

PHONE: (800) 344-2400

NAME, ADDRESS, AND TELEPHONE NUMBER OF SUPPLIER:

Capital Business Interiors

711 Indiana Ave.

Charleston, WV.

PHONE: (304) 343-7551

REASON(S) FOR NOT GIVING PRIORITY TO SPECIFIED ITEM:

Cannot get product line specified.

1. SUBSTITUTION AFFECTS OTHER MATERIAL/SYSTEMS: () YES, () NO
2. SUBSTITUTION REQUIRES DIMENSIONAL REVISION OR RE-DESIGN OF STRUCTURE, MECHANICAL AND/OR ELECTRICAL WORK: () YES, () NO

NOTE: If YES for 1 and/or 2 above, attach complete data.

3. SAVINGS OR CREDIT TO OWNER FOR ACCEPTING SUBSTITUTE: \$ _____
WORDS: \$ _____ DOLLARS
4. ATTACHED DATA IS FURNISHED FOR EVALUATION OF SUBSTITUTION:
 CATALOG DRAWINGS SAMPLES TESTS
 REPORTS Specifications. OTHER DATA OR INFORMATION
5. MANUFACTURER'S GUARANTEE THAT THE SUBSTITUTE VS. SPECIFIED PRODUCT (ITEM) IS THE SAME () OR DIFFERENT (). (Explain difference on attachment)

See attached

THE UNDERSIGNED HEREBY CERTIFIES THAT THIS SUBSTITUTION HAS BEEN CHECKED AND COORDINATED WITH THE CONTRACT DOCUMENTS:

FIRM NAME: P. J. Dick BY: Chris Bekanac

ADDRESS: 225 North Shore Dr TITLE: _____

PHONE: (412) 807-2000

____ ACCEPTED ____ ACCEPTED AS NOTED ____ NOT ACCEPTED

____ RECEIVED TOO LATE DATE RECEIVED: ____/____/____

SUBSTITUTION REQUEST FORM

Substitutions and "or Approved Equal" item must be submitted by a **General Contractor**, who is "The Bidder" during the bid period, and **NOT** directly from a Manufacturer or Supplier. By so doing, it is understood that if the substitute product is "accepted as an equal" by the Engineer and Owner, a General Contractor does, in fact, intend to use the product on this Project.

DATE: 3/13/14 NAME AND ADDRESS OF BIDDER/
P. J. Dick, Inc.
225 North Shore Dr.
Pittsburgh, PA. 15212
CONTRACTOR Chris Bekarac

SUBMITTED FOR REVIEW TO: **Rebecca Key**
Alpha Associates, Inc.
209 Prairie Avenue
Morgantown, WV 26501

ph: 412 - 807 - 2000

ARCHITECT/ENGINEER:

PLEASE CONSIDER FOR APPROVAL THE FOLLOWING PRODUCT OR SYSTEM AS AN "APPROVED EQUAL" SUBSTITUTION IN ACCORDANCE WITH THE PROVISIONS OF DIVISIONS 0 AND 1 OF THE PROJECT MANUAL.

NAME AND DESCRIPTION OF **SPECIFIED** PRODUCT OR SYSTEM:

Dirtt - Demountable Partitions
Herman Miller - A02 Panel Systems.

SPECIFICATION DIVISION _____ SECTION 102220 PAGE(S) 1-5

DRAWING NUMBER(S) A605 - DETAIL OR SECTION NUMBER(S) _____
A625 -

NAME AND DESCRIPTION OF **SUBMITTAL FOR SUBSTITUTION**

Haworth Enclose Demountable Partitions.
Haworth Unigroup Too panel systems.

NAME, ADDRESS, AND TELEPHONE NUMBER OF **MANUFACTURER:**

Haworth, One Haworth Center, Holland, Michigan -
3

State Of West Virginia
General Services Division

Clarksburg State Office Building
153 W Main Street
Project No. GSD136433

DATE OF ACTION: ____ / ____ / ____

BY: _____ FOR ALPHA

Haworth –vs-Dirtt differences:

- We have a recessed top and bottom rail
- Vertical rail is expressed
- Do not have anodized aluminum finish, ours is powder coat finish over aluminum
- We are ECC certified as a non-combustible partition.

Our differences are purely aesthetic not performance, performance wise we are the same and exceed in some instances.

SECTION 102219
MOVEABLE WALLS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes
 - 1. Non-progressive, moveable and reconfigurable system of unitized panels, from a single manufacturer
 - 2. Trim, Sealants, Hardware and Accessories.
- B. Products supplied but not installed under this Section: Voice/data cabling, devices, faceplates for thermostats and other devices.

1.3 RELATED SECTIONS

- A. Section 012500 – Substitution Procedures
- B. Section 081416 – Wood Doors
- C. Section 087100 – Door Hardware
- D. Section 088000 – Glass and Glazing
- E. Section 262000 – Power System
- F. Section 270000 – Communication System

1.4 REFERENCES

- A. Aluminum Association (AA)
 - 1. AA DAF45-R03, Designation System for Aluminum Finishes, 9th Edition
- B. American National Standards Institute (ANSI)
 - 1. ANSI Z97.1-2004, Safety Glazing Materials Used in Buildings – Safety Performance Specifications and Method of Test.
- C. American Society of Testing and Materials International (ASTM)
 - 1. ASTM B221-06, Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profile and Tubes
 - 2. ASTM C36, Standard Specification for Gypsum Wallboard

3. ASTM C1036, Standard Specification for Flat Glass
 4. ASTM C1396, Standard Specification for Gypsum Board
 5. ASTM E84, Standard Test Method for Surface Burning Characteristics of Building Materials
 6. ASTM E90, Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements
 7. ASTM E413, Classification for Rating Sound Insulation
 8. ASTM E1300, Standard Practice for Determining Load Resistance of Glass in Buildings
- D. National Fire Protection Association (NFPA) 70
1. National Electrical Code, 2008 Edition
- E. Architectural Woodwork Institute (AWI)
1. Architectural Woodwork Standards, Edition 1, 2009
- F. Consumer Product Safety Commission
1. Regulation 16 CFR 1201, Safety Standard for Architectural Glazing Materials.
- G. Occupational Safety and Health Administration (OSHA)
1. Regulation 29 CFR 1919.1200 – Material Safety Data Sheets
- H. International Building Code, 2006 Edition
- I. Underwriters Laboratories, Inc. (UL), Fire Resistance Directory
- 1.5 PERFORMANCE REQUIREMENTS
- A. Acoustic Performance
1. Solid panels, when tested in accordance with ASTM E90, shall achieve the following acoustic performance ratings in accordance with ASTM E413, without site alteration:
 - a. Steel faced panels: Minimum STC 44
 - b. Gypsum board panels: Minimum STC 42
 - c. Wood composite panels: Minimum STC 42
 2. Provide butt hinged doors where acoustic performance of the wall system is paramount.
 3. Provide sliding doors where indicated.
- B. Surface Burning Performance

1. Painted steel panels: Maximum Flame Spread of 25 when tested in accordance with ASTM E84.
2. Wall covering faced panels: Maximum Flame Spread of 25 when tested in accordance with ASTM E84.

