Vaukegan

Field. The field has also hosted the Colt League World Series, the Pony League National Tournament and the State American Legion championship.

"They play serious baseball on Grosche Field and the community loves it," says Petry. The field has a lighting system that is rated for double A play, so night games are frequently aired on local cable television. "Every year, we have a few college or professional baseball players return home just to help out on the field," he adds. "This field means a great deal to them."

The connection between sports and the quality of recreational facilities has been one of Petry's interests since he started working for the Department of Parks and Recreation of East Brunswick, NJ. After graduating from Manhattan College in New York with a degree in physical education, he quickly realized that schools and parks varied greatly in their support for recreational facilities.

As a sports coordinator for East Brunswick Parks, he decided he wanted more influence over playing conditions. "I fell in love with park work," Petry recalls, "but I wanted the opportunity to improve the quality of recreational facilities." Before long, he realized that to gain this authority he would have to become a park superintendent. This meant returning to school.

As a graduate student at Penn State in Parks and Recreation, Petry concentrated more on the park side of management than the recreation side. To be able to have a greater voice in community affairs, he also took political science.

The business-minded Petry studied the different ways park systems are funded in this country. He discovered that for more than a century, Illinois park districts were separate governmental bodies with the power to levy taxes. "They don't have to compete with other municipal agencies like fire and education for funds," he points out. "Since residents and businesses are paying special taxes for parks, they expect them to maintain higher standards."

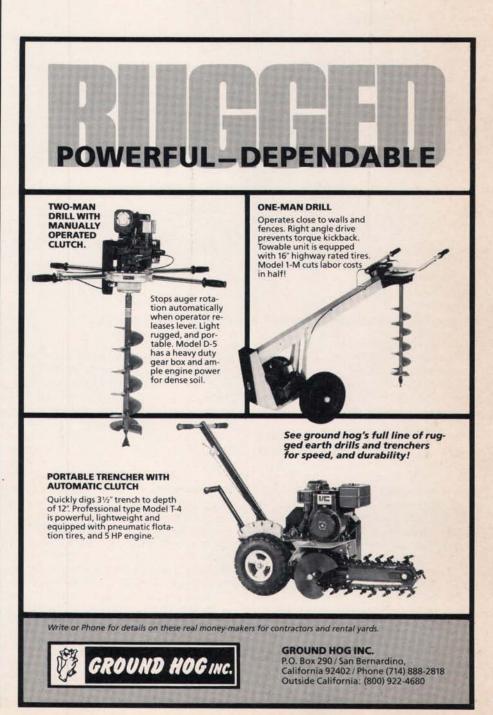
Petry got the chance to see how Illinois park systems work by securing a postgraduate internship in Highland Park. He was exposed to park planning, policy-making, procedure writing, budget preparation, and grant applications. "It's more than just paperwork," he remarks. "It's the core from which everything operates. You can do it grudgingly, or you can make it work for you and everything you're trying to accomplish."

When the year-long internship ended, Petry was hired as assistant director of parks and recreation for Mundelein, a community west of Chicago. For the next two years he developed a "hands-on" style which he employs today to make sure his planning is put into action. Still he gained the greatest amount of pleasure from the "park side" of operations, as opposed to the "rec side."

His chance to concentrate on the park side came when Park Ridge was looking for a coordinator of park services. The park district in the wealthy Chicago suburb needed someone who could both plan and implement a multi-year maintenance and renovation program.

"At Park Ridge I really got to sink my teeth into field management," remarks Petry. "Since I had no technical turf background to speak of, I knew I had to start from scratch, first identifying the major problems, then developing a long-range program with the help of experts and publications."

Petry had seen many park districts invest heavily in capital improvements, only to have their fields deteriorate after a few short years of use. This was the chance he had been waiting for, to combine renovation expenses with all essential maintenance in one long-range plan. Under the guiding hand of Superintendent of Park Operations William Neuman, Petry started to formulate his plan and consult turfgrass specialists *continued on page 22*



Planning Makes Diamond Sparkle continued from page 21

while busily coordinating all facility maintenance in the parks.

