

Severe weather and lightning safety: What you don't know may shock you!



Weather is a critical component of a turf manager's daily responsibilities. When the weather is behaving, life is easy, when it doesn't, life can become very troubling, even dangerous.

Each year many people are killed or seriously injured by thunderstorms despite advanced warning. The following information is intended to help turf managers become more aware of the potential hazards associated with severe weather and to provide some guidelines for making storm-related safety decisions.

WHAT ABOUT THUNDERSTORMS?

Thunderstorms are relatively small in size averaging 15 miles or less in diameter, can form in minutes and last on average from 30 minutes to several hours. Despite their small size ALL thunderstorms are dangerous. On average, the United States experiences about 100,000 thunderstorms each year and 10% are classified as severe (1-inch hail, winds greater than 58 mph, or a tornado). Thunderstorms produce many hazards; we'll review three that can affect sports turf managers.

FLASH FLOODS AND FLOODS

- The #1 cause of deaths associated with thunderstorms.
- Most fatalities occur at night from victims who become trapped in automobiles.

- Six inches of fast-moving water can knock you off your feet; a depth of two feet will cause most vehicles to float.

Know the location of your facilities, its potential for flooding and the challenges associated with pedestrians and vehicles on your facility. Bottlenecks often occur when parents are dropping off and/or picking up athletes for regular events. Consider the increased traffic congestion with everyone moving in a panicked frame of mind.

TORNADOES

- 3rd most deadly hazard; can occur at any time of the year and in any state.
- In southern states, peak tornado occurrence is March through May, while northern states are during April through June.
- Tornadoes are most likely to occur between 3 and 9 p.m. but can occur at any time.

The best thing to do is to put as many walls as possible between you and the outside. A reinforced building can provide good shelter, but a basement provides a more substantial 'wall' for your protection.

Be sure to consider what it will take to move a large number of people into reinforced buildings in a relatively short period of time. Fortunately, lead-time warnings for tornadoes have improved and locating tornadic thunderstorms are a little more predictable than our next hazard, lightning.

LIGHTNING

Lightning is arguably the most dangerous severe weather hazard for sports turf managers. Lightning is the discharge of electrical energy built-up between positively and negatively charged areas. These discharges can move from cloud to cloud, cloud to ground or from ground to cloud.

- Lightning is the second most deadly thunderstorm hazard and the least predictable.
- Most lightning fatalities





“When thunder roars, go indoors.”

and injuries occur in the summer months during the afternoon and evening.

- Lightning can strike 10 miles in advance or behind a travelling thunderstorm.
- Each spark of lightning can generate 100 million volts and 50,000° Fahrenheit temperatures.
- You CAN survive a lightning strike
- Lightning occurs in ALL thunderstorms.

One hundred percent of all lightning deaths in 2009 were of people caught outside. One out of five people were engaged in a sporting activity, while another one-fifth were killed seeking shelter during the thunderstorm. The National Weather Service recommends: **“When Thunder Roars, Go Indoors.”**

It is also important to obey the **30/30 Rule**: Go indoors if, after seeing lightning you cannot count to 30 before hearing thunder. Stay indoors for 30 minutes after hearing the last clap of thunder.

This is an important rule to remember because gauging the distance of lightning can be misleading. At night, lightning is easy to see and can be spotted 50 to 100 miles away depending on conditions. During the day it is harder to spot initially and may be less than 5 miles away.

BEING PREPARED FOR SEVERE WEATHER

Being prepared means having a severe weather safety plan (see sidebar). The National Lightning Safety Institute (NLSI) has produced a framework for dealing with athletic event safety.

Once a plan is in place it is crucial that drills be conducted to ensure its success. Double-check that there is ample space for all people considered and that distances to the safety facilities match warning and evacuation lead times. Proper training and clearly defined procedures will help ensure success whenever severe weather threatens.

