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Witney Town Council

Advisory Report on West Witney, The Leys, Burwell QE2, Windrush Place & King George's Rec Grass Sports Surfaces

Report date: 22nd October 2026

Consultant: Stella Rixon

Date of visit:	23rd September 2026
Visit objective:	Agronomic inspection of the grass sports playing surfaces
Present:	Nicholas Brown – Operations Manager, Stella Rixon – STRI Senior Agronomist
Weather:	Sunny, some cloud, 22°C. 2026 has recorded the hottest and driest summer on record with a 6-month drought from April – early October and very low rainfall.

Visit summary

- **General** - Witney Town Council's grass sports facilities compare very favourably with similar local authority facilities and are some of the best I have seen, reflecting the good management currently in place and also a good soil type that both drains well and retains some moisture in drought. Overall condition is good on all surfaces, especially considering the extended drought this summer. Current maintenance programmes delivering strong results across bowling greens, football pitches and the West Witney cricket square.
- **Bowling greens** - are performing particularly well, showing excellent grass cover, rooting and resilience to the drought and are some of the best I have seen at the end of what has been a very difficult summer. Maintenance is working well and only fine-tuning of additional aeration of rink ends/perimeters and management of worm casting and tree root intrusion are recommended. Annual organic matter testing is recommended for bowling greens to inform renovation programmes.
- **Football pitches** - are generally in good condition, supported by effective aeration, topdressing, overseeding and fertiliser programmes enabling the pitches to have retained good grass cover compared to many sites. These practices should continue.
- However, climate change, wetter winters and worm casting are increasing pressures on natural turf, making drainage management and wear distribution more important. Priority should be given to spreading wear by rotating pitch locations, using mobile goals, encouraging off-pitch warm-ups and balancing usage across sites.
- West Witney is performing well overall, though cricket outfield areas would currently benefit from additional overseeding, nutrition, wetting agents. Irrigation might also be a consideration if improved quality is sought for future.
- Burwell has heavier soils, more weeds and some pitch undulations. Increased topdressing, continued aeration and targeted weed control are recommended when suitable to do so.
- Windrush Place is still establishing and requires ongoing overseeding, fertilisation, decompaction and enhanced topdressing to establish a denser grass cover.
- The Leys is the most problematic site, with event use, pedestrian traffic and compaction severely affecting pitch quality. Infrastructure improvements, enhanced renovations and better traffic management are required.
- **Cricket Squares** - West Witney cricket square is in good condition and should continue with current maintenance, supported by annual organic matter testing and rabbit control.
- The Leys cricket square is in poor condition and, given the small area for suitable sized outfield, the low cricket demand and high football demand, it should be considered for removal and conversion to additional football provision with an option to provide a roll out artificial pitch if cricket demand exists.
- **Future strategic investment** - Priorities should include ongoing mitigation for worm casting on all surfaces (consider robotic options) and for pitches improved wear management, additional football capacity at The Leys and the long-term provision of 3G/artificial pitches to improve resilience and playing capacity.

Site Observations

West Witney



Photo 1: West Mills BC – complete grass cover, even on rink ends. No sign of drought stress or dry patch.



Photo 2: Good rooting through main body of green with dense roots to 80-100mm.



Photo 3: Rink ends show compaction which restricts rooting depth to within the upper 50mm. Perimeters of the green would benefit from additional aeration through the season to decompact the profiles. Recommendations given below.



Photo 4: Pitch 5, 7v7 pitch – This is one of the most worn pitch areas on the site. It forms part of the cricket outfield and therefore was cut shorter through the hot, dry summer. Grass cover is patchy and only ryegrass clumps are left.



Photo 5: Pitch profiles throughout the West Witney pitches are surprisingly easy to core, friable soil with some moisture and turf showed good rooting.



Photo 6: Pitch 2 – the pitches on the west half of the ground (1,2,3 & 8) that are outside of the cricket outfield have good grass cover that has come through the drought very well.



Photo 7: West Witney Cricket Outfield is more drought stressed and worn due to the shorter cutting height and summer wear during the drought. Nevertheless, the soil profile is well structured and so should show reasonable recovery once rains return. Autumn overseeding would aid this and use of wetting agent next spring for the cricket outfield to aid with drought stress.



Photo 8: West Witney Cricket square - Rabbit scrapes and rabbit dung common on the wicket ends. End of season renovations are due to take place soon. Protection from rabbits will be needed to ensure good recovery. The cricket club maintain the square during the playing season and then hand back to the council for renovations and winter care.



Photo 9: Cricket square profile – suitable clay soil that is holding together in the upper profile and rooting is good.



Photo 10: Cricket Square – weeds present on the square (pictured) and outfield.

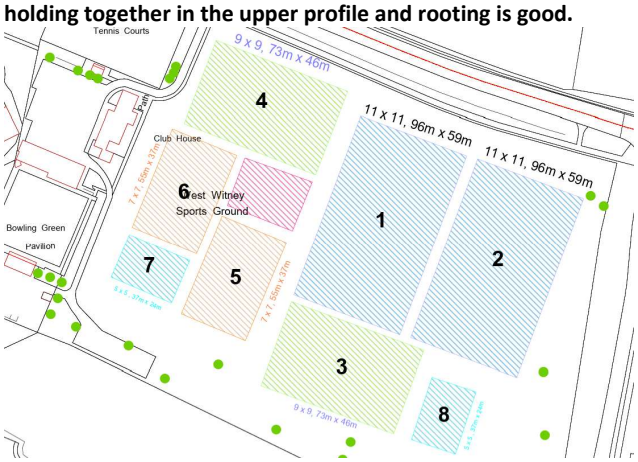


Figure A: West Witney Sports Ground – sports facilities layout. Cricket square shown in pink colour. The cricket and football clubs playing here are all amateur, grassroots levels.