During his five years at Park Ridge, Petry polished his planning and management methods. He was ready for the next step: to become a superintendent of parks in his own right. When the job came open at Waukegan, a lakeside suburb north of Chicago, he applied and got the job.

During the previous few years, the park district had concentrated its efforts on its two municipal golf courses and on building a cultural arts center named in honor of former resident Jack Benny. Now the park board wanted to direct more of its attention toward the community's 35 parks. But first the board needed an accurate and compresuch as Northrup King and Arthur Clesen Company, for their ideas about maintenance of 33 field sites. He evaluated each member of the maintenance staff to gauge their strengths before trying different forms of organization. He also developed a cooperative working relationship with Golf Course Superintendent Dave Beno.

Petry took a hard look at equipment, resources and facilities under his care. Mowers, lights, irrigation systems, bleachers, dugouts, pitching tunnels, fences, trees, plant beds and turf areas were all cataloged and rated for condition, efficiency and performance. Possible improvements for these resources were then noted.

He tracked the use of each facility and asked league officials and players for com-



Petry (right) and assistant check turf this spring for snow mold damage.

hensive plan from which to predict expenses and capital projects.

The new park superintendent knew that the key to a successful plan in the public sector was the same as in the business world: thorough research. "Every community is unique," Petry remarks. "We needed to get a clear picture of what Waukegan residents wanted from their parks, and to be receptive to ideas and trends in the community." Trends were especially important, since the goal was to develop a five-year plan. Petry spent nights and weekends talking with residents, board members, and organizers of community sports leagues.

It didn't take him long to discover that baseball and Grosche Field were very important to the community. The park district board was a strong proponent of baseball activities. District President Ralph Bufano and Executive Director Thomas Shuster appreciated Petry's methods and did not rush him to complete the plan. It was 18 months before the completed plan was submitted to Shuster.

During that time, Petry consulted suppliers who had helped him at Park Ridge, ments on its facility. Finally Dan Drew, superintendent of finance, obtained an accurate projection of park revenue for the coming five years. In the end, the staff had amassed a huge amount of information before Petry wrote the first word of his plan.

The completed Park and Open Space Master Plan covered a period of five years and expenditures of nearly \$7 million. You might think that small line items such as field maintenance get lost in such a large budget. It was Petry's objective to provide equal importance to all areas by including detailed descriptions of each, regardless of the portion of the budget allotted to it. By doing this, he protected ongoing maintenance programs and important renovation projects from being overlooked or cut.

"A plan becomes a commitment once it is accepted by the park district," says Petry. "That's why it is so important to protect field improvements by including a detailed outline of follow-up maintenance in the plan. You don't want to rob Peter to pay Paul for maintenance, because you lose track of what you really need to budget for in the future." The description of athletic field maintenance includes a staff organization chart, a three-page monthly work schedule including the names of chemicals and materials required, a complete list of equipment devoted to field care, key renovation projects scheduled according to year, and a report on expected field use.

The athletic field maintenance plan is updated each winter to reflect changes in equipment, labor, maintenance practices and timing. The budget request is then adjusted to meet these changes. Before baseball season begins, Petry knows exactly how much money he has to spend on maintenance. He can also break it out according to fields. For example, last year he had \$17,761 to spend on Grosche Field.

The park budget is purposely kept separate from the golf course budget. But that doesn't mean the two divisions don't work together to save money. Several years ago, a used Toro Sand Pro was obtained from the golf courses and rebuilt to condition the skinned infield areas of the baseball diamonds.

Petry and Beno work together throughout the year on special projects. "Dave has been a big help on selecting fungicides and making suggestions for weed control," Petry says. "He suggested we try wetting agents to cure localized dry spots. That was a big help during the droughts the past three years."

Beno is frequently consulted about equipment and turf problems. "The golf course and athletic field maintenance operations have a lot in common," Petry observes. "If we need a topdresser, we call Dave. If he needs trucks, he calls us."

In January, Petry orders nearly all the chemicals and supplies he needs for the season. By the end of March, the park has received the supplies, has repaired and calibrated all the equipment, and is ready to roll as soon as weather permits.

In April the maintenance plan for Grosche Field is launched. Soil samples are sent to a lab for testing. The soil test report will be used to determine the proper fertilizer to be applied the following month. Balan preemergence herbicide is then applied to control annual weeds.

