

Painting women's lacrosse fields quickly and accurately



Silhouette images courtesy of istockphoto.com

"When the lacrosse women's club president gave me a hand-drawn diagram of the field I was expected to layout, I thought I was in [deep trouble]."

SEVERAL YEARS AGO, when the president of the lacrosse women's club at Texas A&M gave me a hand-drawn diagram of the field I was expected to layout, I thought I was pretty much screwed. The field was made up of two creases (goal areas) formed of circles, half circles, and quarter circles, hash marks along the quarter circle with the end two hash marks hanging out in empty space not crossing any line and a center circle, with hardly a straight line anywhere and no cross lines or boundary lines of any kind.

I couldn't make heads or tails of it, and I could hardly believe that a bunch of college kids could lay this out without any professional help. It took hours to lay out one field the first time, and we were called back to make corrections the first three times we painted their field. I began to doubt whether I had a future in this business.

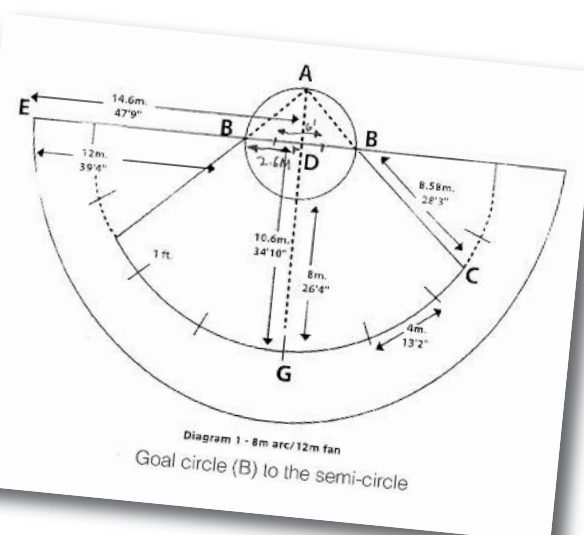
But with practice and developing a couple of tricks, I learned to lay out these fields quickly and accurately. Here is a step-by-step process that,

with practice, will allow you to paint a women's lacrosse field accurately and in the shortest time possible. This assumes that the reader is experienced at laying out and painting football and/or soccer fields:

Gather your tools. First, you need a diagram, obviously. I use one provided by the NCAA at http://www.ncaa.com/publications/Uploads/PDF/W_Lax_Rules_11_25fb0f2e8d-40e0-4668-a519-00e488777ada.pdf. You also need string, stakes, landscape flags, and quality aerosol field marking paint, as well as three good 100-meter tape measures with metal end rings.

Lay out the perimeters. Do it just like you would for a football field.

Lay out the North Crease. The crease is the most complex and most important part of the field lay out. It must be centered in the field and the dimensions are set in stone. When I first did this, the field had no boundaries whatsoever; it was what I call an "inside out field" because all field elements really radiate out from the cen-



>> THIS AND OTHER DIAGRAMS are available on the NCAA website.

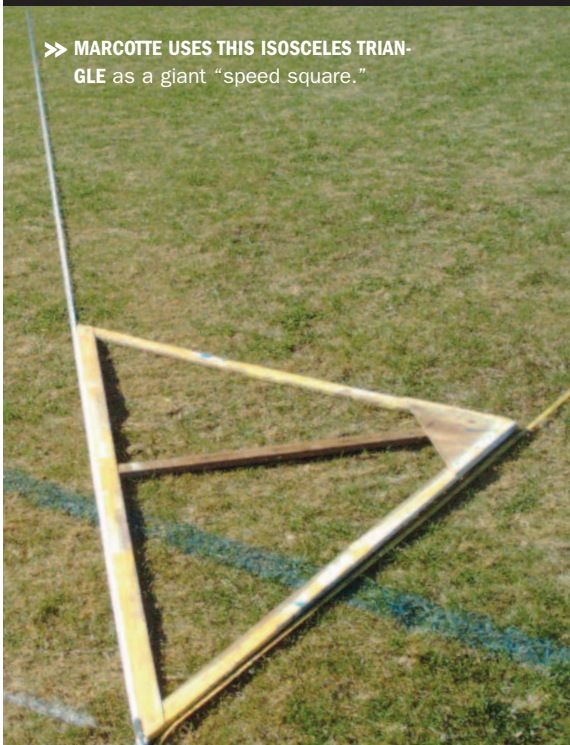


>> LAYING OUT THE NORTH CREASE IS KEY; it must be centered in the field.

>> USE AEROSOL PAINT TO MARK THE START AND STOP POINTS of the 6 foot line where the goal will sit and dot the line between the two points.



» MARCOTTE USES THIS ISOSCELES TRIANGLE as a giant "speed square."



