

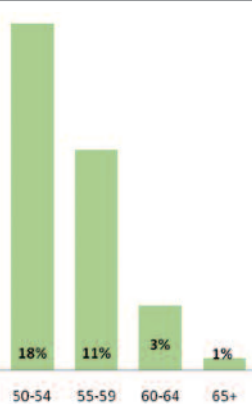
Survey Results

Head Sports Turf Manager Salary by State

	Total*	What is your base salary excluding bonuses?														
		Under \$35,000	\$35,001 - \$40,000	\$40,001 - \$45,000	\$45,001 - \$50,000	\$50,001 - \$55,000	\$55,001 - \$60,000	\$60,001 - \$65,000	\$65,001 - \$70,000	\$70,001 - \$75,000	\$75,001 - \$80,000	\$80,001 - \$85,000	\$85,001 - \$90,000	\$90,001 - \$95,000	\$95,001 - \$100,000	\$100,001+
Alabama	0.9%	3.0%	0.0%	0.0%	1.9%	1.9%	0.0%	0.0%	0.0%	4.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Alaska	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Arizona	4.7%	0.0%	3.6%	6.1%	1.9%	5.7%	2.5%	6.3%	6.9%	0.0%	12.0%	0.0%	9.1%	0.0%	0.0%	27.3%
Arkansas	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.1%	0.0%	4.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
California	7.7%	0.0%	0.0%	6.1%	9.4%	1.9%	7.5%	6.3%	10.3%	8.3%	12.0%	5.9%	27.3%	22.2%	20.0%	45.5%
Colorado	5.1%	0.0%	3.6%	2.0%	5.7%	9.4%	0.0%	8.3%	3.4%	4.2%	12.0%	5.9%	0.0%	22.2%	10.0%	0.0%
Connecticut	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.1%	0.0%	0.0%	0.0%	5.9%	9.1%	0.0%	10.0%	9.1%
Delaware	0.6%	0.0%	1.8%	0.0%	0.0%	1.9%	2.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
District of Columbia	0.4%	0.0%	0.0%	0.0%	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%	4.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Florida	6.4%	0.0%	1.8%	6.1%	1.9%	9.4%	10.0%	8.3%	6.9%	16.7%	8.0%	0.0%	18.2%	11.1%	0.0%	9.1%
Georgia	2.1%	0.0%	5.5%	4.1%	0.0%	0.0%	5.0%	0.0%	6.9%	0.0%	4.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Hawaii	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Idaho	0.2%	0.0%	0.0%	0.0%	0.0%	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Illinois	4.7%	9.1%	1.8%	2.0%	3.8%	5.7%	0.0%	4.2%	10.3%	4.2%	8.0%	5.9%	0.0%	11.1%	20.0%	0.0%
Indiana	1.5%	9.1%	0.0%	2.0%	0.0%	3.8%	0.0%	0.0%	0.0%	0.0%	0.0%	5.9%	0.0%	0.0%	0.0%	0.0%
Iowa	1.9%	3.0%	1.8%	0.0%	0.0%	1.9%	2.5%	4.2%	0.0%	8.3%	0.0%	5.9%	0.0%	0.0%	0.0%	0.0%
Kansas	2.1%	3.0%	7.3%	0.0%	1.9%	1.9%	2.5%	2.1%	0.0%	4.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Kentucky	0.4%	0.0%	0.0%	2.0%	0.0%	0.0%	0.0%	2.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Louisiana	1.1%	0.0%	5.5%	0.0%	0.0%	0.0%	0.0%	2.1%	0.0%	4.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Maine	1.5%	3.0%	5.5%	0.0%	1.9%	3.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Maryland	3.2%	6.1%	3.6%	0.0%	1.9%	1.9%	7.5%	4.2%	0.0%	4.2%	4.0%	11.8%	0.0%	0.0%	0.0%	0.0%
Massachusetts	1.7%	0.0%	0.0%	0.0%	3.8%	1.9%	0.0%	0.0%	6.9%	0.0%	4.0%	0.0%	9.1%	0.0%	10.0%	0.0%
Michigan	1.3%	0.0%	0.0%	4.1%	1.9%	0.0%	5.0%	2.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Minnesota	2.6%	6.1%	0.0%	2.0%	3.8%	1.9%	2.5%	2.1%	3.4%	8.3%	0.0%	0.0%	9.1%	0.0%	0.0%	0.0%
Mississippi	0.9%	3.0%	0.0%	0.0%	1.9%	0.0%	0.0%	0.0%	3.4%	0.0%	0.0%	0.0%	9.1%	0.0%	0.0%	0.0%
Missouri	2.6%	3.0%	1.8%	0.0%	3.8%	5.7%	0.0%	2.1%	3.4%	4.2%	8.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Montana	0.2%	0.0%	0.0%	0.0%	0.0%	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Nebraska	2.1%	3.0%	5.5%	2.0%	3.8%	1.9%	0.0%	2.1%	0.0%	0.0%	4.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Nevada	0.4%	0.0%	0.0%	0.0%	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	11.1%	0.0%	0.0%
New Hampshire	1.7%	3.0%	1.8%	2.0%	0.0%	1.9%	2.5%	2.1%	3.4%	4.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
New Jersey	1.1%	0.0%	0.0%	2.0%	1.9%	0.0%	2.5%	2.1%	0.0%	0.0%	0.0%	0.0%	0.0%	11.1%	0.0%	0.0%
New Mexico	0.6%	0.0%	1.8%	0.0%	0.0%	1.9%	0.0%	0.0%	0.0%	0.0%	4.0%	0.0%	0.0%	0.0%	0.0%	0.0%
New York	5.8%	6.1%	3.6%	8.2%	5.7%	5.7%	12.5%	2.1%	0.0%	12.5%	0.0%	5.9%	9.1%	11.1%	0.0%	9.1%
North Carolina	4.1%	9.1%	3.6%	4.1%	5.7%	5.7%	0.0%	6.3%	3.4%	0.0%	4.0%	5.9%	0.0%	0.0%	0.0%	0.0%
North Dakota	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Ohio	2.8%	6.1%	1.8%	2.0%	5.7%	0.0%	2.5%	4.2%	3.4%	4.2%	0.0%	0.0%	0.0%	0.0%	10.0%	0.0%
Oklahoma	1.1%	0.0%	1.8%	4.1%	0.0%	1.9%	2.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Oregon	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	7.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pennsylvania	4.9%	3.0%	3.6%	8.2%	7.5%	7.5%	5.0%	4.2%	3.4%	0.0%	0.0%	11.8%	0.0%	0.0%	10.0%	0.0%
Rhode Island	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
South Carolina	2.4%	0.0%	5.5%	6.1%	0.0%	1.9%	2.5%	2.1%	6.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
South Dakota	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Tennessee	2.4%	3.0%	3.6%	2.0%	7.5%	0.0%	0.0%	6.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Texas	6.2%	12.1%	10.9%	12.2%	1.9%	1.9%	7.5%	6.3%	6.9%	0.0%	0.0%	11.8%	0.0%	0.0%	10.0%	0.0%
Utah	1.3%	0.0%	0.0%	4.1%	3.8%	0.0%	0.0%	0.0%	3.4%	0.0%	0.0%	5.9%	0.0%	0.0%	0.0%	0.0%
Vermont	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Virginia	4.1%	3.0%	9.1%	4.1%	3.8%	3.8%	7.5%	2.1%	3.4%	0.0%	4.0%	5.9%	0.0%	0.0%	0.0%	0.0%
Washington	0.6%	0.0%	0.0%	2.0%	1.9%	0.0%	0.0%	2.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
West Virginia	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wisconsin	1.5%	3.0%	1.8%	0.0%	1.9%	3.8%	0.0%	0.0%	0.0%	0.0%	4.0%	5.9%	0.0%	0.0%	0.0%	0.0%
Wyoming	0.4%	0.0%	1.8%	0.0%	0.0%	0.0%	0.0%	0.0%	3.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

