|  |
| --- |
| **Section Cover Page** |
| **Section 12 59 00**  **2017-08-10 Furniture Systems** |
| Refer to “LEED Notes and Credits” page for additional guidance for LEED projects.  Delete LEED items if project:  .1 is excluded by the Department’s policy on LEED, or  .2 the Department has determined that the work of this Contract is not to attain a LEED rating. |

This section describes the general requirements performance and the capabilities of the Integrated Furniture System.

An integrated product offering is defined as: A Manufacturer’s product or combination of manufacturer’s product lines that will work together to provide a seamless reconfiguration and flexible platform, through shared components, interconnections and finish logic.

This Master Specification Section contains:

.1 This Cover Sheet

.2 LEED Notes and Credits

.3 Specification Section Text:

**1. General**

1.1 Related Work Specified in Other Sections

1.2 Reference Documents

1.3 Design Requirements

1.4 Performance Requirements

1.5 Submittals

1.6 Waste Management and Disposal

**2. Products**

2.1 Components

**3. Execution**

3.1 Adjusting

**LEED Notes:**

N/A

**LEED Credits:**

Contribution towards LEED credits in this section may apply as follows:

**1. LEED Credit MR 4: Recycled Content.**

.1 The criteria is that the sum of post-consumer recycled content plus one-half of the pre-consumer content constitutes at least the percent (10% and 20%) of the total value of the materials in the project. Steel, aluminum and HPDE Plastics may have some recycled content. The manufacturer’s will be need to provide information sheets demonstrating recycled content.

**2. MR Credit 5 Regional Materials:**

.1 Use building materials or products that have been extracted, harvested, recovered and processed within 800 km (2400 km is shipped by rail or water) of the final manufacturing site. Demonstrate that the final manufacturing site is within 800 km (2400 km is shipped by rail or water) of the project site for these products. The contractor will be required to submit documentation consisting of cost, weight, transportation service and distances as evidence of compliance with credit requirements.

**3. LEED Credit MR 7: Certified Wood.**

.1 A minimum of 50% of wood-based materials and products must be certified in accordance with the Forest Stewardship Council’s Principles and Criteria in order to obtain this credit.

**4. LEED Credit EQ 4.4: Low-Emitting Materials – Composite Wood and Agrifibre Products**

.1 To obtain this credit composite wood products must contain no added-urea formaldehyde and any adhesive products must contain no urea-formaldehyde.

1. **General**

**1.1 DESIGN REQUIREMENTS**

***SPEC NOTE: This section describes the general requirements concerning the performance requirements and the capabilities of the Systems Furniture. The Systems furniture shall be an integrated system.***

***An integrated product offering is defined as: A Manufacturer’s product or combination of manufacturer’s product lines that will work together to provide a seamless reconfiguration and flexible platform, through shared components, interconnections and finish logic. All components shall be from the same manufacturer allowing them to be interchangeable, regardless of whether or not they are from the same manufactured product line.***

.1 The furniture manufacturer shall be mindful and utilize the following principles:

.1 All Furniture must work together to provide a flexible, and completely reconfigurable work environment ranging from an integrated open work environment to an enclosed office environment.

.2 Furniture must be easily reconfigured to minimize Client downtime.

.2 Environmental issues must be taken into consideration by the Manufacture. The Manufacturer shall ensure that a combination of the above measures, as applicable, is an integral part of the manufacturing process for the Furniture. Upon request, the Vendor shall provide documents to demonstrate how emissions are controlled and that the emission control is an integral part of the manufacturing process for the Furniture.

.3 Low-emitting UF-bonded board products or phenol-bonded products may be provided by the Vendor. The Vendor agrees to provide, in every instance possible, Furniture that has no added urea-formaldehyde other than that which is naturally present.

.4 The Vendor shall provide Environmental Choice Program or UL EcoLogo® certified Furniture. The Vendor shall ensure all wood veneer is Forest Stewardship Council of Canada certified wood. [The Vendor shall provide documents to demonstrate the Furniture is Environmental Choice Program, UL EcoLogo® certified, or Forest Stewardship Council of Canada certified wood.]

