DORIC PARK
ARTIFICIAL GRASS PITCH (AGP)

CLIENT	TROWBRIDGE TOWN COUNCIL
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1 INTRODUCTION

1.1 Labosport Ltd have been commissioned to prepare and manage an application for full planning permission for the proposed construction of an Artificial Grass Pitch (AGP) at Doric Park on behalf of Trowbridge Town Council.

1.2 This document describes the project aspirations and illustrates the feasibility and design development processes within a recognised and structured format that has resulted in this proposal; to allow the Local Planning Authority to grant full planning permission for the development.

1.3 APPLICATION DETAILS

DEVELOPMENT LOCATION	Doric Park North West Side of Devizes Road Hilperton Trowbridge Wiltshire
PROPOSAL DESCRIPTION	Planning permission is sought to create an Artificial Grass Pitch (AGP) with associated features including 4.50m high ball stop fencing and entrance gates to the AGP perimeter; 1.20m and 2.00m high pitch barriers with entrance gates internally within fenced AGP enclosure to segregate the artificial grass field of play and perimeter area from adjoining hard-standing areas; hard-standing areas complete with associated porous asphalt surfacing for portable goals storage, pedestrian circulation and access as well as vehicular maintenance and emergency access; 15.00m high floodlight system around AGP perimeter; 2.59m high maintenance equipment store located within AGP fenced enclosure

2 DESIGN AND ACCESS STATEMENT (DAS)

2.1 DAS REQUIREMENTS

This design and access statement (DAS) presents a concise explanation of appropriate design principles applied to the proposed development; demonstrating the merits of this proposal in context and describing relevant design influences that have underpinned decision making to ensure improved quality, sustainability and inclusiveness within a suitable site and its setting that may be adequately accessed by prospective users.

This statement discusses design characteristics concerning the purpose, amount, layout, scale, landscaping and appearance of this proposal. In addition, arrangements to ensure that all prospective users will share equal and convenient access to this proposal are explained.

Having followed planning policy recommendations and published technical guidance, we believe this proposal is based upon best design practices for external sports facility provision.

2.2 SITE SETTING

APPLICATION SITE

The application site is situated within the grounds of Doric Park.

The application site is illustrated below:

2.3 SITE SUITABILITY

The proposed AGP will replace a grass playing field at Doric Park as part of a planned site wide redevelopment.

The proposed AGP will be located close to new facilities onsite, providing convenient access for all community visitors to and from changing accommodation and administration facilities.

This location will also afford convenient pedestrian, maintenance and emergency access as well and providing for suitable management, supervision and security by site staff.

During a feasibility study, the optimum location for the proposed AGP was considered.

Considerations included:

- Convenient proximity to changing rooms
- Convenient proximity to welfare accommodation
- Convenient proximity to reception facilities

- Convenient proximity to management and supervision offices
- Adequate onsite vehicular parking facilities, local public transport systems and green travel opportunities
- Avoidance of physical hazards (e.g. historical coal mining, UXO, utilities and services, adverse ground conditions, contaminated ground or landfill)
- Avoidance of unacceptable impacts to residential amenity (by noise, visual and artificial lighting) or the ability to introduce mitigation measures
- Avoidance of unacceptable impacts to any protected species, local biodiversity and ecology or the ability to introduce mitigation measures

We believe the proposed application site provides the best solution for the above considerations and in the context of land suitability, the site provides optimum ground characteristics for the proposed AGP as follows:

