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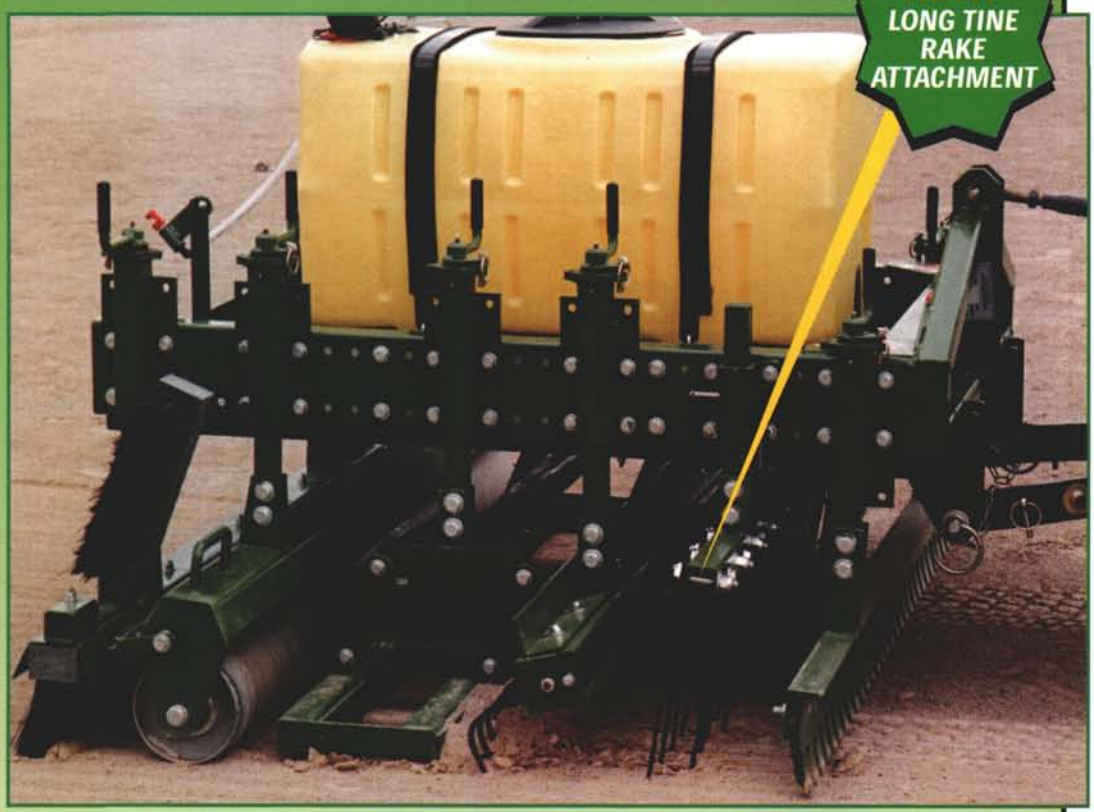

