1 Introduction

These Employer's Requirements define the performance, sports federation certification, materials quality, construction quality and warranty requirements for synthetic turf sports pitches procured through the Football Foundation AGP Framework (2024-28). They shall be read in conjunction with the Contract Preliminaries, Project Information Document (PID) and all other associated specification and contract documentation issued for the projects.

2 Definitions & terminology

The following definitions shall apply:

Framework Supplier (FS) – the company appointed through the Football Foundation's AGP Framework (2024-2028) to design and construct the artificial grass pitch.

Framework Managing Consultant (FMC) – the company appointed by the Football Foundation to provide contract administration and Employer's Agent services to projects procured via the Football Foundation's AGP Framework (2024-2028).

Specialist Testing Consultant (STC) - the company appointed by the Football Foundation to provide specialist key stage inspection and testing services to projects procured via the Football Foundation's AGP Framework (2024-2028).

Design Consultant (FDC) – the company appointed by the Football Foundation to provide survey, design and planning services to projects procured via the Football Foundation's AGP Framework (2023-24).

3 Design responsibilities

The FDC shall undertake the Principal Designer role assuming responsibility for the preparation of the design, including pre-construction information, ensuring coordination and cooperation amongst the project team and that CDM designers comply with their duties. As Employers Agent the FDC will also assume responsibility for the submission of the planning application and discharge of any pre-commencement planning conditions.

Post planning approval, the FS will have the ability to put forward design changes for client agreement. Any need to submit a non-material amendment to the planning authority will be the responsibility of the FS.

Any materials, fixings, foundations or drainage detail indicated in these documents are typical only and shall not relieve the FDC in any way of any of their design or other responsibilities.

4 Construction responsibilities

The FS will act as Principal Contractor for the construction of the whole of the project. They will have the duty to plan, manage and monitor the construction phase of a project. They will coordinate matters relating to health and safety during the build and implement the works in accordance with the agreed Construction Management Plan.

The FMC will undertake CDM client duties.

5 Quality of materials and workmanship

Where and to the extent that materials, products and workmanship are not fully specified they are to be:

I. Suitable for the purposes of the Works stated in or reasonably to be inferred from the contract documents.

II. In accordance with good sports field building and/or engineering practice, including the relevant provisions of current British Standards.

6 Site Access and Limitations of Working Space

The FS shall allow for forming a suitable site access to allow the works to be undertaken during the agreed contract period. This shall include providing all temporary roads, hard standings, crossings and the like necessary for carrying out the whole of the works. On completion of the works the contractor shall remove any temporary haul roads and fully reinstate the access way.

The FS shall confine everything pertaining to the Contract within the area of the proposed works and surrounding areas. The FS operations are to be confined to the minimum area required to carry out the works, which shall be executed carefully so as to cause minimum nuisance and inconvenience to the users of adjoining facilities.

7 Key stage inspections

Where the FS has given notice that a particular operation or stage of the works will be ready for inspection by the STC on a specified date and the STC then find that the works are not complete on that date so that the inspection cannot be carried out or completed necessitating a further visit, the additional cost incurred, including all expenses, will be borne by the FS.

The FS shall also be liable for all costs, including expenses, incurred as a result of the STC having to make additional visits to recheck areas of the works identified as not been in accordance with the Employer's Requirements and/or PID.

8 Failure of tests

Should any samples or intermediate stages of construction be found, in the opinion of the STC, to be unsatisfactory or likely to produce unsound work, the defective material or the consignment which the sample represents shall be removed from the site or suitable corrective action taken. Notwithstanding that, any sample or intermediate work stage, which has been accepted by the FMC or STC, may subsequently be rejected if they decide that the quality has in any way deteriorated.

The FS shall, at their own expense, remove and replace all rejected materials, or correct any intermediate work stage shown to be outside specification. Any delays consequential upon the rejection of any sample or work stage shall not in any way relieve the FS from its responsibility with regard to completion within the Contract Period.

Work corrected or materials replaced for these reasons will be re-checked by the STC or re-tested as determined by the FMC. The additional costs of testing any material replaced for this reason or re- inspecting any work stage subjected to remedial works shall be recovered from the FS.

1	AGP Framework 2024-2028		
Employer's Requirements	Introduction	V1	

2	AGP Framework 2024-2028	
Employer's Requirements	Pitch Dimensions	V1

1 Introduction

A pitch comprises the field of play and perimeter run-off margins. Unless otherwise specified within the Project Information Document (PID) these shall be in accordance with this document.

In addition to the field of play and perimeter run-offs, paved perimeter margins, spectator areas and goal storage areas are normally incorporated into the footprint of 'the pitch'. These shall be as specified in this document.

2 Dimensions

2.1 Football

Unless otherwise specified, the layout, and dimensions of all pitches shall be in accordance with the *FA Guide to 3G Football Turf Pitch Design Principles and Layouts*.

User group	Field of play	End run-offs	Side run-offs	Total synthetic turf area
National League Step 1-6	100m x 64m	2 x 3m	2 x 3m	106m x 70m
Community Open Age Football	91m x 55m	2 x 3m	2 x 3m	97m x 61
U11 and U12 - 9 v 9	73m x 46m	2 x 3m	2 x 3m	79m x 52m
U9 and U10 - 7 v 7	55m x 37m	2 x 3m	2 x 3m	61m x 43m

In addition to the synthetic turf area, pitches shall include:

- Goal storage areas, as required and detailed in the FA Guide to 3G Football Turf Pitch Design Principles and Layout, 2024 edition and/or detailed in the Project Information Document (PID).
- Spectator areas as required and detailed in the FA Guide to 3G Football Turf Pitch Design Principles and Layout, 2024 edition and or the PID.
- Paved perimeter margins shall be a minimum of 0.3m wide and slope inwards towards the synthetic turf pitch, typically with a fall of 0.5%.

2.2 15 a-side Rugby Union

There is a range of acceptable dimensions for a rugby union pitch: the length of the field of play can vary between 94-100m, whilst the width can range from 68-70m. The in-goal area at either end can be between 6 and 22m in length.

As per World Rugby regulations, the perimeter should be at least 5m wide to prevent injuries.

The minimum length of a rugby union pitch is 106m, with at least 94m from try line to try line and an extra 6m each for the two in-goal areas. As we know, the width must be no less than 68m, making a total minimum playing area of 7,208 sq m.

Field of play	Dead ball zone	End run-offs	Side run-offs	Total synthetic turf area
94m x 68m	2 x 5m	2 x 5m	2 x 5m	114m x 78m
100m x 70m	2 x 5m	2 x 5m	2 x 5m	120m x 80m

In addition to the synthetic turf area pitches shall include:

- Spectator areas as specified by the RFU.
- Paved perimeter margins shall be a minimum of 0.3m wide and slope inwards towards the synthetic turf pitch, typically with a fall of 0.5%.
- Goal storage areas on dual use rugby / football pitches, as shown on the layout drawing in ER 2.

1.1 11-a-side hockey

	Field of play	End run-offs	Side run-offs	Total synthetic turf area
FIH minimum	91.4m x 55.0m	2 x 3m	2 x 2m	97.4m x 59.0m
FIH recommended	91.4m x 55.0m	2 x 5m	2 x 3m	101.4m x 61.0m

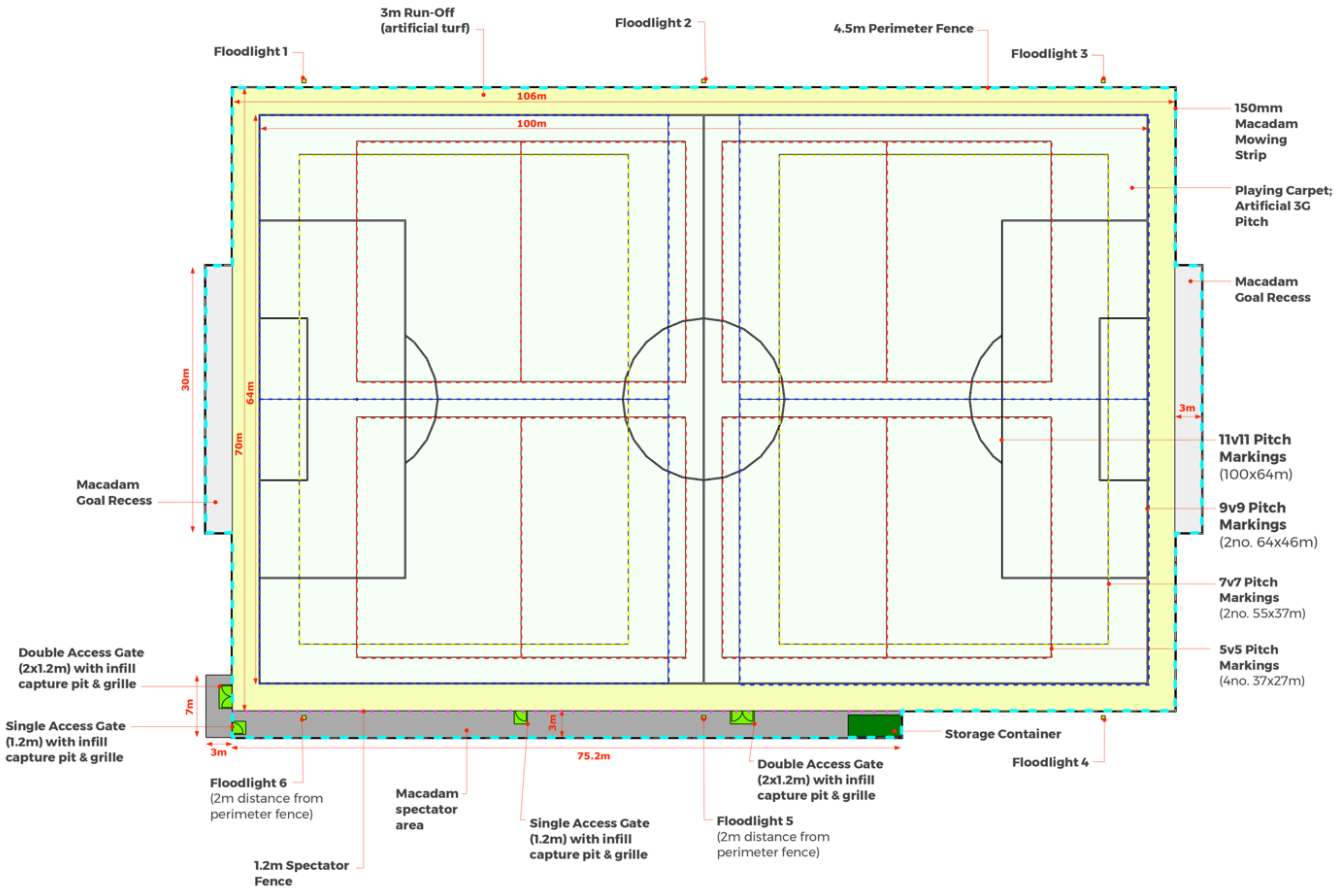
FIH specifies run-offs and minimum run-offs as detailed above. Some higher-level competition rules require pitches to have the recommended run-offs. Run-offs shall be in accordance with England Hockey competition regulations.

FIH specify the outer 1m portion of the run-off may be a paved surface.

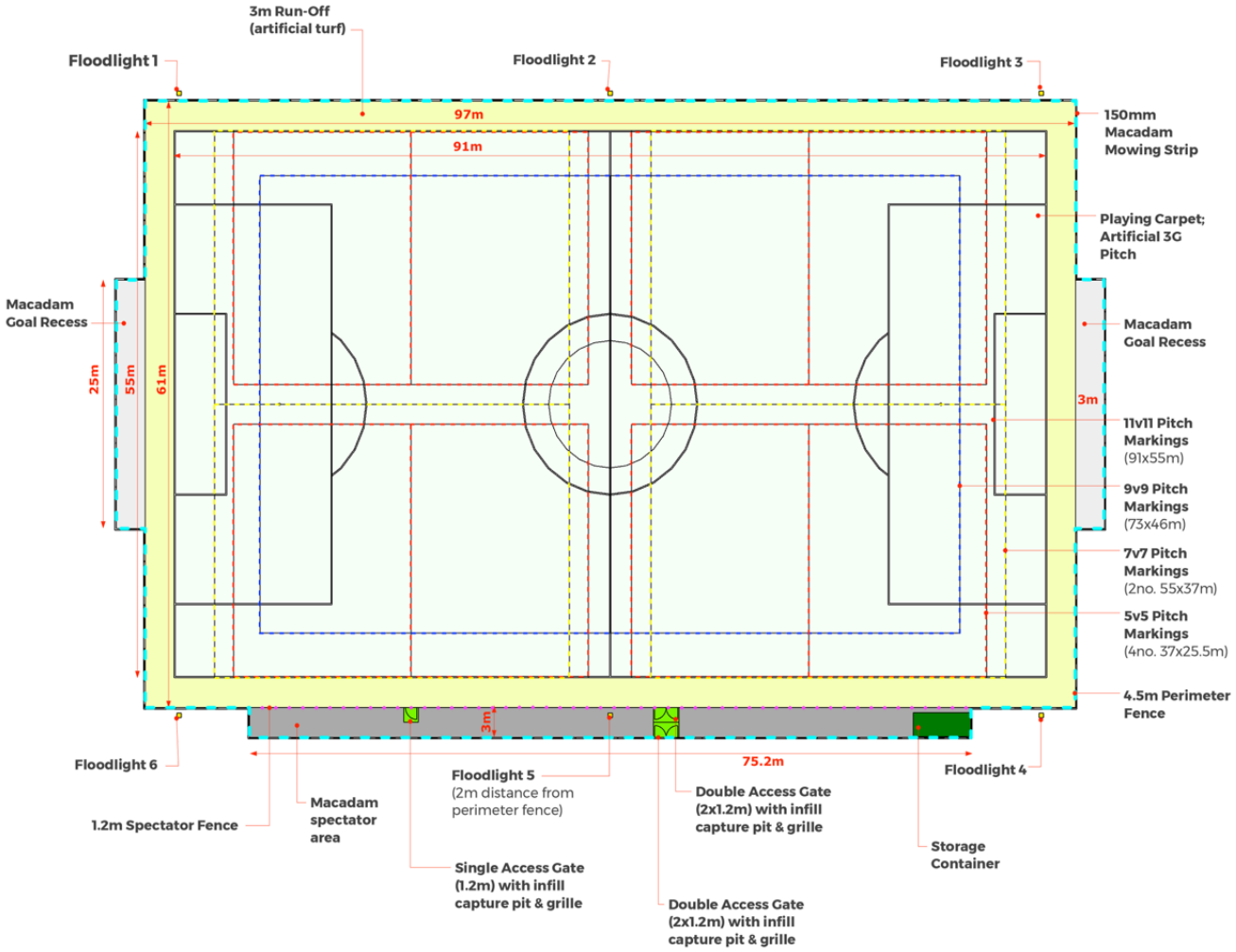
Hockey goal storage areas shall be a minimum 1.5m in depth.