C. Structural Performance

1. Design and size the moveable walls and components to withstand dead and live loads as calculated in accordance with the International Building Code 2006 Edition.
2. Design and size moveable walls and components to withstand seismic loads as calculated in accordance with International Building Code 2006 Edition.
3. Load bearing capacity: Tested to not less than the requirements for panel systems as defined by ANSI/BIFMA X5.6, latest edition. Specifically, a load of 300 lbs on either side of each panel at both overhead and desktop elevations with a CG of no greater than 8" from the panel face.
4. Panels or panel framing members shall exhibit lateral deflection not greater than 1/240 of span when subjected to a uniformly distributed load of 5 psf.
5. At a minimum, glass thickness shall conform to the requirements of ASTM E1300.
6. Glass framing members shall be sized to limit glass edge deflection not greater than 1/175 or .75", whichever is less, when subjected to a uniformly distributed load of 5 psf.
7. Glazing materials shall comply with the requirements of 16 CFR Part 1201 and/or ANSI Z97.1-2004, and shall bear markings as required by Chapter 24 of the International Building Code.

D. Electrical and Communications

1. Assembled panels with prewired components (boxes, cables, devices and faceplates) fully assembled shall be UL Classified to comply with NFPA 70 National Electric Code 2011 Edition.
2. Modular Wiring System Components shall be UL Listed to comply with NFPA 70, National Electric Code, Article 604 – Manufactured Wiring Systems.

E. Indoor Air Quality Performance: Product shall be Indoor Air Advantage GOLD certified by Scientific Certification Systems, for conformance to the requirements of California 1350 specification (Ca-DHS-EHLB-R-174 addendum 2004-1), and the Collaborative of High Performance Schools.

F. Combustibility Performance: Product shall have finishes and construction acceptable for use in Non-Combustible buildings, in accordance with Chapters 6 and 8 of the International Building Code, 2006 Edition.

1.6 DESIGN REQUIREMENTS

- A. The moveable wall system (the system) shall be rectilinear in design and expression with crisp corners and well defined horizontal and vertical elements.
- B. The system shall be 4" thick minimum, and designed and sized in horizontal and vertical modules to accommodate the partition layout indicated.
 - 1. Panel heights shall be available in 1/16" increments from a minimum of 8" to maximum of 144" as required. Actual floor to ceiling heights shall be verified in field.
 - 2. Solid panel widths shall be available in 1/16" increments from a minimum of 8" to maximum of 48" for solid panels and 60" for glass panels.
- C. Gypsum board, glass and steel panels shall be constructed of materials acceptable for use in non-combustible construction. Painted metal and wallcovering finishes shall exhibit Class 1 or Class A Surface Burning Performance.
- D. The system shall be non-progressive, allowing for removal and re-installation of panels, including door frames, at any position, without disturbing adjacent panels.
- E. Solid panels shall have [monolithic][horizontally segmented] panel faces on each side. Panel faces shall be removable and reusable, attached to the panel frame without the use of screws or other mechanical fasteners.
- F. Each unitized panel shall be able to be removed, relocated and re-installed in different layouts, with all parts reusable. Scribing and fitting of panels on site to individual locations is not acceptable.
- G. The panel/floor interface shall have a reveal, recessed 3/4" from the face of the panel on both sides and adjustable in height from 1 1/4" to 2 1/2". Surface mounted base trim not permitted.
- H. The panel/ceiling interface shall have a reveal, recessed 3/4" from the face of the panel on both sides and adjustable in height from 5/8" to 1 3/8". Surface mounted top trim not permitted.
- I. The system shall provide a vertical adjustment of not less than 2" in overall height to accommodate floor and ceiling irregularities.
- J. The system shall include a freestanding option that does not require a connection or attachment to the ceiling.
- K. The system must be erected and removed in a manner to prevent damage to adjacent building surfaces and elements, including floors, walls, ceilings, columns and window mullions. All system connectors to fixed-in-place building components shall be non-marking, removable and reusable.
- L. The system shall be capable of extending in multiple directions using 2-way, 3-way, 4-way and variable angle corner posts.

- M. Doors: [Single][Double], [sliding][butt hinged], doors utilizing adjustable metal frames. All door panels shall utilize standard panel connection methods and be reversible in field without additional modifications or materials.
- N. Provide cut-able panels in order to address irregularities in the interface between the panel system and fixed-in-place construction (i.e. sills, columns, bulkheads).
- O. Solid panels shall be capable of providing integrated, factory installed modular power & voice/data distribution utilizing plug-and-play technology for ease of panel reconfiguration.
- P. The system shall include an integrated, factory installed, modular power option. Power distribution shall be consistent and compatible with power system used in furniture system and below raised access floor.
- Q. Components shall be free of distortion and uniform in dimension, construction and appearance.

1.7 SUSTAINABILITY CRITERIA

- A. Total recycled content shall be greater than 10% combining both post-consumer and pre-consumer recycled content.
- B. Steel, aluminum and glass components shall be 100% recyclable.
- C. Polyethylene film, corrugated cardboard and wood packaging materials shall be readily recyclable.
- D. Product shall be free of hexavalent chrome, CFC's, PDBE's, persistent organic pollutants (POP's) and heavy metals.
- E. Fiberglass insulation materials shall be formaldehyde-free and have a minimum of 25% recycled content.
- F. Product shall be SCS IndoorAdvantage™ Gold certified as a low emitting product.
- G. No ozone depleting substances (ODS's) shall be used in the manufacturing process.

1.8 SUBMITTALS

- A. Product Data: Submit manufacturer's detailed materials and fabrication specifications and installation instructions. Include catalog cuts of hardware, fastenings and other data as required.
- B. Shop Drawings: Plans, sections, elevations, details and attachments to other work.
 - 1. Indicate materials, methods of construction, attachment or anchorage details, erection diagrams of pre-assembled components, connections, explanatory notes and other information necessary for completion of work. Cross reference to design drawings and specifications.
 - 2. Indicate wall layout, including doors and hardware, elevations, opening locations, special panels and conditions at adjacent construction.