**1.2 REFERENCE DOCUMENTS**

.1 The Vendor shall provide Furniture that complies with the following, as applicable, for each component in the Kit-of-Parts herein:

.2 ANSI/BIFMA X5.3-2014 for Vertical File Systems (Lateral Filing Cabinets);

.3 ANSI/BIFMA X5.5-2014 for Desk Products;

.4 ANSI/BIFMA X5.6-2014 for Panel Systems;

.5 ANSI/BIFMA E3-2014 Furniture Sustainability Standard. Requirements for luminaires fall under this standard;

.6 ANSI/BIFMA M7.1-2014 Standard Test Method for Determining VOC Emissions from Office Furniture Systems, Components, and Seating;

.7 ANSI/BIFMA X7.1-2011 Standard for Formaldehyde and TVOC Emissions of Low-Emitting Office Furniture Systems and Seating;

.8 ASTM D3618 – Detection of Lead in Paint and Dried Paint Films;

.9 ASTM D3359 Standard Test Methods for Measuring Adhesion by Tape Test, Method B;

.10 ASTM D 4060 Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abrader;

.11 ASTM E-413 Standard Classification for Determination for Sound Transmission Class;

.12 CAN/CSA-C22.2, No.203-M91 (R2005) Modular Wiring Systems for Office Furniture;

.13 NBCC, 3.1.13.2 (4) For Interior Finishes, Furnishings and Decorative Materials;

.14 ULC Fire rated Class-A for Interior, Top Coats, Varnish, and Special Coats;

.15 CAN/ULC-S102.2, Standard Method of Test for Surface Burning Characteristics of Flooring, Floor Coverings, and Miscellaneous Materials and Assemblies;

.16 CAN/ULC-S102-10 Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies; and

.17 CAN/ULC-S109-03 – Flame Tests of Flame-Resistant Fabrics and Films.

**1.3 ERGONOMICS**

.1 The Vendor shall ensure that ergonomic principles are incorporated into the Furniture such as ease of adjustment, intuitive controls and soft/eased edges.

.2 The Vendor shall provide Furniture with reconfigurable surfaces that shall not have edges that prevent the user from having clearance.

.3 The Furniture Product Line shall comply with the following:

.1 Pin height/standard height increments for surface support shall accommodate for 95th percentile of population anthropometrics as set out in anthropometric allowances – BIFMA 2013.

.2 Include accessories, including, but not limited to a keyboard tray, and that fit 95th percentile of users when mounted underneath the surface.

.3 Have user height adjustability incorporated into the Furniture.

.4 Have electric and crank adjustability as an option and incorporated into the Furniture for adjustment by the user, as set out in Schedule ‘C’ herein.

.5 Have sit-stand workstations that can be stand-alone.

.6 Have user adjustability instructions in either manual form or online video form. The Vendor shall provide this information to the Client.

.7 Must allow the user to have a neutral posture while working.

.8 Allow adjustment that addresses seated elbow height, standing elbow height, keyboard/mouse height, paperwork height, near reach zone, popliteal height, seated eye height, and screen center height.

* 1. **OPEN OFFICE FURNITURE**

This section describes the minimum requirements for Furniture in open offices, as further set out in Schedule [C] herein.

.1 General Furniture Systems

.1 The finished panels, connecting assemblies and components shall be uniform in quality, style, material, and workmanship and shall be clean and free from any defects that may affect appearance, serviceability, or safety.

.2 When Furniture is assembled, there shall be no visible unfinished edges or surfaces. Panel edges, including trims, tops, end caps and connecting assemblies with which the user, public, or persons maintaining the system may come in contact, shall have all corners and edges eased or radiused.

.3 All welds shall be structurally sound, free from cracks and surface voids. They shall be clean, smooth, and uniform in appearance and free from scale, flux, trapped foreign matter and any other inclusions that may be detrimental to the application of the primer of the final finish.

.4 All surface wood veneer, printed substrate surfaces, and plastic laminate shall have a balance sheet to minimize warping and bowing. Worksurface substrate shall be constructed from, at minimum, Medium Density Fiberboard.

.5 The fabric section of any panel shall be without any sewn or glued seams. Panel fabric shall be installed with concealed edges to prevent fraying and shall be sufficiently stable that no snags or wrinkles shall appear on the finished screen. Panel fabric shall be stretched straight of grain.

