

Practice

Practice

Practice

Makes

Perfect

Practice

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by Steve and Suz Trusty

Imagine having the opportunity to serve as architect, engineer, and construction coordinator for a new professional football practice facility. For Ken Mrock, head groundskeeper for the Chicago Bears' Halas Hall practice facility, this dream became reality.

Always thinking of the future, Mrock had long been storing away ideas and plans for the new field. This was his chance to shine — or sink.

The new \$20-million, year-round facility is located in Lake Forest, IL, just four miles from the old Halas Hall fields where Mrock fine-tuned his program. The 200,000-square foot, 2-1/2 field facility spreads across a grand meadow with an oak savanna beyond it. A 100,000-square foot office building overlooks the field.

After the official groundbreaking ceremony May 12, 1995, Mrock's workload doubled, as full scale practice schedules continued at the existing site. In fact, his staff continued to maintain that facility until the Chicago Fire professional soccer



Head Groundskeeper Ken Mrock acted as an architect, engineer, and construction coordinator for the Chicago Bears' new practice facility.

Courtesy: Ken Mrock

team moved there in 1997.

Mrock pulled from his early experience with bluegrass-covered, sand-based tees on Chicago's city golf courses in his field construction plan. He selected a growing medium of 80-percent sand, 10-percent peat, and 10-percent Profile.

"I wanted a high degree of surface drainage through a high infiltration rate," Mrock explains. "This field does not have a crown. We tested a lot of mixes and found adding Profile increased the infiltration rates and raised the moisture-holding capacity when compared to straight sand or

sand/peat mixes. The field is draining exceptionally well, and yet [it] holds moisture and nutrients, resulting in a massive root system. Our CECs and moisture holding are a lot higher than a regular sand-based field."

Greens Mix did the blending and testing at Thelens Sand and Gravel in Illinois, the source of the sand. They conducted testing on every 500 tons of the 13,000 tons of medium to ensure uniformity. The six-inch sub-layer consists of 7,000 tons of pea gravel.

An underground drainage system is imbedded at the four-inch point. Its four-inch, perforated, corrugated ADS plastic drain tile sits on 15-foot centers.

Construction crews backfilled the remaining two-inches of pea gravel as they placed the drain tile. This layer is topped by the 12-inch layer of sand, peat, and Profile.

"The percolation rate is roughly seven inches an hour," says Mrock. "That, combined with the ability to manipulate the moisture across various sections of the field with the state of the art Hunter irrigation system, gives us greater control of the turf environment."

Mrock and Bears President and CEO Michael McCaskey found ideas for a field-heating system in Sweden. Mrock then collaborated with Heatway and Bornquist on the design, and Althoff Industries installed the system. Fourteen miles of heating tubing lies eight inches below the turf line within 80,000 square feet of the field.

Mrock selected Legends Athletic Pro III, a blend of premium bluegrasses from Conserv FS, for the initial seeding the last week of April 1996. He says, "We applied the seed with a walk-behind cyclone spreader. Then we used the knobby tires of the field rake to dimple it in for good seed to soil contact without compaction or rutting. Despite the cold, wet spring, germination took only a little over two weeks, and coverage was excellent."

Mrock applied a granular Par Ex 10-18-22 starter fertilizer at the

time of seeding. He supplemented with Roots 1-2-3 and K-Power during the grow-in. The growing medium was essentially nutrient-void at the time of installation. Mrock responded with a varied arsenal of fertilizers, and he spoon-fed the developing turf.

He explains, "That initial period was a real learning experience. We used a combination of soil tests and tissue tests along with visual assessment of color and turgidity to strike the right balance of above- and below-ground turf development, while building a nutrient base. That's where the nutrient-holding ability of the Profile came into play,

perfect integrity all across the field complex," says Mrock. "We also tested both core and solid-tine aeration, achieving comparable results with both methods. And we did some adjusting to our bluegrass mix, replacing Baron and Adelphi with Award and Liberty."