3. Do not commence manufacture or order materials before shop drawings are reviewed and accepted by professional of record.
 4. Revisions to shop drawings must be provided digitally within 24 hours of request.
- C. Samples: Submit samples of each required finish and color. Prepare samples on same materials which will be used in partition assemblies.
1. Finish Samples
 - a. For initial selection: For units with factory-applied color finishes.
 - b. For verification: For each type of exposed finish and trim required.
- D. Copies of OSHA-Hazard Communication Standard; MSDS - Material Safety Data Sheets.
- E. Product test reports from approved independent testing laboratory, certifying compliance with STC Rating, Surface Burning Rating, Structural Performance and Indoor Air Quality Performance requirements.
- F. Lead Time: Provide the lead time duration from the date of shop drawing approval to the date of product shipment.
- 1.9 LEED SUBMITTALS
- A. Submit product data for the following credits in accordance to LEED 2009 for Commercial Interiors (CI):
1. Energy and Atmosphere (EA)
 - a. Credit EA 1.1 – Optimize Energy Performance – Lighting Power
 2. Materials and Resources (MR)
 - a. Credit MR 2 – Construction Waste Management
 - b. Credit MR 3.2 – Materials Reuse – Furniture and Furnishings
 - c. Credit MR 4 – Recycled Content
 - d. Credit MR 5 – Regional Materials
 3. Indoor Environmental Quality (IEQ)
 - a. Credit IEQ 3.2 – Construction IAQ Management Plan, Before Occupancy
 - b. Credit IEQ 8.1 – Daylight and Views – Daylight
 - c. Credit IEQ 8.2 – Daylight and Views – Views
 4. Innovation & Design Process (ID)
 - a. Credit IDP 1 – Innovation in Design
- B. Submit product data for the following credits in accordance to LEED 2009 for New Construction (NC):
1. Energy and Atmosphere (EA)

- a. Credit EA 1 – Optimize Energy Performance
 - 2. Materials and Resources (MR)
 - a. Credit MR 2 – Construction Waste Management
 - b. Credit MR 3 – Materials Reuse
 - c. Credit MR 4 – Recycled Content
 - d. Credit MR 5 – Regional Materials
 - 3. Indoor Environmental Quality (IEQ)
 - a. Credit IEQ 3.2 – Construction IAQ Management Plan, Before Occupancy
 - b. Credit IEQ 8.1 – Daylight and Views – Daylight
 - c. Credit IEQ 8.2 – Daylight and Views – Views
 - 4. Innovation & Design Process (ID)
 - a. Credit IDP 1 – Innovation in Design
 - C. Submit product data for the following credits in accordance to LEED 2009 for Existing Buildings (EB):
 - 1. Energy and Atmosphere (EA)
 - a. Credit EA 1 – Optimize Energy Efficiency Performance
 - 2. Indoor Environmental Quality (IEQ)
 - a. Credit IEQ 2.4 – Daylight and Views
 - D. Submit product data for the following credits in accordance to LEED 2009 for Core and Shell Development:
 - 1. Energy and Atmosphere (EA)
 - a. Credit EA 1 – Optimize Energy Performance
 - 2. Materials and Resources (MR)
 - a. Credit MR 2 – Construction Waste Management
 - b. Credit MR 3 – Materials Reuse
 - c. Credit MR 4 – Recycled Content
 - d. Credit MR 5 – Regional Materials
 - 3. Indoor Environmental Quality (IEQ)
 - a. Credit IEQ 8.1 – Daylight and Views – Daylight
 - b. Credit IEQ 8.2 – Daylight and Views – Views
- 1.10 QUALITY ASSURANCE
- A. Manufacturer Qualifications

1. All primary products specified in this Section shall be supplied by a single manufacturer with a minimum of ten (10) years experience.
 2. The manufacturer of the moveable wall system shall operate under an ISO 9001 certified quality management system.
- B. Installer Qualifications: All products listed in this section shall be installed by a single installer with a minimum of two (2) years documented experience in installing products of the same type and scope as specified, and must be approved by the manufacturer.
- 1.11 DELIVERY, STORAGE, AND HANDLING
- A. Deliver moveable wall system components cartoned or crated to provide protection during transit and job storage.
 - B. Inspect moveable wall system components upon delivery for damage. Minor damages may be repaired, provided finish items are equal to new work and acceptable to Architect. Remove and replace damaged items as directed.
 - C. Store moveable wall system components on raised platforms in vertical positions with blocking between units to allow air circulation. Keep stored material covered and protected from damage.
- 1.12 PROJECT CONDITIONS
- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install the system components under environmental conditions outside manufacturer's absolute limits.
 - B. Environmental Limitations: Do not deliver or install the system components until building is enclosed and finishing operations, including ceiling and floor covering installation and painting, are completed.
 - C. Field measurements: Indicate all site dimensions including ceiling heights and "hold-to" dimensions on shop drawings.
 - D. Coordination of work: Coordinate layout and installation of the system components with other units of work. Installation of ceilings, floor coverings, lighting fixtures, HVAC equipment and fire suppression systems should be complete before the system components are installed.
- 1.13 WARRANTY
- A. Submit, for Owner's acceptance, manufacturer's standard limited warranty document executed by authorized company official.
 1. Warranty period: Ten (10) years from date of substantial completion.
- 1.14 ATTIC STOCK
- A. Furnish items in original packaging clearly labeled with part number and description. Store in location designated by the Owner.
 - B. Provide additional moveable wall system components to match installed materials.

1. Unitized Panels, including frames and accessories required for installation.
 - a. Solid Panels: _____
 - b. Glazed Panels: _____
 - c. Combination Panels: _____
 - d. Cut-able Panels: _____
 - e. Door Panels: _____

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Haworth, Inc. One Haworth Center, Holland, MI 49423-9576, telephone 616.393.3000, www.haworth.com.
- B. Substitutions: Not permitted.
- B. Requests for substitutions will be considered in accordance with provisions of Section 012500, Substitution Procedures.

2.2 PRODUCT

- A. Basis of Design: Provide Enclose by Haworth, Inc., or comparable product by one of the following:
 1. [As determined by Architect]
 - 2.
 - 3.
 - 4.

2.3 MATERIALS

- A. Aluminum extrusions: ASTM B221
- B. Insulation: Urea-formaldehyde free batt insulation, factory installed in all solid panels.
- C. Cladding/Panel Faces
 1. Steel panels: Minimum 18 gauge steel, epoxy powder coated.
 2. Wood Composite Panels: Factory finished wood composite available with low pressure laminate, high pressure laminate or wood veneer to manufacturer's standard.
 3. Wall covering-faced gypsum board: ASTM C1396, 1/2" thick gypsum board with edges enclosed in an aluminum frame, surfaced with a minimum 0.15mm thick wall covering.
 4. Glass Marker Board: ASTM C1036, 3/8" thick available as standard or low iron Glass, and either back painted white or steel backed/magnetic.

5. Panels faces containing MDF must utilize fire rated material with no added urea formaldehyde and shall be certified to SCS Air Advantage Gold.

D. Doors and Hardware

1. Provide doors in accordance with Section 081416, Flush Wood Doors.
2. Provide hardware in accordance with Section 087100, Door Hardware.
3. Provide woodwork in accordance with AWI, Architectural Woodwork Standards, Custom Grade.

E. Glass and glazing materials

1. Provide glass and glazing in accordance with Section 088000, Glazing.
2. Glazing sections: Resilient ABS, extruded glazing section to suit glazing channel retaining slot, to partition system manufacturer's standard, gaskets for setting glass.

2.4 UNITIZED PANEL TYPES

A. Solid Panels

1. Cladding

- a. Steel panel
- b. Wall covering-faced gypsum board
- c. Wood composite panels with wood veneer or laminate
- d. Glass marker board
- e. Porcelain or powder coated steel marker board

2. Solid panel faces shall be secured to panel frame with continuous ABS retention strip.
3. Extruded aluminum frame: Minimum 0.05" thick, stile and frame with corner brackets, installed for full frame rigidity.
4. Acoustical insulation core: Urea-formaldehyde free batt insulation.

