and/or opaque glazing and/or any combination.

## Power and Communications

- 6.11 All Base Panels must provide access to power and data. The work surface must be capable of being mounted on the same panel.
- 6.12 All base panels must provide face mounted power data modules at the work surface, or above the work surface or below the work surface. The duplex power outlets and voice and data outlets must be offered at predetermined locations when specified.

- 6.13 Must provide base feed hardwired to the wall connection.
- 6.14 Modular panel raceways must have full metal separation between the power and communication cabling channels, or alternatively, the electrical cabling shall be totally encased in steel, flexible or solid casing along its full length.

#### Cable Pathway

- 6.15. Cable pathway covers must open and close firmly without the use of proprietary tools.
- 6.16. All powered and non-powered panels must have concealed cable pathways to accommodate the electrical, voice and data cables.
  - 6.16.1. The cable pathway must provide sufficient space to allow for a bend radius of at least 76mm (3 in.) for the installation of communication cables both horizontally and vertically.
  - 6.16.2. The cable pathway must accommodate at least three (3) eight-wire circuits as well as nine (9) 5mm (0.20 in.) diameter communication cables with no more than a 60% fill capacity.
  - 6.16.3. Cable pathways located at the base must have knockouts to receive back-to-back electrical outlets.
  - 6.16.4. Communication and electrical cabling may be placed in the same cable pathway as long as metal separation is provided.
  - 6.16.5. Non-powered cable pathways must provide field conversion to powered cable pathways without requiring the workstation to be dismantled.
  - 6.16.6. Unused knockouts/access points, which are visible, must be covered to prevent unsightly holes.
- 6.17 Vertical Wire Management System: must conceal wires running from the base cable pathway up to desk height and above or from desk height cable pathways to above.

#### Electrical Wiring System

- 6.18. The electrical wiring system must be made of components which are modular and provide power at predetermined locations. When electrical wiring alterations or disassembly are required, the workstation must not be dismantled. The system must provide for power from the wall.
  - 6.18.1. The electrical system must provide electrical distributing service to six (6) workstations from six feed points.
  - 6.18.2. The electrical system must provide as a minimum, a seven (7) wire, three (3)-circuit per feed capability.

- 6.18.3. An electrical system rated with at least a 115 volt, 15 or 20 amps consisting of at least 2 circuits must be available for older buildings when specified.
  - 6.18.4. Each station must be provided with a maximum of six (6) receptacles in combination of either three (3) duplex power outlets. Triplex outlets are not acceptable. Each workstation must have one (1) voice / data outlet.
  - 6.18.5. Receptacles: Must be interchangeable within the manufacturer predetermined locations and accessible at, below and above work surface height.
  - 6.18.6. The complete electrical system and all components must comply with CSA C22.2 No 203-M91 (R2010) Modular Wiring System for Office Furniture.
  - 6.18.7. All powered panels and add-on with a width of 457mm (18 in.) to 610mm (24 in.) requires up to three receptacles power outlets and for a width of 762mm (30 in.) to 1524mm (60 in.) requires up to four receptacles power outlets.
- 6.19 All non-powered panels must permit conversion to powered panels, without the requirement of the workstation being dismantled and at no cost, except for the necessary electrical components and no disruption to data and telecommunications.

#### Panel-Mounted Work Surfaces

- 6.20 Work surfaces must be supplied in various widths, depths and shapes and as specified in the 'Work spaces typical layouts' in Annex A-3.
- 6.21. The tolerance for all work surface widths is +/- 25.4mm (1 in.). The tolerance for all work surface depths is +/- 13mm (0.5 in.).
- 6.22. Work surfaces must be panel mounted and/or floor supported and/or combination of panel mounted and floor supported. Floor supported is non-panel dependent.
- 6.23 Work surface thickness to be a minimum of 25mm (1 in.) to a maximum of 32mm (1 1/4 in.).
- 6.24 Rectangular connecting work surfaces must be available in corresponding widths of the panels: 610mm (24 in.), 762mm (30 in.), 914mm (36 in.), 1067mm (42 in.), 1219mm (48 in.), 1372mm (54 in.) and 1524mm (60 in.). Refer to the 'Work space typical layouts' in Annex A-3 for dimensions.
- 6.25 Rectangular connecting work surfaces must be available in depths of: 610 mm (24 in.) and 914 mm (36 in.). Refer to the 'Work spaces typical layouts' in Annex A-3 for dimensions.
- 6.26. Off module capability must allow a panel mounted work surface to be installed at any location along the panel width.
- 6.27 All work surfaces are to be predrilled to accept installation of support hardware and attachments.
- 6.28 Work surfaces must be panel supported by use of cantilevers or gables as required.

