



## ATHLETIC FIELD MAINTENANCE MANUAL



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# Section 1

## Baseball and Softball Field Maintenance

### A. Determining Field Playability

The decision to play on fields that are too wet is the number one cause of damage to ball fields and the top reason for player injury. And often, techniques used to make a wet field “playable” cause additional damage. Making the tough call to postpone a game due to wet conditions is the best decision for player safety and to preserve season-long playability of the ball fields.

IF THERE ARE QUESTION ON PLAYABILITY REACH OUT TO FACILITIES DIRECTOR.



**If there's  
standing water  
on 5% of the  
infield, it's TOO  
WET for play!**





**If your shoe  
leaves an  
impression like  
these, it's TOO  
WET for play!**

## B. Water Removal Techniques for Skinned Infields

The most important mistake to avoid is the removal or movement of infield mix. A level field will drain better and have fewer puddles. Low spots or depressions catch and hold water EVERY TIME! The more saturated soil is disturbed removing water you make the wet conditions worse and increase time and effort to dry the fields. Removing water with limited soil disturbance is your best method to play.



### Use a pump to remove puddles.

1. Dig a shallow hole and place the field mix out of your way.
2. Let the water drain into the low spot you've created place flat shovel in bottom of hole.
3. Use the pump to move the water into a bucket. The pump should rest on the shovel.
4. Empty the bucket outside of the playing field into a drain.
5. Replace the field mix into the hole and level with a rake.

### USE A VACUUM

During Tournaments we will use a vacuum to remove large puddles along with pumping. Both Vacuum and Pumping to remove puddles will at the direction of **Facilities Director**

## DO NOT Use These Methods on Wet Fields!

- **DO NOT** use brooms or rollers to disperse puddles.
- **DO NOT** sweep a puddle into the grass.
- **DO NOT** remove muddy infield mix from the field.

All of these unfortunate techniques move infield material and leave a depression or low spot that will hold water every time it rains.



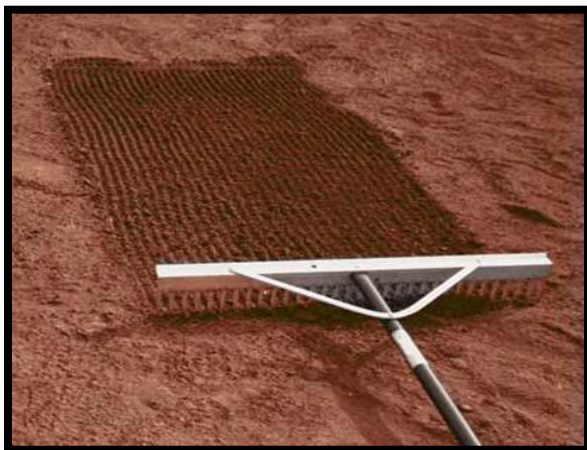


**For small or shallow puddles, use a water absorbent pillow.**

1. Allow the absorbent material to soak up the water.
2. Have a bucket nearby to wring out the pillow or sponge.
3. Empty the bucket of water off the field of play into a drain.

**After the standing water has been removed, use a rake or nail drag to loosen the infield mix so it will dry more quickly. Allow time to air dry.**

**Pull rake in a single direction to open soil. DO NOT "rake" back and forth. If water is removed, field will dry in less than a hour.**



## C. Addition of Field Drying Agents

Calcined and vitrified clay marketed under the brand names Turface, Pro's Choice, Diamond Pro, Rapid Dry, and Profile are the most common products used to assist with wet infield conditions. These products should be used judiciously for two reasons: they are an expense to the program and they change the properties of the infield mix when used abundantly.



**NEVER USE  
MORE THEN 1  
BAG OF DRYING  
AGENT TO MAKE  
A FIELD  
PLAYABLE!!!**

### Steps for Applying a Drying Agent

1. First remove as much water as possible using the pump or pillow method.
2. Use a spreader, shovel, or hand to evenly apply a thin layer of the drying agent.
3. The material may be lightly incorporated using a rake or left on top of the infield mix.

## D. Infield Grooming Techniques

1. Remove the bases and plug the base anchor sleeve before beginning any operations.
2. **Vary the dragging pattern every time the field is groomed.**
3. Scarify the field with a nail drag or needle tines.
4. Finish groom the field with a drag mat or broom. Go slowly!
5. When finished dragging, stop 5 to 6 feet before the edge of the skin and lift the drag. Shake any excess field mix off before exiting the field.
6. Exit the field in a different location each time to prevent build-up of infield mix in one location.
7. Hand rake out the pile left from the field drag.
8. Hand rake: base paths end-to-end, home plate, and the back radius of the infield.