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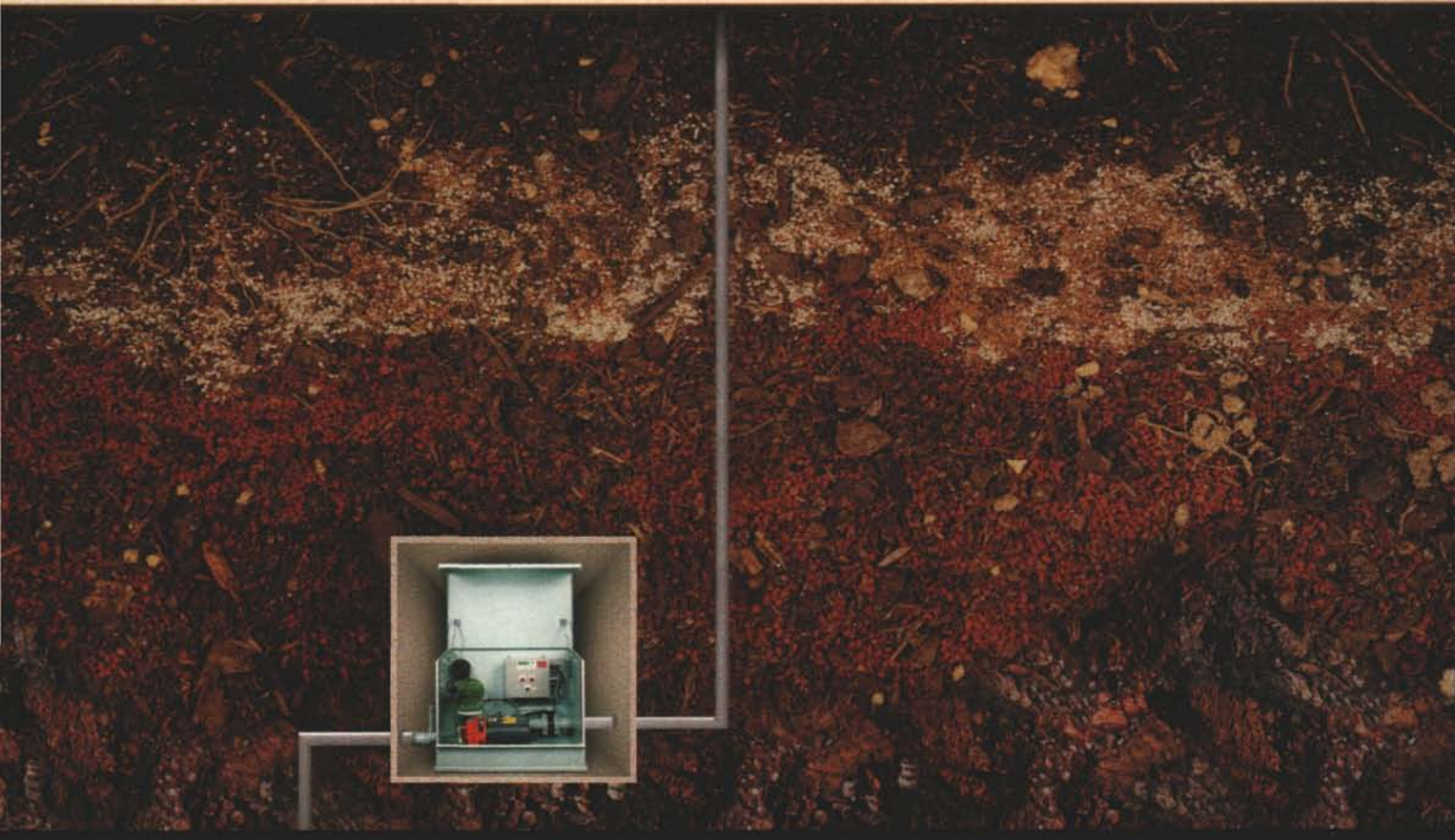

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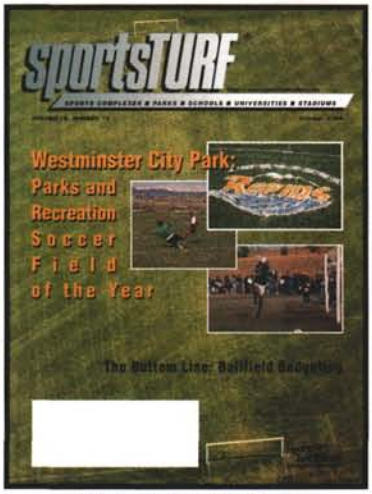

