SECTION 105123 - PLASTIC-LAMINATE-CLAD LOCKERS

Revise this Section by deleting and inserting text to meet Project-specific requirements.

Verify that Section titles referenced in this Section are correct for this Project's Specifications; Section titles may have changed.

1. GENERAL
	* + 1. RELATED DOCUMENTS
				1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
			2. SUMMARY
				1. Section Includes:

Plastic-laminate-clad wood lockers.

Locker benches.

* + - 1. SUBMITTALS
				1. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.
				2. Manufacturer’s installation instructions shall be provided along with product data.
				3. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).
				4. Product Data: For each type of product.

Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of locker[**and bench**].

* + - * 1. Sustainable Design Submittals:
				2. Shop Drawings: For plastic-laminate-clad wood lockers.

Include plans, elevations, sections, and attachment details.

Retain first Subparagraph below for ornate or complex work.

Show details full size.

Show locations and sizes of furring, blocking, and hanging strips, including concealed blocking and reinforcement specified in other Sections.

Show locations and sizes of cutouts and holes for items installed in lockers.

Show locker fillers, trim, base, sloping tops, and accessories.

Show locker identification system and numbering sequence.

Retain "Samples for Initial Selection" and "Samples for Verification" Paragraphs below for two-stage Samples.

* + - * 1. Samples for Initial Selection: For each type of the following:

High-pressure decorative laminates.

Thermoset decorative overlay panels.

* + - * 1. Samples for Verification: For the following products:

Retain items in Subparagraphs below that are needed for control of color and finish, or insert other items. Revise if other sizes are required.

Plastic-laminate-clad panels, not less than 8 by 10 inches, for each type, color, pattern, and surface finish[**, with separate samples of unfaced panel product used for core**].

Thermoset decorative-overlay-surfaced panels, not less than 8 by 10 inches, for each type, color, pattern, and surface finish.

Corner pieces of locker front frame joints between stiles and rail, as well as exposed end pieces, not less than 18 inches wide by 18 inches high by 6 inches deep.

Exposed cabinet hardware and accessories, one unit for each type and finish.

Carpet, not less than 8 by 10 inches, for each type, color, and pattern.

Coordinate "Qualification Data" Paragraph below with qualification requirements in "Quality Assurance" Article.

* + - * 1. Qualification Data: For Installer.
				2. Sample Warranty: For special warranty.
			1. CLOSEOUT SUBMITTALS
				1. Maintenance Data: For adjusting, repairing, and replacing locker doors and latching mechanisms to include in maintenance manuals.
			2. MAINTENANCE MATERIAL SUBMITTALS
				1. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

Locker doors, complete with specified door hardware. Furnish no fewer than five doors of each type and color installed.

Units of the following locker hardware items equal to 10 percent of amount installed for each type and finish installed, but no fewer than five units:

Hinges.

Pulls.

Shelf rests.

Cylinder[**and drawer**] locks.

Blank identification plates[**and holders**].

Hooks.

* + - 1. QUALITY ASSURANCE

Retain "Mockups" Paragraph below only for unusual or custom designs. Mockups are not generally required for manufacturer's standard units.

* + - * 1. Mockups: Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for materials and execution.

Indicate portion of wall represented by mockup on Drawing or draw mockup as separate element.

Build mockup of typical corner[**, including one locker on each side of corner and corner filler**][**, including door panel with specified door hardware**], as shown on Drawings.

Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Director’s Representative specifically approves such deviations in writing.

Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

* + - 1. DELIVERY, STORAGE, AND HANDLING
				1. Do not deliver lockers until painting and similar operations that could damage lockers have been completed in installation areas. If lockers must be stored in other-than-installation areas, store only in areas where environmental conditions are the same as those in final installation location, and comply with requirements specified in "Field Conditions" Article.
				2. Deliver [**master and control keys**] [**combination control charts**] to Facilty by registered mail or overnight package service[**.**][**, addressed as follows:**]

<**Insert name and address** >.

* + - 1. FIELD CONDITIONS
				1. Environmental Limitations: Do not deliver or install lockers until building is enclosed, wet-work is complete, and HVAC system is operating and maintaining temperature between 60 and 90 deg F and relative humidity between 25 and 55 percent during the remainder of the construction period.
				2. Field Measurements: Where lockers are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication, and indicate measurements on Shop Drawings.

Locate concealed framing, blocking, and reinforcements that support lockers by field measurements before being enclosed, and indicate measurements on Shop Drawings.