3 Layouts

3.1 100m x 64m Football (Indicative)



3.2 91m x 55m Football (Indicative)



3	AGP Framework 2024-2028	
Employer's Requirements	Formation, Drainage & Base Constructions	V1

Foreword

This section of the Employer's Requirements specifies the design, construction and performance requirements for the formation, drainage and base of any synthetic turf pitch procured via the AGP Framework (2024-28). They are based on the SAPCA *Code of Practice for the Design, Specification and Testing of Bases for Outdoor Synthetic Sport Areas*[1]. August 2020, (2nd Edition).

1 Definitions

The following definitions apply:

Base – all elements of construction beneath the synthetic turf surfacing.

BS – British Standard published by the British Standards Institute[2]. These include BS EN (British editions of European Standards) and BS ISO (British editions of International Standard Organisations) Standards.

Designer – the person or persons that develop and specify the design of the pitch.

Design Levels – the theoretical levels for the finished playing surface and/or underlying stages of construction as specified by the designer when developing the design concept for the facility.

MCDHW - Manual of Contract Documents for Highway Works[3] published by the (UK) Department for Transport.

In accordance with common practice within the construction industry the depth of any individual construction layer specified is defined as the nominal compacted depth, which can be regarded as the design depth of the construction layer.

2 Basic Design Principles

The base works for the pitch will normally comprise the following layers from the bottom up:

- The natural soil (cut and/or fill), termed the formation (also known as the sub-grade)
- A drainage system designed to remove water that falls onto the playing surface or flows towards it from surrounding ground.
- A layer(s) of unbound aggregate termed the sub-base

[1] www.sapca.org.uk
[2] https://shop.bsigroup.com
[3] www.standardsforhighways.co.uk

- Either a layer of aggregates that can be graded to the tolerances required to receive the playing surface; termed the unbound base, or a layer or layers of bound asphalt, termed the bound (engineered) base, on which the playing surface is laid.

2.1 Design requirements

Based on specific site conditions the formation, sub-base, base and drainage system shall be designed to be able to:

1. Withstand all applied loads without excessive deformation or instability.
2. Restrict the likelihood of variable heave/settlement caused by frost penetration damage or volume changes in the formation soils.
3. Provide adequate drainage capability, and possibly storage potential, where appropriate, to ensure the design meets the need to remove surface water sufficiently quickly to avoid surface flooding during a prescribed storm return period.
4. To meet a design life of at least 25 years.
5. Have minimal impact on existing infrastructure such as services, drainage, etc.

Surface regularity is a key requirement of most sports' governing body specifications as it affects the playing quality and safety of athletes. This means the pitch surface shall remain stable throughout its service life, without significant changes in levels or differential settlement. The long-term stability of the base therefore requires the materials used to be durable and remain resistant to the applied mechanical and environmental loads (e.g., water, temperature variations, freezing, etc.) it will be subjected to.

The design and construction of the pitch shall be undertaken so it has minimal impact on any existing drainage (land or services) under or in the vicinity of the pitch.

2.2 Innovation and new construction methods

The criteria specified in this document are based on current best practice, but it is not the intention to restrict the innovation of new construction materials and methods, especially those that can minimise impact on the environment. Such methods of construction are considered acceptable providing they achieve equivalent and/or appropriate performance in respect of:

- suitable stability and load-bearing capabilities
- adequate drainage values
- surface levels
- longevity and/or warranties in line with the principles, criteria and ethos of this code of practice

Based on specific site conditions any innovative base or drainage system shall be designed to be able to meet the design principles detailed in Clause 2.1.

Some forms of synthetic turf pitch construction incorporate a thick (≥ 25mm) elastic layer or shockpad that, in addition to contributing to the dynamic performance of the playing surface, also acts as a form of bound base layer above the sub-base. In such cases the sub-base shall be constructed as detailed in these Employer's Requirements.

3 Formation

3.1 Design considerations

The formation is the material on which the pitch is constructed, and it needs to have adequate stability and load-bearing capacity to support the construction being placed on it. Its ability to achieve this will depend on several different factors including the various weather conditions that will occur during the seasons and the types of soils present on the site. Factors that need to be considered and minimised include the potential for:

- Frost heave
- Clay shrinkage/swelling
- Settlement (under the additional weight of the facility above)
- Vegetation disturbance (e.g., tree roots/weed growth)

3.2 Load-bearing capacity

When tested using a Dynamic Cone Penetrometer (DCP) to a depth of 0.5m below formation, in accordance with *Design Manual for Roads and Bridges HD29/08 Volume 7*[4] *Section 3 clause 7.27* the inferred CBR value shall be ≥ 5%.

It is recognised that due to the diversity of soils that can form a formation and their sensitivity to moisture, the requirements detailed above cannot always be achieved. In such cases one of the following ground preparation methods shall be used:

- Installation of suitable selected additional material to improve the formation strength and stiffness;

[4] http://www.standardsforhighways.co.uk/ha/standards/dmrb/vol7/section3/hd2908.pdf

- Stabilisation (e.g., treatment with lime and cement or similar suitable procedures);

- Installation of a geo-synthetic supporting material (e.g., geo-grids) or similar to provide reinforcement between the sub-base and formation.

In any of the above solutions, the Designer shall provide evidence of the design details that have been put in place to compensate for the shortcomings of the formation.

3.3 Slope

The formation grade shall preferably have the same slope as the final playing surface, which shall be in accordance with the appropriate sport's governing body standard as follows:

Football: *FIFA Quality Programme for Football Turf, Handbook of Requirements*[5]
Rugby: *Rugby Turf Performance Specification*[6]
Hockey: *FIH Hockey Turf and Field Standards*[7]

To minimise the potential for polymeric infills to migrate to the edges of a long-pile synthetic turf pitch and into the surrounding environment, the slope shall be 0.5% unless site specific factors require a larger profile.

3.4 Deviations from design levels

Formation levels shall not deviate from the design levels by more than +20/-30mm.

4 Drainage

4.1 Design considerations

The construction of the pitch shall incorporate a drainage system designed to remove rainfall from the playing surface at a rate to ensure that excess water is not allowed to build-up and restrict the use of the facility. The collected water should pass to the discharge outlet.

It may be a requirement to design the pitch's drainage capability to avoid the playing surface flooding to a specified level of risk, and/or to avoid excessive outlet discharge rates from the water that is collected (to restrict flooding risk downstream of the outfall). The permitted maximum drainage discharge rate may be stipulated as a condition of the planning approval for the facility and this may have a significant effect on the drainage design required (including the use of Sustainable Urban Drainage Systems - SUDS).

[5] FIFA-quality-programme-for-football-turf-Test-Manual
[6] https://playerwelfare.worldrugby.org/playingsurfaces
[7] www.fih.ch/inside-fih/fih-quality-programme-for-hockey-turf/

Due regard must be given to the size and location of any attenuation systems and soakaways and the calculations regarding their design shall be undertaken by a drainage expert. Due regard must be given to the fate of excessive surface water that is not collected in the water collection system and any associated risks to the local environment.

4.2 Performance and construction requirements

In the absence of any site-specific requirements the drainage system shall be designed and installed to:

(i) Ensure that all surface water is removed from the playing surface at a rate greater than 180mm/h and ensure that no surface flooding will occur during heavy storms, or the facility will not be lost either through rain at the highest intensity which may be expected to occur once every ten years or through continuous rainfall of 200mm over a 24-hour period.

(ii) Protect the installation from the effects of ground or surface water from the areas surrounding the pitch.

(iii) Ensure no excessive water remains present in the construction that may result in a significant reduction of the load bearing capacity of the base or damage to the construction from the actions of frost.

(iv) Prevent run-off from the pitch onto the surrounding land.

(v) Comply with all relevant requirements of BS EN 1610[8]

The minimum depth of drain trenches shall be the diameter of the drain plus 150mm.The minimum width of the drain trench shall be at least three times the diameter of the drainage pipe which shall be centrally located in the trench.

Pipe bedding materials shall be clean, durable pea gravel or similar. Flexible pipes shall be laid on a bed of 75mm minimum depth and the drainage trench back filled with similar granular materials to a minimum depth of 150mm above the crown of the pipe.

Rodding eyes or catch-pits, with covers, shall be installed to allow inspection and maintenance of the main elements of the drainage system.

Pre-cast concrete manholes and any soak-away type structures shall comply with BS 5911-3[9]. Units that bed onto bases shall be manufactured so that the full wall thickness is in contact with the base.

[8] BS EN 1610:2015 Construction and testing of drains and sewers.

[9] BS 5911-3:2010+A1:2014 Concrete pipes and ancillary concrete products. Specification for unreinforced and reinforced concrete manholes and soakaways (complementary to BS EN 1917:2002)

Any existing land drains cut through during the construction of the new facility shall be re-connected into the new drainage system.

The spacing between lateral drains will be dependent drainage system's design but shall be no more than 10m for drains with an external diameter of 80mm or greater and no more than 7m for drains with an external diameter of less than 80mm. Lateral drains shall normally be laid to a minimum slope of 0.5 %. Perimeter drainpipes with a minimum external diameter of at least 100 mm shall be laid when the drainage slope is at least 0.5%. For shallower slopes pipes with a diameter of at least 125 mm shall be laid. The minimum drainage slope shall be 0.3%.

4.3 Surface water drainage

Surface water drainage (gully drains, slot drains, etc) shall be provided to all paved areas (spectator areas, perimeter margins, equipment storage compounds, etc.) adjacent to the pitch. The drainage system shall include trash boxes with suitably sized mud-buckets/filters to capture any infill and prevent it being washed into the drainage system.

5 Perimeter edgings

The base of the pitch shall be contained within hydraulically pressed concrete kerbs complying with BS EN 1339[10]. They shall be laid to a true line and level with adequate up-stand for the subsequent fitting of the synthetic turf surface. They shall be well haunched in concrete.

6 Sub-Base

6.1 Design considerations

The sub-base shall:

- Provide adequate stability and load-bearing capacity in conjunction with the formation during both construction and in the long-term to support surface applied loads without excessive deformation or permanent damage. This shall include protection of the (weaker) formation soils beneath.
- Provide adequate stability to resist the effects of swelling, shrinkage or freezing in the formation soils.
- If the formation soils are frost susceptible, limit the likelihood of frost penetrating them.
- Provide adequate storage of infiltrating surface water when required as part of the design.

[10] BS EN 1339:2003 Concrete paving flags. Requirements and test methods

6.2 Sub-base depth

It is the designer's responsibility to determine the required sub-base thickness, and once constructed it should comply with the (performance) requirements of the SAPCA Code of Practice for the Design, Specification and Testing of Bases for Outdoor Synthetic Sport Areas. The sub-base design thickness should be explained in the tender documents by the Supplier.

When alternative innovative forms of base design are being considered, the depth of the construction shall provide the levels of stability and longevity that are specified in this document.

At no point shall the installed depth be less than 90% of the design depth and the total area on which the depth is below the design depth shall not exceed 10% of the total surface area, unless an agreed alternative innovative sub-base is proposed.

6.3 Sub-base materials

Unless an alternative innovative form of sub-base design is being used the sub-base shall be constructed from aggregates that comply with the requirements of BS EN 13285[11] and the MCDHW Series 800 (Clause 805).

6.4 Load Bearing Capacity

When tested using a Light Weight Deflectometer (LWD) in accordance with BS 1924 Clause 9.2[12] the surface modulus on the prepared sub-base shall be greater than or equal to 40 MPa. If this requirement is not achieved the FS shall provide proposals on how they propose to improve the stability of the sub-base to ensure satisfactory construction.

[11] BS EN 13285:2018 Unbound mixtures. Specifications

[12] BS 1942: 2018 Hydraulically bound and stabilized materials for civil engineering purposes. Part 2: Sample preparation and testing of materials during and after treatment.

7 Base

7.1 Introduction

The base layer used to regulate the sub-base on football and rugby pitches shall either be constructed with an unbound blinding layer or an asphalt (macadam) base.

Unless the design of a hockey pitch includes an elastic layer ≥ 30 mm in thickness, the base layer of a hockey pitch shall be asphalt.

7.2 Unbound base blinding layer

7.2.1 Aggregate grading

Unless otherwise specified by the Designer, an unbound base shall be constructed from aggregates that comply with all relevant clauses of BS EN 13285 and the particle grading given below.

Sieve size (mm)	% passing
16.0	100
14.0	90 -100
6.3	60 – 75
4.0	15 – 50
2.0	10 – 35
1.0	6 – 26
0.063	0 – 5

The unbound base layer shall be laid to a maximum depth of 50mm with no area being less than 20 mm thick.

7.3 Asphalt (macadam) base

If the base of the pitch is to be asphalt/macadam it shall comply with the following requirements.

The asphalt shall comply with BS EN 13108-7[13]. The bitumen used in the asphalt mix shall be Class 60-70 or Class 80-100; and be in accordance with BS EN 12591[14].

The bitumen content shall be between 3.4 % and 4.0 % and be in accordance with BS EN 12591.

[13] BS EN 13108-7:2016 Bituminous mixtures. Material specifications. Porous Asphalt

[14] BS EN 12591:2009 Bitumen and bituminous binders. Specifications for paving grade bitumens

The asphalt shall be manufactured, transported and laid in accordance with BS 594987[15].