SOURCES FOR SEVERE WEATHER SAFETY INFORMATION:

National Lightning Safety Institute, www.lightningsafety.com includes Decision Tree for Personal Lightning Safety, Lightning Safety for Organized Athletic Events, and NCAA Sports Medicine Handbook Lightning Safety Guideline.

NOAA: National Weather Service - www.nws.noaa.gov/om/severeweather

NOAA: Storm Prediction Center - www.spc.noaa.gov/ ■

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Lightning safety for organized outdoor athletic events

Education is the single most important means to achieve lightning safety. A lightning safety program should be implemented at every facility. The following steps are suggested:

1. A responsible person should be designated to monitor weather conditions. NOAA Weather Radio, or local TV and radio weather forecasts - should be monitored 24 hours prior to events. An inexpensive portable ALERT weather radio is recommended for obtaining timely storm data.

2. Suspension and resumption of athletic activities should be planned in advance. Understanding of SAFE shelters is essential. SAFE evacuation sites include fully enclosed metal vehicles with windows up; substantial buildings with pipe-in plumbing; and low

ground. Seek cover in clumps of bushes not trees.

3. UNSAFE SHELTER AREAS include all buildings without plumbing, outdoor metal objects like flag poles, fences and gates, high mast light poles, metal bleachers, golf cars, machinery, etc. AVOID trees. AVOID water. AVOID open fields. AVOID the high ground. AVOID dugouts (they are connected to metal objects!)

4. Lightning's distance from you is easy to calculate: if you hear thunder, it and the associated lightning are within auditory range... about 6-8 miles or less away. Ask yourself why you should NOT go to shelter immediately. Of course, different distances to shelter will determine different times to suspend activities.

A good lightning safety motto is:

"If you can see it (lightning) flee it; if you can hear it (thunder), clear it."

5. If you feel your hair standing on end, and/or hear "crackling noises" you are in lightning's electric field. If caught outside during close-in lightning, immediately remove metal objects (including baseball cap), place your feet together, duck your head, and crouch down low in baseball catcher's stance with hands on knees.

6. Wait a minimum of 30 minutes from the last observed lightning or thunder before resuming activities.

7. People who have been struck by lightning do not carry an electrical charge and are safe to handle. Apply first aid immediately (CPR) if you are qualified to do so. Get emergency help promptly. ■

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Mastering your Master Plan

THE MASTER PLANNING PROCESS is an important component of how the City of Worcester, MA, population of more than 175,000, plans and implements capital improvement programs throughout its 1,300+ acres with 60 parks and athletic facilities. It allows the City to identify and prioritize needs, wants and desires of the neighbors, organizations and users at each Park.

This town hall atmosphere embraces the public participation process and has been very successful for the City. It has led to less criticism, better tailoring of the improvement program and more dedication by the participants of the process. Our method has not come easy and at one time there were different processes based on what Consultant or facility was being planned.

