

GOLF & ATHLETIC TURF

COVER STORY, CONTINUED

The future of golf: methane gas, competition?

Here is how forward-thinking superintendents are solving these and other problems.

■ According to the National Golf Foundation, many of the golf course projects now under development in the U.S. are for public/municipal courses (see cover story, page 8). This will undoubtedly create a big problem in the golf maintenance industry, according to **Ken Schwark**, superintendent at Tony Lema Golf Complex. The club is located in San Leandro, Calif., just minutes away from Moscone Center where the GCSAA is holding its annual conference and show later this month.

"There are going to be more munys (municipally-owned courses) built in the future, but they're going to be on landfills and there will be methane gas problems, I guarantee you," says Schwark. At the Tony Lema Complex, it's taking a rash of money to solve the problem: \$2 million is being dumped into retrofitting a methane gas mitigation system, along with installing new irrigation on 13 of the course's 18 regulation holes.

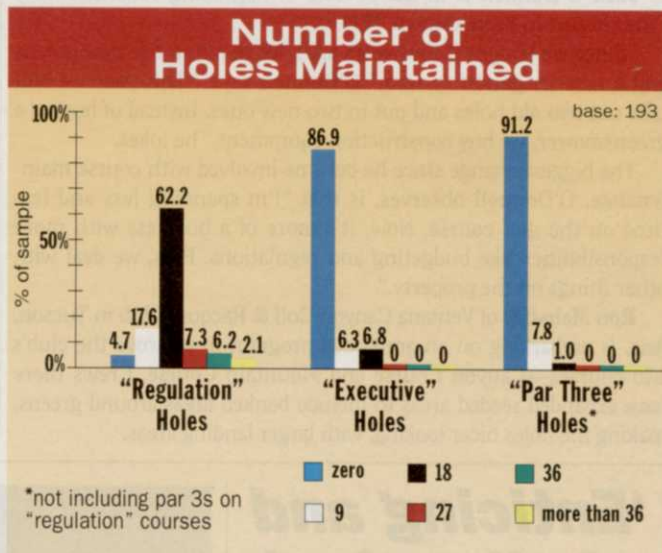
Because 85,000 people ran through Schwark's course last year, he needs to stay on the "cutting edge" of technology, he says. Most recent development is the use of microbes tailored to solve specific problems.

"We've got 700 parts per million of salt in the water coming out of our irrigation well, so our greens start 'tweaking' on us in August or September," Schwark observes. "But we've started sending out microbes through the sprinkler system every night, and our greens are now challenging Pebble Beach's greens."

Microbes are available, Schwark says, to help alleviate potential pythium and anthracnose disease pressure, to control thatch build-up, and to buffer the turf plants against salt damage.

"Our salt levels are still high, but the microbes make it so the plant can't take the salt up, and as a result our greens look great," Schwark notes.

Elsewhere across the U.S., golf courses both private and public are undergoing constant renovation. Like at Edelweiss Chalet Country Club in New Glarus, Wis.



Most Common Maintenance Practices

(by % of respondents)

| | | | |
|--------------------|--------|-----------------------------|--------|
| Mowing | .99.0% | Sodding | .89.0% |
| Turf fertilization | .99.0% | Tree pruning | .88.5% |
| Disease control | .98.4% | Dethatching | .86.9% |
| Aeration | .97.9% | Overseeding | .81.2% |
| Topdressing | .96.9% | | |
| Seeding | .94.2% | Tree insect/disease control | .47.6% |
| Insect control | .94.2% | Pond/lake aeration | .44.0% |
| Bunker maintenance | .89.0% | | |

base: 191

"I was hired to upgrade the condition of this course last June," superintendent **Richard Bentel** says. "I had a mandate to define the fairways and bring up the green speed."

The original problem? Competition for golfers, as many courses face. In Bentel's area south of Madison, many nine-hole courses are adding a second nine so that they will be able to compete for

ELSEWHERE

Growing in a new golf course, page 26G

Manage greens for pros, public play, page 28G

Working with greens chairmen, page 36G

Poa annua control strategies, page 40G

the same clientele as Edelweiss Chalet.

"I've got the greens committee spending \$8,000 this season on our fairways, so I expect to see a big improvement," Bentel concludes.