- **DO NOT** pull the nail drag or mat into the grass for any reason.
- **DO NOT** take a nail drag or mat within 24" of the grass edge. Only hand rake edges to prevent lips from forming.
- **DO NOT** take a nail drag over home plate.
- **DO NOT** drive the nail drag or mat down base paths or around home plate on baseball diamonds with a grass infield.



## E. Skinned Infield Leveling

Baseball and Softball fields are designed with a specific slope to drain water from their surface. Underground drain pipes are virtually useless and rarely installed on ball fields. Keeping the infield slope correct will prevent puddling and therefore field closures. Players sliding, mechanical field groomers, and other factors contribute to un-level skinned infields. **A diligent approach to correcting high or low spots is the most important task of a field manager.**

### For small areas, use a leveling rake.

1. Pull the material from a high spot and deposit it in a low area.
2. If the infield mix is dry, wet the leveled area and compact it with a tamper or the grooming machine tires. Otherwise, it will not stay in place.



**For medium sized areas, use the leveling attachment of the grooming tool.**

1. Remove the bases and plug the base anchor sleeve.
2. Loosen the field material with a nail drag or needle tines.
3. Make sure the leveler is NOT in the float position.
4. Make wide sweeping turns in several directions over the area that needs to be leveled.
5. If the infield mix is dry, water the area and compact it with the tires of the grooming machine. Otherwise, it will not stay in place.



**For large areas or storm wash-outs, a box blade attachment works best. This should be coordinated with the Parks Department or outside contractor.**

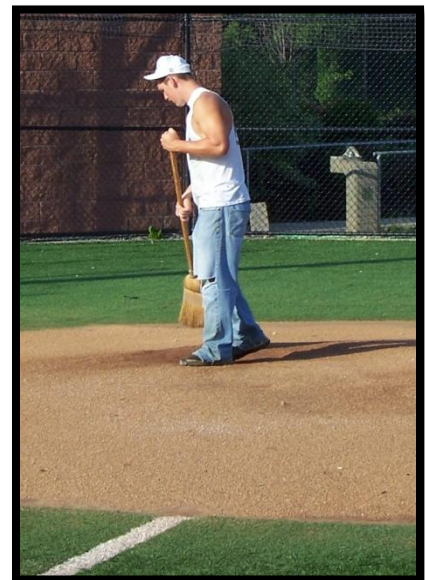
## F. Clay Repairs

Clay surfaces provide very solid, firm footing and better wear characteristics than regular infield mix for high wear areas like the pitching mound and batter's box. Making a clay repair is similar to making a repair with regular infield mix. The biggest difference with clay is that it must NOT be contaminated with any regular infield mix. **Pitching mounds and batter's boxes should be repaired every time they are used.**



### Techniques for Clay Repairs

1. Dig out and discard all loose material including infield mix, clay chunks, and field conditioners in and around the area to be repaired.
2. Sweep the area free of all minor bits of loose debris and place to the side.
3. Wet the existing clay with a flower watering can, hand held sprayer, or hose nozzle with a fine spray pattern.
4. Add new clay and compact in 2" layers. Working with clay can be tricky so follow these pointers:







a. The new clay must have enough moisture content to stick to the underlying clay base that has been moistened. Otherwise, the new clay will pop out of place and create a hazard.

b. If the clay is too sticky, wrap the tamper plate in a garbage bag to alleviate the problem.

c. Shredded, bagged clay is very easy to work with and store. It is excellent for small daily repairs.

d. Unfired clay bricks are great for large scale renovations and can be purchased by the pallet. Long term storage is not practical for bricks.

5. Add approximately ½” of new field conditioner over the repaired clay area.



## G. Grass Edge Maintenance

Regular maintenance where the skinned infield meets the grass edge will prevent the formation of a lip. After wet playing conditions, the most common player injury occurs from bad ball bounces. Lips are a major contributor to this type of player injury. Lips at the grass edge are also the primary barrier to water exiting the skinned part of the field. Water trapped on the skin will force cancellations and field closures.

### Techniques for Maintaining the Grass-to-Skin Edge



- A manual or motorized edger can be used as frequently as preferred to keep edges looking crisp.
- Monthly edging is recommended.
- Neatly rake all grass clippings out of the infield mix when edging is complete.

- Sod should be purchased and installed if edges are significantly deteriorated.
- Sod installation should only be under taken in the early spring or fall. Sod will usually require hand watering for the first year.
- The Parks Department or an outside contractor should be contacted if sod installation is desired.