.6 Hardware used in assembling components and connecting panels shall allow for repeated assembly, disassembly, and reconfiguration. Assembly of panels shall not require any specialized tools.

.7 All workstations must provide the ability for the user to arrange work tools and accessories in various locations within their work area.

.2 Acoustics

.1 Acoustic: panels over 1115 mm high (44") shall have a NRC rating of not less than 0.65 when tested to ASTM C423-90a using a straight, flat screen and an STC rating of not less than 20 as defined by ASTM E413 when tested in accordance with ASTM E-90.

.2 High performance acoustic: panels over 1115 mm high (44") shall have a NRC rating of not less than 0.80 when tested to ASTM C423-90a using a straight, flat screen and an STC rating of not less than 20 as defined by ASTM E413 when tested in accordance with ASTM E-90.

.3 All panels to have acoustical inserts to assist with achieving the required STC rating.

.4 Non-acoustic: All other panels not meeting the requirements as set out above.

.3 Panel Heights

.1 Wheelchair access range 762 mm – 915 mm (30” - 36") maximum. Note: base panel no stacks required to achieve this base panel height.

.2 Transaction/worksurface privacy – 1065 mm (42"). Note: base panel plus one (1) stack to achieve transaction/worksurface privacy height.

.3 Seated privacy range – 1372 mm - 1542 mm (54"-60"). Note: base panel plus two (2) stacks to achieve seated privacy range.

.4 Full standing privacy – 1829 mm (72"). Note: base panel plus up to three (3) stacks to achieve full standing privacy.

.4 Panels

.1 When specified in [Schedule ‘C’ herein], 610 mm (24”), 760 mm (30"), 914 mm (36”), 1067 mm (42”), 1200 mm (48"), and 1520 mm (60") panels with freestanding furniture on three sides while maintaining a 90 degree corner.

.2 Panels shall be stackable to make it possible to change the height without dismantling the workstations. Monolithic panels with inserts to create the visual height of stacks to achieve the above heights are not acceptable.

.3 All stackable components shall be loadbearing to allow for the mounting of overheads.

.4 Stackable panel tiles shall be available in fabric upholstered, glazed, metal finish, laminate finish, accessory rail, white board, and wood finish on one or both sides.

.5 The panels shall be stable, stand straight and plumb when interconnected.

.6 The maximum height variance of same height panels when interconnected shall be 3 mm (.12").

.7 All fabric panel surfaces above 900 mm (3') shall be of panel class acoustic or high performance acoustic.

.8 Load bearing panels shall have a mounting system, which shall be an integral part of the assembled panel and run the full height of both sides of the panel at each end. The vertical uprights shall be slotted at a maximum of 30 mm (1") centers for component attachment. There shall be no visible gaps when installed.

.9 Panels shall be able to accommodate panel mounted storage components on and off module and stand straight and plumb.

.10 Panel connections shall be a metal-to-metal and panel-to-panel system.

.11 Each panel shall be equipped with a minimum of 2 glides with a minimum vertical adjustment of 38 mm (1.5") and comply with the following:

.1 A fastening device designed to prevent glides becoming loosened or detached under normal use conditions shall secure the glides;

.2 Glides shall have the ability to accept carpet grippers; and

.3 Glides shall be concealed.

.12 Panel base covers shall have knockouts to receive offset electrical outlets as noted in the Kit-of-Parts section herein:

.13 The base covers shall be opened without the use of special tools and shall close tightly. Base covers shall not easily become dislodged.

.14 All unused knockouts/access points, which are visible under normal use or installation, shall be covered with matching finish cover to prevent unsightly holes and shall be covered upon the Client’s request.

.15 Unless the finish of the panel top, ends and corner linking devices are integrated in the design of the panel, the system shall provide panel tops, panel end trims and corner covers that can be attached to the panel. These shall be attached without visible connecting devices.

.16 All panel surfaces shall be removable for cleaning or replacement without the panel frame being removed from the partition system installation.

.5 Electrical

.1 The electrical system shall be made of components, which are integral, modular, capable of providing power at needed locations, and of being reconfigured without altering or disassembling the panel system.