The field is mowed twice a week at 1³/₄ inch, using a Jacobsen F-10 or Toro Parkmaster for the outfield and a National reel mower for the infield. The turf is a combination of Kentucky bluegrass and perennial ryegrass. Upon the advice of Mark Grundman from Northrup King, Petry uses a combination of Rugby, Parade and Trenton Kentucky bluegrasses and Delray, Caddie, and Pennfine ryegrasses.

Petry's staff inspects the bleachers, concessions, dugouts, bullpens and batting cage for needed repairs. The lighting system is tested to make sure light levels are up to double A specifications.

There are eight lighting poles surrounding Grosche Field, four in the infield and four in the outfield. Each infield pole has between 12 and 16 1,000-watt mercury vapor lamps. The outfield poles have 14 lamps each. It's important to note that \$7,400 of the field's \$17,700 budget is spent on electricity, with an additional \$450 devoted to supplies for the lighting system.

In May, the crew's attention is directed at the irrigation system and detail work on the infield dirt and warning track. Grosche Field's irrigation system was converted from hydraulic control to a Rain Bird RC-1260 electric controller and E-Series valves in 1983. The heads are a combination of Rain Bird pop-up impact rotaries and Toro 640s. Since the system is drained in the fall, all components are carefully inspected as the



One of the first improvements made to upgrade Grosche Field was the irrigation system.

system is recharged. There are five quick coupler locations around the infield for hoses.

After all field dimensions are checked, brown clay and sand are mixed as needed into the base paths and clean edges are restored to the turf with a sod cutter. Any dirt that has migrated into the turf over the winter is raked and hosed out. Blue clay is added to the pitcher's mound and batter's box to reestablish a firm base.

The warning track and coaches' boxes are treated with Roundup to eliminate any weeds that encroached over the winter into the limestone screenings. Daily field preparation also starts this month with the first practices and games. It takes two people a total of five man hours to prep Grosche Field for a game. Foul lines are painted at least once a week. Before leaving the field, both individuals police the area for litter and debris and then fill out a daily inspection sheet.

Crew member Bill Barhyte applies Trimec to the turf in May to knock out any broadleaf weeds. To avoid spring and summer diseases, the park crew makes only one application of fertilizer (19-5-9 slow- release) in the spring and begins a fungicide program in May, using Tersan LSR for control of brown patch.

To prevent thatch from contributing to disease development, the turf is aerified twice in May. Granular sulfur (Disper-Sul) is continued on page 24



Planning Makes Diamond Sparkle continued from page 23

applied following aerification to acidify the soil, based upon the test results. This assures that the pH is right for natural decomposition of thatch and nutrient exchange in the soil.

The disease control program continues in June with a treatment of Acti-Dione DGF for dollar spot. This is followed by an application of wetting agent (Lescowet) and careful irrigation as needed. The turf is also treated with Diazinon insecticide to control grubs as they begin to feed near the surface.

A strict mowing schedule is maintained in

addition to daily conditioning of the infield dirt. The field is closed for two days at the end of the month for mid-season renovation. This gives the crew a chance to spot seed and/or topdress any wear areas, such as in front of the mound, where the outfielders stand or between the dugouts and the plate.

In July, Petry and his staff pay close attention to the turf for diseases. Although daily irrigation may be required in some instances, it is avoided if possible. The irrigation schedule is set to run in the early morning rather than at night. This avoids long periods during which the turf remains wet, and it helps rinse off any morning dew.



Early in the month, Barhyte applies Bayleton for brown patch, dollar spot and summer patch. Toward the end of July he applies Banner for continued broadspectrum disease control. He also makes a second application of wetting agent at half rate

August is a busy month for Grosche Field with tournament games. The turf is aerified early in the month. Half-inch hollow tines are used for the infield and 3/4-inch tines are used in the outfield. Potassium and phosphorus levels are boosted with a lownitrogen complete fertilizer (6-25-25) before the Kentucky bluegrass/perennial ryegrass seed mixture is broadcast over the field.