B. Glazed Panels

1. Extruded aluminum frame; minimum 0.05" thick, stile and frame with corner brackets, installed for full frame rigidity.
 - a. Monolithic: [1/4"] [5/16"] [3/8"] thick glass panel, [tempered] [laminated], ceiling height, fit to frame with neoprene glazing gaskets.
 - b. Segmented: [1/4"] [5/16"] [3/8"] thick glass panels, [tempered] [laminated], in up to eight (8) horizontal segments as per approved elevations, fit to aluminum frame with ABS glazing gaskets and supported/separated horizontally by muntins.
 - c. Width of vertical mullions and horizontal muntins: 7/8" maximum

- C. Combination Panels: Full height, extruded aluminum frame, with horizontally segmented solid panel faces and glazed panels, separated by horizontal, extruded aluminum cross member not to exceed 7/8" high.
- D. Cut-able Panels: Solid panels with the inclusion of extended panel faces on one vertical edge providing cut-able surfaces to fit to irregularities in fixed-in-place construction (i.e. sills, columns, bulkheads) where required.
- E. Door panels
 - 1. Door frames: Extruded aluminum, ceiling height, to accommodate and support [1-3/4" thick, [solid core wood doors][aluminum door with 1/4" [tempered][laminated] glass panel][3/4" tempered glass slab door], with fixed stops.
 - a. Prepare for hardware specified in Section 087110, Door Hardware.
 - b. Pivot doors must include continuous vinyl seal or brush on door stop.
 - 2. Provide door frames with integrated glazed transom; dimensions as per approved elevations.

2.5 FABRICATION

- A. Fabricate the moveable wall system off-site in a controlled factory environment and deliver panels fully finished to site for installation with no additional assembly, construction or finishing required.
- B. Frameless glass wall assemblies greater than 60" wide may be delivered and site assembled as non-unitized components.

2.6 FURNITURE INTEGRATION REQUIREMENTS

- A. Moveable wall system shall be a companion system to a compatible furniture product line from the same manufacturer. Companion products shall include systems furniture, wood office suites, storage components, tables and architectural case goods. The companion wall and furniture systems must incorporate identical/compatible surface finishes, trim details and design logic.
- B. Solid panels shall come standard with integral support for wall mounted furniture components at any elevation. Furniture mounting capability must include work surfaces, storage units, systems furniture panels, flat screen monitors and shelving. Support must be provided without compromising acoustic performance and without the addition of external or surface mounted support mechanisms.
- C. Provide off-module mounting of furniture components and accessories (whiteboards, tack boards, storage components) at any elevation through the use of a horizontal accessory rail. This rail must not impact the wall system STC performance when in use. The horizontal, off-module mounting rail shall be removable and relocateable for application at any solid wall location. Do not mount at locations where its function is not required.

2.7 CONNECTION METHODS

- A. Moveable wall system to ceiling: Extruded aluminum track, attached to ceiling grid using non-marking clip, lined with closed cell neoprene seal. Ceiling track shall support extruded ABS top reveal profile, friction fit to track providing a continuous top channel for panel system. ABS channel shall fit securely against interior panel faces to ensure integrity of acoustic and visual barrier.
- B. Moveable wall system to floor: Integrated extruded aluminum channel/base assembly, designed to grip and hold to carpet flooring without damage to floor surface. Threaded adjustable leveling legs with leveler saddles set into floor channel. Sidewalls of channel shall fit securely against interior panel face on both sides of panel without gaps.
- C. Moveable wall system to fixed-in-place construction: Extruded aluminum wall start channel, affixed to permanent building components without the use of permanent fasteners, lined with closed cell neoprene seals.
- D. Panel to panel, door frame or post connector: Continuous, extruded ABS connector applied to aluminum frame providing a 5/16" reveal, recessed 3/16" from panel face and ensuring integrity of sound and light seal.
- E. Panel face to frame: Continuous, extruded ABS retention clip affixed to back of panel face secured to aluminum frame.
- F. Moveable wall system to furniture; Solid panels shall be capable of supporting furniture components at any elevation, by means of slotted channels incorporated in the upright sections of the extruded aluminum panel frame.
- G. Cut-able panel to fixed-in-place construction: Panels cut on site, fitted with extruded aluminum end cap and closed cell neoprene seal providing a continuous, clean interface with the panel and fixed-in-place elements.
- H. For all exposed ends and corners, provide one piece aluminum extrusion to match panel finish, attached to end panel with standard panel-to-panel connector.

2.8 FINISHES

- A. Aluminum surfaces: Finish exposed surfaces of aluminum components to AA DAF45. Textured or metallic powdercoat finish. Non-repairable, anodized aluminum finishes are unacceptable.
- B. Wood Surfaces: [Wood veneer][Laminate] to manufacturer's standard and AWS Custom Grade.
- C. Steel Surfaces: Epoxy powder coated. Color as selected by Architect from manufacturer's standard range.
- D. Gypsum Board Wall Covering: Minimum .15 mm thick vinyl, fabric or environmental wall covering. Color and pattern as selected by Architect from manufacturer's standard range.
- E. ABS extrusions: Selected from manufacturer's samples.

2.9 POWER AND COMMUNICATIONS

- A. In solid panels, provide a factory installed [8-wire, 3-Circuit][8-wire, 4-circuit] modular power system including conduit, power feeds, power distribution assembly and panel mounted boxes with [15 amp][20 amp] triplex receptacles. Locate devices in accordance with [approved Shop] Drawings.
- B. Supply power to the panel power distribution assembly via [ceiling/panel top][floor/panel base][horizontal/panel base], [internal hardwire pigtail][internal powerbase quick-connect].
- C. Provide horizontal, solid panel-to-solid panel power distribution by the use of internal jumpers in the panel base cavity.
- D. Provide device boxes containing receptacles to provide voice/data housing with faceplate knock-out.
- E. Provide power/communications devices on either panel face at height[s] of [51 ½",][35 ½",][19 ½"][and] [6 ¼"] from center of receptacle to the bottom edge of the panel.
- F. Provide factory installed light switches on either panel face at 41-5/8" from center of device to bottom edge of the panel.
- G. Furnish voice/data cabling, devices, and faceplates for thermostats and other devices.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install the moveable wall system under manufacturer's approved, direct supervision to ensure performance and compatibility with design and specification intent.
- B. Erect the moveable wall system rigid, level, plumb and aligned. Install continuous light and sound seals at connection to floors, ceilings, fixed walls and abutting surfaces.
- C. Coordinate the moveable wall system installation with work of other trades which are affected. Avoid damage to installed work.
- D. Repair damaged or defaced work or replace with new work, as acceptable to Architect. Completely refinish defaced partition components with factory finished materials, or replace defaced components.
- E. Install doors and hardware as specified in Sections 081416 and 087100. Adjust hardware and doors and leave in proper operating condition.
- F. Installation of voice/data cabling and devices: See Divisions 26 and 27.
- G. Acoustical Gaskets and Sealant: Seal cut-outs in panels, penetrations through partitions, and intersections with adjacent construction. Use gaskets where practical; use sealant at other locations and at fire rated partitions.

