

Golf Course Maintenance Programme – Pat Suttle



1. Tees

Tees to be –

i. Level across the playing surface

ii. Level or sloping at no more than 1: 100 from front to rear

iii. Divotting: grass cover on playing surfaces to be maintained by regular divotting using a mix of 1 part Natgrow: 2 parts topdressing sand + grass seed (100% Slender Creeping Red Fescue – mix of 3 cultivars from BSPB current Turfgrass Seed publication

Divotting Frequency – 2+ times per month

iv. Cutting: Tees to be cut using a tees/surrounds triplex cylinder mower

Month/Months	Height of Cut (mm)	Frequency
Dec, Jan, Feb		1 per month
Mar, Apr, Oct, Nov		1-2 per week
May, Sept		1-2 per week
June, July, August		2 per week

v. Fertiliser Applications

Fertiliser to be applied to maintain constant growth and recovery from wear and divotting

2 x applications of 4 month slow release fertiliser such as 24 – 5 – 13 or similar in mid - late March and September. Light applications of summer fertiliser in late summer may be required if growth rates are high.

vi. Verticutting , Topdressing and Overseeding

Verticutting to be undertaken 4 times in the May - September period. Topdressing with 2 – 4 kgs/m² Sand to follow each verticutting.

viii. Markers: All Markers to be maintained in a tidy condition with clear lettering/colours

ix. Banks of Tees

Gently sloping banks to be cut weekly in summer.

Steep banks to be cut regularly so as not to interfere with play.

x. Hollow Coring and Vertidrainning

Tees to be hollow cored once per year (before May) using 12mm tines at 100mm centres penetrating to 50mm depth.

Tees to be vertidrainned once per year (Sept/Oct)

Both operations to be followed by topdressing with 3 - 4kgs topdressing sand/m²

xi. Weed Control as per fairways

2. Markers

A. All areas of Ground Under Repair to be marked with –

i. Line mark enclosing the area

ii. GUR sign

B. Course Boundary to be marked by a line mark / line of stakes c. 700mm high painted white where appropriate.



3. Litter Control and Collection

ii. Signs “ Please put all litter in your golf bag and dispose of at your home”

4. Pathways

i. Stone pathways (DOE 804) to be topped up with 0 – 3 mm grade crushed stone once per year to make level

ii. Stone pathways to be edged once per year where appropriate

iii. Grass pathways to be fertilised as per tees

iv. Cutting as per fairways

v. Worn areas on pathways to be resodded once per year in autumn using site sod

vi. Aeration: Pathways to be aerated twice per year in late Spring and mid autumn using a Vertidrain or Shockwave (Immants).

V11. Weed Control as per fairways

vi. Topdressing with sand to a depth of 6mm to be undertaken once per year during growing season



5. Fairways

i. Cutting

To be cut using a ride on multi head cylinder mower

Frequency and Heights

Months	Frequency (per week)	Height of Cut
June, July, August	1 – 2	8 – 15mm
Mid April, May, September, Mid October	1	10 – 20mm
Mid March – Mid April, Mid October – Early November	½ - 1	15 – 20mm
Mid November - Mid March	½ - as required	15 – 30mm

ii. Striping to be agreed with Chairperson of Green

e.g.

Two stripes across width of fairway

Alternative stripes to coincide with width of fairway mower

Diagonal striping to be undertaken for 2 – 4 competitions/events per year

iii. Fertiliser Applications (no grass collection/clipping to fly)

Soil test every 5 years to establish fertility

Alternatives

One application per year of NPK slow release fertiliser such as 24 – 5 – 12 at 300kgs/ha

One application of Nitrogen only fertiliser (P and K values in soil test satisfactory)

No overall application – targeted applications to weak areas of grass cover – narrow points, high spots etc.

iv. Aeration

Aeration with Vertidrain or Linear Aerator on all areas of high/concentrated wear in mid Autumn

v. Weed Control

Areas to be sprayed 1 – 2 times per year using products containing appropriate active ingredients to control the range of weeds presents on the fairways

e.g.

2,4 D, MCPA – main body of broadleaved weeds

Mecoprop P - clover, dock

Florasulam, Fluroxpyr, Clopyralid – Mouse ear chickweed, Leguminous species

Dicamba, Dichlorprop – Rose family weeds

Pinoxaden - specialist control of Perennial Ryegrass in Fescue, Annual Meadowgrass swards

Use of products to ensure active ingredients protected from rain wash-off

Timing of herbicide applications to coincide with high growth to ensure effective control and rapid recolonisation by grass of bare areas left by dead weed – i.e. adequate moisture and nutrition.

