



## HOW TO BUILD A BEACH COURT

*By Ed Drakich*

The following guidelines will assist you in the proper construction of a Beach Volleyball Court (indoor or outdoor). Proper construction will ensure ideal playing conditions, superior longevity and low maintenance requirements.

### **BEACH VOLLEYBALL COURTS**

The basic requirements necessary for building a court include:

- While the actual court size is 8m X 16m (doubles) and 9m X 18m (triples, fours and sixes), an area at least 14m x 24m should be excavated to a sand depth of between 30cm and 40cm (more if a gravel layer and/or drainage pipes are needed under the sand to assist in drainage)
- Permeable sand/soil or sand/gravel liner (filter cloth)
- 160,000 kg (160 tons) to 200,000 kg (200 tons) of sand are required per court
- Net system complete with standards, net, and boundary lines/tape (adjustable for different court boundaries)

### **COURT CONSTRUCTION**

It is best to select a site that allows the court(s) to have a North/South orientation in order to reduce glare from the sun (The sun rises in the east and sets in the west). Another important consideration is the area around the periphery of the court, which should be free of large rooted and/or overhanging trees. There should be a clearance height of at least 7m above the playing surface.

#### **A. Drainage:**

Drainage of the court under the sand must be considered and can be accomplished by both grading the earth properly and installing a surface below the sand to promote drainage. The court should be excavated an additional 30cm (Below the sand depth of 30cm to 40cm) to allow for the installation of drainage pipe on the standard slant (14 degrees). The drainage point should lead away from the court at the lowest point; be



aware of the natural surrounding slope so that you do not trap water with your inclined viewing sides.

Depending on the soil quality of the subsurface you might need to place layer of gravel over the drainage pipes to enhance drainage. A good idea is to place a semi-permeable cover, such as a plastic landscaping mesh or some other artificial small-hole mesh, over the gravel to prevent the sand from washing through.\*

*\*NOTE: If you have soil with good drainage and no rocks you could get away without the drainage system but we would still recommend using the semi-permeable sand/soil liner.*

## **B. Sand**

Sand selection is probably the most important factor in court construction and any sand that is used should incorporate these specifications:

- **Washed** - The sand should be double washed, and free of silt and clay in order to prevent compaction
- **Particle Size** - The size of the sand particles should be between .5 and 1 mm to allow for proper drainage and maximum safety.
- **Particle Shape** - A sub angular shape will resist compaction and assist in drainage.
- **Colour** - Tan colored sand absorbs less heat with minimal glare.
- **Source** - A granite based sand (non-calcareous - no calcium or limestone) sand remains stable under all weather conditions and is unaffected by acid rain.

The sand boundary should be a minimum of 14m X 24m, thus allowing for a sand perimeter around the actual court. For high level competitions (VC or FIVB) the outer court dimensions should be 18m X 26m. The general guideline is that the area should be clear of any obstructions for 3m to 4m on all sides of the court. You should be careful to pad any item that would seem to be a hazard. There should also be a beam or boundary around the perimeter of the court to act as a container for the sand, which should be soft and contoured in order to eliminate possible injuries.



## **NET SYSTEMS**

### **A. Poles**

Poles for permanent standards can be either wood or pipe. The minimum suggested metal pole thickness is 4" to 5" (10cm to 12.5cm) in diameter, galvanized and thick walled steel pipe, while 6" (15cm) diameter pressure treated wood poles (Or 6" x 6" square pressure treated wood) are also acceptable. Poles should always be padded to prevent injury. Standards should be 4m long, with 3m above the court's sand surface and an additional 1m imbedded into the ground using a **concrete footing**. These should be placed 10.0m to 10.5m apart; any less and there will not be room for the full net (which is 9.5m wide) and adjusting cables. Permanent net systems should be free-standing (not use any support wires/straps). Portable net systems (usually with support straps) are also very popular and can be purchased at most volleyball specialty shops and sporting good stores.

### **B. Boundary Lines:**

Boundary lines are made of 1/4" rope or 2" (5cm) ribbon and tied to the four corners with buried anchors. A bungee court should be attached to each corner and connected to a buried wood or plastic anchor disk (without sharp edges). The bungee will provide the tension necessary to keep the boundaries in place while giving the flexibility to reduce to chance of injury should a player catch their foot under the line.

### **C. Net Heights:**

Net heights are 2.43 m for men's and co-ed play, and 2.24 m for women's and reverse co-ed. A 9.5m net with a cable top is preferred, but strong ropes can also be used. A winch (padded) and hardware, such as eyebolts/hooks, can be used to mount the top of the net. The bottom need only be anchored by rope to either the standard or eyebolts/hooks.