SECTION 116653 - GYMNASIUM DIVIDER CURTAINS

PART 1 - GENERAL

1.1 SUMMARY

A. Scope of work includes gymnasium divider curtains at the “Dog House” gymnasium at Portage Northern High School and the “Stable” gymnasium at Portage Central High School.

B. Section Includes:
   1. Fold-up divider systems.
   2. Structural support system.

1.2 ALTERNATES

A. Add Alternative No. 1:
   1. Base Bid: Provide keyed control system.
   2. Alternative: Provide and replace existing backboard key control system and curtain operation with touch-screen programmable operating system.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.
   1. Motors: Show nameplate data, ratings, characteristics, and mounting arrangements.

B. Shop Drawings: For gymnasium dividers.
   1. Include plans showing alignment of curtains in relation to sport-court layout and overhead structural supports.
   2. Include elevations, sections, details, and attachments to other work.
   3. Include system clearances, stacking requirements, and limits for fitting into adjacent construction.
   4. Include point loads and locations for attachment of gymnasium dividers to structure.
   5. Include diagrams for power, signal, and control wiring.

C. Samples: For each exposed product and for each item and color specified.

1.4 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Reflected ceiling plans with divider-curtain layouts, drawn to scale, on which the following items are shown and coordinated with each other, based on input from installers of the items involved:
   1. Structural members to which divider-curtain systems will be attached.
   2. Suspended ceiling components, if any.
   3. Items supported from building structure, including the following:
      a. Lighting fixtures.

b. Air outlets and inlets.
c. Speakers.
d. Sprinklers.
e. Smoke detectors.
f. Acoustical treatments or panels.
g. Access panels.

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For gymnasium dividers to include in operation and maintenance manuals.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

1.7 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of gymnasium dividers that fail in materials or workmanship within specified warranty period.
1. Failures include, but are not limited to, the following:
a. Faulty operation of gymnasium dividers.
b. Tearing or deterioration of fabric, seams, or other materials beyond normal use.
2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 FOLD-UP DIVIDER SYSTEMS

A. 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:
1. Draper, Inc.
2. Performance Sports Systems.
3. Porter Athletic Equipment Company.

B. Source Limitations: Obtain system from single source from single manufacturer.

C. Divider-Curtain System: Electrically operated, upward folding, cable suspended, and as follows:
1. Top Hem: Double-thickness mesh or solid vinyl for continuous pipe batten.
2. Outer Edge Hems: Triple turned and double welded.
3. Seams: All seams to be electronically welded with a 1-inch full contact weld.
4. Bottom Curtain Pocket: 6 inches with manufacturer's standard pipe batten.
5. Grommets: Manufacturer's standard material, size, and spacing; for lift cables to pass through curtain fabric.

6. Support Cables: 1/8-inch-diameter galvanized-stranded-steel wire rope with a breaking strength of 2000 lb. Provide fittings according to cable manufacturer's written instructions for size, type, number, and installation method.
7. Support Chain and Fittings: Hardened alloy-steel chain rated for lifting loads indicated, with commercial-quality, corrosion-resistant steel connectors and hangers.
8. Curtain Battens and Drive Pipe: Fabricate from steel pipe or tubing with a minimum number of joints, as necessary for required lengths. Provide galvanized battens and drive pipe, or shop prime and shop finish with black paint.
    a. Drive Pipe: 2-3/8-inch-nominal diameter steel pipe.
    b. Top and Bottom Battens: 1-1/2-inch-nominal diameter steel pipe.

2.2 ELECTRIC OPERATORS

A. Provide factory-assembled electric operation system of size and capacity recommended in writing and provided by gymnasium divider manufacturer for gymnasium dividers specified, with electric motors and factory-prewired motor controls, control devices, and accessories required for proper operation.
    1. Include wiring from control stations to motors and between synchronizer and dual motors for long curtains. Coordinate operator wiring requirements and electrical characteristics with building electrical system.

B. Electrical Components, Devices, and Accessories: Listed and labeled according to NFPA 70, by a qualified testing agency, and marked for intended location and application.