3.2 PROTECTION

- A. Protect installed moveable wall system components until completion of project.

Enclose

- B. Touch-up, repair or replace damaged moveable wall system components before Substantial Completion.

END OF SECTION

SECTION 102219

OFFICE PARTITION SYSTEMS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes
 - 1. Partition Framing System.
 - 2. Partition Glazing.
 - 3. Doors.
 - 4. Partition insulation.
 - 5. Frames for Doors and Glazing.
 - 6. Trim, Sealants, Hardware and Accessories.

1.3 RELATED SECTIONS

- A. Section 081113 – Steel Doors and Frames
- B. Section 081416 – Wood Doors
- C. Section 087100 – Door Hardware
- D. Section 088000 – Glass and Glazing
- E. Section 096500 – Resilient Flooring
- F. Section 096816 – Carpeting
- G. Section 099000 – Painting
- H. Section 097200 – Wall Coverings

1.4 REFERENCES

- A. ANSI/BIFMA X5.5-2008 (Desks and Tables)
- B. ANSI/BIFMA X5.6-2003, Standard for Panel Systems
- C. ANSI/BIFMA X5.9-2004 (Storage Units)
- D. ANSI/BIFMA X7.1 – 2007ASTM E 72 - Standard Test Methods of Conducting Strength Tests of Panels for Building Construction

- E. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials
- F. ASTM E 90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements
- G. ASTM E 119 - Standard Test Methods for Fire Tests of Building Construction and Materials
- H. ASTM E 413 - Classification for Rating Sound Insulation
- I. Federal Test Method Standard No. 406, Method 1074
- J. Federal Specification (FS), FS CCC-W-408A - Wall Covering-Vinyl Coated
- K. Federal Specification (FS), FS HH-I-521 - Insulation Blankets, Thermal (Mineral Fiber, for Ambient Temperatures)
- L. GREENGUARD Environmental Institute (www.greenguard.org), GREENGUARD Standard for Low Emitting Products
- M. Underwriters Laboratories (UL), Inc. Fire Resistance Directory
- N. Warnock Hersey International (WHI), Certification Listings

1.5 MANUFACTURER CRITERIA

- A. Panel system shall have been manufactured for more than 10 years.
- B. The panel system and storage products shall be manufactured in an ISO 9001 certified plant.
- C. Manufacturer shall offer a program that provides extensive training and installation certification.

1.6 PERFORMANCE REQUIREMENTS

- A. Sound Transmission Classification: Test in accordance with ASTM E 90 by an independent agency and classified in accordance with ASTM E 413.
 - 1. Inserts: NRC .50 and STC 22.
 - 2. Standard Panels: NRC .65 and STC 24.
- B. Structural Performance: Test in accordance with ASTM E 72.
 - 1. Partitions must be capable of withstanding a uniformly distributed load of 5 psf applied perpendicular to the partition without exceeding deflection of 1/240 of the partition height.
- C. Panel shall conform to BIFMA ANSI/BIFMA X5.6-2003 Standard for Panel Systems requirements.
- D. Standard Panel Fabrics shall comply with NFPA 701, method 1, requirements or be tested in accordance with ASTM E 84 or UL 723, on entire assembled panel and have a

flame spread rating not exceeding 25 and a smoke development rating not exceeding 450 (Class A Flammability Requirements).

- E. Panels must meet Greenguard indoor air quality requirements or ANSI/BIFMA X7.1 - 2007 indoor air quality requirements.
- F. Systems Panels shall be listed to UL 1286.
- G. Task Lighting products shall meet the requirements of the UL Standard 153 portable electric luminaries and CSA standard for portable luminaries C22.2.12.
- H. Storage pedestals, files are compliant with ANSI/BIFMA X5.9-2004 (Storage Units) or X5.6-2003 (Panel Systems with overhead shelving and units).
- I. Freestanding elements shall conform to ANSI/BIFMA X5.5-2008 (Desks and Tables).

1.7 SUSTAINABILITY CRITERIA

- A. Total recycled content shall be greater than 45% combining both post-consumer and pre-consumer recycled content.
- B. All metal components shall be 100% recyclable.
- C. All materials shall be free of hexavalent chrome, CFC's, and PDBE's.
- D. Adhesives used shall be solvent free and free of any hazardous air pollutants.
- E. Metal parts shall be powder coated and finished with a durable VOC-free finish which is applied in a process that generates low levels of recyclable waste.
- F. Forest Stewardship Council (FSC) certified materials must be available or on special order basis.
- G. Product shall be GREENGUARD Indoor Air Quality Certified as low emitting furniture meeting LEED requirements of IEQ 4.5 Low Emitting Furniture.

1.8 SUBMITTALS

- A. Product Data: Submit manufacturer's detailed materials and fabrication specifications and installation instructions. Include catalog cuts of hardware, fastenings and other data as required.
- B. Shop Drawings: Submit shop drawings for fabrication and erection of partition assemblies which are not fully described by manufacturer's data. Show anchorage and accessory items and finishes.
- C. Samples: Submit samples of each required finish and color. Prepare samples on same materials which will be used in partition assemblies.

1.9 QUALITY ASSURANCE

- A. Manufacturer Qualifications: All primary products specified in this section will be supplied by a single manufacturer with a minimum of ten (10) years experience.

- B. Installer Qualifications: All products listed in this section are to be installed by a single installer with a minimum of five (5) years demonstrated experience in installing products of the same type and scope as specified.
 - C. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
 - 1. Finish areas designated by Architect.
 - 2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
 - 3. Refinish mock-up area as required to produce acceptable work.
 - D. Worksurfaces shall be capable of supporting the "BIFMA" functional load of 1.5 pounds of linear inch of perimeter and deflection not exceeding .0055 inches per linear inch of width.
- 1.10 DELIVERY, STORAGE, AND HANDLING
- A. Deliver office partition system components cartoned or crated to provide protection during transit and job storage.
 - B. Inspect partition components upon delivery for damage. Minor damages may be repaired, provided finish items are equal to new work and acceptable to Architect. Remove and replace damaged items as directed.
 - C. Store partition components on raised platforms in vertical positions with blocking between units to allow air circulation. Keep stored material covered and protected from damage.
- 1.11 PROJECT CONDITIONS
- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
- 1.12 WARRANTY
- A. At project closeout, provide to Owner, or Owner's Representative, an executed copy of the manufacturer's standard limited warranty against manufacturing defect, outlining its terms, conditions, and exclusions from coverage. Provide lifetime warranty on all products except those listed below:
 - 1. 10-year warranty on all electrical components, electrical accessories and fixed task lighting, excluding underfloor power; seating mechanisms* excluding those in wood or wood framed chairs; upholstery foam, seat and back mesh, seating glides and casters; stack chair frames; wall products.
 - 2. 10-year warranty on all products that are at any time used in a classroom or educational environment (other than administrative areas), except products listed below.