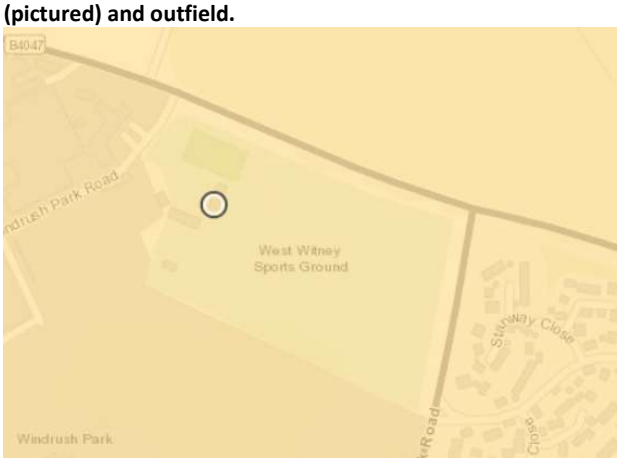


Figure B: West Witney Sports Ground – Soil type identified as Elmton 1: Shallow loamy soil over limestone. Well drained.



Figure C: West Witney Sports Ground – Google Earth image dated 21/4/26 shows some wear through the central thirds of the 11-a-side pitches 1 & 2 and also more wear noted on the 5v5 P7. The spectator area between pitches 5 and 6/7 is also notably worn and this is close to the cricket square. Pitches 3,4 & 8 appear to be less heavily used and have good grass cover.



Figure D: West Witney Sports Ground – Google Earth image dated 24/6/26 shows good recovery of grass cover on the pitch areas despite 3 months of very dry weather.



Figure E: West Witney Sports Ground – topography mapping shows the ground is somewhat level throughout and ideal for cricket outfield which should have a maximum fall of 1:100. Pitches can also be orientated in all directions and still comply with FA Playing Quality Standards (PQS) of max. 1:80 in direction of play and 1:50 across play. (Ref: Sport England Natural Turf for Sport 2025, Part D, p32).



Photo 1: View south over the pitches from top end of field.



Photo 2: Grass cover good but a bit weak/ lacking vigour. Plantain weeds common.



Photo 3: Typical soil profile – sand dressing evident in the surface, lower soil profile well-structured with reasonable rooting. Some compaction causing a partial horizontal break at ~40mm so ongoing decompaction aeration is important.



Photo 4: Pitch 2 Nth upper end - large scale undulations present. If funds were available, levelling within the topsoil would improve this pitch.



Photo 5: Burwell P3/P5 levels generally good, fewer and less obvious undulations. Small scale underfoot is good.

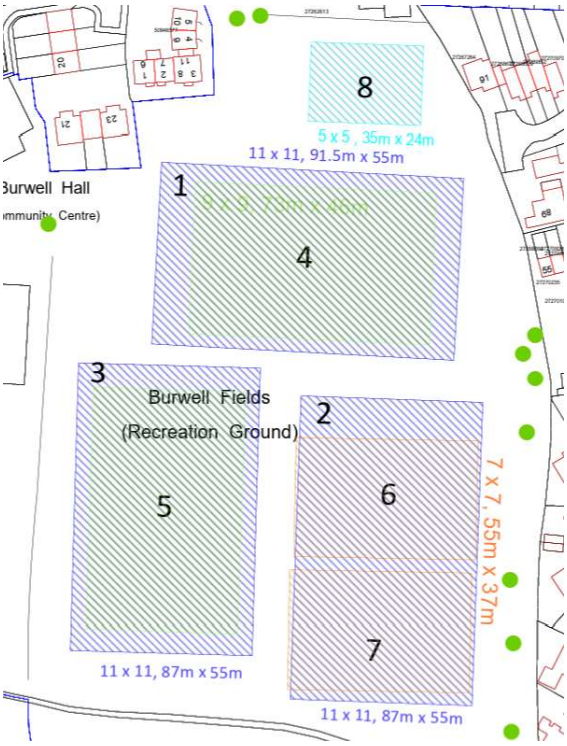


Figure F: Burwell Fields – pitch layout.



Figure G: Burwell Recreation Ground – Soil type identified (in the green colour) as Denchworth: Slowly permeable, seasonally waterlogged clayey and fine loamy soils over clay. This is the heaviest soil type within the council's pitches and would suggest less usage is possible here, although the strongly sloping ground and sand dressings may mitigate for the heavier soil type.

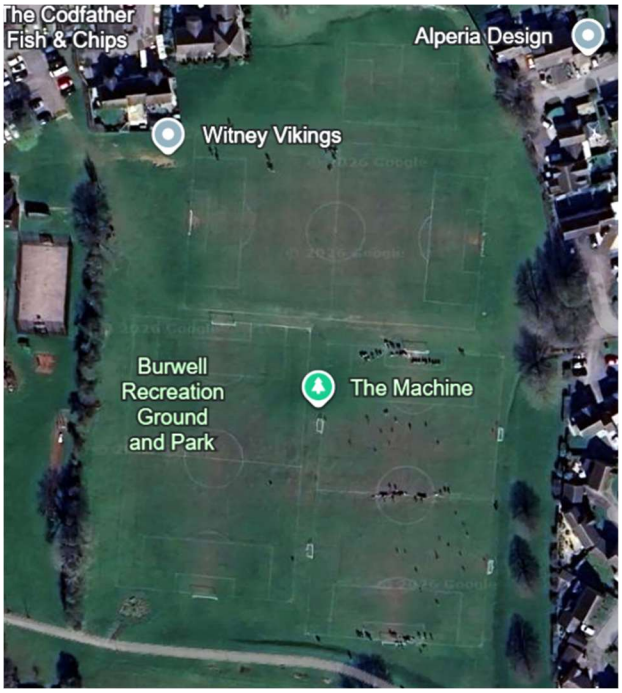


Figure H: Burwell Recreation Ground – Google Earth image from 29/3/25 after a wet winter. Pitches showing wear through much of the pitch area, concentrated through the middles. These pitches receive a total of 100 tonnes topdressing and 17 bags of seed split across the 3 x 11v11 and 5v5.