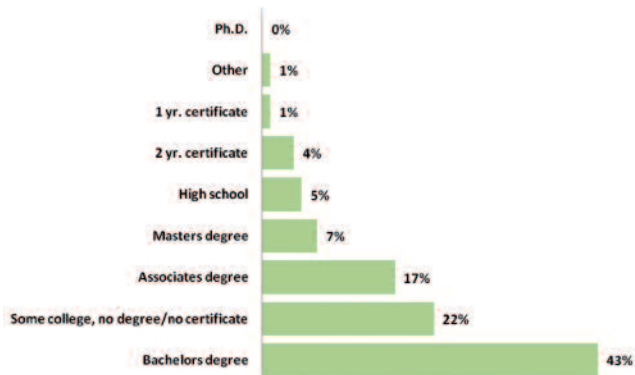
Benefits Survey
ation at your facility?

86%

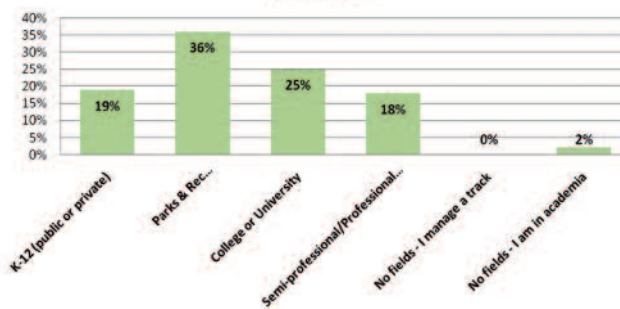


Eighteen percent of STMA members make more than \$75,000 annually; 60% earn more than \$50,000

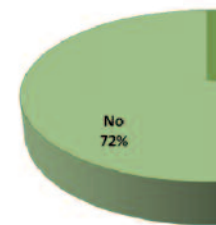
What is your highest level of education completed?