If a single layer construction is used it shall be either 0/10mm or a 0/14mm grade asphalt, laid to an average consolidated thickness of 40 mm, with no area being less than 30 mm.

If a two-layer construction is used the binder layer shall be either a 0/10mm, 0/14mm or a 0/20mm grade asphalt, laid to an average consolidated thickness of 40 mm with no area being less than 30mm thick, and the surfacing layer shall be a 0/6 mm or 0/10mm grade asphalt, laid to an average consolidated thickness of 25 mm with no area being less than 20mm.

7.4 Slope and deviation from design levels

The base shall have the same slope as the final playing surface, which shall be in accordance with the appropriate sport's governing body standard. Construction levels shall not deviate from Design Levels by more than ± 15mm.

7.5 Surface regularity

The surface regularity of the base shall be in accordance with the appropriate sport's governing body Standard.

7.6 Water infiltration requirement

The base layer shall allow the percolation of water at a rate of more than 300 mm/h when tested in accordance with BS EN 12616[16].

8 Perimeter margins

If required (see ER 11), paved perimeter margins shall be designed to slope inwards from the fence line towards the pitch. Any surface water drain-outlets sited within the margin shall have suitable trash boxes and mud-buckets in accordance with clause 4.3.

[15] BS 594987:2015+A1:2017 Asphalt for roads and other paved areas. Specification for transport, laying, compaction and product type testing protocols

[16] BS EN 12616:2013 Surfaces for sports areas. Determination of water infiltration rate

4	AGP Framework 2024-2028	
Employer's Requirements	Resurfacing & Recycling of existing pitches	V1

1 Introduction

When resurfacing an artificial pitch, the Football Foundation and its partners wish to take a proactive approach to the end-of-life disposal of the existing surface.

End of life disposal of artificial turf pitches comprise several different components and the requirements of the Football Foundation, detailed in this document, apply to all of them. This includes:

- Artificial turf carpets
- Performance and Stabilising infills
- Prefabricated shock pads
- In situ laid shock pads and elastic layers

In accordance with UK legislation, an artificial turf surface that has reached the end of its service life and is lifted to enable replacement, becomes a '**waste'** material.

Notes:
This definition has been the subject of much legal debate and subsequent judicial rulings, but essentially the test of the definition has to be applied objectively and the word 'discard' is understood to mean 'to get rid of'. As a worn-out artificial turf sports surface is being removed and discarded and will not be reused in its current condition for the purpose for which it was designed, it is classified as 'waste' under the regulations.

In the case of the infill within the pile of the carpet, this will have become contaminated over time, meaning that it cannot be classed as a suitable replacement for 'new' material in its untreated state, (i.e., the infill needs to be processed or cleaned before being suitable for reusing as an infill), meaning it is still classified as 'waste'.

A pitch that has further life and is redeployed for the same purpose is not waste.

2 Duty of Care

As written in the Environmental Protection Act 1990, it shall be the duty of any person who imports, produces, carries, keeps, treats or disposes of controlled waste or, as a broker, has control of such waste, to take all such measures applicable to him in that capacity as are reasonable in the circumstances:

> *(a) To prevent any contravention by any other person of section 33 (treatment and disposal).*
> *(b) To prevent the escape of the waste from his control or that of any other person.*
> *(c) On the transfer of the waste, to secure —*
> > *(i) that the transfer is only to an authorised person or to a person for authorised transport purposes; and*
> > *(ii) that there is transferred such a written description of the waste as will enable other persons to avoid a contravention of that section and to comply with the duty under this subsection as respects the escape of waste.*

The Framework Supplier has a responsibility to take all reasonable steps to ensure that when waste is transferred to another waste holder that the waste is managed correctly throughout its complete journey to disposal or recovery.

3 Waste Hierarchy

The basic principles of the handling of waste are defined in the Waste Hierarchy, which seeks to ensure waste is handled in the most sustainable way by ranking waste management options according to what is best for the environment. It gives highest priority to preventing waste in the first place. When waste is created, it gives precedence to preparing it for reuse, then recycling, then energy recovery, and finally disposal (e.g., landfill).

The Waste Hierarchy is derived from the revised Waste Framework Directive (Directive 2008/98/EC) and was incorporated into legislation via the Waste (England and Wales) Regulations 2011, as amended.

It is a legal requirement to make sure that any waste produced is dealt with in accordance with this hierarchy, i.e., artificial turf waste should be sent for recycling rather than energy recovery or disposal whenever possible. Additionally, and in accordance with EU Decision 2000/532/EC, waste materials must be classified using the most appropriate six-digit code found in the European Waste Catalogue (EWC).

Once an artificial turf surface reaches its end of life, it cannot be used/reused further, so it needs to be disposed of, and following the principles of the Waste Hierarchy this should be by recycling. Recycling takes two principal forms, open-loop, and closed-loop. These may be defined as:

Closed Loop Recycling
Where a product is used, discarded, captured, and then the component materials are recycled into a new product of similar functionality which is then itself used, discarded, and captured, to be recycled again, continuously cycling the material resource though the supply chain.

Closed-loop recycling is the Football Foundation's preferred form of recycling. Ultimately, it wishes to see all the components that make-up a synthetic turf surface that is being replaced as part of the pitch resurfacing or conversion, being processed in closed-loop operations.

The Football Foundation will work with the AGP 2024 Framework Suppliers and larger UK recycling supply chain to facilitate this.

Examples of synthetic turf surfacing closed-loop recycling include:

- recovery and processing of pile yarns to create new pile yarns for use in synthetic turf surfaces.
- recovery and processing of primary and/or secondary backings to form new primary and/or secondary backings for synthetic turf surfaces.

- clean, grade and reuse of performance or stabilising infill within a new synthetic turf surface.
- recovery and processing of shock pads to form new shock pads.

Open-Loop Recycling

Where material is recycled in an open loop process the output product is not the same as the material being recycled. The material is made into a substantially different product with different properties. The product is often non-recyclable or has degraded recycling capabilities.

Examples of synthetic turf surfacing open-loop recycling include:

- agglomeration of synthetic turf carpets and shock pads for processing as secondary use plastics.
- cleaning, grading and reuse of performance or stabilising infills for applications other than synthetic turf infills.
- re-melting of performance infills and use in thermoset products other than performance infills.

Within the sports industry several open-loop processes are being used to produce components that are then re-used in the construction of new sports facilities. This approach is viewed positively by the Football Foundation, as it encourages a commercially viable intramural approach to the recycling of synthetic turf surfaces by the sports surfacing industry.

4 Football Foundation Approved List - Synthetic Turf Recycling Companies

To ensure that end of life synthetic turf pitches are processed in a way considered acceptable by the Football Foundation and its partners, a Football Foundation Approved List - Synthetic Turf Recycling Companies has been developed. Only the recycling companies and their listed processes will be authorised for use on AGP 2024 Framework funded projects when a pitch is being replaced. The Football Foundation will publish the list and encourage other UK sports' governing bodies and users of synthetic sports surfaces to incorporate the list into their synthetic turf replacement project specifications.

Approved recycling companies must hold an appropriate permit. Under no circumstances shall end of life synthetic turf surfacing be disposed of by repurposing or land fill.

Note - inclusion of a recycling company/process on the Football Foundation List will not remove the need for the recycling company, or anyone using its services, from ensuring all aspects of a synthetic turf pitch's removal, handling and recycling are undertaken in accordance with UK legislation.

5 End of life disposal

All end-of-life synthetic turf components shall be disposed of in accordance with this section of the AGP 2024-28 Employer's Requirements.

If an AGP Framework Supplier wishes to recycle performance or stabilising infill for use in a new AGP Framework 2024-28 funded installation, they shall supply test results showing the infill's compliance with the appropriate quality requirements of the AGP 2024 Employer's Requirements. These shall be submitted to the Framework Managing Consultant (FMC) prior to the installation of the infill into the new surface.

AGP Framework Suppliers shall submit a copy of the relevant Environmental Permit or appropriate Waste Exemption certificate to the FMC prior to Waste materials being transported for processing.

6 Transportation of end-of-life synthetic turf pitches

Recycling processes are primarily undertaken off site from the location of the pitch. This will require the transportation of materials. All end-of-life synthetic turf components shall be transported in accordance with this section of the AGP 2024 Employer's Requirements.

- Transportation of waste shall only be undertaken by companies registered with the Environment Agency.
- AGP Framework Suppliers shall ensure that they have a copy of the waste transporter's registration certificate, prior to waste being collected from their site.
- If the waste material is to be transported across national borders, the Framework Supplier, or their agent, shall apply for all necessary classification papers and transport permits from the relevant local authorities prior to waste being collected from their site Copies of the permits shall be available for inspection.

Note: The Trans-frontier Shipment of Waste Regulations (2007), as amended, introduced extra requirements over and above the requirements applicable within the UK if waste is to be exported. Expert opinion considered it likely that synthetic turf surfaces (as a mixture of materials) will fall within the scope of the Amber List contained within the regulations.

- If Waste Brokers or Waste Dealers, including companies who do not take physical possession of the waste, are used, they shall also be registered with the Environment Agency and the AGP Framework Supplier shall ensure they have a copy of their registration certificate(s) prior to dealing with them.

7 Shockpads

End of life shockpads shall be lifted and taken to a plant licensed for the handling of waste synthetic surfacing to allow it to be processed and placed back into the market, as repositioned material.

Wherever possible, existing shockpads should be retained and incorporated into the new synthetic turf surfacing system. To determine if an existing shockpad is suitable for reuse it shall be inspected by the Specialist Testing Consultant and tested in accordance with the procedures specified as follows:

- Football: Clause 4.3 of the FIFA Handbook of Requirements for Football Turf, October 2015 Edition.
- Rugby: Clause 8.5 of World Rugby's Rugby Turf Performance Specification, 2016 Edition
- Hockey: Clause 4.2.3 of Part 3 of the FIH Hockey Turf and Field Standards

In addition to satisfying the above requirements, samples of the shockpad shall be taken from the pitch and tested in the laboratory to determine if the shockpad's tensile strength is still compliant with the minimum tensile strength requirements of the relevant Standard listed above.

The thickness of the shockpad shall also be assessed on a 10m grid across the whole field to ensure a consistent depth (± 15 % of the mean) was previously installed.

5	AGP Framework 2024-2028	
Employer's Requirements	Football Turf	V1

Introduction

This section of the Employer's Requirements specifies the performance and material requirements for the synthetic turf surfacing system laid on any synthetic turf football pitch procured via the AGP Framework (2024-28).

1. Intended usage

The pitch will be used for a range of football activities including match play, small-sided football (all forms), training, general physical training and any other appropriate sporting activities.

It is envisaged that school/community pitches will be subjected to between 50 and 80 hours use per week, and stadia and club pitches will be subjected to approximately 40 hours use per week; an indication of the predicted use being given in the Project Information Document included within the Tender pack.

The pitch shall provide a satisfactory playing environment for a minimum of eight years and its performance and compliance with the relevant competition and performance standards shall be as detailed in warranty requirements (see ER 13 for details).

Footwear will be controlled by the field operator, and the use of flat soled sports shoes will be restricted as far as possible. 100% use of studded boots cannot be assured.

Maintenance will be undertaken in accordance with the Framework Supplier's instructions using equipment supplied under the contract to build the pitch (see ER 12 for details).

1 ER 12 – AGP Framework [2019-23] Maintenance
2 ER 13 - AGP Framework [2019-23] Performance and materials warranty

2. Design and construction requirements

Full size football pitches shall be designed and constructed to allow certification at handover and through the life of the playing surface in accordance with the performance warranty requirements of the AGP Framework (2024-28).

In summary these are:

FA Competition Steps	
1 and 2	FIFA Quality Pro for the full warranty period
3 – 6	FIFA Quality with annual re-testing, for the full warranty period
Regional Feeder Leagues and below	Initial certification - FIFA Quality Certification at Year 3 - Fields not exceeding 4,500 playing hours (total) at the time of test: FIFA Quality Fields exceeding 4,500 playing hours (total) at the time of test: FA Register Test Certification at Year 6 - FA Register Test

Small-sided football pitches (Less than 90m x 45m) shall be designed and constructed to allow certification at handover and through the warranty period in accordance with BS EN 15330-13[3].

3. Synthetic turf surfacing quality standards

The synthetic turf surfacing system shall be certified to the FIFA Quality Pro and FIFA Quality levels in accordance with the current laboratory testing requirements of the FIFA Quality Programme for Football Turf.

To minimise the potential for infill migration the surface shall, unless otherwise agreed with the FMC, have a low splash rating when tested in accordance with FIFA TM 16[4].

FIFA certification shall be based on the colours of the surfacing and line markings being offered for the project.

The primary pile yarn shall be polyethylene monofilament.

3 BS EN 15330-1:2013 Surfaces for sports areas. Synthetic turf and needle-punched surfaces primarily designed for outdoor use. Specification for synthetic turf surfaces for football, hockey, rugby union training, tennis and multi-sports use
4 FIFA TM 16 FIFA Quality Programme for Football Turf - Handbook of Test Methods

The minimum tuft bind, when tested in accordance with BS ISO 49195[5], shall be 45N.

The minimum tensile strength of the pile yarn, when tested in accordance with BSEN 13864[6] before and after UV ageing in accordance with BS EN 14836 (Method 2) [7] shall be 8N.

The minimum tensile strength of the carpet when tested in accordance with BS ISO 13934-1[8] shall be 15N/100mm.

The synthetic turf carpet shall satisfy the requirements of the REACH Regulations Annex XVII Entry 50 and the Heavy Metal Migration limits specified in BS EN 71-3[9] Table 2 Category III.

4. Shockpad quality standards

The Football Turf system shall include a shockpad in accordance with the performance and testing requirements of EN 15330/4. [10]

Shockpads are required to:

- Reduce the amount of polymeric infill installed in its funded pitches.
- Be environmentally sustainable with the ability to be fully recycled at end of life.
- Continue to meet the FIFA Quality standard or FA Register Field Test when used in conjunction with an approved turf, and organic infill, or non-fill system as part of future carpet replacements for the life of its warranty. – A shock pad warranty for a minimum of 20 years must be provided.