Figure I: Burwell Recreation Ground – 4m fall from north to south which is equivalent to ~1:50 (2%) gradient. Therefore, pitches orientated east-west would comply with FA guidelines of max. 1:80 in direction of play and 1:50 across play but pitches orientated N-S would not. (Ref: Sport England Natural Turf for Sport 2025, Part D, p32).



Photo 1: View from southern end. Level platform with uniform slope and pipe drained at 5m. Construction and materials look suitable. Grass sward is rather patchy. This is a relatively newly constructed pitch area that is still establishing.



Photo 2: Soil profile – Surface has sand dressings evident with consolidated loamy soil below. Horizontal compaction break at ~40mm which is restricting rooting.



Photo 3: A single stone on surface was found but otherwise clean of debris. Only a very occasional weed.



Photo 4: New rye seedlings evident in recent drill overseeding lines.



Photo 5: Drains backfilled with gravel to ~200mm below the surface and topped with a sand layer and then 75-100mm soil to the surface.



Figure J: Windrush – pitch layout. A level platform has been created with a slight fall from the northern side to the southern side of 1:100 (1%) and level E-W. Therefore, pitches can be orientated in either direction and comply with FA guidance for slope.



Figure K: Windrush Place – Original soil type in this area identified as Elmton 1: Shallow loamy soil over limestone. Well drained. However, as these pitches have been newly created, it may be that the soil type differs from the original. Soil within the pitches was heavier in nature and less well drained than expected (but this will be overcome with the installed drainage). The original soils seen in the areas surrounding the pitches were notably more stony with white stones originating from limestone.

The Leys



Photo 1: Bowls green - View to SE corner. Worm casting starting as rains return.



Photo 2: Bowls green - Renovations have commenced with scarification undertaken. Sward is slightly thinned at this time as a result. Good percentage of desirable fescue and some bent in the sward indicating suitable management.



Photo 3: The Leys Bowls green - Excellent rooting in main body of green, achieving 80+mm.



Photo 4: Bowls green - Shorter rooting and compaction causing horizontal break at ~60mm on rink ends.



Photo 5: Bowls green - SE corner struggles to maintain grass cover due to competition with a large tree in close proximity reducing light availability but also likely that tree roots are invading the green.



Photo 6: The Leys Events Field (used for a variety of events through the year, including music, circus, food and fairground). – South corner vehicle entrance has caused compaction, hard, cracked ground and loss of grass cover. Similar noted on other corners of the field where vehicle access occurs.



Photo 7: Event Field - Pitch 1 – very poor grass cover. This pitch receives higher topdressing rate of 60t sand and 10 bags of seed at the end of the football season.



Photo 8: Event Field - Pitch 1 - soil profile was found to be heavily compacted throughout the pitch with horizontal breaks found close to the surface and minimal rooting.



Photo 9: The Leys Eastern half of the park – view from north end down P3. High foot traffic noted through this area where pedestrians/ school children use this as a cut through. May have also been worn as a result of events.



Photo 10: The Leys Pitch 3 view from southern end showing heavily worn traffic route through this pitch that does not look to be as a result of football use alone. Could pedestrian traffic be encouraged to use paths by appropriately placed fencing.



Photo 11: Cricket square is raised above the surrounding ground. Surface is uneven and has high weed content and patchy grass cover. The square has not been used for many years. Considering its removal and turning into football use.



Photo 12: Cricket Square profile well structured, no consolidation present as has not been prepared for cricket for several years.



Photo 13: Pitch 4 western end shows damage from circus use – 2 notable dips caused by heavy equipment for event set up. This will need lifting out by hand-forking and decompaction through vertidraining with heave.



Figure L: The Leys – sports surfaces layout. Pitch 1 received 60 tonnes topdressing and 10 bags of seed in 2026 renovations.



Figure M: The Leys – Soil type identified as Elmton 1: Shallow loamy soil over limestone. Well drained.



Figure N: The Leys – Google Earth image (9/4/17) of pitches at the end of the season. P1 in the Event field shows wear through the central third, especially in the goal and penalty areas but other pitches on the east side of the ground appear lightly used.



Figure O: The Leys – Google Earth image (20/5/18) showing busy nature of the Event Field shortly after the football season end. The northern outfield boundary is rather short meaning the top half of the square is only suited to junior cricket. Further details below.

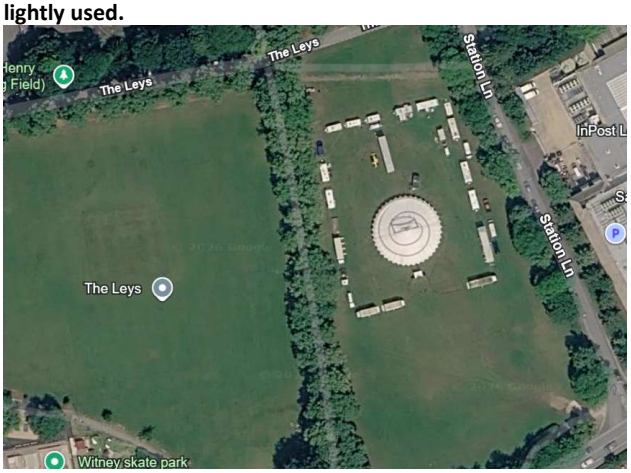


Figure P: The Leys – Google Earth image (24/6/26) showing a circus set up on the Event Field that would put both vehicle and foot traffic over (renovated) pitch high wear areas.



Figure Q: The Leys –2m fall across the cricket outfield which is a 1:50 slope or 2% gradient which is greater than desired (1:100 or 1% gradient is recommended). It should also be noted that FA guidelines recommend a 1:50 slope is only suitable for across play, whereas in the line of play (i.e. goal to goal) should be a maximum of 1:100. Therefore, pitches would be best aligned playing across the slope.

King George V Rec



Photo 1: Worn NE goal with deep, loose sand layer that is unstable and will kick out. This goal receives more wear through casual play as the hard-court fence at the rear acts as a ball stop.



Photo 2: SW goal clearly gets much less casual use as further away from the playground.