* + - * 1. Established Dimensions: Where lockers are indicated to fit to other construction, establish dimensions for areas where lockers are to fit. Provide allowance for trimming at site, and coordinate construction to ensure that actual dimensions correspond to established dimensions.
			1. COORDINATION
				1. Coordinate sizes and locations of framing, blocking, furring, reinforcements, and other related units of work specified in other Sections to ensure that lockers can be supported and installed as indicated.
			2. WARRANTY
				1. Special Warranty: Manufacturer agrees to repair or replace components of lockers that fail in materials or workmanship within specified warranty period.

Failures include, but are not limited to, the following:

Structural failures.

Faulty operation of locks or hardware.

Deterioration of wood, finishes, and other materials beyond normal use.

Verify available warranties and warranty periods for lockers.

Warranty Period: Three years from date of Substantial Completion.

1. PRODUCTS

Manufacturers and products listed in SpecAgent and MasterWorks Paragraph Builder are neither recommended nor endorsed by the AIA or Deltek. Before inserting names, verify that manufacturers and products listed there comply with requirements retained or revised in descriptions and are both available and suitable for the intended applications.

* + - 1. PERFORMANCE REQUIREMENTS

Generally, retain only one of second and third options in "Accessibility Standard" Paragraph below. Retain second option for facilities covered under the Americans with Disabilities Act (ADA) of 1990. Retain third for facilities covered under the Architectural Barriers Act (ABA). Retain last option for compliance with the IBC.

* + - * 1. Accessibility Standard: For lockers[**and locker benches**] indicated to be accessible, comply with applicable provisions in the USDOJ's "2010 ADA Standards for Accessible Design" and ICC A117.1.
			1. PLASTIC-LAMINATE-CLAD WOOD LOCKERS
				1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

Famous Lockers, Inc.

List Industries Inc.

Treeforms.

Approved equivalent.

* + - * 1. Construction Style: [**Manufacturer's standard**] [**Flush overlay**] [**Reveal overlay**] [**Flush inset**] [**Flush inset with face frame**] [**As indicated**].

Retain "Reveal Dimension" Subparagraph below if retaining "Reveal overlay" option in "Construction Style" Paragraph above. Dimension given is an example only.

Reveal Dimension: 1/2 inch.

* + - * 1. Final Assembly: Manufacturer's standard [**factory**] [**or**] [**knocked-down**] assembly.
				2. Locker Body: Fabricated from [**particleboard**] [**fire-retardant-particleboard**]-core panels covered on both sides with thermoset decorative overlay.

Side Panels: Manufacturer's standard 3/4 or 5/8 inch thick.

Back Panel: Manufacturer's standard 1/2 or 3/8 inch thick.

Top Panel: Manufacturer's standard 3/4 or 5/8 inch thick.

Bottom Panel: Manufacturer's standard 3/4 or 5/8 inch thick.

Exposed Panel Edges: [**Thermoset decorative overlay to match panel**] [**1-mm-thick PVC**] [**3-mm-thick PVC**] [**Vinyl T-molding**] [**High-pressure decorative laminate, Grade HGS, to match panels**] [**High-pressure decorative laminate, Grade VGS, to match panels**].

* + - * 1. Plastic-Laminate-Clad Wood Doors: High-pressure decorative laminate, Grade VGS, over both sides of [**particleboard**] [**fire-retardant-particleboard**] [**medium-density-fiberboard**] [**fire-retardant-fiberboard**] core.

Thickness: Manufacturer's standard 3/4 or 5/8 inch thick.

Panel Edges: [**1-mm-thick PVC**] [**3-mm-thick PVC**] [**Vinyl T-molding**] [**High-pressure decorative laminate, Grade VGS, to match panels**] [**1/4-inch- thick, solid wood**] [**High-pressure decorative laminate, Grade HGP, postformed with 3/8-inch radius**].

* + - * 1. End Panels: Match style, material, construction, and finish of plastic-laminate-clad wood doors.
				2. Shelves: Fabricated from [**particleboard**] [**fire-retardant-particleboard**]-core panels covered on both sides with thermoset decorative overlay; [**fixed**] [**fixed unless otherwise indicated**] [**adjustable**] [**fixed and adjustable, as indicated**].

Thickness: Manufacturer's standard 3/4 or 5/8 inch thick.

Exposed Edges: [**Thermoset decorative overlay to match panels**] [**1-mm-thick PVC**] [**3-mm-thick PVC**] [**High-pressure decorative laminate, Grade VGS, to match panels**].

