

## SECTION 02881 - PLAYGROUND EQUIPMENT AND STRUCTURES

## PART 1 - GENERAL

## 1.1 SUMMARY

- A. This Section includes the following:

1. Freestanding playground equipment and structures.

## 1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Show equipment layout, use zones, fabrication and installation details for playground equipment and structures. Shop drawings shall be submitted to and approved by the Project Officer prior to ordering equipment.
- C. Coordination Drawings: Plans, 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. Extent of surface systems and use zones for equipment.
  2. Critical heights for playground surface, or fall heights for equipment.
  3. Samples: For each type of exposed finish.
- D. Product certificates.
- E. Product test reports.
- F. One Installation and Maintenance Manual, complete, as provided by manufacturer.
- G. Warranty certificates as described in 1.4 "Warranty" below.

## 1.3 QUALITY ASSURANCE

- A. Installer Qualifications: An employer of workers trained and approved by manufacturer.
- B. Manufacturer Qualifications: A firm whose playground equipment components have been certified by IPEMA's third-party product certification service.
- C. Safety Standards: Provide playground equipment complying with or exceeding requirements in the following:
1. ASTM F 1487.
  2. CPSC No. 325.

- D. Preinstallation Conference: Conduct conference at Project site.

#### 1.4 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of playground equipment that fail in materials or workmanship within specified warranty period.
1. Failures include, but are not limited to, the following:
    - a. Structural failures.
    - b. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
  2. Warranty Period: Five years from date of Final Completion, or manufacturer's standard warranty period, whichever is greater.
- B. Provide Manufacturer's product liability insurance certificate of at least one million dollars with the County named as certificate holder, prior to delivery.

### PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

1. Play equipment, play elements and swings shall be as shown on the drawings. All products shall be as manufactured by the following:
  1. Landscape Structures, Inc., Delano, MN 55328 (800)328-0035. Available from Sparks@Play (410) 354-4151.
  2. Cre8play, Golden Valley, MN 55426 (612) 670-8195. Available from Cunningham Rec. (800) 438-2780.
  3. Kompan, Ltd., Tacoma, WA 98402 (800) 426-9788. Available from VAP Studio, Inc. (804) 918-2288.
2. NO SUBSTITUTIONS.

#### 2.2 MATERIALS

- A. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated.
1. Extruded Bars, Profiles, and Tubes: ASTM B 221.
  2. Cast Aluminum: ASTM B 179.
  3. Flat Sheet: ASTM B 209.
- B. Steel: Comply with the following:

1. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.
  2. Steel Pipe: ASTM A 53/A 53M or ASTM A 135, standard-weight.
  3. Steel Tubing: ASTM A 500 or ASTM A 513, cold formed.
  4. Steel Sheet: ASTM A 1011/A 1011M.
  5. Perforated Metal: Steel sheet not less than 0.0747-inch uncoated thickness; manufacturer's standard perforation pattern.
  6. Expanded Metal: ASTM F 1267, Type II (expanded and flattened), manufacturer's standard carbon-steel sheets, deburred after expansion.
  7. Woven Wire Mesh: Manufacturer's standard, with wire complying with ASTM A 510.
- C. Stainless-Steel Sheet: ASTM A 240/A 240M or ASTM A 666; Type 304.
- D. Castings and Hangers: Malleable iron, ASTM A 47/A 47M, Grade 32510, hot-dip galvanized.
- E. Post Caps: Cast aluminum or color-impregnated, UV-stabilized, mold-resistant polyethylene or polypropylene; color to match posts.
- F. Platform Clamps and Hangers: Cast aluminum or zinc-plated steel, not less than 0.105-inch-nominal thickness.
- G. Hardware: Manufacturer's standard; commercial-quality; corrosion-resistant; hot-dip galvanized steel and iron, stainless steel, or aluminum; of a secure and vandal-resistant design.
- H. Fasteners: Manufacturer's standard; corrosion-resistant; hot-dip galvanized or plated steel and iron, or stainless steel; permanently capped, and theft resistant.
- I. Opaque Plastic: Color impregnated, UV stabilized, and mold resistant.
- J. Cre8play Structures: Colors and finishes to be determined. Contractor shall submit color and texture samples to Project Officer for approval, prior to installation.