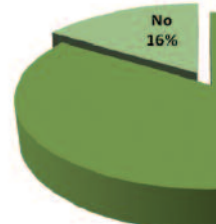
Which of the following terms best describes the use/users of your field(s)?



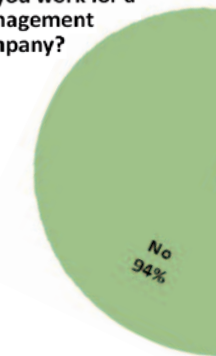
Do you have an employment contract?



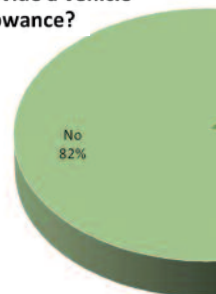
Do you receive and annual review?



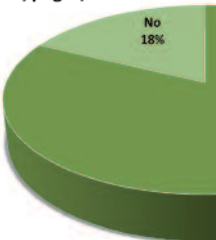
Do you work for a management company?



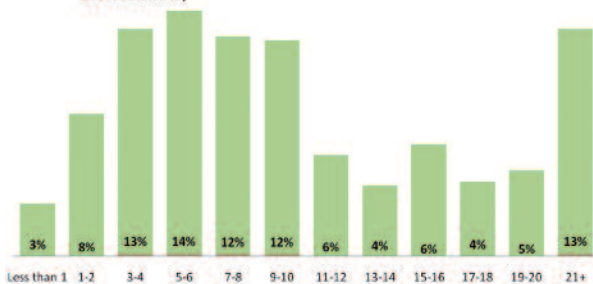
Does your employer provide a vehicle allowance?



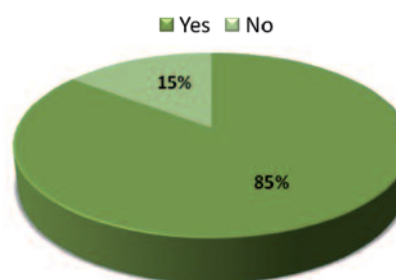
Does your employer provide a cell phone/pager/PDA?



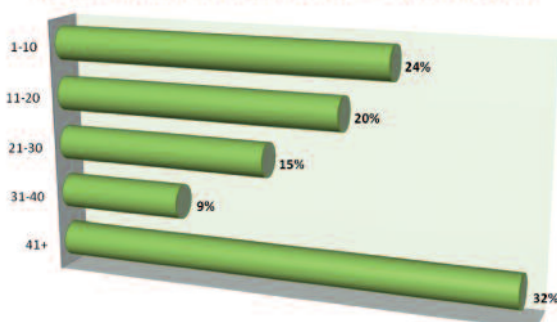
How many years have you been employed as a sports turf manager? (Do not include work as an assistant or grounds crew member)



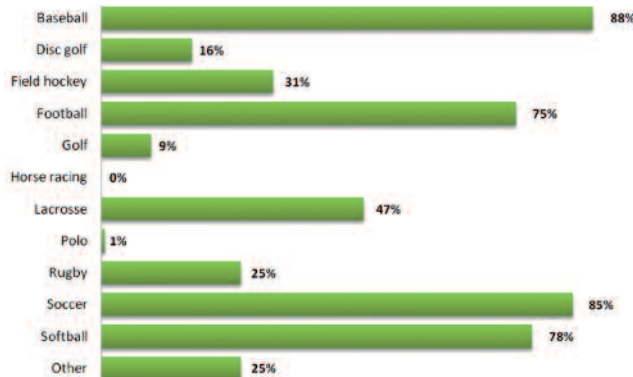
Do you manage acreage in addition to your sports surfaces?



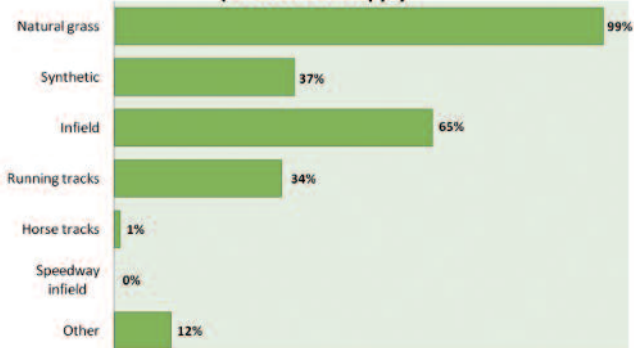
How many acres of sports surfaces do you manage?