» MAKING the quarter and half circles.

ters of the creases. We used to stretch a string line directly down the full length of the center of the field. Then we measured and marked the center of the field and the center point of each crease and worked outward from there. As we added boundaries, we just measured out from the centers to get two parallel side lines. Pull a tape across the width of the field at the sideline marks indicating the location of the crease (these should have been marked when you laid out the sidelines). Mark the center of the crease, then using an aerosol paint can, mark the start and stop points of the 6 foot line where the goal will sit and dot the line between the two points.

Everyone knows how to paint a straight line. You just pull a string from point to point and follow it with a painter. You can't do that with a circle. You start out with a tape staked to the center of the circle, stretching it tight you mark the distance of the radius with your thumb. Taking a can of paint in your other hand, you place your forefinger on the nozzle and line it up with your thumb on the hand holding the tape. Bend over and walk a circle, keeping the tape taut, and spray a dotted line to form the circle. Keep the dots close together to help the paint crew when they follow up to paint the lines. Using this method, paint the 2.6-meter radius inner circle. Next mark the start and stop points on the 12-meter lines, the only real straight lines in the crease.

We found an easier way to lay out the 45 degree angles from the center circle to each end of the quarter circle. One of my students (a construction science major) built an isosceles triangle out of scrap wood strips to use as a sort of giant "speed square." Ten years later we still use it each time we lay out Women's Lacrosse and have found many additional uses for it.



Take the giant speed square and place it at the intersection of the inner circle and the straight line with the hypotenuse of the triangle forming 45 degrees away from the center. Measure along the hypotenuse for 8.58 meters and mark one end of the quarter circle. Repeat on the other side of the inner circle.

Take the tape that is staked to the center and pull it out to the 10.6-meter line. Mark the quarter circle as described earlier, starting and stopping at the points marked in the last step. Then, move out to the 14.6-meter line and repeat the process for the half circle.

Finally, **we need to mark those strange hash marks.** Locate and mark the center hash mark on the quarter circle. Then, **laying your tape measure along the quarter circle**, mark a hash mark at 4 meters in either direction, continuing until you have marked three hash marks in each direction. **Note that the last hash mark on each end is just hanging out in the open.** You locate this hash mark by laying your tape out mimicking the curve until you reach the point for the end hash mark.

Lay out the Center Circle and South Crease. Having completely laid out the north crease, move with one tape to the center of the field and lay out the 9-meter center circle. Next, move to the south end of the field and repeat the process to lay out the south crease.

Start painting. Most of you have experienced paint crews that can stretch a string from point to point and paint a straight line. When you get to the crease just follow the dotted lines like you would a string. The closer together the dots are, the better the curve will look. Don't walk too fast or too slow or you will get a poor curve. A little practice and your paint job will look perfect.

Facility&Operations

The last trick is to always carry a couple of cans of green aerosol field paint to paint over or “erase” your mistakes!

The Native Americans that originated lacrosse along the eastern seaboard were great astronomers with tremendous geometry skills. They built huge cities laid out in perfect circles with great earth mounds that marked the exact spot on the horizon where the sun or moon rose at the equinox or solstices. Other mounds marked true north, south, east, and west. When I see a Women’s Lacrosse field I believe that the women have stayed more true to the history of the game and the people that originated it than the men. The field is so much more artistic and beautiful than the men’s version that I really enjoy getting a chance to lay one out.

This spring, in support of the Intramural and Sport Club Programs at A & M, my crew laid out 22 fields for seven

»> COMPLETING THE STRANGE HASH MARKS of a women’s lacrosse field.



different sports in 16 8-hour days. While accuracy is critical to quality of play, speed is essential in order to have fields ready on time. Using and training our employees on systematic processes for

field painting like the one described in this article is how we get the job done. ■

Bob Marcotte is turf foreman for the Penberthy Intramural Sports Center at Texas A&M University.

Sign up for **ST Insider** newsletter

It's FREE



► **Bi-weekly newsletter** emailed to you from the editors of SportsTurf magazine

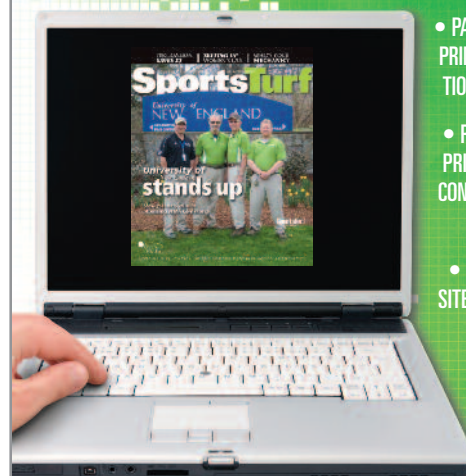
► **ST Insider** brings latest news and information from around the USA for sports turf management professionals

Visit www.sportsturfonline.com and click on “E-newsletter” to register quickly

SportsTurf

Go Digital! Subscribe Now!