## 2.3 CAST-IN-PLACE CONCRETE

- A. Concrete Materials and Properties: Comply with requirements in Division 3 Section "Cast-in-Place Concrete".

## 2.4 FINISHES, GENERAL

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

## 2.5 ALUMINUM FINISHES

- A. Baked-Enamel Finish: Prepare, treat, and coat metal to comply with paint manufacturer's written instructions.
- B. PVC Finish: Manufacturer's standard, UV-stabilized, mold-resistant, slip-resistant, matte-textured, dipped or sprayed-on, PVC-plastisol finish.

- C. Color: As selected by Project Officer from manufacturer's full range.

## 2.6 IRON AND STEEL FINISHES

- A. Powder-Coat Finish: Prepare, treat, and coat ferrous metal to comply with resin manufacturer's written instructions.
- B. Baked-Enamel Finish: Apply manufacturer's standard two-coat, baked-enamel finish consisting of prime coat and thermosetting topcoat.
- C. PVC Finish: Manufacturer's standard, UV-stabilized, mold-resistant, slip-resistant, matte-textured, dipped or sprayed-on, PVC-plastisol finish, with minimum dry film thickness of 80 mils.
- D. Color: As selected by Project Officer from manufacturer's full range.

## 2.7 STAINLESS-STEEL FINISHES

- A. Bright, Cold-Rolled, Unpolished Finish: No. 2B finish on exposed faces.

# PART 3 - EXECUTION

## 3.1 INSTALLATION, GENERAL

- A. General: Comply with manufacturer's written installation instructions, unless more stringent requirements are indicated. Anchor playground equipment securely, positioned at locations and elevations indicated.
  - 1. Maximum Equipment Height: Coordinate installed heights of equipment and components with finished elevations of protective surfacing. Set equipment so fall heights and elevation requirements for age group use and accessibility are within required limits. Verify that playground equipment elevations comply with requirements for each type and component of equipment.
- B. Post and Footing Excavation: Excavate holes for posts and footings as indicated in firm, undisturbed or compacted subgrade soil.
- C. Post Set with Concrete Footing: Comply with ACI 301 for measuring, batching, mixing, transporting, forming, and placing concrete.
  - 1. Set equipment posts in concrete footing, as indicated in manufacturer's instructions.
  - 2. Embedded Items: Use setting drawings and manufacturer's written instructions to ensure correct installation of anchorages for equipment.
- D. The Contractor shall wrap each piece of play equipment with plastic safety fence at the end of the workday. The Contractor shall be responsible for the maintenance of the fence throughout

the installation period and shall remove the fence immediately after the final acceptance of the project by the County.

- E. The Contractor shall install the specified safety surfacing as soon as possible after the play equipment installation is complete.

### 3.2 INSTALLATION, CRE8PLAY STRUCTURES

- A. Contractor has been given an allowance for Cunningham Recreation to procure and install the Cre8play Custom Play Structures, as the approved provider and installer for this equipment. Contractor shall prepare the site, as needed, and coordinate equipment procurement and installation with Cunningham Recreation. Contractor shall coordinate all other disciplines and construction elements, including installation of all materials and methods required for the playground area(s) with Cunningham Recreation to provide a complete playground installation.

### 3.3 INSPECTION

- A. Project Officer may make periodic inspections of the work during construction.
- B. The Project Officer and County Staff will inspect the play equipment and all related work upon completion for compliance with plans, approved shop drawings and applicable change orders. The County may request the presence of the Playground Equipment manufacturer's representative at the final inspection.

### 3.4 PROTECTION

- A. Protect finishes from damage during construction with temporary protective coverings. Remove protective coverings at the time of completion.
- B. Restore finishes damaged during installation and construction so no evidence remains of correction work.

END OF SECTION 02881