Photo 3: Pitch profile – shallow sand layer at surface. Profile well structured and showing good rooting.



Photo 4: Undulating SE corner which could be levelled off within the topsoil if funds were available.



Figure R: King George Rec – pitch layout. Only the 11v11 pitch is currently marked out and in use. There is room to move this pitch to different positions to rest high wear areas e.g. to the south to allow the northern goal to recover.



Figure S: King George V – Soil type identified as Elmton 1: Shallow loamy soil over limestone. Well drained. This pitch received 40 tonnes topdressing and 7 bags of seed at the end of the season.



Figure T: King George V Rec – Ground has a ~1:100 fall from NE to SW and is relatively level across in NW-SE direction. Therefore, pitches can be orientated in either direction (space allowing) and comply with FA guidance for slope.

Recommendations

Bowling Greens

- **General** – The greens are in good health, dominated by desirable fescue/bent grasses and free of disease or drought stress/ dry patch (likely aided with wetting agent treatments), indicating a suitable irrigation regime. The maintenance programme in place is working well and therefore should continue with only some fine-tuning suggested below:-
- **Decompaction** – The green would benefit from deep tining to thoroughly decompact the surfaces at the end of the season and maintain good drainage.
- This could be carried out at the end of season at the same time as the usual scarification and coring work or later into the autumn, provided the surface is suitably firm to undertake a clean job with no obvious wheelmarking.
- Use 12-15mm diam. tines to a minimum of 150mm but 200-250mm would be preferable and 5-10% heave could be applied. This could be undertaken with a Procore aerator or small vertidrain.
- Undertake a double pass on the perimeter areas/ rink ends and if possible, find a time mid-season to pencil tine (8-10mm diam.) these same areas to ~100mm.
- **Organic Matter Testing** – Undertake lab testing of intact soil cores for organic matter content at 4 depths (0-20, 20-40, 40-60, 60-80mm) annually in late summer to inform the end of season requirements e.g. type of tining (solids/ hollow coring) and depth and intensity. If organic matter levels are maintained within target, then it may not be necessary to hollow core the greens, provided sufficient decompaction can be undertaken and sand worked into solid tine holes. STRI Labs can undertake this testing for you if required. 2026 cost is £73 ex VAT per green.
- **Topdressing** – Specify topdressing material more closely. Topdressing materials and quality can vary significantly, especially bought in bags as is typical for bowling greens. The ideal particle size range is as shown in the graph below and the material should have a minimum hydraulic conductivity rate of ~150mm/hr. There may be a need to reduce the amount of organic material it contains if organic matter levels are already higher than desirable (identified from lab test results). One manufacturer's 70/30 can be very different to another's, depending on sand and amendment sources. Once a suitable material is identified it is best to stick with the same material from the same sand pit source each year for consistency and to avoid layering.
- **Worm Casting** - The main concern noted on bowling greens was the prevalent worm casting that had already started. Although they are sandy in nature and easily dispersed whilst dry, this will become more difficult as we get into the wetter season.
- I note that sulphur is used in late Sept as a worm casting deterrent which can be effective bit needs careful monitoring to check that the pH drops to a suitable level to reduce casting (and autumn disease) but not too low so as to negatively affect turf health. Undertake pH testing of the upper soil profile in late autumn and again in early summer.
- Regular cast dispersal is essential to maintain levels and prevent smearing and small bare patches occurring. Worm cast dispersal is typically undertaken with brushing or a switch but you could also consider robotic mowers for this purpose fitted with a brush. They could have dual purpose by removing dew overnight to prevent disease, and dispersing the worm casts, and would also likely deter digging animals. They could also be used for maintaining the winter cutting height in wetter periods to avoid taking heavier mowers on greens when wet and softer. However, I would avoid too many clippings returned, therefore the robot mowing would only be applicable in times of slow growth (see note below).
- **PGR's** - Use of plant growth regulators is recommended through the main growing/ bowling season from late April and extending into the autumn whilst temperatures are still mild and some growth is occurring. PGR's are applied as a liquid and work well to maintain green speed where greens are not cut daily and also to reduce organic matter accumulation. They are useful into the autumn to reduce cutting requirements when the surfaces are too wet and to avoid smearing worm casts. Reduced cutting in autumn can be beneficial by extending the longevity of applied products such as dew prevention and fungicides, so they are not removed by mowing.
- **Disease Control** – Dew is the key instigator of disease and therefore the focus in the autumn/winter is to remove dew promptly or preferably prevent it from forming e.g. by regular use of chemical dew preventors such as Dewcure, Dewsmart or similar and/or robot removal through the night, as discussed above.

- **Tree Roots & Shade** - Consider tree root pruning (e.g. using a trencher blade/ digging down as deep as possible to remove surface rooting) within the bowling green ditch at The Leys around the SE corner if this is possible. Reducing the height of the hedge around the southern side would also be beneficial for the turf.

Winter Sports Pitches

- **General –** Maintenance is currently also at a good level for the council's winter sports pitches and this is reflected in their good condition relative to typical council sports facilities. Of particular importance are the decompaction operations (1x vertidraining and 1x Shockwave), topdressing and overseeding and fertilisation practices which are working well and should be continued. Some adjustments are recommended to improve results and also to address increasing difficulties with weather effects and demand for usage. The following advice is for all pitches and site specific advice is also given below:-

- **Pitch Usage** – STRI has previously conducted research into sustainable levels for pitch usage, as shown in Table 1 below. The sites reviewed in this document fall into the naturally well-drained category and should therefore be able to support ~3.5-4 hrs of adult use (ages 15yrs and above) per week in *average* winter conditions.
- However, two important changes have occurred since this research study was undertaken:-

    1. Climate change is now notably affecting UK weather, resulting in wetter winters with more intense and prolonged rainfall. This has been testing even the most free-draining sites, including those with installed drainage.
    2. Chemical worm controls were banned in 2017. Whilst worms are good for soil and plant health, their casting is a problem for sports surfaces such as pitches and can quickly render the surface muddy, slippery and result in increased loss of grass cover.

