

Site Appraisal

Client: Knowsley Council

Project: Grace Park – Halewood Junior Football Club

Location: Halewood, Knowsley, Merseyside

Report date: 27/11/2024

Consultant: Joe Woodcock

Revision: C

CONTENTS

ISSUE INFORMATION	3
REVISION RECORD.....	3
1.0 INTRODUCTION.....	4
2.0 DESK-BASED STUDY.....	6
3.0 ON-SITE APPRAISAL	10
4.0 DISCUSSION	14
5.0 RECOMMENDATIONS.....	15
6.0 INDICATIVE COSTS.....	21
7.0 HEALTH AND SAFETY.....	21
8.0 RECORD OF SITE CONDITIONS.....	22

ISSUE INFORMATION

This site appraisal report has been produced in good faith for exclusive use by Knowsley Council and other stakeholders in relation to the development of Grace Park, Halewood, Merseyside. STRI accept no liability or responsibility whatsoever in respect of any use of this report beyond the scope of its application by any third party. The report is the property of STRI and may not be copied nor reproduced without prior written approval of STRI except for the purposes of dealing specifically with the management and implementation of this project.

Client:	Knowsley Council
Project:	Grace Park – Halewood Junior Football Club
Location:	Halewood, Merseyside
STRI Ref:	J007309
Doc Title:	Site Appriasal
Date of Inspection	13/11/2024

REVISION RECORD

Revision record (Revision '0' being the original)

Revision Record			
Revision Number	Date of Issue	Reason for Revision and Comments	
C	18/02/2025	Updated figure	
Author	Joe Woodcock	Checked By	Greg Whately
Date	26/11/2024	Date	26/11/2024

Signed



Joe Woodcock

Design Consultant

t: +44(0)7806663653

E: Joe.woodcock@strigroup.com

www.strigroup.com

STRI have been appointed by Knowsley Council to carry a site assessment in relation to the development of two 3G artificial pitches within the existing Halewood Junior Football Club site. The report requires an assessment of the existing natural turf surfaces to understand the quality and limitations of the current surfaces along with any constraints identified during the site visit that could impact the development of the artificial pitches.

A recent application for levelling up funding by Knowsley Council has been successful therefore works have been identified to take place as part of the redevelopment of the Grace Park site with the eastern portion of Grace Park occupied by Halewood Town Junior Football Club.

The proposed development would involve the construction of one full size senior 3G artificial pitch and one mini 5v5 3G artificial pitch. Both pitches would be located towards the north of the current site with the senior 3G pitch proposed to be an east-west orientation whereas the smaller 5v5 3G pitch would be a north-south orientation. The proposed site plan can be seen below within Figure 1.



1.4 Aims and objectives

The site appraisal shall combine a series of desk-based and on-site appraisals aimed at assessing the technical and practical issues associated with the proposed development, and to provide recommendations for the scope of the works required.

The objectives of the site appraisal were as follows:

- To determine any technical constraints to the proposed development.
- To determine any practical constraints to the proposed development.
- To provide recommendations for further investigation.
- To provide recommendations for the works required.
- To provide guidance on the timescales associated with the recommended works.

2.0 DESK-BASED STUDY

2.1 Site Location

Site address:	Leathers Lane, Merseyside, Liverpool
Site postcode:	L26 0TX
Site grid reference:	SJ 44756 85242
Local authority area:	Knowsley Council



Figure 2 - Aerial photo of site

Hereafter, the area within the scope of this report as illustrated in Figure 2 shall be referred to as 'the site'.

The site demarcated within the red line above was bound to the north, east and south by residential housing with the main Grace Park site located within the west. The site was accessed to the east directly off Leathers Lane through a gated entrance. An electrical substation was located to the east of the site along with a small pavilion area which is used by the club.

2.2 Site information

The following information has been obtained from publicly available sources including aerial photography, historical mapping, and Defra MAGICMap.