.2 Electrical receptacles shall be accessible at the base, [below worksurface], [at worksurface] and [above worksurface heights].

.3 If the powered panels have raceways accessible from both sides of the panel at desk height, each powered panel 610 mm (24") shall have space for a minimum of 4 single outlets or 2 duplex outlets.

.4 Each powered panel 760 mm (30") or greater shall have space for a minimum of 8 single outlets or 4 duplex outlets.

.5 Receptacles shall be interchangeable anywhere along the wiring harness.

.6 The raceway access shall be opened and closed tightly without special tools.

.7 Panel systems shall include integrated concealed wire management capabilities by means of raceways.

.8 All powered and non-powered panels shall have raceways capable of accommodating a minimum of five pair category 6 UTP cables.

.9 The raceways shall provide sufficient space to allow for a bend radius of at least 76 mm (3") for the installation of communication cables both horizontal and vertical.

.10 Non-powered raceways shall be capable of field conversion to powered raceways without requiring the workstation to be dismantled.

.11 The raceways shall provide for floor, ceiling and end of panel access.

.12 Separation must be provided in the panel raceway to provide an isolated space for routing data and telecommunications cable.

.13 Wire clips shall be provided to manage a minimum of 3 sets of cables of 3 meters length each per workstation.

.14 Raceways shall be free from sharp edges and have neatly designed covers and releasable cable ties to allow easy installation of wiring.

.15 Covers shall be easily snapped into place or removed.

.16 The number of electrical outlets, voice and data required will be indicated by client on the standard furniture layouts.

.6 Worksurfaces

.1 The worksurface shall have an edge radius of least 3 mm (0.12") integral PVC hard edging, post formed edge or other flexible materials. T-mould edge not acceptable.

.2 The worksurface shall have a minimum thickness of 25 mm (1") and shall be made of high density core material or steel reinforced construction, finished with a minimum of 0.8 mm (.032") thick high- pressure textured laminate (mandatory).

.3 The worksurface material shall meet the physical property requirements as stated in ANSI/NEMA LD3-1995: The following grades are considered acceptable: HGS and HGL under General Purpose, and HGL under post formed.

.4 For other worksurface material the ANSI/BIFMA standards shall be used.

.5 The worksurfaces, in systems equipped with base raceways, shall provide access to the raceway with a minimum of one wire access point, [grommet,] or [other form of wire access].

.6 The Vendor to ensure the dimensions of all worksurfaces will be standardized for interchangeability.

.7 Should panel hung worksurfaces be specified they shall be adjustable either continuously or in steps to suit individual requirements. Worksurface heights shall be capable of adjusting from 610 mm to 864 mm (24" – 34").

.8 Should horizontal wire management troughs be specified they shall be provided for mounting under worksurfaces when requested in writing by the Client.

.7 Worksurface Support

.1 Freestanding Legs:

.1 To be provided in nominal [660 mm (26”)], [724 mm (28-1/2”)], and [1038 mm (40-7/8”)] worksurface heights.

.2 Single or double post legs to be provided with [swivel caster] or [glide] ***(exception: 1038 mm (40-7/8”) high is only available with glide)***. Must provide adjustable height versions which are user adjustable in no greater than 19 mm (3/4”) increments between 648 mm (25-1/2”) and 800 mm (31-1/2”) worksurface height.

.3 Adjustable-height post leg with caster to have a locking caster.

.4 To provide double post legs that are visually compatible with standard post legs and are suitable for a shared application between two worksurfaces – available in nominal 724 mm (28-1/2”) and 1038 mm (40-7/8”) worksurface heights.

.5 Freestanding legs shall be provided in [post-leg,] [C-leg,] [H-leg] or [column)] for all worksurface depths.

.6 Freestanding base options must be available with sit-stand options [pneumatic] ***or*** [electronic], available in a height range of 559 mm – 1219 mm (22” – 48”). Manual height adjustment option to be available in [pin] or [crank] adjustability in a height range of 635 mm to 787 mm (25” – 31”).

.7 Freestanding legs shall have the same leg suitable for left-hand, right-hand, or shared applications when connecting two worksurfaces.

.2 Column Supports

.1 Must provide a column with extended height adjustment range of at least 79 mm (3-1/8”) (total range 724 mm [28-1/2”] to 803 mm [31-5/8”]).

