SPECIFICATIONS - Perfect Turf® Bocce Court

Supplier name **Perfect Turf, LLC**
Product name Perfect Turf® Multi-Use 48

This document provides the specifications for a Synthetic Grass Bocce Court installation composed of a tufted polypropylene grass fiber component with an acrylic coated Infill installed over a porous aggregate stone base including drainage system.

There may be variations in the final specifications as required by the Client and site conditions.

PART 1 – GENERAL

1.1) Work Included

Provide all labor, materials, equipment, and tools necessary for the complete installation of a synthetic grass Bocce Court(s) system as outlined in these specifications with a standard infill. The vertical draining base shall be provided separately by an approved contractor. The system shall consist of, but not necessarily be limited to, the following:

a) A complete synthetic grass system, consisting of a synthetic grass with 3/8" long texturized polyethylene, tufted on a 3/16" tufting machine with a minimum of 48 ounces of yarn per square yard (face weight). The system shall include a single, dimensionally stable, two-component backing and have a minimum of 22 ounces of secondary polyurethane backing per square yard. The finished product shall also include perforations to ensure adequate drainage.

b) A resilient infill system, consisting of acrylic coated Infill. (commonly known as ToCool).

1.2) Qualifications and Submittals

Prospective bidders and/or installers of the turf shall be required to comply with the following:

a) The turf manufacturer must warranty their product to meet the minimum acceptable specifications listed within this document.

b) Manufacturer must hold ISO 9001 (Quality) certification.

c) The turf installer must provide competent workmen skilled in this specific type of synthetic grass installation. The designated supervisory personnel on the project must be competent in the installation of this material, including gluing seams, if needed and proper installation of the specified infill material.

PART 2 - SYNTHETIC GRASS MATERIALS

2.1) Manufacturers

Approved synthetic turf products are:

a. Multi-Use 48

i. Face Weight: 48 oz.
ii. Pile Height: 3/8”
iii. Roll Width: 15’ (180”)
iv. Yarn Color: Two-tone natural green.
v. Yarn Type: 6,000 denier two-tone texturized polyethylene.
vi. Construction Details: Type- tufted | Gauge: 3/16”
vii. Primary Backing: 6 oz. 2 layer polybac..
viii. Secondary Backing: 22 oz. polyurethane.
ix. Perforations: Optional, Typically not standard.
x. Infill requirements: Not required.
xi. Warranty: 10 year manufacturer’s warranty.

2.2) The synthetic turf material and resilient infill shall be in accordance with the following:

a) The fiber shall be a minimum 6,000 denier, texturized polyethylene, measuring not less than 3/8 inches high with no thatch zone yarn.
   a. ASTM D1577 Standard Test Method for Linear Density of Yarn by the Short Method (Denier)
   b. ASTM D3218 Standard Specification of Polyolefin Monofilaments (Ribbon Thickness & Width)
   c. ASTM D5823 Standard Test Method for Tuft Height of Pile Yarn Floorcoverings

b) The tufted fiber weight shall not be less than 48 ounces per square yard. The fiber shall be tufted on a 3/16" tufting machine.
   a. ASTM D5848-10e1 Standard Test Method for Mass Per Unit Area of Pile Yarn Floorcoverings

c) The primary backing shall consist of a one part, two-component 6 oz. polyback. The secondary backing shall consist of an application of a minimum 22 ounces of polyurethane coating per square yard. Heat activated to permanently lock fiber tufts in place. The synthetic grass system shall be perforated to provide for drainage. Non-perforated systems shall not be acceptable alternates for purposes of this specification.
   a. ASTM F1551 Standard Test Methods for Comprehensive Characterization of Synthetic Turf Playing Surfaces and Materials

d) The grass fiber shall be green in color to simulate natural grass and treated with UV inhibitor, guaranteed against fade and fiber degradation for a minimum of eight years.

e) The infill system shall consist of approximately 8 pounds per square foot of a 16-30 sieve rate of clean ToCool infill.