Westminster City Park Soccer Complex.
Courtesy: Westminster City Park

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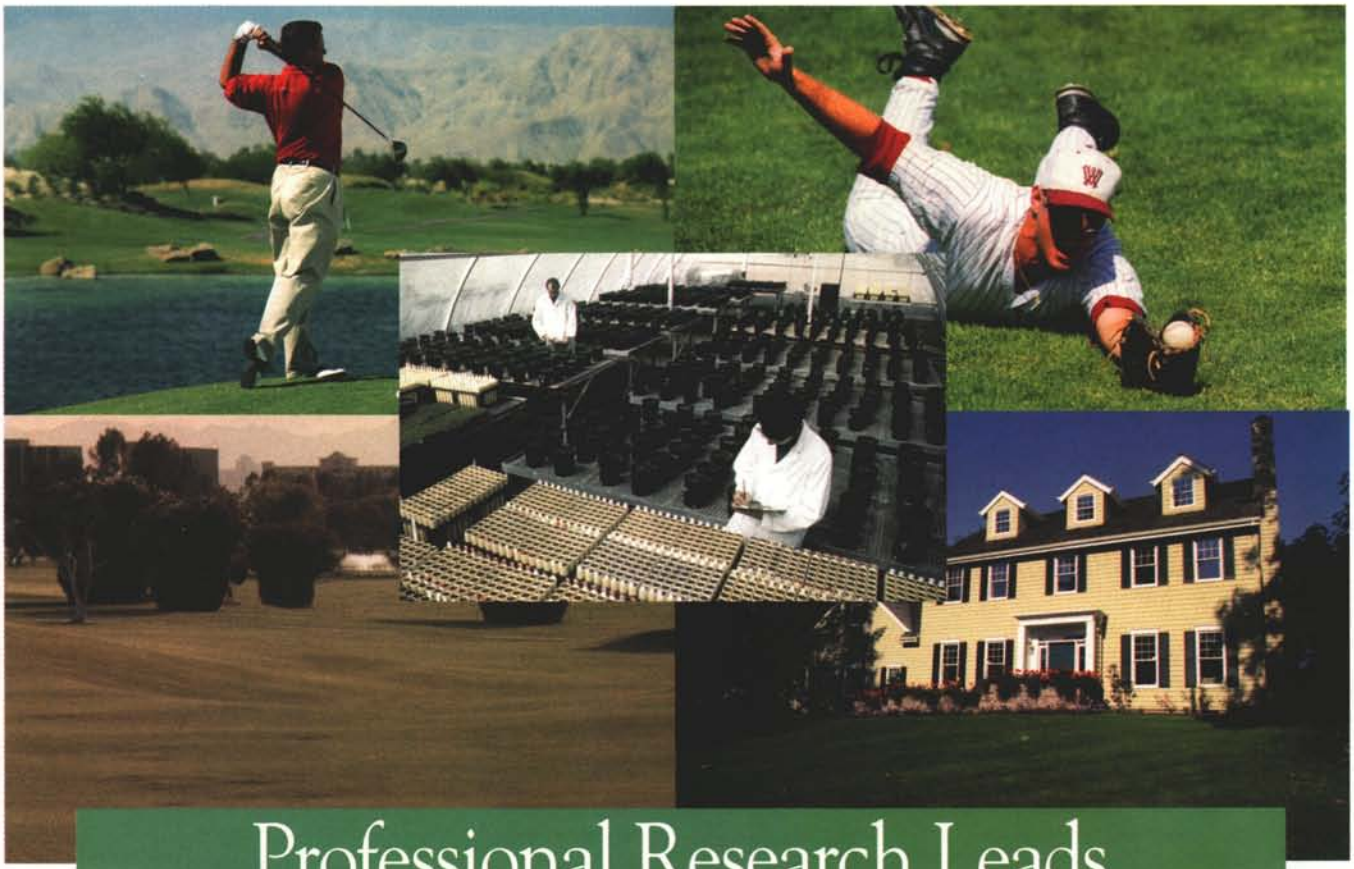

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You Make the Call

A representative from Dow AgroSciences recently called my attention to Environmental Protection Agency (EPA) legislation that may affect your maintenance practices in the near future. The Food Quality Protection Act (FQPA), signed into law by President Clinton in 1996, has been called the most significant piece of pesticide and food safety legislation enacted in years.

The legislation sets forth new safety standards for all pesticide residues. According to EPA's Web site, *www.epa.gov*, FQPA seeks to establish "reasonable certainty of no harm" from chemical residue exposure. The law provides special protections for children, and requires that "an additional tenfold margin of safety for the pesticide chemical residue and other sources of exposure be applied to infants and children."