- Therefore, management of pitches needs to concentrate on the following priorities, which are discussed in more detail below:-

    - Spreading wear as much as possible, both within a site and between sites to maximise usage/ reduce wear
    - Maximise drainage potential through maintenance
    - Being flexible with maintenance timing depending on the weather
    - Mitigate for worm casting

- **Spreading Wear** – Look for possible improvements in football match scheduling to spread wear around the borough's facilities where possible. Sites with improved drainage or stronger sloping ground that can shed water quicker are more likely to be able to host games in the wettest periods.
- Move positions of pitches to rest high wear areas. Move pitches as far as possible at the end of the season so that their positioning is different from year to year to change the goalmouth areas.
- Use mobile goals, as opposed to static goals. This requires use of moveable goalposts with wheels. Smaller goals could be stored if storage space exists. For larger, 11-a-side goals, the nets are removed and stored and the posts can be secured to metal hoops set in concrete in a quiet area on the edge of the ground with chain and padlock. The code can be shared with team managers so they can deploy them and put them away.
- Encourage teams to warm up off pitch areas. It might be possible to mark out training grids on pitch surrounds to facilitate this.
- **Drainage Improvements** – Maximising natural drainage potential of the pitches will ensure they can withstand the wet weather as far as possible and enable maximum possible use. Since the soil type is typically well-drained, then focussing on deep decompaction with heave (i.e. vertidraining) as well as use of the Shockwave can work very well. The vertidrain tines should reach as deep as possible e.g. 250-300mm, aiming to reach underlying free-draining horizons. Aim to undertake an extra pass through the goalmouth/ penalty areas.

- On sloped ground, increase the effect of the Shockwave by running the machine from high to low ground on a slight diagonal to the slope. This helps to direct the water flow downhill more rapidly. The slits should end on an out of play area or to an outfall such as to a ditch or over a pipe drain.
- **Flexibility in Maintenance Timing** – Due to the unpredictability of the weather and the lack of irrigation on the pitches, it may be necessary to become more flexible with renovations and timings. For example, dry springs will reduce the effectiveness of weed control, as well as overseeding.
- To mitigate for this, try to renovate the most worn pitches earlier or even consider another seeding operation before the end of the season e.g. late Feb/Mar and/or Sept/Oct which might just be concentrated on thinner areas. Provided the seed is drilled in using a disc seeder e.g. Vredo or similar then it will have some protection from wear and only a small percentage will be lost through use.
- Similarly, it may be necessary to alter timing of decompaction work as the ground might be too hard and dry at the end of the season in late April/ May if the spring has been unseasonably dry. The Shockwave can be used successfully in hard, drier ground and can be used near the end of the football season provided the soil type is not prone to cracking. Vertidraining would then be undertaken in autumn with heave, once soils had remoistened sufficiently.
- Weed Control should only be done as necessary and may not be required every year if grass cover has been retained. Its timing might be best undertaken earlier in spring, before end of season renovations, if there is sufficient warmth and moisture for active growth to occur. Alternatively, it could be undertaken later in the summer or in Sept. Timing should also consider seeding operations; it is prudent to leave at least a 2 week gap before overseeding and 4-6weeks post seeding before applying herbicide but check specific product labels for details. Where possible, spot treatment should be considered to reduce the amount of pesticide used.
- **Worm Casting Mitigation** – A separate advisory note is enclosed for advice on how to mitigate for worm casting. Since the soil type and drainage level is already reasonable and pitches have received dressings for some years, then lower amounts of topdressing should suffice to offset the soil brought up by the worms e.g. 40t per hectare. Consider switching from a 70/30 topdressing (which may vary in quality and is more costly) to a straight medium to medium-fine sand as this will be ameliorated with soil through use and worm activity. It is important that the chosen material has a suitable particle size range, as shown below. Further advice and lab testing of proposed materials can be undertaken if needed.

Site specific notes for improvement: -

King George Rec

- **Pitch orientation** & **layout** - The minimal slope of the ground allows for pitches to be orientated in either direction (space allowing) and comply with FA guidance for slope. It might be possible to fit in more pitches in a NW-SE orientation if boundaries allow for suitable 3m run-offs and balls are not likely to be lost into neighbouring gardens.
- Ideally, the 7v7 pitch (if in use) would be located outside of the 11v11 and there is sufficient space to do this.
- There is room to move the 11v11 pitch to different positions to rest high wear areas e.g. move pitch to the south to allow the very weak northern goal to recover.
- **North goal** – This goal is particularly unstable due to high use and large amounts of sand applied. It is likely that it will need rotavating to mix the sand into the soil to provide a more consolidated base. Alternatively, remove excess, loose sand and replace with suitable topsoil. Firm the material into place by heeling in by foot or light rolling. Aim to leave the surface level or very slightly domed to shed water. Overseed at 60 g/m2 with a suitable winter sports rye mix and rake into the surface. Top with a 15mm layer of sand/ sandy rootzone. Move the pitch position to take this area out of play for a season and fence off the repaired goalmouth to keep people off whilst the grass establishes sufficiently.
- **Mobile goals** secured in a quiet area of the ground could work well here.
- **Level Improvement** – The undulating SE corner could be levelled off within the topsoil if funds were available. This would require, removal of the turf at the end of the season (typically cut short, sprayed with total herbicide and then after ~2weeks, once the grass has fully died off, cultivated and raked to a fine tilth, redistributing the soil to create a more even surface. Stones at the surface should be removed or stone buried. The relevelled area would then need to be seeded and topdressed as described for the North goal renovation above.

Burwell Rec

- **Shockwave Use** – As discussed above, run the machine diagonally down the slope on these pitches to help shed water off the surfaces more quickly.
- **Topdressing Rate** – If this site tends to be wetter/ more wormy and suffers more wear damage due to heavier soil type, then an increased topdressing rate is warranted e.g. 50-60t/ha.
- **Spring Herbicide** – This pitch had a notable number of plantains that might need treatment in spring if not treated already.
- **Pitch 2 N upper end** – Large-scale undulations present. If funds were available, levelling within the topsoil (as described for King George Rec) would improve this pitch. This would require taking the pitch out of use whilst work was undertaken and grass cover re-established.