- 6.29 A separate cantilever must support each individual work surface edge when two (2) work surfaces meet, except when freestanding work surfaces and panel hung work surfaces abut.
- 6.30 All cantilevered work surface must be installed level and flush with adjacent work surface.
- 6.31 If a floor support is required as per the manufacture's standard, then they must be incrementally height adjustable. Post legs may only be specified at the end of a workstation surface (not to interfere with the end users knee clearance within their workstation)
- 6.32 Floor supports must be T-legs, or C-Legs with leveling glides with a vertical adjustment of at least 25 mm (1 in.) must be provided in areas where end-panels are not showing on the floor plan.
- 6.33 Each work surface in each workstation must include one (1) scallop to facilitate wire transfer above and below the work surface.
- 6.34 Work surfaces spanning 1524mm (60 in.) or greater require an additional cantilevered support if surface is hung on a panel that the width is 1524mm (60 in.) or greater.
- 6.35 Work surfaces 1219mm (48 in.) and greater to have two (2) scallops if there is no space between the work-surface and panel.
- 6.36 All work surfaces must have concealed horizontal wire/cable management.

#### Panel-Mounted Transaction Surfaces

- 6.37. The panel mounted transaction surface must be provided in widths ranging from 457mm (18 in.) to 1520mm (60 in.) and depths ranging from 305 mm (12 in.) to 432 mm (17 in.).
- 6.38 Transaction work surfaces must be securely mounted as add-ons to the panels.
- 6.39 Transaction work surfaces must match finishes and edge profiles to the work surfaces in the workstations.

#### Component System Accessories

- 6.40. Tackable surfaces must be made of upholstered fabric.
- 6.41 Panel-Mounted Overhead Storage Bin
  - 6.41.1. Closed panel mounted overhead storage bin must be capable of being mounted on a panel or on a wall.
  - 6.41.2. Panel mounted overhead storage bin must have a completely closed back.
  - 6.41.3. The type of doors for closed panel mounted overhead storage units must be provided horizontal receding above the top of the storage unit.
  - 6.41.4 Finish for the panel mounted overhead bins must match the metal panel trim.

- 6.41.5 Must match the width of the panel it is affixed to, as indicated in the 'Work Spaces typical' in Annex A-3. There must not be any offset installations.
- 6.41.6 All metal door pull/handle to be included for each door and drawer in unit. Three (3) selections to be presented after contract award.
- 6.41.7 Overhead bin must have a flipper door and must have minimum 304mm (12 in.) deep interior clearance minimum 304mm (12 in.) high interior clearance. Flipper door must include lock keyed alike to pedestal and storage tower. Must accommodate space dividers.
- 6.41.8 Bins to be available in 762mm (30 in.), 914mm (36 in.), 1066mm (42 in.), 1219mm (48 in.), 1375mm (54 in.), 1524mm (60 in.) widths as indicated in Annex A-3 and Mandatory specification in A-4.
- 6.41.9 Panel mounted overhead bin must have integrated under-cabinet LED lighting secured to the underside of bin. The lighting must span a minimum of 457mm (18 in.). Light must come with all necessary mounting brackets and cables. Must have integrated wire and cable management to conceal cables. Provide an overage of 10% of replacement lights.

**7.0 DETAILED REQUIREMENTS – Categories 1 and 4 – Freestanding Fixed Height Desk/ Table and Storage Product System – laminate and wood veneer as well as painted metal finish which applies to Pedestals and Personal Storage Towers only.**

Fixed Height Work Surfaces

- 7.1 Free standing work surface size: refer to typical layouts provided in Annex A-3.
- 7.2 Free standing work surface must have matching laminate gables with exception of piano or D top which will include metal post or T-leg or C-leg for support Wood work surfaces are to have wood veneer gables and wood veneered post leg on the D-Top.
- 7.3 Each work surface in each freestanding desk must include one (1) grommet to facilitate wire transfer above and below the work surface.
- 7.4 All work surfaces must have concealed horizontal wire/cable management.
- 7.5. Fixed height work surfaces must be freestanding and integrated with the storage products system and be of similar construction and appearance, as well as being supported by the storage products or to fit over a credenza unit with no interruptions to wire management or power and data.
  - 7.5.1. The tolerance for all work surface widths is +/- 25.4mm (1 in.).
  - 7.5.2. The tolerance for all work surface depths is +/- 13mm (0.5 in.).
- 7.6 Work surface thickness to be a minimum of 25mm (1 in.) to a maximum of 32mm (1¼ in.).

- 7.7 Fixed height work surfaces with a modesty panel.
  - 7.7.1 The size of the modesty panel must be a minimum of 254mm (10 in.) high to a maximum of 559mm (22 in.) high and be suspended from underside of the work surface. Except for Study Carrel modesty panels to be flush half-height modesty panel, 356mm 14in from finish floor
  - 7.7.2. The modesty panel must not prevent access to wall outlets, or interfere with work surface supports and power/data access.
  - 7.7.3. The modesty panel must be in heights that allows for floor clearance and allows wire access from wall power/data to the equipment.
  - 7.7.4. The modesty panel width must correspond with the work surface width.
  - 7.7.5. The modesty panel must be installed flush with the work surface back edge or recessed within the work surface back edge.
  - 7.7.6 Recess the modesty panel a minimum of 229mm (9 in.) from front edge or centered under the work surface, to allow guests to sit on opposite side of user.
  - 7.7.7 The modesty panel must have finish options available in wood veneer, plastic laminate, or painted metal.
  - 7.7.8 End panels to be non-handed for on-site configurability.
  - 7.7.9 All screens pieces, column, work surface connectors, wire management clips, cable tray, linking plates and mounting hardware to be included.