The park staff borrows a machine from the golf course to topdress the field with sandy loam. Any low spots are touched up by hand. By tournament time, the turf has healed. The field is closed the day before the tournament for striping, edging, dirt work, and hand raking any lips.

Following the tournament, Barhyte applies Chipco 26019 fungicide for summer patch, brown patch and dollar spot. "We rotate fungicides to avoid any possible resistance that may occur from repeated use of the same fungicide," explains Petry. "We've had no problems with resistance so far."

He also concentrates the majority of fertilization in the fall. In September, the field is aerified for a third time before a pound of nitrogen (18-18-18 sulfur-coated urea) is applied. This procedure is repeated in October, using 27-3-12 with Nitroform and sulfur-coated urea. "We don't have time to spoon-feed the field like a golf course superintendent might fertilize a green," Petry remarks. "So we do what we feel is the next best thing, by using slow-release products.

Winter preparation starts in October with an application of Acti-Dione RZ for snow mold control. In November, the irrigation system and all water lines are drained and winterized. All accessories, such as the foul ball netting and bases, are removed for repair and storage. The field is mowed twice weekly until the facility is closed in November.

By the end of November, Petry is once again compiling information from his staff, baseball league representatives, and suppliers to help him update his plan for the following year. "By devoting time to research and planning in the winter, a park superintendent can save himself lots of headaches during the busy season," reveals Petry. "Just as in business, a good plan keeps the corporation going in the right direction when you are too busy with other things. A park is really a municipal corporation.

"I think planning helped us get through last year's drought," Petry concludes. "A park superintendent doesn't necessarily have to be an expert in turf management. But he should make sure that turf maintenance, like anything else, is done properly. That goes double when a community cares as much as Waukegan does about baseball - or any other other sport."

CHALKBOARD

TIPS FROM THE PROS

ATHLETIC FIELD RENOVATION

By James R. Watson

The term, renovation, is used frequently in the sports turf industry to cover a wide range of improvements for athletic surfaces. This is unfortunate, because renovation gives some people the impression of being an expensive project, while others underestimate the costs involved in true renovation.

To renovate means to renew, restore, or invigorate a sports field to an acceptable condition or state of excellence. At the very least, this condition should provide a turfgrass cover with firmness and uniformity of footing satisfactory to the sports turf manager, the coach, the players, and to all management or supervisory personnel involved with the operation of the facility. This condition must also provide "spectator appeal," which may relate only to color and certain grooming aspects of the field.

Renovation does not mean to rebuild or redesign. However, it may involve modification of the soil, introduction of a new grass, alteration of one or more cultural practices, and adjustment in the amount or frequency of use.

From a playing standpoint, good athletic field turfgrass should be tough, wearresistant, weed-free, and not easily torn by cleats. It should be soft and resilient enough to prevent abrasions when players fall, yet firm enough to permit good footing. Sports turf should be mowed short enough to prevent hanging of cleats, yet tall enough to ensure healthy plant growth and rapid recovery.

Firmness and uniformity of footing goes beyond the condition of the turfgrass. An even and resilient surface is absolutely necessary with or without good turf. Skinned areas of baseball infields must provide these conditions without turf cover.

Spectator Appeal. With the advent of color telecasting of sporting events by national networks or even local cable stations, field color and grooming have taken on a new significance. Spectators have come to expect uniformity and compatibility of color. Right or wrong, color is apparently one of the major criteria by which the general public judges the quality of turf.

Athletic fields may require renovation and sometimes rebuilding for any of several reasons. Among the more common, and for the most part avoidable, causes are poor construction, soil, the wrong turfgrass, poor management, inadequate grooming, and too few fields. Poor construction centers around inadequate drainage and the depth and properties of the seed bed. Athletic fields must have a grade or crown to provide rapid surface drainage in addition to a subsurface network of drain pipe or slit tubing.

Sports turf can not withstand heavy and frequent use when growing in a shallow seed bed. The goal should be to provide a minimum of 16 inches of well drained, properly textured soil in which turfgrass roots can grow. Once a seed bed is established, steps must be taken to prevent the development of layers on top of or within this profile. Such layers impede water movement. They can be caused by wind-blown clay, topdressing with sand or soil of different textures, inadequate mixing of the seed bed soil, or sod grown in silty muck placed over sandy seed beds.