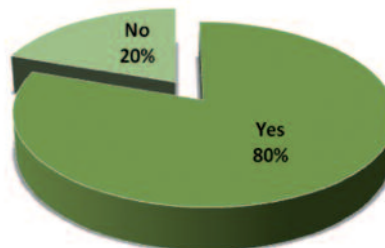
What sports are played on the athletic surfaces you manage? (check all that apply)



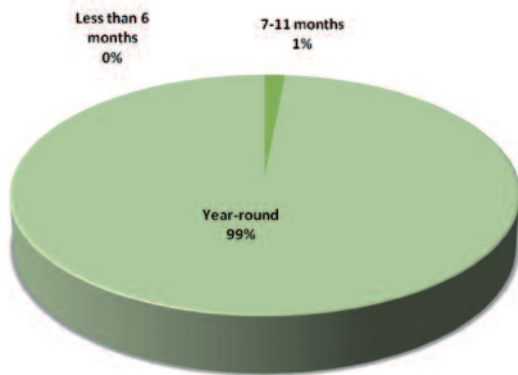
What type of sports surfaces do you manage? (Check all that apply)



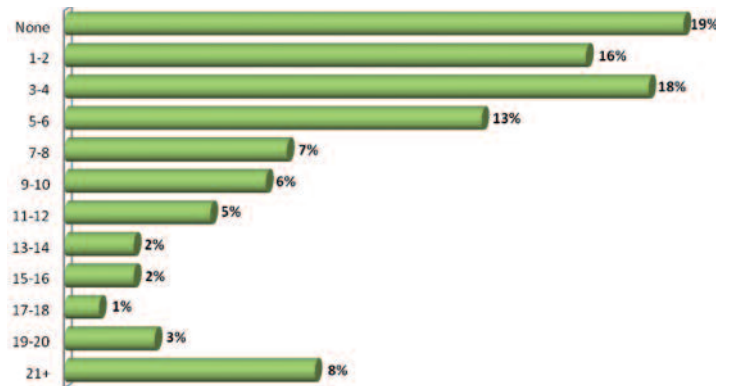
Do you manage any multi-use fields?



How many months per year are you employed?



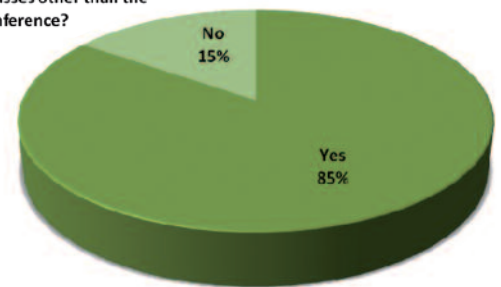
How many seasonal employees are you responsible for?



How many hours do you work during your busiest season?

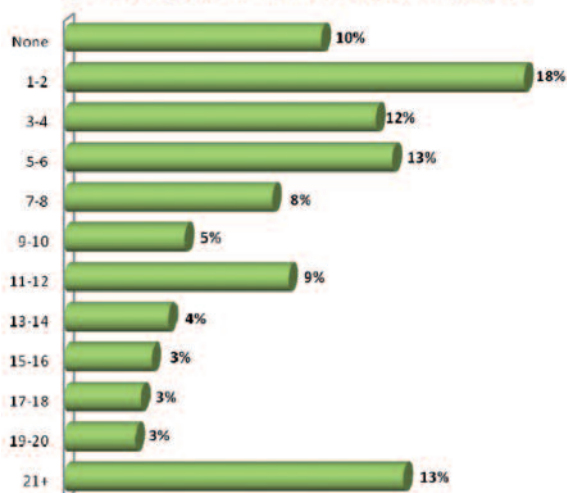
Weekdays		Weekends	
36	0%	Under 4	31%
37-40	6%	4-8	29%
41-45	20%	9-12	11%
46-50	27%	13-16	10%
51-55	14%	17+	19%
56-60	14%	Total	100%
61+	19%		
Total	100%		

Does your employer provide tuition/educational reimbursement for events/classes other than the STMA National Conference?



Does your employer pay for the following?	100% Paid by Employer	Partially Paid by Employer	None Paid by Employer
National Dues	90%	1%	9%
Local Chapter Dues	82%	1%	17%
STMA National Conference Attendance	57%	12%	32%

How many employees are you responsible for at your facility (do not include seasonal employees)



TAKE THE CHALLENGE

WORLD CLASS

athleticsurfaces

Premium Field Marking Paint

FROM THIS...

...YOU CAN GET THESE.