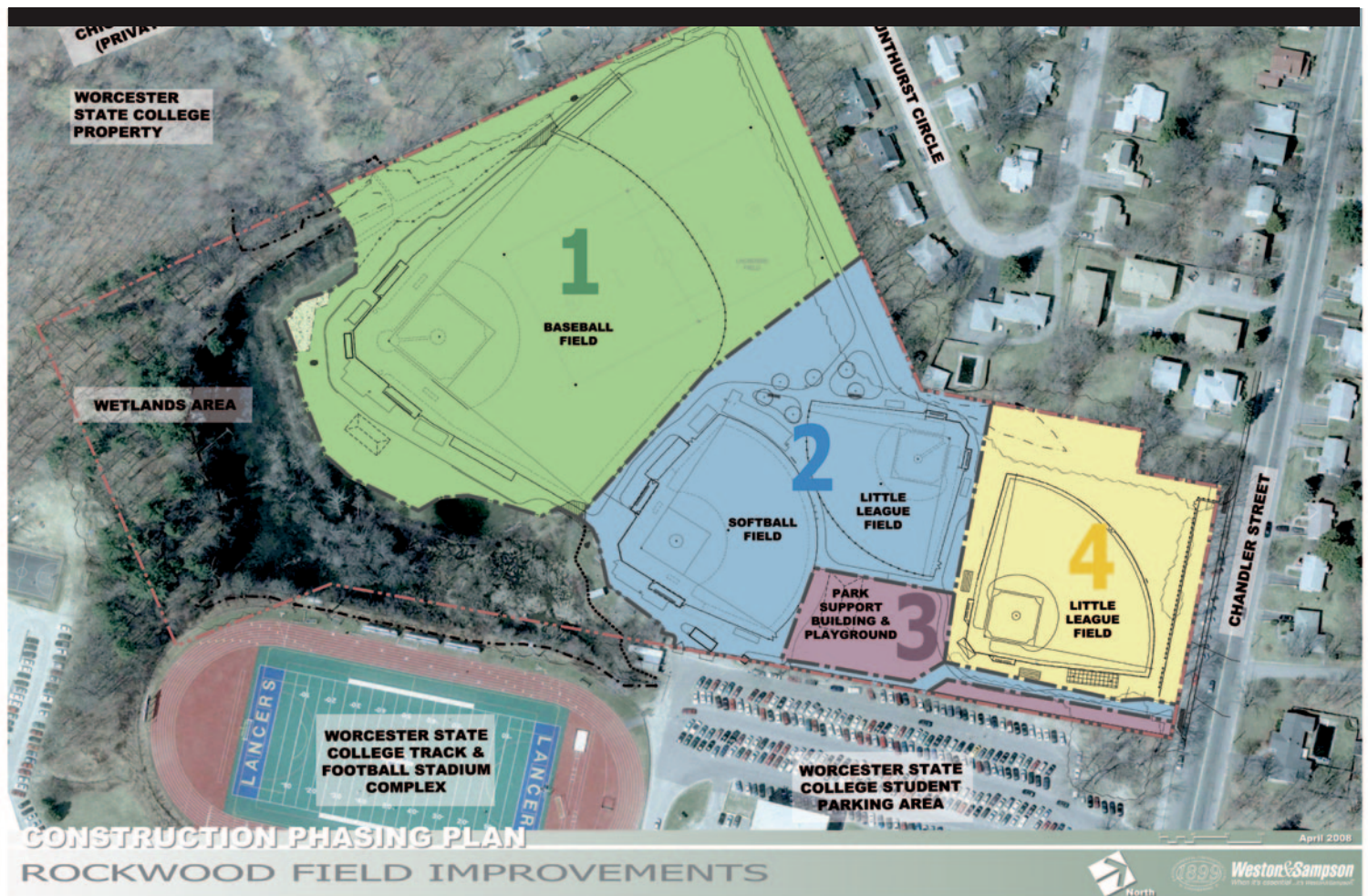
In an attempt to streamline the multitude of approaches, the best functions of the previous

plans were combined with new ideas and developed into our current Master Planning process. Once complete, each plan becomes a guidebook for improvements that assists the City in allocating and scheduling capital funds, as well as assisting in the acquisition of other funding sources.

The master planning process can be initiated in one of three ways: implementation by the City Administration, a request by the public, or

a request by an elected official. Each process is reviewed by the Department of Public Works and Parks, Parks Recreation & Cemetery Division (DPW & Parks) to clarify the basic needs of the facility and how the improvements rate with other park needs throughout the system.

Once the need for improvements of the park has been confirmed, the City begins the planning process by scheduling the authorization of capital improvement funding, which can come from a number of sources, including: City tax levy authorization, Community Development



Block Grant (CDBG), federal authorization, state authorization, grants, or donations. This initial funding will be used to fund the procurement of a design/ engineering consultant to assist in the development of the Master Plan.

