

BRIEFS



ENVIROTECH HIRES CROWE

ENID, Okla. — Envirotech Services, an engineering consulting firm, has hired M. Kevin Crowe as its representative in the Eastern United States. He will be handling the firm's golf course consulting in that area, helping golf courses come into compliance with environmental and safety and health regulations. Crowe, a resident of Augusta, Ga., was formerly the course superintendent at Bonita Bay Club East in Naples, Fla., as well as assistant superintendent in training at Augusta National Golf Club. He earned an associate degree in environmental horticulture from Abraham Baldwin Agricultural College. Crowe is a member of the Georgia and Everglades golf course superintendents associations.



M. Kevin Crowe

IOWANS ELECT APPEL PRESIDENT

DES MOINES, Iowa — Russ Appel of Briggs Woods Golf Course in Webster City has been elected president of the Iowa Golf Course Superintendents Association. He and a new slate of officers were elected at the 66th annual Iowa Turfgrass Conference and Trade Show held here, Jan. 24-26. Joining Appel are Vice President Troy Martinson of Sioux City Country Club; Northwest Director Stephen Roseberry of Sibley (Iowa) G&CC; Central Director Don Portwine of Ames (Iowa) Golf and Country Club; and Northeast Director David Roe of Garner Memorial G.C. in Cedar Rapids. Serving in the second year of a two-year term are Southwest Director Ron Stephan in Indianola; Director of Association Affairs John Ausen of Hyperion Field Club in Johnston; and Southeast Director Joyce Hamilton of Wahkonsa Country Club in Durant.

EQUIPMENT, ENGINE COUNCIL MEETS

CLEVELAND — The Equipment & Engine Training Council will hold its 4th annual meeting in Cleveland on April 9-11. The meeting's purpose is to address the critical shortage of technicians in the outdoor power equipment industry. For more information contact the EETC at 512-448-1788.

WEB SITE GOES ON-LINE

GREENTRAC.COM, a web site pertaining to turf installation and management, has debuted.

Seven Lines of Defense

Canadian project uses set of conservation techniques

By CHERYL REGO

ONTARIO, Canada — Environmental concerns ride high at the site of any golf course development, and now a developer here is using what it calls the Seven Lines of Defense to combat environmental concerns. The Seven Lines of Defense are conservation techniques that address concerns such as water runoff, loss of nutrients and leaching of pesticides.

Some of the techniques featured in the Seven Lines of Defense have been already been incorporated into new golf courses, and many of the techniques are leading the industry. Two of them are particularly interesting.

- By lining the greens, tees and inlets to wetlands with klinker ash stone, a hydro-generation waste product, the developer hopes to remove additional phosphorous runoff.

- It also plans to plant a harvested species such as poplar trees in the constructed wetlands which will remove unwanted components by bio uptake.

The notion of using klinker ash on the course has an interesting start. Klinker ash is a byproduct from the coal-fired generating stations of Ontario Hydro. Hydro was looking for a way to get rid of the klinker ash, and with some research



Vito Cirone, one of Burnsides employees, is planting in the field.

found that it could be used as bulk fill and that it attenuates and binds phosphorus.

Phosphorus is a major concern for the Lake Rosseau Beach Resort. The resort is located in the Muskoka Lakes region of the province, a watershed area of great environmental interest. Phosphorus encourages algae blooms in lakes. The idea to incorporate klinker ash stone came from Michael Michalski, a biology consultant who had done research on the ash. Experiments are now being done to determine the life span of klinker ash's phosphorus-ab-

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Niche and native grasses may be an answer for some

By PETER BLAIS

ROCKPORT, Maine — In the near term, superintendents cannot live without pesticides, fertilizers, irrigation, etc., according to Skip Lynch, director of Seed Research of Oregon's Golf & Sports Turf Division.

But in the long term, by going to low-maintenance/high-resistance niche and native grasses, superintendents can drastically reduce their use of these inputs.

"It's been working in England for 400 years," Lynch told those attending the recent Maine Golf Course Superintendents Association annual conference here. "They don't irrigate, fertilize or spray pesticides. Because of that, they have grasses that have adapted to those management extremes."

Why change?

Today's demands on courses are growing, Lynch said. Input costs — i.e. fertilizers, irrigation and pesticides — are going higher and higher. Demands for late- and early-season play as well as Augusta National-like conditions are escalating. And despite the "Brown Is Beautiful" campaign designed to lower golfer expectations, golfer demands mean living turf is being pushed to its limits.

