SECTION 116123 - PORTABLE PLATFORMS

PART 1 - GENERAL

1.1 Summary

A. Performance platforms include equipment assemblies and components required for varying the stage plan of the multipurpose room.

B. Section Includes:

1. Materials, components, modifications, assemblies, equipment and services as specified herein. These include:
   a. Submittals as required by the Contract Documents.
   b. Submission of Shop Drawings signed and sealed by a Professional Engineer licensed to practice by the appropriate governing authority in which the systems are installed.
   c. Engineering of equipment and systems as required by the Contract Documents.
   d. Manufacture of equipment and systems as required by the Contract Documents.
   e. Scheduling, sequencing and coordination with other trades.
   f. Testing and demonstration as specified herein and elsewhere in the Contract Documents.

C. Provide systems including:

1. Platforms, portable stairs, legs, railings, and other accessories in quantities required to provide the configurations shown in the drawings. Only one configuration will be required at any one time.
2. Double-sided aluminum extrusion framed platforms with connection devices, legging and bracing.
3. Hard fascia panels for front and middle of platforms.
4. Fabric skirting for sides and rear of platforms.
5. Pathway lighting at all stair locations.
6. Additional hardware and accessories as required to provide a fully functional system
7. Additional support structures as required to meet the intent of the Contract Documents.

D. Related Sections:

1. Division 1: General and Supplementary Requirements.
2. Division 3: Concrete.
3. Division 4: Masonry.
4. Division 5: Metals.
6. Division 11: Equipment
1.2 System description

A. Performance Requirements:

1. The following establishes minimum safety requirements for the system. Where Federal, State and Local Legislation address these topics, the more stringent requirement takes precedence. Factors listed below in no way relieve the Contractor from sole responsibility of providing a safe system.

   a. Vertical Live Load (in addition to platform weight): 150 PSF.
   b. Point Load Capacity without Live Load: 400 pounds on a 1” square.
   c. Lateral Live Loading: 10% of the maximum Vertical load with the vertical load imposed simultaneously.


3. Built-In Work: Provide anchor bolts, inserts, plates and any other anchorage devices and all other items specified herein to be built into concrete, masonry or work of other trades, with necessary templates and instructions. Provide such devices in ample time to facilitate proper placing and installation.

4. Supplementary Parts: Provide as necessary to complete each item of work, even in the event that such supplementary parts are not specifically mentioned in the Contract Documents.

5. Compatibility of Options: When the Contractor is given the option of selecting between two or more products for use on the Project, the product selected shall be compatible with products previously selected, even if previously selected products were also options.

6. Design and perform the mechanical installations to possess the necessary properties to withstand stresses of tension, compression, flexure, shear, and torsion which may be anticipated being imposed on one or more of the components. Conform to the following priorities of installation: 1) safety, 2) ease of operation, 3) quietness of operation and 4) service life. The standards of quality and design covering the equipment and fabrication plus the installation technique required are established on this basis. The decision of the Owner in determining the acceptability of equipment items, installation technique and workmanship is final.

7. Systems provided in the Work shall in no way damage or adversely affect architectural, mechanical, electrical or structural systems, components or construction.

8. Where dimensions and loading capacities have been omitted from the Contract Documents, determine in accordance with the requirements and intent set forth in the Contract Documents.

9. Design, fabricate and erect steel structural components and fastenings shall be in accordance with the Specifications for Design, Fabrication and Erection of Structural Steel for Buildings, latest edition, by the AISC. Perform welding in accordance with the appropriate standards of the AWS.

10. Materials, components, processes and workmanship for systems shall comply to the current issues or revisions of the applicable legislation, references and standards.
1.3 Warranty

A. Special Warranty:

1. Warrant systems and equipment to be free of defective components, faulty workmanship and improper adjustment for a period of two years from the date of Owner's acceptance. Paint and exterior finishes are excluded. Replace items showing evidence of defective materials or workmanship (including installation workmanship) within thirty (30) days after notification. Make replacements without cost to the Owner. Rectify conditions that might present a hazard to human life, well-being and or property within 48 hours of notification.