* + - * 1. Drawer Faces: Match style, material, construction, and finish of plastic-laminate-clad wood doors. Attach drawer faces to subfronts with mounting screws from drawer interior.
				2. Drawer Subfronts, Sides, and Backs: Fabricated from [**particleboard**] [**fire-retardant-particleboard**]-core panels covered on both sides with thermoset decorative overlay.

Thickness: Manufacturer's standard 3/4 or 5/8 inch thick.

Exposed Edges: [**Thermoset decorative overlay to match panel**] [**1-mm-thick PVC**] [**3-mm-thick PVC**] [**High-pressure decorative laminate, Grade VGS, to match panels**] [**1/4-inch- thick, solid wood**].

* + - * 1. Drawer Bottoms: 1/4-inch- thick, thermoset decorative overlay over particleboard core.
				2. Corners and Filler Panels: 3/4-inch- thick panels. Match style, material, construction, and finish of plastic-laminate-clad wood doors.

Retain "Continuous Finish Base" and "Continuously Sloping Tops" paragraphs below if required.

* + - * 1. Continuous Finish Base: Plastic-laminate-clad, 3/4-inch- thick panel that matches door faces; fabricated in lengths as long as practical to enclose base and base ends of lockers.
				2. Continuously Sloping Tops: Plastic-laminate-clad, 3/4-inch- thick panel that matches door faces for installation over lockers with separate flat tops. Fabricate tops in lengths as long as practical, without visible fasteners at splice locations. Provide fasteners, supports, and closures, as follows:

Closures: [**Vertical**] [**Hipped**]-end type.

Retain Subparagraph below where two runs of lockers meet at right angles.

Sloping-top corner fillers, mitered.

* + - * 1. Plastic-Laminate Colors, Patterns, and Finishes:

Retain one of four Subparagraphs below. If retaining first Subparagraph, indicate colors, patterns, and finishes in a separate schedule.

As indicated by manufacturer's designations.

Match Director’s Representative's samples.

As selected by Director’s Representative from plastic-laminate manufacturer's full range of [**solid colors**] [**solid colors with core same color as surface**] [**wood grains**] [**patterns**].

* + - 1. MATERIALS
				1. Composite Wood: Provide materials that comply with requirements of referenced quality standard for each type of woodwork and quality grade specified unless otherwise indicated.

If retaining "Thermoset Decorative Panels" Subparagraph below, also retain "Medium-Density Fiberboard" and "Particleboard" Subparagraphs. Thermoset decorative panels are frequently called "melamine."

Thermoset Decorative Panels: Particleboard or medium-density fiberboard finished with thermally fused, melamine-impregnated decorative paper and complying with requirements of NEMA LD 3, Grade VGL, for Test Methods 3.3, 3.4, 3.6, 3.8, and 3.10.

Grades for medium-density fiberboard changed with the 2002 edition of ANSI A208.2. Grade 130 is approximately equivalent to the previous Grade MD.

Medium-Density Fiberboard: ANSI A208.2, Grade 130.

Particleboard: ANSI A208.1, [**Grade M-2**] [**Grade M-2-Exterior Glue**].

Softwood Plywood: DOC PS 1, medium-density overlay.

* + - * 1. High-Pressure Decorative Laminate: NEMA LD 3, grades as follows:

Grade HGS in "Horizontal Surfaces" and "Vertical Surfaces" Subparagraphs below is 0.048 inch thick; Grades HGL and HGP are 0.039 inch thick; Grade VGS is 0.028 inch thick.

Horizontal Surfaces: [**Grade HGS**] [**Grade HGL**].

Postformed Surfaces: Grade HGP.

Vertical Surfaces: [**Grade HGS**] [**Grade VGS**].

Retain "Fire-Retardant-Treated Materials" Paragraph below if applicable; verify availability with manufacturers. Typically, fire-retardant-treated materials are not required for wood lockers.

* + - * 1. Fire-Retardant-Treated Materials: Where fire-retardant-treated materials are indicated, use materials impregnated with fire-retardant chemical formulations indicated by a pressure process or other means acceptable to authorities having jurisdiction to produce products with fire-test-response characteristics specified.

Do not use material that is warped, discolored, or otherwise defective.

Use fire-retardant-treatment formulations that do not bleed through or otherwise adversely affect finishes. Do not use colorants in solution to distinguish treated material from untreated material.

Particleboard in "Fire-Retardant Particleboard" Subparagraph below contains urea formaldehyde. Particleboard complies with requirements for Class I (Class A) finish, but not with requirements of model codes for use where noncombustible materials are required.