SCOPE AND RESPONSIBILITIES

Once this funding has been secured, the City begins the process of defining the project scope, consultant responsibilities and the procurement of services. The project scope and responsibilities are crucial to achieving the final results of the Master Plan. As a minimum standard the City requires six public hearings, five consultant/departmental meetings, all colored plans for presentations, expenses (travel, printing, etc), and the final completed document as part as any Master Plan proposal.

Once the scope has been confirmed the method of selection begins in one of four processes; Request for Proposals, Request for Qualifications, prequalification of consultants, or general selection (in some areas it is not required to complete a formal process for the selection of a consultant for horizontal design). Additionally, there may be other processes based on each states regulation, so it is important to make sure you review all options with your municipal attorney or purchasing agent.

If a formal process is used I suggest that the organization perform formal interviews with each consultant. This process allows for a question and answer period and the ability for a municipality to understanding of how they will work with the Consultant. Once a proposal has been accepted it is time to negotiate the fee for the agreed upon scope of services. It is important (if at all possible) to make sure it is a flat fee and includes all costs required to complete the plan.

PUBLIC PARTICIPATION PROCESS

Once the consultant has been selected it is time to begin the public participation process by reviewing generally available GIS/ aerial mapping of the facility. GIS/ aerial information may be obtained from a number of sources including local, state or feder-

Once the scope has been confirmed the method of selection begins

al agencies, pre-existing maps, plans from previous projects as well as the internet. This mapping allows for a general understanding of the area and should be used in the public participation process as a visual aid in identifying the facility under discussion.

For this first meeting the City develops a contact list of organizations and facility users, as well as a list of property owners within 1,000 feet of the facility and invites all to be part of the public meeting process. Additionally, the City follows all open meeting law requirements by posting this meeting notice with the City Clerk and on the City website.

There are times when a facility is located in a neighborhood that contains renters, immigrants or others that may not obtain or read a notice. In these cases the City requests assistance from neighborhood organizations, religious groups, community development corporations, and the City Election Commission to help get the word out on the project meetings and assist in translation.

It is important to engage key stakeholders, those that currently use the facility or live near it as they will be the ones who protect, assist in maintaining and use the facility. It is important that these meetings remain focused, have easily understandable color graphics and encourage public participation.

At the first meeting a presentation is made by the City and consultant on the basic process; what the program goals are including the number of meetings, information requested, thoughts on what should be improved, what could happen at the facility, the timeline of the process, and what the anticipated final outcome will be. At this first meeting the only information that is used is an existing conditions (aerial) map that participants can view and understand the current layout of the facility. The purpose of this is to not predispose any possible ideas, stifle conversation, limit possibilities, or make it seem that a plan is already developed. Following this process

allows for an open, honest and less formal discussion with all in attendance. At the completion of this meeting all comments are reviewed, possible improvements discussed, and attempts made to implement these items into the plan based on need and priorities of the facility.

A second meeting is then scheduled to review the initial meeting and present two or three possible conceptual designs based on previous input as well as know topography and facility constraints. There are times that possible improvements are not physically possible based on the available real estate of the facility, including not enough room for a particular field size, the inclusion of wetlands on the property, and other restrictions.

At this meeting additional comments are taken on the proposed designs as well as anything that was not discussed at the first meeting. It is important to have the concepts simplified and overlaid on a GIS (aerial) map to allow meeting participants to easily visualize the improvements. This allows for a better understanding of how the improved facility will operate and what impacts may occur to each individual user, organization or neighbor. The goal of the second meeting is to determine the most favorable concept plan or individual design components for future development and discussion at the third meeting.

A third meeting is then set with the goal of gaining consensus among those in attendance on a plan that can be further developed and completed into a master plan. A single enhanced concept design is presented based on all information gathered to date and all final changes are made to the plan. There may be times when there will be competing views on a plan. It is vital that you continue to allow all comments by those who wish to be heard as long as it is appropriate and not personal. It is important to diffuse and mediate disagreements and ensure all participants are heard. If this is to happen, then a fourth public meeting will need to be scheduled.