.2 Must provide a standard column with glide adjustment range of at least 38 mm (1-1/2”).

.3 Round columns to be at least 102 mm (4”) in diameter to provide a sturdy-looking support for peninsula worksurfaces and similar applications.

.3 Panel Mounted Supports

.1 Supports must be provided upon written request of the Client. All supports must be able to be removed and repositioned later without any permanent damage to panels or fabric.

.2 Cantilevered and other suitable attachment brackets shall be provided to completely support panel hung worksurfaces:

.4 Cantilever

.1 Shall mount in panel slots so worksurface can be adjusted in 25mm (1”) increments and must be useable on either 457 mm (18”), 610 mm (24”), or 762mm (30”) nominal depth worksurfaces.

.2 Must be universal for the left or right end of a single worksurface or in a shared application between two worksurfaces.

.5 Side Support Brackets

.1 Shall mount in panel slots so worksurface can be adjusted in 25mm (1”) increments.

.2 Shall be used to support the end of a worksurface that is wrapped by a matching width panel, or in a rear corner of a corner worksurface.

.6 Support Plate and Tie Plates

.1 Must be available to connect two worksurfaces and allow one to support the other.

.2 Must provide added strength and alignment between two worksurfaces.

.7 Gables

.1 Acceptable construction includes MDF and metal - minimum thickness of 19 mm (3/4”). Durability standards for the legs must comply with ANSI/BIFMA X5.5-2014 for Desk Products.

.8 Modesty Panels

.1 Vendors shall provide modesty panel options of MDF, acrylic, wood, laminate, and metal.

.2 Vendors shall provide options for degree of opacity for modesty panel including translucent or opaque.

.3 The Vendor shall provide modesty height options of half, three-quarter or full.

.9 Sit Stand Tables

.1 To provide a surface for use with display, input devices,

associated equipment and material, as well as for the hands and arms of the user

(BIFMA G1-2013 8.3, ISO 9241-5, 5.4.1) when the user is either sitting down or

standing up while working at the user’s computer terminal.

.2 Shall not have exposed pinch points that would cause harm or injury to the user.

.3 Shall have levelers with a minimum height adjustment of 38mm (1.5”) to allow for leveling on uneven surfaces.

.4 Base to support a minimum weight of 68kg. (150lbs).

.5 When in sitting position sit stand to provide a horizontal worksurface with a minimum adjustment range from 575mm (22.6”) to 747mm (29.4”) from the top of the surface.

.6 When in standing configuration, sit stand to provide a horizontal worksurface with a minimum adjustment range from 38.3” (973mm) to 48.7” (1237 mm) from the top of the surface.

.7 Base shall be controlled manually or electrically

.1 Electric controller to adjust the height of the worksurface with a memory function for pre-set heights ***(either factory set or user set)***.

.2 Electric mechanism shall comply with CSA’s standard for Safety of

household and similar appliances (CAN/CSA-C22.2 NO. 60335-1:11).

.10 Storage

.1 All storage shall be equipped with removable core gang locks. All storage components within one room or workstation shall be keyed alike.

.2 Locks for drawers and doors shall be [pin,] [tumbler] or [wafer type] and shall have a corrosion resistant finish. The locks shall be designed to allow for installation or replacement on site. Master keys shall be available to the Client.

.3 A set of two (2) keys must be provided with each lock. The locks shall have a minimum of 50 key changes. The Vendor shall change locks upon written request.

.4 All drawers shall have stops to prevent their accidental removal, but still permit removal of the drawers when required.

.5 All drawers shall extend the full length of the unit. The drawer slides shall be full extension and corrosion resistant.

.6 Handles or pulls shall be ADA compliant to accommodate individuals with limited dexterity (e.g. Barrier-Free).

.7 All drawer assemblies shall have resilient bumpers to minimize impact noise when drawers reach the end of their inward and outward travel.

.8 All File drawers shall have full bottoms.

.9 All storage components shall be modular, non-handed, capable of assembly in multiple configurations. Shall be freestanding units, capable of installation without wall or panel attachments.

.10 All freestanding storage components shall have adjustable levelling glides capable of a minimum of 25 mm (1”) of vertical adjustment.