Existing land use:	Used by Halewood Town Junior Football Club	
Existing sports facilities :	At the time of the visit, two youth football pitches were marked out with a training area noted in the south of the site. One youth football pitch was marked out in a north-south orientation with the other pitch marked out in an east-west orientation. The total playing field area is approximately 19,850 square metres.	
Historic land use:	Historical Google images showed a school had been situated in the area where the current Halewood Town Junior Football Club pitches are located. It is believed that the school was demolished circa. 13 years ago.	
Land based designations:	Area of outstanding natural beauty	No
	Local nature reserve	No
	National nature reserve	No
	Moorland line	No
	National park	No
	RAMSAR site	No
	Proposed RAMSAR site	No
	SSSI	No
	Special area of conservation	No
	Special protection area	No
	Biosphere reserve	No
	Nitrate vulnerable zone (NVZ)	No
	World heritage site	No
	Registered battlefield	No
	Registered parks and gardens	No

2.3 Site access

The site can be accessed directly off Leathers Lane to the east of the site.

2.4 Climate

The following information has been obtained from the Met office website using data from Crosby, the nearest official Met Office climate station, approx. 13 miles from the site, covering the period from 1991 – 2020.

2.4.1 Annual rainfall (mm)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
69	57	53	50	52	64	65	72	77	90	82	92	824
England average												870

2.5 Flood risk

The following information has been obtained from Environment Agency Flood Risk Maps (see Figure 3). The site is located within Flood zone 1 therefore there is a low probability of flooding.

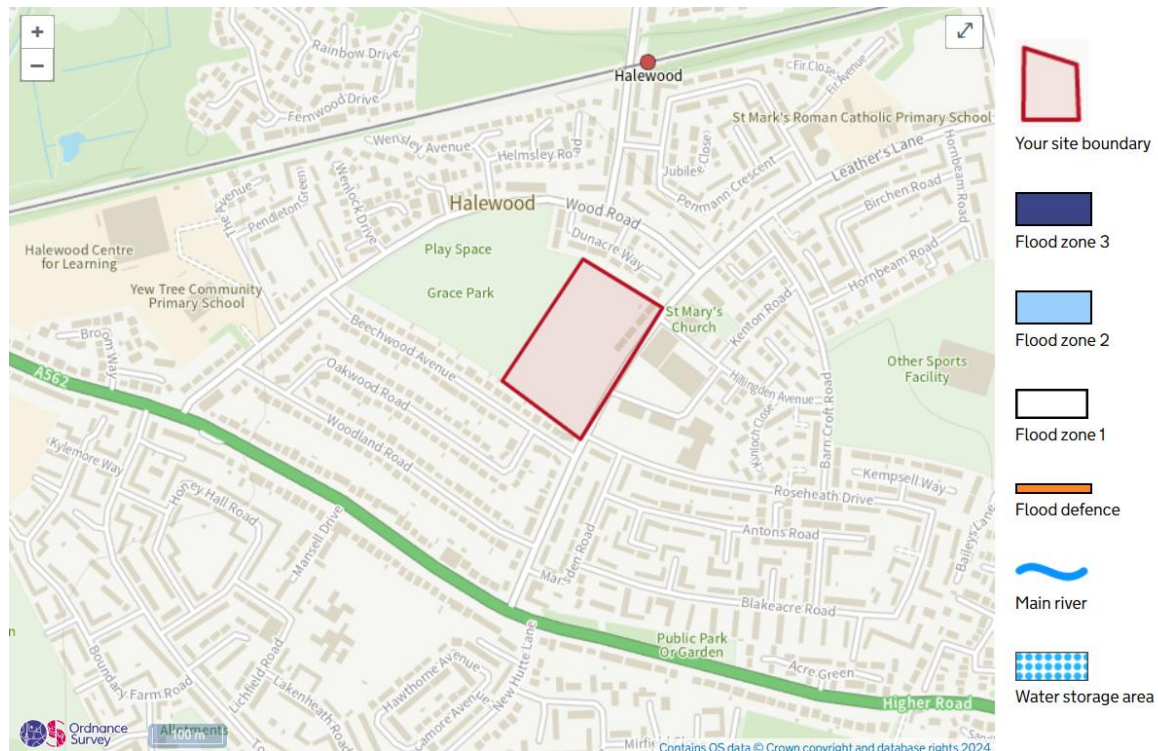


Figure 3 – Flood risk for planning maps

2.6 Previous ground investigations

No previous ground investigations have been made available to STRI.

2.7 Geology

The following information has been obtained from the British Geological Survey (BGS) online Geology Viewer.

2.7.1 Made Ground

A school has previously been located within the Halewood Town Junior football club site however has been restored to playing pitches.

2.7.2 Superficial deposits

The BGS mapping indicates that Till, Devensian deposits are present.