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



Top 10 Tips to Enhance Your Image

1. Be flexible and adaptable to workplace changes – even those that are uncomfortable.
2. Follow through on what you say you are going to do.
3. Deal with conflicts positively and with self-control.
4. Adopt a “no surprises” attitude in dealing with your employer and staff.
5. Hang your diploma, certification plaque and other honors in a visible place in your office.
6. Write articles for and give presentations to your chapter, your community and the industry.
7. Be ethical and honest in all that you do.
8. Dress for success.
9. Embrace a, “who else needs to know this” communication approach
10. Follow the golden rule: Treat others as you wish to be treated!

How have you prepared your workplace to see you?

IF YOU ARE LIKE MOST SPORTS TURF MANAGERS, you are focused on your fields, managing them so they are visually stunning, safe and playable. You train your staff and have confidence in them to accomplish their set objectives. You manage the budget, inventory, equipment, and much more. You interact with players, coaches, fans and other user groups. You believe that doing a good job is synonymous with how you should be judged.

And, you are right: doing a good job lays the groundwork for respect and recognition of your work.

Rich Watson, grounds supervisor for Pine Hills (NJ) Public Schools, believes the key to being perceived as a professional lies in exhibiting a strong work ethic. “Your employers need to be able to trust that you are going to be there, doing what you were hired to do. Delivering more than what they expect is also very effective in how they perceive you,” says Watson. He considers the effects of hard work to be a great motivator. “When you and your staff work together to make your fields look great, you can see the results of your hard work. It’s very gratifying and drives us to continue to work at the highest level of effort,” Watson stresses.

He has also worked for a private owner managing polo fields, putting greens and croquet courts. At both positions, he notes that staff has an impact on how turf managers are perceived. “My success is tied to those who work with me,” Watson says.

Triple A head groundskeeper Chris Ralston of the Sacramento River Cats echoes Watson’s philosophy of working hard. “Treat your job as a career, and your dedication to it shows through,” he says. “People will recognize that you are doing a good job, without you having to overly promote yourself.”

Ralston feels that interactions with crew members also affect perceptions of

your abilities. People will also judge you on how well you treat your employees,” he says.

Making visible improvements to the fields brought recognition to Parks maintenance director Patrick Jonas, CSFM, for St. Andrews Parks and Playgrounds in Charleston, SC. He planted ryegrass, a first for the fields under his care, 9e years ago when he joined St. Andrews. “The fields were in bad shape, and my first priority was to improve them. When people saw how the fields changed, they knew it was due to our work,” he says.

Manage yourself

Steve Wightman, QualComm stadium & turf manager in San Diego, acknowledges that working hard and good management of your field is important—and expected; however he emphasizes that perceptions are formed from day-to-day interactions. “You are rated, whether you realize it or not, when you interact with people in your private and professional lives,” Wightman says.

He believes that how you manage your own self significantly affects perceptions. “People notice if you are on time, follow through, and act with integrity,” he says.

This philosophy is supported by management guru Stephen Covey, who uses the term emotional bank account as a way to describe trust in a relationship. Acts of trust are like deposits in the account; damaging behaviors, such as failure to keep commitments, are withdrawals. Higher trust levels in the workplace between you and your employer leads to greater appreciation for the work that you do. Then, when problems occur, the higher the trust level the less likely that your job security will be affected.

Ralston also used a more formalized strategy to gain trust and awareness: he asked for feedback. He conducted a survey of stakeholders in his league: players,

Membership Application

SportsTurf MANAGERS ASSOCIATION

Experts on the Field, Partners in the Game.

Fax to: (785) 843-2977

Or mail with payment to:
Sports Turf
Managers Association
P.O. Box 414029
Kansas City, MO 64141

Name _____ Title _____

Employer/ Facility _____

Business Home

Address _____

City _____ State _____ Zip _____

Home phone _____ Work phone _____ Cell phone _____

Fax _____ Email _____

Signature _____

Direct Supervisor Name _____

Membership Category:

- Sports Turf Manager \$110
- Sports Turf Manager Associate* (Additional member(s) from the same facility) \$75

Please select the primary facility type where you are employed:

- Professional Sports
- Higher Education
- Schools K-12
- Parks and Recreation

- Academic \$95
- Student (verification of enrollment) \$25
- Commercial \$295
- Commercial Associate* (Additional member(s) from the same commercial company) \$75

Affiliate (Person who is indirectly or on a part-time basis, involved in the maintenance/management of sports fields) \$50

Chapter Dues (contact headquarters for amount)
Chapter name) _____ \$ _____

Contribution To SAFE Foundation (research, education and scholarship): \$ _____

Total Amount Enclosed: \$ _____

Payment Method:

Check Money Order Purchase Order #: _____

Credit Card: Mastercard Visa American Express Discover

Name on Card _____

Card #: _____ Exp. Date: _____

Signature: _____

*There must already be a national sports turf manager from your facility or commercial member from your company before you may sign up in the Associate category.