2. Designate warranties on manufactured equipment to the Owner on the date of system acceptance.

1.4 Submittals

A. Shop Drawings

1. Submit drawings depicting components, systems and assemblies, subject to static, dynamic or electrical loads affecting their safety and operational integrity, or as otherwise required by legislation, signed and sealed for the intended application, by a licensed Professional Engineer experienced in work of similar nature and scope and licensed in the State of Installation.

2. Note and maintain one of the prints returned as a "Record Document".

3. Do not use Shop Drawings without an appropriate final stamp by the Owner indicating action taken in connection with construction.

4. Shop Drawings shall establish the actual detail of the Work, indicate proper relation to adjoining work, amplify design details of mechanical and electrical equipment in proper relation to physical spaces in the structure, and incorporate minor changes of design or construction to suit actual conditions.

5. Submit newly prepared information, drawn to accurate scale.

6. Highlight, encircle, or otherwise indicate deviations from the Contract Documents.

7. Do not reproduce Contract Documents or copy standard information as the basis of Shop Drawings. Standard information prepared without specific reference to the Project is not considered Shop Drawings.

8. Shop Drawings include fabrication and installation drawings, setting diagrams, schedules, patterns, templates and similar drawings.

B. Maintenance Manuals

1. Organize operating and maintenance data into suitable sets of manageable size. Bind properly indexed data in individual heavy-duty 2-inch, 3-ring vinyl covered binders, with pocket folders for folded sheet information. Mark appropriate identification on front and spine of each binder.

2. Operating and Maintenance Instructions: Provide instruction manuals describing proper operation and maintenance. Include a detailed review of the following items:
a. Maintenance and operation manuals for individual components.
b. Cleaning.
c. Copies of warranties.
d. Hazards.
e. Identification systems.
f. Inspection procedures.
g. As Built drawings depicting actual locations and conditions of the system design, construction and arrangement.

3. Provide five (5) copies of the documentation distributed as follows:
   a. One (1) copy to the Owner prior to general distribution for review of conformance to intent of the Contract Documents. Following modifications and corrections based on the review, distribute three (3) corrected copies to the Owner, and three (3) copies to the Owner.

4. Provide One (1) copy of documentation in a digital format. Provide documentation with required viewing software, or in a format that is available free via a personal computer. Provide a format that is indexed and searchable.

5. Provide a plan and section of performance machinery device locations in CAD format. Drawings should be saved in Drawing Interchange Format (DXF).

C. Regulatory Requirements.


PART 2 - PRODUCTS

2.1 Manufacturers

A. Provide the system from components (except where otherwise stated) that are the products of one of the following manufacturers or equivalent:

   1. Platform framing and leg mounts:
      a. Staging Concepts, Inc. Minneapolis, MN
      b. StageRight Corp., Clare, MI
      c. Wenger Corporation, Owatonna, MN

   2. Platform deck surface – Side 1:
      a. Poly Vinyl - Black

   3. Platform deck surface – Side 2:
      a. Commercial Grade Carpet, Gray
4. Platform Connectors:
   a. Simmons Rota-Lock Fasteners, Simmons Fastener Corp., Albany, NY. U.S.A.

2.2 Materials

A. Platform Floor Decking:
   1. Commercial Grade Carpet
      a. Provide carpet that is dark gray in color. Provide samples to owner for approval.
      b. Provide carpet that has been treated with a spill and stain repellant.
   2. Poly Vinyl sheet - Black

B. Deck construction: composite structure of 1/8” exterior grade Douglas fir plywood laminated to .48” surfaces and bonded to a 2 ¼” thick aluminum honeycomb core material with a waterproof urethane adhesive.

C. Aluminum Extrusion Framing: 6005-T-5 aluminum. Design the extrusion to create a rectangular tube with appropriate flanges, edge grooves and lips to protect flooring material edges and to allow for connection of accessories and additional platforms. Finish surface black.

