GOLF COURSE MAINTENANCE SPECIFICATIONS

By Robert J. Erdahl

Over the years, I have had a few of my members express more than just a passing interest in the intricacies of golf course management. They have been fascinated by everything from aerifying to verticutting, amazed at the technology involved in the irrigation system and down right confused by the chemistry of pesticides. While these members are, unfortunately, few and far between, they can present us with unusual opportunities that should be taken advantage of. Let me give you an example.

Several years ago, I had a member that fit the above description in spades. This guy wanted to know everything about golf course management. He started out by borrowing most of my books and magazines and eventually ended up spending an entire day in July with me on the golf course. I'll never forget that day. It was a disaster! Everything went wrong—a hydraulic leak on a fairway, a tee mower with a snapped axle, an irrigation controller that turned on putting green sprinklers in the middle of the day and an unscheduled, fifty person golf outing all combined for what I feared was a bad impression on my member.

To my surprise and great relief, my member's comments at the end of the day were mostly very positive. In the first place, he was amazed that I hadn't lost both my patience and temper about a hundred times during the course of the day! Secondly, he thought very strongly that if more of the members understood the complex nature of golf course management, they would be much more supportive of my programs and goals. He suggested that I increase my efforts to communicate with the membership and not be afraid to expose them to some of the more technical aspects of golf course management.

My experience with that member has spawned many different ways to communicate with my members. One of my favorites has been the development of maintenance specifications for North Shore CC. Just what are golf course maintenance specifications? Basically, they are a listing of day to day golf course maintenance practices. They detail the who, what, when and where of golf course maintenance. In order to simplify the maintenance specifications and keep them as brief as possible, the why or explanation part is left out and covered in other types of communication.

What good are these maintenance specifications? First off, they force the superintendent to analyze and organize his/her own maintenance programs as they are being written down. Sometimes you really don't understand something until you get it down on paper. Second, they can be a superintendent's best offense when dealing with members that think our job description consists of just cutting grass. Members that read my maintenance specifications almost always react the same way, "I didn't know taking care of a golf course was so complicated!" And lastly, maintenance specifications serve as the blueprint for how the golf course will be maintained. This last point needs some expansion because it is the most important reason to have maintenance specifications.

During the course of any golfing season, we are all confronted by some or all of the following questions/complaints: Why are you aerifying the greens today? Can't you cut the grass a little shorter in the roughs? All the tee blocks are in the back today! Wouldn't be great if you could respond to these situations with an answer that made it sound like you were not totally to blame! You can, provided you have a set of maintenance specifications in place that have been drawn up under the supervision of the Green Committee, approved by the Board of Directors and mailed out to all of the members. When this procedure is followed, maintenance specifications take on the illusion of being cast in stone and not subject to change due to the complaints of a few members.

At North Shore CC, we have had maintenance specifications for the past six years. During that time, the members have learned that the golf course is maintained to a predetermined standard that is subject to review and change only once a year, at the March Green Committee Meeting.

What follows, are the proposed 1995 Maintenance Specifications for North Shore CC. As you go over them, keep in mind that the target audience is my members. For that reason, I have left out detailed descriptions of fertilizer applications and make no mention at all of the types of fungicide used to prevent and cure the specified fungal diseases. I did not feel this was the proper place to discuss slow release, nitrogen fertilizers or the synergistic response when certain fungicides are sprayed together. I also did not attempt to schedule certain procedures on a specific date and make no provisions at all to reschedule procedures when the weather does not cooperate. Basically, I have tried to limit my description to the day to day workings without getting bogged down in detail that may distract and/or confuse my members.

After reading through North Shore CC's maintenance specifications, I hope you will be inspired to come up with a version for your golf course. Since all golf courses are different, I'm sure that your maintenance specifications may differ quite drastically from mine. Whatever the end result, I am convinced that maintenance specifications can help you advance both your golf course management programs and your professional image.

North Shore Country Club
1995 Golf Course
Maintenance Specifications

Putting Greens

Mow with three Jacobsen Greens King IV units equipped with 11 bladed reels and grooved front rollers.

Mowing Height	Opening Day to May 6	0.15 inch
	May 7 to May 20	0.13 inch
	May 21 to October 7	0.12 inch
	October 8 to Closing Day	0.15 inch

Speed should average a minimum Stimpmeter reading of 9.5 feet from May 21 to October 7.