The Leys

- **Shockwave Use** – As discussed above, run the machine diagonally down the slope on these pitches to help shed water off the surfaces more quickly.
- **Pitch 3** – Review pedestrian traffic routes cutting through this pitch and consider fencing to encourage use of existing paths.
- **Pitch 4** - western end shows damage from circus use. This will need lifting out by hand-forking and decompaction through vertidraining with heave. The entrance/ exit point at the southern end also needs consideration for extending hard standing/ turf protection to accommodate heavy plant in-out/turning and also material deliveries for renovations.
- **Event Field** – This area had poor grass cover and heavily compacted soils due to over-use and lack of recovery. Events are held close to the end of the football season which gives little time for effective recovery of the worn areas. In addition, the events are frequently placing high traffic over the high wear areas of Pitch 1, thereby increasing damage.
- I would consider reducing winter sports use e.g. switch this adult pitch into smaller junior pitches (<15yrs age group = lighter use) orientated E-W.
- In addition, look to renovate these pitches early to allow renovations in ~March. Ideally, limit use post renovations and allow an 8-week recovery time before any scheduled event if possible.
- Renovations should be more thorough here to include vertidraining at closer spacing and a higher overseeding rate e.g. 50-60 g/m2 through any bare areas.
- This field would warrant a 2nd overseeding in autumn if events have left the grass cover thinned.
- **Turf Protection** – Consider use of turf protection boards where event traffic is concentrated e.g. entry/exit and turning areas. This would protect the soil structure but if boards a re left in place for several weeks, grass cover will be lost and require reseeding once the events have finished.
- **Additional Pitch Area** – Given the higher demand for football here and the poor-quality cricket square and limited size of the outfield boundary, then it would make sense to remove the square and accommodate another 11v11 pitch area on the eastern half of the ground. Further discussion on cricket provision is given below.

Windrush Place

- **Overseeding** – If the sward is still visibly thin, undertake another Vredo/drill seeding operation in 2 directions using a suitable dwarf rye mix at 35 g/m2. This could be undertaken into November if the weather remains suitably warm at 5^{0}C or more at night. If colder weather or frosts start to occur, postpone until Feb/early March.
- **Nutrition** – This relatively new pitch will also require increased fertiliser whilst it is maturing and establishing a stronger, denser sward. Products to use are not critical and you could use up material in stock, purchase cost-effective, basic 9:7:7 or similar and treat on 4-6 occasions in a year depending on growth, or use a slow release for greater longevity if manpower is a concern and treat 3x.
- **Decompaction** – Introduce an additional decompaction operation to this pitch to help structure the soil profile and overcome compaction caused during construction. It will be particularly beneficial to use the Shockwave in a N-S direction, at an angle to the drains to aid with drainage. At a later date, once the pitches have been played for ~3-5years, if increased drainage is required then use of a Sandbander e.g. Blec Sandmaster or similar would improve

drainage efficiency again. The installed sand bands must be sufficiently deep (>100mm) to connect with the coarse sand or gravel backfill of the pipe drains.

- **Topdressing Rate** – This site should receive an increased topdressing rate is warranted e.g. 60t/ha at least for the next 3 -5 years combined with deep tining to work the sand into the holes. Topdressing here is important to preserve the efficiency of the installed drainage and create a deeper and improved rooting medium in the upper profile.

West Witney

- **Pitch Usage** - Pitches are generally in good condition and maintenance is working well here. There might be options to spread the wear and use the ground more evenly, particularly resting those within the cricket outfield in the weeks approaching the cricket season and using the outer pitches and areas more heavily instead. For example, there is space for marking out another 7v7 pitch in the southern corner around Pitch 8.
- **Cricket Outfield Area** – For the pitch areas that become cricket outfield, look to do mini-renovation(s) of decompaction and overseeding ahead of the end of the football season e.g. late Feb/Mar, which might just be concentrated on thinner areas. Provided the seed is drilled in using a disc seeder e.g. Vredo or similar then it will have some protection from wear and only a small percentage will be lost through use.
- Renovations should be more thorough here to include vertidraining at closer spacing and a higher overseeding rate e.g. 50-60 g/m2 through any bare areas.
- The outfield area would warrant a 2nd overseeding in autumn if cricket use has left the grass cover thinned.
- Increase the nutrition for the outfield also, applying an additional fertiliser application within the cricket season timed with rainfall.
- Wetting Agent – Application of 1-2 strong wetting agents early in the spring would help this area to cope with drought better. Suitable examples include GBR Technology Intensive wetter or Aqua-zorb liquid, Sherriff Amenity, both stronger, long-lasting wetting agents. Products must be applied with rainfall to wash in. Heavy rain is preferable 5+mm.
- Irrigation - Consider investing in irrigation provision for the outfield if a high-quality venue is required as this will enable better and more rapid grass cover to be regained after the football season. This would require a tank and pump and travelling sprinklers or automatic pop-ups. You would also need to consider water source. Mains is the simplest option but expensive and might be subject to a hosepipe ban (TUBS), although this would likely be someway though the cricket season and the early watering would still have ensured a good grass sward for the outfield. Other water supplies to reduce reliance on mains could include harvested rainwater or grey water from the sports building but this would need planning and water quality control.
- Height of Cut – Maintain as high a height of cut as possible for the outfield if drought conditions are prevailing e.g. 20-25mm. Irrigation would enable more desirable, shorter cutting heights to be maintained.

Artificial Pitches

- Regardless of the above recommendations, there will undoubtedly be times when grass pitch usage is likely to be disrupted by extreme wet weather with pitches becoming unplayable if intense rain occurs prior to matches. Future contingency would be to invest in all-weather artificial pitches for the borough.
- Below pitch water storage is an option that might be considered for irrigation purposes on the grounds.
- STRI can assist with further planning, design and construction if desired.