2.7.3 Bedrock

The BGS mapping indicates that Etruria formation is located across the entire site.

2.8 Hydrology

The following information has been obtained from publicly available sources including aerial photography, the WWF Rivers Map, and the Environment Agency Statutory Main River Map.

Main rivers:	No main rivers are located within or close to the site boundary.
Water bodies near site:	No water bodies are located close to the site.
Water bodies within site boundary :	No water courses were observed when attending the site.
Distance to coastline:	N/A

2.9 Topography

The existing site levels and gradients were assessed by reviewing topographic survey data made available to STRI.

The highest spot levels were recorded to be circa 24 m which were located in the south of the site with the lowest spot levels recorded in the north of the site and were recorded to be circa 23 m.

The overall gradient was calculated to be circa 1:100 in both an east-west direction and a north-south direction therefore no significant gradient was present which would aid shedding of surface water.

Sport England guidelines states that playing surfaces should be no steeper than 1:80 – 1:100 along the line of play and 1:40 – 1:50 across the line of play.

2.10 Contaminated land appraisal

STRI understand that the site has had a school previously located to the south therefore this could be considered an area of brownfield land however this has been returned to green space for football pitches and used Halewood Town Junior Football Club.

No previous ground investigation information has been provided to STRI.

2.11 Proposed usage levels

The proposed usage of the proposed 3G artificial pitches is unknown at this point.

3.0 ON-SITE APPRAISAL

3.1 Surface Levels

3.1.1 Surface gradients

In addition to the desk-based appraisal of the topographic survey information provided, general surface levels were assessed visually during the on-site appraisal for the existing football pitches within the Halewood Town Junior Football Club site.

3.1.2 Surface evenness

Surface levels did appear to be in reasonable condition for the southern youth football pitch however the surface levels were poor to moderate for the northern youth football pitch. The most impacted area of the northern youth football pitch with regards to surface levels was noted to be within the south-east corner of the pitch. The uneven surface levels within the northern youth football pitch would impact ball roll and would allow for surface water to be captured in the low-lying areas.

3.2 Existing vegetation

General:	Existing vegetation was poor across the entire site and across the two existing youth football pitches with broadleaf weeds such as Clover (<i>Trifolium</i>), Daisy (<i>Bellis perennis</i>), Dandelion (<i>Taraxacum</i>) and Ribwort Plantain (<i>Plantago lanceolata</i>) present. The main grasses present included a mix of Annual meadow grass (<i>Poa annua</i>) and Perennial ryegrass (<i>Lolium perenne</i>) however the majority of vegetation cover was clover.
Agronomic condition:	The agronomic condition of the two youth football pitches was poor at the time of the visit with grass cover averaging approximately 5% within goalmouth areas and approximately 25% in other areas of the pitches. The poor grass cover is thought to be related to the high percentage of clover which is not a hard wearing type of vegetation along with wet surface conditions. At the time of the visit, it was also observed that the disease 'rust' was present within the Perennial ryegrass population which would indicate a lack of fertility within the Ryegrass population.
Invasive species:	There were no invasive species identified within the site at the time of the visit.

3.3 Trees

No trees were located within the site boundary or around the perimeter of the site that might impact development works.

3.4 Ground conditions

Sub-surface ground conditions were relatively dry at the time of the visit across the marked out football pitches however this is thought to be due to the limited rainfall received in the area over the past two weeks. Surface conditions were wet at the time of the visit particularly within the areas where grass cover was limited, i.e. within goalmouth areas. Any significant rainfall would result in poor ground conditions and poor playability for football.

At the time of the visit various areas appeared to be unused by the club due to poor ground conditions which has led to limited layout options for the club and limited usable space. The areas that are not used due to poor ground conditions can be seen within Figure 4 below demarcated within the red lines.



Figure 4 – Unusable areas by the club due to poor drainage and infrastructure (approximately 9000 sqm of unusable playing field)

3.5 Site soil conditions

3.5.1 Soil profiles

3.5.1.1 Visual assessment

A series of trial pits were excavated by hand at various locations (see Figure 5 below) to confirm the nature of the underlying soil profile. In summary, there was a consistent sandy loam topsoil across all three test pits excavated. The depth of topsoil was measured to be on average 260 mm and grass rooting extended to a

maximum of 190 mm with no large stones observed along with no contamination in the form of glass or pottery.