Chuck Colton says that Belle Terre Country Club in Laplace, La., about 20 miles east of New Orleans got more play than ever last year—by design. The club is actively seeking more public play during the week, so it lowered its green fees. Also, the area had less rain (about 50 inches) than in the two previous years (about 100 inches each year), allowing people to get onto the course more often.

Like other courses in his area of the country, Colton is overseeding bermudagrass with *Poa trivialis*, "because the seeds are so small compared to ryegrass. And once it comes up, you can mow it a bit shorter, and it lays down better, allowing less resistance to the ball."

Jack O'Donnell is in the process of upgrading venerable Tory Pines Resort in Franconia, N.H.

"Since we bought it (five years ago), we've put in five new greens and a new irrigation system," O'Donnell says. "This year we will take out two old holes and put in two new ones. Instead of buying a greensmower, we buy construction equipment," he jokes.

The biggest change since he became involved with course maintenance, O'Donnell observes, is that "I'm spending less and less time on the golf course. Now, it's more of a business with more responsibilities like budgeting and regulations. Plus, we deal with other things on the property."

Ron Mahaffey of Ventana Canyon Golf & Racquet Club in Tucson, Ariz. is embarking on an ambitious program to improve the club's two courses—Canyon Course and Mountain Course. Crews there have expanded seeded areas to include banked areas around greens, making the holes nicer looking, with larger landing areas.

"Our biggest challenge was that we rebuilt two greens and resurfaced eight others on the Mountain Course," Mahaffey observes. "And this summer we're going to regrass 18 more greens."

Mahaffey is battling *Poa annua* with ProGrass and getting nice results. "If you can stop the poa from seeding on the fairways, it makes it easier to keep your greens poa-free, too," he says. "You don't have people tracking seed onto them."

Kurt Kammann of The Country Club Inc. says his is one of just a few courses in Tennessee that didn't suffer much winter kill last season. Some courses lost 50-80% of their bermudagrass, he says: "We had a lot of cold weather in Morristown, but there wasn't much snow coverage."

Kammann thinks that players are after high stimp meter ratings on greens, and The Country Club is known for its fast greens. But he's more interested in providing true putting surfaces. "You try to get the greens to where everybody likes them, but that's one of the hardest things to do," he notes.

Sean O'Brian of Alta Sierra Golf and Country Club in Grass Valley, Calif., also had problems with the weather. At his club, which is located one hour west of Lake Tahoe, they had 15½ inches of rain in 15 days in January.

"This has been a much wetter winter than we're used to," O'Brian notes. "We hadn't been able to mow the fairways for close to a month." January 19th was the first day they allowed play in that 15-day period.

Because the course contains a lot of *Poa annua* in the fairways and was hit hard by anthracnose, the crews finally drill-seeded a ryegrass blend and aerified the fairways. But the budget is tight, and "one pass with a drill seeder isn't going to solve all of the problems."

—Jerry Roche, Ron Hall

'Enticing and challenging'

That's what it's like in California, on the cutting edge of environmental and legislative issues.

■ David A. Bergstrom, superintendent at two high-profile California golf courses, says his colleagues must continue to get "picky" on little maintenance details like edging on bunkers and cart paths, and sprucing up plant beds.

"Though my staff and I appreciate compliments, it's the suggestions—especially those about how we can improve—that matter most," Bergstrom says.

He oversees maintenance of the TPC Stadium Course and the Jack Nicklaus Resort Course at PGA West in La Quinta, Calif. In December, the Nicklaus course was site of the John Deere Team Championship Tournament (at which 30 other superintendents got an "up close



David Bergstrom is using IPM techniques to adjust practices to avoid problems on the course.

and personal" look at the course) and the Wendy's Three Tour Challenge and Diners Club Matches (with live television coverage of both).

"TV coverage allows us to showcase the course to the general public and to thousands of potential players," says Bergstrom. "People watch the pros play a hole and want to see how well they can

play it. The course has to look both enticing and challenging.

"All golf courses are under scrutiny these days, and California is on the cutting edge of environmental and legislative issues. Our regulations are the toughest in the country, and probably the forecast of things to come for other states."

During the seven years Bergstrom been with the two courses, restrictions on water and chemical use have become more stringent, and paperwork requirements have increased enormously.