Previous legislation treated different uses of the same chemical independently. FQPA performs aggregate assessment of "all non-occupational sources of exposure, including drinking water, residential, and dietary exposure." The new safety standards assess cumulative exposure to pesticides and other substances with "common mechanisms of toxicity."

Tim Maniscalo, Dow AgroScience's manager of government and public affairs, told me his company agrees with the aggregate assessment principle in theory, but he questioned the validity of EPA's methodology. Maniscalo contends EPA uses "worse than worst case scenarios" to calculate risks posed by residential exposure. Interestingly enough, EPA seems to agree.

While the Agency looks to its extensive Pesticide Handlers Exposure Database to estimate applicators' exposure to chemicals, it lacks a similar tool to evaluate dangers for those who are exposed to pesticides, but who have not directly used them. Documents posted on *www.epa.gov* explain, "EPA's residential exposure assessments are designed to be as realistic as possible. They are, however, generally conservative and this adds an extra measure of safety when regulating pesticides. When scientists have studied people in the real world (including the children of farmworkers), they have generally found a person's exposure to be less than that predicted by our exposure assessments."

The document goes on to say the following:

- "We assume high amounts of pesticide residues will transfer to a person. Generally we assume 20-50% of the residues will transfer. Some techniques have shown that in some situations, only 1-3% of the residues are transferred. The highest reasonably possible transfer rate must be assumed for safety."
- "We assume no residue dissipation. In other words, all the residues available initially are available throughout the time a person is exposed. Dissipation rate is based on many factors (heat, sunlight, rain, etc.) so we must include the conservative prospect that in a given case there is no residue dissipation."
- "We assume that a person has no clothing on to protect themselves from exposure because little or no clothing is a possible realistic scenario in some circumstances."
- "We assume two to eight hours of continuous contact."

Residential exposure assessments will affect your program, since EPA includes chemical applications at schools and parks under the term. Organophosphate insecticides are currently being reviewed, and the agency is expected to release a preliminary risk assessment of chlorpyrifos this month.

EPA offers on-line public comment periods for its assessments, and it gives considerable weight to response. I urge you to take an interest in the process, and to lend your voice to the debate. The 60-day public comment period for chlorpyrifos should already be underway.

Steve Berens, Editor
(773) 755-4611

Tip of the Month

Movable Soccer Goal Safety

by U.S. Consumer Product Safety Commission

There are between 225,000 and 500,000 soccer goals in the United States. Many of these are unstable and unsafe because they are either unanchored, or improperly anchored or counterbalanced.

Moveable soccer goals contributed to at least 21 deaths between 1979 and 1994. Between 1989 and 1993, U.S. hospitals treated an estimated 120 injuries that involved falling goals each year.

Most movable soccer goals feature metal construction, and weigh between 150 and 500 pounds. Many of the serious accidents occurred when equipment tipped over onto the victims. In most cases, the goals involved appeared to be homemade constructions of high school shop classes, custodial members, or local welders. These homemade goals often lack important safety features incorporated into professionally manufactured equipment.

Design and construction

A correctly designed goal must feature carefully balanced construction. A full-sized goal normally measures 24 feet (7.3 meters) wide and eight feet (2.4 meters) high. Goals are commonly six feet (1.8 meters) deep.

Soccer goal stability depends on several factors. One effective design lengthens the depth of the goal to counterbalance the structure. This strategy

Continued on pg. 40

CALENDAR OF EVENTS

October 28
Sixth annual Southeast Texas Grounds Maintenance Conference, Montgomery County Fairgrounds, Conroe, TX. Contact Patti Jones: (409) 539-7822.

November 9-11
Turf and Grounds Exposition: "Committed to Excellence: Plants, People, the Environment, and You," OnCenter, Syracuse, NY. Contact New York State Turfgrass Association: (800) 873-8873 or (518) 783-1229.

November 13-16
Green Industry Expo, Baltimore Convention Center, Baltimore, MD. Contact Eleanor Ellison: (770) 973-2019.

November 13-16
Professional Grounds Management Society's (PGMS) Annual Conference (in conjunction with Green Industry Expo), Marriott Inner Harbor Hotel and Baltimore Convention Center, Baltimore, MD. Contact PGMS: (800) 609-7467.

