

ITEM 11615.39 M - CONCRETE GAME TABLE (NYCDPR)

DESCRIPTION Under this Item the Contractor shall furnish and install concrete game tables in accordance with the Plans, Specifications and directions of the Engineer.

MATERIALS:

Game Tables: Game tables shall be as manufactures by Lonodino Stone Co., (718) 324-1439, or Key Cast Stone (718) 706-7230, or approved equal.

Marble Aggregate: Marble inserts for terrazzo inserts shall be clean, crushed marble free from dust and dirt in sizes 1 and 2 mixed. White marble chips should be similar and equal to "Plymouth White". Green marble chips shall be similar and equal to "Royal Green".

Cast Stone: Shall be standard weight concrete consisting of Type 1 Portland cement, pigments, aggregates, admixtures and water to produce the following properties;

- a. Compressive Strength: 34,475 kilopascals minimum at 28 days.
- b. Total Air Content: Not less than 4% nor more than 6%.

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

Reinforcement: Shall be as specified.

Graffiti-Resistant Coatings: Graffiti-resistant coating shall be aliphatic polyurethane, Graffiti Solution System (GSS), as manufactured by America Polymer Corp., Sandy, Utah, (800) 676-5963, local distributor: Kenseal (718) 937-5490 or approved equal. Concrete Table Top shall be coated with " GSS AP 302" lustrous clear primer and " GSS AP 102" clear high gloss top coat.

CONSTRUCTION DETAILS:

Table Top: Table tops shall be monolithic and shall be precast reinforced stone concrete with terrazzo inserts. All profiles, lines, corners, and edges shall be made as shown on the Plans. The precast tables (with integral post), shall be made by an approved manufacturer having facilities for furnishing the quality of cast stone required.

Proportioning of aggregate: Proportioning of aggregates for precast stone concrete shall be within the following limits with a constant water cement ratio not to exceed 22.7 liters per bag 42.6 KG of cement, basic aggregate proportion shall be .028 cubic meters cement add .049 cubic meters sand and .056 cubic meters gravel or crushed stone with average (wet) sand and gravel, and loose materials.

To the above mixture only sufficient water shall be added to produce a workable mix, and in no case shall added water exceed the following, nor shall the total free water, including

ITEM 11615.39 M - CONCRETE GAME TABLE (NYCDPR)

mechanically held water exceed 22.7 liters per bag of cement:

<u>MAXIMUM ALLOWABLE CONDITIONS OF AGGREGATE</u>	<u>ADDED WATER</u>
Very wet sand and gravel	14.2 L per bag
Wet (average) sand and gravel	15.1 L per bag
Moist or damp sand and gravel	17.0 L per bag

The ratio of sand to gravel may be varied sufficiently to produce workable mixes with aggregate conforming to the requirements of this specification, but in no case shall the cement content be less than eight (8) 42.6KG bags per .76 cubic meter of concrete, nor shall the water-cement ratio exceed 22.7 liter per bag final mix with allowance for entrained water as noted above.

Admixtures: The use of calcium chloride as an accelerator will be permitted but shall not exceed two (2) percent of cement content of the mix by weight. Calcium chloride shall be thoroughly dissolved in the mixing water before the addition to the mix and the total water content of the mix shall not be increased and solution must be regarded as part of the mixing water.

Mixing: Aggregate including cement shall be thoroughly mixed in an approved type mechanical batch mixer, before and after the addition of the mixing water. Concrete shall be placed in forms as soon as practicable after mixing but in no case later than thirty(30) minutes after mixing has ceased. Re-mixing or re-tempering of partially set or segregated concrete will not be permitted.

Compacting: Concrete during and immediately after placing in non-leakable forms shall be carefully compacted by means rods or other implements, and by tapping or vibrating forms so as to fill completely all corners, and around all reinforcing steel and inserts to produce finished work which shall be done, uniform in color and texture and free from honeycomb.

Reinforcing: Reinforcing steel shall be formed and placed in the concrete in accordance with the Plans.

Curing: After forms are removed, concrete shall be kept moist to be cured by continuous dampening for a period of at least two weeks.

Concert Finish: All exposed concrete except tops of tables shall be finished with a steel trowel to a "slick" finish except when the method of manufacture will not permit of troweling when a finish satisfactory to the Engineer may be used. All form marks on exposed surfaces shall be rubbed to a smooth even finish. The exposed surfaces shall be smooth, uniform and dense, free from cement film, cement wash or patching, and all other surface defects.

