

Bid # 16-44
CHILD CARE CENTER PLAYGROUND SURFACE and EQUIPMENT
INSTALLATION
2016

SECTION "C" TECHNICAL SPECIFICATIONS

OWNER

**Board of Trustees
Middlesex County College
2600 Woodbridge Avenue
P.O. Box 3050
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PREPARED BY

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SECTION C - TECHNICAL SPECIFICATIONS

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1. **SCOPE OF WORK**

The purpose of these specifications is the completion of a contract. This work will be performed at the main Middlesex County College (MCC) campus in Edison, New Jersey, at the Child Care Center.

Prepare the existing play area located in the Child Care Center for installation of a new engineered wood play surface and firetruck themed jungle gym. Remove existing swing set, and existing jungle gym located in the playground. Install new fire truck themed jungle gym (purchased by owner). Remove existing sand, compact, and install new geotextile fabric. Install approximately 4,800 Sq. Ft. of engineered wood play surface, 8 inches deep. Install new high traffic PVC mats in play surface. See Drawings A-1, A-2, and A-3 for additional information and details.

The contractor shall provide all of the necessary labor, materials, tools and equipment required to complete the work described on the drawings and in these specifications.

The dimensions shown on the drawings are approximate and not all dimensions are shown. The contractor is responsible for verifying the actual sizes of the work areas.

Prior to construction, the contractor shall submit product data for approval by Facilities Engineering. The submittals shall depict the manufacturer's information for the surface preparation, materials, and installation procedure.

The contractor shall be required to attend a pre-construction meeting on campus at a time to be scheduled after the contract is awarded and other job progress meetings as required by the College.

The following is a list of drawings that are attached and are a part of these specifications and contract:

- A-1 CAMPUS SITE PLAN AND EDISON HALL FLOOR PLAN
- A-2 EXISTING PLAYGROUND FLOOR PLANS AND NOTES
- A-3 NEW PLAYGROUND FLOOR PLANS, DETAILS AND NOTE

2. **MATERIALS and INSTALLATION**

The materials used under this contract shall be as specified on the drawings and in the specifications, be of a quality acceptable to the College and meet applicable codes.

SUBMITTALS

Submit manufacturer's product data, including description of materials, installation of materials, and manufacturer's warranty.

Submit manufacturer's product data for preparation of existing sub surface.

Installer's Project References:

1. Submit letter from BCI Burke CO. stating the playground equipment installer is certified by the manufacturer.
2. Submit letter from Zeager Bros., Inc. stating the playground surfacing installer is certified by the manufacturer.

DELIVERY, STORAGE, AND HANDLING

Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.

Store materials in clean, dry area, offsite in accordance with manufacturer's instructions.

ENGINEERED WOOD FIBER PLAYGROUND SURFACING

The specification is based on that of: Zeager Bros., Inc., 4000 East Harrisburg Pike, Middletown, Pennsylvania 17057. (800) 346-8524. Phone (717) 944-7681. Fax (717) 944-7681. Website www.zeager.com . E-mail sales@zeager.com.

1. "WOODCARPET". (Basis of Design)
2. Approved Equal.
 - a. Composition: Engineered wood fiber. No chemical treatments or additives.
 - b. Compliance: Meet or exceed CPSC guidelines for impact attenuation.
 - c. Recycled Content: 100 percent pre-consumer recovered materials.
 - d. Dimensions: Per sieve analysis, ASTM F2075 / 4.4: Meets Criteria.
 - e. Hazardous Metal, ASTM F 2075 / 4.5: Meets Criteria.
 - f. Tramp Metal, ASTM F 2075 / 4.6: Meets Criteria.
 - g. Coefficient of Permeability, ASTM D 2434: Greater than 0.6 cm/s.
 - h. Moisture Absorption: Maximum of 150 percent by weight.
 - i. Moisture Content: 25 to 60 percent by weight.
 - j. Density: 15 to 24 pounds per cubic foot.
 - k. Impact Attenuation: ASTM F 1292. Meets criteria.
 - l. IPEMA Certification: 8 inch thickness rated to 8 feet.

DRAINAGE FABRIC

1. "DURALINER". (Basis of Design)
2. Approved Equal.
 - a. Composition: Non-woven, needle-punched, UV-treated polypropylene or spun-bonded polyester fabric.
 - b. Recycled Content: 10 percent post-consumer and 10 percent or more of pre-consumer recovered materials.
 - c. Size: 5 to 6 feet wide by 250 feet long.
 - d. Weight, ASTM D3776: Min. 3.24 ounces per square yard.
 - e. Grab Tensile Strength: ASTM D4632: min. 81/79 pounds.
 - f. Elongation: 59/63.
 - g. Mullen Burst Strength, ASTM D3786: min. 130 pounds.
 - h. Puncture Resistance, ASTM D4833: min. 45.1 pounds.

