

**ITEM 11615.4101 M - KINDERGARTEN SWING - 2.1M HIGH
W/BUCKET SEAT**

**ITEM 11615.4102 M - KINDERGARTEN SWING - 2.1M HIGH
W/STRAP SEAT**

**ITEM 11615.4103 M - KINDERGARTEN SWING - 2.4M HIGH
W/BUCKET SEAT**

**ITEM 11615.4104 M - KINDERGARTEN SWING - 2.4M HIGH
W/STRAP SEAT**

ITEM 11615.4105 M - PLAY SWINGS - 3.0M HIGH

DESCRIPTION: Work under these Items, the Contractor shall furnish and install PLAY SWINGS 3.0M HIGH and KINDERGARTEN SWINGS 2.1M or 2.4M HIGH, in accordance with the plans and specifications where shown on the plans, or as directed by the Engineer. Each play swing unit 3.0M High consists of a swing frame and two (2) swing seats. Each Kindergarten Swing unit 2.4M High consists of swing frame and two (2) swing seats. Each Kindergarten Swing unit 2.1M High consists of swing frame and two (2) swing seats.

MATERIALS:

STANDARDS: All swings shall meet or exceed the latest requirements as published in the Handbook for Public Playground Safety - Volumes I and II by the National Bureau of Standards for the U.S. Consumer Product Safety Commission and ASTM F-1487 Standard Consumer Safety Performance Specification for Playground Equipment for Public Use. Standards shall be as manufactured by All City Play Equipment Inc., Brooklyn, N.Y. (718) 258-9600, Playground Environments Inc. Speonk, N.Y. (800) 662-0922, or approved equal.

Unless otherwise herein specified, all materials and methods of construction shall conform to Section B, "Materials and Methods of Construction".

Concrete Footings: Concrete for the footing shall be Footing Concrete, Class A, in accordance with Section 555-Structural Concrete of the Standard Specifications.

Powder Coated Pipe and Fittings: Pipe shall be Schedule 40, steel pipe conforming to the requirements of ASTM A-53 and shall be of the same sizes and dimensions indicated on the plans. Pipe shall be hot dipped galvanized in accordance with ASTM F1083 and powder coated with TGIC-Polyester. Galvanizing of pipes and fittings shall provide an acceptable substrate so that applied powder coatings will not peel off. Insure surfaces to be coated are clean and dry and free of grease, dust, rust, etc. No lacquer, urethane or other coatings which would prevent proper adhesion of powder coating shall be applied to the pipe or fittings. All coated parts shall first receive phosphating and chromating treatments to improve the adhesion of the surface coating.

The TGIC-Polyester shall be applied to pipe and fittings at a film thickness of 3 to 6 mils by electrostatic spray process and bake finished per manufacturer's directions. The TGIC-Polyester

ITEM 11615.4101 M - KINDERGARTEN SWING - 2.1M HIGH
W/BUCKET SEAT

ITEM 11615.4102 M - KINDERGARTEN SWING - 2.1M HIGH
W/STRAP SEAT

ITEM 11615.4103 M - KINDERGARTEN SWING - 2.4M HIGH
W/BUCKET SEAT

ITEM 11615.4104 M - KINDERGARTEN SWING - 2.4M HIGH
W/STRAP SEAT

ITEM 11615.4105 M - PLAY SWINGS - 3.0M HIGH

shall be applied without voids, tears or cuts that reveal the substrate and shall thoroughly adhere to the metal without peeling when scratched with a pick device or knife blade point. Color to shall black unless otherwise indicated on the plans.

Laboratory Test For TGIC -Polyester Powder Coat: At the discretion of the Engineer, a sample TGIC-Polyester powder coated pipe and/or fitting shall be laboratory tested for bonding of the powder coating to the surface. Test shall be the Cross Hatch test per ASTM D3359, method B. Failure to satisfactorily pass this test shall be a basis for rejection.

Fittings, Swing Clamps and Hangers: Shall be of cast ductile iron as shown on the standard details, and shall be galvanized by the hot-dip process after fabrication. Ductile iron tensile strength shall meet a minimum of 448,160 kilopascals , in accordance with ASTM specification A536-84 Class 65-45-12. Galvanizing shall withstand a minimum of five (5) one-minute dips by the Preece Test. Fittings and swing clamps shall be powder coated to match frame.

Bronze bushings: Shall be frictionless oil-bearing bronze oilite flange bushing, .013m bore, as manufactured by Isostatic, Catalogue No. FB12-4, (516) 326-1350, or approved equal.

Swing clamps and hangers: Shall be ductile iron, as manufactured by All City Play Equipment, Brooklyn, NY, (718) 258-9600, or Boundary Fence, Queens, NY, (718) 847-3400, or approved equal. Fastenings: All pipe rails and standards shall be set into fittings from .113m to .125m steel pins of sizes shown on the plans with ends countersunk riveted. Holes in fittings shall be drilled and countersunk in the shop before galvanizing. Pins shall be galvanizing or stainless steel. Holes in the steel pin supports shall be drilled to the exact size as shown on the plans. No hole burning of steel will be permitted.