More challenges loom on the hori-

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The future is now in maintenance building complexes

By MARK LESLIE

HARROGATE, England — Maintenance "barns" of the past are shedding that identity as modern technology, forward-thinking space planning and environmentally conscious superintendents transform their work areas into "turf-care centers," or "natural resource management centers."

That was the word from Master Greenkeeper Terry Buchen, an American who told an audience at BIGGA Turf Management Exhibition (BTME) about "Maintenance Facilities of the Future."

Indeed, parts of these facilities of the future already exist at some high-end private and public facilities in the United States. The highly traveled Buchen took bits and pieces of a number of maintenance complexes to present a composite from which greenkeepers could draw and to which they could aspire.

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British & Int'l Show Review



OF PRESIDENTS PAST AND PRESENT

New British & International Golf Greenkeepers Association Chairman Elliott Small of Tulliallan in Scotland, center, visits with Golf Course Superintendents Association of America President Dave Fearis, left, and GCSAA past President George Renault III.

Watschke: Expect breakthroughs in turf

By MARK LESLIE

HARROGATE, England — Fantastic advances in turfgrass breeding and genetics loom in the immediate future, but with this progress will come unheard-of challenges for greenkeepers, said Dr. Thomas Watschke of Pennsylvania State University.

"Innovations are only limited by the imagination, and believe me when I say that geneticists know how to dream," Watschke said in a talk at the BIGGA Turf Management Exhi-

bition (BTME) here.

"Technology offers very seductive solutions. But what are the ramifications of the results?"

He was referring to one of the latest of a phenomenal string of new high-tech grasses that have included one Round-up resistant bentgrass and another possible Prograss-resistant bent.

Dr. David Huff, Watschke said, has produced a semidwarf-type annual bluegrass that is superb but without seed

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Future is now in maintenance complexes

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The parameters for Buchen's modern and futuristic turf-care center for an 18-hole course include:

- "While maintenance buildings in the past were situated in the middle of the golf course, the modern way of thinking is to have them on the outside so that deliveries don't bother golfers," he said
- The area normally needed is .81 to 1 hectare.
- The buildings range in size from 372 to 1,116 square meters.
- "The goals and objectives are to store all the maintenance equipment inside to prevent damage from the sun and moisture, and have a good environment to work on the equipment and for the employees."
- Cool-season courses will have heated and cold storage. Warm-season courses also will have heated storage, but many times they have a three-sided carport for cold storage.

The conceptual floor plan provides for proper traffic flow — a crucial decision for the greenkeeper to decide.

The mechanic's shop of the future will range in size from 100 to 280 square meters. Its amenities will include:

- ✓ A hydraulic lift for riding equipment that can lift from 2,000 to 4,000 kilograms; a hydraulic lift table for smaller equipment and walk-behind mowers which is capable of lifting about 900 kilos; workbenches that are 91 to 106 centimeters high and are topped with 6.3-mil-thick metal and which have storage space underneath.
- ✓ Numerous air and electrical outlets for electric and air power tools.
- ✓ Overhead, retractable hoses for lubrication, air and water.
- ✓ An overhead hoist and block and tackle.
- ✓ Remote control-operated garage doors that are at least 4 meters high and 4 meters wide.
- ✓ Skylights and excellent fluorescent lighting.
- ✓ A parts room with adequate shelving and excellent lighting.
- ✓ A heated and air-conditioned mechanic's office with a window into the shop area and sealed off so the mechanic can make phone calls in a quiet environment.
- ✓ Record-keeping, including a computer to keep service records, parts inventories, purchase orders, etc.; file cabinets for record keeping; and bookcase storage for service, shop and parts manuals for machinery.
- ✓ A grinding and sharpening area, sometimes in a separate room, that contains bedknife and reel grinders.
- ✓ An exhaust fan and fresh-air ventilation and a dust-collector system.
- ✓ A welding and acetylene torch area that contains safety curtains to protect the eyes of nearby workers; welding table with vise and storage underneath; three-phase electric outlets throughout; Y extension cords so welders can be mobile; exhaust fan and fresh-air ventilation; and excellent lighting.
- ✓ A heated- and cold-storage area for maintenance equipment, with a garage door at least 3 meters wide and 3.7 meters high.

"This is really important in new facilities," Buchen said. "There is more and more electric equipment today, and a lot more to come, so having separate outlets with separate circuit breakers is crucial."

- ✓ Miscellaneous storage rooms for tools, paint, course accessories, grass seed, and irrigation and drainage parts.
- ✓ A spray-paint booth.