Single Cut on Monday, Tuesday, Wednesday, Friday and Sunday.

Double Cut on Thursday, Saturday and for special events.

Eliminate the outside mowing pass on Monday and Friday, except when there is a special event.

Alternate mowing directions between straight, across, right to left and left to right.

Reset the outside contours in April and September.

Roll with two Jacobsen Greens King IV units equipped with Jacobsen rollers on Thursday and Saturday from May 18 to October 7.

Change hole locations daily in a set rotation that divides each green into 9 sections.

Repair scalped and sunken plugs every time the holes are changed.

Aerify with a VertiDrain Model 105-145 on April 17-19 and on September 18-20. Use 7/8 inch solid tines set to penetrate 12 inches in depth. Backfill the aerifier holes with Lakeshore Topdressing Sand.

Aerify with a Ryan Greensaire II on May 17-19 and again on August 15-17. Use 1/4 inch solid tines set to penetrate 1/2 inch in depth. A premixed blend of Lakeshore Topdressing Sand, fertilizer and Providence/Putter bentgrasses will be used to fill the holes.

Verticut every 2 weeks from April 18 to October 17 with a Jacobsen Greens King IV equipped with verticutting heads set to penetrate 1/16 inch. Alternate verticutting directions between straight, across, right to left and left to right.

Topdress every 2 weeks from April 18 to October 17 (right after verticutting) with a Vicon topdresser set to apply 1/2 cubic foot of Lakeshore Topdressing Sand per 1,000 square feet of putting surface.

Topdress after the Thanksgiving Weekend with a Vicon topdresser set to apply 3 cubic feet of Lakeshore Topdressing Sand per 1,000 square feet of putting surface.

The putting greens are closed following this topdressing.

Regulate irrigation to maintain firm putting surfaces, not soft landing surfaces.

Apply granular, nitrogen-phosphorus-potassium fertilizer in May, June, September and November.

Apply granular potassium sulfate fertilizer every 3 weeks from April 18 to November 7.

Spray with water soluble nitrogen-phosphorus-potassium-micro nutrient fertilizer every 10-14 days from April 25 to September 19.

Total fertilizer application for one season will be:

Nitrogen	2.5 pounds/1,000 square feet
Phosphorus	0.8 pounds/1,000 square feet
Potassium	5.0 pounds/1,000 square feet

Spray with "Hydro Wet" wetting agent every 3 weeks from April 25 to September 19. Application rate will be 4.0-10.0 ounces per 1,000 square feet.

Spray with insecticide as needed.

Spray with fungicides every 10-14 days from April 25 to November 14 to prevent the following turfgrass diseases:

DISEASE	CAUSAL AGENT - FUNGUS
Anthracnose	*Colletotrichum graminicola*
Brown Patch	*Rhizoctonia solani*
Dollar Spot	*Moellerodiscus spp. or Lanzia spp.*
Gray Snow Mold	*Typhula incarnata*
Leaf Spot	*Drechslera Species*
Pink Snow Mold	*Micrododhium nivalis*
Pythium	*Pythium Species*
Summer Patch	*Magnaporthe poae*
Take-All-Patch	*Gaeumannomyces graminis*
Yellow Tuft	*Sclerophthora macrospora*

Collars

The collars are maintained to putting green specifications with the exception of the following mowing practices:

Mow with two Jacobsen Greens King IV units equipped with 9 bladed reels and grooved front rollers.

Mowing Height	Opening Day to May 15	0.44 inch
	May 16 to September 15	0.38 inch
	September 16 to Closing Day	0.44 inch

Mow 3-5 times per week, depending on the rate of growth.

Tees

Mow with three Jacobsen Greens King IV units equipped with 9 bladed reels and grooved front rollers.

Mowing Height	Opening Day to May 15	0.44 inch
	May 16 to September 15	0.38 inch
	September 16 to Closing Day	0.44 inch

Mow 3-5 times per week, depending on the rate of growth.

Alternate mowing directions between straight, across, right to left and left to right.

Reset the outside contours in April and September.

Change tee block locations daily in a set rotation.

The Women's tee block locations are the front, middle and rear of the Red teeing area.

The Men's tee block locations are equal size sections (each section is 5-8 yards long) of the White teeing areas. Two sections are ahead of the round, brass yardage marker and two sections are behind the marker.

The Championship tee block locations are the front half and the rear half of the Blue teeing areas.