The horizontal pipe for each swing shall be in one piece extending through center fitting, and for kindergarten swings shall be long enough to extend through end fittings and shall be provided with cast frive pattern end plugs as shown on the plans.

All rivets and bolts shall be galvanizing by the hot-dip process as specified above for fittings. Bolts and nuts shall be galvanizing after threading.

Chain Shackle: Shackle shall be a .009m in dia. D-shackle, fabricated from type 316 forged stainless

ITEM 11615.4101 M - KINDERGARTEN SWING - 2.1M HIGH
W/BUCKET SEAT

ITEM 11615.4102 M - KINDERGARTEN SWING - 2.1M HIGH
W/STRAP SEAT

ITEM 11615.4103 M - KINDERGARTEN SWING - 2.4M HIGH
W/BUCKET SEAT

ITEM 11615.4104 M - KINDERGARTEN SWING - 2.4M HIGH
W/STRAP SEAT

ITEM 11615.4105 M - PLAY SWINGS - 3.0M HIGH

steel. The shackle shall have a minimum working load limit of 772 kilograms pin for shackle shall be a flush non-snag screw pin with a tamper resistant, hex drive, flat head shoulder bolt. Thread shall be coated with Loctite 271 high locking adhesive available from McMaster Carr Co., (908) 329-3200, or approved equal. Shackle shall be as manufactured by SeaDog, Part No. 147140, (800) 645-7446; or Suncor, Item No. S00115-NS10, (800) 394-2222; or approved equal. The pin shall be installed with shim washers and tightened with an Allen wrench. The shim washers shall be installed on both sides of the chain's end link to center link on pin.

Chain: Chain for all types of swings shall be .006m carbon steel chain, hot galvanized after fabrication. Chain shall be made of welded links, proof tested for a working load limit of 1180 kilograms in accordance with ASTM Designation A43, Class Grade 43-High-test chain. Chain shall be Campbell, System 4, High Test Chain grade 40 as manufactured by Campbell Corp., (718) 625-5587 or approved equal. At specific intervals, links shall be embossed with a "C4" quality grade mark, or equal marking.

S-Hook: S-Hook for all applications shown on the drawing shall be .009m wire size carbon steel, hot galvanized after fabrication. S-Hook shall be Campbell No. 120 catalogue 610-1234, Tel. (718) 625-5587, or approved equal. S-Hook shall be closed to 1 mm. (.04 inches) or less as shown on the standard detail.

Steel Yoke for Flat Seats: Steel Yoke for Flat Play Swing Seats shall be .025m diameter. Yoke shall be cold drawn, hot-dipped galvanized steel formed to dimensions as shown on DPR Standard Details for Swings. Yokes are available for purchase from All City Plan Equipment, Te. (718) 258-9600 or approved equal. Yoke for play swing seat shall be securely fastened to seat with vandal resistant heavy weight zinc plated elastic locknuts; yoke for full-bucket or strap seat shall be integrally fastened at each end of seat with a bracket and three steel rivets.

NOTE: Although the drawings show the large flat rubber seat for play swing and full bucket rubber seat for K-Swing described herein, the intent of this item, unless otherwise directed by DPR Construction division, is to install the "dog resistant" types of these seats also described below. The strap seat shall be used for the kindergarten swings, where shown as a "dog resistant" seat for children under 5 years does not exist.

Flat Play Swing Seats: Shall be approximately .5m long by .23m wide. Seats shall be molded, shock

ITEM 11615.4101 M - KINDERGARTEN SWING - 2.1M HIGH
W/BUCKET SEAT

ITEM 11615.4102 M - KINDERGARTEN SWING - 2.1M HIGH
W/STRAP SEAT

ITEM 11615.4103 M - KINDERGARTEN SWING - 2.4M HIGH
W/BUCKET SEAT

ITEM 11615.4104 M - KINDERGARTEN SWING - 2.4M HIGH
W/STRAP SEAT

ITEM 11615.4105 M - PLAY SWINGS - 3.0M HIGH

absorbing, U.V. resistant, flat rubber seats reinforced with an aluminum plate. The swing seat shall be capable of supporting a center load of at least one 455 kilograms, without showing a permanent deflection and no visible fracture or cracking. Play swing seat shall be one of the following:

*Model No. SRE 185 as manufactured by Sutcliffe Leisure Ltd., Tel. (718) 851-3470), or

*Model NO. 289-80797, Flat Swing Seat as manufactured by Landscape Structures, Inc., Tel. (516) 265-5353), or approved equal. Color of seat to be black.

Flat Dog Resistant Play Swing Seat: Dog Resistant Play Swing Seat shall be * S127 Rotational Molded Flat Swing Seat as manufactured by Jensen Swing Products, Santee, CA, Tel. (718) 851-3470, or (718) 258-9600 or approved equal. The Dog Resistant Flat Swing Seat shall be rotational molded polypropylene in fade resistant black. Each swing seat shall include (2) two galvanized steel integral yokes and associated hardware.