ASPECT	OPTIMUM GROUND CHARACTERISTIC	RATIONALE
LANDFILLING	Adequately distant / remote from historical or current landfill sites	To avoid potential sources of chemical and / or gaseous contamination to human receptors (end users and construction operatives)
UXO	Absence of underground unexploded ordnance	To avoid a disaster event causing great and usually sudden damage or suffering
COAL MINING	Adequately distant / remote from an area affected by past or present coal mining, or minerals worked in association with coal or brine extraction	To avoid conflict with potentially untreated mine workings (shaft, vent or adit) that may present a potentially catastrophic risk to users of the AGP and to the AGP construction itself
GROUND CONDITIONS / STRATA / STABILITY	Comprising Topsoil (ideally native) or Reworked Topsoil (which may be classified a Made Ground on the basis it has previously been worked and is not virgin land) over stable, inert, permeable sub soil/s free from contamination, organic content and excessive swelling / shrinkage potential	To allow the efficient removal surface materials to expose underlying sub soil/s onto which the AGP may be installed after groundwork is completed to create a suitable formation level (building plateau)
GROUND STABILITY	Adequate competency and load bearing capacity to support the AGP being construction upon it and free from risk of future differential or total settlement	To enable standard construction methods for the AGP base and foundations Please note: Unlike a natural grass pitch where any surface undulations may be remedied via surface dressing techniques, the entire AGP construction must be installed onto an adequately stable and stiff formation level to ensure that no differential or total settlement occurs over time This is to ensure surface regularity and gradients are retained over the AGP life cycle and any difficult and costly rectification work is avoided
BEARING CAPACITY	Adequate capacity of soil to support the loads applied to the ground in respect of pad type foundations for floodlight masts bases and ball stop fence post foundations. Bearing capacity of soil is the maximum average contact pressure between the foundation and the soil which should not produce shear failure in the soil	To enable standard concrete foundation solutions for floodlight masts and fence posts
GROUNDWATER	Absence of shallow groundwater	To enable standard construction methods for the AGP drainage, base and foundations and floodlight bases
UTILITIES	Development area is free from underground and overhead services owned, managed and maintained by statutory undertakers	To avoid conflict with existing services and / or costly diversion work
ARCHAEOLOGY	Development area is free from precious archaeological remains / artefacts	To avoid conflict and / or costly specialist work
TOPOGRAPHY	Development area contains shallow land gradients	To facilitate FA / FIFA technical recommendations, which require 1:100 (1%) maximum slopes / profiles to preserve unbiased ball roll characteristics To enable an efficient design with standard construction requirements to create a uniform plateau onto which the AGPs may be installed To enable compliant accessible pavements for pedestrian and vehicular access

2.4 COMMUNITY FOOTBALL BENEFITS

The AGP will provide five principle types of football applications and will offer a variety of match play pitches and training areas within the same enclosed playing space to support The Football Association's development plans into grassroots football and gain the maximum sport developmental outcomes; during the day, evenings and at weekends via pre-arranged and structured community access.

In accordance technical guidance, the aspiration is to introduce multiple pitch markings to gain the maximum football developmental outcomes and benefit from the site footprint and the AGP will support the following formal pitch arrangement:

AGE GROUPING	TYPE	PITCH SIZE	QUANTITY
Youth U17/18 and Open Ages Football	11v11	100 x 64m	1
Youth U11 / U12*	9v9	63.8 x 45.9m	2
Mini Soccer U9 / U10**	7v7	55 x 37m	2
Mini Soccer U7 / U8* **	5v5	37 x 27m	4
Training Areas**	Various	48 x 30m	4

*Smaller than recommended size, but acceptable for match play use
**the variety of over markings will be agreed in due course, to be considered against the football development plan

Whilst this proposal will result in the loss of a grass football pitch, the provision of a new AGP will provide increased usage in comparison to the area of playing field it replaces.

This intensification of use is made possible by the introduction of an artificial grass surfaced field of play which is more durable in comparison to natural turf especially during winter weather conditions, plus the provision of floodlights.

The proposed AGP will also avoid close season maintenance works which is a common post season requirement for fine sports turf.

2.5 AMOUNT

This proposal has been prepared in accordance with published Design Guidance Notes (The Football Association (FA) / Sport England) pertinent to external artificial sports facility provision. The Artificial Grass Pitch (AGP) design is in accordance with The FA Guide to 3G Football Turf Pitch Design Principles and Layouts and the proposed amount of development is:

ASPECT	QUANTITY	AREA
Artificial grass pitch area	1no. 106 x 70m	7420m2
Adjoining hard standing goal storage areas, pedestrian circulation and pedestrian / vehicular access	Various sizes	709m2
Total		8129m2

2.6 DESIGN CHARACTERISTICS

We believe the proposal design is complementary to a sports complex environment and will introduce minimal visual impact, this being vital to ensure this proposal is sympathetic to its surroundings and does not create unacceptable impact to any adjacent public areas.

