**BVD ANALYSIS: PERFORMANCE CRITERIA JUL2015**

**ENCLOSURE (1)**

**DORM and QUARTERS WOOD FURNITURE (BEQ)**

General Features:

* Coordinated Suite of Room Module Furniture
* Lockable with end user provided standard size padlocks
* Heavy duty construction
* Combination of dry construction and acceptable adhesives
* Full range of available wood finishes
* Greenguard, MAS Green or SCS certified
* Products must be available on a NAVSUP BPA

**DORM AND QUARTERS WOOD FURNITURE TECHNICAL SPECIFICATIONS**

This specification establishes the minimum requirements for the acquisition and installation of the complete and usable suite of dorm furniture composed of wood panels, supporting components, heavy duty hardware, locking features, special electrical features and accessories.

Requirements and configurations shall be in accordance with the furniture layout and typical types shown in drawings and specified herein. If dimension variations are not mentioned after the called out dimension within this specification, nominal dimensions are acceptable. Components and hardware shall be provided by a single manufacturer and shall be a standard product as shown in the most recent published price lists or amendments.

**General Requirements**

1. Design/Aesthetics: The design shall be age appropriate for men and women within the range of 18-28 years of age. Style shall be appropriate for small campus like spaces. All furnishings shall have simple lines and detailing that is durable and easily maintained. All furnishings specified herein shall be of a design, material and workmanship to withstand heavy daily usage over an extended life with a minimum of maintenance and repair. The style shall include a full range of dorm and quarters furniture pieces.
2. Manufacturer Requirements: Dorm and Quarters manufacturers must be able to manufacturer all coordinating products listed in this document. Offeror/Dealer must have in-house services including sales and installation. Offeror/Dealer must have warehousing capability.
3. Mockups: A room mockup may be required prior to final installation. Evaluation of the mockup will be conducted by the Contractors Interior Designer and shall include the NAVFAC Interior Design POC, Bachelor Housing POC and an End User, if desired. Mockups may be required to remain on site until project installations are complete.
4. Warranty period is specified in the project specific information. Warranty period to be a minimum of 12 years parts and labor.
5. Finish samples shall be required for final approval prior to production of any orders.

**Construction and Materials**

1. Solid hardwood, veneer core plywood and environmentally farmed timber are acceptable in the following specifications based on AWI400 standard “A” grades. Veneer core plywood must be ¾” minimum, 7 ply with a minimum veneer layer of 1/50” for cherry and 1/32” for maple and birch.  Veneer core plywood will be accepted in specific locations, that each manufacturer deems appropriate, without sacrificing structural integrity or warranty. MDF (Medium Density Fiberboard) is only acceptable as a substrate for wardrobe and computer cabinet doors. Wood species shall be one of the following as specified in the project specific requirements:

* Solid Maple Hardwood
* Solid Cherry Hardwood
* Solid Birch Hardwood
* Environmentally Farmed Timber Solid Wood
* Rift Cut Oak: Oak Veneer - Based on ANSI/HPVA HP-1-2004 Standard - Red Oak - Straight Grain, Quarter-Cut or Rift Cut, with some variations to the standard agreed to with the supplier. Thickness: 1/28" to 1/32" thick. Cabinet Door and Drawer fronts to be in matching sets (all out of same sheet in order top to bottom) Head board drawer fronts and side panels are to be matching sets top to bottom.

1. Cabinet Door and Drawer fronts to be in matching sets (if veneer, all fronts shall be from the same sheet in order top to bottom). Head board drawer fronts and side panels are to be matching sets top to bottom,
2. AWI400 premium grades on solid wood core (exception: doors)
3. Solid face frame or frameless
4. All exposed surfaces are solid wood and quarter sliced or rift cut lumber is preferred. Plain-sawn, rotary cut or other lumber cuts with erratic graining will not be acceptable. (exception: laminate tops)
5. Environmentally Farmed Timber (EFT) meeting or exceeding 1290 lbs/force on the JANKA hardness scale and meeting or exceeding Oak in screw pull testing shall be an acceptable optional material if overall appearance of stained wood finish is acceptable.
6. Tops on certain pieces may be high pressure laminate for durability. All components shall be carefully machined, sanded, pre-finished, stained and top-coated prior to assembly. Moisture content at time of assembly shall be kept between 5% and 7%.
7. All components shall be fully finished on all sides, bottom, and top insuring a full barrier to prevent water wicking. All joints must fit accurately with no openings or splintering and be stronger than the substrate itself to resist racking and withstand loading. Joints shall have 100% adhesive coverage. Construction adhesives shall conform to ASTM D 905 average shear strength of not less than 19,300 kPa (2800 lbs per square inch) when tested. Excess glue shall be neatly and thoroughly cleaned from all surfaces exposed to view.
8. Spacing between all drawers shall be equal in appearance.
9. No MDF is permitted unless otherwise noted. MDF, where allowed, shall be a minimum Grade I
10. M-2 per ANSI A2081-2009 with a minimum density of 45 lbs. PCF (per cubic foot).
11. Internal construction should allow for easy parts replacement.