The combined design of any shockpad and the synthetic turf carpet shall ensure that slippage and creep of the carpet does not occur.

5. Infill quality standards

5.1 Performance Infill

Unless otherwise specified in the Project Information Document, the Performance Infill shall be End of Life Tyre (ELT) granulate. The particle grading shall be in accordance with the FIFA Quality Programme (FQP) Product Test Report and in the range 0.5mm – 2.5mm. It shall be machine laid to the depth specified in the FQP Product Declaration.

5 BS ISO 4919:2012 Carpets. Determination of tuft withdrawal force
6 BS EN 13864 Surfaces for sports areas. Determination of tensile strength of synthetic yarns
7 Surfaces for sports areas - Synthetic surfaces for outdoor sports areas - Test method for artificial weathering
8 BS EN ISO 13934-1:2013 Textiles. Tensile properties of fabrics. Determination of maximum force and elongation at maximum force using the strip method
9 BS EN 71-3:2019 Safety of toys. Migration of certain elements
10 EN 15330-4:2022 - Surfaces for sports areas - Synthetic turf and needle-punched surfaces primarily designed for outdoor use - Part 4: Specification for shockpads used with synthetic turf, needle-punch and textile sports surfaces.

When specified, alternative performance infill to ELT should meet the SAPCA's Quality Control Protocol for Sports Performance Infill and feature on the Register of Compliant Sports Performance Infills[11].

The performance infill shall comply with the following requirements:

5.1.1 The Inhalable Dust Content of the infill shall be classified as Very Low or Low when measured in accordance with BS EN 15051[12].

5.1.2 The effective free metal and free fibre content shall be zero.

5.1.3 PAH content

PAH	Cas No.	Requirement	Test method
Benzo[a]pyrene (BaP)	50-32-8	≤ 20.0 mg/kg for the sum of the eight PAHs listed	PAH - AfPS 2014:01 PAK[13] Prior to chemical analysis, samples shall be prepared in accordance with Appendix A of draft European Standard prEN 17409[14]
Benzo[e]pyrene (BeP) C	192-97-2		
Benzo[a]anthracene (BaA)	56-55-3		
Chrysen (CHR)	218-01-9		
Benzo[b]fluoranthene (BbFA)	205-99-2		
Benzo[j]fluoranthene (BjFA)	205-82-3		
Benzo[k]fluoranthene (BkFA)	207-08-9		
Dibenzo[a,h]anthracene (DBAhA)	53-70-3		

Sampling for routine product testing – The infill manufacturer shall undertake routine sampling and testing in accordance with draft European Standard prEN 17409[15].

5.1.4 Heavy Metal migration

Element	Migration limit (mg/kg)	Element	Migration limit (mg/kg)
Aluminium	70,000	Manganese	15,000
Antimony	560	Mercury	94
Arsenic	47	Nickel	930
Barium	18,750	Selenium	460
Cadmium	17	Strontium	56,000
Chromium (III)	460	Tin	180,000
Chromium (VI)	0.2	Organic tin	12
Cobalt	130	Zinc	46,000
Copper	7,700	Lead	160

11 SAPCA Quality Control Protocol
12 BS EN 15051-1:2013 Workplace exposure. Measurement of the dustiness of bulk materials. Requirements and choice of test methods
13 Published by the German Product Safety Commission
14 prEN 17409: 2019 Code of Practice for the Sampling of Performance Infills used Within Synthetic Turf Surfaces.
15 Suppliers listed on the *SAPCA Quality Control Protocol for Sports Performance Infills* satisfy this requirement.

Test method - As specified in Clauses 7 and 8 of BS EN 71-3

Frequency of testing - The manufacturer shall operate a quality assurance programme that allows for a minimum of one sample taken from production to be tested at least once every six months.

Sampling for routine product testing – The infill manufacturer shall undertake routine sampling and testing in accordance with draft European Standard prEN 17409.

5.1.5 Performance Infill quality management system
The manufacturer of the infill shall be independently certified as operating a quality management system for the production of the infill in accordance with BS EN ISO 9001[16].

Testing of the performance infill shall be undertaken by a test laboratory accredited to BS EN ISO/IEC 17025[17] for the tests specified.

5.1.6 Certificates of conformity
Certificates of Conformity confirming compliance with the requirements of clause 5.1 shall be included in the Operations and Maintenance Manual provided when the pitch is handed over.

5.2 Stabilising infill
The stabilising infill shall be rounded sand in accordance with the FQP Product Declaration and in the particle range 0.2mm – 1.0mm.

The Inhalable Dust Content shall be classified as Very Low or Low (BS EN 15051).

6. Installation standards

6.1 Shockpad
The synthetic turf surfacing system shall include a shockpad which shall be designed and laid to ensure minimal remedial works are required when the synthetic turf carpet is removed and replaced in the future.

Insitu-laid shockpads shall be machine laid using a suitable paving machine to form one homogenous layer across the whole of the field. Continuous monitoring of climatic conditions shall be undertaken during the laying of the shockpad to ensure that materials are not laid or left to cure in conditions outside the specified working conditions of the polyurethane binder being used. These conditions shall be notified to the FMC prior to works commencing.

Prefabricated shockpads shall either be inter-locking, ribbon bonded to the base or seamed along head joints in accordance with the manufacturer's instructions.

On completion of the shockpad installation the maximum undulation under a 3m

16 BS EN ISO 9001:2015 Quality management systems. Requirements
17 BS EN ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories
18 FIFA Quality Programme for Football Turf - Handbook of Test Methods

straightedge, when tested in accordance with FIFA TM 12[18], shall be 10mm.

1.2.1 Synthetic turf carpet

The synthetic turf carpet shall be laid in full widths across the pitch, other than where longitudinal rolls are laid to include run-offs and tufted side-line markings.

The method of jointing / seaming, including all in-laid line markings, shall be such that no ridge, groove or creases occur. The maximum carpet seam gap shall be no greater than the tuft gauge of the carpet. No seam shall be within 300mm of any permanent inlaid line.

Bonded joints shall be formed using jointing tape of not less than 400mm wide and polyurethane glue applied evenly to either side of the tape to a minimum total width of 300mm. The strength of the bonded joints shall meet the requirements set out in FIFA Quality Programme for Football Turf.

There shall be no tuft loops, random long tufts, loose tufts, tears, holes or melted areas, undulations, pile height variations or any other visual or manufacturing defects.

If replacement of a defective carpet is deemed necessary by the Employer or their agent, this shall involve full replacement of the length and width of a carpet roll (as designed and manufactured). No patching whatsoever will be allowed without written approval of the Employer.

6.3 Line markings

The field shall be line marked in accordance with the Laws of the Game, as published by FIFA. Wherever possible lines shall be tufted into the carpet.

Football markings should take priority over any other markings and be white in colour. Secondary markings, when required, shall be coloured as follows:

U11/U12 9v9: Blue
U9/U10 7v7: Yellow
U7/U8 5v5: Red

The layout of secondary markings shall be as shown in The FA Guide to 3G Football Turf Pitch Design Principles and Layouts[19].

Main pitch marking shall be tufted / inlaid into the synthetic turf carpet.

Lines shall be a single width between 100mm and 120mm wide and, when measured with a steel tape, be within 10mm of their specified position.

No carpet seam shall be within 300mm of any permanent inlaid line.

Straight lines shall not deviate by more than 10mm from a line joining their ends, nor include any sudden steps. Line edges shall be parallel and uniform.

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For a period of eight years following Practical Completion each straight-line marking shall

remain straight to within ± 20mm of a tensioned string line joining its ends and all lines shall remain within ± 50mm of their original position as measured at Practical Completion.

Furthermore, no line shall exhibit any sudden irregularity or deviation greater than 10mm over a distance of 1 metre.

6.4 Stabilising infill

Stabilising infill shall be installed at the rate specified by the manufacturer of the synthetic turf surfacing system. It shall be installed in dry conditions and it shall be brushed into the carpet until an even thickness, at the specified application rate is achieved.

6.5 Performance infill

The performance infill shall be installed at the rate recommended by the manufacturer of the synthetic turf, it shall be installed in dry condition and it shall be brushed into the carpet until an even thickness of fill is achieved and the correct amount of carpet free pile above the level of the infill is present.

6.5.1 Eliminating environmental contamination

During the transportation, site storage and installation of the performance infill, steps shall be taken to eliminate the risk of contamination of the environment by accidental spillage or poor working practices resulting in infill materials contaminating the surrounding environment of the pitch and storm water drainage systems. These shall include, but not be limited to:

- Storing big-bags and palletised bags in areas that can contain any infill spillage, ensuring that it cannot be flushed into storm water drainage systems or adjacent water courses. Such areas to be cleaned on completion of the works to ensure any spilt infill is collected and disposed of in an environmentally friendly way.
- Opening bags and loading spreading machines within the synthetic turf area, whenever possible.
- Using purpose made spreading machines to apply the infill in a controlled manner that minimises the risk of infill being thrown outside the area.
- Removing any infill caught on installation (or maintenance) plant before it leaves the synthetic turf area.

6.6 Field certification

Following completion of the pitch, and following any agreed period of establishment, the Specialist Testing Consultant (STC) will arrange for testing to determine if it satisfies the FIFA Quality category of performance, as defined in the FIFA Quality Programme for Football Turf. The Framework Supplier shall provide the following services during this process:

i. Making the on-line application to FIFA to allow a field test number and template report to be issued.
ii. Ensure that all the required site samples of synthetic turf, shockpad and infill materials are available on the site, on the day of the field test, to allow the test institute to collect them.
iii. Provide a copy of the FIFA test report and field certificate (assuming the field has passed) to the Employer's Agent within three working days of it being issued by FIFA.

7. Dual sports pitches

7.1 Football / Rugby Union
If the pitch is to also be used for Rugby Union, the following additional requirements shall apply:

7.1.1 The pitch shall be designed and constructed to also allow certification at handover, in accordance with World Rugby requirements[20].

7.1.2 The synthetic turf surfacing system shall be recognised by World Rugby as complying with the product requirements of their Rugby Turf Performance Specification.

7.1.3 Permanent rugby line markings shall be installed in accordance with the Laws of the Game - Rugby Union[21], as published by World Rugby. The lines shall be yellow in colour.

7.1.4 Following completion of the pitch, and following any agreed period of establishment, the STC will arrange for it to be tested to determine if it also satisfies the field test requirements of World Rugby's Rugby Turf Performance Specification. The Framework Supplier shall provide the following services during this process:

i. Making an on-line application to World Rugby to allow a field test number and template report to be issued;
ii. Ensure that all the required samples of synthetic turf, shockpad and infill materials are available on the site, on the day of the field test, to allow the test institute to collect them;
iii. Provide a copy of the World Rugby test report and field certificate (assuming the field has passed) to the Employer's Agent within three working days of it being issued by World Rugby.

7.2 Football / Hockey
If the pitch is to also be used for hockey the following additional requirements shall apply:

7.2.1 The pitch shall be designed and constructed to enable certification in accordance with the FIH Multi-Sport Category 3 [22] standard.

7.2.2 The synthetic turf surfacing system shall be an FIH Approved FIH Multi-Sport 3 product. The minimum yarn thickness requirement detailed in Clause 2.1 is not mandatory for dual use football/hockey surfaces.

7.2.3 Permanent hockey line markings shall be installed in accordance with the Rules of Hockey, as published by the FIH. The lines shall be yellow in colour. The dashed 5m shooting circle markings are not required.

20 As defined in World Rugby's Rugby Turf Performance Specification
21 https://laws.worldrugby.org
22 As defined in the FIH Hockey Turf and Field Standards

7.2.4 Following completion of the pitch and following any agreed period of establishment, the FMC/STC will arrange for it to be tested to determine if it satisfies the FIH Multi-sport 3 category of performance, as defined in Part 3 of the FIH Hockey Turf and Field Standards.

The Framework Supplier shall provide the following services during this process:

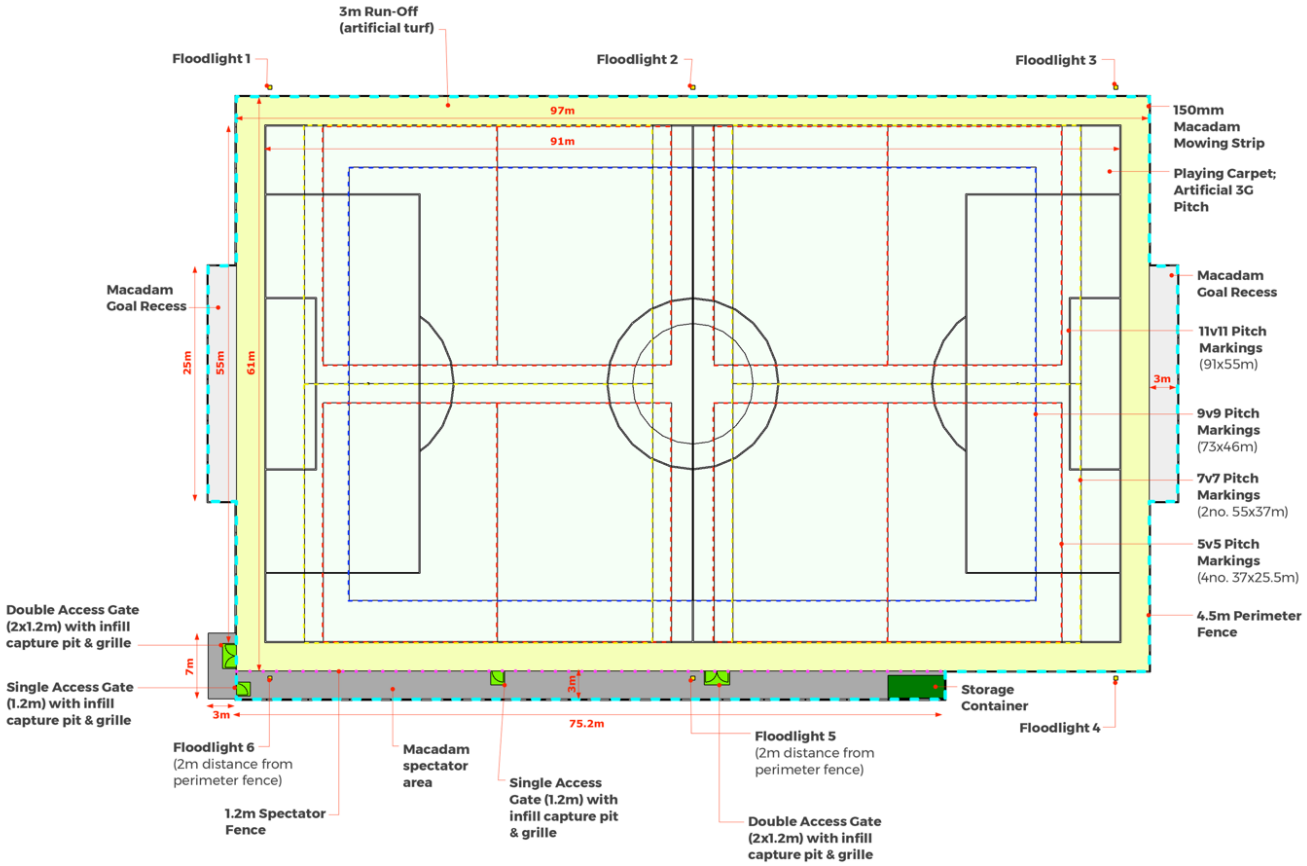
i. Ensure that all the required samples of synthetic turf, shockpad and infill materials are available on the site, on the day of the field test, to allow the test institute to collect them.

ii. Provide a copy of the FIH test report and field certificate (assuming the field has passed) to the Employer's Agent within three working days of it being issued by FIH.