Fire-Retardant Particleboard: Panels made from softwood particles and fire-retardant chemicals mixed together at time of panel manufacture to achieve flame-spread index of 25 or less and smoke-developed index of 25 or less according to ASTM E84:

Panels 3/4 Inch Thick and Less: ANSI A208.1, Grade M-2, except for the following minimum properties: density, 45 lb/cu. ft.; modulus of rupture, 1600 psi; modulus of elasticity, 300,000 psi; internal bond, 80 psi; and screw-holding capacity on face and edge, 250 and 225 lbf, respectively.

Panels 13/16 to 1-1/4 Inches Thick: ANSI A208.1, Grade M-1, except for the following minimum properties: density, 44 lb/cu. ft.; modulus of rupture, 1300 psi; modulus of elasticity, 250,000 psi; linear expansion, 0.50 percent; and screw-holding capacity on face and edge, 250 and 175 lbf, respectively.

Fiberboard in "Fire-Retardant Fiberboard" Subparagraph below contains urea formaldehyde. Fiberboard complies with requirements for Class I (Class A) finish, but not with requirements of model codes for use where noncombustible materials are required.

Fire-Retardant Fiberboard: Medium-density panels according to ANSI A208.2, made from softwood fibers, synthetic resins, and fire-retardant chemicals mixed together at time of panel manufacture to achieve flame-spread index of 25 or less and smoke-developed index of 200 or less according to ASTM E84.

* + - * 1. Furring, Blocking, Shims, and Hanging Strips: [**Softwood or hardwood lumber**] [**Fire-retardant-treated softwood lumber**], kiln dried to less than 15 percent moisture content.
				2. Anchors: Material, type, size, and finish as required for each substrate for secure anchorage. Provide metal expansion sleeves or expansion bolts for post-installed anchors. Use nonferrous-metal or hot-dip galvanized anchors and inserts at inside face of exterior walls and at floors.

Retain "Wood Support Base" Paragraph below if locker manufacturer furnishes wood support base; otherwise, delete and specify the base with rough carpentry. Verify availability with manufacturer.

* + - * 1. Wood Support Base: [**2-by-4-inch nominal-size**] [**2-by-6-inch, nominal-size**] lumber treated with manufacturer's standard preservative-treatment, [**nonpressure**] [**pressure**] process.
			1. HARDWARE

Paragraphs below describing hardware items are examples only; revise to suit Project.

Retain type(s) of locking device in first six Paragraphs below. If retaining more than one type, indicate location of each on Drawings, in schedules, or by inserts. Verify availability with manufacturers.

* + - * 1. Cam Padlock Hasp: Surface mounted, steel; finished to match other locker hardware.

Locks in "Cylinder Lock" Paragraph below are deadbolt locks, surface mounted on inside of door with only cylinder exposed on outside; revise if another lock type is required.

* + - * 1. Cylinder Lock: Built-in, flush cam locks with five-pin tumbler keyway, keyed separately and master keyed. Furnish two change keys for each lock and two master keys.

Key Type: [**Flat**] [**Grooved**], with minimum 2-by-2.68-inch key head for accessible lockers.

Bolt Operation: Manually locking deadbolt.

* + - * 1. Built-in Combination Lock: Key-controlled, three-number dialing combination locks; capable of at least five combination changes made automatically with a control key.[**Provide brass-finish escutcheon plate.**]

Bolt Operation: automatically locking spring bolt.

Locks in "Built-in, Coin-Operated Lock" Paragraph below require surface-mounted projecting handles.

* + - * 1. Built-in, Coin-Operated Lock: Self-contained units mounted to door interior with replaceable lock cylinders keyed separately and master keyed. Mount instruction decals to both door faces. Furnish one change key for each lock and one master key.

Bolt Operation: Manually locking deadbolt.

Lock Type: Fee [**return/deposit**] [**collect/pay**].

Fee Type: [**Token**] [**Coin, one quarter**] [**Coin, two quarters**].

Retain "Coin Box" Subparagraph below if retaining "collect/pay" option in "Lock Type" Subparagraph above.

Coin Box: Mount collection box to lock unit, key collection boxes alike. Furnish with removable cylinder and key.

"Built-in, Card-Operated Lock" and "Digital Keypad Lock" Paragraphs below are often used for accessible lockers.

Locks in "Built-in, Card-Operated Lock" Paragraph below require a projecting handle.

* + - * 1. Built-in, Card-Operated Lock: Self-contained units mounted to door interior with replaceable lock cylinders, keyed separately and master keyed. Mount instruction decals to both door faces. Furnish one change card key for each lock and one master card key.