"Our well system is tapped into underground aquifers and we have access to a canal system that draws water from the Colorado River," he notes. "Because the water district has expressed concern about the aquifer recharge rate here in the lower end of the valley, we're decreasing our well

continued on page 40G

**THERE ARE A HUNDRED THINGS THAT CAN GO WRONG ON A
GOLF COURSE. THIS LETS YOU CONCENTRATE ON THE OTHER 99.**



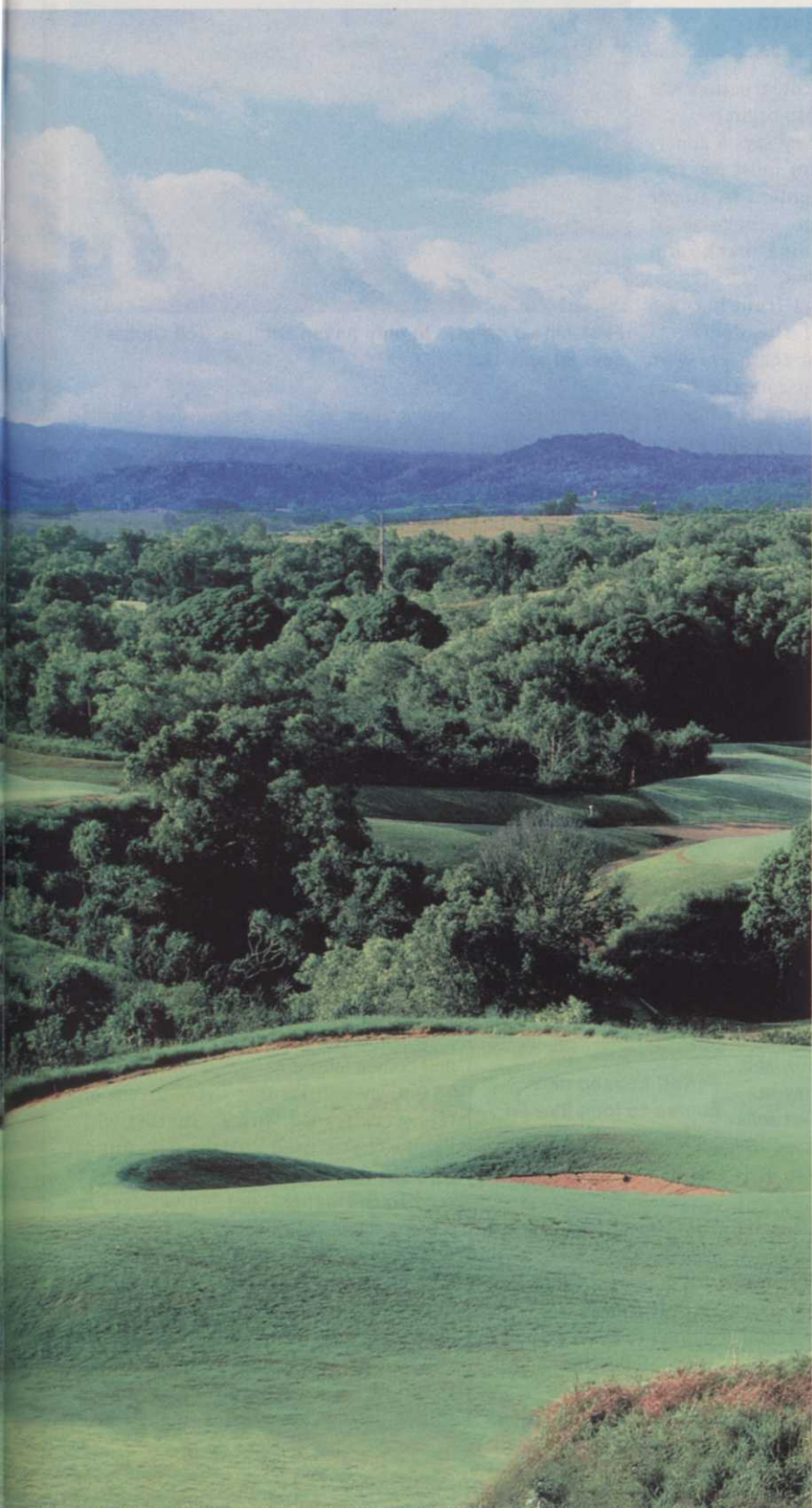
Subdue™

BEHOLD PE



Now for Turf.