.11 The Furniture Product Line shall provide options for left and right door swings.

.12 The Furniture Product Line shall provide finish options for wood, metal, or laminate finishes.

.13 Each pencil drawer shall be equipped with one compartmentalized, removable pencil tray.

.14 All file drawers shall accommodate both legal and letter sized filing systems with minimal adjustment. File drawers shall have full bottoms. Each file drawer shall be provided with at least two removable dividers, a hanging file rail system or one compressor. Drawer slides shall be over extension and corrosion resistant.

.11 Lateral Filing Cabinets

.1 Shall be available in two (2), three (3), four (4), five (5) or one half (1/2) drawer and one full (1) file drawer configurations for lateral filing cabinets.

.2 The lateral filing cabinets shall have a counterweight base to prevent tipping when drawers are fully loaded and extended.

.3 The lateral filing cabinets with two (2) drawers shall fit under worksurfaces and have a radiused metal edge.

.4 The top drawer of lateral filing cabinets with five (5) drawer units shall have an receding, flip-up door.

.5 The file drawers shall be designed to accommodate both legal and letter sized filing systems with minimal adjustment. All file drawers shall have full bottoms. Each file drawer shall be provided with at least two removable dividers, a hanging file rail system or one compressor. Drawer slides shall be over extension and shall be corrosion resistant.

.12 Bookcases

.1 Open bookcases shall have two (2), three (3), four (4), or five (5) shelves configurations for open bookcases with adjustable shelves.

.2 Bookcases shall have a counterweight base to prevent tipping over when all shelves are fully loaded.

.3 Open bookcases shall have the option of door installation.

.4 If the Client requires doors installed onto open bookcases, a set of two (2) keys must be provided with each lock. The locks shall have a minimum of fifty (50) key changes.

.13 Coat and Storage Towers

.1 Coat tower shall be 1372 mm (+/- 54”) and 1651 mm (+/- 65”) in height, [or shall match the requested panel height (base panel plus stacks)].

.2 Coat tower shall have a coat rod to accommodate coat hangers.

.3 Coat tower shall have a counter weight base to prevent tipping over.

.4 Coat tower may be a combination unit (i.e. serves a coat storage/bookcase/file cabinet function).

.5 For a coat tower with built in filing function, the drawers shall be designed to accommodate both legal and letter sized filing systems with minimal adjustment. All file drawers shall have full bottoms. Each file drawer shall be provided with at least two removable dividers, a hanging file rail system or one compressor. Drawer slides shall be over extension and corrosion resistant.

.6 For coat tower with built in bookcase function, shelves to be adjustable to suit user’s needs.

.14 Pedestals

.1 Pedestals shall be available in freestanding, mobile, and worksurface supporting.

.2 Pedestals shall be available in Box, Box, File drawer configuration, File, File drawer configuration and Box, File drawer configuration.

.3 Pedestal depth clearance shall be 610 mm (24”) deep to fit flush under worksurface.

.4 Mobile pedestal shall have four (4) non-locking casters [and cushion top]. Shall fit under worksurfaces and have a radiused metal top edge. Mobile pedestals shall have counterweight base to prevent tipping over when all drawers are fully loaded and extended.

.5 A worksurface supporting pedestal shall have 32 mm (1 ¼”) adjustable levelling glides and shall be the same depth as the worksurface it supports ( 610 mm (24” minimum)). For worksurfaces larger than 610 mm (24”), the gap between the back of the pedestal and panel the worksurface is attached to shall be filled with a suitable trim or connecting device to provide a homogenous look. Support pedestals are only acceptable under worksurfaces used for non-computer work activities.

.6 Suspended pedestals shall be engineered to match the furniture construction. Vendor shall provide pedestals which utilize threaded mechanical or metal-to-metal component fasteners.

.15 Overhead Storage

.1 Shall have a retractable door which retracts under or over the top of the cabinet. Resilient bumpers shall be provided on all door assemblies to minimize impact noise. Interior cabinet clear depth shall be a minimum of 305 mm (12”) and the interior cabinet clear height shall be a minimum of 305 mm (12”) when the door is retracted under or over the top of the cabinet. Look at soft close mechanisms

.2 Overhead Storage may be a modular unit, a non-modular unit, or an up mount unit.