#### Storage Products

- 7.8. All storage (mobile pedestals, credenza's, overhead bins, storage towers and wardrobes within a single workstation, or office must be keyed alike. There must be two (2) keys provided for each locked unit. The minimum number of key combinations must be 50. A total of three (3) master keys must be provided.
  - 7.8.1. All storage products must be finished on the top and all sides.
  - 7.8.2. All closed compartments within a storage unit must be lockable.
  - 7.8.3. Credenza units and high storage or hutches must be single sided.
  - 7.8.4. P-lam storage products must be in laminate storage products Wood veneer Storage products must be wood veneer.
  - 7.8.5. All storage units without casters must have a leveling mechanism with a vertical adjustment of at least 19mm (0.75 in.).

- 7.8.6 Metal door and drawer pull/handle to be included for each door and drawer storage units, style and finish must match between all components.
- 7.8.7 Must have a minimum of three (3) metal door/pull options to be presented after contract award.

#### Mobile Pedestals

- 7.9 Mobile pedestals must be provided with the following configurations of box drawer and file drawers, one (1) of each type per workstation, unless otherwise noted in the 'typical layout' in the Annex A-3.
  - 7.9.1 Box/Box/File (B/B/F) complete with removable pencil tray. File drawer must accommodate files of letter and legal sizes, drawer dividers and all hardware required to suspend files must be included in each drawer.
  - 7.9.2 File/File (F/F) drawers must accommodate files of letter and legal sizes and all hardware required to suspend files must be included in each drawer.
  - 7.9.3 Must have lockable carpet casters. All casters must swivel.
  - 7.9.4 Must have counterweight or an additional wheel in the front to prevent tipping.
  - 7.9.5 Must have smooth metal surfaces all sides including top and must be covered entirely in a consistent, dust-free paint finish.
  - 7.9.6 Must include pencil tray and all accessories required to hang legal and letter files.
  - 7.9.7 Sound reducing bumpers must be provided to reduce noise either when opening or closing the drawers.
  - 7.9.8 All edges with which the user, public or persons maintaining the cabinets may come in contact must have all corners and edges eased or must have a radius.
  - 7.9.9 All welds must be structurally sound, free from cracks and surface voids. They must be clean, smooth and uniform in appearance and free from scale, flux, trapped foreign matter or any other inclusions that may be detrimental to the application of the primer or final finish.
  - 7.9.10 All metal drawer pull/handles to be included with each drawer. Three (3) selections to be presented after contract award. Drawers must be lockable.
  - 7.9.11 Must fit underneath the work surface mounted at standard height of 737mm (29 in.) above finished floor.
  - 7.9.12 Width must be no less than 356mm (14 in.) and no greater than 406mm (16 in.).

- 7.9.13 Depth must be no less than 533mm (21 in.) and no greater than 584mm (23 in.). Front face of pedestal must not project past the front edge of the work surface when placed under work surface.

#### Credenzas

- 7.10. Credenzas must have open compartments, closed compartments. Closed compartments must have drawers or doors or another method of closure.
  - 7.10.1. The height of the credenza units must not exceed 797mm (29.5 in.)
  - 7.10.2. The credenza units must be in a depth within the range from 584mm (23 in.) to 635mm (25 in.) Refer to typical layouts in Annex A-3 and Mandatory specification in A-4.

#### Hutches

- 7.11. When a hutch is used to make a high storage unit, the overall height of the hutch plus the credenza/work surface unit must be a minimum of 1752mm (69 in.) high to a maximum of 1829mm (72 in.) high, with the exception of Category 4 – Wood Veneer – Freestanding Products.
  - 7.11.1. Hutches must be mounted on a wall hung or mounted on the desk. Refer to typical layouts in Annex A-3 and Mandatory specification in A-4.
  - 7.11.2. Hutches must be securely but not permanently affixed on the top of the supporting surface so that the hutch, when removed, will not cause any damage to the top of the supporting surface or the storage unit.
  - 7.11.3 Hutch width, depth and heights are required to match typical layouts in Annex A-3 and Mandatory specification in A-4. Allow for off module hutch placement,
  - 7.11.4 Hutch horizontal and vertical substrates must be minimum 25mm (1") thick.
  - 7.11.5 The hutch must be lockable. There must be two (2) keys provided for every unit. The minimum number for key combination must be 50. A total of three (3) master keys must be provided.
  - 7.11.6 Hutch may be freestanding and self-supportive. Refer to Mandatory specifications in A-4 for requirements.
  - 7.11.7 Doors must match the work surface material and the hinged doors must be capable of opening a minimum of 110° and a maximum of 180°.
  - 7.11.8 Each door must be equipped with a metal door pull. Three (3) selections must be provided after contract award.
  - 7.11.9 Sound reducing bumpers must be provided to reduce noise when closing the doors.
  - 7.11.10 Back panel on hutch to be upholstered tack-board surface for full width and height to the underside of the overhead.