3. 5-year warranty on wood or wood framed products and wood chairs including their mechanisms; gel arm caps; fabric scrims and fabrics rated (A) heavy duty under the Association of Contract Textiles guidelines; user-adjustable worksurface mechanisms; thermofused laminates; slow-close mechanisms; ambient and flexible task lighting; horizontal glass or thermoplastic table assemblies and JumpStuff products other than Boogie Board (lifetime).
4. 3-year warranty on all flooring products, including underfloor power, other than factory-applied surfaces; plastic ultraviolet light color fastness; fabrics rated (A) General Contract under the Association of Contract Textile guidelines*.

1.13 ATTIC STOCK

- A. Furnish items in original packaging clearly labeled with part number and description. Store in location designated by the Owner or Owner's representative.
- B. Provide additional partition system components to match installed materials.
 1. Wall Components: Provide sufficient components to construct _____ linear feet of two-sided partition. Provide trim for _____ inside corners, _____ outside corners, and _____ "T" intersections.
 2. Frames: _____.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Haworth, Inc. One Haworth Center, Holland, MI 49423-9576, telephone 616.393.3000, www.haworth.com.
- B. Substitutions: Not permitted.
- B. Requests for substitutions will be considered in accordance with provisions of Section 012500, Substitution Procedures.

2.2 PRODUCT

- A. Basis of Design: UniGroup Too by Haworth, Inc. or comparable product by one of the following:
 1. Action Office by Herman Miller Inc.
 2. Kick by Steelcase Inc.
 3. Concensys by Allsteel

2.3 PANEL REQUIREMENTS

- A. All panels shall have an overall thickness of 2".
- B. Panel shall be capable of being monolithic, segmented and stackable.
- C. Panel surfaces must be capable of being replaced or reupholstered in the field.

- D. Frames shall consist of four roll-formed cold rolled steel tubes welded together at the corners into a rectangular frame and finished using an e-coating process. Frames shall be load bearing.
- E. Panels shall be reinforced to accommodate cantilevered work surfaces, shelves and storage units.
- F. Panels shall have integrated slots in the vertical frame that allow components to be mounted in 1" increments.
- G. Panel shall have leveling glides with a minimum 1.5" height adjustment and carpet grippers.
- H. Panels must be available in nominal widths 18", 24", 30", 36", 42", 48" and 60" (+/- 2")
- I. Panels must be available in nominal heights: 30", 37", 44", 50", 56", 64", 68" and 82" (+/-2")
- J. Tile surfaces shall include: fabric/acoustical, wood veneer, laminate, marker board, slat.
- K. Panels shall have the capability to stack up to 80" and connect to one another via a bolted connection.
- L. Panel connectors must be universal for use in all 90 degree conditions (2-,3- and 4-way conditions shall be orderable as a single line item).
- M. Panels shall have the ability to make midpoint ("T-mount") connection without defacing the surface of the panel.
- N. Panels shall be able to wrap a standard 48", 60", 72" x 30" desk / table without additional stretchers, fillers, or the use of special sized panels.
- O. The panel base raceway thickness shall not exceed the thickness of the panel. Base raceway shall contain all concealed electrical components.
- P. Panels shall offer side independent surfaces that include monolithic and segmented in multiple material finishes.
- Q. Panels 64" to 82" (+/- 2") shall provide sliding door.
- R. Include all hardware as required to attach partition to adjacent construction.

2.4 FABRIC PANEL CONSTRUCTION

- A. Panel core: Four 20-gauge (0.035", 0.89mm) u-shaped roll-formed steel frame surrounding a fully-expanded Kraft-paper honeycomb core; two perforated 28-gauge (0.015", 0.38mm) perforated steel epoxy-coated skins bonded to the four frame rails and honeycomb with adhesive
- B. Leveling glides: Cold-headed steel with molded plastic leveling foot; 1.5" vertical adjustment
- C. Top Trim

1. Painted steel: 20-gauge (0.035", 0.89mm) roll-formed steel; powdercoat paint finish
 2. Painted aluminum: 20-gauge (0.035", 0.89mm) extruded aluminum; powdercoat paint finish
- D. Vertical Trim
1. Painted aluminum: 14-gauge (0.083", 2.11mm)
- E. Base Raceway Trim
1. Molded PVC plastic with sliding ABS inserts: 18-gauge (0.050", 1.3mm)
- 2.5 GLASS PANEL CONSTRUCTION
- A. Four extruded aluminum rails, connected by threaded fasteners; glazing material is 23-gauge (0.25", 6.4mm) thick tempered glass
- B. Leveling glides: Cold-headed steel with molded plastic leveling foot; 1.5" vertical adjustment
- C. Top Trim: Painted steel, painted extruded aluminum
1. Painted steel: 20-gauge (0.035", 0.89mm) roll-formed steel; powdercoat paint finish
 2. Painted aluminum: 20-gauge (0.035", 0.89mm) extruded aluminum; powdercoat paint finish
- D. Vertical Trim
1. Painted aluminum: 14-gauge (0.083", 2.11mm)
- E. Base Raceway Trim
1. Molded PVC plastic with sliding ABS inserts: 18-gauge (0.050", 1.3mm)
- 2.6 PANEL CONSTRUCTION
- A. Fabric Inserts
1. Panel core: Four 20-gauge (0.035", 0.89mm) u-shaped roll-formed steel frame surrounding a fully-expanded Kraft-paper honeycomb core; two perforated 28-gauge (0.015", 0.38mm) perforated steel epoxy-coated skins bonded to the four frame rails and honeycomb with adhesive
 2. Insert: 0.1875", 4.76mm no-added formaldehyde molded fiber pad insert, covered with specified fabric
 3. Leveling glides: Cold-headed steel with molded plastic leveling foot; 1.5" vertical adjustment
 4. Top Trim:

- a. Painted steel: 20-gauge (0.035", 0.89mm) roll-formed steel; powdercoat paint finish
 - b. Painted aluminum: 20-gauge (0.035", 0.89mm) extruded aluminum; powdercoat paint finish
5. Vertical Trim
- a. Painted aluminum: 14-gauge (0.083", 2.11mm)
6. Base Raceway Trim
- a. Molded PVC plastic with sliding ABS inserts: 18-gauge (0.050", 1.3mm)
- B. Add-On Panels (Fabric)
- 1. Panel core: Four 20-gauge (0.035", 0.89mm) u-shaped roll-formed steel frame surrounding a fully-expanded Kraft-paper honeycomb core; two perforated 28-gauge (0.015", 0.38mm) perforated steel epoxy-coated skins bonded to the four frame rails and honeycomb with adhesive
- C. Add-On Panels (Glass)
- 1. Four extruded aluminum rails, connected by threaded fasteners; glazing material is 23-gauge (0.25", 6.4mm) thick tempered glass

2.7 WORKSURFACES REQUIREMENTS

- A. Worksurfaces shall be available in widths from 24"-120" in 3" increments.
- B. Worksurfaces shall be available in depths 18", 24" and 30".
- C. Worksurfaces shall be a minimum 1 3/16" in thickness
- D. Worksurfaces shall be edged in ABS edge band or vinyl T-mold.
- E. Worksurfaces shall be offered in wood veneer or plastic laminate.
- F. Worksurfaces shall be of a minimum 45# density particleboard. The core shall be of a balanced construction between a laminate or veneer top and a backer sheet
- G. Worksurfaces shall offer a sustainable core material consisting of 100% recycled wood fiber or 100% post-consumer recycled wood waste bonded with no-added urea formaldehyde resin.
- H. The end panels shall be the full depth (nominal) of 12", 18", 24" & 30" work surfaces. The end panels shall have 2 adjustable glides for leveling. End Panels shall be both laminate and wood finishes.
- I. Work surfaces shall be predrilled to accept pedestals and/or cantilevers.
- J. Provide a grommet openings for wireway management.

