

12 00 00. FURNISHINGS**12 00 03. GENERAL PROVISIONS**

- .1 Refer to Division 00 _PROCESSING THE WORK, paragraph 00 00137, Fixtures, Furniture and Equipment (FF&E)
- .2 **DESIGNS:** The Architect/Engineer (A/E) shall provide layouts of both Movable and Fixed Furnishings identified in the Program of Requirements (POR) to determine function and space usage for the project. Submittals are required as outlined in the A/E Agreement for Basic Services.
- .3 **CONSTRUCTION COORDINATION:** The A/E is to coordinate all required power voice and data services leading to Fixed and Movable Furnishings locations on the Construction Drawings. Provide any details and drawings necessary for critical dimensions and locations of furnishings.

The A/E is to locate and coordinate all blocking, support and services for installation of all items in this Division.

12 20 00. WINDOW TREATMENTS

- .1 **DESIGNS:** The A/E shall locate and specify treatment to all windows applicable to the building design and functions. All windows treatment, interior and exterior, is integral to the energy management of the building, the control of light and comfort of the occupants. All proposed manufacturer products and hardware must be rated for extra heavy duty commercial use.
- .2 **APPROVALS:** All product specifications, accessory items, colors, finishes, applications and details are to be reviewed and approved by the University Architect prior to the final development of the Construction Documents.
- .3 **CONSTRUCTION COORDINATION:** The building design and Construction Documents must include all structural requirements, blocking, services and construction coordination for the installation of Window Treatment.

12 21 00. WINDOW BLINDS

- .1 **BUDGET ALLOCATIONS:** Window Blinds shall be considered Fixed Equipment and are funded within the Construction Budget. In some cases, the University may choose to purchase Window Blinds for a project. In these cases, the cost of the equipment is moved from Construction funds to Equipment funds for purchase.

- .2 **MOCK-UP:** Before blind installation, prepare a mock-up for each project condition and type of blind to verify selections and establish application quality standards. Keep and maintain mock-ups during construction in an undisturbed condition as a standard for judging completed Work. Accepted mock-ups in an undisturbed condition at the time of Project Completion may become part of the final Work.
- .3 Do not install blinds directly into window framing systems.

12 22 00. CURTAINS AND DRAPERIES

- .1 **BUDGET ALLOCATIONS:** Curtain and Draperies shall be considered Movable Equipment and are acquired by the University utilizing a fund allocation within the total project funds but independent of the Construction budget.
- .2 All curtains and draperies shall be Class A Fire Rated.

12 23 00. INTERIOR SHUTTERS

- .1 **BUDGET ALLOCATIONS:** Interior Shutters shall be considered Fixed Equipment and are funded within the Construction Budget.

12 24 00. WINDOW SHADES

- .1 **BUDGET ALLOCATIONS:** Window Shades shall be considered Fixed Equipment and funded within the Construction Budget. In some cases, the University may choose to purchase Window Shades for a project. In these cases, the cost of the equipment is moved from Construction funds to Equipment funds for purchase.
- .2 **MOCK-UP:** Before window shade installation, prepare a mock-up for each project condition and type of window shade to verify selections and establish application quality standards. Keep and maintain mock-ups during construction in an undisturbed condition as a standard for judging completed Work. Accepted mock-ups in an undisturbed condition at the time of Project Completion may become part of the final Work.
- .3 **ROLLER SHADES:** Fabric roller shade systems shall be complete with mounting brackets, roller tubes, hembars, hardware and accessories.
 - .3.1 **Fabric Flammability:** Pass NFPA 701 large and small tests.
 - .3.2 **Fabric Fungal Resistance:** No growth when tested according to ASTM G21.

- 3.3 Hembar: Designed for weight requirements and adaptation to uneven surfaces and to maintain bottom of shade straight and flat. Double wrap fabric covered bottom bar, flat profile with closed ends.
- 3.4 Shadecloth to be channel mounted to the shade tube. Do not use adhesives or tape.
- 3.5 Shadecloth to be fire rated.