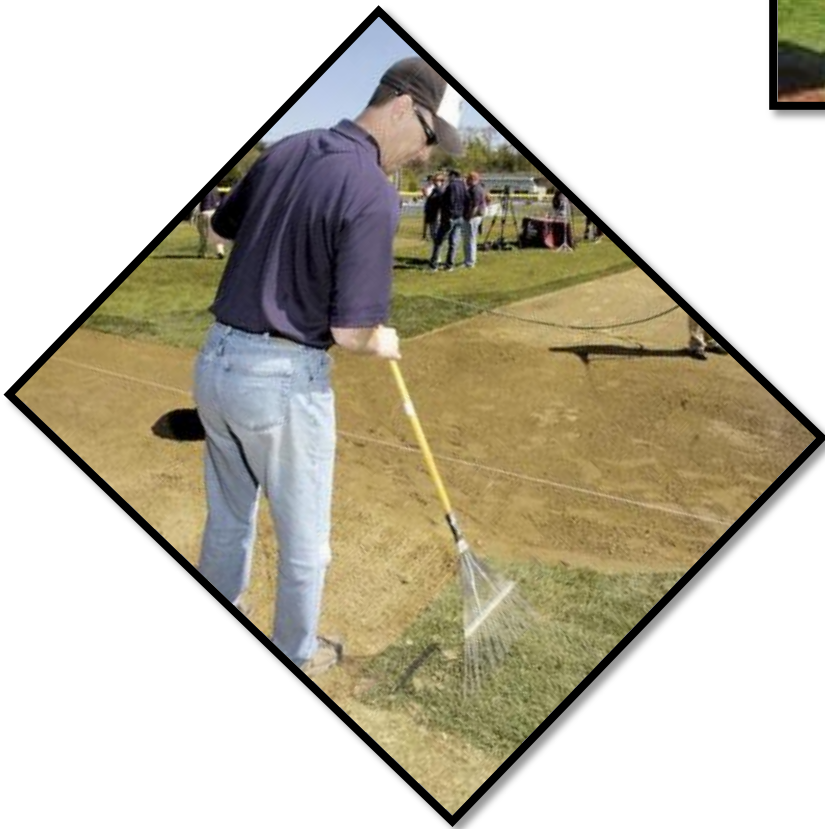


## Weekly Maintenance to Prevent Lips

- Use a backpack blower or power broom to push displaced material back into the skinned infield. This method works best when the infield mix is dry.



- Use a hose with a jet nozzle to wash the infield mix back to the skinned infield. Note that this method should only be performed when ample time is available for the skin to dry.



- Use a spring-tine leaf rake or broom and move the material back into the skinned infield. Use a leveling rake to distribute the material when edge maintenance is complete.





## H. Field Lining Techniques

- Only use “Athletic Field Marker” for foul lines and batter’s boxes on skinned infields. DO NOT substitute lime or other white materials because they may be less expensive.
- Only use marking paint that is specifically manufactured for turf.
- Always use a string as a guide line.



- Only use athletic field marker on skinned infields for important events. Overuse without removal will contaminate the infield mix and cause undesirable results.



- Remember, the entire infield foul line should be UNDER first and third base.



## E. Field Lining Techniques



- Always use a string as a guideline.



- Only use marking paint that is specifically manufactured for turf.



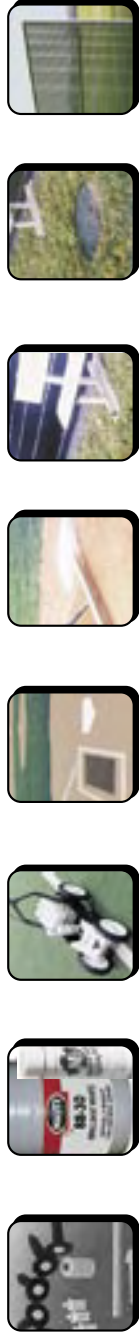
- **DO NOT** rinse paint into any drain! It violates local, state, and federal law. Move to an isolated lawn or wooded area and spray out the rinsate.



## Fast Pitch College / High School Softball Field Dimensions

Field Dimensions & Diagram for Field Layout Measurements

Note: This field diagram is provided as a courtesy service of Markers, Inc. If you have any question about this diagram, please contact your league office.