- K. Work surfaces shall be capable of supporting the “BIFMA” functional load of .5 pounds of linear inch of perimeter and deflection not exceeding .005 inches per linear inch of width.

2.8 WORK SURFACE CONSTRUCTION

- A. Thickness: 1.1875”.
- B. Standard core: Engineered composite made with 100% recycled and/or recovered wood fiber bonded with resin, minimum 45 lbs. density; underside finished with paper backing material; compliant with Greenguard and ANSI/BIFMA Standards for Low-Emitting Products.
- C. Green core: Engineered composite made with 100% recycled wood fiber or 100% post-consumer recycled wood waste bonded with no-added urea formaldehyde resin, minimum 45 lbs. density; underside finished with paper backing material; compliant with Greenguard and ANSI/BIFMA Standards for Low-Emitting Products .
- D. Deflection: Capable of supporting 200 lbs. with a deflection of no more than (0.0313”) per foot.
- E. Locating holes: Work surface to be pre-drilled with locating holes to accept cantilever supports and/or pedestal storage units.
- F. Laminate covering: High Pressure Laminate
 - 1. 0.030”, 0.76mm thickness
 - 2. 0.118”, 3mm radius t-mold edgeband
 - 3. 0.118”, 3mm radius edgeband on user edge, 0.039”, 1mm edgeband on remaining edges
- G. Wood Veneer
 - 1. 0.020”, 0.51mm thickness
 - 2. 0.118”, 3mm radius edge band on user edge, 0.028”, 0.7mm edgeband on remaining edges
- H. Work Surface Support Construction
 - 1. Cantilever brackets
 - a. Main cantilever brackets: 12-gauge (0.105”, 2.7mm) steel
 - b. Corner cantilever brackets: 14-gauge (0.075”, 1.90mm) steel
 - 2. Flush-mount plates: 11-gauge (0.120”, 3.05mm) steel
- I. End Panel
 - 1. Wood composite core 1.5”, 38.1mm thick
 - 2. Laminate or wood veneer facings

3. 0.118", 3mm radius plastic edge band
4. 0.100", 2.5mm thick wood edge band
5. Leveling glides providing 2.25", 57.2mm of adjustment range

2.9 UTILITIES - COMMUNICATIONS REQUIREMENTS

- A. Communication pathways shall be available at the base of the panel. The pathways shall accommodate a minimum of 9 cables at the base with a 0.25" diameter cable @ 40% fill (in powered panels).
- B. Panel shall provide capability to route communication cabling both vertically and horizontally within the panel.
- C. Panel shall provide options for the mounting of single gang and modular telecommunications outlet faceplates.
- D. Panel shall provide for the lay in of communication cables that does not require feed through from panel to panel in the base raceway.
- E. Routed cables shall be accessed from either side of the panel base raceway.
- F. Cable management poles shall provide capability to route communication cabling from the ceiling to the base of a panel.
- G. Cable management in panel must be capable of maintaining the minimum bend radius required for fiber optic cable .
- H. Horizontal cable management from panel to panel at desk height and base.
- I. Vertical cable manager for managing cables on the panel surface.
- J. Cable storage trays for mounting below the work surface.
- K. Worksurface data and receptacle ports must be offered as an option.
- L. Every panel offered in the series shall have a vertical cable way with the exception of glass panels.
- M. Panels shall be capable of being ported (data and power) above and below the worksurface.
- N. All worksurfaces shall be specifiable with a grommet opening for communications and wire management.

2.10 UTILITIES - POWER REQUIREMENTS

- A. All electrical components shall be UL 1286 and/or 183 & CSA listed and meet the applicable requirements of the National Electrical Code/ Canadian Electrical Code.
- B. All panels shall be shipped with a raceway capable of distribution of 3- or 4-circuit, 20 amp (15 amp Canada) circuits..

- C. All Panels shall have the ability to ship with or without power installed. Retrofit kit must be made available to power non-power panels after installation.
- D. All hot and neutral conductors of the electrical distribution system shall be minimum #12AWG. If shared neutrals are used the conductors must be minimum 10 AWG.
- E. The product shall have component options that comply with Chicago and New York City codes.
- F. Under work surface cord management for power shall be available.
- G. Power pole shall be capable of carrying 3- or 4-circuit, 20 amp (15 amp Canada) electrical circuits plus the capability of carrying (16) 0.25 diameter cables @ a 40% fill rate.
- H. Power pole widths shall be equal to the thickness of the panels and the pole finish shall match the finish of the panel trim
- I. Power pole shall be capable of being opened along the length of the vertical of the pole to permit lay-in of wiring.
- J. Power pole must be totally supported by the panel system and be available for a minimum ceiling height of 10'.
- K. Panels 30" to 60" wide must have power available at the base and desk height (32" to 38") above the finished floor.
- L. Receptacles shall be offered in a field programmable version for 3 circuit application. Circuit identification on each receptacle should be easily seen by user. Isolated ground receptacles must be permanently marked with the proper symbol identification.
- M. Panels 30" and wider must have the ability to provide a minimum four duplex per panel.
- N. The panels shall be able to be powered from the floor or ceiling building source with systems in feed module or top feed pole.
- O. For 3 circuit power, 15A receptacles are field programmable with all circuits able to access the isolated ground.
- P. For 4 circuit power, 15A receptacles are shipped with factory set circuit identified on the face of the receptacle.
- Q. Worksurface mounted receptacle shall be available to mount into surface grommet or clamp on back edge.
- R. The modular electrical system must be available with UL 1286 and UL 183 Listed components.
- S. Panel base raceway covers shall have factory installed knockouts (4 per panel, 2 each side).
- T. Separate cable / power drop panel 6" to 12" in width that manages wire internally and allows for triplex power outlets at desk height in panel.

- U. External base in feed modules shall be capable of mounting into every base receptacle outlet location.
- V. The modular electrical system should be available with 100% PVC-free components.