- 7.11.11 Hutch must have integrated under-cabinet LED lighting which is secured to the underside of the hutch cabinet. The lighting must span a minimum of 457mm (18 in.) of the underside cabinet. Light must come with all necessary mounting brackets and cables. Hutch must have integrated wire and cable management to conceal cables. Provide an overage of 10% of replacement lights.

#### Lateral File Units

- 7.12 Each drawer must have at least two removable dividers, hanging-file bars and legal-to-letter conversion bars. Including side to side hanging bars and chrome lock.
  - 7.12.1. Counterweights must meet ANSI/BIFMA X5.9 Storage requirements for stability when the files are not under a work surface.
  - 7.12.2. The drawers must be with fixed fronts and come in 2, 4 and 5 drawer units.
  - 7.12.3. Under work surface lateral file units must fit under the work surface,
  - 7.12.4. The freestanding lateral file units must have a plastic laminate top spanning the area of the file top.
  - 7.12.5. File top must be (1 in.) thick and match the unit size. Refer to typical layouts in Annex A-3 and Mandatory specification in A-4.
  - 7.12.6. File top must be secured to file cabinet without mechanical fasteners and without mechanical damage to file cabinet.

#### Wardrobe

- 7.13 The wardrobe must have full-length garment storage for hanging more than one garment.
  - 7.13.1. Wardrobes must have two doors, a hanging rod and a hat shelf and a hanger.
  - 7.13.2. Wardrobe height must align with total height of hutch when stacked on credenza or desk.
  - 7.13.3. Interior shelves must be adjustable in increments of no more than 63.5mm (2½ in.) Shelves within the same cabinet compartment shall be interchangeable and must extend the full width and depth of the interior cabinet compartment.
  - 7.13.4. Each door must be equipped with a metal door pull. Three (3) options to be provided after contract award.
  - 7.13.5. Sound reducing bumpers must be provided to reduce noise when closing the doors/drawers.
  - 7.13.6. Wardrobe must be lockable. There must be two (2) keys provided for each unit. The minimum number for key combinations must be 50. A total of three (3) master keys must be provided.

## Storage Tower

- 7.14. Storage towers must be comprised of the following:
- 7.14.1 One (1) 150mm (6 in.) to 229mm (9 in.) wide full height space to hang a coat complete with all hardware for coat hanging (metal hang rod).
  - 7.14.2 One (1) 381mm (15 in.) to 460mm (18 in.) wide adjustable shelf complete with door;
  - 7.14.3 One (1) Box/file/file (F/F) drawer configuration. File drawers must be able to accommodate files of letter and legal sizes. All hardware required to suspend files must be included in each drawer.
  - 7.14.4 Storage towers must be available from 584mm (23 in.) to 610mm (24 in.) deep and in width no less than 584mm (23 in.) and no greater than 610mm (24 in.). Refer to the 'typical layout' in Annex A-3 for dimensions.
  - 7.14.5 Storage tower must be available in range heights 1524 mm (60 in.) to a maximum of 1676 mm (66 in.). Must not exceed highest point of panel. Refer to the 'Work spaces typical layouts Annex A-3 for dimensions.
  - 7.14.6 All edges with which the user, public or persons maintaining the cabinets may come in contact with must have all corners and edges eased.
  - 7.14.7 All storage compartments are to be accessed from the front of the storage tower.
  - 7.14.8 Storage tower doors must be non-handed. Refer to the 'typical layouts' in Annex A-3.
  - 7.14.9 Doors and drawers must fit squarely and evenly into or in front of the openings on all sides.
  - 7.14.10 Each drawer must be equipped with two (2) glides with a minimum vertical adjustment of 25 mm (1 in.). Drawer glides must run smoothly and quietly and be equipped with safety catches to prevent accidental removal.
  - 7.14.11 The extension on all drawers must allow for the back of the drawer/filing compartment to extend beyond the face of the cabinet (full extension).
  - 7.14.12 The cabinet doors must be capable of opening a minimum of 110°.
  - 7.14.13 Shelves must be adjustable on increments of no more than 63.5 mm (2 1/2 in.). Shelves within the same cabinet compartment shall be interchangeable and must extend the full width and depth of the interior cabinet compartment.
  - 7.14.14 Sound reducing bumpers must be provided where necessary to reduce noise when closing the doors/drawers.

- 7.14.15 Counterweights must be supplied and installed with cabinets when required through ANSI/BIFMA x5.9 compliancy, to prevent tipping when doors and drawers are in the open position.
- 7.14.16 Storage tower must be provided with three (3) locks: one (1) for the full height door, one (1) for the shelf door, and one (1) for the file/file drawers. Locks must be installed so that drawers and doors fit tight against the storage box when in the locked position. Any amount of gap or movement of a locked door or drawer is unacceptable.
- 7.14.17 All metal door and drawer pull/handle to be included for each door and drawer in unit. Three (3) selections to be presented after contract award.