With digital editions, you get the same in-depth articles **PLUS** interactive features that let you experience your issue in a whole new way.



• PAGE-FOR-PAGE REPLICAS OF THE PRINT ISSUES • E-MAIL NOTIFICATION WHEN EACH ISSUE IS READY

• RECEIVE YOUR ISSUE ONE WEEK PRIOR TO MAILED ISSUES • READ CONTENT INSTANTLY—NO DOWN-LOADING REQUIRED

• HOTLINK TO ADVERTISER WEB SITES • IT'S FREE... AND ENVIRONMENTALLY FRIENDLY

Making a difference: STMA Chapters step up

Editor's note: Members of the Sports Turf Managers Association often volunteer their time and expertise to projects outside their regular jobs, both on their own as well as representing local chapters. Here we highlight just a very small sample of that community service.

Rebuilding history in New Jersey

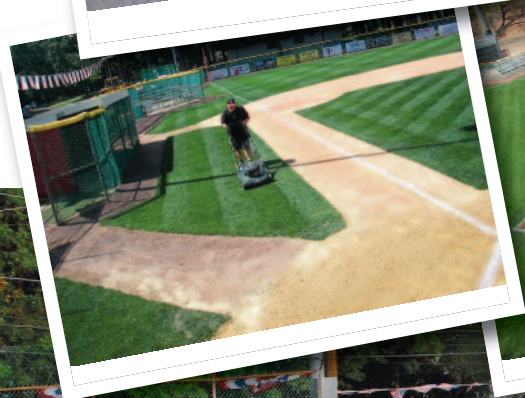
Hickey Field in Bergenfield, NJ was built in 1951. Over the past 57 years it has hosted many exciting games as well as having many future professional baseball stars play on it. In 1961 the New Jersey State Little League Tournament was played on Hickey Field for the first time in front of thousands of spectators.

Over the years the field had deteriorated to the point where it became a safety issue. A group of Little League fathers, including turf pros from various facilities, organized a renovation effort that included STMA members, PGMS members, superintendents, and others.

Field renovations began in the spring of 2007 to make the field safe and playable. The infield turf was stripped and the area was graded and 4-foot rolls of sod were laid down. The sod came from Tuckahoe Sod Farms, which supplies numerous major league teams with sod. A warning track was installed using red stone dust. The pitching mound and home plate



>> HICKEY FIELD—before



Left: 15-YEAR-OLD KYLE VAN HAASTEREN does his part. Right: HICKEY FIELD—after

>> FIELD DEDICATION CEREMONY in Bergenfield, NJ



areas were rebuilt. Cultural practices such as aeration, slit seeding, fertilization, divot repair were part of the program introduced to maintaining the field as well as frequent mowing, edging and infield care. In the summer of 2007, Bergenfield was the host site for the District 4 and Sectional championships.

The warning track was extended to include foul areas in the winter of 2008. New infield clay was added as well. Last year Hickey Field again hosted the NJ State Little League Tournament. Special projects that were completed in the past 2 years include:

- 2007—newly sodded infield (Tuckahoe Sod Farm) and outfield warning track (George M. Schoefield)
- 2008—Completion of warning track around the entire field, new infield clay, rebuilt mound and home plate area (Partac Peat/Beam Clay), and rebuilt bullpens.

Pioneer Athletics' rep Steve Every donated paint for field lining and logo painting and Wilfred MacDonald, a Jacobson distributor, supplied equipment for renovation work, field grooming and mowing.

The field is maintained by volunteers who I have had the privilege to train, including my 14-year old son, Kyle. The volunteers spend countless hours to make sure that not only is the field looking at its best but also safe and playable. The field is maintained daily for more than 300 games as well as practices that begin in early March and end in late November. This is no easy task. Visitors and visiting teams are always impressed with how well the field is maintained.—George Van Haasteren, CGM