The finished appearance of principal AGP features includes:

SCALE

- The proposed height of new open steel mesh ball stop fencing and entrance gates around the entire AGP perimeter is 4.50m above ground level.
- The proposed height of new open steel mesh pitch perimeter barriers and entrance gates internally within the AGP enclosure to segregate the artificial grass pitch surface from adjoining hard standing areas are 1.20m and 2.00m above ground level.
- The proposed height of the new floodlight system is 15.00m above ground level comprising six (6no.) masts mounted with twelve LED luminaires with a 2no. / 2no. / 2no. arrangement along Western and Eastern longitudinal sides of the AGP, plus four (4no.) additional LED luminaires mounted onto Western floodlight masts aimed over the adjacent rugby pitches.
- The proposed height of a new outdoor maintenance / sports equipment store is 2.59m above ground level.

Illustration of typical Artificial Grass Pitch (AGP):

LANDSCAPING

It is acknowledged that the proposed development will replace a grassed playing field.

Except for new hard landscaping treatments comprising porous asphalt surfacing for pedestrian circulation and pedestrian / vehicular access, all other soft ground surrounding the area affected by the development shall be reinstated to grass (in accordance with in accordance with BS 4428:1989 Code of Practice for General Landscape Operations).

This will enable effective grounds maintenance to the surrounding playing field and retained surrounding grounds.

APPEARANCE

3G artificial grass pitch surface:

Typical floodlit AGP:

Floodlight mast with two LED luminaires:

Maintenance equipment store:

Ball stop fencing:

Pitch barrier and hard standing areas:

- The installed appearance of the new pitch surface (the field of play) will comprise a 3G artificial grass and partially in-filled with silica sand (for stability) and SBR (for performance), coloured grass green.

  This is consistent with current Football Association (FA) technical requirements to deliver adequate performance characteristics for the intended sporting activities. This surface type is recognised as the most suitable artificial playing surface for community football and youth football development.

  For football applications, this proposed pitch surface is credited as 'preferred football surface' and 'surface for high level competition / training' within Sport England's guidance document 'Selecting the Right Artificial Surface for Hockey, Football, Rugby League and Rugby Union' Issue 002 / December 2010.

- The installed appearance of new perimeter ball stop fencing (4.50m high) and new pitch barriers (1.20m and 2.00m high) with associated gates will comprise polyester powder coated RAL6005 Moss Green, all supported with an intermediate post system and entrance gates of matching colour.

The proposed type and quality of ball-stop fencing is consistent with current Football Association (FA) technical requirements for fencing to enclose artificial grass sports pitches. The fencing type will be steel open mesh fencing containing a general 200x50mm aperture (and 66x50mm rebound aperture to the internal pitch perimeter barrier).

Fence panels are insulated from the posts using neoprene washers to be fitted to every fence post / mesh fixing point to aid noise reduction and acoustic attenuation by reducing rattle and vibration from ball impacts.

- The installed appearance of the new floodlights system will include six (6no.) 15.00m high sectional octagonal base-hinge steel masts finished galvanised (Z275) self-coloured, mounted with LED three-module luminaires finished raw aluminium.

  To ensure that overspill and backward light projected outside the AGP does not create unacceptable light impact to residential neighbours, luminaires will be installed with minimal aiming angles (as recommended by The Institution of Lighting Professionals (ILP)) to reduce horizontal and vertical overspill.

- The installed appearance of the new maintenance equipment store (2.529m high x 6.06m long x 2.44m wide) will comprise high tensile rust inhibiting corten steel, finished polyester powder coated RAL6005 Moss Green.

- The installed appearance of new hard standing areas (clean access and circulation for pedestrians and visitors as well as vehicular access for maintenance operations and emergency) will comprise grey / black coloured porous asphalt.