***Holes in Play Swing seats must accept std. .013m dia. Metal yokes.**

Full Bucket Seats: Shall be molded, U.V. resistant, full-bucket seats encapsulating a reinforcing metal plate. Seat shall be Model No. S100 as manufactured by Jensen Swing Products, Inc., Te. (619) 258-8300, or approved equal. The yokes for Bucket Swing Seats shall be furnished by the seat manufacturer. Seat shall have a rubber sticker that advises users of the maximum weight limitation of the seat firmly attached to the front and rear of the seat. Color of seat to be black, warning label shall have white letters with a black background.

Dog Resistant Bucket Swing Seat: Dog Resistant Bucket Swing Seat shall be S175 Rotational Molded Infant Seat as manufactured by Jensen Swing Products, Santee, CA, (718) 851-3470, or (718) 258-9600, or approved equal. The Dog Resistant Bucket Swing Seat shall be rotational molded polypropylene in fade resistant black. Each swing seat shall include (2) two galvanized steel integral yokes and associated hardware.

Strap Seat for K-Swing: Shall be approximately .6m long by .15m wide with a built in metal yoke. Seat shall be a U.V. resistant, EPDM, strap rubber seat reinforced with a carbon steel insert. The swing seat shall be capable of supporting a center load of at least 365 kilograms, without showing a permanent deflection and no visible fracture or cracking. Strap seat shall be Vandal Proof Commercial Swing Seat No. S 130, as manufactured by Jensen Swing Products, Santee, CA, Tel.

**ITEM 11615.4101 M - KINDERGARTEN SWING - 2.1M HIGH
W/BUCKET SEAT**

**ITEM 11615.4102 M - KINDERGARTEN SWING - 2.1M HIGH
W/STRAP SEAT**

**ITEM 11615.4103 M - KINDERGARTEN SWING - 2.4M HIGH
W/BUCKET SEAT**

**ITEM 11615.4104 M - KINDERGARTEN SWING - 2.4M HIGH
W/STRAP SEAT**

ITEM 11615.4105 M - PLAY SWINGS - 3.0M HIGH

(718) 851-3470, or (718) 258-9600, or approved equal. Color to be black.

Note: Strap seats shall be installed on 2.4m high Kindergarten Swing Frames only. Each unit shall consist of two of the same seats (two full buckets or two straps seats). Installing strap and bucket seats in the same unit (bay) is prohibited.

CONSTRUCTION DETAILS:

INSTALLATION: The swing supports shall be erected on average concrete footings prepared to receive them as shown on the plans. Uprights shall be set into holes .025m larger in diameter than the pipes, which shall have been left in the footings and shall be firmly grouted in place in the correct position as shown on the plans. Concrete footing shall be finished so that the surface is plane and level and safety surfacing will not buckle.

TOUCH-UP & REPAIR: For minor damaged caused by installation or transportation, clean damaged area, then:

1. On damaged galvanized surfaces, apply organic zinc repair paint complying with ASTM A780, then repair powder coating per number 2 below. Galvanizing repair paint shall have 65 percent zinc by weight. Thickness of repair paint shall be not less than that required by ASTM A123.
2. On damaged powder coated surfaces, touch-up finish in conformance with manufacturer's recommendations. Provide touch-up such that repair is not visible from a distance of 1.85m.

SUBMITTALS:

SHOP DRAWINGS: Where required, the Contractor shall submit shop drawings for approval in accordance with Section C, Special Requirements, Article 11.

FOUNDRY CERTIFICATES: A foundry certificate verifying authenticity of ductile iron supplied on this Contract shall be submitted. Certificate shall be on foundry letterhead, dated and signed by an officer of the company with Contract name and #, Contractor Name & Class of Ductile provided.

ITEM 11615.4101 M - KINDERGARTEN SWING - 2.1M HIGH
W/BUCKET SEAT

ITEM 11615.4102 M - KINDERGARTEN SWING - 2.1M HIGH
W/STRAP SEAT

ITEM 11615.4103 M - KINDERGARTEN SWING - 2.4M HIGH
W/BUCKET SEAT

ITEM 11615.4104 M - KINDERGARTEN SWING - 2.4M HIGH
W/STRAP SEAT

ITEM 11615.4105 M - PLAY SWINGS - 3.0M HIGH

PROOF TEST CERTIFICATE: Manufacturers Certificates: Certificates are required for the shackle assembly and the chain to substantiate evidence of working load limit. Submit to DPR Specifications and Estimating Division.

METHOD OF MEASUREMENT: For **EACH** Play Swing 3.0m consisting of a frame and two swings, furnished and installed complete in accordance with the plans and specifications and directions of the Engineer, the Contractor shall receive the unit price bid.

For **EACH** Kindergarten Swing 2.1m or 2.4m high, consisting of a frame and two swings, furnished and installed in accordance with the plans and specifications and directions of the Engineer, the Contractor shall receive the unit price bid.

BASIS OF PAYMENT: The prices bid shall be a **UNIT PRICE** per Play Swing unit and a **UNIT PRICE** per Kindergarten Swing unit and shall include the cost of all labor, materials, excavation, concrete footings, Seats (flat, strap or full bucket) including yokes, equipment, powder coating and incidental expenses necessary to furnish and install swings in accordance with the plans, and specifications to the satisfaction of the Engineer.