PENDULUM[®]



The most widely used and proven pre-emergent turf herbicide, Pendimethalin, is now available from American Cyanamid for use on turf. PENDULUM[®] herbicide offers broad spectrum pre-emergent control against most grassy and many broadleaf weeds, including crabgrass, goosegrass and tough to control oxalis and spurge. With the cost-effectiveness your operation needs to stay up and running. And with excellent tolerance on a wide variety of cool and warm season turfgrasses.

PENDULUM also provides over-the-top control of over 45 grassy and broadleaf weeds without harming over 260 labeled ornamentals, making it your best choice for total turfgrass and landscape management.

PENDULUM is available from leading turf suppliers as a 60 WDG or a 3.3 EC.

The label says it all. For the broadest, most cost-effective, season-long control of troublesome weeds, look to PENDULUM. And behold turf perfection.

For more information or for the PENDULUM distributor nearest you, call 1-800-545-9525.



CYANAMID

Agricultural Products Division
Specialty Products Department
Wayne, NJ 07470

©1995

PENDulum[®]
HERBICIDE

Nothing Beats Pendimethalin

Circle No. 140 on Reader Inquiry Card

A survival guide to golf course 'grow-in'

Early involvement heads off big problems later, say two Illinois superintendents.

■ Establishing turf on a new golf course causes superintendents to question the wisdom of their career choice. But superintendents Donald Ferreri and Steve Mulvey survived the process, and offer some tips, hoping that their experiences shed some light to help others through construction and grow-in.

Getting the turfgrass up and playable is what rings the cash register for course owners and developers.



Mulvey says slopes can be hard to establish.

Ferreri heads maintenance of Seven Bridges Golf Club, a high-end public course, in Woodridge, near Chicago. Mulvey is superintendent at Panther Creek

Country Club down state in Springfield. Both supervised grow-ins at their courses.

That they're both gainfully employed and—judging from the presentations they gave at the North Central Turf Expo—reasonably happy is proof that their efforts were satisfactory.

To that, Ferreri and Mulvey give equal credit to unusually fine fall Illinois weather back several seasons ago when they supervised the grow-ins, and to being a part of decision-making teams at their courses before bulldozers started snorting.

"Getting a superintendent on the site as early as possible, before the heavy equipment arrives, allows the superintendent to see everything when it goes in the ground, to know what's there," says Ferreri. It also gives the super a better understanding—and, often, input—concerning such matters as drainage, shade and air circulation.

(Actually, because of political and jurisdictional squabbles, Ferreri was on the Seven Bridges project almost two years

before construction was allowed to begin.)

Mulvey says a superintendent must pay special attention to proper drainage, otherwise "it will come back and haunt you."

Apart from being a part of the decision-making team early in construction, the super must earn the cooperation of engineers, contractors, equipment operators, and, particularly, his own staff.

Says Mulvey, "Everybody has to get along. It's critical." He praises assistant Bill Smith. "I really appreciate him. A good assistant is vital in any project."

Here are some other tips the two supers offered:

✓ **Don't allow** equipment operators to drive over and compact the same areas continuously. Or to pile gravel, rip rap or other debris by the fairways, tees or greens.

✓ **Complete all** work requiring the use of heavy equipment before seeding.

✓ **Make sure** the contours built into the course are easily mowable after grow-in.

✓ **Test soils** during construction. This will help build a fertility program.

✓ **Have irrigation** installed and functioning prior to seeding.

✓ **Install cart paths** prior to seeding. It saves disruption to your course later, and allows you and your staff to get around the course and check your satellite boxes, etc.

✓ **Consider laying** sod "runways" from the cart path the shortest distance to tees



First hole a classic in only Seven Bridges Golf Club's second season.

and greens to allow access for you and your mowers during grow-in.

✓ **Check nearby** universities, seed suppliers, and even fellow superintendents for insights on grasses best for your course.

✓ **Seed greens, tees and fairways** at half rates, then seed again with another half rate criss-crossing the first seeding. This allows for more even and thorough establishment.

✓ **Add quick couplers** to the irrigation system while it's accessible, while trenches are open. About 65 were installed at Seven Bridges during construction.

✓ **Have a plan** to protect all trees that you want to save.

✓ **Budget adequate labor.** A mechanical rock remover gets the larger rocks, but the smaller ones will have to be collected from the fairways by hand. Seven Bridges used maybe a dozen laborers for about a week. Mulvey says greens may need some hand weeding, too.

✓ **To avoid vandalism,** try to have the golf course fenced.