<u>Budget Estimates</u>	<u>Cost</u>
Storm Drainage Improvements – Lower Park Tier	\$400,000
Farm League Field (175’ outfield dimension)	\$200,000
Lighted Little League Field (200’ outfield dimension) with new orientation	\$600,000
Lighted Softball Field	\$500,000
Lighted Baseball Field / Multi-purpose Field	\$1,100,000
Community Building and Parking Area	\$600,000
Other Improvements (Electrical Service Upgrade, Parking Lane at Chandler Street, Trails, Boardwalks, Pathway Systems, Children’s Playground Equipment, Site Furnishings and Signage, Tree Planting and Landscaping)	\$600,000
Budget Total All Improvements	\$4,000,000

COST ESTIMATES

Once consensus has been reached, it is now time to complete a cost estimate for all work shown on the plan. This estimate must be based (as best as possible) on current costs, including information from recently bid projects, unit prices from current vendors that supply material, as well as a best guess on what may be encountered. Additionally, the City of Worcester stays very conservative in our estimating and we include all probable costs including: construction document development, complete property and topography survey, soil borings or exploratory digging, staff costs for project management, consultant construction administration, contingency, and bidding costs.

It is vital to note in the Master Plan that all costs are in current dollars and fluctuate based on economic conditions. This is something that Worcester previously had not included when we began this process, but has become one of the most important parts of the document. It sets expectations and does not hold the project to a specific cost in the years to come. Figure 1 is an example of the City of Worcester estimate that does not include a note that the estimate is based on current dollars.

Now that the plan has been developed and estimated there are usually more improvements to the facility then funding is available. For this

reason a phasing program must be developed based on available funding and scheduling (figure 2). The decisions of what comes first should be based on the building block method in cooperation with what is of the greatest need and what is the most important improvement to the users.

In all applications, using the building block method ensures that each phase is developed by using the previous phase of work as a foundation. The City of Worcester used this method in many projects including the Rockwood Field Renovation Program where we included sport field lighting bases and all conduit when we could not afford the lighting itself, as well the inclusion of irrigation, water and sewer lines through the first phase to support future phases of work.

Additionally, it is important that any work that is completed in an earlier phase should not be renovated again in a future phase. If this happens, the public begins to ask questions on why do the plans call for continually removing previous completed work and may cause additional criticism of the project or the agency in charge of the renovations. As a way to elevate this issue, identify areas that may need to be used more than once during the phasing of the renovations. Use temporary treatments and identify them as being temporary. Worcester has used bit concrete instead of the standard paver system designed for

a facility or may use hydro seed as a substitute for sod.

At completion the plan and a draft report is forwarded to the Parks & Recreation Commission for another public hearing. Upon approval by the Commission the report is sent to the City Council through the Executive Office of the City Manager, at which time the plan is usually sent to the City Council Sub Committee on Youth, Parks and Recreation. The Sub Committee holds a final hearing and recommends approval to the full City Council.

Once the City Council approves the Master Plan, the City Administration then begins to review funding options including City tax levy authorization, Community Development Block Grant (CDBG), federal authorization, state authorization, grants, or donations and inclusion into the Capital Improvement Program. The final Master Plan is then completed and placed on the City website for public review and information. (To review our currently posted Master Plans www.worcesterma.gov/dpw/parks-rec.)

Master Planning must be an ever-changing and improving process. The goal is always the same; we want and need public input on our projects. We continue to use new technology to reach and attract this additional input. The Master Plans become the backbone of our improvements and assist when issues arise later on.

As they say, the best defense is a good offense and these plans are just that. So no matter how you do it or what the results are, it just needs to be done. ■

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Following this process allows for an open, honest and less formal discussion with all in attendance.