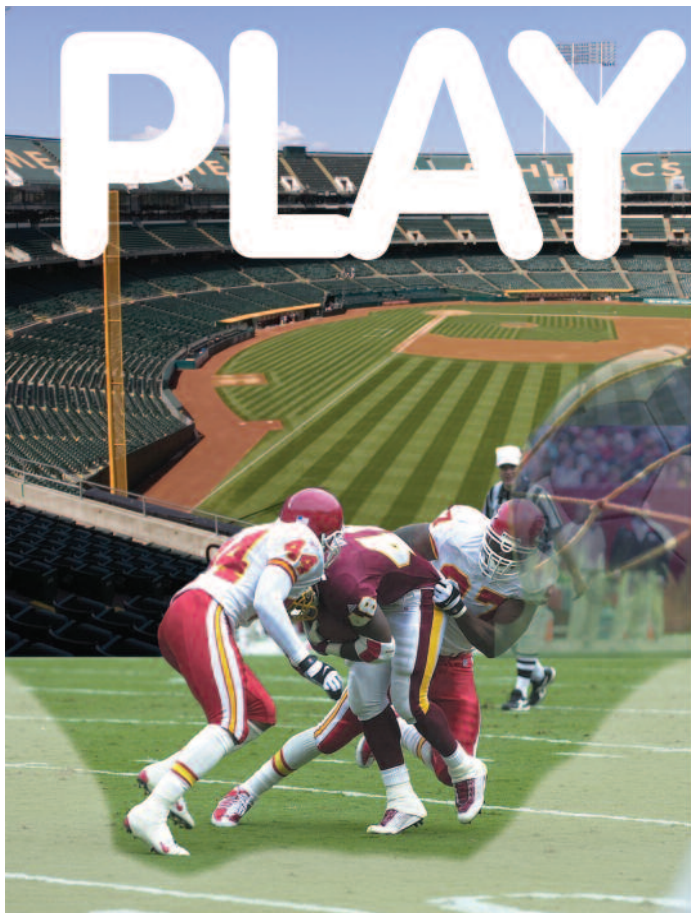
KAFMO at Little League

Soon after the Keystone Athletic Field Managers Organization (KAFMO) was formed in 1994 Little League approached us asking if we could help renovate Howard J. Lamade Stadium so they would have the best Little League field in the world for their 50th anniversary in 1996. After a meeting with LL officials we decided that we could help and began to organize the resources needed.

We selected Alpine Services to do the grading and Sporting Valley Turf to lay the sod, I was asked to represent KAFMO as clerk of the works and the go-between for contractors and Little League. Alpine Services finished grading the field in late October following many weather delays and group of KAFMO volunteers along with the Sporting Valley Turf crew finished laying the sod on November 9, 2005. On November 11 Williamsport got 11 inches of snow and we did not see the sod until spring.

In the spring of 1996 they asked me if we could get some KAFMO volunteers to serve as grounds crew for the 50th anniversary event. Over the past 13 years, our grounds crew has grown from that first year when 6 volunteers served as the crew on one stadium field, to a 30-person crew who shuffle in and out during the series to assist with games on two stadium fields.

Since the addition of Volunteer Stadium in 2001, when volunteers stayed in the player dorms, we are now provided housing at other locations on campus. Initially we ate in the dorms, then we ate refreshment stand food and now KAFMO solicits sponsors to donate funds for the



BALL!

FOOTBALL, BASEBALL, SOFTBALL, SOCCER

Any sport played on natural grass is a natural for TifSport Bermudagrass. If you're looking for a sports turf that can handle non-stop action, a transition zone climate and heavy overseeding, TifSport's your answer. It's ideal for intramural fields, practice fields and game-day venues, where everything has to be perfect.

Coaches and players love the way it looks and plays and you and your crew will appreciate how easy it is to manage. TifSport can only be sold as certified sod or sprigs and only by licensed members of the TifSport Growers Association. For more information visit us at www.tifsport.com, or call 706 542-5640.



Facility&Operations



crew to hire their own cooks and set up food preparation and eating area where three meals a day are provided.

In the beginning the crew was made mostly of local volunteers but now we

have volunteers coming from

California, Texas, Wisconsin, Ohio, Virginia, West Virginia and Pennsylvania. Crew members have experience at all levels of our profession, ranging from professional stadiums, to college and universities, to local community parks and Little Leagues.—Don Fowler, retired Penn State extension agent.

NESTMA's Extreme Field Makeover program

The New England STMA Chapter has run its Extreme Field Makeover since 2006. The project was an idea to promote professionalism, increase our exposure and help give back to communities in need. The project is completed annually in the fall where a field in need of renovation is given a complete makeover in 1 week's time. The entire project is completed using donations of materials, supplies, equipment, and labor. Since 2006 we have completed three projects including a lacrosse field in 2006, softball field in 2007, and a Little League baseball field last year.

Communities fill out an application telling our committee why they deserve the project on their field. Each application is reviewed, and the finalists are given a site visit and the committee awards the winner based on certain criteria that fits our vendors and members. We have had between 25 and 45 different vendors and members

participating in the projects. We rely greatly on our vendors that are able to donate their expertise, time and products for the projects. Our vendors include sports turf construction companies, irrigation suppliers/installers, material suppliers, and sod farms.

Our members come from municipalities, professional sports teams, college/universities, and private schools.

We recruit our vendors and members a few ways. We have an email system that sends out mass emails to our 300+ members. We promote the project in our newsletters. We encourage participation by talking to our vendors face to face and over the phone. And we talk about the project and what the projects needs are at other NESTMA events throughout the year.

