Frequently Asked Questions

Natural Turf FAQ's

1. How many hours of use per week can a natural turf pitch support?

Sustainable usage on a grass pitch is mainly dictated by how well the pitch drains and the quality of pitch maintenance. Other factors that affect carrying capacity are age of users and weather.

Underlying geology, soil type and topography determine how well a pitch drains. In poor draining soils, installation of drainage and subsequent suitable maintenance will be required to realise the full usage. The table below indicates usage levels that can be expected. Further information: **NTS: Part A – Essential reading** (pg 13).

NTS: Part A – Essential reading

Table 1. Estimated usage levels

Drainage status	Adult weekly use* (hours)
Undrained**	Typically under 2
Pipe drained	2 – 3
Pipe drained with mole drains	2 – 4
Pipe drained with sand grooves	2 – 5
Pipe drained with slit drains	3 – 6
Pipe drained with sand bands	3 – 6
Pipe drained with topsoil and drainage layer	3 – 6
Pipe drained with a carpet-hybrid reinforcement system	10 – 20
Pipe drained with suspended water table and a stitched-hybrid reinforcement system	10 - 20

* A pitch used predominantly by juniors could accommodate approximately 50% more use than one used solely by more senior players.

** Naturally well drained pitches on chalk or sandy soils will have higher carrying capacity.

2. What are the minimum acceptable tolerances for surface levels on a school field if we mark an athletics track on it for the summer?

Typically, school playing fields are multi-use and may also provide for winter sports use and cricket. The same surface evenness tolerances for these sports should also be applied to the athletics track e.g. The FA Performance Quality Standards (PQS) states that the minimum acceptable tolerance on a playing field is a deviation <20 mm under a 2m straight edge.

3. What are the standard dimensions of rugby league, rugby union, cricket and football pitches?

The standard dimensions for the different sports are found on the Natural Turf Sports Surfaces page in the links below:

Natural turf sports surfaces

4. Is there a recommended pitch orientation for natural turf pitches and grass tennis courts?

With respect to pitch orientation, Sport England has published guidance on optimum pitch orientation for a range of sports. For winter games pitches, the limits of orientation are 285° and 20°, and for grass court tennis the limits are 325° and 45°. For further details see page 9 of the Natural Turf Design Guidance Note which can be downloaded from: **NTS: Part A – Essential reading** (pg 17) **Figure A2 – Recommended pitch orientation.**

NTS: Part A – Essential reading

5. We are planning to construct a range of grass pitches. Typically, how much does it cost per year to maintain a pitch and what resources are needed?

Sport England has developed Budget Cost sheets for a range of typical playing field projects. These can be downloaded from:

With respect to resources required, a summary is provided in Appendix 5 of Sport England's Design Guidance Note entitled 'Natural Turf for Sport' which can be downloaded from: **NTS: Part B – Playing fields** (p 28-32) **Table B1 Summary of pitch construction types.**

NTS: Part B – Playing fields

6. Our pitches are poorly drained and matches are often called off in the winter. What is the most cost-effective way of draining a pitch and how much does it cost?

The most appropriate way of draining a pitch will depend on a range of factors such as soil type, water table depth and available budgets, and so it is recommended that advice is sought from a competent natural turf pitch consultant. A summary of the range of options available, and the associated advantages, disadvantages and costs involved is provided in Table 1 of Sport England's Design Guidance Note entitled 'Natural Turf for Sport' which can be downloaded from: **NTS: Part B– Playing fields** (pg 11-32)

NTS: Part B– Playing fields

Frequently Asked Questions

Natural Turf FAQ's continued

7. Can a new cricket square be constructed using topsoil?

Most new squares are constructed using proprietary cricket loams. Some cricket squares can be constructed using topsoil, however it is important to seek advice from a competent natural turf pitch consultant as the appropriateness of the topsoil will depend on factors such as its clay, stone and organic matter content and the way in which it shrinks or swells during wetting or drying. Further information can be obtained from the England and Wales Cricket Board who has published guidance on the construction, preparation and maintenance of cricket pitches and outfields:

Recommended Guidelines for the construction, preparation and maintenance of cricket pitches and outfields at all levels of the game - download the new TS4 document from: **NTS: Part B – Playing fields** (pg 42 & 43) **2.4 Cricket Square.**

NTS: Part B – Playing fields

8. Following construction, how soon can natural turf pitches be played on?

The return to play following pitch construction varies depending on the nature of the construction works, when the works are carried out (i.e. spring, summer or autumn) and climatic conditions that prevail during the 'growing-in' period.

For winter games pitches, if works are carried out in the spring and strong grass development is achieved, it may be possible to commence play in the autumn but this cannot be guaranteed. For pitches sown in the autumn (e.g. September), play may not be possible until the following autumn. Cricket pitches generally take longer to establish and so it may be necessary to relocate for one or even two seasons.

9. How far apart should pitches be i.e. what is the minimum?

The minimum safety margin around pitches varies depending on the sport and the age of participants. Sport England's publication entitled 'Comparative Sizes of Sports Pitches and Courts' provides information on this and can be downloaded from: **NTS: Part B - Playing Fields** (pg 52-62) **Comparative Sizes of Sports Pitches & Courts (OUTDOOR).**

NTS: Part B - Playing Fields

Comparative Sizes of Sports Pitches

10. We have limited land available and therefore need to play both cricket and football on the same area. How can we minimise the impact of each sport on the other?