.4 SHADECLOTH GUIDELINE APPLICATION: Shadecloth and other window coverings directly affect the HVAC efficiency and overall comfort of a space (brightness and glare). Some projects will require a minimum shading coefficient or solar factor by the mechanical engineer. Primary considerations for shadecloth application are:

- SHADING COEFFICIENT (percentage of solar heat through a combination of glass and specific shadecloth. Light colors have a lower shading coefficient and lower heat gain than dark colors).
- SOLAR OPTICAL PROPERTIES (used to calculate the shading coefficient with glass and shadecloth combination)
- VISIBLE LIGHT TRANSMITTANCE (DAYLIGHT). Glare and brightness control is a primary consideration.
- OPENNESS FACTOR (DENSITY) of the shadecloth weave.
- COLOR of the shadecloth will directly affect the Shading Coefficient, brightness and glare. Light colors are more reflective with lower heat gain and shading coefficient but with higher percentage of daylight and solar transmittance. Light colors are brighter when sunlit which causes high surface brightness. Light colors are difficult to see through. Dark colors are viewable through the shadecloth to the outside. Dark colors absorb light and heat and are less energy efficient. Dark colors lower surface brightness and provides glare free environments. Medium value colors minimize excessive contrast in a room and reduces eye strain.

The OPENESS FACTOR (OF) is a key element to consider once a shadecloth has met shading coefficient requirements.

OF at 0% – Privacy and room darkening (Opaque). Example - MechoShade ThermoVeil 0700 Series (Budget Vinyl) and MechoShade Midnight Blackout 0200 Series

OF at 1% - Privacy at night (Translucent shadecloth). Example - MechoShade ThermoVeil 0900 series

- OF at 2% - Visible Light Transmittance is 100%>80%. Example – MechoShade EuroTwill 6200 Series
- OF at 3% - Visible Light Transmittance is 90%>60%. Example – MechoShade ThermoVeil 1500 Series and EuroTwill 6000 Series.
- OF is 5% - Visible Light Transmittance is 50%>35%. Example – MechoShade ThermoVeil 1300 Series
- OF is 8% - Visible Light Transmittance is 30%>22%.
- OF is 15% - Visible Light Transmittance is 20% or less.
- .5 Provide a 25 Year non-depreciating limited warranty on roller shade hardware, chain and shade cloth.

WEXNER MEDICAL CENTER: See Interior Finish Schedule for approved manufacturer, type, and color.

12 25 00. WINDOW TREATMENT OPERATING HARDWARE

- .1 CONSTRUCTION COORDINATION: Necessary power, electrical controls and other devices for installing and operating window treatment shall be included in the Construction
- .2 MOTORIZED SHADE SYSTEMS: Provide the services of the manufacturer's authorized representative to perform system startup.
- .3 DEMONSTRATION: Demonstrate operation and maintenance of window shade system to University's designated personnel.
- .4 TRAINING: Train University's designated personnel on operation and maintenance of system.
- .4.1 Use operation and maintenance manual as training reference, supplemented with additional training materials as required.
- .4.2 Provide minimum of two hours training by manufacturer's authorized personnel at location designated by the University.

12 30 00. CASEWORK

- .1 DESIGNS: All product specifications, accessory items, colors, finishes, applications and details for manufactured casework are to be reviewed and approved by the University Architect prior to the final development of the Construction Documents.

The A/E shall specify all utility fittings and fixtures for Casework equal / compatible to that specified for the Plumbing, HVAC, Electrical and Data Communications for outlets, hook-ups or tie-in connections.

.2 BUDGET ALLOCATIONS: Casework shall be considered Fixed Equipment and funded within the Construction Budget.

.3 MOCK UP: Provide mock ups of typical base cabinet, wall cabinet, and countertop, including hardware, finishes, and plumbing accessories.

3.1 Retain mock ups: during construction in an undisturbed condition as a standard for judging completed work. Accepted mock ups that have not been damaged may remain as part of the final work.

.4 ASSEMBLY: Factory assembled casework items for delivery to site in units easily handled and to permit passage through building openings.