.3 Closed overhead storage may be with or without a back.

.4 Overhead Storage shall be available in open and closed options.

.5 All overhead cabinet doors shall have a counter balance mechanism to assist movement of opening and closing.

* 1. **ENCLOSED OFFICE FURNITURE**

***SPEC NOTE; This section describes the minimum requirements for Furniture in enclosed offices.***

.1 Desks

.1 All Furniture components shall be modular, with minimal handed sections, capable of assembly in all configurations.

.2 Corner surfaces are not acceptable.

.3 All desk components shall be freestanding units, capable of installation without wall attachments.

.4 All freestanding worksurfaces shall be with leveling glides capable of 35mm (1.4") vertical adjustment.

.5 Desk components should utilize threaded mechanical, metal-to-metal component fasteners rather than wood screw attachment.

.6 All worksurfaces shall have one wire access grommet a minimum 50mm (2") in diameter. Grommets shall have removable covers that match the worksurfaces.

.7 Freestanding worksurfaces shall house concealed wires both vertically and horizontally. Wire management clips shall be provided below each worksurface to manage/conceal wires.

.8 Wire management raceways shall be free from sharp edges and have neatly designed covers and releasable cable ties. Covers shall be easily snapped into place or removed. Wire management must be an integrated component in all desks.

.2 Worksurfaces

.1 Material used for worksurfaces shall be resistant to scratch, impact, moisture, chemicals, and stains.

.2 Vendors shall ensure the dimensions of all worksurfaces are standardized for interchangeability.

.3 Plastic laminate, veneers or equivalent finish shall be used on all top and bottom of the worksurfaces. Preference shall be given to certified wood products.

.4 Worksurface shall have an edge radius of minimum 3 mm (0.12") integral PVC hard edging, post formed edge or other flexible materials. T-mould is not an acceptable edge.

.5 The worksurface shall have a minimum thickness of 25 mm (1") and shall be made of high density core material or steel reinforced construction, finished with a minimum of 0.8 mm (.032") thick high-pressure textured laminate (mandatory).

.6 The worksurface shall be supported to ensure no visible deflection under a load of 180kg (397lbs). Worksurfaces of more than 1200 mm (47") width shall have steel reinforcement.

.7 The worksurface material shall meet the physical property requirements as stated in ANSI/NEMA LD3-1995. The following grades are considered acceptable: HGS and HGL under General Purpose and HGL under post formed.

.8 For other worksurface material, the ANSI/BIFMA standards shall be used.

.9 Freestanding worksurfaces shall have a [full] [three quarter] or [half] modesty panel [recessed at 130 mm (5") from the outer edge] or [flush] of the worksurface.

.10 The gable ends and modesty panels shall be finished to match structural elements or worksurface.

.11 Horizontal wire management troughs shall be provided for mounting under worksurfaces when requested in writing by the client.

.3 Storage

.1 All storage components shall be modular and capable of assembly in multiple configurations.

.2 All drawers shall have stops and still permit removal of the drawers when required.

.3 All drawer slides shall be full extension and corrosion resistant.

.4 Handles or pulls shall be ADA compliant to accommodate individuals with limited dexterity (e.g. Barrier-Free).

.5 All drawer assemblies shall have resilient bumpers to minimize impact noise.

.6 The Furniture Product Line shall provide left and right door swings.

.7 The Furniture Product Line shall provide finish options for wood, metal, or laminate finishes.

.8 All free standing storage components shall have adjustable leveling glides capable of a minimum of 25mm (1”) of vertical adjustment.

.9 Each pencil drawer shall be equipped with one compartmentalized removable pencil tray.

.10 All file drawers shall accommodate both legal and letter sized filing systems with minimal adjustment. File drawers shall have bull bottom. Each file drawer shall be provided with at least two removable dividers, a hanging file rail system or one compressor.

.11 All storage components shall be freestanding units, capable of installation without wall attachments. All storage shall be independent units with the option of providing space division and vertical/horizontal wire management options.

.12 All storage shall to be lockable and equipped with removable core gang locks, which lock all drawers of the cabinets. All storage components within one room or workstation shall be keyed alike.