These situations will always be a compromise but consideration should be given to the following:

a) Ensure that the area used for football is well-drained to reduce damage to the playing surface. This will allow the transition to a cricket outfield to be achieved with the minimum of renovations work at the end of the football season.
b) Where practical, arrange for the first few matches (both cricket and football) to be played away to provide more time for renovation works.
c) Where possible, arrange the pitch layout such that areas of most wear for football do not coincide with those for cricket. Where sufficient land is available, consider rotating pitch use.
d) A good maintenance regime specific for each sport is required to ensure both playing surfaces meet their respective playing quality standards (PQS). It is important that time is allowed between sport changeovers for suitable maintenance and repair.
e) Ideally, cricket squares should be sited between pitches and the squares protected during winter sports use. Further information can be found at **NTS: Part B – Playing fields** (pg 62-63) **Section 3.7 - Combined winter games and cricket pitches.**

NTS: Part B - Playing Fields

Comparative Sizes of Sports Pitches

11. How can we determine whether the performance of our pitches meets minimum acceptable standards?

The Institute of Groundsmanship, in consultation with selected National Governing Bodies has published Performance Quality Standards (PQS) for a range of sports. These constitute minimum acceptable standards for key parameters such as slope, hardness, pH, water infiltration rate, grass cover and broad leaved weeds. These provide an objective means of assessing the performance of pitches.

Reference should also be made to the various performance quality standards (PQS) for sports pitches on the Institute of Groundsmanship website: **NTS: Part A – Essential reading** (pg 22), **NTS: Part D – Appendices** (pg 30-32) **Section 3 – Performance quality standards (PQS):**

NTS: Part A – Essential reading

NTS: Part D – Appendices

Natural Turf FAQ's continued

12. Can I put benches between the pitches and, if so, how far should the pitches be from the benches?

Benches can be located between pitches provided that the minimum safety margin appropriate to the sport being played is adhered to. The minimum safety margin around pitches varies depending on the sport and the age of participants. Sport England's publication entitled 'Comparative Sizes of Sports Pitches and Courts' provides information on this and can be downloaded from: **NTS: Part B - Playing Fields** (pg 52-62), **Comparative Sizes of Sports Pitches & Courts (OUTDOOR).**

NTS: Part B - Playing Fields

Comparative Sizes of Sports Pitches

13. If I put a fence between adjacent pitches, how far should the pitches be from the fence and what type of fence can I put up?

Any fence between adjacent pitches must adhere to the minimum safety margin appropriate to the sport being played, and should be constructed such that the risk of snagging participants is minimised. It is therefore recommended that proprietary sports' fencing is adopted. The minimum safety margin around pitches varies depending on the sport and the age of participants. Sport England's publication entitled 'Comparative Sizes of Sports Pitches and Courts' provides information on this and can be downloaded from **NTS: Part B - Playing Fields** (pg 52-62) **Comparative Sizes of Sports Pitches & Courts (OUTDOOR), SAPCA Code of Practice for the Construction and Maintenance of Fencing Systems for Sports Facilities.**

NTS: Part B - Playing Fields

Comparative Sizes of Sports Pitches

SAPCA Code of Practice

14. Can pitch margins be sloping?

The maximum gradient within pitch safety margins (run-off areas) must be constructed to the same gradient as the playing surface. Slopes and embankments outside the 3m safety margins can be constructed to a maximum of a 1:3 gradient, for health & safety plus maintenance purposes. **NTS: Part A – Essential reading** (pg 31) **section 3.4.3 – Banking:**

NTS: Part A – Essential reading

15. Is pitch maintenance important and what does a good pitch maintenance regime look like?

Good maintenance is essential to pitch performance, durability, and maximising possible usage. The development of an appropriate and cost-effective maintenance regime must consider a range of variables, including soil characteristics, drainage performance, construction methodology, local climatic conditions, and the specific performance requirements associated with the sport being played on the surface.

For example, a football pitch of Sport England Type 6 construction - sandy loam topsoil, primary pipe drainage and secondary sand bands - will require a vastly different maintenance regime to that of a cricket wicket and outfield with a clay loam construction. Details of suitable pitch maintenance can be found in **NTS: Part A – Essential reading** (pg35-37) **section 3.7 – Maintenance,** and **NTS: Part B – Playing fields** (pg 35-38) **section 1.10 – Maintenance.**

NTS: Part A – Essential reading

NTS: Part B – Playing fields

16. Will I need planning permission?

This will largely depend on the works to be carried out. The Town and Country Planning (General Permitted Development) (England) Order 2015 (GPDO) refers to engineering operations as any physical works carried out on, over, or under land. These are included in the definition of "development" set out by the Town and Country Planning Act 1990. Examples of "engineering operations" under the GPDO in sports turf applications would include:Subsurface drainage systems (e.g. primary drainage pipes,soakaways) for surface water management.

- **Earthworks, such as re-grading and balanced cut / fill operations when creating a suitable pitch platform.**
- **Excavation / replacement of topsoil or subsoil.**
- **Installation of irrigation systems involving underground pipework.**
- **Construction of retaining structures / bunds to prevent runoff or support the pitch structure.**

Depends on local authority – each will typically treat projects individually – there is no standard response. Anything that classes as a development will need planning permission if classed as "engineering" works under the GPDO. It may be valuable to enquire with Sport England on pre-application advice, to help ascertain planning requirements. This will help to encourage discussion with local planning authorities (LPAs) to outline potential issues and refine any playing field development. Sport England's preliminary advice on planning permission can be found here: **NTS: Part A – Essential reading, Section 2: Project Planning** (pg 14-19).

NTS: Part A – Essential reading