Phone: 800-323-3875

www.sportsturfmanager.org

"I know I am a better sports turf manager because of this association. As sports turf managers, we take the challenge seriously to make our fields the best possible for the next game. The resources I have access to through STMA helps me do it."

— Bob Campbell, CSFM
Higher Education
Membership Segment

Cut Here



People only see what they are prepared to see.

Ralph Waldo Emerson

coaches, managers, and general managers. “This survey provided a very important opportunity for our California League groundskeepers to find out how their work is viewed, and helped us to open lines of communication,” says Ralston.

In addition to conducting yourself as a professional, Wightman also believes that sports turf managers need to be the solution people. “When you bring workable solutions to a problem, even if it may not be the easiest solution for you, others begin to trust you and have confidence in your abilities,” he says. Professional success, according to Wightman, is also gained by participating in the industry. “It is very important to get involved in the industry and connect with this large network of professionals who can help you,” he says.

Effective communication impacts respect and recognition in the workplace. When Watson made a job change, verbal and written communication was critical to understanding expectations. “I wanted to make certain I was giving them what they wanted, so I checked in often with phone calls and e-mail,” he says.

Eric Fasbender, CSFM, sports turf manager for Louisiana State University cites communication as the key to facilitate change, and throughout his career he has been using a coaching style of communication. “We look at what needs to change for us to be successful,” he says, “and then do what’s needed to make that happen.”

He believes that if you create the right culture and provide the right training, the results will be seen on the field. “Growing grass is the easy part; it just needs food, water and light to grow. The hard part is in managing to the strengths and weaknesses of your team,” he says. Fasbender’s team has been very successful at LSU and regular-

ly receives praise from the coaches and players of the 15 fields they manage.

Fasbender also believes in communicating about the field management activities. “We constantly are providing information about what we are doing to the fields and why we are doing it,” he says. When people gain a better understanding of your work, they begin to perceive you as a professional.”

Jonas uses face-to-face communication almost exclusively with his boss, his bosses’ boss and his employees. “That way, communication is direct and not filtered,” he says. “I consider my boss a good friend and ally and talk with him daily, which really keeps him informed.”

Good communication has helped him build relationships outside of St. Andrews. The parks district uses church and high school fields for overflow games, and Jonas’ efforts to get to know those in charge have paid off. “If there are problems, I know who to go to, and we can easily resolve any issue because we know each other,” he says.

Add credibility with Certification

Being a Certified Sports Field Manager (CSFM) has added to Fasbender’s credibility, especially as he pursued new positions. “My degree is in history, and being able to show that I am certified by the STMA has helped me convey my qualifications,” he says. “Being certified is one of the things that I’m most proud of,” he says.

Jonas recently pursued and attained the CSFM designation. He says that he realized that he needed to build on his agricultural experience of growing up on a farm. “Becoming certified helped me improve my core knowledge, and shows my employer that I am committed to being the best I can be,” says Jonas. “My certification has definitely made me a more valuable employee.”

Gaining the recognition for your work within your community may be a bit more challenging, but showing your community that you are committed to sound environmental practices can be very effective,

according to Ralston. “Northern California is experiencing its third year of a major drought and saving water is on everyone’s mind,” says Ralston. He has implemented new irrigation technology that conserves water, and he and his irrigation partner are holding educational outreach sessions to teach others. “We just had 50 people at a session. I’m able to actually report the exact number of gallons of water I saved over a specific time period,” he says.

Jonas believes that proactivity in the area of the environment is important, and he is taking initial steps to be more ‘green.’

“It is our responsibility to move to greener practices,” he says. “We have a strong recycling program, have a hybrid vehicle and have limited the heat of our asphalt parking lots by creating islands with shade trees.” Although he says these are small steps and may not have much recognition within the community, he has the environment squarely in his future plans. “We want to capture water from condensation from our air conditioning units to reuse on our softball field,” he says.

Individuals advance the industry

The sports turf management profession is gaining in influence, as measured by the interest of other organizations that want to work with STMA. “STMA’s partnerships and collaboration have more than doubled in the past several years,” says President Abby McNeal, CSFM, and Sports Turf Manager for the Colorado School of Mines in Golden.

She attributes some of the interest to STMA’s efforts, but believes members are at the heart of this advancement. “STMA as an organization has been reaching out to other organizations, which has resulted in many joint initiatives. I believe, though, that it is because of the great work of our members and their individual efforts to be recognized for their professionalism, that these relationships have developed and strengthened,” says McNeal. ■

» STEVE WIGHTMAN, CSFM





SportsTurf

MANAGERS ASSOCIATION

21st Annual CONFERENCE & EXHIBITION

JANUARY 12-16, 2010

**Disney's Coronado Springs
Resort & Convention Center**

*Proactive and productive solutions
for Sports Turf Managers*

90 hours of education.