Field Lining Kits

Lining Paint

Lining Equipment

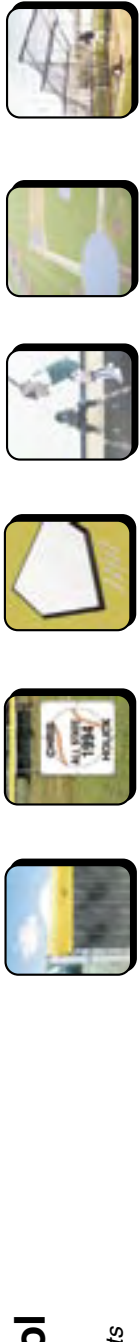
Foundation Mats

Diamond Care

Team Benches

Drain Covers

Portable Fencing



Fence Safety Cap

Outfield Banners

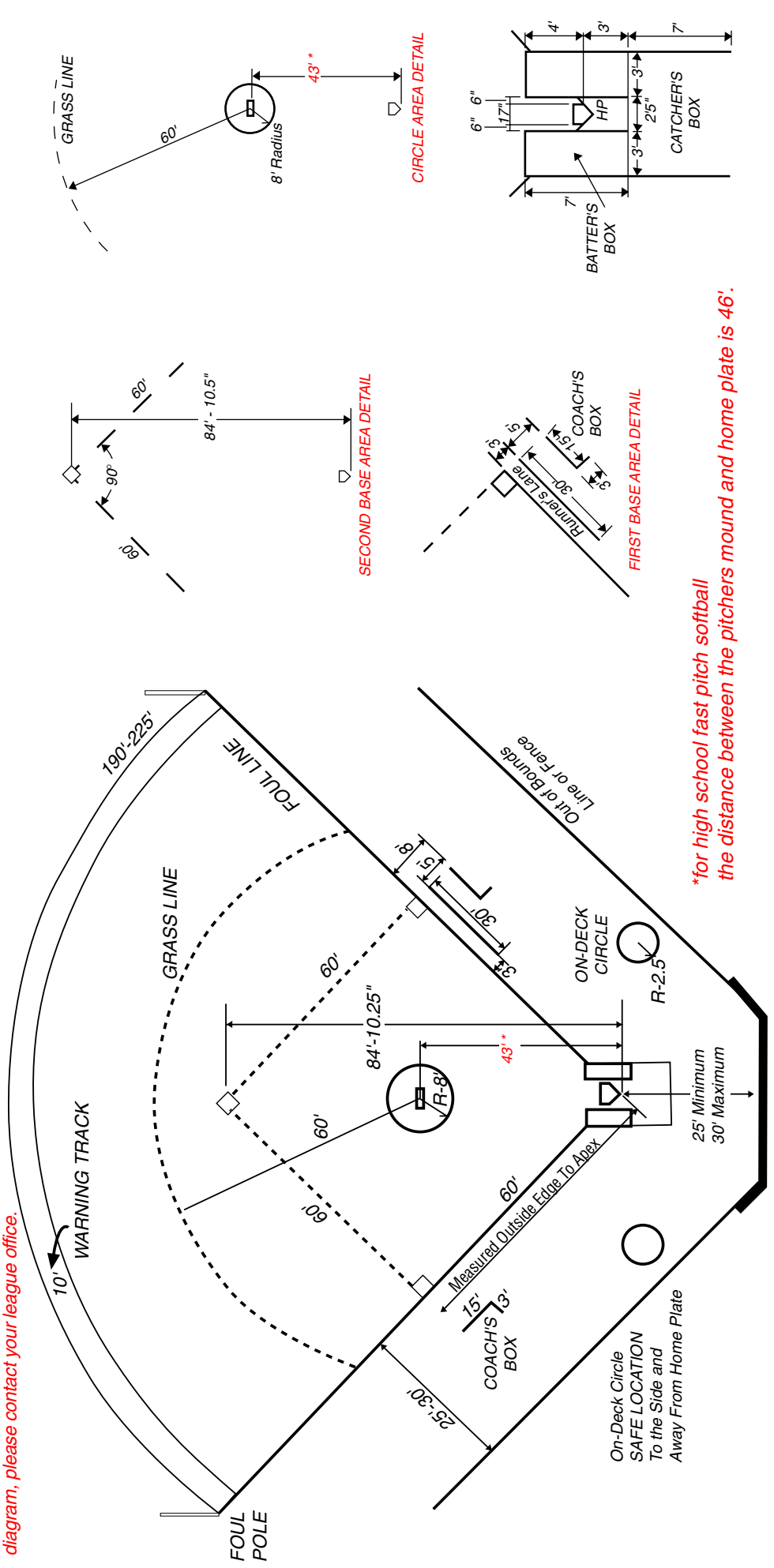
Bases & Plates

Practice Mats

Field Tarps

Batting Cages

HOME RUN FENCE



\*for high school fast pitch softball the distance between the pitchers mound and home plate is 46'.

Field Marking Lines Must Be Drawn