**8.0 DETAILED REQUIREMENTS – Categories 2 and 4 (Freestanding Height Adjustable Desk/ Table Products)**

- 8.1. Freestanding height adjustable desk/tables products must be a depth of at least 610mm (24 in.) and a width ranging from 762mm (30 in.) to 1829mm (72 in.). The tolerance for all work surface widths and depths is -76mm (-3 in.).
  - 8.1.1 Table sizes must be 1219mm (48 in.), 1371mm (54 in.), 1524mm (60 in.), and 1828mm (72 in.) widths.

Continuous Height Adjustable Work Surfaces

- 8.2 Table must be electronically height adjustable with a minimum of 638mm -737mm (28-30in.) adjustment range. The table, maximum highest of 1168mm -1219mm (46-48in.) A.F.F.
  - 8.2.1 Electronic controls must be located at the front of the height adjustable work surface.
  - 8.2.2 The electrical controls must be certified to be compliant with CSA C22.2 No 203.
- 8.3 Weight capacity must be a minimum of 140-150 kilograms (308-330lbs).
- 8.4 Concealed vertical and horizontal cable/wire management must be provided.
- 8.5 Floor supports must be C-legs, T-legs or gables with carpet glides.
- 8.6 Underside and topside of work surface must have a clear area of 102mm (4 in.) depth for future installation of desk mounted monitor arms and accommodate ISE Keyboard tray, or equivalent.
- 8.7 Finishes must match the workstation furniture.

- 8.8 Table to have rear wheels, with standard leg & feet with levelers with minimum 24mm (1in) adjustment.

#### Meeting Tables

- 8.9 Meeting tables must be of round racetrack or square shapes, and top surfaces must be wood veneer, quarts and/or high-pressure laminate finishes.
- 8.9.1 Meeting Table sizes: refer to typical layouts provided in Annex A-3 and A-4 Mandatory Specifications for Work Space Furniture.
- 8.9.2 The meeting table bases must be offered in metal and wood. Refer to Annex A-3 and A-4 Mandatory Specifications for Work Space furniture for the required finishes.
- 8.9.3 The meeting table bases must be offered in star/cross base, rectangular panel base and /or four post legs and /or flat disc with single center post. Refer to Annex A-3 and A-4 Mandatory Specifications for Work Space Furniture for the required base.
- 8.9.4 All bases and legs must have a levelling mechanism with a vertical adjustment of at least 25mm (1 in.)
- 8.9.5 Table sizes – 609mm (24 in.), 762mm (30 in.), 914mm (36 in.), 1067mm (42 in.) and 1219mm (48 in.) 7828mm (72in),2133mm ( 84 in.) Refer to Annex A-3 and A-4 Mandatory Specifications for Work Space Furniture for the required sizes
- 8.9.6 Table work- surface to range from 35mm (1 3/8 in.) to 50mm (2 in.) thick.
- 8.9.7 Base to be metal four (4) or five (5) star base or flat disc with single center post, (monopod), T-legs, rectangular, open square frame which is inset or panel style, complete with leveling glides. Refer to Annex A-3 and A-4 Mandatory Specifications for Work Space Furniture for the required bases
- 8.9.8 Table height with glides no greater than 737mm (29 in.) above the finished floor.

#### P-Lam Bookcases

- 8.10 P-Lam bookcases sizes 889mm-940mm (35-37in.) wide x 279mm-330mm (11-13 in.) deep x 1651mm 1702mm (65-67 in.) to a maximum of 1702 mm (67 in.).
- 8.10.1 Shelves must be adjustable; all edges are to be flat. Shelves within the same cabinet compartment shall be interchangeable and must extend the full width and depth of the interior cabinet compartment. Minimum of three (3) shelves required each. Shelf support and hardware to be included.

#### Wood Bookcases

- 8.10.2 Shelf Support for adjustable shelves MUST be nominal 5mm (3/16 in.) diameter, metal pins having a brown colour plated finish.

- 8.10.3 Shelves must be adjusted on increments of no more than 63.5mm (2 ½ in.). Shelves within the same cabinet compartment shall be interchangeable and must extend the full width and depth of the interior cabinet compartment. Minimum of four (4) shelves required each
- 8.10.4 The shelves must support continuous loads of book and other heavy objects without sagging. The nominal width must be 914mm (36 in.). Adjustable shelves must be notched on underside to conceal the four (4) shelf support pins from view and to prevent shelf from being dislodged accidentally when object are removed.
- 8.10.5 Veneer bookcases sizes 889mm-940mm (35-37 in.) wide x 356-406mm (14-16 in.) deep x 1651mm-1854mm (65-73 in) to a maximum of 1854mm (65 in.) Veneer grain direction to be vertical.