Repair divots every week with a mixture of Lakeshore Topdressing Sand and Providence bentgrass.

Aerify in early May with a VertiDrain Model 105-145 equipped with 1/2 inch solid tines set to penetrate 12 inches in depth. The aerifier holes are not backfilled.

Aerify in early June and again in early August with a Ryan Greensaire II. Use 5/8 inch hollow tines set to penetrate 3 1/2 inches in depth. On the Blue Nine, cores will be chopped with a Jacobsen Greens King IV unit equipped with verticutting heads set to penetrate 1/4 inch and then dragged back into the aerifier holes. On the Red and White Nines, cores will be removed with a Cushman Core Harvester and the aerifier holes will be filled with Lakeshore Topdressing Sand. Overseeding with Providence bentgrass will take place in conjunction with these aerification operations.

Verticut every 2 weeks from May 1 to September 19 with a Jacobsen Greens King IV equipped with verticutting heads set to penetrate 1/16 inch. Alternate verticutting directions between straight, across, right to left and left to right.

Topdress every 2 weeks from May 1 to September 19 (right after verticutting) with a Vicon topdresser set to apply 3/4 cubic foot of Lakeshore Topdressing Sand per 1,000 square feet on the Red and White Nines and 3/4 cubic foot of an 80/20 blend of Lakeshore Topdressing Sand and Colby Peat Moss to the Blue Nine.

Regulate irrigation to maintain firm, uniform teeing surfaces.

Apply granular, nitrogen-phosphorus-potassium fertilizer every 3 weeks from May 2 to October 31.

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Spray with water soluble, nitrogen-phosphorus-potassium-micro nutrient fertilizer every 2 weeks from May 2 to October 31.

Total fertilizer application for one season will be:

Nitrogen	3.5 pounds/1,000 square feet
Phosphorus	1.0 pounds/1,000 square feet
Potassium	5.0 pounds/1,000 square feet

Spray with "Hydro Wet" wetting agent every 3 weeks from April 25 to September 19. Application rate will be 8.0 ounces per 1,000 square feet.

Spray with insecticides and herbicides as needed.

Spray with fungicides every 14-21 days from May 2 to October 31 to prevent the fungal diseases of turfgrass that are listed under putting green specifications.

Approaches

Mow with two Jacobsen Greens King IV units equipped with 9 bladed reels and grooved front rollers.

Mowing height will be 0.44 inch all season.

Mow 3-5 times per week depending on the rate of growth.

Alternate mowing directions between straight, across, right to left and left to right.

The width of the approach will be a minimum of 50% of the distance between the two sand bunkers that are in front of each green. In the absence of two sand bunkers, the width of the approach will be a minimum of 40 feet wide.

Reset the outside contours in April and September.

Aerify in early May with a VertiDrain Model 105-145 equipped with 1/2 inch solid tines set to penetrate 12 inches. The aerifier holes are not backfilled.

Aerify on May 17-18 and again on September 12-13 with a Ryan Greensaire II using 5/8 inch hollow tines. Chop the cores up with a Jacobsen Greens King IV unit equipped with verticutting units set to penetrate 1/4 inch and sweep the soil back down into the aerifier holes with a Gandy sweeper. Overseeding with Providence bentgrass will take place in conjunction with these aerification operations.

Verticut every 2 weeks from May 16 to September 26 with a Jacobsen Greens King IV equipped with verticutting heads set to penetrate 1/16 inch. Alternate verticutting directions between straight, across, right to left and left to right.

Regulate irrigation to avoid excess soil moisture that enhances soil compaction in these high traffic areas.

Apply granular, nitrogen-phosphorus-potassium fertilizer in May, June, August, September and October.

Spray with water soluble, nitrogen-phosphorus-potassium-micro nutrient fertilizer every two weeks from May 16 to September 26.

Total fertilizer application for one season will be:

Nitrogen	3.0 pounds/1,000 square feet
Phosphorus	1.0 pounds/1,000 square feet
Potassium	5.0 pounds/1,000 square feet

Spray with "Hydro Wet" wetting agent in May, June, July and August. Application rate will be 6.0 ounces/1,000 square feet.

Spray with insecticides and herbicides as needed.

Spray with fungicide every 14-21 days from May 23 to September 26 to prevent the turfgrass diseases listed under putting green specifications.