More than 8 hours
viewing new products,
meeting with distributors,
and product developers.

20 hours of networking.

Conference Package
includes meals.

To register call: 1-800-323-3875

or www.STMA.org

To exhibit call: 401-847-8622

or 1-866-847-8623



Turf fields: a drainage solution for under \$250,000



WHEN IT COMES TO SPORTS FIELDS LATELY, turf managers are absolutely swamped. This holds true literally and figuratively, as this year's rainfall has left many a muddy field needing work. Some Midwestern areas are currently a whopping 12 inches above normal for annual rainfall totals. This kind of excessive precipitation causes a multitude of problems for school districts, whose athletic fields are in constant use. The wear and tear from team practices, middle and high school games, community events, band practice, summer leagues and camps only gets worse.

Using fields too soon after inclement weather can cause major damage mainly to native soil fields, which often do not have adequate drainage or irrigation. In response, many communities are pushing schools to install at least one artificial turf field on site. Often they are convinced that this is the only option available to keep fields playable. However, therein lays a difficult dilemma: most small towns and school districts do not have the \$600,000-\$1,000,000+ needed to build such a field. Although sand-based fields are a great alternative, even those can cost \$400,000-\$600,000.

With the economy starting to recover, and most communities working on a tighter budget, there has been a renewed interest in the construction of sand-capped fields to counter challenging weather conditions. A sand-capped system is put in place by applying 4-6 inches of sand directly on top of a graded native soil subsurface. A subsurface drain tile system also is installed. Believe it or not, these fields are actually less expensive than artificial turf and sand-based options. In addition, they can be built for as little as \$200,000-\$300,000.

The important thing in building sand-capped fields is the availability of quality sand that is both adequately permeable, and that the Coefficient of uniformity meets the proper criteria. Have the sands tested by a reputable lab that does testing for the turf industry. The Coefficient of uniformity (Cu) is a formula used to determine how tightly the sand's particles will pack together, and can therefore be used as an indirect estimate of how stable the rootzone will be. This is important for constructability and how the field will perform with athletes' traffic. An ideal Cu range is between 2.5 and 3.5. Anything less than 2.5 indicates a greater likelihood of instability. If you do decide to use sand with a Cu less than 2.5, adding organic material such as peat may decrease the chance of having an unstable field. Peat will also hold moisture and increase overall firmness. Using sod instead of seeding the field also will add stability to the playing surface. Finally make sure that the sand has a percolation rate that falls within an acceptable range of 6 to 15 inches per hour.

One concern for the communities that are looking into a sand-capped field is that the field must be taken out of play for a longer time period than if you were to install an artificial field. In reality, if the field is sodded during optimal growing season, it can be ready to play on as early as 2 months from the start of construction. One of the fields we worked on was a high school football field. Construction



for the field took place during late fall and early spring. It was seeded in late April, and grew in over the summer so it would be ready for the fall sports season. Another field was a city soccer complex used by a NCAA Division I university. This field had a 3-week construction schedule. After sod was installed it was ready for use a mere 1 month after completion.

So the time frame for a sand-capped field is either similar to or shorter than that of tearing out an existing field, applying the gravel base, and pouring the concrete curbing for an artificial surface.

Below are outlined construction schedules for two different fields. These provide an example of how the sand-capped field construction process will work in its given time frame. As you read, you'll understand how construction may not take as long as you had previously thought.

North Scott School District, Eldridge, IA, had decided to redo their track and football stadium. The project was planned to be done in two phases, in order to avoid losing play time due to construction. Phase one was the track, which was built during the summer of 2008. The football field was

phase two, with construction due to commence at the finish of the football season. However, North Scott ended up making the playoffs, which delayed the construction start date from mid-October to November 5.

Tricky maneuvers

Another challenge was that 2300 cubic yards of soil from the existing field needed to be removed. With the new track in place, we needed to devise a way to get the soil over the track without applying any pressure to the track surface, which might

SIMPLE COST BREAKDOWN

These projects came in at just over \$200,000 and \$250,000 respectively, and were completed at a high-school level and municipal-level with minimal loss of field use:

As the table demonstrates, \$210,000-\$250,000 is a major price difference from the \$600,000-\$1,000,000 that artificial turf would have cost. The money saved by installing a sand-capped field can then be used to pay for field maintenance general upkeep, and other projects. In addition, while an artificial turf field would cost \$300,000-\$400,000 to replace after 10 years of wear and tear; a sand-capped field can be replaced for \$30,000-\$75,000.

Overall, sand-capped fields are an economical, ecological and aesthetically attractive alternative to artificial turf. With proper drainage and maintenance these fields will perform and meet the demands of most field situations. And with a sand-capped field, a little rain won't stop the game.