November 30-December 2
North Central Turfgrass Exposition, Pheasant Run Resort, St. Charles, IL. Contact Illinois Turfgrass Foundation: (312) 201-0101.

December 6-9
Ohio Turfgrass Foundation's 33rd annual Conference and Show, Greater Columbus Convention Center, Columbus, OH. Contact Kevin Thompson: (888) 683-3445, ext. 3151.

December 7-9
Georgia Turfgrass Association's 30th annual Conference and Trade Show, Cobb Galleria Centre, Atlanta, GA. Contact Sherry Loudermilk: (770) 975-4123.

2000

January 12-16
Sports Turf Managers Association's (STMA) 11th annual Conference & Exhibition, St. Louis, MO. Contact STMA: (800) 323-3875 or (712) 366-2669.

STMA MESSAGE

Sports Turf Managers Association

Who Cares?

I do! I am and have been very concerned with injuries to players and athletes on our fields.

I am especially concerned about players being injured or killed on fields that are too hard for contact sports. In these instances, fields that are constructed over asphalt, concrete, or soil profiles as hard as asphalt or concrete are usually at fault or are at least a contributing factor.

I read in the newspaper the other day that a college football player died from injuries sustained when his head hit the surface of an artificial-turf field. The article did not say whether this athlete was wearing a helmet, and it did not explain how he hit the surface. However, in another recent incident, a driving tackle caused a football player's helmet to fly off before he hit the surface of the field. The resulting impact to the player's unprotected head was noted in the press as the key factor in his death.

The NFL Players Association has conducted a crusade over the past four or five years to rid football of all artificial fields. It has been stated that artificial fields are too hard and abrasive, and that the surfaces cause physical damage that shortens players' careers.

I'm not so sure I agree that all artificial fields are more apt to be a factor in injuries than all natural-turf fields. I've measured hundreds of fields around the country with Clegg Impact Hammers, and I can tell you that some artificial fields are less hard than some natural fields.

Hard, compacted natural fields and natural fields with poor traction can also factor into injuries as severe as those associated with artificial fields. It's important to measure your fields periodically to know their hardness and compaction so you know when to fix them — and then do it.