2.7 DESIGN STANDARDS

In respect to relevant design standards, this proposal is designed in accordance with and must be constructed if full compliance with the following sources of technical guidance and performance quality standards which are appropriate to external artificial sports facilities:

ARTIFICIAL GRASS PITCH (AGP)

The Football Association (FA) Guide to 3G Football Turf Pitch Design Principles and Layouts

Federation Internationale de Football Association (FIFA) Quality Programme for Football Turf (October 2015)

Sport England Design Guidance Note 'Artificial Surfaces for Outdoor Sport' – updated guidance for 2013

Sport England's guidance document 'Selecting the Right Artificial Surface for Hockey, Football, Rugby League and Rugby Union' Issue 002 / December 2010

BALL STOP FENCING

BS EN 15312:2010 A1:2 Free access multi-sports equipment – Requirements, including:

Clause 5.5.1.2.1 Resistance to repeated impact of footballs
Clause 5.5.1.2.2 Very intense forceful impact resistance to player's kicks

GOALS

BS EN 748:2013 - Playing field equipment. Football goals. Functional and safety requirements, test methods

BS 8461:2005+A1:2009 - Football goals. Code of practice for their procurement, installation, maintenance, storage and inspection

BS 8462:2005+A2:2012 - Goals for youth football, futsal, mini-soccer and small-sided football

FLOODLIGHTS

The Football Association (FA) Guide to Football Turf Pitch Design Principles and Layouts (FIFA's Class II for Non – Televised events (4))

BS EN 12193:2007 Light and lighting. Sports lighting

The Institution of Lighting Professionals (ILP): Guidance Notes for The Reduction of Obtrusive Light GN01:2011

PEDESTRIAN ACCESS

Sport England Design Guidance Note 'Accessible Sports Facilities 2010'

The Building Regulations 2010 Approved Document M: Volume 2 - Buildings other than dwellings

GENERALLY

Works must comply with current Building Regulations and British / European Standards applicable to the proposal

2.8 AGP ACCESS

Vehicular and pedestrian access to the AGP will be gained gated entrances along the Southern perimeter of the fenced enclosure and these will connect to a new pavilion building via new hard standing pavements.

Disabled access has been carefully considered throughout the whole design and applied wherever possible. The intention is to provide a smooth transition to and from areas within the sports ground for use by people of all ages and abilities.

All new pedestrian paths shall be compliant with Disability Discrimination Act (DDA) regulations and Sport England's Technical Design Guidance Note 'Accessible Sports Facilities 2010'.

EMERGENCY ACCESS

The proposed AGP entrance will provide emergency access for an ambulance if required, to reach the pitch perimeter (but not enter the AGP) if a player is injured during play and requires medical assistance.

CONSTRUCTION PHASE ACCESS

A construction logistics plan may be submitted for approval pre-commencement if requested, to ensure construction vehicles will not have a detrimental impact on the local highway network and to ensure adequate parking for construction vehicles are provided onsite to prevent any on-street conflict and impacts to the highway safety and also to prevent pollution as well as the protection of residential amenity.

2.9 ACHIEVING WELL DESIGNED PLACES

SENSITIVE DESIGN

For this project, the AGP design must be sensitive within the leisure centre / leisure complex and the AGP design should provide a complimentary visual appearance.

The AGP should comprise a limited size and scale enough to facilitate the intended sporting applications.

AGP SURFACE

The new AGP pitch surfaces will comprise 3G artificial grass coloured grass green and partially in-filled with silica sand and granulate rubber.

The visual appearance of the pitch surfaces will be like existing fine sports turf and complimentary to a playing field environment.

PERIMETER BALL STOP FENCING

The AGP will be enclosed with 4.5m high ball stop fencing.

Fencing is necessary around the AGP to ensure the adequate long-term protection of the asset for a variety of vital reasons as follows:

A. To regulate access by providing a formal route onto and from the AGP for players, coaches and officials.

B. To contain footballs within the pitch during training and competition activities – the variety of football pitch markings will result in goals being placed around the field of play during different types of football matches and training and as such, high level fencing is required around the entire AGP enclosure to provide a reasonable ball stop to catch stray football when mis-hit / mis-shot during play.

   As a football is inflated (and therefore lighter and able to bounce higher), high level fencing is necessary to reduce the chance of balls escaping the fenced enclosure.