8	AGP Framework 2024-2028	
Employer's Requirements	Fencing, Gates and Access	V1

1. Introduction

Perimeter fencing shall be erected around the pitch to contain balls, to protect the playing surface from contamination and to help prevent unauthorised access and vandalism[1]. The precise layout of the fencing (heights, position, goal storage recesses and number of gates, etc.) shall be as the diagram below, unless specified otherwise in the Project Information Document (PID).



At least one pair of double gates shall be provided to allow maintenance and emergency vehicle access.

Gated access shall be provided to allow direct access to each half of the pitch from the spectator area.

Equipment storage compounds shall be incorporated into the fencing to provide suitably sized recesses to accommodate and anchor portable goals. The design shall ensure it is easy to retrieve balls from the recesses and goals can be stored and anchored safely.

1 BS EN 15312:2007+A1:2010 Free access multi-sports equipment. Requirements, including safety, and test methods.
2 The SAPCA Code of Practice for the Construction and Maintenance of Fencing Systems for Sports Facilities

All fencing works shall be undertaken in accordance with the SAPCA Code of Practice for Fencing Systems[2].

2. Type of fencing

Unless otherwise specified in the PID, fencing shall be constructed from twin bar fencing (6mm dia vertical bars, 8mm dia horizontal bars forming 200 x 50mm mesh) that are supported by box section posts. The fencing shall comply with the Repeated Impact Resistance to Footballs and Kicks requirements of BS EN 15312[1].

3. Height of fencing

Unless otherwise specified in the PID, fencing on all sides of the pitch shall be 4.5m high. Internal spectator areas shall be separated from the field of play by 1.1m high fencing that incorporates a top (leaning) rail.

4. Materials

4.1 Steelwork

Steelwork shall be in accordance with the relevant parts of Section 1.3 of the SAPCA Code of Practice for Fencing Systems for Sports Facilities[2].

4.2 Protective treatment

All metalwork shall be hot dip galvanised in accordance with BS EN ISO 1461. Care must be taken to ensure that no sharp edges are left after galvanising. If the galvanised steelwork is to be painted after erection a mordant wash shall be applied prior to painting.

Bolts and nuts for fixing shall be galvanised or stainless steel. If a fixing is exposed, it must be covered/capped.

Unless specified differently in the PID all fencing shall be dark green or black in colour. Powder coating shall be in accordance with BS1722-16[3].

For installations within 500m of saltwater or estuary powder coatings shall be marine quality.

5. Gates and gate frames

Unless otherwise specified, gates shall be provided in the positions shown on the layout drawing Fig 1.

Access gates shall open outwards away from the playing area to ensure the safety of players.

3 BS 1722-16:2009 Fences. Specification for powder coatings used as a plastics finish to components and mesh.

Double Leaf Gates should be a minimum of 2.5m wide x 3m high. The gate and the space above should be filled with a welded mesh panel to match the rest of the fencing system. The gates shall have lockable slide latch/bar and lockable drop-bolts to each leaf, with open and closed drop-pin sockets, set in concrete. Handles should not protrude into the pitch. Whenever possible the gates should open through 180° so they close against the back of the fence.

6. Field entrance points - boot cleaning mats

At all (single and double) entrances to the pitch, decontamination grates/mats shall be installed as per the recommendations set out in FprCEN/TR 17519 [4]. They may comprise:

- Heavy duty rubber scraper mats
- Smooth bar industrial grates – decontamination gates

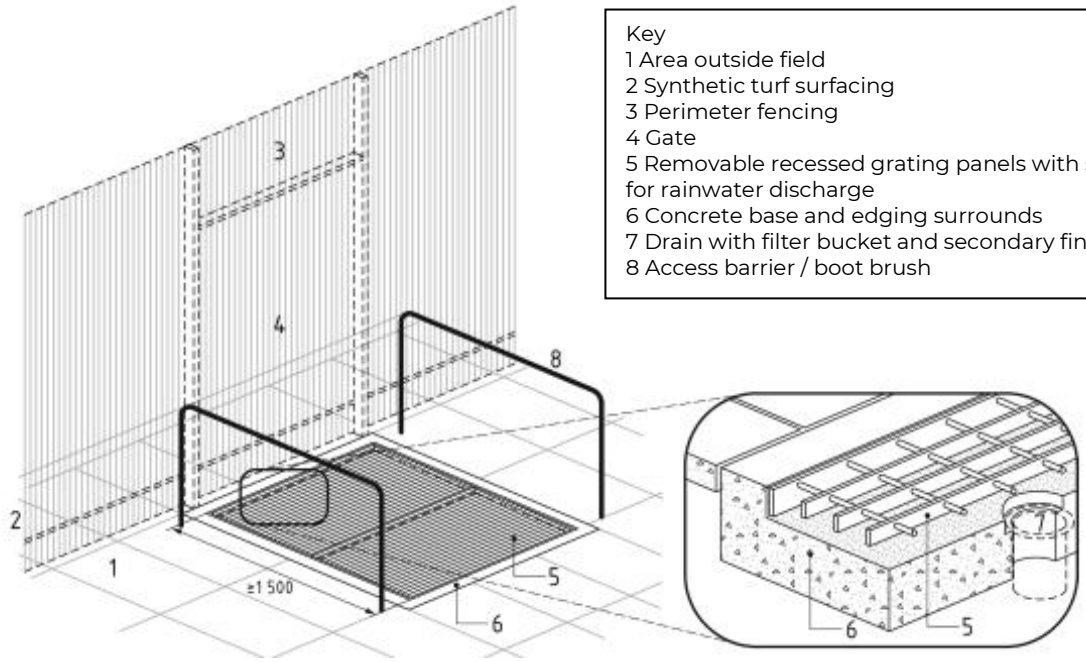
The mat shall be the full width of the entrance gate and at least 1.5m long, so people cannot step over them, with barriers to stop players stepping sideways off them. It shall be positioned immediately adjacent to gate, either internally, when located in a paved surround/spectator area, or externally, when the synthetic turf surfacing is laid to the perimeter fence.

The mats shall be set in recessed concrete bases that will contain any infill or other detritus being taken off or onto the pitch by players' footwear or maintenance equipment, etc. The base shall contain a suitable drainage outlet with suitably sized mud-buckets/filters to capture any infill and prevent it being washed into the drainage system. The design of the mat shall allow water to flow to the outlet drain (i.e., it shall not sit flat on the concrete base).

Metalwork should be hot dip galvanized in accordance with EN ISO 1461 and care taken to ensure that no sharp edges are left after galvanizing.

4. FprCEN/TR 17519

Figure 2 shows an example of cleaning grates/scrapper mats.



7. Perimeter Infill Containment Barrier

To minimise the risk of polymeric infills migrating from the pitch into the surrounding environment, all pitch perimeter fencing systems shall incorporate some form of barrier that is designed to prevent the infill from leaving the pitch through wind or water erosion. The barrier should take the form of solid panels (total 500mm in height) incorporated into the lower section of the fence, mounted so they sit flush with the ground and do not allow infill to migrate under them.

Fixings must not be left protruding through the fence.

9	AGP Framework 2024-2028	
Employer's Requirements	Sports Equipment	V1

Foreword

This section of the Employer's Requirements specifies the standards for sports equipment supplied by the Framework Supplier to synthetic turf pitch procured via the AGP Framework (2024-28).

Note: It is possible that during the period of the AGP Framework (2024-28) the Football Foundation may decide to supply sports equipment directly to pitches or nominate one or more suppliers. In this eventuality, the Framework Supplier shall undertake all necessary works to facilitate the supply and erection of the sports equipment.

All Sports Equipment (including goal nets) shall have been independently tested and certified as complying with the standards specified.

1. Football

Full size socketed football goals with nets shall comply with BS EN 748 [1].

Portable and small-sided football goals (U11/U12 9v9, U9/U10 7v7 and U7/U8 5v5) with nets shall comply with BS EN 16579[2].

2. Rugby goals

Rugby goals shall comply with BS EN 16579[2].

Post protectors shall be supplied with all rugby goals. The protectors shall comprise high density foam covered with PVC and have Velcro fasteners. They shall be >1.8m in height and > 300mm in depth. The protectors design shall meet World Rugby recommendations.

3. Hockey goals

Hockey goals with nets shall comply with BS EN 750[3]. They shall comprise Aluminium Self Weighted Hockey Goals with backboards manufactured from 475mm high 25mm solid polyethylene. Nets shall be heavy duty twine.

Note: If socketed goals are specified in the Project Information Document, the sockets shall be set in concrete footings in accordance with the manufacturer's specification.

1 BS EN 748:2004 Playing field equipment. Football goals. Functional and safety requirements, test methods
2 BS 16579: 2018 Playing field equipment - Portable and permanent socketed goals - Functional, safety requirements and test methods.
3 BS EN 750:2004 Playing field equipment. Hockey goals. Functional and safety requirements, test methods

4. Corner flags

Flexible pole corner flags shall be installed on hard wearing rubber weighted bases.

5. Pitch division nets

Pitch division nets shall comprise 100mm square powder coated square posts, with heavy duty netting. They must incorporate a bottom weighted wire and split in the middle to allow curtain to be gathered both sides of pitch.

The cable winch shall comprise a brake winch and top pulley wheel, detachable handle and a maximum load rating restricted to 100kg. If handle is not detachable then a restraint is required so that it can be locked to prevent unauthorised use of the winch

6. Team benches / shelters

Team shelters, if identified as a requirement in the PID, shall be approximately 2.1m high by 1.3m deep with eight seats (unless an alternative number of seats are specified in order to meet FA National Ground Grading Requirements).

The shelter frames and panels shall be manufactured from aluminium and all metal work shall be powder coated. Windows/roof panels shall be shatter resistant UV stabilised 3mm polycarbonate.

Seats shall be injection moulded polypropylene, or similar. The Benches shall be bolted down to a concrete base.

7. Boot cleaning stations

Multi-person boot cleaning stations, with suitable signage encouraging players to use them, should be positioned at the main points of egress from the field. If mounted outside the synthetic turf field, it should be positioned on a recessed paved area that is designed to retain the dislodged infill and has a drain fitted with a silt trap to prevent any infill being carried by rainwater run-off.

11	AGP Framework 2024-2028	
Employer's Requirements	Access ways, Perimeter margins and Spectator areas	V1

1. Perimeter margins

To minimise the potential for infill migration from the 3G synthetic turf surface to the surrounding environment, and to aid mowing of the perimeter, paved perimeter margins shall be constructed on all boundaries.

Margins shall be a minimum of 0.3m wide and slope inwards towards the synthetic turf pitch, typically with a fall of 0.5%.

2. Spectator areas

Paved Spectator Areas shall be provided to the side of the proposed pitch (Spectator area) sloping towards the AGP at a typical, fall of 0.5%, with level access to the pitch for players and maintenance equipment with all necessary excavation, disposal off site, sub bases, pavement construction, kerbline and drainage requirements.

3. Accessways

Paved access pathways shall be provided to all main access points to the pitch (pedestrian and vehicle), as detailed in the PID. They shall be fenced to ensure players and spectators do not walk debris onto the pitch.

Pedestrian paths shall be a minimum of 1.8m in width unless there are unavoidable pinch points where the width can be reduced to 1.2m for no greater than 6m in length. They should be fully Equality Act 2010 compliant.

Vehicle access routes shall be a minimum of 2.5m wide.

Access routes shall be level or have the shallowest gradients possible. Where the route is steeper than 1:60, but not as steep as 1:20, it shall have a level landing for each 0.5m rise along the route in accordance with Sport England's Design Guidance Note - Accessible Sports Facilities[1].

A minimum clear height of 2.1m shall be maintained under trees, canopies etc.

1. https://www.sportengland.org/guidance-and-support/facilities-and-planning/design-and-cost-guidance/accessible-facilities

4. Construction

4.1 Sub-base

Greater than 150 mm thick constructed from aggregate material in accordance with Highway Agency's Specification for Highway Works, Clause 803 (SHW 803) Type 1 or 3.

4.2 Kerbs /edge detail

Hydraulic pressed pre-cast concrete (PCC) edgings to BS EN 1339[2], 150 (deep) x 50 (wide) x 914 (long) mm. To be installed on a suitable concrete bed and haunch to BS EN 206[3] using concrete in accordance with BS 8500. Any gaps between kerbs shall be less than 10 mm wide.

Block paving - Supply and lay on 100mm concrete bed and haunch, 200 x 100 x 60mm block pavers as edge restraint, to lines and curves.

