Hough Group

Why Classify?

WITH RESPECT TO SPORTS FIELDS

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Classification defined: "To arrange or group in classes according to some system or principle."

Classified advertising in the newspaper is an example with which everyone is familiar where items for sale, job opportunities, etc., are listed in alphabetical order. Libraries use a classification system to allow librarians to find a specific book among the millions of holdings on the shelves. For example, the Library of Congress Classification System identifies the *Athletic Field Construction Manual* as GV413.A84 2008. In fact, Open Text, a very successful Canadian computer company in Waterloo, Ontario began by computerizing the classification system for university libraries.

In botany, a classification system was developed by a Swedish botanist, Carolus Linnaeus, to arrange the names of all plant species into a logical classification system. Thus, when the name "Gramineae" is seen, one immediately knows the author is referring to some grass plant. When the additional words "Poa annua" are added, the grass plant becomes a specific organism. It is so specific that no other grass plant can have the same characteristics. It is also known by the common name, annual bluegrass. Common names, however, may change from region to region. In Ontario, everyone knows what annual bluegrass is. But in other regions it may be called "sweet grass." If the scientific name "Poa annua" is used, there is no confusion about what plant is being discussed.

In the early 20th century, Russian soil scientists used a similar concept to developing a system for classifying soils. Based on surface geology, texture and observable features of the soil profile (cross section to a depth of one to two metres), they separated soils into groups beginning with the basic unit, the soil series. There are over 400 different soil series mapped in Ontario. When a user sees that soil series name on a map or report, it immediately brings to mind certain information about the soil.

For example, a soil in Ontario mapped as the Guelph loam series informs the user of the map or report that the soil is located on the upper slopes of a slightly rolling topography; that the soil has developed on glacial till and contains a few stones; that the soil is well drained; and that it has a loam texture which indicates it has approximately one third each of sand, silt and clay. A knowledge of the underlying geology of the area would also infer that the soil has a pH above 7.0. Thus by using a classification system, a great deal of information can be conveyed by just two words – Guelph loam.

The Sports Turf Association developed a classification system for athletic fields when they prepared the *Athletic Field Construction Manual*. In the past, organizations such as municipal parks departments have developed in-house classification systems for their athletic fields based primarily on the sport for which they are used. For example, one municipality chose to classify its fields according to the sport for which it was to be used and the availability of irrigation. The editorial group for the STA manual, however, chose the physical requirements of the root zone, independent of the sport to be played on the field.

The basic unit of classification of fields in the STA system (Figure 1), comparable to the soil series in the soils system or the genus and species in the plant system, is the materials used in the construction of the root zone on which the turf will grow. This separation is based primarily on the amount of silt and clay which is permitted in the root zone and consists of five categories.

A Category 1 field is essentially a field constructed using USGA specifications which only allow 8% silt plus clay in the root zone mix. The remaining 92% of the total is sand which must meet certain

specifications regarding its particle size distribution, porosity and water retention. The remaining four categories allow for more silt and clay in the root zone mix. The fifth category may be built on any *in situ* soil, where minimum disturbance of the existing soil profile occurs.

Moving down the classification system, the second level of separation is irrigation. This level of separation occurs below drainage because a fully functioning drainage system is a prerequisite to the installation of irrigation to guard against excess water in the root zone due to improper timing of irrigation with rainfall events.

The third level of separation is the installation of subsurface drainage. All sports fields should be constructed with drainage to guard against excess water in the root zone.

The final level of separation is the availability of lights which reflects the amount of use the field will receive due to extended hours of play and the level of maintenance the use of the fields will demand. Often other physical structures such as stands, change rooms, paved parking, etc., will be associated with the provision of lights. The fields will primarily be associated with scheduled, ticket-requiring games by professional players.

Based on the classification system, developed by the authors of the manual, a person immediately knows that a Category 1 field will have drainage, irrigation and a sand root zone. The field may be used for any sport, baseball, soccer, thoroughbred racing, as long as the dimension requirements of the turf area which the field is used for are adhered to.

The acceptance and use of the classification system will alleviate many of the problems in discussing management, scheduling or other items associated with athletic fields using natural turf. For example, if discussing a Category 2 field, it will immediately be known that the field has 25% or less silt and clay, is drained and irrigated, but may or may not have lights. ♦

FIGURE 1. THE STA ATHLETIC FIELD CLASSIFICATION

LIGHTS

Drainage

- Irrigation
  - Category 1
  - Category 2
  - Category 3
- No irrigation (not recommended)

No Drainage (not recommended)

NO LIGHTS

Drainage

- Irrigation
  - Category I
  - Category 2
  - Category 3
  - Category 4
- No Irrigation
  - Category 3
  - Category 4

No Drainage

- Irrigation (not recommended)
- 1 No Irrigation
  - Category 5