An STRI research study of pitch usage

Pitch	Location	Level of use (adult-equivalent hours of play per week)					
		Proposed		1988/89		1989/90	
		Ave.	Max.	Ave.	Max.	Ave.	Max.
Undrained	N	3.5-4.0	4	3.9	5.1	3.9	6
Pipe Drained	W	2	4	0.8	1.6	0.9	2.8
Slit Drained	N	4.5-5.0	6	4.4	6.1	4.4	6.8
Slit Drained	W	4.5-5.0	6	2.7	4.4	4.3	7.8
Sand Carpet	W	6	9	6.5	10.3	8.3	11.4
Suspended Water Table	N	6-8.5	12	8.4	13.8	5	6.3

It is calculated these usage figures can be doubled for users <15yrs. In addition, late spring to early autumn use may be higher when growth is good.
The research assumes a reasonable maintenance programme in place to include deep decompaction, fertiliser, overseeding and topdressing.

Ref: Gibb and Baker (1989b) Journal of STRI and also later Ref: Journal of STRI Vol 68 (1992) p20

N = a sandy loam soil wth good natural drainage
W = clay soil, poor drainage

Table 1: STRI Research study of sustainable usage for winter sports pitches. The research was conducted over 4 playing seasons and levels of play recorded against sporting body performance quality standards including retention of ~70% grass cover, maintaining surface levels, hardness, traction, and ball roll distance. This study shows how sites with different soil types have different carrying capacity. The 'N' pitches had a sandy loam soil type with good natural drainage (which is comparable to your sites) compared to the 'W' pitches, a site with clayey soil. N.B. More severe winter weather and lack of worm controls has negatively impacted these levels.

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Sport England: NTS **Part D** - Appendices

Table D4 Performance Quality Standards for football, rugby and natural turf playing fields in general [1]

Element	Requirements	Method of test
Ground cover	>70% for 25-30 mm grass height >80% for 30-35 mm grass height	BS 7370 : P3 A6
Broad-leaved weeds	<10%	BS 7370 : P3 A6
Grass height	20-60 mm for growing season 20-75 mm for non-growing season	BS 7370 : P3 A3
Thatch depth	<5 mm	BS 7370 : P3 A7
Hardness	35-200 gravities	2.25 kg Clegg impact hammer from a drop height of 0.45 m
Water infiltration rate [2]	>5 mm/h	BS 7370 : P3 A8
Evenness	<20 mm beneath a 2 m straight edge	BS 7370 : P3 A4
Slopes [3]	<1.25% (<1 in 80) in direction of play <2.0% (<1 in 50) across direction of play	BS 7370 : P3 A5
pH value	5.5-7.5	ISO 10390
Maximum stone size in upper 50 mm	<20 mm diameter	TBC

[1] The PQS information contained within this table constitutes selected key minimum criteria.

[2] It should be noted that infiltration test results from assessments conducted in dry conditions, particularly on clay-dominated soil, can produce spuriously high results due to the presence of shrinkage cracks. It is essential that test results are interpreted appropriately in the context of likely performance in winter.

[3] Slope values are expressed as maximums that will avoid the slope having an adverse effect on play, but should be regarded as the preferred values in terms of surface drainage. However, in some locations with heavy annual rainfall, these figures may need to be exceeded.

Table 2: Sport England Playing Quality Standards for Natural Turf Playing Fields. This serves as a good benchmark to maintain pitches to.

Cricket Squares

- **Witney Square** – This square is generally well-maintained and reported to play well. End of season renovations should include removal of surface organic matter/ thatch, spiking and overseeding and topdressing as required to restore levels to +/-10mm. In addition, thorough decompaction via deep tining (10-12mm mx.) through the autumn/winter is recommended once the soil profile has remoistened and softened sufficiently.
- Organic matter Testing - Undertake lab testing of intact soil cores for organic matter content at 3 depths (0-20, 20-40, 40-60mm) annually in late summer to inform the end of season requirements e.g. scarification depth and intensity or need for resurfacing (Koro work).
- Fencing should be placed around when the square is not use to deter rabbits and pedestrians.
- Standard cricket recommendations are enclosed with this report for further advice. Worm cast removal through the winter needs to be a priority to avoid losing surface levels.
- **The Leys Square** – The square is currently in poor condition with loss of levels, high weed content and patchy grass cover. It is likely that organic matter/ thatch levels are also higher than desirable (confirmation via lab testing) if it has not received any cricket renovations for some years.
- In order to bring it back into condition for play would require removal of the surface using a Koro FieldTopmaker, light cultivation, overseeding, topdressing and fertilisation and then dedicated and extensive pre-season rolling starting early in the year whilst the profile is still moist to reconsolidate the layers. Use of a heavy roller (1t+) would be needed to firm up the profile. Cost for this work would be in the region of £7-8K.
- Square Removal – Alternatively, the square might be best removed in this instance, particularly as the outfield boundary measures just 35-43.5m from the wicket ends of the 3 most northern pitches to the footpath, thereby restricting use of the upper half of the square to younger players of U11's (see Figures U and V below).
- As the square is raised above the surrounding ground its removal to turn it into pitch area would require some relevelling work. This could be undertaken by treating with total herbicide and once the sward has died off, cultivating to ~75-100mm depth, removing the excess soil*, raking, removing stones and regrading the remaining soil to form a level platform with the surrounds before seeding and re-establishing grass cover. If a water point exists for the square, this could be used to aid with grow-in of the area. If not interfering with pitch layout, it might be retained to enable goalmouth irrigation. * The excess soil from the upper profile might be stockpiled for reuse to form a cricket square in another location (some lab testing would be recommended to ascertain what depth the cricket loam is to carefully remove it). Alternatively, it could be used to fill in dips elsewhere on the ground.
- Temporary Cricket Pitches – Consideration could be given to use of temporary, roll out cricket pitches such as Flicx https://flicx.com which are popular for grass roots clubs and people learning the sport. https://flicx.com/resources/case-studies

3.6 Cricket

3.6.1 Pitch examples

Figure B23 Playing area for Senior Cricket (8 wicket) minimum pitch

Notes: See Part A Figure A2 for pitch orientation criteria.
All dimensions are in metres.