A typical project consists of field layout, rough and fine grading, soil testing and modification, irrigation and then finally, sod. All projects were valued between \$75,000 and \$125,000 each. Thanks to every vendor and member that has participated the past 3 years, the projects would not have been successful without your continued support.—Ben Polimer, Longwood Cricket Club

Safety concerns lead to renovation

As a member of STMA for many years, the first six of which I was one of the only STMA members in the Upstate New York region, I have tried to do at least two volunteer projects per year. One of these projects was initiated last September when I was contacted by Robert Nadler, president of the Mechanicville-Stillwater Little League, which has 300 players and three fields.

The area has an historical significance in being located just south of the Saratoga Battlefield, widely cited as the turning point of the American Revolutionary War. Additionally,

Mechanicville was a hub of industrial activity, hence its name, up until the 1960's. The three youth fields neighbor a nearly abandoned railway yard and train repair center located in the center of Mechanicville. Bob Nadler and I surveyed the fields for safety concerns, as well as field layouts, and found problems on all three fields that needed to be addressed.

In the past I have always tried to get youth leagues to try to tackle as many issues as possible in the fall of the year. Here in Upstate New York, the real upstate, above Westchester, we have the 4th of July proceeded and followed by winter. All baseball fields in the region are under intense pressure for practice and play as soon as the frost comes out of the ground, so anything accomplished with regards to maintenance or construction in the a fall is a huge help.

On the primary field we built and added clay to the pitcher's mound and home plate area. We also reset all of the bases and relocated some irrigation heads from the skinned area to a location in the turf. We edged the entire skinned area with a sod cutter borrowed from a local golf course. We improved the infield soil profile for drainage and playability. The whole skinned area was groomed and graded (with a Toro Infield Pro, the use of which was donated by my employer).

Our efforts on the pony field (8-10 year olds) and tee ball field (5-7 year olds) were remarkably similar. However, during reconstruction of the pony league field while trying to layout bases, we encountered a small problem. Both foul poles were off 4-5 feet. Once we located the proper position for each foul pole and re-configured the infield it all came together nicely. The last thing that we accomplished was a total aerification of all three fields with a tractor mounted aeravator, again supplied by the local golf course,



NESTMA'S Field Makeover 2007—before



◀◀NESTMA'S Field Makeover 2007—after

and applied seed at the rate of 2 lbs. per 1,000 square feet and an application of slow release nitrogen. The grass seed was applied just at the end of our growing season and germinated quite nicely.

All three of these fields were in tip-top shape for opening day 2009. All supplies needed were purchased through the generosity of league sponsors (local businesses) and some field tools were donated by Par Aide Products.—John Halloran, Grassland Equipment and Irrigation

STMA National gets in the act

Following STMA's Annual Conference, association members give back to the host community through the Annual MLB Groundskeepers Conference, held this year in San Jose. Corporate sponsors and approximately 45 Major League Baseball (MLB) groundskeepers donated time, money and resources to transform the Sequoia High School baseball field into a first class field.

"We received an e-mail from Larry DiVito, head groundskeeper for the Washington Nationals, that we were selected for the field rebuild," said Tink Reynoso, Sequoia High School baseball coach. "In addition to the MLB groundskeepers, about 100 people from the community came out to help, including our alumni association. The improvements to our baseball field are unbelievable. We now have a baseball field above the level of most colleges. It's a dream come true."

Commercial member sponsors of the renovation included PRO-FILE Products, Toro, Covermaster, West Coast Turf, Colony Landscaping and Barkshire Laser Leveling. The Baseball Tomorrow Fund, a joint initiative between Major League Baseball and the Major League Baseball Players Association, gave a \$40,000 grant to support the project.

A dedication ceremony took place at the school January 19. DiVito, an alumnus of Sequoia, threw out the ceremonial first pitch followed by a one-inning exhibition by the varsity team.

Reynoso mentioned that DiVito presented information to his entire baseball team on how to maintain the field. Representatives from the Seattle Mariners also held on-field classes on how to take care of the pitcher's mound. Luke Yoder, the San Diego Padres' head groundskeeper, spearheaded the entire endeavor that began back in August of 2008.

"This has become somewhat of a tradition at the MLB Groundskeepers Conference," explained Joe Betulius, vice president of sales for Profile Products. "We had an incredible amount of support this year from groundskeepers, corporate sponsors and a large financial contribution from the Baseball Tomorrow Fund. Without a doubt, the Major League groundskeepers are remarkable in their skills and they left an enduring legacy for the San Jose community and Sequoia High School baseball." ■

PAR AIDE. PERFECTIONIST-GRADE PRODUCTS.



Par Aide is proud to offer the highest quality field care products for use on your diamond, field or court. From rakes and shovels, to drag mats and turf tools, we have a full line of superior equipment that is built to satisfy even the most uncompromising of professionals. For more information, call 1-888-893-2433 or visit us at paraidefieldcare.com.