Mulvey says Panther Creek greens and tees were seeded with Penncross while Pennway was used on fairways. August through mid-September is a good time to seed in Springfield, but Mulvey says his seeding dates got pushed back later in the season.

Ferreri seeded roughs at Seven Bridges with a Brillion seeder and a mixture of perennial ryegrass, Kentucky bluegrasses and fescues. The Manhattan II and Citation II ryegrasses came up first and held the soil, while the bluegrasses finally started



Ferreri coaxed new course to look like an 'established' course.

UNBEATABLE WEED CONTROL



PRE-M
THE Pendimethalin.

LESCO

PRE-M Pre-emergent Herbicide

Since 1985, LESCO's PRE-M preemergent herbicide has been recognized as the industry standard for weed control. No other preemergent herbicide combines outstanding control of annual grass and broadleaf weeds at the most economical price.

Simple to use and available in four formulations, PRE-M's proven, consistent performance is unbeatable. Ask your LESCO Sales Representative about the best preemergent herbicide available today:

PRE-M.

Net 10 lb. #011965

LESCO

20005 Lake Road • Rocky River, Ohio 44116 • 1-800-321-5325

'Get on site, before the heavy equipment arrives, to know what's there.'

—Donald Ferreri
Seven Bridges G.C.

taking over with the fescues doing better on the slopes. Tees got Penncross seed with Pennlinks for the greens, both applied with a Milorganite carrier. The fairways are Penneagle.

At the time of seeding, he reports that he also used a starter fertilizer and a granular fungicide to control damping off. "I think that was very worthwhile," says Ferreri.

—Ron Hall



Aerial view shows that holes 2, 3 and 5 are challenging and green at Seven Bridges.

Height of cut, turf accessories keys to greens management

These experienced greens experts use turf rollers, groomers and specially-blended topdressing mixes.

■ Whether you're managing greens for tournament play, the daily club membership or the general public, the goal is the same: a quality putting surface, as free as possible of disease and other turf maladies.

Here are some tips on greens care, from leading superintendents, as presented at the last Ohio Turf Conference.

Bob Brame, USGA agronomist and ex-superintendent:

"Successful greens management depends on the quality of the turf foundation you've established in preparation for day-to-day maintenance."

Brame believes a good turf foundation includes:

- a suitable growing environment;
- height of cut;
- fertility programs; and
- water management.

"With mowing height, you've got to draw the line. $\frac{3}{8}$ or $\frac{1}{2}$ of an inch or higher is a better growing environment," says Brame. "The shorter the turfgrass, the more likely it is that *Poa annua* will become a problem."

Brame also believes that fans are valuable for lowering leaf blade temperature.

Brame is in step with the recent trend to walking mowers. "They require more time," he admits, "but result in better playability."

Rollers? Don't push it, he says. You don't have to cut the greens as close when using rollers, but some superintendents do both. Know the limitations of the specific green.

When it comes to fertility programs, remember, says Brame, that a well fed turf system will be more resistant to disease.

Tom Walker, superintendent at the Inverness Club, Toledo, Ohio:

Walker manages 62,000 sq. ft. of putting surfaces. His greens endure more than 28,000 rounds every season, so Walker has learned to treat each green individually.

The maintenance season begins in late August. Soluble forms of nitrogen are used to get the turf ready for fall and winter.

Aerification is done in the fall, and crews Verti-Drain two or three times each year, usually in mid-late October and mid-late November. A Toro Hydroject water aerator is used at one- to three-week intervals.

Walker goes easy on spring fertilization. In summer, a slow-release product is applied to avoid burning and flush growth.

Walker uses a special 80-20 topdressing mix that's blended off-site.

"We try to apply topdressing on

Monday, at a rate of one to three cubic feet per 1000 sq. ft. Once we've applied it, we sweep it with tennis court brooms, to get it into the aeration holes."

Traffic management is conducted at three to four prime pin spots on each green, and Walker picks the location each day. To keep green speed consistent, he makes sure it stimps between 10.3 and 10.6—11 for tournaments.

"We mow 7 to 10 times a week, roll the greens four times each week," he notes. "We try to balance the fertility program, and try not to focus on one element."

Randy Boudinot, superintendent at Country Club of the North, Dayton, Ohio:

He applies topdressing twice each month during summer. In spring, it's three times each month.

In the summer, an 80/20 topdressing mix is applied at a rate of 2 cu. ft. per 1000 sq. ft.