Firmness and footing go beyond the condition of the turf.

Seed beds which are sufficiently deep are rendered useless if the soil contained in them is poor. The texture and chemical properties of the soil are critical to plant growth. Too much silt, clay, or peat, or the wrong particle size of sand, can disrupt drainage and lead to compaction. Sand used in seed beds must range in size from 0.1 mm to 1.0 mm, with 75 percent or more of this in the 0.25 to 0.5 mm range.

The preferred soil pH for sports turf is between 6.5 and 7.2. Deviations above or below this range can cause nutritional problems. The soil should be tested for pH as well as for salts. Certain types of salts, especially sodium, in excess amounts can disrupt soil chemistry.

Proper grass selection is frequently overlooked. Turf should be suited to the specific location. Failure to use a blend of three to five of the best cultivars of Kentucky bluegrass, fine leaf fescue, tall fescue, or perennial ryegrass permits diseases and other stresses to significantly harm the turf stand. Failure to overseed a warm-season grass with an adapted cool-season grass exposes dormant warm-season grasses to damage.

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Chalkboard

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Mismanagement of some or all of the basic cultural practices such as watering, mowing, fertilization, cultivation, topdressing, and pest control programs is a common cause for turf deterioration.

Poor playing conditions can also be attributed to improper grooming habits. It is necessary to remove the plant parts (leaves, stolons, etc.) or even the entire plant when they become uprooted from normal use. These can be easily swept up or collected with a mower equipped with a bag or catcher.

Athletic fields should be topdressed after

one or more games, and divots or damaged areas of the turf must be repaired before they enlarge. Ideally, these areas should be seeded when the temperature is conducive to germination.

Many problems arise from the sheer lack of playing fields. When a team must use the game field for practices, or share the field with other groups, there may not be sufficient recovery time. Routine maintenance such as grooming, patching and topdressing becomes even more important.

Whatever the cause of poor playing conditions, when they exist a renovation program must be initiated. In extreme cases, rebuilding the turf may be the best answer.



Before embarking on a renovation program, a course of action should be carefully planned, and all necessary materials should be purchased. A successful turf renovation program involves three steps.

In the first step the problem or condition responsible for the turf deterioration must be identified. The unsatisfactory conditions must be listed in writing, studied and reviewed—and then reviewed again. For example, was the condition brought about by poor soil, the wrong grass, improper drainage, poor cultural practices, or simply too much use?

Once the problem has been identified, the corrective action needed to restore the field must be developed and studied. All potential solutions and alternatives need to be evaluated and the costs determined. If the damage is severe, the renovation costs should be compared to rebuilding costs.

In order to effectively evaluate the situation, information on the time and extent of future schedules and anticipated uses should be ascertained. The acquired data must be applied to the known status for basic construction details while taking into account any special requirements for establishing grass.

Failure to adhere to these simple steps can result in unduly high operational costs. However, there is one exception. Since renovation could be carried as an operating cost and rebuilding would be classed as a capital expenditure, an ongoing annual renovation program may be most expedient from the standpoint of stability of the financial structure.

Determining who, when and how to implement the renovation program is the final step. The nature and extent of the job will determine who will do the work and when it will be performed.

For example, topdressing to level out depressions, or seeding divots in early or mid fall, may be done by crew members during the playing season. They may also handle a change to new and better cultivars when the field is being cultivated or when a seeder-slicer is needed.

On the other hand, restoration of the crown with subsequent seeding, sodding or sprigging, a complete change of soil, installation of drainage tubing or of an irrigation system is best handled by a contractor.

Regardless of who does the work and when it is done, the program will be successful only if it is performed correctly. The groundskeeper must plan to supervise the project carefully from start to finish to ensure its success.

Once the renovation of the field is completed, keep in mind the reasons why the job was necessary and, insofar as possible, avoid development of similar conditions or situations on the newly renovated area.

Editor's Note: Dr. James Watson is vice president/agronomist for The Toro Company, Bloomington, MN. He is also a consulting agronomist for the National Football League and a member of the board of the Sports Turf Managers Association.

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