PART 3 – BASE AND DRAINAGE

An approved contractor shall provide a vertical draining base consisting of a four-inch layer of CA-7 Open Graded Stone (OGS) and a two-inch layer of CA-6 finish aggregate system installed upon a permeable geotextile membrane that is no less than 8oz/square yard in weight.

a) The sub-base should be compacted using a vibratory plate compactor or vibrating roller, to approximately 95% Proctor density.

b) The sub-grade should no longer have any vegetation. The sub-grade shall then be treated with a weedkiller.

c) The bidder shall supply and install a geotextile fabric over the entire surface before the installation of the stone depending on geographic location. Seams shall be overlapped a minimum of 12".

d) As determined by the Landscape Architect and/or Civil Engineer, a properly sized perimeter drain shall be installed in a properly excavated ditch, lined with geotextile. The CPPP (corrugated perforated plastic pipe) shall be sloped .05" per linear foot toward the exit point to the existing storm drain.

e) One or more catch basins may be installed at directional changes in the line, at the depth necessary to meet the elevation of the existing storm water evacuation line.

f) The bidder shall supply waterproof tape and all necessary connectors, per subsurface drainage system manufacturer's recommendation, and is responsible for a proper and secure connection between all new and existing drainage lines.

g) A perimeter composite 2"x2" or 2"x4" nailer board shall be installed to the perimeter concrete curb. The top of the nailer board will be set at 1" below the desired height of the Bocce Surface. Note: it is important to maintain a consistent and level 1" below the desired grade with the nailer board as the turf is approximately 1" in height after infill and rolling of the blades. The quality of play will be impacted by the consistency of the playing surface which will be determined by the base and nail boards. Note: the architect may or may not design a slight crown to the playing surface to facilitate drainage, this is a site specific design and the installer should follow the architects drawings to determine the base design and install the nail board accordingly.

h) Install the two-inch (2") layer of CA-6 porous stone over the base, maintaining slope and grade, depending on the geographic location. Finish grade flush with the perimeter nailer board and compact to approximately 90% Proctor.

i) The Synthetic Turf System supplier and architect will accept the aggregate base prior to the installation of the Synthetic Turf System.

j) Any alterations must be agreed between all parties.

PART 4 – EXECUTION AND INSTALLATION

The turf installer shall strictly adhere to the installation's procedures outlined under these sections. Any variance from these requirements shall be accepted in writing by the architect/owner. The manufacture, will upon request, verify that the changes do not in any way affect the warranty.

a) The turf installer will accept the aggregate base prior to the installation of the synthetic turf system. The compaction of the aggregate base shall be minimum 90% and the surface tolerance shall not exceed 1/8 inch in ten feet.

b) When necessary, the synthetic grass shall be seamed utilizing standard gluing procedures.

c) This is a 100% glued installation. Sewing of seams will not be permitted. The seaming tape and glue shall be intended for installation of outdoor synthetic turf surfaces.

d) The infill material shall be spread evenly over the turf with a fertilizer type spreader and brushed into the turf with the intent of embedding the infill to the bottom as much as possible.

e) The fibers will be brushed up during the infill process to minimize the burying of the fibers by the infill materials. Upon the infill reaching a height of approximately ¼" from the top ends of the fibers, the turf will then be rolled with a water-filled landscape roller or vibratory roller to bend the remaining fibers down over the infill.[1]

PART 5 –MAINTENANCE AND WARRANTY

The bidder and/or the turf manufacturer must provide the following:

a) The turf manufacturer shall provide a warranty to the owner that covers defects in materials and workmanship of the turf for a period of eight years from the date of Substantial Completion. An eight (8) year "UV stabilization" warranty shall be included in the warranty.

b) The manufacturer's warranty shall include general wear and damage caused from UV degradation. The warranty shall specifically exclude vandalism, acts of War and acts of God beyond the control of the owner or the manufacturer.

c) The bidder shall provide a warranty to the owner that covers defects in the installation workmanship, and further warrant the installation was done in accordance with the manufacturer's recommendations for a period of one (1) year.

d) All turf warranties shall be limited to repair or replacement of the affected areas and shall include all necessary materials, labor, transportation costs, etc. to complete said repairs. All warranties are contingent on the full payment by the owner and/or general contractor (if any) of all pertinent invoices.

e) The bidder shall provide a maintenance program to the owner. The warranty shall be subject to compliance with said maintenance program.

[1] There is a break-in period where the fibers will fight to stand up. The installer should plan to revisit the site under hot, sunny conditions to re-roll the fibers and get them to stay down. The more people play on the fibers and the more the installer rolls them court, especially in hot, sunny conditions when the fibers are warm, the faster the break-in period will complete.