Normal applications in mid April - mid June

vi. Topdressing with sand

Applications of sand to be undertaken 1 time per year/two years. Sand to be spread to a depth of 6mm during the growing season Mid April – early October

x. Divotting: Divotting to be undertaken 1 time per week



7. Rough in Play

i. Rough to be cut using a ride on multi head rotary mower

ii. Cutting Height and Frequency

Month/s	Frequency	Height of Cut
Nov, Dec, Jan, Feb	As required	
March – mid April, October	1 time per week/fortnight	
Mid April - end Sept	1 – 2 times per week	

iii. Weed Control : As per fairways

8. Bunkers

In normal circumstances -

Where a ball lands on the face of a bunker it should roll to the base of the bunker in dry conditions.

Where a ball lands in the base of a bunker it should penetrate the surface to half the diameter of the ball

i. Raking

Raking to be undertaken daily / 5days/6 days per week

ii. Edging

Bunkers to be edged once every three weeks during the growing season and once during the dormant season using an edging shears/trimmer

Alternatively bunkers to be edged twice during the growing season using a spade/half moon

Alternatively bunker edges maintained using an application of the herbicide

iii. Rakes to be located in/at each bunker as agreed

iii. Annual renovation programme to be agreed e.g.

Bunkers to be renovated annually as required by –

Loosening to facilitate drainage

Renovation/improvement of drain in bunker base

Whacking using a compactor to firm sand in base of bunker

Topping up or replacement of bunker sand



9. Aprons/ Approaches

i. Cutting

Height intermediate between fairways and green e.g 8mm

Frequency as per tees

ii. Aeration

To be hollow cored once per year using 15mm tines at 75mm centres followed by topdressing with sand at 4 – 6 kgs/m²

To be vertidraind once per year followed by topdressing with sand at 4 – 6 kgs/m²

iii. Topdressing

Topdressing to be undertaken 2 times per year during the growing season

iv. Overseeding

Aprons to be overseeded as per August overseeding of greens (undertake in September)

v. Irrigation: Aprons to be irrigated as per tees

vi. Fertiliser applications as per tees with a greens summer liquid fertiliser application after overseeding and summer topdressings

vii Verticutting as per tees

10. Surrounds

Entry and exit points from greens to be maintained as per aprons

i. Cutting: as per tees

ii. Fertiliser applications – one application in spring as per tees



11. Greens

i. Cutting

Month/s	Frequency*	Height of Cut**
Dec, Jan, Feb	1 – 2 times per week	4.50 – 6.50mm
March – Mid April, Mid Sept - Oct	4 times per week	3.30 – 5.50mm
Mid April – Mid May, Early – Mid Sept	5 times per week	3.00 – 5.50mm
Mid May - August	6/7 times per week	2.00 – 5.00mm

*Frequency is weather dependant

** Dependant on weather, grass species, management programme

Mower type: Greens triplex cylinder, Pedestrian cylinder

ii. Grooming

Normally only used during growing season

Height Setting: 1.50mm below to same as Height of Cut

Cease use in stress periods for grass

iii. Nutrition

Rates of Application vary depending on management programme

Nitrogen: 60kgs – 230kgs N/ha/year

Phosphorus: 0 – 46kgs P₂O₅/ha/year

Potassium: 60 – 300kgsK₂O/ha/year

Normally a programme will include:

2 x Granular applications

3 – 8 applications of fertiliser in liquid form

Minor Nutrient(trace element) applications are normally included in all sand constructed greens

Nutrient programmes are modified based on weather conditions, disease pressure, grass clipping measurements, green speed

iii. Hole changing

Hole Changing is undertaken 1 per week

iv. Growth regulator is applied every 2 – 4 weeks depending on weather and growth

v. Verticutting*: undertaken every 7 – 14 days during the growing season depending on management programme

* Note: Some management programmes exclude verticutting

vi. Aeration

Hollow Coring*: Greens to be hollow cored 2 times per year in Mar/April and Sept/Oct. Coring to be followed by topdressing with 4 – 6 kgs/m² topdressing sand. Nutrient application/fungicide application may be required 3 – 5 days prior to the operation.

Solid tine aeration: to be undertaken every 3 weeks during the growing season and every 6 weeks during the dormant season under suitable ground conditions.

*Note: a. Hollow coring is excluded in some management programmes

b. the timing of coring may be moved into the May and August periods in Creeping Bentgrass greens or for commercial reasons as recovery will be more rapid

Vertidrain/Linear Aeration: where there is severe compaction (vertidrain) or thatch (linear aeration) may be considered as part of an aeration programme

v. Rolling: rolling using a greens roller will speed up greens and can be used as a substitute for cutting. Only used during the growing season.