.13 The locks for drawers or doors shall be [pin], [tumbler] or [wafer type] and shall have a corrosion resistant finish. The locks shall be designed to allow for installation or replacement on site. Master keys shall be available to the Client.

.14 A set of two (2) keys must be provided with each lock. The locks shall have a minimum of 50 key changes. The Vendor shall change locks upon written request.

.4 Lateral Filing

.1 Shall be available in two (2), three (3), four (4), or five (5) drawers and shall have a counterweight to prevent tipping when all drawers are fully loaded and extended.

.2 The lateral filing cabinets with two (2) drawers shall fit under worksurfaces.

.3 The top drawer of lateral filing cabinets with five (5) drawer units shall have an receding, flip-up door.

.4 The file drawers shall be designed to accommodate both legal and letter sized filing systems with minimal adjustment. All file drawers shall have full bottoms. Each file drawer shall be provided with at least two removable dividers, a hanging file rail system or one compressor.

.5 Open Bookcases

.1 Vendor shall have two (2), three (3), four (4), or five (5) shelves configurations for open and closed bookcases complete with adjustable shelves.

.2 Bookcases shall have a counterweight to prevent tipping when shelves are fully loaded.

.3 Open bookcases shall have the option of door installation complete with locks. A set of two (2) keys must be provided with each lock. The locks shall have a minimum of fifty (50) key changes.

.6 Coat and Storage Towers

.1 Coat tower shall be 1372 mm (+/- 54”) and 1651 mm (+/-65”) in height.

.2 Coat tower shall have a coat rod to accommodate for coat hangers.

.3 Coat tower shall have a counter weight base to prevent tipping.

.4 Coat tower may be a combination unit (i.e. serves a coat storage/bookcase/file cabinet function).

.5 For Coat tower with built in filing function, the drawers shall be designed to accommodate both legal and letter sized filing systems with minimal adjustment. All file drawers shall have full bottoms. Each file drawer shall be provided with at least two removable dividers, a hanging file rail system or one compressor.

.6 For coat tower with built in bookcase function, shelves to be adjustable.

.7 Pedestals

.1 Pedestals shall be available in freestanding, mobile, and worksurface supporting.

.2 Shall be available in Box, Box, File Drawer configuration, File, File Drawer configuration and Box, File Drawer configuration.

.3 Mobile pedestal shall have four (4) non-locking caters. Shall fit under worksurfaces and have a radiused metal top edge [and cushion top]. Mobile pedestals shall have counterweight base to prevent tipping when all drawers are fully loaded and extended.

.4 A worksurface supporting pedestal shall have 38 mm (1 1/2”) adjustable levelling glides and shall have the same depth as the worksurface it supports, or if its depth is less, the gap between the back of the pedestal and panel the worksurface is attached to shall be filled with a suitable trim or connecting device to provide a homogenous look. Support pedestals are only acceptable under worksurfaces used for non-computer work activities.

.5 Suspended pedestals shall be engineered to match the furniture construction. The Vendor shall provide pedestals which utilize threaded mechanical or metal-to-metal component fasteners.

.6 Drawer slides shall be over extension and corrosion resistant.

.7 Freestanding or mobile storage cabinets shall have a 25mm (1") thick top with 0.8mm (.032") thick high-pressure textured laminate (mandatory) and PVC edging.

.8 Pedestal depth clearance shall be 610mm (24”) deep to fit flush under worksurface.

.8 Overhead Storage

.1 Each closed overhead cabinet shall have a [hinged door], [retractable door which retracts under or over the top of the cabinet]. Resilient bumpers shall be provided on all door assemblies to minimize impact noise. The interior cabinet clear depth shall be a minimum of 305 mm (12”) and the interior cabinet clear height shall be a minimum of 305 mm (12”) when the door is retracted under the top of the cabinet. The shelf depth shall be a minimum of 305 mm (12”).

.2 Overhead Storage may be a [freestanding hutch] or [wall mounted overhead].

.3 Hutches and wall mounted overheads shall be complete with a tackable surface below in a minimum Grade 2 Fabric.

.4 The manufacturer shall state all metal construction with door front options; metal, whiteboard, acrylic/glass, wood, or sliding door front and the front door.

**END OF SECTION**