Making time



Editor's note: This is the first article in the 2010 Ewing Professional Development Series. STMA and Ewing have again partnered to bring sports turf industry professional development and career issues to the forefront. For more information see www.STMA.org.

Most of us have felt swamped at one time or another. With hectic work schedules, family responsibilities, and social engagements, there just doesn't seem to be enough time for everything we need and want to do. Although life will always provide us with its little twists and turns, once we learn to manage our time wisely, much of the day-to-day chaos in our lives can be reduced or even eliminated.

The first step in learning how to manage your time is to develop a general work schedule. Your work schedule should include time for yourself as well as time for the maintenance of your business or duties at work. After you've defined the major elements of your workload, the next step is to prioritize them by identifying critical deadlines, routine maintenance items, and fun/relaxation time. Answering questions like "How much time do I have to make this decision, finish this task, or contact this person?" will help you to start identifying what needs to be done immediately versus what can wait. Setting priorities depends on deadlines, how many people you must call to get the information you need, and whether you can delegate or get assistance from others. If you are involved in group projects, reserve additional time for communication and problem-solving.

Once you have identified your priorities, look at all of your options for achieving them. Evaluate and move forward with the ones you feel are the most useful for you. The only time to consider changing approaches mid-task is when you know the change will save time. If you are in doubt, it is usually best to consider in the direction you started. By setting up your work schedule and identifying your priorities, you have already started down the road to more effective time management. Other time management suggestions you may find useful for managing both your business life as well as your personal life include the following:

- Contract out tasks. Contract out tasks you do not have the expertise to complete. Your client will appreciate your honesty and effort to get the best result.
- Start with the most worrisome task. Start the morning, afternoon, or evening with the most worrisome task before you. This will reduce your anxiety level for the next task.
- Complete deadline work early. Not only will this reduce stress and lighten your work schedule, but it will also give you more self-confidence about managing your schedule.
- Know your capacity for stress. When you are hitting overload, take the break you need (even if it is a short one) when you need it.
- Stay organized. Take time at the end of each day to briefly organize your desk and make reminder lists of tasks for the next day or week.
- Take advantage of down time. Allow yourself some down time between busy periods to review your schedule and reevaluate your priorities.
- Get physical. Physical exertion such as walking, bicycling, swimming, or organized sports activities helps to discharge stress. Stretching, yoga, jumping rope, sit-ups, playing with children, or doing yard work are other types of therapeutic breaks you should consider during times of stress.
- Have fun. Be sure to have some fun while working or playing; a good sense of humor can keep most problems in perspective.
- Divide up your time. Decide how much time to spend on business development, personal needs, volunteerism, and family. Start by allowing 25 percent of your time for yourself. Each time you make a commitment, set a timeline for your involvement. Remember that maintenance takes at least 25 percent of the time you spend on any project whether it's business, marriage, or serving on the board of a non-profit organization.
- Build flexibility into your schedule. Your availability to family and friends depends on the flexibility you build into your schedule.

Female business owners frequently have the primary responsibility for making sure family members are cared for when they are dependent or ill, so it's necessary to leave some time in your schedule for emergencies or to have good backup resources. Get to know your neighbors so you know who to call on for help in times of crisis.

GOALS ARE GOOD

In the bigger picture, consider the relationship between your business life and your personal life. Be as realistic as possible when answering the following questions, keeping in mind what is most important to you:

- What are your long term goals? Your partner's goals?
- Where are the conflicts and where are the similarities in those goals?
- What is it that you really want to do? List all possible ways to accomplish this.
- How long will it take you to reach your goal?
- How do your timeline and goals affect your family (parents, siblings, partner, children)?
- How do your personal goals conflict with or match your business goals?
- How much time can you donate to community programs?
- Have you talked about your personal goals with your business partner or employer?
- Have you talked about your business goals with your personal partner?

Don't underestimate the toll that emotional stress takes on your physical health and your ability to concentrate on your work or enjoy time with your family. Make sure you have time for the important people and events in your life. ■

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