The brown sandy loam topsoil was overlaying a grey clay subgrade



Figure 5 – Trial pit locations

3.5.1.2 Laboratory soil analysis

One representative sample of topsoil was collected from the trial pits for particle size analysis to determine the mineral and organic matter composition of the indigenous topsoil. Full particle size analysis reports are included in Appendix 2.

Sample location:	Representative Soil Analysis
Laboratory reference number:	A20958/1
Soil texture:	Sandy Loam
Sand (%)	62 (17% very fine sand)
Silt (%)	23
Clay (%)	15

3.6 Drainage

3.6.1 Existing drainage features

A desktop study shows that no site wide drainage is thought to have been installed across the site at any time. An open ditch was located to the west of the football club site however no drainage was observed to

be in-letting into the ditch at the time of the visit and is thought to be there to aid surface water removal. This would therefore classify the two existing youth football pitches as Type 1 Sport England pitches.

3.6.2 Potential drainage outfalls

When observing the site plan, it is noted that a SUDS scheme will be proposed in the form of a basin or swale which should be modelled to take the drainage from both artificial pitches. It is imperative that full drainage calculations are completed to ensure drainage capacity and run-off rates meet requirements.

3.7 Existing structures

An electrical substation was located to the south of the site along with a small Clubhouse area for the football club however it was reported that these will be removed as part of the proposed redevelopment plans. The substation currently limits any pitches been marked out within the east of the playing field area along with the clubhouse area to the east.

3.8 Utilities

A full utilities search was not included as part of this feasibility study report.

4.0 DISCUSSION

The following points should be considered when analysing the quality of the existing football pitches at Halewood Town Junior Football Club and also for the proposed development of the 3G artificial pitches:

- Overall, the existing youth football pitches and entire playing field area were in poor condition at the time of the visit. Both marked out pitches and areas used for training purposes were dominated by broadleaf weeds in particular clover. Both pitches showed signs of excessive use given the current makeup of the pitches. The high presence of clover would also correlate with the poor grass cover observed in both football pitch areas with a maximum of 5% grass cover recorded in all goalmouth areas and a maximum of 25% grass cover recorded in other areas of both pitches.
- A representative sample of the existing topsoil was analysed as part of the assessment with the site topsoil noted to be in the sandy loam category. The high presence of fine particles (23% silt and 17% fine sand) within the topsoil would indicate that the existing site topsoil does have poor drainage properties therefore the absence of a site wide drainage system is inhibiting drainage potential and impacting surface quality.
- It is reported by the client that the current youth football pitches at Halewood Town Junior Football Club are used for approximately 8-10 hours per week. The current football pitches are of type 1 Sport England standard which means that the entire area is undrained with no comprehensive drainage system to take any excess water away from the pitch surface. The current Sport England guidelines show that a type 1 pitch can indicatively sustain no more than 2 hours of adult usage and more than 3 hours of junior usage (under 15) per week. The current over usage of the existing pitches given their construction type will also result in a deterioration of pitch conditions with regards to grass cover and drainage due to compaction.
- The two youth football pitches on the site did hold some surface water within the top 10 mm of the pitch profile however this is thought to be linked to the poor drainage properties of the existing topsoil and the poor grass coverage in high wearing areas which has caused the surface to become sealed. When observing the site, it was noted that more agronomic practices such as Verti-Draining, topdressing, fertilising, scarification and potential site wide drainage scheme would improve the condition of the football pitches and surrounding areas however this this would only increase the usage capacity by a small percentage compared to that of the proposed artificial pitches. The indicative maximum usage of what is currently existing (type 1 pitches) at Halewood Town Junior Football Club and what is proposed (two 3G artificial pitches) can be seen below in a comparison table.

Pitch location	Maximum theoretical hours of usage (weekly)	Existing hours of usage (weekly)
Northern natural grass junior football pitch	3	8-10
Southern natural grass junior football pitch	3	8-10
Proposed full size 3G artificial pitch	60	N/A
Proposed min 5v5 artificial pitch	60	N/A

- For the proposed 3G artificial pitches it should be noted that a large volume of topsoil will be generated and will need to be removed from site or used as part of the wider development at Grace Park.
- Soakaway testing should be carried out to BRE 365 standards to understand the size and scope of the proposed SUDs system to the north of the site which would seem the most logical option for taking drainage water from both 3G artificial pitches.
- The proposed 3G artificial pitches would require floodlighting therefore a well-designed floodlighting system to meet the requirements of ILP guidance and zone E2 requirements however an impact assessment would be required due to the close proximity to housing in the east and north of the site.
- Ecology surveys should be undertaken to assess the current site. Floodlighting may be problematic if bats are found to use or forage in parts of the site.
- A suitable level of ongoing maintenance will be critical for the proposed artificial pitches to ensure player safety, suitable playing performance and to ensure the longevity of the surfaces.