4.1 STRUCTURAL PERFORMANCE: Manufactured casework shall safely support the following minimum loads.

- a. Base Units: 500 lbs/lineal ft across the cabinet ends.
- b. Suspended Units: 300 lbs static load.
- c. Drawers: 125 lbs .
- d. Hanging Wall Cases: 300 lbs.
- e. Shelves: 100 lbs minimum. Verify project requirements to determine if heavier weights are anticipated.

4.2 SEISMIC PERFORMANCE: Determine project specific seismic requirements. If the project is located in a seismic area, review the building code and ASCE/SE17 and coordinate seismic requirements with the Structural Engineer.

- a. The drawings shall designate earthquake spectral response acceleration, short period (Sds) for the project.
- b. Identify Component Importance Factor: Typically 1.0 or 1.5.

Wexner Medical Center: Exposed core on any casework component is not permitted. Apply joint sealant to interior seams and joints. All cabinet hardware is to be stainless steel, No. 4 satin finish. Hospital tip 5-knuckle hinges shall be used in clinical areas and other high use spaces. Concealed hinges may be used in specialty areas.

12 32 16 MANUFACTURED PLASTIC LAMINATE CLAD CASEWORK



- .1 DESIGNS: Refer to Section 06 40 00 Architectural Woodwork - Casework and Cabinet Work for countertop requirements. Match hardware description and HPL requirement from Section 06 40 00 Architectural Woodwork casework description.
- .2 MANUFACTURED PLASTIC LAMINATE CLAD CASEWORK: Solid wood and wood panel construction, each unit shall be self-contained and not dependent on adjacent units or building structure for rigidity; in sizes necessary to avoid field cutting except for scribes and filler panels. Include adjustable levelers for base cabinets.
 - 2.1 Edgebanding: 3mm extruded PVC on all cabinet faces, edge of drawers and doors.
 - 2.2 Secure wall and floor cabinets to concealed blocking at gypsum board assemblies.
 - 2.3 Fasten cabinets to wall substrates, with fasteners spaced not more than 16 inches on center. Bolt adjacent cabinets together with joints flush, tight, and uniform.
 - a. Where base cabinets are installed away from wall substrates, anchor to floor at toe space at not more than 24 inches on center and at sides of cabinets with not less than two fasteners per side.
 - 2.4 Wall Cabinets: Fasten to hanging strips and/or wall substrates. Fasten each cabinet through back, near top, at not less than 16 inches on center.
 - 2.5 Countertops: Install countertops furnished for field installation in one true plane with ends abutting at hairline joints with no raised edges.
- .3 MODULAR CASEWORK: If manufactured modular casework is the preferred product versus fixed manufactured casework, additional coordination may be required with other specification sections. These sections include, but are not limited to:
 - .2.1 Solid surface or plastic laminate countertops.
 - .2.2 Solid surface or stainless steel sinks.
 - .2.3 Countertop brackets.
 - .2.4 Blocking.
- .4 PERFORMANCE CHARACTERISTICS FOR MODULAR CASEWORK: Modular casework shall be designed to withstand 24/7 usage in typical healthcare clinical spaces.
 - 3.1 Testing:

- a. Product is tested and complies with UL 1286 Standard for Safety of Office Furnishings, (including the flammability requirement of):
 - 1) Flame Spread Index less than 200.
 - 2) Smoke Developed Index less than 450 (unless labeled "smoke developed index over 450").
- b. Worksurfaces meet or exceed ANSI/BIFMA X5.5 Desk Products requirements.
- c. Lifetime warranty that product is free from defects in materials and workmanship (includes shipping, parts and labor for the repair or replacement of defective item).

3.2 Face of all cabinets shall be plastic laminate. Interior of all open cabinets shall be plastic laminate to match face.

3.3 Interior of cabinets to be white melamine*.

3.4 Fabricator must be able to provide millwork soffits

3.5 Edge-banding: 3mm on all cabinet faces, edge of drawers and doors.

3.6 End panels of cabinets shall be finished with the same laminate finish as the face to enable the casework to be relocated easily.