## **9.0 DETAILED REQUIREMENTS – Category 3 (Metal Filing and Storage Cabinets)**

- 9.1. Metal filing and storage units must be lateral filing cabinets, or storage cabinets, or pedestals or personal storage towers.
  - 9.1.1. Glides - All metal filing and storage cabinets must be equipped with four (4) glides with a minimum vertical adjustment of 19 mm (0.75 in.). The glides must be adjustable from the interior of the cabinet.
  - 9.1.2. Suspension - the suspension on all drawers must allow for the back of the drawer/filing compartment to extend beyond the face of the cabinet.

### Lateral Filing Cabinets

- 9.2 Lateral filing cabinets must be two, three, four, or five (2, 3, 4 or 5) file drawers. Each drawer must have at least two removable dividers, hanging-file bars and legal-to-letter conversion bars.
  - 9.2.1. Counterweights must meet ANSI/BIFMA X5.9 Storage requirements for stability when the files are not under a work surface.
  - 9.2.2. Safety System - Lateral filing cabinets with two or more extendible members must be equipped with a positive interlock system. The system must prevent any drawer from being opened by more than 51 mm (2 in.) when any other drawer has been extended beyond its fully closed position. No two drawers shall be capable of being opened simultaneously.
  - 9.2.3. All drawers must be fixed front except for the 5 high lateral top drawers which must be a pull out shelves with receding doors.
  - 9.2.4. The drawer and/or pullout shelf bottom and back must be slotted to receive dividers.
  - 9.2.5. The front edge of the pullout shelf bottom must be flanged upwards.

### Storage Cabinets

- 9.3. Storage Cabinet Shelves must be adjustable and shelves within the same cabinet compartment must be interchangeable and extend the full width and depth of the interior cabinet compartment

#### Filing and Storage Cabinet Locks

- 9.4. Locks for drawers and doors must be keyed operated.
  - 9.4.1. Locks must be pin, tumbler and wafer type, and must have a corrosion resistant finish.
  - 9.4.2. Locks and cylinders must be designed to allow for easy installation or replacement on site.

#### Pedestals

- 9.5. Pedestals must be mobile.
  - 9.5.1. All pedestals must have a removable pencil tray that span the full interior width.
  - 9.5.2. All pedestals must have at least one bottom file drawer and one top drawer or two file drawers.
  - 9.5.3. The file drawer must have at least two (2) removable file dividers or a hanging file rail.
  - 9.5.4. Casters must be for carpet and hard surface floor covering. Mobile pedestals must have lockable casters.

#### Personal Storage Towers

- 9.6. The personal storage towers must have box/box/file and door on the left side-full height on the right.

Refer to Annex A-3 and A-4 Mandatory Specifications for the required finishes.

  - 9.6.1. The file drawers must be side to side and back to back filing.
  - 9.6.2. The storage compartment must have adjustable shelves.
  - 9.6.3. The wardrobe section must have a hanging coat rod and one shelf
  - 9.6.4. The wardrobe door and storage compartment door must be hinged right or left.
  - 9.6.5. The height of the personal storage towers must be 1702mm (67in.) high and not extend above the height of the Full Height panels, with a tolerance of minus 102mm (- 4 in.).

#### Metal Bookcases

- 9.7. Metal bookcases sizes 889mm-940mmmm (35-37in.) wide x 432mm 483mm (17-19 in.) deep x 1638-1689mm (64.5-66.5in.) to a maximum of 1828 mm (72 in.).

- 9.8. Shelves must be adjusted on increments of no more than 63.5mm (2 ½ in.). Shelves within the same cabinet compartment shall be interchangeable and must extend the full width and depth of the interior cabinet compartment. Minimum of three (3) shelves required each.

## **10.0 DETAILED REQUIREMENTS – Category 5 - (Ancillary and Lighting Products)**

### Ancillary Products

- 10.1. Keyboard platform must be QS SKATE 685mm (27 in.) wide “skate” platform with leather like palm Support from ISE for corner surface and for straight surface, or equivalent. Keyboard arm to be ISE-A-LSTL Leader 4 leader series, or equivalent, articulation lever free spring assisted will be required in two (2) sizes. Corner work surfaces: 584mm (23 in.) track; Standard work surfaces: 457mm (17 in) track.

### 10.2. Computer Processor Unit (CPU) Support

- 10.2.1. Must be under the work surface mounted or stand-alone.
- 10.2.2. The under work surface mounted must retract, slide in-and-out and swivel.
- 10.2.3. The stand-alone unit must be fixed or mobile.
- 10.2.4. The CPU holder must adjust from a minimum of 89mm to 236mm (3.5 in. to 9.3in.) wide and 317.5 mm to 571.5 mm (12.5 in. to 22.5 in.) high to accommodate various sizes of CPU units.

### 10.3. Lighting Products

- 10.3.1. Freestanding desk lamp must be Humanscale; Element Vision LED Light, or equivalent, North American energy saving plug, Black finish (Provide an overage of 10% of LED lights).

## **11.0 DETAILED REQUIREMENTS FOR FINISHES AND MATERIALS.**

- 11.1. All finishes and materials, must meet the performance requirements in Section 2.0 Publication and Testing Requirements.