PROFESSIONAL
FIELD CARE™

New field layout tool works for 1-man crew

LAYING OUT A FIELD is often times one of our biggest challenges, not only to make it right, but also to have all of them marked in the same day,” says Peter Thibeault, CSFM, turf manager for the Noble & Greenough School, Dedham, MA. “In New England, like colder areas, one of our challenges is getting all the fields marked the moment the snow melts. I use a method of having permanent markers in the corners of the fields, which can sometimes take a little while to find and usually requires a metal detector. After finding them, we then have to check to make sure frost and aeration hasn’t moved them around. This process alone can take a day or two.

“Last year Norm Paquette e-mailed me his software and method for layout that simplified the process completely; not only does it help with regulation size field layout but it also allows for you to scale dimensions down to make mini fields for camps and practice spaces,” says Thibeault.

» **PETER THIBEAULT,**
CSFM, right, and
Norm Paquette lay
out a field at Noble
and Greenough
School, Dedham, MA.



“From season to season I will generally move my playing surfaces around from side to side or end to end. Norm’s method of layout allows you to spin the field so that your new center of traffic runs diagonal to traditional layout. This has saved me lots of time in laying out fields; I have managed to get my layout time for girls’ lacrosse down to less than 2 hours, completely painted.

“The tool gives step-by-step instructions on where to walk next. We all know to layout on 8 1/2 x 11 paper no problem but to walk it out on 2 acres can be tiresome, especially if you’re making lots of extra steps,” says Thibeault. “The software is simple to use and can do conversions from feet to meter and vice versa. You can print the diagram and use it to follow along; I feel as though this software can help anyone no matter what their background to layout the perfect field.”

“Ultimate Field Layouts (www.ultimatefieldlayouts.com) was conceived to provide professional turf managers, sports camp counselors, municipal grounds crews or first time field maintenance volunteers the tools necessary to layout athletic fields that will have perfect 90-degree corners, meet very specific requirements for each sport, and do it all on their very first attempt,” says Paquette, inventor of the method.

“You begin with an Excel spreadsheet that is specifically designed for each sport. For example, for soccer you would place dimensions in a table that would define the overall width and length of the field, the size of the penalty and goal boxes, the center circle, corner radii, etc. Once you have defined your field size, all the diagonal distances and specific points are calculated for you,” says Paquette.

“Now that you have the calculations, you are ready to stake the field using the suggested sequence instructions included. A stringing sequence is also included to help establish the process for the inexperienced.

“This process has been defined assuming that just one person will be laying out the field. If a second person is available, the process flexibility allows for a

second person to concurrently stake the other half of the field. This would save half the time needed during that operation. Additional layout efficiency includes the ability of a second person to follow right behind the person stringing the field and striping the line concurrently, thereby saving additional time as well. Having assistants dramatically reduces the time required to layout a field using this process," says Paquette.

"In addition to a more streamlined approach to field layouts, the software will calculate paint requirements based on industry standards (300 ft/spray can, 400 ft per diluted gallon of paint) and upon the size of your field. You can choose to input meters, yards or feet and have the option to read the dimensions in meters or feet-inches with the click of a button. Links are provided to the ruling organizations for each sport. Where appropriate, links to international


ruling bodies are supplied, as well as their subtle field differences, all with the click of a button," he says.

Sample field sizes are offered based on recommendations from ruling organizations such as soccer (U12, U10, U8, & U6), women's lacrosse (Level "A," "B" & "C"). On these sample fields, all the appropriate input boxes are automatically filled in for you, but the program allows you the ability to change any or all of the input dimensions so that you can customize your field based on your organizations requirements and or real estate constraints.




Thibeault thinks one of the best features is the paint use. "We are all on tighter budgets than ever, this will help to figure paint use based on type and size of field. With that being said this software will also help you better use the not enough space you


"Norm's method of layout allows you to spin the field so that your new center of traffic runs diagonal to traditional layout."

have to manage by being able to scale things more consistently," he says. "We all know our athletes need consistency and if we could all be more consistent on how we scale things for the younger groups the better off they would be." ■



precision turf equipment for sports fields and golf courses



www.g2turftools.com
or call 256-497-3914
for more information on our line of turf equipment

TAKE THE CHALLENGE



Premium Field Marking Paint

FROM THIS...



...YOU CAN GET THESE.



www.worldclasspaints.com • 1-800-748-9649

STMA Conference attendance 1,375% return on investment (ROI): a case study

INTUITIVELY, we understand that continuing education and training provides benefits to employees and to employers. Rarely is it quantified to show the financial return and its impact to facilities' bottom lines.

In today's economy, education and training dollars are disappearing, and employers are challenged to make certain that they are receiving premium value from the dollars invested in continuing education.