Bolt Operation: Manually locking deadbolt.

* + - * 1. Digital Keypad Lock: Battery-powered electronic keypad with reprogrammable codes that override access. Three consecutive incorrect code entries shall disable lock for three minutes.

Retain one of two Subparagraphs below.

Designed for permanently assigned access via entry of user's four-digit code.

Designed for shared or temporary access by multiple users, with user-defined code to lock and unlock. Provide LED indicator to show when lock is in use.

Retain "Butt Hinges," "Semiconcealed Hinges," or "Frameless Hinges (European Type)" Paragraph below. Butt hinges are exposed; frameless hinges are concealed, but are not as strong. Verify availability with manufacturers.

* + - * 1. Butt Hinges: 2-3/4-inch, five-knuckle steel hinges; back mounted.

Provide two hinges for doors [**36 inches**] [**42 inches**] high and less.

Provide three hinges for doors more than [**36 inches**] [**42 inches**] high.

* + - * 1. Semiconcealed Hinges: Single-pivot, spring-loaded steel hinges; back mounted.

Provide two hinges for doors [**36 inches**] [**42 inches**] high and less.

Provide three hinges for doors more than [**36 inches**] [**42 inches**] high.

* + - * 1. Frameless Hinges (European Type): Fully concealed[**, self-closing**], nickel-plated steel, with not less than 125 degrees of opening.

Provide two hinges for doors [**36 inches**] [**42 inches**] high and less.

Provide three hinges for doors more than [**36 inches**] [**42 inches**] high.

Retain "Wire Pulls" or "Knobs" Paragraph below.

* + - * 1. Wire Pulls: Back mounted; [**4 inches long, 5/16 inch in diameter**] [**5 inches long, 2-1/2 inches deep, and 5/16 inch in diameter**].
				2. Knobs: Metal; back mounted; [**1-inch-**] [**1-1/2-inch-**] diameter, [**flat round**] [**ball**] shape.

Handle in "Accessible Handle" Paragraph below may be used with built-in, card-operated locks for accessible lockers.

* + - * 1. Accessible Handle: Metal, fixed, graspable lever handle and rose trim; surface mounted.

Shelves are typically fixed. If adjustable shelves are required, retain "Shelf Rests" Paragraph below. Shelf rests are installed in holes drilled in cabinet sides and partitions.

* + - * 1. Shelf Rests: BHMA A156.9, B04013.
				2. Drawer Slides: Side-mounted, full-extension, zinc-plated steel drawer slides with steel ball bearings, and rated for a load of [**75 lbf**] [**100 lbf**].

Retain "Drawer Locks" Paragraph below if required. Drawer locks are seldom needed because drawers are located inside lockers.

* + - * 1. Drawer Locks: Cam padlock hasp or cylinder lock; surface mounted on inside of drawer.

Retain and revise "Hooks" Paragraph below to suit Project and locker types.

* + - * 1. Hooks: Manufacturer's standard, ball-pointed aluminum or steel; [**brass finished**] [**chrome finished**] [**epoxy coated**] [**finished to match other locker hardware**]. Attach hooks with at least two fasteners.

Provide hooks as indicated on Drawings.

Retain Subparagraph above or one or more of four Subparagraphs below.

Provide [**one double-prong ceiling hook**] [**and**] [**two single-prong wall hooks**] for each compartment of [**single-tier**] [**double-tier**] [**triple-tier**] [**and**] [**open-front**] lockers.

Provide [**one double-prong ceiling hook**] [**and**] [**two single-prong wall hooks**] for each bottom compartment of top-modified lockers.

Provide [**one double-prong ceiling hook**] [**and**] [**two single-prong wall hooks**] for each top compartment of bottom-modified lockers.

Provide one double-prong ceiling hook for each compartment of interlocking lockers.

* + - * 1. Coat Rods: [**1-inch-**] [**3/4-inch-**] diameter steel; [**brass finished**] [**chrome finished**] [**nickel plated**] [**finished to match other locker hardware**].

Provide coat rods as indicated on Drawings.

Retain Subparagraph above or one of or both Subparagraphs below.

Provide coat rod for each compartment of [**single-tier**] [**double-tier**] [**triple-tier**] [**bottom compartment of top-modified**] [**top compartment of bottom-modified**] [**interlocking**] [**and**] [**open-front**] lockers.

Provide coat rod in lieu of ceiling hook for lockers 24 inches high or taller.