- i. Trapezoid Tearing Strength, ASTM D4533: min. 42/71 pounds.
- j. Permittivity, ASTM D4491: min. 2.09 sec-1.
- k. Flow Rate, ASTM D4491: min. 300 gal/ft/min.

HIGH TRAFFIC MAT

- 1. "WOODCARPET PVC MAT"
- 2. Approved Equal.
 - a. Composition: Polyvinylchloride (PVC). Meets CPSIA Federal Act for Lead and Phthalate acceptable levels.
 - b. Recycled Content: 60 % Preconsumer recovered pvc.
 - c. Drain Holes: 3/8 inch diameter holes, one per 10 square inches.
 - d. Size: 42 in. x 42 in.
 - e. Weight: 3.0 pounds per square foot.
 - f. Thickness: 3/4 inches.
 - g. Impact, ASTM F1292: Over 7.25 inches of Woodcarpet, meets criteria up to 8 feet.

REFERENCES

- 1. ASTM D 2434 – Standard Test Method for Permeability of Granular Soils (Constant Head).
- 2. ASTM D 2859 - Standard Test Method for Ignition Characteristics of Finished Textile Floor Covering Materials.
- 3. ASTM D 3776 – Standard Test Methods for Mass Per Unit Area (Weight) of Fabric.
- 4. ASTM D 3786 – Standard Test Method for Bursting Strength of Textile Fabrics - Diaphragm Bursting Strength Tester Method.
- 5. ASTM D 4491 – Standard Test Methods for Water Permeability of Geotextiles by Permittivity.
- 6. ASTM D 4533 – Standard Test Method for Trapezoid Tearing Strength of Geotextiles.
- 7. ASTM D 4632 – Standard Test Method for Grab Breaking Load and Elongation of Geotextiles.
- 8. ASTM D 4716 – Standard Test Method for Determining the (In plane) Flow rate per Unit Width and Hydraulic Transmissivity of a Geosynthetic Using a Constant Head.
- 9. ASTM D 4751 – Standard Test Method for Determining Apparent Opening Size of a Geotextile.
- 10. ASTM D 4833 – Standard Test Method for Index Puncture Resistance of Geomembranes, and Related Products.
- 11. ASTM D 5199 – Standard Test Method for Measuring the Nominal Thickness of Geosynthetics.
- 12. ASTM F 1292 – Standard Specification for Impact Attenuation of Surfacing Materials within the Use Zone of Playground Equipment.

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13. ASTM F 1951 – Standard Specification for Determination of Accessibility of Surface Systems Under and Around Playground Equipment.
14. ASTM F 2075 – Standard Specification for Engineered Wood Fiber for Use as a Playground Safety Surface Under and Around Playground Equipment

EXECUTION

Examine areas to receive playground surfacing. Do not begin installation until any unacceptable conditions have been corrected in accordance with manufacturer's installation instructions.

Review project plans and verify that playground equipment use zones, clearances, and reach ranges will comply with ASTM F1487 sections 8, 9, and 10, and with CAN/CSA-Z614 sections 14 and 15.

Ensure that site drainage is routed away from the playground area, towards the perimeter fence. Grade subsoil to a 2 percent grade toward the perimeter fence.

Install Geotextile Fabric, lap seams a minimum of 10 inches or a minimum of 5 inches if a double bead of exterior grade construction adhesive is applied to lap. Place seams parallel to direction of slides and travel of swings.

Install Engineered Wood Fiber Playground Surfacing. Place wood fiber surfacing to a minimum depth of 8 inches after compaction. Use mechanical equipment to uniformly compact and level material.

Install PVC Playground Surfacing Wear Mat. Install a mat in each kick-out area. Dig a channel around the mat edge down to the base of the engineered wood fiber and slope mat edges down into the channel. Install anchors and plastic cable ties to attach mat to anchors. Refill the channel with engineered wood fiber. Anchoring is necessary to keep the mat from shifting or being removed.

PLAYGROUND EQUIPMENT

The specification is based on that of: BCI Burke Company, LLC, 660 Van Dyne Road, Fond du Lac, Wisconsin 54936. (800) 356-2070. Phone (920) 921-9220. Fax (920) 921-9566. Website www.bciburke.com.