To help an employer assess the financial benefits that their facility will receive by sending their sports turf manager to the STMA Annual Conference and Exhibition, a case study of a typical attendee's consumption of education during the 2009 Conference is provided. The case study includes quantifying the achieved benefits to determine the return on investment (ROI) of attending the STMA conference.

The 2010 STMA Conference and Exhibition will have equal or greater educational opportunities, and the 2009 conference is a good forecast for the ROI that will be achieved by attending the 2010 conference.

ROI analysis allows decision makers to determine the financial return from training by comparing net program benefits—benefits minus costs—to costs. ROI is calculated by taking the net benefits of training, dividing by training/education costs, and then multiplying the result by 100. ROI is always expressed as a percentage.

$$\text{Net Program Benefits} - \text{Costs} \times 100 = \text{ROI}$$

Program Costs

For any ROI calculations, the higher the percentage, the more desirable the program. For example, if the ROI percentage is 25, then for every \$1 in cost there will be a return of \$1 to cover the costs and an additional 25 cents over and above the costs of the program. This is said to have a 25 percent Return on Investment.

Case study

Note: This model assumes that the sports turf manager has purchased a full-conference registration. The sessions noted below were randomly selected; attendees have up to eight concurrent sessions from which to choose during each time period. The information presented should be used as a guide and should not replace professional advice or consultation.

These scenarios assume an average salary for the Sports Turf Manager of \$55,000 = \$26.44 per hour, unless otherwise indicated.

Wednesday, January 14.

Pre-conference education session: Practical Recordkeeping for the Sports Turf Manager

Time & Resource Savings

1. Better time management due to complete, accessible and accurate

recordkeeping (2 hrs. per month @ \$26.44 = Estimated Savings \$634.56)

2. Better planning and budgeting for equipment replacement by scheduling out for 10 yrs. and corresponding rolling stock equipment list costs (2 hrs. per year @ \$26.44 = Estimated Savings \$52.88)

3. Improved inventory control (1 hr. per month @ \$26.44 = Estimated Savings \$317.28)

Increased Productivity

1. Savings by having an accurate historical calendar of inputs, management practices, and exact product quantities (Save on average one bag of fertilizer @ \$20 (bulk), one bag of perennial ryegrass seed @ \$75 (bulk), one gallon of field paint. Bulk Price 5 gal. paint = \$44; 1 gal. @ \$8.80; one bag lime \$8; and one bag gypsum @ \$12 = Estimated Savings \$123.80)

2. Less downtime due to longer life of equipment by implementing scheduled preventive maintenance (2 hrs. per month @ 26.44 = Estimated Savings \$634.56)

Parks & Rec Networking Session. Two money and resource savings ideas were presented in San José:

Time & Resource Savings

1. The importance of conducting an irrigation audit, preventive maintenance scheduling and 'just-in-time' water management strategies. (Savings 20% of water budget annually; assume average water budget of \$10,000 = Estimated Savings \$200)

2. Borrow/share less-frequently-used equipment, such as aerators and dump trucks, among peers, i.e., local parks districts, municipalities, schools, etc. (Estimated Savings: \$5,000 for used walk-behind aerator.

Thursday, January 15.

Weather 101. By understanding weather patterns and forecasts, sports turf managers will save money on labor and inputs.

Time & Resource Savings

1. Labor – limit downtime associated with early morning dew, air temperatures, and frost delays

(Seasonal Worker Wage: \$10 / hour; March-April and September-November = Hours saved per season: 4 hours per week for 12 weeks = Savings Estimate \$480 / person x 3 people = \$1440)

2. Better timing and more efficient applications due to understanding rain patterns for Broadleaf and Grassy Weed Control: 10 acres @ 1 gallon/acre of Momentum Q herbicide – limited to 2 applications per year @ \$50 per gal. = Savings Estimate \$500)

3. Reduced unnecessary repeat applications of post-emergence crabgrass

herbicide due to understanding rain and weather patterns that impact crabgrass herbicide control. Drive 75 @ 1 pound per acre; 10 acres @ \$65 per pound for Estimated Savings = **\$650 per application**

4. Timing of aerification: no delays due to accurate forecasting. Estimated Savings = **\$900**

5. Avoid drift damage to non target plants by correctly identifying conditions that indicate inversions or inappropriate wind speeds and direction that could result in replacement costs, additional labor expenses, and loss of credibility as a turf manager – Estimated savings = **\$500 per occurrence**

6. Reduced occurrences of disease and its resultant reduction in fungicide applications by adjusting management practices based on weather conditions, i.e. dew point, temperature, humidity. Estimated savings = **\$500-1000**

Nitrogen Fertilizers in Sports Turf

Time & Resource Savings

1. Applying urea (46-0-0) correctly to prevent ammonia volatilization (35% loss) – applying 1 lb. N per 1000 sq ft costs \$0.54 (based on \$500 per ton) – application on a 1.3 acre football field = \$10.00 per application x 5 applications per year. Estimated Savings: **\$50**

