the School Board determined they could install and pay for the Musco lighting system.

MacWithey says, "Our complex now has a seating capacity of 250 with plenty of standing room and chair locations. The facility is fully lighted and includes bullpen areas on both sides of the field and ample warm-up areas away from spectators. We have an additional fence that surrounds the spectator, warm-up, batting cage areas to keep things safe and secure. Our concession stand is fully equipped with an icemaker, refrigerator/freezer, gas grill area, and custom cabinets-all donated, of course. Funds from admission charges and concession stand revenues, approximately \$10,000 annually, are retained for the high school softball program."

Once the facility was completed, the softball field began its marathon of near-constant use. All of the teams practice on the field daily during the



playing season. Slow-pitch softball starts in August and runs into October. In November, the teams begin conditioning drills for the fastpitch softball season that runs from January into May.

During the summer, the field hosts summer league games and youth practices and clinics. It also has hosted





County personnel used laser-grading equipment to establish a one percent slope toward the foul lines and toward the backstop.



The complex has a seating capacity of 250, with plenty of standing room and chair locations.

some college tournaments and a college spring training session that puts 10 games on the field within a week.

The field's only down time is the two-week interval during Christmas break and the month-long break between the October end of slowpitch ball and the mid-November beginning of the fast-pitch season.

Apopka is one of the 12 high schools within the Orange County Public Schools Metro Conference. Two more high schools will open next year. The Apopka field will host the District Tournament in 2001. This is the third time in five years the field has been awarded this honor. The site is chosen annually by a vote of the local coaches on the best facility.

The growing fast-pitch softball program can draw enough participants to form freshman, junior varsity and varsity teams. In 2000, there were 18 girls on the slow-pitch team, 13 girls on the freshman fastpitch team, 17 on the Junior Varsity fast-pitch team and 15 on Varsity fast-pitch team. With so much activity, scheduling field time becomes complicated. Practice times for the three teams can overlap, so the hitting stations and tee areas will be used independently of the defensive field practices. To alleviate this situation, plans are underway to construct an additional batting cage and a practice infield by the end of the 2001/2002 school year.

MacWithey says, "The high volume of usage in the spring is the biggest obstacle in maintaining the field in optimum condition. To alleviate the stress on the bermudagrass we rotate practice sites to minimize the traffic. We also have a few foam discs, similar to carpet padding, that can be placed in certain high traffic areas. During tournaments, the section of turf behind first base at the foul line (where the umpire stands) is covered with a patch of green indoor/outdoor carpet. I'll also syringe high traffic areas by hand during the heat of the day to reduce turf stress.

"We installed clay bricks in front of

the pitching rubber and in the batters box prior to the start of this season," says MacWithey. "In the past, we'd have pitchers dig a 6- to 8-inch trench during the course of the game that needed post-game repair. You can't just drag the clay over holes like that. Though the bricks took about three hours to install, they're saving us 15 to 20 minutes per day in post-game maintenance."

The County contracts fertilization and pest control to a grounds service company. Since MacWithey spends at least three hours on field maintenance daily, he works with



Circle 108 on Inquiry Card

Maintenance Practices

GENERAL MAINTENANCE

Mowing: Every other day to 3/4inch height with triplex reel mower. In-season mowing in circular paths around infield to cut in pattern. Off-season mowing direction changed each time to promote turf growth.

Irrigation: Monitored and adjusted daily.

Aeration: Core aeration in two directions following both spring and fall softball seasons. Spot aeration in high traffic areas if needed during summer playing season.

Topdressing: Field is topdressed with fine builders sand at the beginning of each school year. Sand is mat dragged into field following application.

Fertilization: Program based on annual soil test results. Applications monthly with nutrient content based on turf needs as reflected in test results, growing conditions and field use.

Pest control: Applications as needed following IPM practices and based on observation and interaction with grounds service company.

GAME DAY MAINTENANCE

Mowing: Field recut prior to game to sharpen mowing pattern.

Edging: Lawn edger and loop hoe used wherever grass and clay meet.

Marking: Outfield lines repainted. Bases, home plate and pitching rubber painted. Chalk lines placed following final pre-game drag.

Clay work: All turf edges are broomed and the field dragged, including removal and replacement of bases, and the clay area irrigated lightly at the end of every practice and game so conditions good for following day. The pitching rubber and batting boxes are broomed and the dugouts cleaned with a blower after every practice and game.

The batters box and pitching circle are inspected and repaired if necessary prior to each practice and game. The clay area is dragged and irrigated lightly prior to each game.



the company service technicians to identify field problems and develop solutions. Effective control of mole crickets, the areas most nagging pest problem, is just one example of the benefits of this relationship.

Inconsistent Florida rainfall requires constant monitoring and irrigation system adjustment to fit rainfall amounts and evapotranspiration rates. The field's only rainout of a scheduled game in four years occurred last fall due to pouring rain on game day.

Generally, the irrigation system is set for a 30-minute per zone, heavywatering cycle, before daybreak every other day. A 10-minute per zone, light-watering cycle, is programmed for the end of field use each day.

