**Diggin' golf in Beantown**

Golf and traffic benefit from Boston's notorious 'Big Dig'

By PETER BLAIS

BOSTON — Developer Charles Geilich and course architect John Sanford have coupled the interests of a major Boston road construction project and a nearby landfill closure to develop a 27-hole golf course in suburban Boston.

Boston's 'Big Dig' project, a multi-year undertaking designed to speed traffic through Massachusetts' capital city, planned to spend $300 million to dispose of the millions of cubic yards of dirt excavated from the construction site.

Meanwhile, Quincy and Milton officials were planning to close their

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L-93 and Penn-As pace bentgrass trials

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Because the Least Significant Difference (LSD) value in the testing was 0.1, L-93 is statistically No. 1, yet nevertheless tied with A-4 and A-1.

Following those three varieties in the tests are Providence, Penn G-2, Cato and Penn G-6. Thus, the As and Gs, which have garnered national attention for their unmatched density and the fact they flourish when cut very short, took four of the top seven spots.

Asked about the As and Gs being defined as "niche" grasses because they like high maintenance, Dr. Bill Rose of Tee-2-Green, which produces all the Penn grasses: "They're the best there is. If that's the niche, it's the niche they're in."

Rose said the As and Gs perform better under lesser maintenance than other grasses do when highly managed.

In the final tests for bentgrass under fairway and tee conditions, Providence, Cato and Pennegale tied atop all cultivars. "Providence has been such a steady performer — whether in trials or real life," said Skip Lynch of Seed Research of Oregon. "And now you have L-93 which is also a beautiful grass. L-93 is the first grass on the market comparable to Providence. Now we've released SR-1119, and it pushes that bar even higher."

Because of timing, however, SR-1119 didn't make the 1993-97 national tests.

Each set of NTEP trials "pushes the bar higher." Recent advances by turfgrass breeders have proven a significant improvement in turf quality compared to the old standard-bearers, Hurley said.

In the case of L-93, he said: "My hypotheses is that superintendents [using it] could save 30 to 50 percent in fungicide use on tees, greens and fairways."

He pointed out that L-93 was the only bent in the top statistical grouping for resistance to brown patch, dollar spot, copper spot, Fusarium patch, Typhula snow mold and yellow patch.

Superintendent Chris Wakeman at brand-new The King's Challenge at Lakeview Country Club in Cedar, Mich., said, "I sold the owner [on L-93] basically on the fact that it can reduce our chemical applications."

After one year, he reported that although he had to fight dollar spot on the Pennway bentgrass tees and fairways, the disease never tracked onto the L-93 greens and collars.

"Dollar spot runs rampant up here," he said, "and to not even see any on the greens was fantastic. If I had known, I would have planted more L-93, perhaps on the tees and even the fairways."

Wakeman said his only chemical applications were spot-treating for takeall patch and, during the seeding phase, for pythium.

Golf course architect William Bradley Booth of Ogunquit, Maine, has chosen L-93 for several new courses he is designing, explaining: "I was keen on its resistance to patch problems and the fact it would do well in forest areas. It also germinates quickly, has uniform color and provides an excellent putting surface."

Hurley called L-93 a very versatile grass, with excellent heat and cold tolerance as well as disease resistance, and able to take a variety of heights of cut.

Meanwhile, the As and Gs topped the rankings in leaf texture, tiller counts, poa annua ratings, and spring, summer and fall density.

Rose said the Gs are doing exceptionally at Pinehurst and the As likewise at Augusta National. "It depends on the climate in a particular area," he said.

About the close mowing claimed necessary for the As and Gs, Rose said they must be mowed daily, but can be maintained at a height of 5/32 inch. He pointed to Cantigny, which seeded the new grass and couldn't cut it low because competitive grasses on the course wouldn't stand the cut.

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Danner Internships placing students in mainstream

FRANKLIN, Tenn. — Two years ago Nashville businessman Ray Danner created a turfgrass internship at the Little Course at Aspen Grove to help train future leaders in golf course maintenance. This summer Jim Akin, a sophomore majoring in turf and ornamental horticulture at the University of Tennessee, served as the second Danner Turf Intern. His experience included building a new chipping green at the Little Course, which installed a newly invented flat plastic drain tile. He was also responsible for monitoring all turfgrass test plots, making all needed applications and doing any specialty maintenance to these plots.

The Little Course at Aspen Grove is a nine-hole short course, where 56 different varieties of grasses are being studied in real-life playing conditions. Under the supervision of Joseph Kennedy, the superintendent at the Legends Club of Tennessee and the Little Course, college interns spend a summer working at the Little Course. Michael Schuhmann, then a sophomore studying agronomy at Mississippi State University, worked the summer of 1997. After returning to MSU for classes, this past summer Schuhmann interned at Augusta National Golf Club.

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Bentgrass trials

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Hurley said the greatest impact on reduced fungicide use may occur on new or totally renovated fairways seeded to the most disease-resistant creeping bentgrass varieties. Interseeding of improved varieties into existing stands of turf will not modify the existing population of plants significantly over a short period of time, but may take repeated interseedings over five years to significantly shift the plant population, he added.

"The exception," he said, "would be use of a 'total kill' herbicide, or a growth regulator prior to seeding a more resistant variety."

Bentgrass breeders are expecting about 100 new bentgrass varieties, and even those already in the pipeline.

In fact, Seed Research of Oregon's SR-1119 is "bullet-proof," according to Lynch. A product of the original Providence breeding program at the University of Rhode Island, it is quick to establish ("Green Hills Country Club in the San Francisco area was seeded the first week in June and opened for play the first week in August"), has hardy root system and brown patch ("Frankly, I don't think [URI Prof.] Bridgett Rueemmele has ever had a disease in her 1119 plots") and has taken the performance of Providence and moved it into the Carolinas and Tennessee.

"Tee-2-Green, meanwhile, hopes to capture the ability of Penncoast to keep its roots in the heat of the summer" and transfer that characteristic to a new cultivar, Rose said.

"Biotech is close and that will be a big change," he added. "It's a new frontier we're involved in."

Conservatively, Rose predicted superintendents would have to wait five years before the fruits of this work reach the marketplace.

At Lofts, the ongoing breeding program has new materials in the mix. "It's always difficult to tell what your new material will do," said Hurley. "Will we go further south? Of course you try to breed for heat tolerance. But remember, these are still cool-season grasses. Physiologically, they're C3 grasses. The warm-seasons are Bermuda and zoysia, which are C4. The internal metabolism is different. A cow is a cow and a sheep is a sheep. You can breed for greater heat tolerance, but there are limitations as to how far you can take it."

Meanwhile, Lynch said, "You're not helping out the golf community if your new grass doesn't help lower the pesticide output."

"The hot ticket," he added, "is if someone can work out how to put endophyte into bentgrass. Some are trying to infuse endophyte with a gene gun. Some are inserting it into plants, but that is short-lived."

"We favor good old-fashioned cross-breeding. That would be the most stable way to do it."