2.3 Manufactured Units

A. Integral Splice Blocks: Solid extruded aluminum angles with integral grooves to accept framing crimps during fabrication.

B. Leg Brackets: Die cast or extruded aluminum brackets designed to mount at each interior corner of the extrusion framing. Design and fabricate the bracket to be secured to the framing on two adjacent sides. Provide the bracket with a threaded hole and an appropriately sized hexagonal head machine screw for secure temporary fastening of the legging. Provide brackets so when installed it is able to fully support anticipated loads. Bracket design shall provide stable leg attachment and resist all lateral and vertical loading on the platform unit.

2.4 Components

A. Threaded Inserts: Coarse thread self locking carbon steel .5" OD.

B. Platform Fasteners: Double Acting, positive locking hook and pin structural fasteners operable by hexagonal "Allen" type key. Tension loading: 2500 LBS.

1. Acceptable:
   a. Rota-Lock Fastener, Simmons Fastener Corp., Albany, NY.

C. Platforms:
1. Construct platform framing from the aluminum extrusion described herein and as depicted on the Drawings.

2. Fabricate platforms with both sides usable for a finished surface, with materials as noted in the specifications.

3. Fabricate rectangular platform framing by employing internal splice blocks and mechanical connections. Avoid welded connections where possible.

4. Provide aluminum frames able to accept connections of portable railings with required hardware. Railing hardware should connect to the extrusion.

5. Provide aluminum frames with black anodized finish applied after frame is constructed.

6. The contractor may, at his discretion, provide platforms constructed by different means provided the platforms meet the performance criteria of the contract documents, and are approved by the Owner.

D. Legs:

1. Provide tubular steel or aluminum supports and levelers to raise platforms to levels as depicted on the Drawings. Provide legs that are fixed to the platform heights noted on the drawings.

2. Provide bearing braces for the legs as necessary.

E. Removable Railings and Guards

1. Provide removable railings to attach to platforms and audience edges which allow any configuration noted on drawings, and to guard as required to conform to referenced code(s).

2. Connection points for support frames shall be constructed of steel or aluminum. Provide means of temporarily attaching railings to platform extrusions.

3. Railings and guards to be black anodized.

4. Provide guard rails that are interchangeable for different configurations.

5. Guard rails to attach to platform aluminum extrusion. All hardware connecting railings are to be finished the same as the railings.

6. In addition to railings, provide 2” chair guards for rear of platforms. Guards may be integrated into railings, or loose.

F. Fascia

1. Provide fascia for exterior faces.

2. Fascia to be black polyvinyl panels, color: black.

3. Fascia should attach to platforms with removable clips.

G. Skirting

1. Provide skirting for exterior faces.

3. Construct skirts with 50% fullness.
4. Skirting should attach to platforms with removable hanging clips and hook and loop fasteners.

H. Portable Stair Units

1. Treads: Width and risers per drawings.
2. Tread Surface: Match deck surface.
3. Handrails: 38mm OD tubing, black anodized finish.

I. Step / Aisle Lighting

1. Aisle lighting system shall provide a minimum of .2 foot candles along the egress path of each platform condition. Lighting is limited to the path on the platforms.
2. Provide lighting that will clip on to the platform extrusions, and include a protective nosing that matches the color of the adjacent steps or platforms.
3. Fixtures
   a. Lighting shall be low voltage LED, max 3200K color temperature.
   b. Provide modular fixtures that are the width of the walking aisle that can be ganged together with low voltage cables.
   c. Provide quantity of fixtures to light aisles for any of the drawn configurations. Provide 4 spare fixtures.

4. Power distribution:
   a. Provide a line voltage to low voltage transformer for each grouping of platforms shown on the drawings. Transformer will include a 120v corded input and 12v output receptacle. Provide 1 spare.
   b. Provide a low voltage PWM dimmer in a locked box with rubber feet to set appropriate light level. Dimmer and transformers would sit under platforms during use.
   c. Provide a series of output cords for low voltage connections. Provide cords that are a common connector configurations, Neutrik NL4.