* + - * 1. Exposed Hardware Finish:

Retain one of two Subparagraphs below. First Subparagraph is manufacturers' standard. See the Evaluations.

[**Polished chrome**] [**Polished brass**] [**Satin chrome**] [**Satin brass**] unless otherwise indicated.

Unless otherwise indicated, provide finish that complies with BHMA A156.18 for BHMA finish number indicated.

Subparagraphs below are examples only. Revise to suit Project. If more than one finish is required, indicate location of each here or on Drawings. See the Evaluations.

Bright Brass, Clear Coated: BHMA 632 for steel base; BHMA 605 for brass base.

Satin Chromium Plated: BHMA 626 for brass or bronze base; BHMA 652 for steel base.

Bright Chromium Plated: BHMA 625 for brass or bronze base; BHMA 651 for steel base.

* + - 1. ACCESSORIES

Trays in "Door Trays" Paragraph below are for storing small items, such as jewelry, deodorant, hairbrushes, and hairspray.

* + - * 1. Door Trays: Fabricated from solid wood.

Provide [**matching wood towel rod**] [**brass-finished steel towel rod**] [**chrome-finished steel towel rod**] [**nickel-plated steel towel rod**] [**towel rod finished to match other locker hardware**]; attached to bottom of door tray.

* + - * 1. Mirrors: ASTM C1036, Type I, Class 1, Quality q2; with second (back) surface coated with successive layers of chemically deposited silver, copper, and protective organic coating to produce coating system according to performance requirements in ASTM C1503 for mirror-quality glazing.

Glass Thickness: 3 mm minimum unless otherwise indicated.

Frame: Solid wood.

* + - * 1. Security Lock Boxes: 6 inches wide by 6 inches high by depth of locker; with piano hinge and [**cylinder**] [**built-in combination**] lock.
				2. Security Vaults: 6 inches wide by 4 inches high by 6 inches deep; fabricated from steel sheet; with built-in combination lock.
				3. Protective Mats: 1/8-inch- thick, solid rubber.

Retain last option in "Number Identification Plates" Paragraph below if retaining plastic plates.

* + - * 1. Number Identification Plates: 1-1/2-inch- diameter, etched, embossed, or stamped, [**brass**] [**aluminum**] [**stainless-steel**] [**plastic**] plates with black numbers and letters at least 1/2 inch high. Identify lockers in sequence indicated on Drawings.[**Finish plates to match other locker hardware.**]

Retain last option in "Name Identification Plates and Plate Holders" Paragraph below if retaining plastic plates.

* + - * 1. Name Identification Plates and Plate Holders: 1-inch-high by 4-inch-wide, etched, embossed, or stamped, [**brass**] [**aluminum**] [**stainless-steel**] [**plastic**] plates with black letters at least 1/2 inch high. Identify lockers as indicated on Drawings.[**Finish nameplates and holders to match other locker hardware.**]
			1. LOCKER BENCHES

Retain this article if locker benches are required. Revise to suit Project.

* + - * 1. End-Panel Locker Benches: Bench top supported between vertical end supports, as follows:

End Supports: [**4-inch**] [**3-inch**] thickness, with height and width [**1 inch more than**] [**2 inches more than**] [**same as**] height and width of bench.

Finish: Match style, material, construction, and finish of plastic-laminate-clad locker doors.

Bench Top: 3-inch- thick, particleboard core. Provide 1/2-inch- radius top edges on bench sides.

Width: 15 inches except provide minimum 20-inch width where accessible benches are indicated.

Height: 18 inches measured from top of bench to floor.

Length: [**36 inches**] [**48 inches**] [**60 inches**] [**72 inches**]**[As indicated]**.

Finish: Bond the following material to core:

Retain "High-Pressure Decorative Laminate" or "Carpet" Subparagraph below.

High-Pressure Decorative Laminate: [**As indicated by manufacturer's designations**] [**Match Director’s Representative's sample**] [**As selected by Director’s Representative from manufacturer's full range**].

Retain "Waterfall-Design Locker Benches" Paragraph below for benches that, in front elevation, have tops and end supports of the same thickness and finish. Verify availability with locker manufacturer; revise to suit Project.

* + - * 1. Waterfall-Design Locker Benches: Integral bench top and end supports. 3-inch- thick, particleboard core. Radius top edge of supports flush with top of bench.

Width: 15 inches except provide minimum 20-inch width where accessible benches are indicated.

Height: 18 inches measured from top of bench to floor.