5.0 RECOMMENDATIONS

5.1 Development works for the 2 proposed 3G artificial pitches

The following section provides high-level recommendations for the construction works required to develop the sports surfaces within the site. This section deals only with the construction works required to develop the sports surfaces and does not include recommendations in relation to the development of any ancillary features such as a pavilion, car park or access road.

The exact pitch construction type, size and position will be largely dependent on the ground conditions, impact of coal mining activities, ecological impacts, the budget available and the surface water management strategy.

Recommended Construction Methodology

5.1.2 Initial site setup

In advance of the works, the existing vegetation should be cut as short as possible using suitable grass cutting machinery, ideally removing the clippings in the same operation. Should the long dense vegetation be deemed to be too strong for general maintenance equipment, agricultural type mowers and a baler should be utilised to cut and bale the material before removing it off-site.

Thereafter, a total non-residual herbicide should be applied to the entire working area using a tractor mounted sprayer or similar.

5.1.3 Topsoil stripping

The site topsoil should be stripped across the entire working area. Where possible the soils shall be kept on site and re-used as part of a soft landscaping scheme to meet biodiversity net gain requirements.

5.1.4 Level adjustments

A balanced cut and fill earthworks operation should be carried out to achieve the desired formation surface for the artificial pitches.

The entire formation surface should be consolidated and lightly graded using laser-guided or GPS controlled equipment to smooth out irregularities and achieve a smooth formation surface free of dips and hollows, marrying in with the adjacent land prior to drainage installation.

The formation should provide a level, stable base to enable the construction of the sports pitches. Typically, a minimum 5% CBR should be achieved. If the CBR values are lower the formation would need to be stabilised, or the sub-base would need to be designed to accommodate CBR values between 2-5% through incorporation of a geogrid, subject to full design calculations.

5.1.5 Drainage Installation

The ground investigation will confirm the permeability of the soils. This will dictate the drainage strategy. The playing surface and subsequent sub-base materials typically have high rates of permeability which enables play during and following heavy rainfall events. Where possible the drainage will infiltrate to ground but where this is not possible owing to ground conditions it would need to connect into the local ditch system and into the local water course features or discharge into the proposed SUDS scheme.

Typically, the drainage installation will feature 80 mm lateral pipes beneath the playing surface at 10 m centres, connecting to perimeter main drains. A drainage outfall will connect to a soakaway or the wider drainage scheme.

It is possible to use the voids within the sub-base materials to attenuate during storm events via a controlled outflow. A full drainage design should be undertaken to determine the depth of sub-base construction required to enable the 1 in 100 year +40% storm event to be controlled.

5.1.6 Sub-base Installation

Typically, a 300 mm layer of MOT Type 3 aggregate will be spread over a geotextile membrane (Terram 1000 or similar). Above the aggregate layer a 40 mm asphalt layer consisting of 10 mm sized aggregate will be installed across the development area of each pitch.

5.1.7 Artificial Turf System Installation

A FIFA Quality approved artificial turf system (carpet only or carpet and shockpad) should be installed onto the complete asphalt sub-base. The completed installation should be tested so that the facility will be placed on the FAs 3G Pitch Register, enabling FA affiliated matches to take place.

Typically, 3G pitches in the UK are filled with sand and SBR rubber infill. The EU have placed a ban on microplastics, of which SBR infill is affected. SBR infill is typically granulated from vehicular tyres and is a recycled product. There are other forms of polymer infill from virgin sources but these are typically more expensive and would still be considered a microplastic. There is currently a transition period before microplastics will not be available on the marketplace, and alternatives, commonly organic infills or biodegradable polymers are used and being developed. Non-infill artificial turf systems do not meet the current FIFA requirements and therefore cannot be used however with technological advancements this may be possible in the future.