C. To protect the playing surface from contamination that will severely compromise the longevity of the artificial grass pitch surface – whilst every player is required to clean muddy boots before entering the AGP, high level ball stop fencing will reduce the frequency that balls must be retrieved from the surrounding grassed playing field whenever kicked over the fenced enclosure and consequently; high level ball stop fencing will reduce the risk of any mud (transferred from muddy boots) if a players forgets to clean boots when re-entering the AGP.

   The inclusion of an adequate ball stop around the AGP perimeter does provide an effective method to limit the risk of surface contamination and therefore help the valuable pitch surface to fulfill its life expectancy.

D. To help prevent unauthorised use and vandalism – high level fencing does afford protection to the AGP and dissuades unauthorised access.

In terms of the visual impact of the ball stop fencing, fence elevations will consist of a weld mesh design comprising see-through steel mesh (polyester powder coated RAL6005 Moss Green) and type is commonly installed around artificial sports pitches.

It is discreet against a rural background and permits light and views throughout, reducing the visual impact of the fencing.

Whilst the proposed ball stop fencing would introduce a new feature in this area of the football ground, we believe this proposal will not create any excessive levels of overbearing or overshadowing impact and fence heights are appropriate for the intended activities and would not appear incongruous within the sports ground surroundings.

FLOODLIGHTS

Surrounding the perimeter of the AGP will be six 15m high floodlight masts each mounted with two LED three-module luminaires (sixteen floodlights in total).

These eight floodlight masts mounted will contain relatively slim profile tubular steel shafts with a galvanised (Z275) self-coloured finish.

They will be new structures that would be visible from nearby residential properties and public areas but are not uncommon in a playing field environment in which the application site is located.

A 15m mounting height was chosen for new floodlight masts as this will allow all individual LEDs forming part of each luminaire to be mounted almost parallel to the horizontal plane (to the AGP pitch surface) and will result in low vertical overspill and good uniformity on the playing surface to ensure that artificial lighting:

- Is directed fully downwards towards the playing pitch surface;
- Avoids sky glow;
- Achieves full cut-off as recommended by The British Astronomical Association's Campaign for Dark Skies.

By contrast, higher masts (say 18m high) would demand more intensive lighting to provide adequate results at ground level; whilst lower mast heights (say 12m high) would result in a higher aiming angle for every luminaire, resulting in increased overspill and glare projected onto adjacent land.

The implications of higher or shorter masts would not provide an acceptable solution and will exacerbate lighting impacts and therefore, 15m high mast heights provide the most effective solution.

Floodlights will be directional and designed to illuminate the AGP and minimise overspill onto the surrounding playing field, which is made possible by the proposed 15m mast heights.

Floodlights will be used when necessary and only during the opening hours of the facility after dusk.

We do accept the height of the floodlight masts would result in features which are prominent within the site itself, although the masts will offer a slim-line profile to minimise daytime appearance and impact and are vital to providing artificial lighting for the planned use of the AGP after dusk.

LIMITED SIZE

The AGP design is in accordance with appropriate technical recommendations published in The FA Guide to 3G Football Turf Pitch Design Principles and Layouts and the facility size is limited to provide space necessary to implement one multi-functional artificial grass football pitch only, with a variety of secondary pitch markings to support open ages, youth and mini soccer and training areas, all within the same enclosed playing space.

CONCLUSION

On this basis, we consider the proposal is complimentary to Doric Park and will not result in an unacceptable visual impact looking into the application site.

We do not believe the proposed AGP or associated paraphernalia would be out of keeping with the character of the site, whilst proposed purpose and uses to satisfy community sporting demands are compatible with current uses of the grass football pitch.

Doric Park was chosen as the optimum site for the grassroots football development in Trowbridge for this project and the factors that were considered included community sporting demands and benefits, deliverability, site constraints and access and movement.

The proposed AGP will provide a high-quality artificial grass pitch surface to allow structured football activities to provide certainty that scheduled training and matches would not be disrupted in all but the most inclement weather.

The AGP will allow more intensive football activities to be played at Doric Park which will broaden the opportunity to take part in sport by local community groups.

Sensitive design is a fundamental requirement for this project and we think the impact on the openness of the playing field will be minimal and is mitigated by the careful selection of key components.

The AGP is associated with outdoor sport and may therefore be considered as appropriate use and development at Doric Park.