Fairways

Mow with four Jacobsen LF100 units equipped with 7 bladed reels, grooved front rollers and down pressure attachments.

One of these fairway units is equipped with a Jacobsen "Turf Groomer" attachment that verticuts the fairways while they are being mowed. This unit will be rotated between the Red, White and Blue Nines to provide a minimum of one verticutting per week.

Mowing height will be 0.44 inch all season.

Mow 3-5 times per week depending on the rate of growth.

Harvest the clippings from May 18 to September 15. Harvested clippings will be evenly distributed in the rough.

Alternate mowing directions between straight, across, right to left and left to right.

Reset the outside contours in April and September.

Aerify selected areas in mid May with a VertiDrain Model 105-145 equipped with 1/2 inch solid tines set to penetrate 12 inches. The aerifier holes are not backfilled.

Aerify in early May and in late September with a Ryan GA60. Use 3/4 inch hollow tines set to penetrate 4 inches in depth. Cores will be chopped with two Jacobsen Turfcat mowers equipped with out front flail mowers set at soil level and the soil will be dragged back into the aerifier holes with a Fuerst drag mat. The remaining thatch will be blown off of the fairways into the rough and collected for disposal. Overseeding with Providence bentgrass will take place in conjunction with these aerification operations.

Repair divots on the par 4 and 5 fairways every two weeks with a mixture of native soil and Providence bentgrass.

Utilize the double-row irrigation system to conserve water while accurately irrigating each fairway area according to its individual water requirement.

Apply granular, nitrogen-phosphorus-potassium fertilizer in June, August, September and November.

Total fertilizer application for one season will be:

Nitrogen	2.5 pounds/1,000 square feet
Phosphorus	0.6 pounds/1,000 square feet
Potassium	5.0 pounds/1,000 square feet

Spray with "Hydro Wet" wetting agent in May, June, July and August. Application rate will be 6.0 ounces/1,000 square feet.

Spray with insecticides and herbicides as needed.

Spray with fungicides every 14-21 days from May 23 to September 26 to prevent the turfgrass diseases listed under putting green specifications.

Spray with the turfgrass growth regulator "Primo" every 3 weeks from May 10 to September 10. Application rate will be 0.25 ounces/1,000 square feet.

Roughs

Mow with two Howard Price 1260 units.

Mowing height will be 3.0 inches all season.

Mowing schedule will depend on the rate of growth. Some rough areas require mowing 3 times each week and other rough areas require mowing twice a month.

Mow a 5 foot wide collar rough around each fairway with a Ransomes 180 equipped with 5 bladed cutting units and grooved front rollers. This collar rough will be mowed 3 times a week at a season long height of 1.5 inches.

Aerify in October with a Ryan Rennovaire using 3/4 inch hollow tines. Break up the cores and drag the soil back into the aerifier holes with a Fuerst drag mat.

Apply a granular, nitrogen-phosphorus-potassium fertilizer in late September.

Total fertilizer application for one season will be:

Nitrogen	2.0 pounds/1,000 square feet
Phosphorus	0.6 pounds/1,000 square feet
Potassium	1.0 pounds/1,000 square feet

Spray with herbicide as needed. The spraying of herbicides on the rough areas is limited due to the danger of spray drift to the surrounding residential areas.

All natural areas (unmaintained areas of bluegrass/fescue) will be burned in March to recycle nutrients and control weeds.

Selected natural areas will be replanted to a mixture of prairie flowers and grasses.

Green and Tee Banks

Mow with three Toro 216D units equipped with five bladed reels and sectional front rollers.

Mowing height is 2.0 inches all season.

Mow 3-4 times per week depending on the rate of growth.

Aerify high traffic areas in early October with a Ryan Greensaire II unit using 5/8 inch hollow tines. Break up the cores and drag the soil back into the aerifier holes with a Fuerst drag mat.

Irrigate the green banks with the specially placed, part circle sprinklers that surround each green.

Tee banks receive their irrigation from the sprinklers located in the tees.

Apply a granular nitrogen-phosphorus-potassium fertilizer in May, June, August and October.

Total fertilizer application for one season will be:

Nitrogen	2.5 pounds/1,000 square feet
Phosphorus	0.6 pounds/1,000 square feet
Potassium	5.0 pounds/1,000 square feet

Apply herbicides as needed.

Sand Bunkers

Machine rake with three Toro Sand Pro 3000 units.