**Side and Back Panels**

1. Solid hardwood or EFT in ¾” panels required.
2. Side and Back panels to have ventilation slots to allow for free movement of air. All slots to have uniform configuration.
3. Countersunk, blind screw attachment of all end panels shall be used on the underside or backside of joints. The depth of the countersink shall allow penetration of at least 80% of the material thickness. No concealment plugs are required. The diameter and pitch of the screw shall provide the greatest possible strength to all countersunk joints. Provide fully finished interior and exterior side and back panels.

**Doors**

1. Veneer over plywood or veneer over MDF is considered acceptable. Thru bolts must be used for MDF.
2. Flat Panel construction on doors is required with a recessed panel appearance.
3. Cabinet door and drawer fronts to be matching sets (if veneer, all fronts shall be from the same sheet in order top to bottom with contiguous vertical grain pattern).

**Shelves**

1. All shelving to be fully finished solid hardwood or EFT.

**Drawers**

1. Drawers shall have English dovetail construction and glued joints.
2. Drawer joint frame and bottom supports to be mortise and tenon construction.
3. Drawer fronts to be solid wood or EFT.
4. Drawer box to be five (5) sided, constructed of solid wood, with four bottom corner blocks nailed and glued for strength.
5. Pullout drawers to have 2- 200 lb minimum, full extension, steel ball bearing drawer glides. Glides shall be securely attached to all drawer units with a minimum of (6) six 3/8” long screws attaching each glide into the ½” thick drawer sides. If glides can be attached with longer screws and secured with washers to prevent screws from loosening over time and backing out, this method of attachment is preferred.
6. Drawer construction and materials, to include drawer bottoms, shall be able to withstand a load of 125% of the rated load of the drawer glides without sagging or failing. ½” thick minimum drawer sides and 1/2” thick minimum solid wood or plywood drawer bottoms are required. No melamine drawer bottoms are acceptable.
7. All drawers shall be fully sealed and finished on all sides and bottoms.

**Laminated Tops**

1. Laminate color shall match the wood species finish and color.
2. Laminate shall be high pressure grade that meets or exceeds NEMA LD3-2005 for Grade VGS specification and performance of specified color with a nominal dimension of 0.031” thick face glued to ¾” minimum thick MDF or Grade M-3 Particleboard with a standard 0.02” phenolic backing sheet. Where wood grain plastic laminate is called for, laminate is to match the color and grain of natural (sealed, or stained and sealed) wood as closely as possible. If match is unachievable with laminate specified due to the inherent color of wood, manufacturer is to submit an alternate wood grain laminate, wood finish sample and edge banding sample for approval.
3. Edging for laminate shall be 3 mm PVC or other durable edge material with matching grain pattern.
4. All laminate joints shall be smooth where edge meets the laminate surface.

**Hardware**

1. Bearing glides, wherever required, to be high quality steel ball bearing drawer glides with full extension in black zinc finish to match finish hardware requirements.
2. Single hasp locking system in matte black finish is required on lift top beds w/drawers, drawer units, wardrobes and desk units. Provide hasp locking tabs that cannot be bent with normal force. All hasp locking tabs shall be secured with hardwood blocking and a minimum of four (4) CONCEALED screw attachment points with screws a minimum of 3/8” long. Please provide matching matte black scuff plates behind each hasp lock area where wood finish would be prone to scratching. Scuff plates should be securely and permanently attached. Adhesive scuff plates that can be peeled off are not acceptable.
3. All shelf supports to be metal powder coated in matte black finish, to match color of hardware package.
4. Metal powder coated hooded drawer and door pulls in matte black finish is required, with a minimum of four (4) CONCEALED screw attachment points required with screws a minimum of 3/8” long.
5. All handles to be steel powder coated to match hardware package with mounting hardware of heavy duty quality.
6. Levelers to be nylon based (with commercial grade felt pads to protect flooring), color: black.
7. Provide hard plastic black grommets where required for wire management. All grommets shall be screw-in style (to prevent loss over time) and shall be of adequate diameter to allow plugs on all task lights and power strips to pass through them.
8. Hardware made in the USA is preferred.