3.7 Hardware to be similar in quality, finish and function to hardware specified in Section 06 41 00.

3.8 Cabinets and drawers may require silicone sealant at seams for vermin protection. Selected product must be able to provide this feature

3.9 Panels shall be constructed with medium density M-2 grade particleboard and comply with ANSI 208.1 and ASTM D1037. Panels are 3/4 inch or 1 inch nominal finished thickness and feature balanced construction to prevent bowing or warping. Melamine or laminate is applied to both faces. The melamine or laminate is permanently attached and reinforced under pressure to the wood core.

3,10 High-Pressure Laminate (HPL) worksurfaces are constructed of a medium density M-2 grade particleboard core covered with HPL on the top and a laminate backer sheet on the bottom. Worksurfaces are 1-3/16 inch nominal finished thickness and feature balanced construction to prevent bowing or warping. The HPL is permanently attached and reinforced under pressure to the wood core. A 3mm plastic edgeband is applied to exposed side and rear edges of the worksurface and 3mm edgeband to the front (user) edge to prevent any outgassing from exposed particleboard.

3.11 Silicone bumpers required on all cabinets and doors, unless another acceptable product provides similar soft close mechanism.

3.12 Coordinate locks with University requirements.

WEXNER MEDICAL CENTER; See Material Color Schedule for approved plastic laminate manufacturers, types, and colors. Obtain the schedule through University Project Manager.

12 35 53 LABORATORY CASEWORK

12 40 00. FURNISHINGS AND ACCESSORIES

.1 DESIGNS: All product specifications, accessory items, colors, finishes, applications and details are to be reviewed and approved by the University Architect prior to the final development of the Contract Documents.

The A/E shall specify all utility fittings and fixtures for Furnishings equal / compatible to that specified for the Plumbing, HVAC, Electrical and Data Communications for outlets, hook-ups or tie-in connections.

.2 BUDGET ALLOCATIONS: Furnishings shall be considered Movable Equipment and acquired by the University utilizing a fund allocation within the total project funds but independent of the Construction budget.

.3 CONSTRUCTION COORDINATION: Necessary structural support, power, data, utilities and other support for Furnishings and Accessories shall be included in the Construction Documents.

12 48 00. RUGS AND MATS

.1 DESIGNS: All product specifications, accessory items, colors, finishes, applications and details are to be reviewed and approved by the University Architect prior to the final development of the Construction Documents.

.2 Preferred no nosing strips at carpet stair locations.

.3 All rugs and mat shall be Class A Fire Rated.

12 48 13. ENTRANCE FLOOR MATS AND FRAMES

.1 DESIGNS: At entrance doors to buildings, entrance floor mats shall be in recessed frames wherever possible.

.2 BUDGET ALLOCATIONS: Recessed Entrance floor mats and frames shall be considered Fixed Equipment and funded within the Construction Budget.

- .3 ENTRANCE FLOOR GRILLES: Recessed extruded aluminum grille assembly with nominal 1 inch wide tread strips running perpendicular to traffic flow, slots between treads, and perimeter frame forming sides of recess; grille hinged for access to recess. Capable of supporting a rolling load of 500 lbs. without permanent deformation or noticeable deflection.
- .4 CARPET TREAD ROLL-UP LINKED MAT: Exposed hinge rail connectors with carpet meeting CRI standard for good indoor air quality. Capable of supporting a rolling load of 350 lb./wheel (load applied to a solid 5 inch x 2 inch polyurethane wheel, 1,000 passes without damage).
- .5 WALK-OFF CARPET TILE: Specified in Section 09 68 00 Carpeting.

12 48 53. RUGS

- .1 BUDGET ALLOCATIONS: Loose rugs shall be considered Movable Equipment and acquired by the University utilizing a fund allocation within the total project funds but independent of the Construction Budget.

12 49 00. WASTE AND RECYCLING RECEPTORS

Ohio State will design waste infrastructure that supports the collection for the university's waste streams and the zero-waste goal. The Ohio State University will offer receptors for the following materials:

Trash: All materials not suitable for recycling, composting (when available), or special handling. -

Recycling: All materials accepted by local recycler. See the comprehensive list of accepted items: https://fod.osu.edu/sites/default/files/what_can_i_recycle_-_comprehensive_list.pdf

Shredding: For WMC and other areas of campus that handle confidential documents, all paper must be placed in the shredding bin. For precautionary purposes, all paper- standard or confidential- must be shredded in these locations.