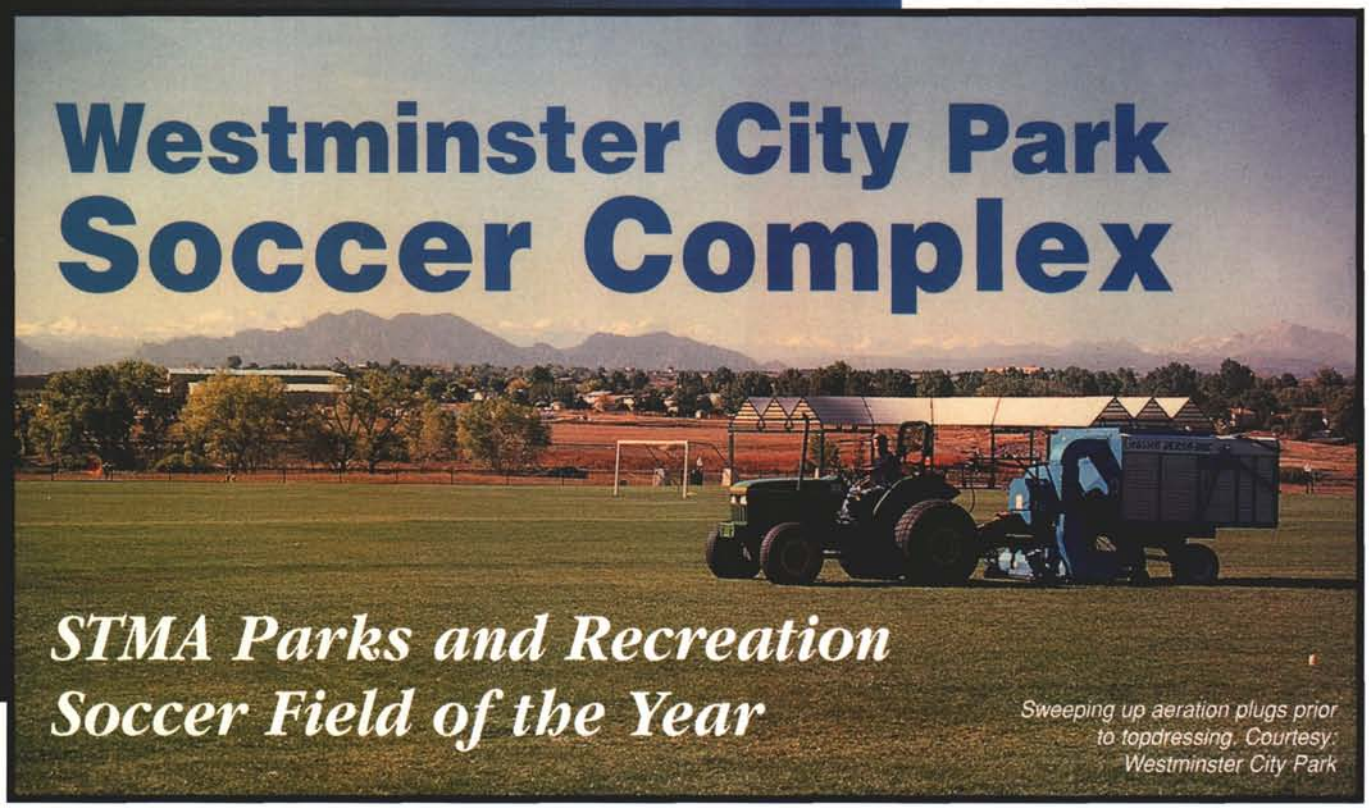
Proper natural and synthetic field maintenance can reduce many injuries that plague our players today. It's important to monitor padding below artificial turf for compaction, and to know when the height of artificial turf is worn down to unsafe conditions. As long as we play outdoor football in cold-weather areas, artificial fields may provide more logical solutions then frozen or semifrozen natural fields.

Know what causes compaction in soils so that you can prevent construction methodology that creates the problems. Measure each field periodically, document your findings, and provide maintenance to eliminate or correct compacted soils and reduce potential for injuries.

I'm sure that you DO CARE about player injuries, and that you work daily to protect all of your field users. Don't let budget politics stand in the way of providing better and safer sports fields. The STMA is a professional organization that cares!

Stephen Guise, STMA President
(714) 704-0403

Westminster City Park Soccer Complex



STMA Parks and Recreation Soccer Field of the Year

Sweeping up aeration plugs prior to topdressing. Courtesy: Westminster City Park

by Bob Tracinski

Foresight and funding turned an open field in the heart of the City of Westminster, CO, into a beautiful and heavily used public park. Hard work and dedication earned the park the 1998 STMA Soccer Field of the Year award in the Parks and Recreation Division.

Facility history

The four-field, tournament-sized soccer complex is just one part of Westminster City Park, a 150-acre facility located near the geographic center of the city.

Former Crew Leader Jim Mueller explains, "The soccer complex was dedicated to the 80,000 residents of Westminster in October of 1994, with regular use beginning in 1995. Besides the 15 acres of the soccer 'circle,' there's approximately 85 acres of additional developed turfgrass areas within the park."

Mueller served as crew leader between 1996 and mid-July 1999. He left the City to do full-time consulting at his landscape design and construction company, Grass-Roots 2000.

Eric Pollock replaces Mueller in the crew leader position. He's committed to continuing the aggressive maintenance program that keeps the fields in top condition.

The fields

The soccer complex fields all are native soil with a high-clay content," explains Mueller. "The top soil was scrapped away and stockpiled during the construction, then mixed with additional local native soil and used to top the fields.

"The fields were designed with a two-percent grade from east to west to channel excess surface water to the lake at the west of the fields. A hill on the east side of the complex is approximately 225 feet high, with about a 60-degree slope. It's excellent for spectator viewing, but did drain rain and melting snow onto the fields.