**Task Lighting**

Provide energy efficient UL Listed, 18” and 24” wide LED task lighting with on/off toggle switches. Fixture lamping shall have a 2700 K color temperature and a minimum of 1050 Lumen or 97 foot candles output. Cord to be a minimum of 9”-0” long and have a 45 degree flat plug.

**Finishes**

1. All finishes shall be formaldehyde free and low or no VOC. Acrylated UV curable epoxy and polyester finish or water based acrylic are acceptable finishes- no catalyzed lacquer or other solvent based finishes are allowed.
2. Provide toner/stain to finish coat to obtain even wood tone to each furniture piece. The wood finish on all furniture pieces shall coordinate.
3. Provide scratch resistant finish coats on all furniture pieces.
4. Wood finish shall match specified laminate. Provide finish samples for approval prior to production.

**Sustainability and Warranty**

1. Greenguard, MAS Green or SCS certification is required.
2. FSC certified wood may be required if indicated in the project specific requirements. If the supplier is a certified member of the Forest Stewardship Council or subscribes to a similar program that promotes sustainable logging practices, a verifiable certification number shall be provided. FSC certification may be considered an advantage over other certifications.
3. Finish coats should use low VOC materials.
4. Painted finishes must comply with Federal Regulation 16CRF 1303 for lead content.
5. Manufacturer must provide a minimum 12 year warranty against defective materials or workmanship and repair or replace, without cost to the government, any defective product but additional warranty requirements may be specified in the project specific requirements.
6. Providing proof of independent indoor air quality testing certification may be considered an advantage over those suppliers that are not providing certification.

**Casegood Requirements:**

**1. Fully Lockable Two Drawer Lift Top Bed and Fully Lockable Two Drawer Lift Top ADA Bed**

1. Reversible assembly required, with easily detachable head boards/foot boards, to allow beds to be set up on left or right side of room.
2. Tool-less (Allen wrench/Hex Key) hardware connections are required between headboard and bed deck/mattress platform for ease of reconfiguration, so bed can be used on either side of room.
3. Provide bed deck/mattress platform with durable box spring optionor a permanent mattress support system, to provide spring to mattress and increase user comfort. Bed deck/mattress platform should be constructed of steel or wood with a steel framework to eliminate possibility of warping. Bed deck shall have a low mattress containment device so that an individual can sit comfortably on the sides of the bed, yet keep mattress from slipping off bed deck when bed deck is raised.
4. Bed deck shall have external zero clearance pneumatic lift mechanism(s) that allow controlled raising and lowering of bed deck and mattress and allow bed deck to be fully raised with side of bed located flush against wall. Pneumatic lift mechanism(s) shall have a lifetime warranty, weight rating of at least 75 lbs. lift per cylinder. Lift mechanism(s) shall incorporate an easy to grasp handle to allow easy lifting and closing of bed deck. Handle shall fold down or not protrude far above bed deck, so that backs of legs will not be bruised when sitting on the edge of the bed. Pneumatic mechanism shall allow bed deck to remain closed when in a lowered position without the weight of the mattress or the lock being engaged. Pneumatic mechanism shall be easily lifted and closed by a person of average strength.
5. Inside corners of under-bed storage box to be reinforced with steel powder-coated brackets. Inside surfaces of under-bed storage area shall be smooth to the touch and completely finished and sealed.
6. Bed locking system to be a single point secured system with a positive stop open/close. A single locking system shall lock lift bed and both drawers. Position of bed locking system shall allow no access to the open area beneath the bed when it is closed and locked. Bed locking system shall be recessed/flush with side of bed.
7. Bottom panel of storage area in lift top bed to be a minimum of ¾” thick, solid hardwood or EFT with ¾” x 4-5/8” dia. ventilation holes on both front and back of bed.
8. Solid hardwood or EFT is required on all exposed surfaces to include bed ends tops and sides.
9. Provide two stacking drawers on side of lift bed with high quality, full extension steel ball bearing drawer glides. Drawers shall utilize 20” 200 lb minimum ball bearing, full extension drawer glides with positive out-stop. A minimum of two inches must be maintained beneath bottom drawer and floor to allow for drawer clearance above room area rug.
10. Provide a minimum of (12) twelve, 1-1/2” diameter nylon glides, with commercial-grade felt pads, to protect flooring on underside of bed for ease of moving on hard surface flooring.
11. **Fully Lockable Storage Headboard**
12. Reversible assembly required, with easily detachable headboards/footboards, to allow beds to be set up on left or right side of room.
13. Tool- less (Allen wrench/Hex Key) hardware connections are required between headboard and bed deck/mattress platform for ease of reconfiguration, so bed can be used on either side of room.
14. Solid hardwood or EFT required on all exposed surfaces to include bed ends tops and sides.
15. Provide hasp-lockable pullout unit on one side of storage headboard with two shelves inside. Pull-out unit to be mounted on 200 lb. ball bearing glides (dynamic load) with tracking casters to ensure a fluid smooth movement when loaded.
16. Provide headboard unit with a shelf, tack board, light and surge protector. Shelf to have full back panel to prevent items from falling behind bed and a screw-in type grommet in the shelf surface. Provide a valance/fascia on underside of shelf to conceal task light and surge protector from view. Overhead shelf should be installed at least 9” below top of head board unit to allow for book storage on shelf.
17. Provide energy efficient UL listed, minimum 18” wide LED task light (as specified in the project specific typical) with an on/off switch, a minimum cord length of 9 feet and 2700 K color temperature, mounted under headboard shelf. Cord is required to have a 45 degree flat plug.
18. Provide a power strip/surge protector with three (3) grounded outlets, a 10 foot minimum cord with a 45 degree flat plug beneath storage head board.
19. Provide commercial-grade fabric covered tack board under shelf on headboard unit with a screw-in style black grommet in the tack board surface. Fabric to be Maharam Tek-Wall, or equal. Tack board shall be easily field-replaceable/recoverable and should require no finish strips or trim strips that could become loose or misplaced.