"We walk the greens when we mow, and five of the mowers have turf groomers, which we use two to three time a week. The groomers are usually set at half the mowing height. They add a nice touch, and turf groomers make it easier to increase green speed."

Brushes are used once, sometimes twice a week.

Boudinot plans ahead, and works out weekly and monthly maintenance programs. And get your staff involved as much as possible, Boudinot says.

"They do a better job when I get them involved. Let them know what you want to accomplish."

—Terry McIver

Set priorities when planning budgets

At any budget level, there's always more you'd like to do. But put safety first, aesthetics second.

by Richard Moffitt

■ Budgeting is a year-round process. Accurate records of expenditures, labor hours and equipment used provide the building blocks on which future budgets are prepared. The upcoming season's preliminary budget actually is being planned during the two years preceding it.

Landscape and turf care budgets often are split into two main categories: the operational budget and the capital improvement budget.

The capital improvement budget is developed from ever-evolving short- and long-range planning. At Saint Louis University, each department or budgeting entity may submit a request for funds for capital improvements. Such requests may be for extensive renovation on existing facilities, major purchases of equipment, the addition of a full-time person to the staff, or similar needs. Generally, a dollar plateau is set. Spending for specific items above this dollar level require approval as capital improvements. All capital improvement budget funds are allocated for specific uses and must be applied as allocated.

Saint Louis University has opted to extend and define the boundaries of our urban campus, and a separate construction division budget has been established to cover this major step. We've acquired new land; upgraded existing buildings and added new ones; and incorporated softscape and hardscape features to enhance and unify the setting.

Turf and landscape features that are incorporated into these expansion or major development projects are specifically designated items, included in the master budget for that project and earmarked for that use. The Grounds Department provides cost recommendations for the project budgets of the construction division, and designs and expedites most of the landscaping portions of these projects, but does not administer that budget.

The Grounds Department's operational

budget covers overall operations and all related costs, including general maintenance, replacement and repair; minor improvements; small equipment replacement; employee salaries and benefits; and contract labor and services. Our budget is divided into general categories and by line items under those categories. Every commodity line item is figured out and the totals tallied under a general category. For example, lines items such as fertilizer, seed and sod would be listed under the routine maintenance materials category.

We keep accurate, year-long major maintenance lists, checking the University computerized records monthly. These lists show not only expenditures and where these expenditures are allocated, but also what percentage of the funds have been used from the total budgeted for those items. This information is available to each budgeting entity at any time from the budget office computer system.

Safety first—Our fiscal year begins July 1st. The budget cycle starts in early December. Drafts of both the operational budget and capital improvement budgets are submitted in January or February, depending on the department. Final drafts are submitted in March. Each department has a general idea of the status of budget requests as final drafts are submitted, but actual budget approval is not received until July 1st.

Setting priorities is essential in preparing both the capital improvement and the operational budgets. No matter what the budget level, there's always more you'd like to be able to do. Basically, in planning, and in actual use of funds, we put safety first; aesthetics second.

Prior to submitting the first drafts of the budgets, we talk with facilities users—coaches of sports teams, heads of individual

campus facilities, buildings and residence halls, and with the president's office—to get their input on needs and on their priorities. We incorporate as much of this input as possible, but it's up to us to rank the priorities and make the final call on what we submit.

The university administration is supportive of the Grounds department and fully aware of the benefits of a well-landscaped and well-maintained campus in attracting students and drawing alumni backing. Part of the capital improvement program includes raising the current irrigation level of 95 percent to a totally-irrigated campus. Because of the urban setting, the majority of the campus is high-impact, high-visibility. We put great effort into turf and landscape quality and into creating effective color with annuals, perennials and bulbs.

Anything can happen—The budget is a tool, a basic guideline for planned expenditures. But "budget busters" can occur. The operational budget gives us some flexibility within line item allocations.

Because of our geographic location, snow removal costs can make an impact on the entire operational budget. We allocate an "average" amount for snow removal, based on past records and updated to reflect current costs, but Midwest snowfall is seldom average. If snows are light, we can allocate unused funds to other needs in the spring and early summer. If snows are heavy, we may have to

continued on page 32G



Moffitt: Capital improvements around the St. Louis University campus to include total irrigation system.

IMPROVEMENTS SO OUTSTANDING WE GAVE IT AN

**A new engine, transmission,
and cowling design help
make the new 1200A 10
decibels quieter.**