- 11.1.1. Category 1 all finishes for, panel and upholstery fabrics, work surface finishes, edge profile details for panel and freestanding work surfaces, panel trims finishes for vertical supports, metal storage and personal storage towers.
- 11.1.2. Category 2 all finishes for work surfaces, edge profile details, finishes for vertical supports including modesty panels.
- 11.1.3. Category 3 all finishes for metal and storage cabinets.
- 11.1.4. Category 4 all finishes for upholstery fabrics, work surfaces, edge profile detail for work surfaces and meeting tables, vertical supports, storage components.
- 11.1.5. Category 5 all finishes and images of manufactures catalogue for keyboards, monitor arms, CPUs, task lights.

- 11.2. Glazed components must be available clear, translucent or frosted or tinted and must be a safety glass.
  - 11.2.1. When safety glass is used, it must meet the CAN/CGSB12.1, Type 2 – tempered or ANSI Z97-2009.
- 11.3. Fabric for panels, tack boards and seated cushions must be manufactured from 100% recycled material or from other environmentally appropriate materials.
  - 11.3.1. All panel fabrics must meet the requirements and acceptance levels cited in the Association for Contract Textile (ACT) Voluntary Performance Guidelines for wrapped panels and upholstered walls.
  - 11.3.2 Flammability: The panels must meet a flame spread rating of no more than 150 and a smoke developed classification of no more than 300 when tested to the applicable requirements of the National Building Code of Canada (NBCC) in accordance with CAN/ULC-S102-2010. The test must be conducted on each different fabric composition and interior construction. If panel construction is changed, new flammability tests are required.
  - 11.3.3. Fabrics that are “identical” in content and weight will be accepted as comparable to the fabric tested on the panel.
- 11.4. Particleboard must meet ANSI A208-2008.1, grade M2 or greater when used as substrate.
- 11.5. Hardwood lumber must meet Architectural Woodwork Manufacturers Association of Canada (AWMAC) custom grade.
- 11.6. Hardwood plywood must meet ANSI/HPVA HP-1, Birch-2008 species, architectural grade.

## **12.0 QUALITY ASSURANCE**

- 12.1. The Contractor must have a recognized quality management system in place at the manufacturing facility or conformance to ISO 9001:2008.

## **13.0 PREPARATION FOR DELIVERY**

- 13.1. In addition to the marking requirement stated in section 9.0 MARKING of CAN/CGSB-44.227-2008 Freestanding Office Desk Products and Components or CAN/CGSB.44.229-2008 Interconnecting Panel System and Supported Components all Panels, Work surfaces, storage, electrical components and freestanding units must be permanently and legibly marked with:
  - 13.1.1 The product code
  - 13.1.2 Manufacture’s trade mark
  - 13.1.3 Date of manufacture or the expiry date of the warranty
  - 13.1.4 Traceable order information for warranty purposes.

## SECTION 2: SUBMITTALS

### 1. GENERAL

- 1.1. The Contractor MUST, prior to final manufacturing, submit the following listed deliverables to the Project Authority: **Finishes Selection** Shop Drawings and **Product Data** (as per section 2 below) and **Prototypes** (as per section 3 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 **Installation** 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. 

Upon award, the contractor will be provided base building drawings and is required to familiarize themselves with the site conditions and locations. The contractor will be responsible for converting their product into furniture installment floor plans that will reflect any changes required to the furniture components. This will be particularly important for complex rooms such as, Room: 115-C, 155-B, 158-B, 139-S, 143-A, 159-B, 217-S, 333-C 339-C, 315-B, 311-C, 331-C, 410-N and 430-C, and any other room that has the same type of complexity where space is limited or furniture components connect with columns or base building components.
- 2.3. The Contractor MUST provide complete installation drawings. When modifications are required, provide an enlarged room plan with a complete component list that supports the changes. The contractor shall be responsible for ensuring all electronic drawings are completed with the current client agency software and hardware capabilities and Computer Aided Drawings (CAD) such as AutoCAD, Adobe Acrobat PDF, and Microsoft Word.
- 2.4. 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.
- 2.5. Allow fifteen (15) working days for Technical Authority's review of each submission.
- 2.6. 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.
- 2.7. 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.

- 2.8. 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.
- 2.9. The Contractor MUST include a transmittal letter with all submissions. The transmittal letter MUST contain the following:
  - 2.9.1 Date
  - 2.9.2 Contract title and number
  - 2.9.3 Contractor's name and address

2.9.4 Identification and quantity of each shop drawing, submittal, product data and sample

2.10. All submissions made by the Contractor MUST include:

- 2.10.1 Date and revision dates.
- 2.10.2 Contract title and number.
- 2.10.3 Name and address of Contractor.
- 2.10.4 Name and address of Manufacturer
- 2.10.5 Details of appropriate portions of Work as applicable:
- 2.10.6 Fabrication details
- 2.10.7 Dimensions
- 2.10.8 Performance characteristics
- 2.10.9 Standards
- 2.10.10 Relationship to adjacent components