**3. Headboard**

1. Reversible assembly required, with easily detachable headboards/footboards, to allow beds to be set up on left or right side of room.
2. Tool- less (Allen wrench/Hex Key) hardware connections are required between headboard and bed deck/mattress platform for ease of reconfiguration, so bed can be used on either side of room.
3. Solid hardwood or EFT required on all exposed surfaces to include bed ends tops and sides.
4. Provide headboard unit with a shelf, tack board, light and surge protector. Shelf to have full back panel to prevent items from falling behind bed and a screw-in type grommet in the shelf surface. Provide a valance/fascia on underside of shelf to conceal task light and surge protector from view. Overhead shelf should be installed at least 9” below top of head board unit to allow for book storage on shelf.
5. Provide energy efficient UL listed, minimum 18” wide LED task light (as specified in the project specific typical) with an on/off switch, a minimum cord length of 9 feet and 2700 K color temperature, mounted under headboard shelf. Cord is required to have a 45 degree flat plug.
6. Provide a power strip/surge protector with three (3) grounded outlets, a 10 foot minimum cord with a 45 degree flat plug beneath storage head board.
7. Provide commercial-grade fabric covered tack board under shelf on headboard unit with a screw-in style black grommet in the tack board surface. Fabric to be Maharam Tek-Wall, or equal. Tack board shall be easily field-replaceable/recoverable and should require no finish strips or trim strips that could become loose or misplaced.

**4. Three Drawer Computer Desk/Wall Unit with Pocket Doors**

1. Provide computer/entertainment unit with pocket doors, interior shelf, exterior posting shelf and three locking drawers. Drawers shall utilize 20” 150 lb minimum ball bearing, full extension drawer glides with positive out-stop.
2. Provide a single hasp locking system for pocket doors and drawers finished to match hardware package. Locking mechanism shall not be in conflict with pocket door operation.
3. Pocket door hinges shall have two double ball bearing glides and a locking mechanism to allow doors to completely slide into case.
4. Provide solid wood keyboard tray/posting shelf, utilizing 20” 200 lb minimum ball bearing full extension drawer glides with positive out-stop. Tray shall have a recessed finger pull located below locking pocket doors accessible when cabinet doors are locked.
5. Power strip/surge protector inside the unit, with four (4) grounded outlets, on/off switch and a 9 foot minimum length cord with a 45 degree flat plug so that unit can be pushed as close as possible to adjacent wall. Micro and Mini USB ports are also desirable.
6. Provide UL listed, 24” wide, LED or fluorescent task light inside the unit with on/off switch.
7. Provide a black, screw-in grommet on back of unit to accessing wall power and data.
8. Provide a minimum of 6-nylon leveling glides (commercial-grade felt covered to protect flooring) on underside of unit.