Length: [**36 inches**] [**48 inches**] [**60 inches**] [**72 inches**]**[As indicated]**.

Frames in "Outside Frames" Subparagraph below are available from some manufacturers and are typically used to create inset for carpet finish. Verify availability with manufacturers.

Outside Frames: 1-by-3-inch- wide, solid wood extending continuously along faces of end supports and bench top. Match radius at transition between end supports and bench top.

Finish: Bond the following material to core:

Retain "High-Pressure Decorative Laminate" or "Carpet" Subparagraph below.

High-Pressure Decorative Laminate: [**As indicated by manufacturer's designations**] [**Match Director’s Representative's sample**] [**As selected by Director’s Representative from manufacturer's full range**].

* + - * 1. Pedestal-Leg Locker Benches: Bench top supported by pedestal legs, minimum of two pedestals for each bench, with overall height of 18 inches measured from top of bench to floor, as follows:

Retain "Wood Pedestal Legs" or "Metal Pedestal Legs" Subparagraph below.

Wood Pedestal Legs: Solid wood, in inverted-T shape. Match finish of locker doors.

Metal Pedestal Legs: 1-1/2-inch- [**diameter, stainless-steel round tube or pipe**] [**square, stainless-steel tube**] [**square, brass tube**] [**diameter, solid aluminum**] [**square, painted steel tube**].

Bench Tops: 1-1/4 inches deep; fabricated as follows:

Retain "Butcher Block Top" or "High-Pressure Decorative Laminate Top" Subparagraph below.

Butcher Block Top: Solid laminated hardwood.

High-Pressure Decorative Laminate Top: Post formed over particleboard core, with color [**as indicated by manufacturer's designations**] [**matching Director’s Representative's sample**] [**as selected by Director’s Representative from manufacturer's full range**] <**Insert manufacturer's name; product name or designation**>.

Width: 15 inches except provide minimum 20-inch width where accessible benches are indicated.

Length: [**36 inches**] [**48 inches**] [**60 inches**] [**72 inches**]**[As indicated]**.

Retain "Bench Backs" Paragraph below for accessible benches that are not attached to a wall. Verify availability with locker manufacturer; revise to suit Project. See the Evaluations.

Bench Backs: Back support for full width of bench, secured to bench.

Construction: Match style, material, and finish of bench top:

Height: Beginning at a point no more than 2 inches above the seat surface to a height no less than 18 inches above the seat surface.

* + - 1. FABRICATION
				1. Fabricate each locker with shelves, an individual door and frame, an individual top, a bottom, and a back, and with common intermediate uprights separating compartments.

Fabricate lockers to dimensions, profiles, and details indicated.

Ease edges of corners of solid-wood members to 1/16-inch radius.

* + - * 1. Fabricate lockers square, rigid, without warp, and with finished faces flat and free of dents, scratches, and chips. Accurately factory machine components for attachments. Make joints tight and true.

Retain one of first two Subparagraphs below.

Fabricate lockers using manufacturer's standard construction, with joints made with dowels, dados, or rabbets. Dado side panels to receive shelving except where indicated to be adjustable.

Fabricate lockers with joints that are dadoed or rabbeted, glued full length, and stapled. Dado side panels to receive shelving except where indicated to be adjustable.

Retain one of two Subparagraphs below.

Join drawer subfronts, backs, and sides with manufacturer's standard glued joints.

Join drawer subfronts, backs, and sides with [**glued rabbeted joints supplemented by mechanical fasteners**] [**or**] [**glued dovetail joints**].

* + - * 1. Accessible Lockers: Fabricate as follows:

Locate bottom shelf no lower than 15 inches above the floor.

Where hooks, coat rods, or additional shelves are provided, locate no higher than 48 inches above the floor.

Delete "Venting" Paragraph below if locker venting is through louvers. If retaining Paragraph, retain second option if required for multiple-tier lockers.

* + - * 1. Venting: Fabricate lockers with space between doors and locker assembly of not less than [**1/4 inch**] [**3/4 inch, with painted metal security screen attached to each shelf between doors**].

Retain "Number Identification Plates" Paragraph below if required. Delete if number plates are attached to doors with screws.

* + - * 1. Number Identification Plates: Inlay number plates flush in each locker door, near top, centered.
				2. Complete fabrication, including assembly, finishing, and hardware application, to maximum extent possible, before shipment to Project site. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.

Retain first Subparagraph below for high-quality and large or complex work.