Frequency; 2 – 3 times per week and after disruptive operations such as solid tine aeration

vi. Fungicide applications: Can be applied at the first sign of disease symptoms on the green or as part of a protectant once every 4 – 6 weeks during periods when the grass is susceptible to disease (mainly in the September – December period)

vii Insecticide Applications: Applied to greens when the pest has been observed or where bird activity indicates the presence of pests such as Leatherjacket. Insecticide applications may not be required where the history of damage to greens is negligible

viii Wetting Agent: A programme of wetting agent applications (4 – 6 week intervals during the growing season) to be undertaken commencing in late March/early April to be undertaken to ensure that water penetration through the green surface is even.

ix. Irrigation: Greens to be irrigated to maintain healthy grass growth. Greens to be maintained in as firm and dry a condition as possible consistent with healthy grass growth. No more than 3mm of irrigation to be applied in a single watering.

Where possible hand watering of dry/high spots on greens to be undertaken during periods of hot dry weather to maintain green quality and grass growth

x. Consider Option of Overseeding: to be undertaken in late August – early September to introduce superior grass species to be green sward using a specialist seed drill

Links Greens: Mix of Slender Creeping Red Fescue cultivars

Parkland Greens: Creeping Bentgrass or Browntop Bentgrass or Bent/ Fescue mix depending on management programme

xi. Topdressing: light topdressing of sand (0.50 – 1.00kg/m²) to be undertaken after solid tining (summer) and as often as possible (2 -3 week intervals) during the growing season

xii. Weed Control: Hand removal is the most appropriate method on greens for broadleaved weeds. The use of Pinoxaden (herbicide) for Perennial Ryegrass control can be considered on links greens



12. Course Boundaries

- i. Boundary to be inspected annually or following a report of damage/trespass
- ii. Course boundaries to be maintained to secure the property of the golf club.
- iii. Fences/walls to be repaired to prevent trespass by people or livestock on to the course

13. Tree and Woodland Management

- i. Weed control: the base of individual trees in play to be maintained vegetation free for a distance 200mm out from the base of the tree using 1/2 applications of Glyphosate or Glufosinate Ammonium per year
- ii. All trees to be pruned annually where appropriate to facilitate play and course maintenance e.g. raising the crown of young trees
- iii. All plantations to be maintained weed free until full ground cover has been achieved by the trees
- iv. All stakes and tree ties to be inspected annually and removed where appropriate
- v. All strategic mature trees to be inspected every three years to maintain their integrity and develop tree surgery programmes where appropriate
- vi. All leaves from broadleaved trees to be collected/blown off areas of play 3 – 4 times during the Autumn/early Winter. Leaves to be composted where appropriate
- vii. Evergreen tree leaves to be blown/collected regularly throughout the year e.g. pine needles



14. Shrub, Hedgerow and Scrub Management

i. All hedgerows to be maintained appropriately –

All hedgerows to be cut outside the bird nesting season as per Ministerial Regulations

i. Boundary hedgerows to be cut once per year to maintain them in a livestock proof condition.

ii. Ornamental/Physical Barrier Hedges to be cut 1/2 times per year to maintain their integrity/density/flowering pattern

iii. All shrubs/ areas of scrub in play to be maintained to facilitate play and/or ball retrieval e.g cutting back of gorse every 3 - 4 years

15. Grassland out of Play

Grassland out of play to be maintained appropriately –

As a contrast to the maintained grassland of the golf course

To provide cover and food sources for wildlife

For biodiversity

For the visual beauty of the wildflowers and grasses

For safety – to maintain a safe distance between holes

Maintenance:

- i. Cutting at regular intervals to encourage a range of different plant types
- ii. Cutting and harvesting of grass
- iii. Disposal of grass



16. Landscaping

i. Summer Bedding Flowers

Cultivate bed for planting in early June

Rake and level.

Apply 30g/m² Golf green summer fertiliser

Plant at spacings to ensure rapid coverage of the soil by the plants (100 – 200mm apart)

Water in well after planting – water as required during season

Remove plants and replant with Viola and Primrose in October for winter colour

ii. Hanging Baskets

Purchase filled baskets. Ensure wetting agent included in compost

Water as required

iii. Shrub Beds

Edge beds 2 times per year.