Terrazzo Inserts: A sinkage shall be left in table tops for inlaying terrazzo checker games. Sinkages shall be 25mm deep, perfectly square and lines with No. 12 gauge brass anchor type terrazzo strips

ITEM 11615.39 M - CONCRETE GAME TABLE (NYCDPR)

before pouring the concrete slab.

After table top slab has hardened, the bottom of the sinkage shall be coated with 37.5mm thick bed of Portland cement mortar into which shall be set a grillage of No. 20 gauge brass anchor type terrazzo strips to form pattern shown on the plans. The pattern shall be made by filling alternate space with white and light green terrazzo composed of White Portland cement colored as required and marble chips.

White terrazzo shall be composed of White Portland cement and white marble chips, to make as nearly as possible a uniformly toned surface approaching pure white. Green terrazzo shall be composed of White Portland cement colored to bright green with mineral mortar color, and green marble chips, as herein before specified.

Terrazzo shall be thoroughly compacted and after being troweled smooth shall be sprinkled with additional marble chips of the proper color, tamped in until surface can hold no more chips. Terrazzo shall be seasoned six (6) days under layer of wet sand or sawdust.

After seasoning of terrazzo inlay, all surfaces of the table top shall be ground down to perfectly smooth and true plane, free from all surface defects and then washed clean.

Graffiti Resistant Coating: Graffiti resistant coating shall be shop applied. All exposed surfaces of table except post shall be anti-graffiti coated. Installer of coating must be certified by the manufacturer of the product used. Insure all surfaces to be coated are clean, dry, free of grease, dust, rust, etc. The coating shall be applied to the concrete in such a manner that the coating will not peel off. Concrete table tops shall receive one coat of primer and two top coats. Dry time is one to two hours between coats of anti-graffiti top coats. Full cure time averages (7) seven days. Thickness shall be 38 μ to 50 μ dry per coat for all system coatings.

Coating shall be applied thoroughly and evenly using either spray, roller or brush, leaving no skips or inadequately covered areas on the surfaces. All coatings shall be applied when ambient air temperatures are between 10 degrees and 35 degrees Celsius.

Grounds for Rejection: Roller marks, flash lines, gaps or pin holes in excessive quantities will be considered grounds for rejection of table.

Setting: The tables shall be placed accurately in location, level and game direction. The tables shall be set plumb in their designed positions and shall be wedged up and braced to maintain that position during pouring and setting of concrete footing pier.

Concrete for footing pier shall be average concrete and shall be placed, floated, and troweled to the satisfaction of the Engineer.

SUBMITTALS:

Shop Drawings: are required and shall be required prior to installing work in the shop.

ITEM 11615.39 M - CONCRETE GAME TABLE (NYCDPR)

Training Manual: (1) required - Training Manual on Maintenance of Graffiti Resistant Coating shall be submitted for Construction Records.

EXTRA MATERIALS: The Contractor shall furnish and deliver extra materials consisting of graffiti removal products to the governing municipality:

1. 18.79 liters Container of G.S.S. ERASOL graffiti remover; as manufactured by American Polymer Corp. (800) 676-5963, local distributor: Kenseal (718) 937-5490. Container shall be clearly labeled on front, using minimum of 12 mm high lettering ;" For Protected/ Anti-Graffiti Coated Game Tables and Wood Bench Slats".
2. Two (2) - Low Pressure pump sprayers provided (one for remover product and one for water rinse) shall be Impact Model No. 203 PUM, (11 liters) with shoulder strap and wand; Kenseal (718) 937-5490. Each individual pump shall be labeled on front using minimum of 13mm high lettering ;one shall read " For Remover Product Only", and the other shall read "For Water Rinse Only".

The above materials shall be delivered to the governing municipality only, and a signed receipt from the municipality shall be submitted to the Engineer to acknowledge the municipality's receipt of the aforementioned materials.

METHOD OF MEASUREMENT: For each CONCRETE GAME TABLE constructed and installed in accordance with the Plans and Specifications and directions of the Engineer, the Contractor shall receive the unit bid price.

BASIS OF PAYMENT: The unit price bid shall include the cost of furnishing all labor, materials, tools, plant equipment, and other expenses necessary to construct and install concrete game table, including concrete footings, steel bar reinforcement, excavation and graffiti resistant coating system, and all other incidental expenses necessary to complete the Work, in accordance with the Plans, Specifications, to the satisfaction of the Engineer. No additional payment shall be made for Extra Materials. Contractor shall include cost in the Price. Failure of the Contractor to supply Extra Materials shall result in a fee of \$550.00. Regardless of the number of units installed.