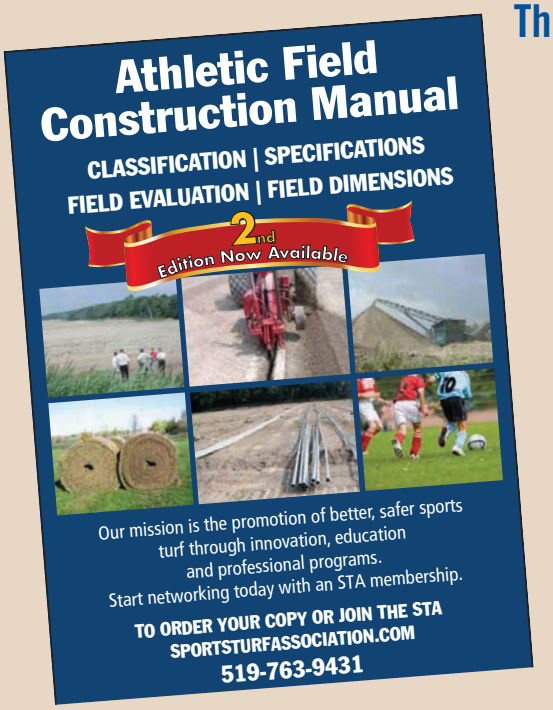
In practice, the measuring of the two components to place in the mix is done by volume, not by weight. Therefore it is necessary to convert the above weights to volume which is done by multiplying the weight by the dry density of the material. The dry density of the stockpiled sand can be assumed to be 1.75 g/cm^3 and that of the non-compacted soil in a stock pile to be 1.1 g/cm^3. The volume of sand to use in a unit of mix would be 275/1.75 = 157 cm^3 and the volume of soil would be 725/1.1 = 659 cm^3. The volume ratio for the sand/soil mix would be 157:659 or approximately 1 part of sand to 4 parts of soil. The assumption of the densities of the two materials as they would appear in a stock pile is why further iteration calculations would be unnecessary.

It is interesting to note that most of the sand in the mix comes from the soil. This is why the particle size distribution of the sand fraction of the soil is a critical laboratory requirement.

The preferred procedure for mixing is with a front end loader and a power screen. Four buckets of soil followed by one bucket of sand would be passed over the screen. The power screen also has the advantage of removing stones and other debris which may be present in the soil from the site.

The architect should verify the particle size distribution of the mix by making a small trial mix of four pails of soil and one pail of sand. A sample from this trial mix is sent to the laboratory for regular particle size distribution of sand, silt and clay. The laboratory should be requested to do sieve analysis on the sand portion. This analysis is critical to determine if the sand in the soil approximates the particle size distribution required of the sand sample.

Some inexpensive laboratory analysis, a few simple calculations, power screen mixing of the determined ratio of sand and soil, and a root zone mix which conforms to the specifications of the STA's *Athletic Field Construction Manual* is ready to be spread on the field.•



The Sports Turf Association Publishes Second Edition of the

Athletic Field Construction Manual

GUELPH, ON. The Sports Turf Association announces the publication of the second edition of its popular *Athletic Field Construction Manual*, a staple reference for those in the sports turf industry.

The manual, written by Dr. R.W. Sheard in conjunction with an editorial committee of professionals, brings uniformity to the construction of grass athletic fields.

"The reputation of the first edition published in 2008 has led to its approaching out-of-print status", said Dr. Sheard. "Rather than simply reprinting, we took advantage of the opportunity to make subtle revisions to this edition".

The opening pages have been restructured to improve readability. Classifications based on the root zone material for categories three and four have been more adequately defined, as have the tolerances for grade control and depth of the stone layer and root zone material. Additional changes are of only a clarifying nature.

The second edition of the *Athletic Field Construction Manual* is now available for purchase in both print and electronic PDF format.

Visit www.sportsturfassociation.com to order your copy today!