Prune 2 times per year to encourage flowering

Spray with glyphosate(directed) and/or Glufosinate Ammonium(directed) twice a year for weed control

iv. Lawns

Maintain as per tees

v. Weed Control in Car Parks

Spray all surfaces subject to weed infestation twice a year with a total herbicide. Use sprayer that is not used on the golf course

17. Irrigation System

i. Seasonal Check: System to be commissioned at the start of the season to include -

Submersible pump	Storage tank and float valve	Circulation pump/s
Pressure gauges	Control Board/PC Operation	Valves and Decoders
Pop up Sprinklers	Programmes	Pipework

ii. Water testing for Conductivity, Sodium concentration, pH at regular intervals where required

iii. Checking of operation at each station on the course to confirm watering events

iv. Daily checking at control board/PC during watering season to confirm programme completion from previous night

v. Repair of leaks, cables, replacement of damaged pop-ups

vi. Edging of sprinkler heads three times per year

18. Drainage

i. Monitoring after flooding events to measure water depth , extent of flooded areas and water levels at outfalls

ii. All open drains and ditches to be cleaned annually to maintain the levels at drain bases and maintain the water table at as low a depth as possible

iii. Cutting of banks of drains using Flymo or Strimmer at 2 week intervals during the growing season where in direct line of play. Other banks to be cut once a month during the growing season

iv. Monitoring of the integrity of embankments at rivers/sea where a danger of inundation exists every six months

v. Checking on operation of non return valves(flap gates) and removal of nearby debris each week

- vi. Vertidrainage/Linear aeration of compacted areas as they occur
- vii. Preparation of drainage plan annually for implementation the following year

19. Environmental Management and Monitoring

To be developed

20. Practice Facility

- i. Driving bays to be cleaned daily
- ii. Balls to be collected daily and placed in washer
- iii. Flags and distance markers to be cleaned and replaced as required
- iv. Natural Teeing grounds to be maintained as per tees
- vi. Landing area to receive minimal fertiliser applications when required
- vii. Landing area to be sprayed for weeds annually

21. Course Furniture and Facilities (incl. toilets)

- i. All furniture to be maintained as per manufacturers recommendations
- ii. All seats to be painted every third year
- iii. All shelters to be painted every 5 years where required
- iv. All course toilets to be cleaned daily

23. Weather, Environmental and Performance Monitoring

- i. Weather to be monitored daily

Rainfall and Min /Max temperatures

Weather station if available to record all measurements to a PC

- ii. Water table level to be monitored as required
- iii. Irrigation water conductivity to be measured weekly in growing season
- iv. Green moisture content to be measured regularly in periods of drought and fortnightly during growing season
- v. Green speed to be measured regularly

vi. Soil tests for nutrients to be taken on greens, tees, fairways, approaches and surrounds annually.

24. Health and Safety

i. Safety statement for the golf course to be updated annually

ii. All staff to wear PPE

iii. All machinery to be regularly maintained

iv. All staff to be given induction training where required in the operation of the course and hazards that may be encountered

v. All injuries to staff to be recorded and reported where appropriate

vi. Health and Safety Update to be undertaken by all staff once every 2 years

vii. Triple rinsing and storage of all pesticide containers after use

viii. Disposal of all used pesticide containers using approved agency

25. Staff Management

i. All staff attendance to be monitored

ii. Records of all absences and sickness to be kept

iii. All incidents of misconduct to be recorded

26. Staff Training

i. All staff to receive manual handling training every three years

ii. A minimum of three staff members to receive training in first aid and the operation of a defibrillator

iv. Appropriate Staff to be trained as Sprayer Operators

v. An apprentice to be recruited for training as a greenkeeper

vi. Golf Course management training to be provided for senior course staff

vii. Staff training programme in machinery maintenance to be established

27. Staff Appraisal

i. All staff to receive an annual appraisal at which their performance and future will be discussed

28. Building Maintenance

i. Golf course operations building to be maintained

ii. All food preparation areas, canteens, toilets and showers to be maintained to the appropriate standard

- iii. Security system to be maintained
- iv. All stores to be kept tidy and secure (esp. pesticide store)
- v. Wash bay to be maintained and cleaned as per manufacturers recommendations
- vi. Fuel storage to be secured

29. Machinery Management and Maintenance

To be developed

30. Course Maintenance Budget Preparation

- i. Appropriate headings to be prepared for Golf Course Budget
- ii. Golf Course budget to be prepared in conjunction with the secretary manager/ green committee chairperson and course superintendent
- iii. Projected cash flow to be prepared in conjunction with the secretary manager
- iv. Monthly updates on cash flow under each heading to be provided for the course superintendent and green committee chairperson

31. Orders for Consumables Items

- i. Order book and verification of delivery documents to be operated by the course superintendent and deputy.

32. Stores Management (incl. Pesticide Storage and Usage)

- i. Inventory of stores items to be maintained
- ii. Records of use of all consumables to be maintained

33. Liaison with Green Committee Chairperson and Committees

- i. Monthly report on the golf course to be prepared with the chairperson of the green committee
- ii. Green Committee Chairperson and Course Superintendent to meet regularly to discuss ongoing issues and update each other on matters arising

34. Liaison with State Agencies and Local Authorities

- i. Course Superintendent to meet with State Agencies and Local Authorities as required by the club.

35. Waste Management

Pat Suttle March 2016