2.11. For Technical Authority's review, the Contractor MUST submit:

- 2.11.1 Two (2) hard copies and a digital copy in .pdf format of shop drawings for each furniture piece.
- 2.11.2 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.
- 2.11.3 Two (2) hard copies and a digital copy in .pdf format of test reports for specified materials and as requested by the Technical Authority:
  - 2.11.3.1 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.
  - 2.11.3.2 Testing MUST have been on or after January 1, 2011.
- 2.11.4 Two (2) hard copies and a digital copy in .pdf format of a statement certifying compliance with all environmental attributes detailed in the requirements.
- 2.11.5 Certificates MUST be dated after award of contract complete with project name.
- 2.11.6 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.
- 2.11.7 Pre-printed material describing the product, system or material, including special notices and Material Safety Data Sheets concerning impedances, hazards and safety precautions, and including maintenance and warranty information.
- 2.11.8 Contractor will submit and receive documentation, to the greatest extent possible, using the Project Authority's web based file transfer system.

### ~~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.~~

- ~~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, supply 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.~~

## **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 Workstation and 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. Local Representation**

- 3.1. Manufacturers MUST have a local representative available to address issues and provide Customer Service duties.

### **4. Warranty**

- 4.1. 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.
- 4.2. 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.
- 4.3. The Contractor MUST respond to telephone and e-mail contact by PSPC or the Technical Authority within 24 hours.
- 4.4. The Contractor MUST have a local representative available to address issues relating to warranty.

### **5. Quality Assurance**

- 5.1. The Contractor MUST have a written quality assurance program, ISO Certification or ISO Certification equivalent.
- 5.2. The Contractor MUST provide a written summary of the key quality assurance steps that the Contractor will follow to provide the products described in the Part II Scope of Work.

## **6. Storage Services**

- 6.1. 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.

## **7. Contractor Representative Responsibilities and Tasks**

- 7.1 The Contractor must assign a representative to be the sole contact with the Project Authority
- 7.2 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
- 7.3 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.
- 7.4 The named Contractor Representative must respond to telephone and e-mail contact by the Project Authority and Contract Authority within 24 hours.
- 7.5 The minimum level of service required is detailed below:
  - 7.5.1 Coordinate deliveries with the Project Authority
  - 7.5.2 Assemble components off-site
  - 7.5.3 Uncrate product in designated staging area
  - 7.5.4 Provide all required component delivery documentation (packing slips) at delivery
  - 7.5.5 Inspect product for damage with Project Authority and Technical Authority
  - 7.5.6 Make minor adjustments / repairs as required
  - 7.5.7 Clean product once installed
  - 7.5.8 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, ~~and prototypes~~ prior to manufacturing. Below is a table that provides estimated duration for shop drawings, ~~prototype~~, manufacturing and delivery.

#### 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, <del>Finishes</del> and Shop Drawing	Contractor	<del>4</del> 3
Review Shop Drawings and <del>Finishes</del>	Technical Authority	3
Submit Revised Shop Drawings	Contractor	2
Shop Drawing Review	Technical Authority	3
Submit Revised Shop Drawings (if Required)	Contractor	2
<del>Production and Submission of Prototype</del>	<del>Contractor</del>	<del>6</del>
<del>Prototype Review and Acceptance</del>	<del>Technical Authority</del>	<del>3</del>
Manufacture	Contractor	TBD
Deliver and Install	Contractor	3 phased deliveries

1.3 Locations of the furniture pieces are available in Annex A-6. Location Plans for installation.

1.4 Refer to Annex A-8 for Site and Building Access information.

1.5 Approximate installation timeframe is February 1 2018 to April 30 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 Deliver product to designated building access locations

- 1.8.3 Uncrate product
- 1.8.4 Inspect product for damage
- 1.8.5 Install product
- 1.8.6 Ensure all products function properly, i.e., test lock mechanisms, level guides, etc.
- 1.8.7 Make minor adjustments/repairs as required.
- 1.8.8 Clean product once installed.
- 1.8.9 Place all waste material in designated receptacle at the loading dock, or as instructed by Project Authority.
- 1.8.10 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 during regular hours between 7:00am and 5:00pm, Monday to Friday 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 4:00 pm each day. For information regarding the site conditions, off hours work and work restrictions involved in afterhours work please refer to Annex A-7, 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 to 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-7 Health and Safety Preparedness Plan, 111 Wellington Street) prior to the delivery being made.
- 1.9.6 There is a temporary 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 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 by component code Refer to Annex A-4.
  - 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-7 – 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 to 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-7, 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-7.
- 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 Upon Delivery**

- 1.2.1. The Project Authority will inspect all products arriving on-site.
- 1.2.2. 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.

#### **1.3. Inspection During Installation**

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

#### **1.4. Inspection Upon Completion of Installation**

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

### **2. DEFICIENCIES & ACCEPTANCE**

- 2.1. The deficiency list will be forwarded to the Contractor.
- 2.2. 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.
- 2.3. 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.
- 2.4. 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.

2.5. The Contractor MUST notify the Project Authority and the Contracting Authority when all deficiencies have been rectified.

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.