**5. Fully Lockable Wardrobe with Full Doors and Interior Drawers**

1. Provide a single hasp locking system for doors, finished to match hardware package.
2. Provide heavy duty metal hanging bar with adjustability options for standard and ADA height.
3. Provide one fixed shelf and one adjustable shelf.
4. Provide full depth drawer unit permanently affixed to interior of cabinet.
5. Provide a minimum of 6 leveling nylon glides (commercial-grade felt covered to protect flooring) on underside of unit.
6. Drawers shall utilize 20” 200 lb minimum ball bearing full extension drawer glides with positive stops.
7. Veneer over plywood or veneer over MDF is considered acceptable. Thru bolts must be used for MDF.
8. Veneer over plywood or veneer over MDF is considered acceptable. Thru bolts must be used for MDF.
9. Door fronts to be matching sets (if veneer, all fronts shall be from the same sheet in order top to bottom with contiguous vertical grain pattern

**6. Bunk-able Bed**

1. Provide 2-high bunk-able bed with tool-less height adjustability and internal steel pin hardware connections (similar to EZ Lock Spring Attachment).
2. Provide solid wood bed horizontal members and posts and with concealed steel connection pins. Head board and foot board slat configuration should support “ladder” function.
3. Provide mattress platform with 9-gauge minimum metal springs and center support bar or slatted wood mattress support option for adequate mattress support.
4. Provide nylon glides (commercial-grade felt covered to protect flooring) on underside of unit as required.

**7. Two Drawer Chest, Three Drawer Chest, or Nightstand**

1. Provide high pressure laminate on top surface to match wood finish.
2. Drawers shall utilize 20” 200 lb minimum ball bearing full extension drawer glides with positive stops.
3. Separate hasp locking system is required as specified in the project specific requirements. Hasp locking system shall be recessed/flush, if possible, with face of drawers to eliminate safety concerns.
4. Drawers shall utilize 20” 200 lb minimum ball bearing full extension drawer glides with positive stops.
5. Provide full depth drawers with a full depth security panel/dust cover between drawers to prevent access when upper drawer is fully open.
6. Provide a minimum of 6 nylon leveling glides (commercial-grade felt covered to protect flooring) on underside of unit.

**8. ADA Desk/ Student Desk**

1. Drawers shall utilize 20” 200 lb minimum ball bearing full extension drawer glides with positive stops.
2. Single hasp locking system required.
3. Provide solid wood, pull-out keyboard tray.
4. Provide full depth drawers.
5. Provide leveling nylon glides (commercial-grade felt covered) on underside of unit as required.
6. Provide high pressure laminate for top.
7. Provide power strip/surge protector, with four (4) grounded outlets, a minimum of 9 foot cord. Surge protector shall be surface-mounted on modesty panel. Provide screw-in type desktop grommet and modesty panel grommet, near surge protector, finished to match hardware.
8. Table Desk to accommodate task light mounting bracket if no student desk hutch is to be used.

**9. Table Desk**

1. Drawer shall utilize 20” 200 lb. minimum ball bearing full extension drawer glides with positive stops.
2. Provide high pressure laminate for top.
3. Provide power strip/surge protector, with four (4) grounded outlets, a minimum of 10 foot cord and a 45 degree flat plug for space saving. Surge protector shall be surface-mounted on modesty panel or underside of desk. Provide desktop grommet and modesty panel grommet, near surge protector, finished to match hardware.
4. Provide nylon leveling glides (commercial-grade felt covered) on underside of unit as required.
5. Table Desk to accommodate task light mounting bracket, if applicable.
6. Provide solid wood pull out keyboard tray.

**10. Hutch**

1. Provide a hutch as specified in project specific requirements to be securely mounted with metal brackets to top of table desk. Profile of hutch shall match the profile of the head board on bed.
2. Provide a UL listed, 24” wide LED task light with an on/off switch, a 9’-0” long cord and 2700 K color temperature with output of at least 1050 Lumens, mounted under shelf with screw-in type grommet located for easy access to wall power. Grommet shall be finished black to match all other hardware and be screw-in style for loss prevention.
3. Shelf shall have a valance below to conceal task light/power strip and a solid back panel.
4. Provide a commercial-grade fabric covered tack board under shelf. Tack board fabric to be Maharam Tek-Wall, or equal. Tack board shall be easily field-replaceable/recoverable and should require no plastic trim strips that could become loose or misplaced.