SBR infill is the most economical solution which meets the durability and ball / player surface performance characteristics but organic infills are beginning to be used at more sites around the country. As organic infill is more expensive, it is typical for football only fields to incorporate a shockpad which reduces the quantity of infill required and facilitates a 40-45 mm pile carpet instead of a typical 60mm carpet without a shockpad.

It is recommended that RMMs are adopted to prevent the wider spread of microplastics into the environment.

The infill type to be used would be a client choice and to be determined as the project progresses.

5.1.8 Fencing

The proposed type of fencing should be consistent with the FAs technical requirements for artificial grass pitches. The perimeter fence should be 4.5 m high and with open mesh rigid panels formed from steel and

powder coated, typically dark green or black. The mesh used is 50 mm x 200 mm, with the lower 1.2 m consisting of super rebound panels which are 50 mm x 66 mm. Twin horizontal 8 mm thick wires are combined with single 6 mm gauge steel for the vertical wires.

It is common for RMMs to consist of 0.2 m to 0.5 m high barriers at the base of the fence line to prevent infill splash into the wider environment.



Figures 6 & 7- Left; 50 x 200 mm mesh fence panel in dark green. Right; 1.2 m high spectator handrail fence with super rebound mesh (50 x 66 mm).

5.1.9 Pitch Access / Egress

A 3G facility should allow access for users on to the surface through single leaf gates, 1.2 m wide, and allow vehicular access for maintenance equipment and emergency vehicles on the surface via 3 m wide by 3 m high gates. Boot wipers and decontamination grates should be installed to all entrances into the field of play.

Access to the pitch should be in accordance with DDA requirements under Part M: Vol 2 of the Building Regulations.

It is common to provide a 4 m wide hard landscaped area along one side of the pitch to provide an area for parents/carers to safely watch youth matches and for users to congregate in a safe area before sessions begin on the surface. This area helps maintain a 3 m clear area around the pitches which is free of people, bags, jumpers and drinks bottles etc. Typically, double pitch facilities would have a wider section between adjacent pitches, up to 8 m, to allow a 4.5 m fence line to separate the facility while allowing spectators to view each pitch without being struck by balls from opposing pitches.

5.1.10 Goal Storage

Goal storage is provided around the edges of the facility so that when not in use, no goals are stored on the carpet. This is to maintain a clear unobstructed three metre run-off from the pitch and assist when maintaining the surface. The size and position of the goal storage areas are dictated to an extent from the line markings to be used on the surface. The exact position of the goal storage can also move depending on site constraints such as retaining walls, site boundaries, access routes etc.

5.1.11 Line Markings

A good quality 3G pitch can support in excess of 60 hours of usage per week, and this allows pitches to contain a full sized pitch with additional junior sized pitches. In contrast to natural turf pitches where it is best to have dedicated pitch areas for individual pitches. The below plan is the standard design as recommended by Football Foundation and The FA as this allows adult and junior match play to recognised pitches sizes. This line marking arrangement can support;

- 1no. 11v11 Pitch 100m x 64m plus 3m run offs suitable for adults.
- 2no. 9v9 Pitches 64m x 46m suitable for u-11 to u12 age category*.
- 2no. 7v7 Pitches 55m x 37m suitable for u9 to u10 age category.
- 4no. 5v5 Pitches 37m x 27m suitable for u7 to u8 age category.

*Smaller than the FA recommended size for a 9v9 pitch (73x46m) but accepted by the FA for use in affiliated youth matches and competitions.

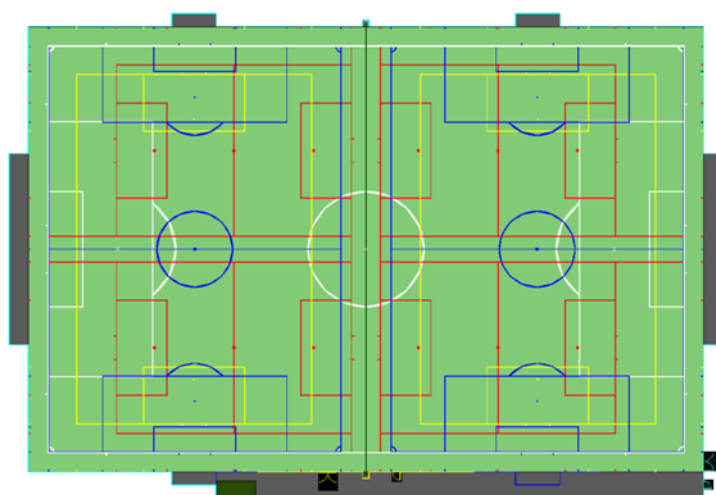


Figure 8 - Typical line marking arrangement when including adult and youth sized pitches