Machine rake with hand finishing on Tuesday - Sunday.

Machine will not get closer than 2 feet from the edge of the bunkers during raking.

The 2 foot edge of the bunkers will be hand raked to maintain the continuity of the edge.

All bunkers will be hand raked for special member events and outside tournaments.

Edging will be done with hand edging shovels and string trimmers.

Bunker rakes will be located inside the bunkers and be a minimum of 20' apart around the perimeter of the bunkers.

Washouts from heavy rain will be repaired and poorly drained bunkers will be pumped out as soon as possible following a storm.

Experiment with the application of the turfgrass growth regulator "Primo" around the edges of the bunkers.

Trees

Kill grass around the base of trees with "RoundUp" herbicide.

Fertilize, mulch and water as needed.

Prune and remove trees as needed.

Ponds

Contract with Applied Biochemists, Inc. to control algae and weeds.

Paint red and yellow water hazard lines every 2 weeks.

Maintain maximum water levels in all ponds.

Maintain a minimum 6' wide buffer zone of tall native vegetation between the edge of the water and any maintained turfgrass areas.

Practice Tee

Mow with one Ransomes 180 unit equipped with seven bladed reels and solid front rollers.

Mow every other day at a height of 0.75 inch.

Aerify with a Ryan Greensaire II equipped with 5/8 inch hollow tines every 3 weeks from April 24 to October 23.

Cores will be chopped with a Jacobsen Turfcat mower equipped with an out front flail mower set a soil level and the soil will be dragged back into the aerifier holes with a Fuerst drag mat.

Each aerification will include fertilization and overseeding with a combination of Providence bentgrass and perennial ryegrasses.

Ten artificial grass mats will be located on the front tier throughout the entire season. The mats must be used for Junior Lessons, the week following the reseeding of the tee, when conditions are too wet to use the tee and any other time the Golf Course Superintendent feels it is necessary.

Cart Control

Paint yellow lines around the areas surrounding the greens to keep carts a minimum of 50' away from the greens. Vary the location of the lines every week to prevent excess wear.

Use stakes, ropes, arrows and signs when necessary.

USGA REGIONAL CONFERENCE

Maple Bluff Country Club, Madison, Wisconsin

Morning Session 8:00 A.M. to 12:00 P.M. Afternoon Session 1:00 p.m. to 4:00 p.m.
8:00 Registration 8:30 Welcome

MORNING SESSION

MODERATOR: Monroe Miller, Superintendent, Blackhawk CC

8:45 Introduction: History of the Environmental Research Program
Jim Snow, National Director, USGA Green Section

9:00 How Turf and Golf Courses Benefit the Environment
BobVavrek, Agronomist, North Central Region, USGA Green Section

9:30 A Golf Course's Effect on People and Wildlife, *Jim Snow*

10:00 Break

10:15 The Issue of Water Quality, *Jim Snow*

11:00 Ideas for Maintaining Environmentally Friendly Golf Courses
Bob Brame, Director, North Central Region, USGA Green Section

11:30 Questions and Answers, *Panel*

12:00 Lunch

AFTERNOON SESSION

MODERATOR: Mr. Gene Haas, Executive Director, Wisconsin State Golf Association

1:00 History of the Green Section, *Jim Snow*

1:30 Welcoming Women to Golf
Heidi Olson, Manager, Northern Region, USGA Women's Regional Affairs

2:15 Break

2:30 Maintaining the Challenge: Regulating Implements and Balls
James Sweeney, Manager, North Central Region, USGA Regional Affairs

3:15 Choosing the Perfect Grass Type and Cultivar for your Playing Surfaces
Frank Rossi, Phd., Associate Professor, University of Wisconsin

Registration Form

USGA REGIONAL CONFERENCE • THURSDAY MARCH 9, 1995

Enclose $40.00 for each luncheon. ($35.00 for representatives of USGA Member Clubs/Courses.) Advance reservation payable to United States Golf Association. Fee must accompany advance reservation. Registration at the door — $50.00, if space is available.

Please mail forms with checks payable to USGA to:
James E. Sweeney, USGA Regional Affairs, 858 Celestial Ct., Cresent Springs, KY 41017

Names/Titles (Club President, Manager, Superintendent, Professional)
Name Title

_____

_____

_____

_____

_____

Club/Course _____

Address _____ Telephone _____

City _____ State _____ Zip _____