Key: Pitch area

Safety margin 3.00 m wide

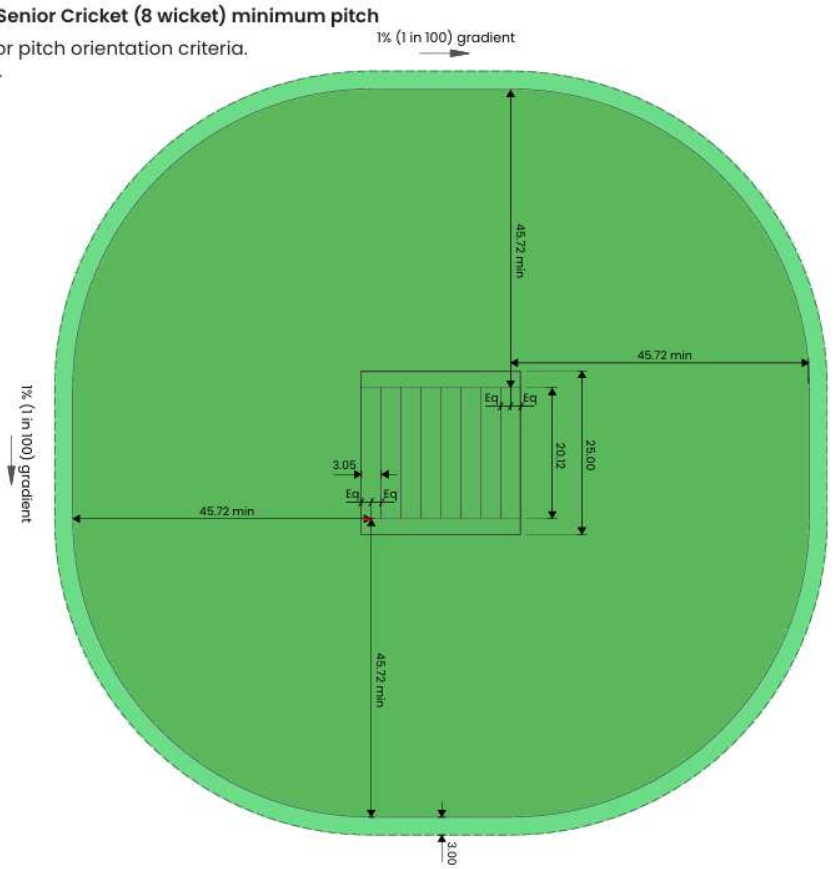


Figure U: Recommended outfield size and gradient for senior cricket. Ref: Sport England Natural Turf for Sport 2025, Part B, p58.

ECB Recommended Junior Formats and Boundary Sizes

Age Group	Pitch Length	Max Boundary Size	Ball Type / Weight
Under 9 (U9)	15 yards (13.7m)	30m	Light / soft rubber ball
Under 11 (U11)	17 yards (15.5m)	35m (Soft Ball) / 40m (Hard Ball)	4.75 oz. (135g)
Under 13 (U13)	19 yards	45m	4.75 oz. (135g)
Under 15 (U15)	20 yards	50m	5.0 oz. (142g)
Under 17 (U17)	22 yards (Regulation)	55m	5.0 oz. (142g)

Figure V: Recommended outfield sizes for youth cricket.

Summary

- **Bowling Green Maintenance** – Is very good with only fine-tuning is recommended, namely, to increase decompaction on rink ends and to address invasive tree roots and shading issues. The groundsman's expertise in golf green management (which is very similar) is evident in the quality of the greens produced.
- Organic matter testing annually is recommended as a measure of quality control and it would also be useful to check surface levels with a 2m straight edge which should be within +/-10mm.
- **Cricket Squares** – The maintenance undertaken by the team at West Witney appears to be working well. Organic matter testing annually is recommended as a measure of quality control and it would also be useful to check surface levels with a straight edge which should be within +/-10mm and +/- 5mm is preferable.
- The Leys square is probably best removed if the demand for cricket is low, but football is high. Consider supplying a roll out artificial pitch option for cricket. A ground with less slope would be preferable for cricket but may depend on where demand is.
- **Football Pitch Maintenance** - There is a good balance between outside contractor assistance (currently employed for end of the season renovations including topdressing and overseeding) and in-house staff operations (mowing, lining, fertiliser, 2 x passes with the SISIS Maxislit and 1 x pass with the Imants Shockwave). The quality of the playing fields shows this has been working well.
- Costs might be saved on switching to a straight sand dressing as discussed above.
- Acquisition of your own Vredo disc seeder might be considered which would enable seeding to be undertaken piecemeal in-house, as described in the recommendations above, allowing some early/ before end of season renovations or additional overseeding in early autumn if required. Flexibility of works is likely to become more important with changing weather patterns.
- The priorities for sports provision would be:-
    - Better spread of wear both around pitches and within pitches. Use the councils Playing Field Strategy (PFS) to identify users and demand around the borough but bear in mind that the usage levels recommended are not always achievable, especially with increased high rainfall events. Move pitch areas up and down/ side to side. Encourage teams to use off-pitch areas for warm-ups. Invest in mobile goals.
    - Provision of 3G pitch(es) to climate proof. Weather extremes will likely make grass pitches unsuitable for play for more of the time.
    - Event Field - dedicate to events only and consider investing in infrastructure such as hard-standing vehicle entry/exit points/ turning areas. Move current 11v11 pitch to eastern side of ground (requiring removal of the cricket square).
- **STRI Support** – This subscription visit was predominantly agronomic and to document current playing quality to guide maintenance and sustainable usage. STRI can assist the council with evaluating staffing level, training, machinery and capability, as well as producing a structured Sports Grounds Management System, including required inspections, documentation, performance indicators and records, but it outside of the scope of this report. We would be happy to provide a fee proposal for this work if desired.

Signed

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