Cost Analysis of Sand-Capped Field Seed or Sod

Item	Seeded/Sprigged Field	Sodded Field
Existing Turf Removal	\$ 10,000.00	\$ 10,000.00
Soil Removal	\$ 15,000.00	\$ 15,000.00
Grading	\$ 10,000.00	\$ 10,000.00
Sand	\$ 100,000.00	\$ 100,000.00
Irrigation	\$ 25,000.00	\$ 25,000.00
Drainage	\$ 40,000.00	\$ 40,000.00
Seed/Sod	\$ 10,000.00	\$ 50,000.00
Total	\$ 210,000.00	\$ 250,000.00

damage it. To accomplish this, a conveyor and a small stand on the inside of the track were built to hold the hopper and on the outside of the track. An industrial shelving unit was used so the conveyor could hang over the track without touching the ground. This way, trucks also were able to drive directly under the conveyor to load the excess material quickly and efficiently. Once the excess material was placed across the street to level a pre-existing recreation field, the conveyor was then turned around to bring other material (i.e. gravel for collector, pea gravel for drainage trenches, and later, rootzone) onto the field.

Over the next few weeks, the field was stripped, the subsurface was laser-graded, a perimeter collector was installed around the entire inside of the track, and half of the mainline irrigation was installed. However, the crew was snowed out on December 3. This pushed the completion date to spring, during which time the weather can be very challenging, and often pushes seeding times out of the optimal window.

In mid-March, the field was finally clear of snow, and the ground was firm enough to finish trenching the irrigation system. Due to a very wet spring season, there were several days before the subsurface drainage after the irrigation system was complete. The system consisted of 2-inch tile on 15-foot centers, in a herringbone pattern across the entire playing surface.

Drainage/irrigation installation

- The three-inch-wide by 10-inch-deep trenches were backfilled with bridging pea gravel. After the drainage was installed, sand

was conveyed over the track and onto the field. The 4-inch rootzone was an 85/15 mixture of USGA sand and Dakota Peat.

- As the sand was conveyed, a small dozer and two skid loaders pushed the sand on the field, preventing any cross-contamination of sand and soil.

- Grading was completed, and the field was smoothed out using a drag mat.

The irrigation system was run for two days to bring the field to saturation level so the sand would be moist and firm for the seeding.

- The field was seeded with a 100% Kentucky bluegrass blend on April 24. This seed was applied in two directions, at a rate of 80 pounds-per-acre. This gave 132 growing days to John Netwal and his staff at North Scott before the field was set to be used for a

home football game on September 4.

Netwal and his staff hit the field with nitrogen weekly in order to really push the growth in their limited time frame. They were under tremendous pressure from the community, which was doubtful the field would be ready in time for the season. Thanks to an incredibly cool and wet summer, and great managing by the staff at North Scott, the field was finished impeccably. It is currently being used by the high school, middle school and youth leagues. Netwal and his staff are planning to topdress the field over the next few years to build up the rootzone to an 8-inch depth, and to increase the water holding capacity.

Another field using the sand-capped system is Field 9 at the Cownie Soccer Complex, Des Moines, IA. This field is home to the Drake University soccer teams, and is also the championship field for the many tournaments held at the complex each year. The former native soil field had been severely damaged by the floods of 2008. Drainage upgrades throughout the entire complex were the major reason for the renovations. The city of Des Moines was seeking an option that would set this field above the rest, but at a lower cost than a full sand-based system.

The previous field was removed, and after installing a perimeter collector and lowering some of the existing irrigation lines, we began flattening the field from the existing 1.5%+ crown.

Drainage/irrigation installation

- Once the field had been brought to a crown of approximately 0.75%, 2-inch drain tiles were installed on 15-foot centers diagonally across the field. These emptied into a perimeter collector on each side. This cross slope pattern works just as well as a herringbone, and also reduces the number of fittings used when installing the drainage.

- Once again a bridging pea gravel was used to backfill the 2 inch tile trenches. The rootzone was then hauled in, this time with a 90/10 sand/peat mix.

- After hauling in the rootzone and grading to final grade, sand-based sod (a low-mow bluegrass blend grown on USGA sand) arrived over the next 2 days. During this time, the field was sodded. The sod was cut in big rolls 42 inches wide. This greatly reduces the number of seams on the field. The reason for the use of sod on this field was that the first game was to be played one month after the completion of the project.

- Weather once again proved to be a factor, and the crew was rained out for five of the first 10 working days. However, once the sand had arrived and was being pushed across the field, weather was no longer an issue and the field was completed in 15 working days.

Joe Grandstaff and his crew that oversees the Cownie complex did a great job in preparing the field for play, and opened a three-game home match on September 1. ■

Steve Bush, CSFM, is an agronomist and owner of Bush Sports Turf. Jared Aubrey is sports field construction manager for Bush Sports Turf.

