Turffor
The Sport of Kings

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"It is the bonus course on the continent, it has bounce seldom seen on a grass course", commented Roger Aitfield, one of the top ten trainers in North America.

"I have never ridden on anything like it" says jockey Robbie Davis who rode Raindrop, a French-trained horse and winner of the Rothmans Ltd. International Stake on October 16, 1994.

These were some of the superlatives offered about the new E.P. Taylor grass track which opened on Sept. 10, 1994 at the totally redesigned Woodbine Racetrack of the Ontario Jockey Club (OJC).

Early in 1993 the OJC decided to locate all their horse racing facilities in the Toronto area at Woodbine, and offer the standard bred track at Greenwood for sale. To accommodate three different types of facilities at one location they engineered a design unique for North America.

It involved a total reconstruction of the existing tracks and the inclusion of a third track for harness racing. The facility was designed as three concentric circles. The inner circle became a limestone track of seven furlongs for standard bred racing, the middle circle became an eight furlong, or one mile, dirt track for thoroughbred racing, and the outer circle became a one and one-half mile turf track for thoroughbred horses (Fig. 1). The latter has the longest home stretch in North America - 1440 feet.

Construction began following the last race in late October 1993, and over the next eight months millions of yards of dirt were moved, new access tunnels constructed, water systems realigned, irrigation upgraded, and even a portion of the front of the grandstand apron cut back to accommodate the new tracks.

The techniques used in the construction of the dirt tracks were, in general, time honoured procedures. Completion of the new harness racing track was in time for the opening on January 01, 1994. Work continued, when possible, throughout the winter to allow the opening of racing on the new dirt track for thoroughbreds on April 01. At the same time progress was being made on the subgrade for the new turf track.

The first move following the construction of the subgrade was the installation of the drainage system. Beginning at the inside rail, 4-inch corrugated plastic tile lines were installed as concentric circles, 20-feet apart, with the exception that the second last line was 40 feet from the outer rail. At 300 foot intervals collector line was installed perpendicular to 4-inch lines to carry the drainage water to the outlet line at the inner rail. The tile lines were covered with crushed stone and a 4-inch layer of stone was laid over the entire subgrade.

The decision to build a state-of-the-art turf track using a sand based root zone required the extension of the principles formulated for a United States Golf Association (USGA) green to 15 acres of turf. The principles of USGA construction call for a stone layer having 65% of the stone in the range of 1/4 to 3/8 inch, with not more than 10% greater than 1/2 inch, and not more than 10% below 1/10 inch. The use of this size of stone requires the spreading of a 3-inch intermediate layer (choker layer) of coarse sand (90% between 1 & 4 mm) over the stone to prevent infiltration of the sand from the rooting zone into the stone. The spreading of the choker layer is a slow, hand labour-intensive procedure as heavy construction machinery tends to rut up the stone layer and intermix the sand and the stone.

The alternative was to use a stone of smaller size; the route selected by the OJC. Three performance factors are required of the smaller stone 1) bridging, 2) permeability, and 3) uniformity. For bridging of the root zone particles over the pores in the stone layer to occur the D15 of the stone must be less than or equal to five times the D50 of the root zone mix.