Typically, the white 11v11 adult pitch for adults is stitched into the carpet using white fibres and is permeant and the remaining lines are over marked and painted on an annual basis. This offers the site flexibility if certain age categories are not required or future requirements change. Should the site look to an anchor tenant who have a thriving youth programme, this line marking arrangement is recommended. If the site is to partner with an outside organisation who specialise in lettings to adult leagues, then removing the youth pitches and providing three cross pitches may be preferable. We would recommend that the site discuss with local leagues and prospective users of the site to formulate a line marking plan for the site.

5.1.12 Floodlighting

As AGPs can support over 60 hours of use, with good maintenance, they should be installed with a floodlighting system to support community use outside of the school curriculum. Historically metal halide lights were used for floodlighting however LED lighting has reduced in cost in recent years such that it is now commonly installed on all new sports facilities. The lighting luminaires need to be supported on columns that are typically 15 m high, so that the peak intensity of light can reach the centre of the pitch with the recommended angle of between 60-70 degrees from the vertical alignment of the columns. Lower lighting columns require a higher tilt angle which can create more lighting spillage. A carefully designed floodlighting system will take into account neighbouring properties and nearby ecology. The lighting system should be designed in accordance with ILP GN01:21 The Reduction of Obtrusive Light and ILP GN08:18 Bats and artificial lighting in the UK as well as meeting the technical requirements for FA and FIFA. Once the pitch location is confirmed and the ecology surveys and any bat surveys have been completed the lighting design can be completed taking into account any findings and recommendations from these reports.

The floodlighting at Grace Park site will need to consider the depth of made ground from the upfill to initially create the plateau, historic landfill, and then coal mining features including shaft entrances, with regards to the placement and design for the foundations. Typically, foundations are mass poured concrete foundations

1m² to 2m² but can increase to 5m². Alternatively, floodlights would be supported with mini piles 3m deep, or longer to tie into the underlying bedrock as dictated by the ground conditions.

5.1.13 Construction timings

The pitch construction works would be best timed for drier ground conditions during the earthworks operation. Once the ground investigation has been completed it will inform the construction methodology and more detailed input can be given for construction programme and timeline.

A typical 3G artificial turf pitch would take approximately 14-16 weeks which would increase slightly to construct two pitches side by side. Allowing 18-24 weeks for the double pitch to be constructed would be achievable given favourable ground and weather conditions. To be updated once the scope of works is better understood.

5.2 Additional investigations and surveys

The following table summarises any further investigations required to fully assess the feasibility of the proposed development and to inform the next phases of the project.

Topographic survey	No	Topographic survey has been carried.
Flood Risk Assessment (FRA)	No	
Geotechnical investigation	Yes	For proposed artificial pitches.
Infiltration testing	Yes	Yes for the northern SUDS system.
Arborocultural survey	Yes	Required if level adjustments are to be carried out.
Ball strike risk assessment	No	
Utility plans	Yes	Required as the design develops.

5.3 Next steps

Will the proposed development require further design work?	Yes	A detailed design should be developed as part of the next stages of the works regardless of the finalised scope.
--	-----	--

5.4 Summary project risk register

The following information provides a summary of the project risks. The following does not constitute a designer risk register, instead it is intended for information purposes only to highlight potential risks and significant constraints to the project which should be considered at this early feasibility stage.

Low risk		Medium risk	High risk		
Risk No.	Risk Description	Detail	RAG	Notes	
1	Existing land use	Football use.			
2	Historic land use	Football use.			
3	Land designation	No land designation known.			
4	Site access	Acesss is currently gained to the east of the site.			
5	Climate	Below the England average rainfall.		Works should be carried out in dry periods.	
6	Flood risk	The proposed areas of development are located in Flood zone 1.			
8	Hydrology	No waterbodies located within the site.			
9	Topography	Earthworks required for the proposed artificial pitches.			
10	Ground conditions	Ground conditions were poor within isolated areas creating unusable playing field area.			
11	Contaminated land	No contaminated land.			
12	Proposed usage	Proposed usage levels unknown.			
13	Existing vegetation	Existing vegetation is very poor with few fine species present.			
14	Trees	No mature trees observed at the time of the visit towards the northern boundary.		Root protection areas required limiting the extent of earthworks.	
15	Site soil conditions	Sandy Loam.			
17	Existing structures	Substation located to the south along with cabins for the football club.			
18	Utilities	Presence of utilities unknown.		Utilities survey to be identified.	
19	Drainage discharge locations	Drainage outfall could be potentially the proposed SUD system to the north.			