The infield dirt is watered down before and after each game. Most of the infield area can be covered by the



large irrigation nozzle positioned just behind the pitching rubber. A quick coupling outlet at each dugout can be equipped with an impact head or with a hose and nozzle to hand water behind the plate and any areas missed by the center rotor.

All of MacWithey's coaching, field maintenance and donor solicitation are possible because of his decision to devote the time to the game he Rather than pursuing a loves. career using his degree in electrical engineering from the University of Central Florida, he decided to develop his own business as an independent newspaper delivery agent for the flexibility it afforded him. The success of the softball program, along with the support of the players, parents, School System, and community show this was the right choice for him. That 2000 STMA Field of the Year sign posted under the softball field scoreboard is further affirmation.

Steve and Suz Trusty are partners in Trusty & Associates of Council Bluffs, Iowa. Steve is Executive Director of the Sports Turf Managers Association.



Circle 109 on Inquiry Card.



Show Off Your Hidden Talents

by Mike Hebrard, Athletic Field Design

E veryone has a multitude of hidden talents, but sometimes it takes a challenge to bring out your best. A typical request I receive might be, "We have a big game against our cross town rival and we want to make the field look really special." By the way, I get the request on Wednesday and the game is on Friday. That doesn't leave much time for making an elaborate stencil or pattern.

Or maybe the request is for a onetime special event, like the designs I paint at the Nike World Campus every time they name a building after one of their Sports Stars. The actual event might only last an hour or two, then I'm asked, "How long will the





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It's a smart idea to use heavy plastic or a tarp when painting an entire endzone or an elaborate logo. Photos courtesy: Mike Hebrard

design last?" or even, "How do we get it to come off?"

I'm going to share some quick and professional field painting methods that I have learned over the vears to jazz up the big game or event. One of the methods that I have used is a grid method, making an enlargement of your logo, then drawing a series of lines in a graph format on your drawing at a workable uniform spacing.

Lay out the size of the logo,

converting inches to feet, and mark dots on the grass at the edges of the design. (I like to use inverted spray chalk or blue to do the initial layout.) Repeat the graph, using string and long nails, going back and forth until the graph is completed. By looking at the drawing, note where each line crosses a grid and duplicate it on the grass by painting a line, gradually connecting the shape of the logo.

I like to use the inverted aerosol cans to differentiate the different colors and features. Once the logo has been completed, you can brighten it using your airless sprayer.

This method takes a lot of set up time, but without hiring a sign shop to lay it out on a tarp, it is the most accurate way to create the design quickly.

Probably the most popular method of painting on athletic turf is the stencil on a heavy plastic or tarp. These are readily available from most athletic paint suppliers. I highly recommend that you use them if



After laying out the logo, fold up your stencil and place it into a marked duffle bag to store and identify its contents.

you are painting an entire endzone or an elaborate logo. I like to use a white poly tarp with grommets. The sign company (North Pacific Sign)

that I use can easily project the image and trace it onto the white surface.

Once the outline is done, cut half moons every couple of feet or at each corner. Mark on the tarp where the center is so you can properly align the stencil. Use an inverted aerosol can to paint in each cutout. I quickly learned that you paint red in the red areas, blue in blue, and white in white. Otherwise, once you pull off the tarp, you have a mess of white dots without knowing where to start. Connect the same colored dots and fill in. It helps to have a laminated colored drawing on hand to catch the details.

After I lay out the logo, I fold up the stencil and put into a marked duffle bag to store and identify its contents.

Some other commonly used logos include shapes, such as circles, stars, ovals, triangles, squares, etc. A lot of logos feature a school letter inside an



Circle 110 on Inquiry Card.



Painting dirt can be a tricky task: Painters must find the proper level of moisture to take the paint but not make the colors bleed.



Circle 111 on Inquiry Card.

oval or ellipse. For this, create an axis, measure and mark the desired length and height. Using half of the length, measure from the top of the vertical axis to each lateral axis. Tie a string connecting both the new end points and the one top point. Remove the top pin and use your aerosol hand painter to follow the taut string around until the ellipse is complete.

A five-point star can be developed in a couple of ways (see diagram 2). The angle is 72 degrees if you are able to acquire that measurement. It also has five lines of equal distance.

One of the easiest methods is to paint a circle the diameter of the star. (Use spray chalk for this so no trace of the circle remains when the design is completed.) The best way to describe the process is using a 7:6 ratio. Multiply the radius of the circle by 7 and then divide by 6.

For example, on a circle with a 9foot radius, you'd have 9 feet X 7 = 63 feet divided by 6 = 10.5 feet. Start at the top of the circle and measure to each side of the circle until the 10.5 foot mark intersects with the arc. Repeat from that point to the next 10.5 foot mark until each of the five points of the star is marked. (See diagram below.)

Another way to paint logos is to make a plywood cut out of the design and piece it together. These forms are very durable, but take up lots of storage space. Foam core works well also, but can blow around in the wind and usually last for only one or two applications. These work best when painting on synthetic fields where detail is