4.3 Surface drainage

Surface water drainage (gully drains, slot drains, etc.) shall be provided to all paved areas (spectator areas, perimeter margins, equipment storage compounds, etc.) adjacent to the pitch.

If the pitch contains a polymeric infill the drainage system shall include trash boxes with suitably sized mud-buckets/filters to capture any infill being washed into the drainage system.

4.4 Surfacing

Open textured macadam comprising a 40mm thick 0/20mm Base Layer and a 25mm thick 0/6mm Wearing Layer. All aggregates shall be granite, or grit stone, frost resistant material in accordance with BS EN 13108-1[4].

4.4.2 Block paving

All work to comply with BS 7533 - 3[5]

Supply and lay on 25-40mm zone 2 sand bed, 200 x 100 x 60mm block pavers to falls and levels. Include all cuts and sealing of joints with silica jointing sand.

Inspect paving after 4-6 weeks and top up any empty joints with dry silica jointing sand.

5. Lighting

Amenity lighting shall be installed along main access routes to the pitch where specified in the Project Information Document.

2 BS EN 1339 :2003 Concrete paving flags. Requirements and test methods
3 BS EN 206:2013+A1:2016 Concrete. Specification, performance, production and conformity
4 BS EN 13108-1: 2016 Bituminous mixtures. Material specifications. Asphalt Concrete
5 BS 7533-3:2005+A1:2009 Pavements constructed with clay, natural stone or concrete pavers. Code of practice for laying precast concrete paving blocks and clay pavers for flexible pavements

10	AGP Framework 2024-2028	
Employer's Requirements	Sports Lighting	V1

1. Introduction

A LED sports lighting system shall be designed and installed to illuminate the pitch to the standards relevant for its intended use. The performance of the system shall be in accordance with the relevant sport's governing body requirements, BS EN 12193[1] and Sport England's Design Guidance Note – Artificial Sports Lighting[2] and the general design principles outlined the CIBSE LG4 Sports Lighting. It shall also ensure compliance with all relevant planning restrictions and conditions, as detailed in the Project Information Document (PID).

Note: It is possible that during the period of the AGP Framework (2024-28) the Football Foundation may decide to supply sports lighting directly to pitches or nominate one or more suppliers. In this eventuality, the Framework Supplier shall undertake all necessary works to facilitate the supply and erection of the sports equipment.

2. Performance requirements

Sports lighting shall be in accordance with FA guidance[3] and all relevant competition requirements as specified in the PID. The lighting system shall also allow the whole pitch to be lit at minimum 120 lux (Eave) for training activities.

1 BS EN 12193:2018 Light and lighting. Sports lighting
2 https://www.sportengland.org/facilities-planning/design-and-cost-guidance/artificial-sports-facilities/
3 The FA Guide to Floodlighting – www.thefa.com

Table of Football Pyramid Illuminance Requirements

	FA Ground Grade	Average Illuminance Level (New Installations)	Uniformity Values			Notes
			Emin	Emin/Eave	Emin/Emax	
National League	Step 1	250 lux	150 lux	0.60	0.30	See National League Ground Grading document
National League (North & South)	Step 2	200 lux	120 lux	0.60	0.30	See National League Ground Grading document
Football Pyramid	Step 3 - 6	200 lux	n/a	0.60	0.30	See National League Ground Grading document
Regional Feeder League and community football	N/A	200 lux	n/a	0.60	0.30	Floodlights not required for RFL; however, suitable floodlights are a requirement for promotion to Step 6
Women's Super League (WSL)	Tier 1	500 Lux	25% Emax	n/a	0.25	See FA WFP Ground Grading document
Women's Championship (WC)	Tier 2	250 Lux	25% Emax	n/a	0.25	See FA WFP Ground Grading document
Women's Football Pyramid	Tier 3 & 4	120 Lux	25% Emax	n/a	0.25	See FA WFP Ground Grading document

The majority of lighting systems will use either 6 or 8 lighting masts located along the touchline of the pitch. The use of asymmetric beam floodlights with flat style optics are preferred in order to minimise upward waste light.

Luminaires fitted with LED lamps must include:

- Body - Die Cast Aluminium
- Optics – Flat style optics (max glass elevation 15 degrees)
- Colour Temperature – 4200K-5700K
- Colour Rendering Index- Ra70-Ra90 (A minimum of RA80 for venues that will be used for television broadcast on a regular basis)
- Efficacy - >100Lm/W
- Dimmable – Yes (see section 1.5.4)
- Front Glass - Toughened Glass or Polycarbonate
- Ingress Protection – IP65(Optics and Driver Housing)
- Impact Protection – IK08
- Aiming – Gunsight or protractor aiming device
- Driver – DALI dimmable or Multi Watt Dimmable
- Driver Location - Remote or Integral to floodlight (Single or Multiple)
- Mounting – Surface and underslung via a galvanised stirrup
- Fixings – Stainless Steel
- Warranty – Ten Years parts, labour and equipment on all luminaire components and illuminance performance
- Certifications - The ENEC (European Norms Electrical Certification) CE Mark
- Maintenance Factor – 0.90 to be applied to lighting calculations

All floodlight data must be provided in IES format for independent analysis.

Where floodlights are mounted in a corner arrangement, floodlights with a rotational symmetric beam may be used. Care must be taken to ensure that upward waste light and spill light is suitably controlled.

3. Obtrusive Light Containment

All lighting systems must follow the principles outlined in ILP GN01 Guidance Note 1 - The reduction of Obtrusive Light (2021). This document has been produced to reduce the adverse impact of lighting systems on the night sky and residential properties. By following this guidance, the installer will maintain the amenity of neighbours and protect the night sky for astronomers.

4. Structures

Where existing lighting masts are being retained it is essential to have an independent structural assessment of the masts to ensure that they are suitable to carry the proposed headload. The assessment must be undertaken by a Member of the Institution of Structural Engineers (MIStructE) and/or the Institution of Mechanical Engineers (IMechE) or Structural Engineer with a minimum qualification of MSc in Structural or Mechanical Engineering.

New lighting masts used for a side lit arrangement shall be a minimum of 15m high, constructed of octagonal (or multisided) fabricated steel and finished galvanised to BS EN1461 [4]. Masts of 15m to 20m height must be raising and lowering type for ease of maintenance.

The masts shall be flange mounted using foundation bolts cast into a suitable mass concrete foundation. It is the responsibility of the contractor design the foundation and to ensure that they are suitable for the ground conditions on site.

The supplier must be satisfied that any existing columns are suitable for the proposed lighting design and at the point of installation, and are suitable, safe, and will remain structurally sound for the length of the Premier League Stadium Fund terms and conditions (ten years).

4. BS EN ISO 1461:2022 Hot dip galvanized coatings on fabricated iron and steel articles

5. Electrical Specification

5.1 General

The contractor shall design, install, commission and test an electrical distribution and control system for the floodlighting to ensure compliance with the latest wiring and electrical standards.

The contractor shall include for all site attendances necessary to gather information necessary to carry out the above.

The contractor is responsible for the modification of the switchboards as required.

Where cables are to run across existing footpaths the contractor shall inform the client's representative seven days prior to the work taking place. The contractor shall provide the clients representative with a program of works detailing how long the work will take. It is preferable to keep road closures to a minimum, so that cables run under road surfaces are to be ducted.

An hours run meter must be fitted.

5.2 Floodlighting Feed Cables

The contractor shall be responsible for the design, supply, and installation of feed cables from the existing low voltage supply points to each of the lighting points (if required).

Cables shall be designed, installed, and terminated in accordance with BS7671.

The cables shall be SWA type - Low Smoke Zero Halogen.

Where appropriate the contractor shall run an additional earthing cable with the mains cable to ensure disconnection times are met for the circuit.

All cables shall have copper conductors.

All cables that run directly in the ground shall have a minimum buried depth of 600mm from the finished surface. They shall have a plastic cable warning tape installed over the cable.

Cables should be run on the outside of the pitch fencing, if possible, to avoid damage to the pitch surface.

5.3 Floodlighting Switchgear and Electrical Cabinets

The contractor is to design, supply, install and commission cabinets generally at the base of each mast that will house the necessary switchgear, distribution, driver assembly, power factor correction, indication, protection and cooling for the floodlights (if required).

The cabinets shall be of substantial steel construction, be hot dipped galvanised finish with lockable doors. NOTE: Where apertures are cut into the cabinets these shall be sealed before handover.

All equipment used within the cabinet shall be carefully chosen such that it will operate at the temperature inside the cabinets.

It is generally envisaged that these cabinets will house, but not be limited to, the following components: -

I. Drivers (single or multiple if remote from the floodlight)
II. Terminals for outgoing cables.
III. Facilities to accept the incoming mains cable.
IV. Protection circuit breakers. NOTE – One double pole circuit breaker shall be provided for each floodlight.
V. Where cooling fans are fitted, they shall have a cover provided to prevent water ingress.
VI. Heaters and thermostat, for frost protection (if required).
VII. Internal light and switch for maintenance purposes. LED lights are preferred.
VIII. A single, RCD protected socket outlet shall be provided.
IX. Step relays shall be fitted such that once an ON signal has been received from the person switching the system, should the control system fail, the masts will remain on, until given a proper OFF signal

5.4 System Switching

The floodlight switching location should be agreed with the end user and the use of key switches is encouraged to avoid the floodlights being operated by error. Dimming capability should be included to provide a reduced level of light for training/coaching and essential post-match maintenance.

Dimming for retrofit systems may be more problematic especially if existing cables are being re-used, in this instance the provision of dimming is not required.

6. Testing and Commissioning

7.1 Lighting Testing
Aiming: The floodlights should be aimed in accordance with the approved lighting design using a gunsight or protractor aiming device.

Commissioning: A maximum of 14 days prior to hand over the floodlights should be fully tested.

The testing shall be undertaken by an approved independent lighting consultant using a calibrated cosine corrected illuminance meter.

The pitch lighting should be tested using the 88-point methodology detailed in the FA

Lighting Guidelines.

Spill Lighting: The spill lighting shall be tested at predetermined locations around the site and signed off by the Consultant.

The lighting testing will form part of the hand over documents in the Operating and Maintenance Manual

7.2 Electrical Testing
The contractor shall satisfy themself that all test results comply with the requirements of the IEE Regulations, this specification, and Manufacturers details as applicable.

The contractor shall fill in NICEIC Test Certificates (or equivalent) in their entirety following the inspection and test in a neat and legible manner, and issue them to the Club when complete.

7. Warranty

The Framework Supplier shall provide a minimum ten year's manufacturer warranty on all luminaire components including LED Modules and Drivers.

Warranty documentation must be provided that clearly states what is covered. The warranty shall include guaranteed light levels (performance), parts, labour, equipment and lamp replacements.

1. Maintenance equipment

The Framework Supplier shall supply all the maintenance equipment required to maintain the pitch to ensure performance and life expectancy is in accordance with the performance warranty requirements of the AGP Framework (2024-28). This shall include:

- Mechanical brushing plant for weekly maintenance; incl. zigzag or oscillating brush, decompaction tines.
- A ball roll, turf height prism and infill depth gauge and 'How to' maintenance guide for use and recording.
- A secure storage container; painted green, unless otherwise specified; 20'x 8'6" x 8'; including appropriate locks and ramps and associated hard standings.

2. Maintenance Services

- For the first 12 months following Practical Completion the supplier shall undertake all necessary periodic pitch maintenance as required by the playing surface, considering the levels of use the pitch is being subjected to. The frequency of the site visits shall be no greater than once every 2 months (eight weeks).
- 12 months following Practical Completion the supplier shall undertake a lighting maintenance service for the AGP Floodlights.
- Inspection of the facility, including written reports to be issued to the FMC, at 6-month intervals following Practical Completion for period of 36 Months.
- Between 3 and 6 months following Practical Completion the FS shall inspect all carpet joints (including in laid lines) to ensure no localised failures have occurred. Any failures are to be repaired.
- Between 3 and 6 months following Practical Completion undertake a top dressing of the pitch to compensate for any initial settlement and compaction of infill materials.
- Provide an on-line maintenance log to allow all maintenance activities undertaken by the end user to be recorded.
- A fully detailed maintenance manual and necessary training of the field operators (end users maintenance team) to allow them to undertake all regular / routine maintenance of the surface in line with the manufacturer's warranty.
- At the end of the defects period the supplier shall provide details of all periodic maintenance that will be required in future, in order to meet the requirements of the warranty.

- Provide 10nr 25kg bagged performance infill for localised top dressing by the end user, or equivalent weight required for organic performance infill.

3. Reinstatement

All disturbed areas shall be reinstated; allowing for importing all necessary topsoil where required, cultivation, removal of large stones, removal of debris, grass seeding; to form shallow banking from pitch level to tie into adjacent land.

This shall include cultivating topsoil, where necessary, into a fine tilth and stone picked, the application of pre seed fertiliser and grass seed at a rate of 28grms/m².

13	AGP Framework 2024-2028	
Employer's Requirements	Pitch Performance & Materials Warranty	V1

1. Introduction

In addition to the Framework Supplier's standard materials and construction warranty, the Framework Contractor shall warranty the performance of the pitch as detailed in this document.

2. Definitions

Warrantor	The Framework Supplier
Warrantee	The Employer to whom the warranty is issued
Commencement Date	The date the warranty commences. Unless otherwise specified this shall be the Date of Practical Completion
Intended Use	<u>Football pitches</u> Football, small-sided football (all forms), football training, general physical training and any other sports activities agreed in writing by the Warrantor and Warrantees. <u>Rugby pitches</u> Rugby, Tag – rugby small-sided rugby (all forms), rugby training, general physical training and any other sports activities agreed in writing by the Warrantor and Warrantees. <u>Hockey pitches</u> Hockey, small-sided hockey (all forms), hockey training, general physical training and any other sports activities agreed in writing by the Warrantor and Warrantees.
Playing hour	The estimated usage of the pitch based on a combination of competitive match play and small-sided sports activities (cross-pitch play) and training activities. One playing hour shall be defined as the following number of players using the pitch.