Fire Truck Theme Playground Equipment:

1. "Nucleus Series NU-2082". (Purchased by MCC)

EXECUTION

The playground purchased by the owner (Middlesex County College) will be delivered on site to the playground area in its original packaging.

All instruction manuals included will be turned over for installation on site.

Refer to Attachment 'A' within these specifications for the equipment drawing, information, part numbers, quantities, and total weight of parts.

Refer to Attachment 'B' within these specifications for installation guidelines.

Refer to the associated contract drawings for typical footing details for each post.

Install playground equipment in accordance with the manufacturers installation instructions.

The manufacturer's representative shall perform an inspection upon the completion of installation, prior to furnishing the warranty.

3. **COMPLIANCE**

The Contractor shall comply with all of the College's safety and work rules when performing work at the college. All contractor employees, subcontractors, etc. shall sign-in daily at the Facilities Management Building upon arrival on campus to be issued a contractors identification badge. It is expected that all contractor employees will conduct themselves in a professional manner. Every effort must be made to prevent dust and fumes from entering the occupied space.

Middlesex County College is a smoke-free campus. Smoking is only permitted inside a person's personal vehicle. Smoking is not permitted anywhere else on campus or in any construction equipment. The College Police will issue summonses with fines to anyone found in violation of this policy.

The College Campus in Edison, New Jersey is located on a section of the Former Raritan Arsenal (FRA) which operated from 1918 through 1963. The Army Corps of Engineers (ACE) has completed investigations and remediation activities related to unexploded ordnance (UXO) materials on the campus. While there are no known UXO's at this time, there remains a possibility that they can be discovered when excavating on campus. The ACE has provided an information safety sheet which advises anyone excavating on the FRA to practice the "3R's". They are **Recognize, Retreat and Report**. If any material is discovered that appears to be ordnance, the contractor shall immediately stop work, leave the area, call 911, and notify the College. A procedure has been established for emergency responders and military personnel to safely address such a situation

4. **SITE CLEANUP**

The work area shall be cleaned on a daily basis. Any items remaining shall be secured and surrounded with safety tape and/or barriers. Any damage caused by the contractor shall be repaired at no cost to the college.

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The contractor is to remove all trash and other waste off site and disposed of it in accordance with current regulations. Provide the college with weight tickets for any materials that can be recycled.

5. **TIME CONSTRAINTS**

If the Board of Trustees of Middlesex County College has approved an award on approximately April 27, 2016, the contractor shall start the submittal process immediately. The College will schedule the playground to be closed for a two (2) week period for on-site installation, sometime between May 20, 2016 and July 1, 2016. The closing will be coordinated with the awarded contractor during the pre-installation meeting. If the Board has not approved the award by April 27, 2016, then the College will advise the contractor of an alternate start date.

6. **WORK HOURS**

Please note that the college will be in full operational status during construction. Extra caution must be taken regarding safety.

All work is to be performed during normal work hours between 8:00 am to 4:30 pm, Monday through Friday. The contractor and crew must be mobilized on site daily prior to 8:00am or after 9:30am to avoid peak traffic on the MCC campus. If additional work hours are required, they shall be included in the contractor's bid price and approval of the College shall be requested by the contractor in writing 48 hours prior to the desired work date.

Contractor must provide barriers to direct pedestrian traffic away from the construction site. Contractor must coordinate all equipment and material deliveries which will affect the flow of traffic with the Campus Police department (732) 906-2500. Material deliveries shall be taken during off-peak traffic hours, coordinate deliveries with MCC Facilities Management.

The work hours in this section take precedent over, and will supersede any conflicting references to hours of work elsewhere in these plans and specifications.

7. **WARRANTY / CLOSEOUT**

Engineered Wood Fiber Playground Surfacing – Provide fifteen (15) year manufacturer warranty.

Playground Surfacing Wear Mat – Provide five (5) year manufacturer warranty.

Submit manufacturer's maintenance instructions for playground surfacing.

8. **ADDITIONAL INFORMATION**

Additional information may be obtained from the following individuals:

Facility/specifications:

Dennis Vliet
Manager, Facilities Projects
732-906-2611
732-906-4199 Fax
DVliet@MiddlesexCC.edu

Proposal:

David Fricke
Director, Purchasing & Inventory
732-906-2519
732-906-4236 Fax
DFricke@MiddlesexCC.edu

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