J. Accessories

1. Provide accessories as required to provide a fully functional system per the intent of the Contract Documents.

K. Signage

1. Provide signage legible both in construction and grammar.
2. Provide paper and digital diagrams depicting the platform system layout (drawn not less than 1/4"=1'-0"). Turn over to owner as part of O&M materials.
3. Identify each platform by a white stenciled number not less than 4" high that corresponds to the layout plans included in the manual. Apply the number on the underside face of the acoustical damping of each platform.

4. Equipment Identification
   
a. Nameplates: Except for required labels and operating data, do not attach or imprint manufacturer's or producer's nameplates or trademarks on exposed surfaces of products which will be exposed to view in occupied spaces or on the exterior.
   
b. Labels: Locate required product labels and stamps on a concealed surface or, where required for observation after installation, on an accessible surface that is not conspicuous.
   
c. Equipment Nameplates: Provide a permanent nameplate on each item of service-connected or power-operated equipment. Locate on an easily accessible surface which is inconspicuous in occupied spaces. The nameplate shall contain the following information and other essential operating data:
   
d. Name of product and manufacturer.
   
e. Model and serial number.
   
f. Capacity.
   
g. Ratings.
   
h. Designate items fabricated by the system Manufacturer with the Manufacturer's name, model number and serial number on the chassis or a name plate securely attached to the item.

2.5 Source quality control

A. Tests and Review:
   
1. Work on the systems may be reviewed by the Consultant at the point of manufacture a minimum of one time during fabrication. This visit may occur during the final factory checkout prior to shipping, unless the Manufacturer and Consultant agree on a more advantageous date.

2.6 Supplementary

A. Provide equipment and hardware in addition to the items specified previously that are necessary to provide a fully working system in conformance with the intent of the Contract Documents.

PART 3 - EXECUTION

3.1 Preparation

A. Verify field measurements at the site prior to installation and modify the system accordingly.

   B. Surface Preparation:
1. Clean surfaces as necessary prior to commencing the Work.

3.2 Erection, Installation and Application:

A. Install platforms as indicated on the Drawings. Install and test each configuration.

B. Erection:

1. Fastening:

a. Provide metal fastenings and accessories in same texture, color and finish as adjacent materials, unless indicated otherwise.

b. Prevent electrolytic action between dissimilar metals and materials.

c. Space anchors within their load limit and shear capacity; ensure that they provide positive and permanent anchorage. Wood and other organic material plugs are not acceptable.

d. Keep fastenings to a minimum, space evenly and install neatly.

e. Fastenings which cause spalling or cracking of material to which anchorage is made are unacceptable.

3.3 Field Quality Control

A. Reviews:

1. Final review will be made by the Owner or his appointed representative, following receipt in writing or notification from this Contractor that the installation is completed. If review reveals any detail of construction, fabrication, or installation not in strict accord with the Contract Documents, approval will be withheld and Contractor shall be given thirty days to replace the rejected items with those conforming to specification requirements. In addition to the final review of various equipment components the right of review is reserved during the course of the installation. The Owner or his appointed representative will be allowed access to materials at the site for eventual incorporation in the work. Preliminary visits will not be construed as eliminating the possible rejection of various components during the final review detailed above. At the time of final review, the Contractor shall provide test weights to demonstrate the load capacities of the installed systems and shall arrange the weights as directed by the Owner.

3.4 Demonstration And Instruction

A. Demonstrate installation of each platform configuration.

B. Demonstrate storage of all equipment.

C. At time of demonstration, owner shall provide direction of final configuration to remain.

D. Provide a total of four (4) hours of training on this equipment.

END OF SECTION
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PLATFORMATION LAYOUT - ALLEY

GLOBAL CAMPUS RENOVATION
FAYETTEVILLE, AR 72701
Theatre Consultants Collaborative

Date: 16 OCT 2017
Scale: 3/32" = 1'-0"
Project: UARK-17
Reference:

TCckw
T.06.1