Compost: All materials accepted by local organics recycling facility. The accepted materials may vary by location, dependent on if the location has a pulper, shredder, or toter collection system. Project Manager must coordinate with FOD to arrange composting signage.

Pairing

For every trash bin, there should be a recycling bin next to it. If the space includes composting, a composting receptacle must be placed on the right of the

recycling. When possible, bins should attach to one another to discourage separation. Bins should always be available and accessible.

Standard Waste Bin

The standard indoor waste bin is 30-gallon side-by-side with 2 large (17-13/16" W x 26-3/8" H) display panels and 2 (9.3" W x 26-3/8" H) display panels. Display panel designs can be received through contacting recycle@osu.edu.

Lids will correspond to the stream. Trash and compost lids will be "funnel" style and open. Recycling lids will be restrictive "single stream" style, with slot and hole. Recycling lids will have small sticker matching display panel.

Designer Bin

For highly visible locations, Ohio State allows for variation from the standard bin. Bins must adhere to Ohio State's color palette and must be equipped with header board for display panel above waste opening. Recycling bins must have restrictive "single stream" style lid. Contact FOD for details.

To decrease contamination, no bins will be labeled with only "trash," "recycling," or "compost." Contact recycle@osu.edu for signage.

Custom Bin

Custom bins and built-in casework containing bins are strongly discouraged. Preference is to maintain continuity of containers/signage across the University and provide flexibility for potential operational changes.

Placement Guidelines

All fire codes, ADA, standards and guidelines for Ohio State must be met. Facility managers should work with FOD for guidance on placement.

12 50 00. FURNITURE

- .1 **DESIGNS:** All product specifications, accessory items, colors, finishes, applications and details are to be reviewed and approved by the University Architect prior to the final development of the Contract Documents.

The A/E shall specify all utility fittings and fixtures for Furniture equal / compatible to that specified for the Plumbing, HVAC, Electrical and Data Communications for outlets, hook-ups or tie-in connections.

- .2 **BUDGET ALLOCATIONS:** Furniture shall be considered Movable Equipment and acquired by the University utilizing a fund allocation within the total project funds but independent of the Construction budget.
- .3 **CONSTRUCTION COORDINATION:** The A/E shall plan and include required structural support, power, data, utilities and other support for Furniture in the Construction Documents.

12 60 00. MULTIPLE SEATING

- .1 **DESIGNS:** All product specifications, accessory items, colors, finishes, applications and details are to be reviewed and approved by the University Architect prior to the final development of the Construction Documents.

The A/E shall specify all utility fittings and fixtures for ~~Furniture~~ Multiple Seating equal / compatible to that specified for the Plumbing, HVAC, Electrical and Data Communications for outlets, hook-ups or tie-in connections.

In areas of assembly, the A/E shall show generic seating layouts, demonstrating seating volumes, aisle dimensions etc. as required for Schematic and Design Development Submittals. All seating layouts shall conform to current Ohio Building Code requirements.

- .2 **BUDGET ALLOCATIONS:** Unless otherwise noted, Multiple Seating shall be considered Fixed Equipment and funded within the Construction Budget. In some cases, the University may choose to purchase Multiple Seating for a project. In these cases, the cost of the equipment is moved from Construction funds to Equipment funds for purchase.
- .3 **CONSTRUCTION COORDINATION:** Necessary structural support, power, data, utilities and other support for Multiple Seating shall be included in the Construction Documents.

Detailed shop drawings and field verification required from the Manufacturer prior to approval and installation.

12 61 00. FIXED AUDIENCE SEATING

- .1 **MATERIALS AND CONSTRUCTION:** The A/E shall indicate complete specifications showing manufacturer, product number, materials and details from a selected product and at least two additional manufacturers, product numbers, materials and details showing equal compatibility.

The University has selected standard products for use. All proposals shall require approval of the University Architect prior to finalization of the Construction Documents.

- .2 **FOLDING TABLET ARMS:** Unless otherwise noted by the University, all auditorium and lecture hall seating are required to have articulating one motion tablet arms.