A fall application of granular 10-18-22 completed the fertilization program for 1996. The turf was in great shape when the team did an on-field walk-through during the first week of December, and it went into winter that way. Because work hadn't been completed on the building when winter set in, the heating system boilers weren't yet operational.

"Though the fields looked pretty good in the initial green-up in the spring of 1997, it was clear the nutrient reserve level wasn't quite where we wanted it," reports Mrock. "So our fertilization fine-tuning continued throughout 1997."

"In August, we added a sprayable EcoSoil Systems 1-0-23 at six ounces per 1,000 square feet once a week, and 5-0-0 with micronutrients twice a month. We kept up the sprayable and granular nutrient program, using 24-4-12, 21-2-18, and 10-18-22 granular formulations. By the time we started the 1998 season, we'd reached a comfort level both with the nutrient reserve numbers and with our ability to manipulate the fertilization program."

Mrock's team fine-tuned the maintenance program in 1997, as the new fields adjusted to the workload. Aeration wasn't needed, and they used topdressing only for divot repair.

When cooling temperatures tested the heating system, Mrock took the conservative approach. He kept soil temperatures in the low 50s, and gradually inched up to as high as 60 degrees at the six-inch sensor depth level when snowfall was imminent.

He explains, "The season's heaviest snow, 11 inches of the heavy, wet



The new \$20-million, year-round practice facility features 2-1/2 fields and a 100,000-square foot office building.

Courtesy: Ken Mrock

to get those values right on.

"We started mowing the first week of June, gradually tightening the interval to an every-other day schedule. Basically, we tried to slow the turf's upward movement and concentrate on lateral movement to develop one strong mat. When the players got their first sneak peek in July, root growth had reached six inches."

Mrock adopted an extensive topdressing program during the 1996 season. He used the same sand, Profile, and peat mixture as the original rootzone mix. "We wanted



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After finding ideas for a field-heating system in Sweden, Mrock collaborated with Heatway and Bornquist on the design.

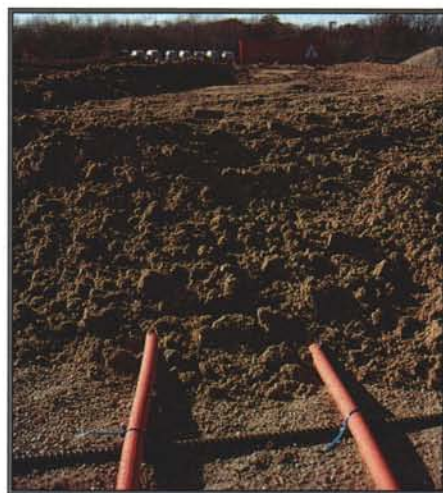
Courtesy: Ken Mrock

kind, started on a Saturday night. The heating system kept up until the snow got really heavy. Then it continued melting, but not as quickly. It took three days for the entire snow cover to melt away, and we practiced on the fourth day. One- and two-inch snowfalls melt immediately; a three-inch snowfall melts within six hours. The field is ready for play as soon as the snow disappears."

Maintenance crews mowed the field weekly in December 1997, with the last mowing taking place December 20.

At the spring green-up of 1998, the 80,000-square foot area of field that was heated was behind in color and turgidity. This year, Mrock plans to spoon feed during November and December to compensate for growth needs and still retain the same level of nutrients as that of the other fields.

"We've built up a 3/4-inch layer of thatch for cushioning and support. Our designer rootzone mix of sand, Profile, and peat holds nutrients and moisture and has promoted development of a massive root system. Divots are minimized, and the turf has held up great. We overseed between the hash marks and let the players cleat it in. Though they will tear off the top of the plant, the crown remains intact. All we're doing with the topdressing mix is covering over the crown so it can regenerate growth. They beat down the turf a bit, but there's no ripping or scaring. It's a joy to plan it that way and have it turn out." □



Fourteen miles of heating tubing lie eight inches below the turf line within 80,000 square feet of the field.

Courtesy: Ken Mrock

Steve and Suz Trusty are partners in Trusty & Associates based in Council Bluffs, IA. Steve is executive director of the Sports Turf Managers Association.