

ITEM NO. _____

CONCRETE GAME TABLE

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

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

Marble Aggregate: Marble chips for terrazzo inserts shall be clean, crushed marble free from dust and dirt and in sizes 1 and 2 mixed. White marble chips shall 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 I Portland cement, pigments, aggregates, admixtures and water to produce the following properties:

- a.) Compressive Strength: 5,000 psi minimum at 28 days.
- b.) Total Air Content: Not less than 4% nor more than 6%.

Reinforcement: Shall be as specified under Section B "Materials and Method of Construction."

Graffiti-Resistant Coating: Shall be Professional Water Sealant (P.W.S) Coatings, as manufactured by Professional Products of Kansas, Inc., Wichita, KA, or approved equal.

Concrete Footing: Concrete for the footing shall be Average Concrete as specified in Section B "Materials and Methods of Construction".

EXECUTION:

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 six (6) U.S. gallons per bag (94 lbs.) of cement, basic aggregate proportion shall be one (1) cubic foot cement add one and three-quarters (1-3/4) cubic feet sand and two (2) cubic feet 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 mechanically held water, exceed six (6) gallons per bag of cement:

MAXIMUM ALLOWABLE

CONDITIONS OF AGGREGATE

Very wet sand and gravel
Wet (average) sand and gravel
Moist or damp sand and gravel

ADDED WATER

3-3/4 gallons per bag
4 gallons per bag
4-1/2 gallons per bag

The ratio of sand to gravel may be varied sufficiently to produce workable mixes with aggregate conforming to the requirements of this specifications, but in no case shall the cement content be less than eight (8) 94 lb. bags per cubic yard of concrete, nor shall the water-cement ratio exceed six (6) gallons 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 the 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. Remixing or retempering 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 of 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 carefully 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 (2) weeks.

Concrete 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 Inlays: A sinkage shall be left in the table top for inlaying terrazzo checker games. Sinkages shall be one (1) inch deep, perfectly square and lines with No. 12 gauge brass anchor type terrazzo strips before pouring concrete slab.

After table top slab has hardened, the bottom of the sinkage shall be spread with one-half (1/2) inch thick bed of 1 to 3 Portland cement mortar into which shall be set a grillage of No. 20 gauge brass anchor type terrazzo strips to form pattern shown on plans. The pattern shall be made by filling

alternate spaces 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 a 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 for 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: The table surface shall be clean, dry and free from oil, dirt, grease, efflorescence or any other coating which may inhibit penetration and adhesion of graffiti resistant coating. Allow surfaces to cure for a minimum of 28 days before application of graffiti resistant coatings. Two coats of graffiti-resistant coating shall be shop applied per manufacturer's application instructions. All exposed surfaces of table including the post shall be anti-graffiti-coated. Coatings shall be applied thoroughly and evenly using either spray, roller or brush, leaving no skips or inadequately covered areas on the surfaces. Allow the first coat to dry to the touch prior to applying the second coat.

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

INSTALLATION: The tables shall be placed accurately in location, level and game direction. Game direction shall be oriented so that a person seated at the game table will have a white square in the lower right hand corner of the board. 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: All submittals shall be in accordance with Section C; Special Requirements, Article 11.

Shop Drawings- required. The Contractor shall submit in accordance with the requirements of the General Conditions, Section C, Special Requirements, Article 11.

Coating Substitution: A written request for any coating substitution must be submitted to the Engineer. The Contractor shall submit manufacturer's Data Sheets and installation instructions for approval of any proposed-as-equal product no less than two (2) weeks prior to application.

MEASUREMENT AND PAYMENT: 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 price bid.

The price bid shall be a unit price for **EACH** concrete game table constructed and installed and 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, and all other incidental expenses necessary to complete the Work, in accordance with the Plans and Specifications to the satisfaction of the Engineer.

E N D O F P A G E

4/19/2007