"During construction, subsurface drainage was installed on the perimeter of the fields, including at the base of this hill. This drainage system also channels water to the lake.

"The fields were seeded with a blend of A-34, Livingston, Freedom, and Rugby bluegrasses; and SR4200, Advent, and Prelude perennial ryegrasses."

The complex saves approximately $50,000 annually by using a natural water source. Mueller says, "Water is pumped from nearby Big Dry Creek into an on-site holding pond. It's then filtered and disbursed to the soccer fields and surrounding turf areas via 1,876 sprinkler heads connected to a computerized management system.

"A 10-minute watering cycle uses 68,000 gallons of water. The system is powerful enough to run 10 irrigation stations at one time."

Field use

Soccer starts at the Westminster Complex in late February, as the Colorado Rapids professional men's team begins practice. Visiting professional teams also use the fields.

Mueller calls the Rapids ideal field users. They're always open to suggestions to avoid field damage and to maintain the best possible long-term conditions. The Crew Leader meets with the coaches each quarter to work out details of field use.

As the weather warms, high school teams and youth recreation leagues take to the fields. This raises the rate of play to nine or 10 games each Saturday on all four fields.

The facility also hosts nightly professional clinics, monthly soccer camps, and several three- to five-day tournaments; each with a minimum of 100 games.

Soccer play wraps up in mid-November. By that time, the combined 26 weeks of spring and fall soccer have brought at least 225 youth games to each field, in addition to all the professional-level games and the practices of all the groups.

The central location of the park and its nearly unlimited on-field seating and hillside viewing also attract such events as concerts; the mayor's annual Easter egg

hunt, which draws 5,000 people; the Fourth of July celebration; school outings; recreational volleyball games and tournaments; city-sponsored 5-K and 10-K races; and high school cross country races.

Unscheduled events

Unscheduled, unauthorized events add to field use, since the facility is open and accessible. Generally, these users respect the property, but there are exceptions.

Mueller says, "Besides those playing pick-up games in conditions where no activity should take place on the fields, we've had people drive four-wheelers down the hill onto and around on the soccer fields. Others have created their own designs on the fields using regular solvent spray paint.

"Vandals hit hard one night in the spring of 1998. They broke into the first irrigation pumping station and the building in which it is housed. They damaged everything; dumped fuels, paints and fertilizers everywhere; and put the golf carts into the creek.

"During this incident, the well in that building was contaminated, and as a result, no water could be pumped from the creek to the lake for irrigation using our regular system. We had to use a portable pump and 400 feet of pipe to pump into the lake in order to bypass the series of contaminated siltation wells until the wells could be drained and cleaned."

The City responded to the vandalism by upgrading security measures at the building and adding night lighting. The new softball complex will be fenced, locked, and controlled.

The City is reluctant to fence the soccer complex, though. This could sacrifice the flexibility of that area and the natural beauty of the site.

The irrigation system also suffered damage during the initial construction phase of a new Colorado Rapids training facility. Seven main lines and 32 lateral lines were affected. While making these repairs, the City added parts of the irrigation system to the new Maxicom system.

In 1999, the City upgraded this Maxicom system to the Windows program which included detection of leaks or valve malfunctions. Plans are underway to connect this system to laptop computers to provide 24-hour irrigation monitoring seven days a week.

Soil

Soil samples are taken twice each year, once at the beginning and once at the end of the season. In spring 1998, results showed a heavily compacted clay with a cation-exchange capacity of 33.5, much higher than the recommended level of 12 to 18 percent.

The pH level was 8.2, and there were high levels of sodium, sulfur, and lime; and low levels of nitrogen and organic material. The irrigation water had a pH of 8.2.

Mueller notes, "A surveying team assessed conditions and confirmed the soil on the playing surfaces was settling and compacting, changing the grade from two percent to less than one percent and creating water-holding depressions. We hired a contractor to topdress the fields with a mixture of 80-percent sand and 20-percent organic material.

"We adopted an aggressive cultivation program, using a three-inch knife blade slicer once a week, and core aerating every three to four months, pulling plugs from both three- and six-inch depths. The

Continued on pg. 13

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