C. Motor Electrical Characteristics:
    1. Horsepower: 3/4 hp.
    2. Voltage: 115 V ac, single phase, 60 hertz.

D. Limit Switches: Adjustable switches at each divider curtain, interlocked with motor controls and set to automatically stop divider curtain at fully extended and fully retracted positions.

E. Control System:
    1. Base Bid: Key-switch operating system for new divider curtains.
        a. Key-Switch Operation: NEMA ICS 6, Type 1 enclosure, momentary-contact, three-position switch-operated control with up, down, and off functions.
            1) Switches, Ganged: Single faceplate with multiple switch cutouts for two switches.
            2) Keys: Provide two key(s) per station.
    2. Alternate Bid: Touch-screen programmable operating system for existing backboard and new curtain controls.
        a. Basis-of-Design Product: Draper, Smart Gym Control System, 7-inch touchscreen.

2.3 DIVIDER CURTAINS

A. Upper Curtain, Mesh: Woven mesh of polyester yarn coated with vinyl, weighing not less than 9 oz./sq. yd.
   1. Mesh Color: One color per school, as selected by Architect from full range of manufacturer's colors.

B. Lower Curtain, Solid: Woven polyester fabric coated with vinyl, 18 oz./sq. yd., 8-foot height above floor.
   1. Fabric Color: One color per school, as selected by Architect from full range of manufacturer's colors and color densities.

C. Hems: Folded and electronically welded.

D. Seams: Electronically welded.

E. Overall Curtain Height: As indicated on Drawings, verify in field.

F. Bottom of Curtain: Approximately 2 inches above finished floor.

G. Divider-Curtain Flame-Resistance Rating: Passes NFPA 701 Test 2.

2.4 DIVIDER SYSTEM ACCESSORIES

A. Safety Lock: Locks drive system when speed exceeds manufacturer's recommended speed.

B. Audible Motion Alarm: Provide alarm with intermittent warning tone when curtain is raised or lowered.

2.5 SUPPORT MATERIALS AND FASTENERS

A. Structural Support Systems:
   1. Steel Shapes; ASTM A36/A36M.
   2. Steel Tubing: ASTM A500/A500M, cold-formed steel tubing.
   3. Steel Pipe: ASTM A53/A53M, Standard Weight (Schedule 40) unless otherwise indicated.

B. Support Chain and Fittings: For chains used for overhead lifting, provide Grade 80, heat-treated alloy-steel chains, according to ASTM A391/A391M, with commercial-quality, hot-dip galvanized or zinc-plated steel connectors and hangers.

C. General-Purpose Chain: For chains not used for overhead lifting, provide carbon steel chain, according to ASTM A413/A413M, Grade 30 proof coil chain or higher grade recommended by gymnasium divider manufacturer. Provide coating type, chain size, number, and installation method according to manufacturer's written instructions.

D. Anchors, Fasteners, Fittings, and Hardware: Manufacturer's standard corrosion-resistant or non-corrodible units; concealed.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for alignment of mounting substrates, installation tolerances, operational clearances, locations of connections to building electrical system, and other conditions affecting performance of the Work.
   1. Verify critical dimensions.
   2. Examine supporting structure.
   3. Examine wall assemblies, where reinforced to receive anchors and fasteners, to verify that locations of concealed reinforcements are clearly marked. Locate reinforcements and mark locations.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

A. Comply with manufacturer's written installation instructions.

B. Install gymnasium dividers after other finishing operations, including painting, have been completed unless otherwise indicated.

C. Install gymnasium dividers level, plumb, square, and true; anchored securely to supporting structure; positioned at locations and elevations indicated; in proper relation to adjacent construction; and aligned with sport-court layout.
   1. Verify clearances for movable components of gymnasium dividers throughout entire range of operation and for access to operating components.

D. Electric Operators Installation: Connect electric operators to building electrical system.

3.3 ADJUSTING

A. Adjust movable components of gymnasium dividers to operate safely, smoothly, easily, and quietly, free from binding, warp, distortion, uneven tension, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range; and lubricate as recommended in writing by manufacturer.

B. Limit Switch Adjustment: Set and adjust upper and lower limit controls.

3.4 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain gymnasium dividers.

END OF SECTION 116653