Principal sport	Pitch size	Number of players
Football	100m x 64m or 91m x 55m	22
Football	73m x 46m	18
Football	55m x 37m	14
Football	37m x 27m	10
Rugby	Full size	30

Note:

- *An 11 a-side football game = 22 players x 90 minutes = 1.5 playing hours*
- *A 15 a-side rugby game = 30 players x 80 minutes = 1.3 playing hours*
- *If cross-pitch or mini-pitch football use results in a higher number of players using the pitch the hourly usage shall be adjusted on a prorate basis. E.g., four mini football pitches each having teams playing 5v5 for 1 hour = 10 players x 4 teams = 40 players. 40 / 22 = 1.8 playing hours*

3. Limited Warranty

Subject to the limitations and conditions set forth herein, the Warrantor warrants to the Warrantees (the "Limited Warranty") that:

1. The pitch has been designed, constructed and built with materials that are suitable for the intended use.
2. The pitch has been designed and constructed with materials that are suitable for the geographical location of the pitch.
3. The pitch and the manner of its installation conform to the Warrantor's method statement and material specifications, as provided to the AGP Framework 2024-28.
4. The pitch is free from defects in materials or workmanship;
5. The pitch will remain suitable for the Intended Use throughout the entire Limited Warranty Period as set forth.

4. Limited Warranty Period

4.1 The Limited Warranty set forth shall apply for the periods of time detailed below, commencing on the Commencement Date. The Limited Warranty periods detailed herein are collectively referred to as the "Limited Warranty Period ".

4.2 It shall be warranted that at any time during the Warranty Period, the pitch will comply with the required level of field performance as detailed below. The performance warranty shall expire whenever the age of the playing surface exceeds the specified time period, or it has been subjected to the specified number of playing hours, whichever comes first.

The warranty is subject to the pitch being only used for the defined intended use, for the estimated playing hours and being correctly maintained in accordance with the Warrantor's instructions.

4.2.1 Football pitches

Pitches to be used in FA Step 1 and 2 competitions.

Warranty limitation		Field test requirements	Certification required
Age of field	Total playing hours		
Month 0	0	Initial test	FIFA Quality Pro
Month 12		Annual re-test	
Month 24		Annual re-test	
Month 36		Annual re-test	
Month 48		Annual re-test	
Month 60	≥ 7500	Performance warranty expires	
Month 60		Annual re-test as long as field still complies	
Month 72			
Month 84			
Month 96			

Pitches to be used in FA Step 3 – 6

Warranty limitation		Field test requirements	Certification required
Age of field	Total playing hours		
Month 0	0	Initial test	FIFA Quality
Month 12		Annual re-test	
Month 24		Annual re-test	
Month 36		Annual re-test	
Month 48		Annual re-test	
Month 60		Annual re-test	
Month 72		Annual re-test	
Month 84		Annual re-test	
Month 96	≥ 12,000	Performance warranty expires	

Pitches to be used in Regional Feeder Leagues and below competitions.

Warranty limitation		Field test requirements	Certification required
Age of field	Total playing hours		
Month 0	0	Initial test	FIFA Quality
Month 12		First year test	
Month 24		Not required	
Month 36	≤ 4,500	Triennial re-test	
	≥ 4,500		
Month 48		Not required	FA Register
Month 60		Not required	
Month 72	≥ 9000	Triennial re-test	
Month 84		Not required	
Month 96	≥ 12,000	Performance warranty expires	

4.2.2 Rugby pitches

Warranty limitation		Field test requirements	Certification required
Age of field	Total playing hours		
Month 0	0	Initial test	World Rugby Regulation 22
Month 12		Not required	
Month 24		Biennial re-test	
Month 36		Not required	
Month 48		Biennial re-test	
Month 60		Not required	
Month 72		Biennial re-test	
Month 84		Not required	
Month 96	≥ 12,000	Performance warranty expires	

4.2.3 Hockey pitches

Warranty limitation		Field test requirements	Certification required
Age of field	Total playing hours		
Month 0	0	Initial test	FIH field certification
Month 12		Not required	
Month 24		Not required	
Month 36		Triennial re-test	
Month 48		Not required	
Month 60		Biennial re-test	
Month 72	≥ 9000	Not required	
Month 84		Biennial re-test	
Month 96	≥ 12,000	Performance warranty expires	

4.3 Materials

It is warranted that the materials and components contained in the synthetic turf system fully satisfy the requirements of the AGP Framework (2020-24) Employer's Requirements, applicable at the time the pitch was constructed.

4.3.1 Product warranty

For a period of EIGHT years from the Commencement Date the synthetic turf will not suffer any abnormal wear or tuft loss based on the manufactured product in accordance with the relevant requirements of:

- FIFA Quality Programme for Football Turf
- World Rugby, Rugby Turf Performance Specification
- FIH Hockey Turf and Field Standards

4.3.2 Synthetic turf carpet

4.3.2.1 Tuft bind
It is warranted that the tuft bind properties of the synthetic turf carpet will meet the requirements as defined in the AGP Framework (2024 – 24) Employer's Requirements.

The minimum tuft bind as stated in ER 05 – Football Turf is ≥40N when tested in accordance with BS ISO 49195[5].

In the event that a pitch is suffering from tuff loss / tuft bind issues within the warranty period a failure under the warranty will be defined as a pitch that fails the FIFA tuft withdrawal requirement as per FIFA Test Method 26 of ≥40N at ≥50% of the 18nr AAA tests locations, the on-site results will then be verified by taking 6nr samples from the pitch (at the locations listed below) and subjected to the same testing requirements under laboratory conditions, should all 6nr samples fail, then the pitch will need re-surfaced in line with the Warrantor's Liabilities which can be found in section 7 of this ER – ER 13 Pitch Performance and Materials Warranty.

Sampling Locations:

1) Approximately 1m within the main playing area at the most used entrance onto the pitch (High footfall wear).
2) Centre of the 11 aside Goalmouth area approximately 0.5m from the goal line (potentially high wear).
3) Wing - Centre of the 7 aside Goalmouth at most used 7 aside pitch, approximately 0.5m from the goal line (potential high wear). Usually the first 7 aside pitch to the main entrance.
4) Centre circle area, approximately 1m from the centre spot (reduced wear area).
5) Approximately 3m from both the sideline and the goal line at the opposite corner from the main entrance onto the pitch (low wear area).
6) Approximately 0.5 from the sideline in the run off area in the least used area away from the main entrance onto the pitch (low wear area).

All of the above testing will be carried out by The AGP Framework Specialist Testing Consultant.

The above testing shall apply to pitches that are 106m x 70m or 97m x 61m, where the pitch is smaller than these footprints the testing locations and sampling quantities will be reduced Pro Rata.

In the event that the tuff loss / tuft bind issue appears to be localised or is specific to a roll of carpet, the effected roll of carpet will be subjected to the same testing and sampling with 3nr on site tests and 1nr sample being subjected to laboratory testing this will at the discretion of the Foundations Framework Manager.

4.3.2.2 Dimensional stability
It is warranted that the synthetic turf carpet is dimensionally stable and meets the requirements as defined in the relevant requirements of:

- FIFA Quality Programme for Football Turf
- World Rugby, Rugby Turf Performance Specification
- FIH Hockey Turf and Field Standards

For the purposes of this warranty the following applies to football and rugby surfaces:

a) carpet rucks are defined as any crease that adversely affects a rolling ball or causes the playing surface to exceed the surface regularity requirements of the FQPFT.
b) carpet shrinkage is defined as any carpet movement that results in a gap of more than 10mm
developing or the separation of any carpet joints.
c) line markings are considered to have distorted if they move beyond +/- 20mm of a tensioned string line joining their ends or +/- 50mm of their original position.

For hockey pitches the requirements of the FIH Hockey Turf and Field Standards Part 3, Clause 4.6.2 apply.

4.3.2.3 Synthetic turf carpet joints
It is warranted that the method of joining the rolls of the synthetic carpet and fixing all inlaid line markings will withstand the effects of play, maintenance and the prevailing climate for a period of eight (8) years, such that excessive joint failures will not occur. It is also warranted that if localised joint failures do occur, the Warrantor will return to the site as soon as reasonably practicable to make good the failure.

A joint failure is defined as delamination of a bonded joint by a length of more than 50mm and a width of more than 10mm from the edge of the carpet roll or the tearing of a stitched joint.

4.3.3 Performance infill (if applicable)
It is warranted that the performance infill has been manufactured with adequate abrasion resistance and UV stabilisation to ensure adequate performance and colour retention for a period of eight (8) years.

4.3.4 Stabilising infill (if applicable)
It is warranted that the stabilising infill has adequate abrasion resistance to ensure adequate performance for a period of eight (8) years.

4.3.5 Shockpad (if applicable)

4.3.5.1 It is warranted that the shockpad will retain its shock-absorbing characteristics for a period of at least twenty (20) years.

For the purposes of this warranty, this shall mean that the shock absorption remains within 90% of the manufacturer's declared value, as reported in the Product Test Report.

4.3.5.2 The shockpad will be dimensionally stable.

4.3.5.3 The drainage characteristics (vertical or horizontal) of the shockpad will be retained for a period of twenty (20) years.

4.3.5.4 The shockpad will be fit for reuse with a non-polymeric infill system when the initial synthetic turf surface is replaced.

4.4 Construction

4.4.1 Drainage

It is warranted that the drainage system has been designed and constructed to ensure that for a period of at least sixteen (16) years, it will:

a) ensure that all surface water is removed from the pitch either through vertical or horizontal drainage at a rate to ensure that no surface flooding will occur through rain at the highest intensity that may be expected to occur once every five years.
b) protect the pitch from the effects of ground or surface water from the surrounding areas.
c) ensure that water does not collect in the construction to a degree that it results in a reduction of the load-bearing capacity of the formation or damage to the construction from the effects of frost.

4.4.2 Base and sub-base

It is warranted that the base and sub-base have been designed and constructed to ensure that for a period of at least twenty (20) years, they will:

a) resist the effects of frost or drought that may be expected to occur in a return cycle of once every 50 years.
b) provide adequate stability that the playing surface does not move outside the specified tolerances for surface regularity over a period of eight years.

4.4.3 Ancillary items

It is warranted that permanent ancillary infrastructure (lighting, perimeter edging, fencing, access ways, etc.) constructed as part of the pitch will remain free of all defects, corrosion or failures etc., other than fair wear and tear and deterioration, for a period of ten (10) years.

5. Limitations of warranty

5.1 This warranty shall not apply if:

a) the pitch is used for any activities other than Intended Use.
b) the pitch is not maintained in a manner that is in accordance with the Warrantor's written maintenance instructions using the maintenance equipment supplied by the Warrantor and materials (infill etc.) supplied by or in accordance with the Warrantor's specifications.

c) there is any defect or damage caused by:

I. burns, cuts, accidents, vandalism, abuse, negligence or neglect.
II. use of inappropriate footwear or sports equipment.
III. repairs undertaken by third parties not authorised by or acting on behalf of the Warrantor.
IV. the use of cleaning chemicals, herbicides or pesticides not specified in the Warrantor's maintenance procedures.
V. cases of force majeure or other conditions beyond the reasonable control of the Warrantor and not identified as potential risks during the design phase of the pitch's construction, such as (but not limited to) natural disasters, fire, flooding or atmospheric pollution.

5.2 The duration of the warranty will be reduced pro rata if the use of the pitch exceeds the annual usage figure detailed in clause 4.2.

6. Warranty Repairs

6.1 Any required Warranty Repair shall be investigated by the Warrantor within five (5) working days, after receiving written notice of any defect.

6.2 The Warrantor shall make all necessary investigations to determine the cause of the failure and submit proposals for undertaking the Warranty Repair for review and approval by the Warrantees. All such proposals will be based on industry best working practices.

6.3 Any required Warranty Repairs shall be initiated by the Warrantor within a reasonable time period, as agreed with the pitch operator.

6.4 The repaired or replaced portion of the pitch will be warranted for the balance of the Limited Warranty Period.

7. Warrantor's liabilities

7.1 The Warrantor's proposals shall include an estimate of the repair or replacement costs. These shall be based on the unit rates detailed in the tender contract sum with an appropriate allowance for inflation and establishment expenses etc. The costs shall be agreed with the Warrantees prior to repair works commencing.

7.2 If a warranty defect occurs within 24 months of handover of the pitch, the Warrantor shall be financially liable for One Hundred percent (100%) of the replacement or repair costs.

7.3 If a warranty defect occurs after 24 months of the pitch being handed over, the Warrantor's financial liability shall be limited to a percentage based on the time remaining on the warranty.

7.4 For example, if a defect is found in year five of the eight-year warranty, the Warrantor will be liable for (8-5)/8 =37.5% of the replacement or repair costs.

7.5 If the scheduling of repairs or replacement or the undertaking of the works means that the pitch is out of use for more than seven (7) consecutive days, the pitch operator shall be entitled to compensation from the Warrantor for any consequential loss.

8 Insurance Backed Guarantees

All warranties shall be Insurance Backed Guarantees (IBG) underwritten by a UK company who are authorised and regulated by the UK Financial Services Authority.