Employee areas, Buchen said, will boast showers, locker rooms, kitchen, vending machines, lunch room and meeting room. The lunch room may have two to three microwave ovens, a stove and oven, toaster oven, a refrigerator or two, kitchen sink, electric drinking fountain, the crew assignment board, a large hand-washing sink, a television for audio-visual training, along with a VCR and DVD players. A pay telephone, time clock, bulletin board, rainsuit storage area and even a washer and dryer will be a standard.

Safety requirements include Right To Know wall displays with material safety data sheets; hazardous communication plan wall display; a walkout-tagout program; local, state and federal work posters; emergency telephone numbers; safety training video notebooks; and an emergency evacuation plan.

Future first aid kits will include a defibrillator, oxygen bottles, eyeglass goggles, ear plugs and safety goggles.

In the States, Spanish is becoming the unofficial second language on golf course maintenance crews, and so all safety signs are becoming bilingual, Buchen said.

New maintenance facilities of the future, Buchen said, will have:

- Soil test and disease identification rooms.
- A microscope and soil test kit.
- An irrigation technician's office with a computer irrigation controller, and irrigation system computer parts and supply inventory.
- The head greenkeeper's office with a weather computer, grounds management operating system computer, Internet access, three-quarter-sized toilet and shower, and a conference table for meeting with key staff members.
- The assistant greenkeeper's office with a blueprint room, daily operation record-keeping, and all the fertilizer and pesticide records. Sometimes it will be shared by the spray technician.
- A reception area fully equipped with a computer, fax machine, photocopier, telephone voice mail, paper shredder and two-way radio.
- Storage, utility and equipment closets.
- Utilities including single- or three-phase electricity, natural gas or propane for hot-water heat and furnace, domestic water, sewer, three to six telephone lines and cable television for the Weather Channel.
- An employee car park typically with one car parking space (3 meters wide and 6.1 meters long) for each employee.
- An equipment staging area outside the maintenance building, where mechanics can check out the equipment and the employees can jump right on it to go to work in the morning.
- A trash dumpster area.
- A loading dock for lorries to unload

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Terry Buchen photo



This hydraulic lift has a lifting capacity of between 4,400 and 8,800 kilograms, so it can lift all maintenance equipment except the heaviest loader/backhoe tractors.

The future is now

Continued from previous page supplies.

- A 140- to 232-square-meter pesticide and fertilizer storage and rinsate building that sometimes stands alone. It is equipped with spill containment, a 24-hour-a-day exhaust fan, fresh-air vents and explosion-proof lights. It is heated and cooled and has a fire sprinkler system because of the volatility of the pesticides.

- Fire extinguishers, emergency spill management and bilingual safety signs.

- An area next to the pesticide buildings to store spray and granular application equipment.

- Three storage tanks for rinsate to wash the pesticide and fertilizer application equipment. The tanks will range in size from 380 to 760 liters. Drainage grates and submersible pumps will ensure that all the water is reused and filtered by filters that are changed daily.

- A 93- to 232-square-meter fertilizer storage building.

- Used oil storage and rinsate equipment wash racks. Unleaded petrol and diesel fuel storage tanks, ranging in size from 1,892 to 3,785 liters, will have such safety requirements as emergency fuel

shutoff switches, fire extinguishers and bilingual safety signs.

- New oil storage, in either 113- or 208-liter drums, with spill containment beneath them.

- Soil storage buildings made of brick, with sidewalls, and a roof. The floor surfaces will drain toward the front of the building, so that if any moisture does get in, it surface drains. Storage will include greens top dressing, top soil, tee and fairway top dressing soil, bunker sand, divot soil mix, mulch and bark, drainage gravel, and, in the Northern climates, road salt and calcium chloride.

- Greenhouses for in-house propagating of annual and perennial flowers, trees and shrubs, clubhouse interior plants, and turfgrass experiment plugs. Turfgrass nurseries, often at the maintenance complex, will vary in size from 140 to 465 square meters. The tee, fairway and rough nursery, often located on the golf course, will range from 465 square meters to almost half a hectare.

"Many new facilities," Buchen added, "have turf student housing — literally small apartments that are furnished and have no cost for the employee. It actually helps the club by providing security through the employee." ▽



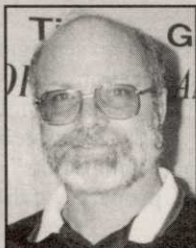
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— Gary Femrite, Golf Superintendent, Pebble Creek G.C., Becker, MN



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