Tablet construction to be laminated birch plywood core with finished birch or permanent/integral edges and laminated on both sides with plastic laminate. PVC

"T" or self-edges are not acceptable. Tablet arms are to be full size without curves and indents that reduce useable work surface. The minimum tablet arm size is to be a rectangular shape 143 square inches or more with no cutouts within the rectangle. Ten to twelve percent (10-12%) of the tablet arms are to be left-handed. Left-handed seats shall be located to avoid interference with right-handed tablets. Provide clearance of 8" or more from top of seat to underside of tablet arm when open.

- .3 SEAT AND BACK: Chair back and seat shall be two part (separate) construction. All components including upholstery shall be easily field replaceable. Provide gravity seat and articulating back. Provide minimum of 23" seat width on center and 18" seat depth. Provide minimum back height of 35" from seat. Upholstery fabric to be a minimum 200,000 double rubs composed of nylon or nylon blend.
- .4 ARM CAPS/ARMRESTS: Arm caps and armrests shall be finished wood or molded polyurethane material. Plastic laminate and upholstered armrests are prohibited. Provide minimum arm rest width of 2".
- .5 MOUNTING: Specify only beam or riser mounted applications to facilitate maintenance. Newly constructed facilities shall be planned accordingly.
- .6 WARRANTIES AND GUARANTEE: Specify that the manufacturers guarantee the product and carry a minimum of 5 year complete warranty on all components. Throughout this five year period, the product will not show signs of excessive wear or deterioration or experience failure of any item material, construction or finish or the manufacturer shall promptly repair or replace equipment showing defects of material at no cost to the University.

12 93 00. SITE FURNISHINGS

12 93 13. BICYCLE RACKS:

The following is the basis of design. Final A/E selections shall be reviewed by the University Landscape Architect for final approval.

- .1 DuMor, Model: #83-00G galvanized loop, S-1 Embedment, 2-3/8" O.D. x 11-gauge wall galvanized steel tube as supplied by Service Supply, LTD. Columbus, OH, 614-861-3681.
- .2 DERO BIKE RACK CO., Hoop Bike Rack, Schedule 40 pipe, galvanized finish, in-ground mount, 42 Northern Stacks Drive, Suite 100, Minneapolis, MN 55421, 1-888-337-6729. FAX 612-331-2731, Website: www.dero.com

12 93 23. TRASH RECEPTORS



.1 PLAZA STYLE TRASH RECEPTORS:

The following is the basis of design. Final A/E selections shall be reviewed by the University Landscape Architect for final approval.

DuMor, inc. Model 157-32-25BT (side loading), 32 gallon litter receptacle, color: Black supplied by Service Supply, LTD. Columbus, OH, 614-861-3681.

12 93 43. SITE SEATING AND TABLES

.1 PLAZA STYLE BENCH:

The following is the basis of design. Final A/E selections shall be reviewed by the University Landscape Architect for final approval.

DuMor, inc. Model 93-60, 6 foot long metal bench, color: Black. Supplied by Service Supply LTD., Alan Kletecka, Columbus, OH, 614-861-3681.

.2 PLAZA STYLE PICNIC TABLE:

The following is the basis of design. Final A/E selections shall be reviewed by the University Landscape Architect for final approval.

Dumor #63-303-4 (or 3 for ADA accessible)/S-5 Picnic Table surface mount, Color: black. Supplied by Service Supply, LTD. Columbus, OH, 614-861-3681.

.3 PARK STYLE PICNIC TABLE:

Use only for repair / replacement after review with the University Landscape Architect.

Harvest Picnic Table, Model 2107X/RW, 84" x 233" x 30"(h) table with exposed aggregate finish and redwood bench assembly, as supplied by Aerocrete dba Architectural Precast 5660 Limaburg Road, Burlington, KY 41005-9398, 1-800-542-1738..

Concrete Pad, Model #9000, 8' x 9' x 4' Concrete pad, as supplied by Aerocrete dba Architectural Precast 5660 Limaburg Road, Burlington, KY 41005-9398, 1-800-542-1738.

END OF DIVISION 12 - FURNISHINGS