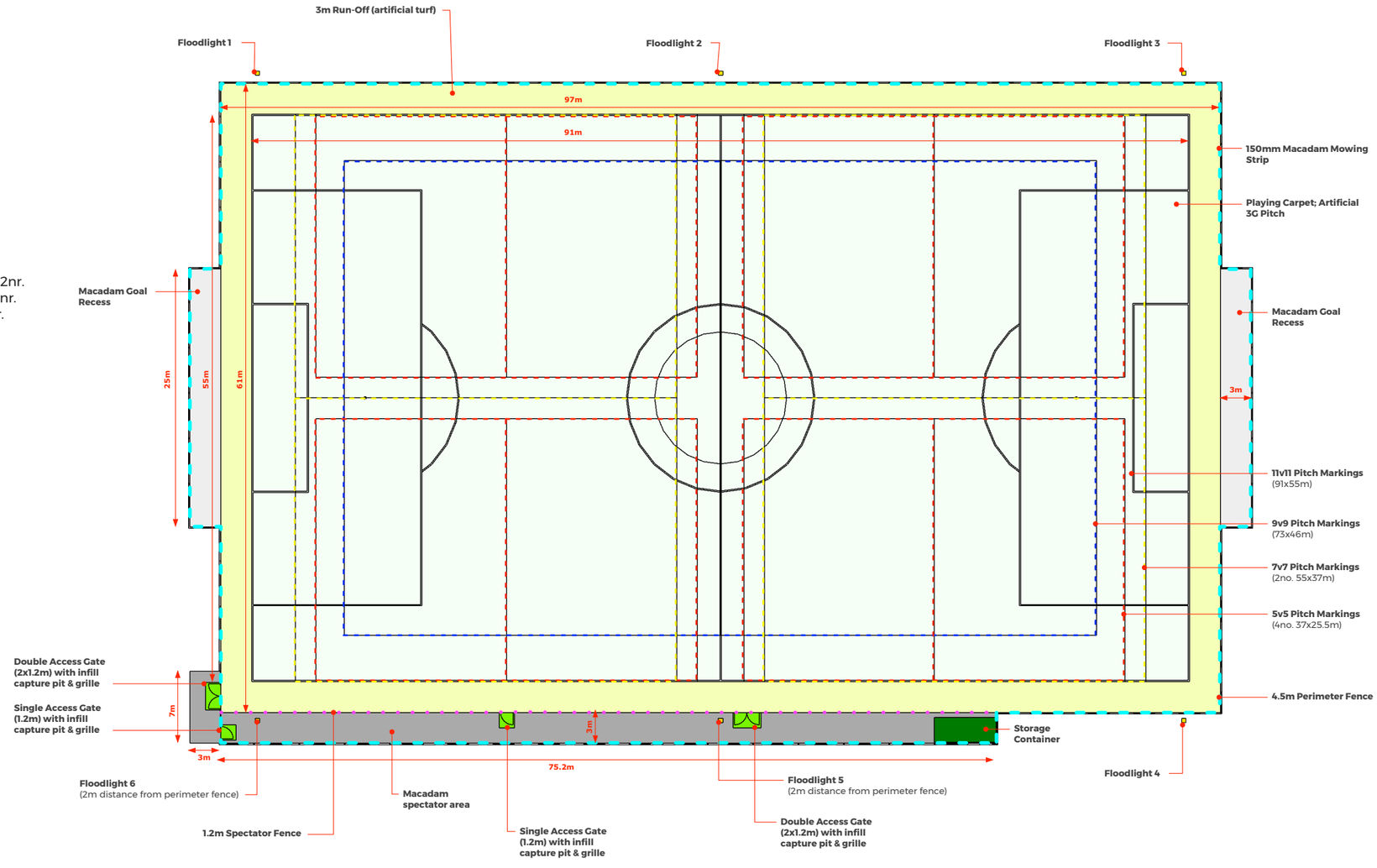
FOOTBALL FOUNDATION;

Community LED Floodlit 3G FTP (11v11 - 91m x 55m)

Pitch Size Including Run-Off Area - 97m x 61m

NOTES & ITEMS:

Field Size 97m x 61m – 5,917m2
11v11 – 91m x 55m – 1nr.
9v9 – 73m x 46m – 1nr.
7v7 – 55m x 37m – 2nr.
5v5 – 25.5m x 37m – 4nr.
LED Floodlights
4.5m High Perimeter Fence
1.2m High Spectator Fence
Single Gates (1.2m) - 2nr.
Double Gates (2no. x 1.2m) - 2nr.
Infill Capture Pit & Grille (1.5 x 1.5m) – 2nr.
Infill Capture Pit & Grille (1.5 x 3m) – 2nr.
Heavy Duty Boot Wiper/Scraper – 4nr.
11v11 Goals - one set
9v9 Goals - one set
5v5 Goals - four sets
Pitch Dividing Net – 1nr.
Storage Container – 1nr.
Pitch Maintenance Equipment
Waste Bins – 2nr.
150mm Mowing Strip



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NOTES

Drawings to be used for planning applications ONLY - do not use as construction drawings. Take dimensions from notes.

REVISION:

V1.0 (13.01.23)

FOOTBALL FOUNDATION
Artificial Grass Pitches
December 2022

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FOOTBALL FOUNDATION;

Community LED Floodlit 3G FTP (11v11 - 91m x 55m) - Alternative Layout

Pitch Size Including Run-Off Area - 97m x 61m

NOTES & ITEMS:

Field Size 97m x 61m – 5,917m2
11v11 – 91m x 55m – 1nr.
9v9 – 73m x 46m – 1nr.
7v7 – 55m x 37m – 2nr.
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LED Floodlights
4.5m High Perimeter Fence
1.2m High Spectator Fence
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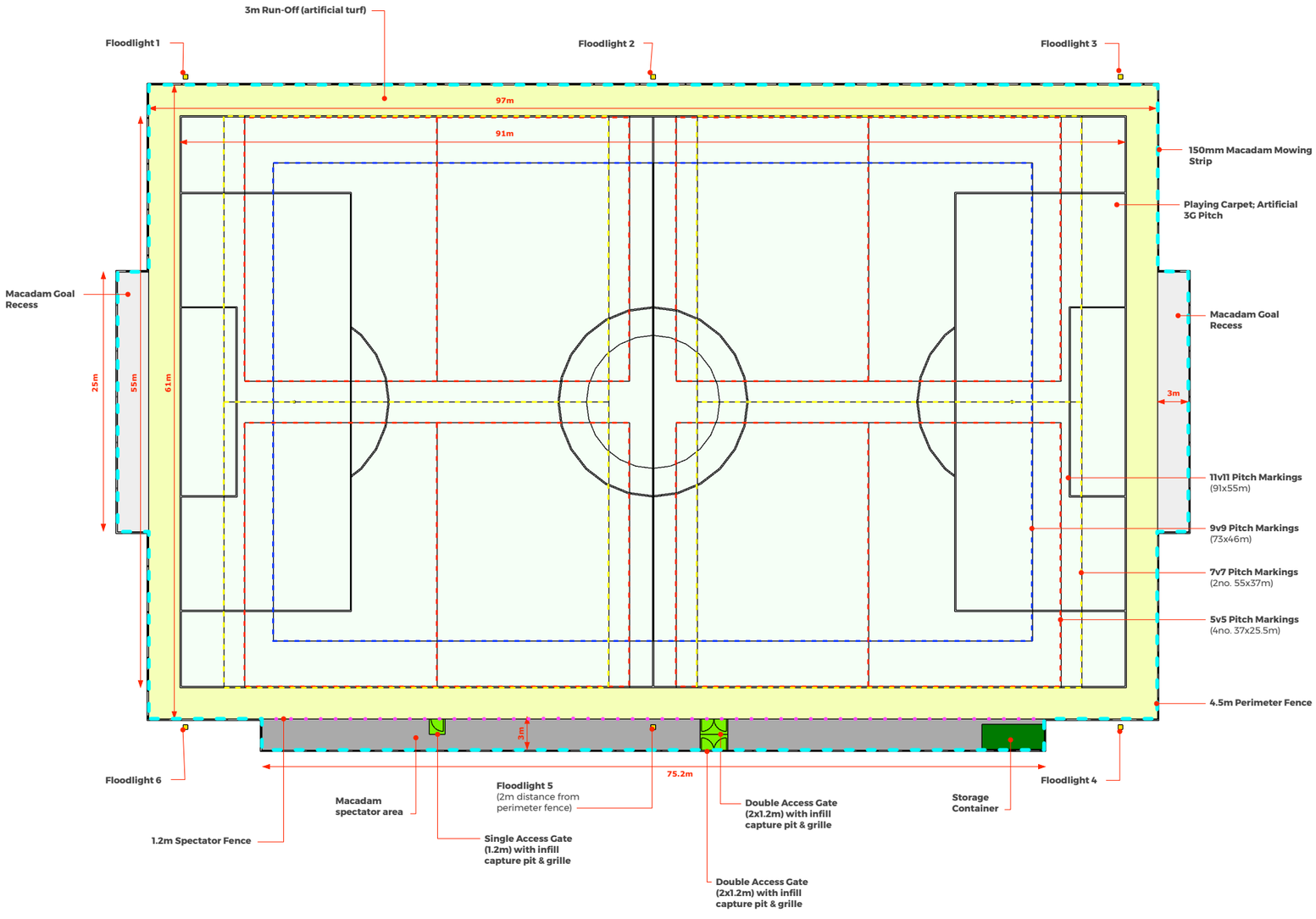
Double Gates (2no. x 1.2m) - 2nr.
Infill Capture Pit & Grille (1.5 x 1.5m) – 1nr.
Infill Capture Pit & Grille (1.5 x 3m) – 2nr.
Heavy Duty Boot Wiper/Scraper – 3nr.
11v11 Goals - one set
9v9 Goals - one set
5v5 Goals - four sets
Pitch Dividing Net – 1nr.
Storage Container – 1nr.
Pitch Maintenance Equipment
Waste Bins – 2nr.
150mm Mowing Strip



0m 50m

SCALE 1:500 @A3

NOTES

Drawings to be used for planning applications ONLY - do not use as construction drawings. Take dimensions from notes.

REVISION:

V2.0 (13.01.23)

FOOTBALL FOUNDATION
Artificial Grass Pitches
December 2022

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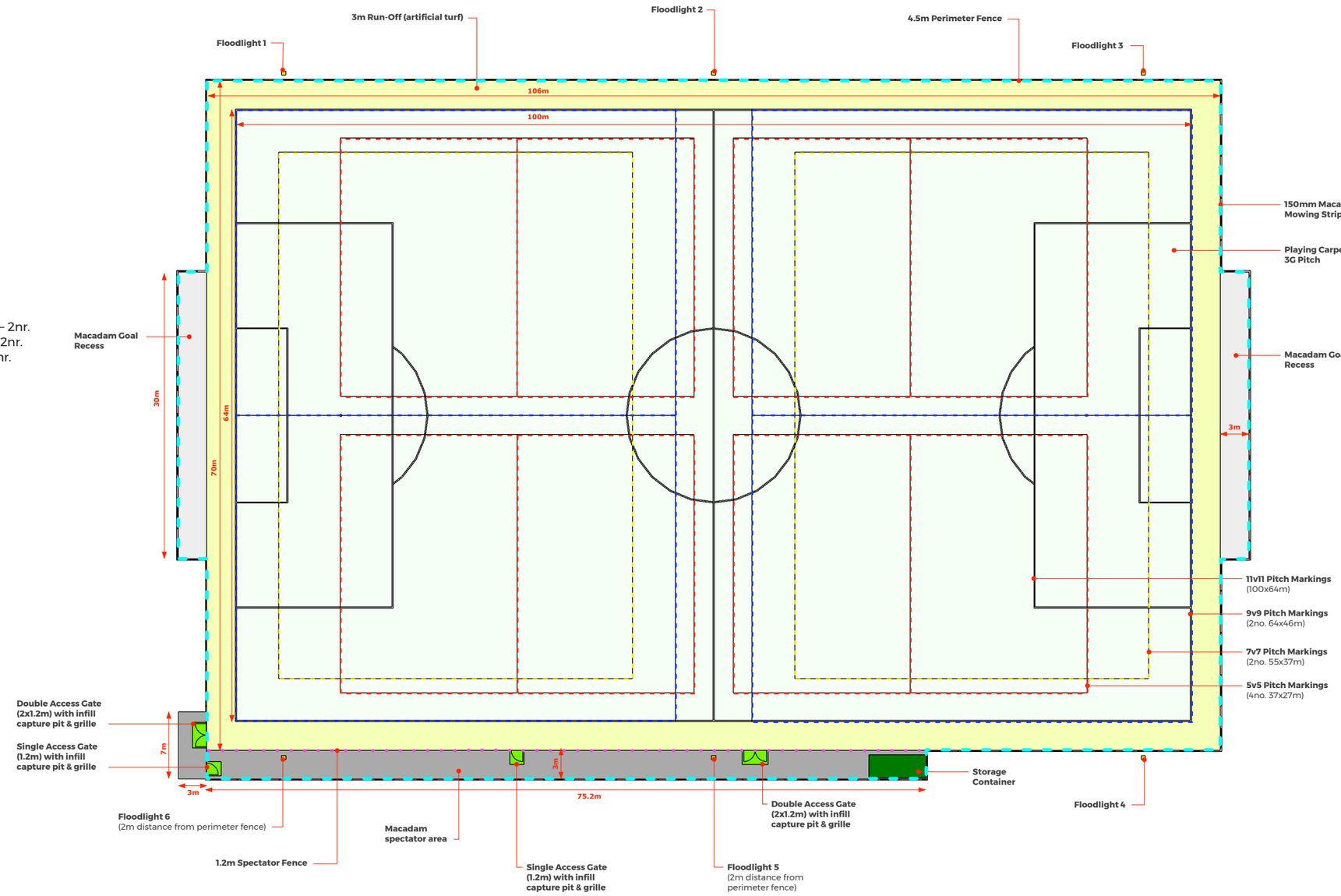
FOOTBALL FOUNDATION;

LED Floodlit 3G FTP (11v11 - 100m x 64m)

Pitch Size Including Run-Off Area - 106m x 70m

NOTES & ITEMS:

Field Size 106m x 70m – 7,420m2
11v11 – 100m x 64m – 1nr.
9v9 – 64m x 46m – 2nr.
7v7 – 55m x 37m – 2nr.
5v5 – 37m x 27m – 4nr.
LED Floodlights
4.5m High Perimeter Fence
1.2m High Spectator Fence
Single Gates (1.2m) - 2nr.
Double Gates (2no. x 1.2m) - 2nr.
Infill Capture Pit & Grille (1.5 x 1.5m) – 2nr.
Infill Capture Pit & Grille (1.5 x 3m) – 2nr.
Heavy Duty Boot Wiper/Scraper – 4nr.
11v11 Goals - one set
9v9 Goals - two sets
5v5 Goals - four sets
Pitch Dividing Net – 1nr.
Storage Container – 1nr.
Pitch Maintenance Equipment
Waste Bins – 2nr.
150mm Mowing Strip



0m 50m

SCALE 1:500 @A3

NOTES

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