2.11 PANEL POWER CONSTRUCTION

- A. 3- or 4-Circuit (2+2, 3+1) 8-wire system.
- B. 3-Circuit: 3 hot/3 neutral/1 ground/1 isolated ground rated at 20 amps; (8) 12-gauge copper wires.
- C. 4-Circuit (2+2): 2 hot/1 neutral/2 hot/1 neutral/1 ground/1 isolated ground rated at 20 amps; (6) 12-gauge copper wires (hot and grounds), (2) 10-gauge copper wires (neutrals).
- D. 4-Circuit (3+1): 3 hot/1 neutral/1 hot/1 neutral/1 ground/1 isolated ground rated at 20 amps; (6) 12-gauge copper wires (hot and grounds), (2) 10-gauge copper wires (neutrals).
- E. Wire covering: Flex Noryl PVC-free
- F. Component housings: Flex Noryl PVC-free
- G. UL 457U Type 1 listed
- H. CSA Standard C22.2 No. 203 certified

2.12 UPPER STORAGE SHELF AND OVERHEAD STORAGE UNITS (OSU)

- A. OSU shall have a formed stop at top rear edge of shelf to protect panels.
- B. All door types shall be available with optional slow close mechanism.
- C. OSU shall be available with or without locks.
- D. OSU shall be available in 24", 30", 36", 42", 48", 54", 60", 66", and 72" widths with a depth of 14" and height of 16".
- E. OSU shall include the top, door front with or without lock, end panels, shelf with back stop, and hardware.
- F. The door of the OSU shall recede over the top providing the maximum usable interior storage.
- G. OSU and shelf shall be roll-formed painted steel so the front edge conceals optional task light.
- H. Locks shall be standard in black or chrome and lock options shall include keyed-alike and master-keying.
- I. All units shall secure in place by an anti-dislodgment clip.
- J. All units shall accept separately specified task lights of equal or shorter length.

- K. Painted steel shelf dividers shall be available for both shelves and overheads.
- L. Shelf widths shall include 24", 30", 36", 42", 48", 54", 60", 66", and 72".
- M. Shelves shall have a depth of 13¼" and shelf ends shall have a height of 8".
- N. Shelf shall accommodate under mounting of task lights of equal or shorter length.
- O. Shelf and OSU shall be installed on equivalent width of one or more panels.
- P. The shelf shall have powder paint finish.
- Q. OSU and shelf shall be shipped unassembled.
- R. Upper Storage Construction
 - 1. Top: 18-gauge (0.048", 1.2mm) steel
 - 2. Shelf: 18-gauge (0.048", 1.2mm) steel
 - 3. End panels: 16-gauge (0.060", 1.5mm) steel
 - 4. Steel door: 22-gauge (0.030", 0.76mm) steel
 - 5. Wood door: 0.6875", 17.5mm thick door with wood composite core and wood veneer over the face and balancing backer on the back, wood veneer edges
 - 6. Acrylic insert door: Extruded aluminum frame with powdercoat paint finish with (0.125", 3.2mm) thick pane of acrylic (PETG)
- S. Movement
 - 1. Doors open and recede over the top of the cabinet.
 - 2. Steel ball-bearing slides and hinges
 - 3. Available with or without locks.
 - 4. Gas-assisted cylinder slow-close mechanism
 - 5. 14-gauge (0.075", 1.9mm) brackets to allow off-modular attachment to panel

2.13 TASK LIGHTING

- A. Task lights shall require no special tools for removal.
- B. Task lights shall be available in at least three basic widths to fit under overhead storage components from 30" wide to 72" wide.
- C. Task lighting shall meet the requirements of the appropriate UL Standard (153 Portable Luminaries, UL 1598 Luminaries).
- D. Task lights shall offer an electronic high-efficiency ballast.
- E. The light cord shall be heavy duty with a grounded plug and be a minimum of 6' but to 9' in length.

- F. All task lights shall include the lamp and lens cover.
- G. Task lights shall offer a diffuser and reflector shall provide veiling uniformity.
- H. Panel supported ambient lights shall be available
- I. Task lights shall be equipped with T8 bulbs.
- J. Task lights shall have an option for LED technology which could be freestanding, work surface mounted, or panel mounted.
- K. Task lights must have the ability to daisy chain to one another to a maximum of five units per power source.
- L. Task Light Construction
 - 1. 24-gauge (0.023", 0.61mm) roll-formed steel, powdercoat paint finish.
 - 2. Ballast
 - 3. Energy Star-rated electronic ballast
 - 4. UL listed
 - 5. Lamp
 - 6. T8 3500K Tri-Phosphor Octic lamp with low mercury content
 - 7. Rated for 20,000 hour life

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install in accordance with manufacturer's instructions.

END OF SECTION

To Whom It May Concern -

RE: Project Number GSD136433 - *Section 102220*

I'm writing to request clarifications and/or additional information needed to accurately prepare a bid submission for the demountable partitions scope on the above referenced RFQ for the State of West Virginia New State Office Building, Clarksburg, West Virginia.

Below, you will find examples of conflicting or missing information needed to complete our submission. Please provide additional direction as soon as possible to allow us to proceed. In essence, we are at a standstill until we receive your response

Please note that these are examples of conflicting information however; they are not a 100% commentary on the full set of elevations in comparison to the finish schedule. They are merely representative of a larger issue of mis-tagging pervasive throughout all sheets of demountable partition plans and elevations, sheets A606 - A625.

Questions/Clarifications:

1. Sheets A607 & A608 include a "DIRTT Finish Schedule" identifying specific finishes tagged to specific locations applicable across the entire demountable partitions scope. As such, competitive bidders are at a disadvantage to know how our product aligns... the specific nature of the schedule does not establish a grade level for others to bid against. Please provide a performance spec and grade range for all demountable partition finishes.
2. The same "DIRTT Finish Schedule" referenced in #1 above has coordination issues between the schedule and the elevations such as (reference attachments):
 - a. Attachment A - DIRTT finish schedule: Provides tagging for finishes M1 thru M9, omits M10 and ends with M11. Attachment B - Sheet A612, elevation AF... indicates an M10 finish as do others on this sheet and throughout the drawing set. Please clarify if M10 is a valid finish and what it is.
 - b. Attachment C - Sheet A608, elevation AH:
 - i. Each door and lower run of windows is tagged with M7 and ES. Please clarify what ES is.
 - ii. The tiles flanking each side of the door are called out as M11 and the tile directly over the door is called out as M4 however; the tiles directly over the M11 tiles and next to M4 are not called out. What is the intent?
 - iii. The partial plans associated to elevations AM and AO show electrical and data as component elements of the partitions however the print is blurry to the point that we would like additional clarification on what these items are to be: are they a duplex outlet on the north side elevation and a quadraplex outlet with ganged data face plate on the south side?
 - c. Attachment D - Sheet A608, elevation AG: Each door and lower run of windows is tagged with M7 and SS. Please clarify what SS is. This situation occurs across several elevations.
 - d. Attachment E - Sheet A611, elevation T: Two (2) tiles along the elevation run are tagged as "no tile"; please indicate your intent in these locations as they occur across more than just this elevation.

Thank you. We look forward to completing an accurate and competitive bid for your consideration.

Jeffrey Hess

Senior Architectural Interiors Specialist - Eastern Region

c: 410.952.5223 | f: 202.628.5235 | e: jeffrey.hess@haworth.com

575 7th Street NW, Suite 200, Washington, DC 20004 USA | 202.478.7300

haworth.com

HAWORTH

*Kelli D. Bragg
Capitol Business Interiors
Charleston, WV.*

*Kbragg @ Champion-industries.com
304.343.7551*