Trial fit assemblies at fabrication shop that cannot be shipped completely assembled. Install dowels, screws, bolted connectors, and other fastening devices that can be removed after trial fitting. Verify that the parts fit as intended, and check measurements of assemblies against field measurements indicated on Shop Drawings before disassembling for shipment.

Use only manufacturer's nuts, bolts, screws, and other devices for assembly.

* + - * 1. Shop cut openings, to maximum extent possible, to receive hardware, electrical work, and similar items. Locate openings accurately and use templates or roughing-in diagrams to produce accurately sized and shaped openings. Sand edges of cutouts to remove splinters and burrs.
				2. Attach PVC edging to panels by thermally fusing edging to panels after panel fabrication.
1. EXECUTION
	* + 1. EXAMINATION
				1. Examine walls and floors or support bases, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
				2. Verify that furring is attached to concrete and masonry walls that are to receive lockers.
				3. Proceed with installation only after unsatisfactory conditions have been corrected.
			2. PREPARATION
				1. Condition lockers to average prevailing humidity conditions in installation areas before installation.
				2. Before installing lockers, examine factory-fabricated work for completeness and complete work as required, including removal of packing.
			3. INSTALLATION

Retain option in first Paragraph below if required by manufacturer for attachment of lockers to support bases.

* + - * 1. Install wood support base.

Retain "Knocked-Down Lockers" Paragraph below only if lockers are site assembled; most manufacturers' wood lockers are factory assembled.

* + - * 1. Knocked-Down Lockers: Assemble with manufacturer's standard fasteners, with no exposed fasteners on face frames.
				2. Install lockers level, plumb, and true; use concealed shims.
				3. Connect groups of lockers together with manufacturer's standard[**brass-finished**] fasteners, through predrilled holes, with no exposed fasteners on face frames. Fit lockers accurately together to form flush, tight, hairline joints.
				4. Install lockers without distortion so doors and drawers fit openings properly and are accurately aligned. Adjust hardware to center doors and drawers in openings, providing unencumbered operation. Complete installation of hardware and accessory items as indicated.

Installation Tolerance: No more than 1/8 inch in 96-inch sag, bow, or other variation from a straight line. Shim as required with concealed shims.

* + - * 1. Locker Anchorage:

Retain one of two Subparagraphs below or revise to suit Project. Retain second Subparagraph for seismic installation.

Fasten lockers through wood locker base, at ends, and not more than 36 inches o.c. with [**No. 8 flush-head**] [**No. 8 brass-finished, flush-head**] wood screws sized for 1-inch penetration into wood base.

Fasten lockers through back, near top and bottom, at ends with [**No. 8 flush-head wood screws sized for 1-inch penetration into wood framing, blocking, or furring**] [**No. 8 brass-finished, flush-head wood screws sized for 1-inch penetration into wood base wood framing, blocking, or furring**] [**No. 8 pan- or bugle-head wood screws sized for 1-inch penetration into wood framing, blocking, or furring**] [**No. 8 pan-head sheet metal screws through metal backing or metal framing behind wall finish**] and spaced not more than 16 inches o.c.

* + - * 1. Scribe and cut corner and filler panels to fit adjoining work using fasteners concealed where practical. Repair damaged finish at cuts.
				2. Attach sloping-top units to lockers, with end panels covering exposed ends.
				3. Install [**number identification plates**] [**and**] [**name identification plates and holders**] after lockers are in place.

Attach number identification plate on each locker door, near top, centered, with at least two screws with finish matching the plate.

Attach name identification plate holder on each locker door, centered[**below number plate**], with at least two screws, with finish matching the name identification plate holder.

Insert name identification plate into matching nameplate holder on each door.

* + - * 1. Provide protective mat at each shoe shelf.

Retain "Fixed Locker Benches" and "Movable Locker Benches" Paragraphs below if required.

* + - * 1. Fixed Locker Benches: Provide no fewer than two pedestals for each bench, uniformly spaced not more than 72 inches apart. Securely fasten tops of pedestals to undersides of bench tops, and anchor bases to floor.
				2. Movable Locker Benches: Place benches in locations indicated on Drawings.
			1. ADJUSTING
				1. Clean, lubricate, and adjust hardware. Adjust doors[**and drawers**] to operate easily without binding.[**Verify that integral locking devices operate properly.**]
			2. PROTECTION
				1. Protect lockers from damage, abuse, dust, dirt, stain, or paint. Do not permit use during construction.
				2. Touch up marred finishes or replace lockers that cannot be restored to factory-finished appearance. Use only materials and procedures recommended or furnished by locker manufacturer.

END OF SECTION 105123