6.0 INDICATIVE COSTS

It is assumed that the works would be undertaken by a specialist sports construction contractor who would have the necessary plant and experienced personnel to undertake the work. The indicative cost estimates for the works are based on the current rates for similar works carried out by specialist contractors. The following are indicative only and are intended to provide a rough estimate of project costs. Contractors' actual rates may vary and will fluctuate depending on material and labour costs at the time of pricing. Exact costs shall be determined by the scope of works and the finalised design, which has yet to be developed.

Based on costs received for similar projects, our indicative cost estimates for the various improvement works are set out below.

1 full size 3G artificial pitch and 1 mini 3G artificial pitch

Item	Indicative cost estimates
Development works for a full size 3G artificial pitch and a mini artificial 3G pitch (43m x 33m) with floodlighting to meet FIFA standards	£1,250,000.00
Sub -Total	£1,250,000.00

It should be noted that the above costs would be exclusive of VAT.

If any onsite soakaway testing is undertaken by a specialist company, then this would typically be approximately £3-4k to complete with a follow up report.

The above costs do not include the installation of any attenuation measures which would be subject to infiltration testing.

When tendering for such works, it is normal practice to allow for a 10% contingency sum to cover any unforeseen costs which may arise during the course of the works.

The above costs do not include for detailed design and formulation of specification of works and drawings.

7.0 HEALTH AND SAFETY

The following potential hazards are typical of sports development and maintenance works and have been identified during the site appraisal and in the preparation of this report.

- The presence of any underground and/or overhead services should be confirmed before commencing any pitch development works.
- Delivery and haulage of bulk materials on site.
- Movement of construction plant and maintenance machinery.
- Confined spaces.
- Dust.
- Excavations.

These hazards are common to most sports pitch development work, but this does not constitute a complete list, and any additional issues should be identified before commencing work. It is recommended that a Designer Risk Assessment is carried out as part of the next stage of the project.

8.0 RECORD OF SITE CONDITIONS



Photo 1: View looking north



Photo 2: Unusable area



Photo 3: Poor grass coverage in goalmouth



Photo 4: Example of broadleaf weed content



Photo 5: Existing drainage ditch



Photo 6: Evidence of damage from turning machinery



Photo 7: Poor grass coverage



Photo 8: Excavated test pit



Photo 9: Topsoil



Photo 10: Unusable area

Appendix 1 – Soil analysis results



STRI Ltd, St Ives Estate, Bingley, West Yorkshire, BD16 1AU

t. +44(0) 1274 565131 f. +44 (0) 1274 561891

e. enquiries@strigroup.com

www.strigroup.com

SOIL PARTICLE SIZE ANALYSIS

CLIENT:	KNOWSLEY COUNCIL - GRACE PARK PLAYING FIELDS	DATE :	21/11/24
		RESULTS TO :	JW
DESCRIPTION:	TOPSOIL	SAMPLE NO :	A20958/1

CATEGORY	DIAMETER mm	%
Stones	>8	6
Coarse gravel	8-4	3
Fine gravel	4-2	1

Particle size distribution of mineral matter smaller than 2mm

Very coarse sand	2-1	2
Coarse sand	1.0-0.5	4
Medium sand	0.50-0.25	16
Fine sand	0.250-0.125	23
Very fine sand	0.125-0.050	17
Silt	0.050-0.002	23
Clay	<0.002	15
Loss on ignition (% of oven-dry fine earth)		3.5
Calcium carbonate	%	/
SOIL TEXTURE		SANDY LOAM

T = TRACE

THESE RESULTS PERTAIN ONLY TO THE SAMPLE(S) SUBMITTED AND TESTED

STRI Group
St Ives Estate, Bingley
West Yorkshire BD16 1AU
t +44 (0)1274 565131
e enquiries@strigroup.com
strigroup.com