Logo painting demonstration

Time & Resource Savings

1. Resource savings with the use of an airless paint machine. Cuts bulk paint cost by 50-70%. Based off of 3 professional football fields with no logos being painted 34 weeks a year. Estimated savings: **\$6000**

2. Buying paint in bulk quantities (42+ buckets per purchase @ \$44 per bucket). \$10 per bucket x 42 = Estimated Savings **\$420**

3. Paint savings by mixing 1 part paint to 4 parts water versus 1 part paint to 3 parts water. If 42 buckets purchased each time @ \$44 per bucket – Estimated savings **\$1,848**

4. Paint savings by mixing 1 part paint to 4 parts water versus 1 part paint to 3 parts water per football game – Estimated savings: \$21 per game (for information purposes only)

5. Savings by using aerosols during inclement weather to prevent postponement or cancellation of a high school football game – aerosol cost is \$270 for 6 cases - \$6 per person for a total of 1000 people plus \$6 in concessions – Estimated savings: **\$11,730** (paint costs only)

6. Savings by not cancelling or postponing a division one college football game – (labor, utilities, paint, tickets, concessions, etc.) \$3,260,000 (for information purposes only)

Future Technology in Turfgrass Management

Time & Resource Savings

Irrigation systems that cut water usage 30% and provide “green” rebates back to the owner. Estimated Savings (based on \$10,000 irrigation budget) **\$3000**

Friday, January 16

How to Conduct a Safety Audit

Time & Resource Savings

Insurance premium reductions due to implementing active sports field safety inspection process (Average risk management premium costs for fields for a parks district \$5,000 per year @ 10% savings = Estimated Savings **\$500**)

Budgeting to do it right the first time

Time & Resource Savings

Per a Midwest field builder, poorly constructed fields are often due to low bid situations whereby the bid is not inclusive of all of the specifications, or the specifications simply are not followed. Repairs can be from \$10,000 to \$1+ million dollars depending upon the severity of the problems and can take weeks-to-months to repair. Estimated Savings: \$50,000. (for informational purposes only)

Environmentally Compatible Sports Turf Management

Time & Resource Savings

1. Reducing mowing by 20% per field. Assume a budget of \$8,000 annually on material costs; plus labor costs of 412 annual hours. Fuel is estimated at 20% of budget (\$1600). Estimated fuel savings = **\$320**. Mowing labor is estimated at 75% of budget (75% of 412 hours = 309 hrs. X average \$10 per hour labor costs = \$3090. Estimated mowing labor savings = \$3090 X 20% = **\$618**.

COSTS to Attend the STMA Conference – San José 2009

Complete conference package \$375 (Includes meals and preconference workshops)

Shared ground transportation — Taxi - \$20 (\$10 ea. way/ shared with one other person)

Misc. Meals — \$50 (should only be Wednesday lunch and travel days)

Tips — \$20

Hotel 3 nights — Single room \$792

Air Transportation \$350

Lost Production time 4 days @ \$26.44 per hour = \$846

Total: \$2,453

$$\begin{aligned} & \$634.56 + \$52.88 + \$317.28 + \$123.80 + \$634.56 + \$200 + \$5,000 \\ & + \$1440 + \$500 + \$650 + \$900 + \$500 + \$750 + \$50 + \$6000 + \$420 \\ & + \$1,848 + \$11,730 + \$3000 + \$500 + \$320 + \$618 = \mathbf{\$36,189.08} \end{aligned}$$

$$(\$36,189.08 - \$2453) \div \$2453 = 13.75 \times 100 = 1,375\% \text{ ROI}$$

Attending the STMA annual conference yields a one thousand three hundred and seventy five percent return on investment for each facility that sends its sports turf manager. This high rate of return provides an amazing value back to the sports facility. Even if only half of the resource savings ideas learned at the conference are applied, the ROI is more than 687 percent, which is still a remarkable value.

Costs in Disney are lower than those experienced in San José. Hotel room rates are \$141 per night and airport transfers are complimentary on the Disney Magical Express shuttle. Go to the STMA website for more information, www.STMA.org.

Contributors:

Darian Daily, Head Groundskeeper, Paul Brown Stadium

Elizabeth Guertal, PhD, Auburn University

Brad Jakubowski, Instructor, Doane College

Dana Lonn, The Toro Company

Mike Munie, President, M J M Services Inc.

John Newwal, CGCS, Director/Operations, North Scott Community Schools

Dave Pinsonneault, CSFM, CPRP, Public Grounds Superintendent, Town of Lexington

Frank Rossi, PhD, Cornell University

David Schlotthauer, Athletic Field Manager, Brigham Young University

Mike Trigg, CSFM, Superintendent/Parks, Waukegan Park District