

CLIENT:

**OUR LADY'S ROMAN CATHOLIC HIGH SCHOOL
BLACKLEY
MANCHESTER**



**TECHNICAL APPRAISAL
on the
PROPOSED MULTI-USE SYNTHETIC TURF PITCH
&
ASSOCIATED WORK**

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Report Ref: OLRCHS_TN_23-1-24

TECHNICAL APPRAISAL

PROPOSED SYNTHETIC TURF PITCH & ASSOCIATED WORK



Proposed site of the new synthetic pitch from the eastern side of Grass Pitch A, spoil mound and Boothroyden Road residences in the background.

Project: **PROPOSED NEW SYNTHETIC TURF PITCH at OUR LADY'S RC HIGH SCHOOL, BLACKLEY, MANCHESTER.**

Consultant: David Hemstock, BSc.DipAgrEng.IEng,
Member of SAPCA & RIPTA

1.0 BACKGROUND

1.1 PROJECT OVERVIEW

1) The Client, Our Lady's Roman Catholic High School (OLRCHS) has commissioned Hemstock Design Ltd as Design & Planning Consultant to support the processes involved in the development of a new full-sized multi-use artificial grass pitch (AGP) on the school site, which is intended to provide a range of additional sports reliably through the year.

2) The site was visited initially on the 1st December 2023 to overview and assess the conditions and meet with Jay Thomas, the School Business Manager, to discuss the immediate process of completing background information and submitting a fully developed planning application. This is required following Manchester City Council Planning Department rendering the initial application that was submitted by the school as invalid due to insufficient supporting information (Application reference number: 138336/FO/2023).

3) A further site assessment visit was made on the 5th February 2024 to assess trial pits dug around the area of the proposed AGP to assess ground conditions and locate any existing land drainage.

4) The proposed position of the new AGP is understood to be over previously filled land. The new school was built in the current position in circa 2009, with demolition arisings from the old school and clay-based spoil from the footings of the new school believed to have been spread over the existing grass playing field area, these pitches then being drained, re-topsoiled and grassed.

Some of this rubble/clay mix was then re-excavated for the new school extension building work in 2022-3, this being mounded along the western playing field boundary and over part of what is proposed to be the new AGP footprint.

5) A desktop study has been completed, with a full geotechnical survey commissioned (GeoEnviro Ltd), to assess the spoil mound, the sub-surface profile of the grass pitch area and to help advise on construction and budget aspects.

Other supporting work includes, to date:

- Hydrology Report – Corner Water Consulting, underway.
- Supporting documentation from the recent new school and extension building planning process; CCTV drainage survey of the main outfall point, noise assessment, tree survey, EIA, etc.
- WACS Soil Testing (OLRCHS)
- Outline costings from five specialist contractors
- Liaison with local bodies on use of the AGP
- Discussions have been held with Sue Wills, Senior Planner at MCC, regarding what is required for the application to be validated.



***The full school site with current grass pitches to the west,
the Sports Centre 3G AGP to the east***



The playing field area in early 2023, new extension building work underway, spoil mound created from the building foundations on the western boundary.

1.2 PLANNING BRIEF

- 1) This note has been issued to outline the project for Sport England information and consideration prior to the additional documentation being submitted. A full Design & Access Statement will be lodged as part of the planning application document set.
- 2) Principal of development to enable Sport England's informed assessment of whether the proposed development of an outdoor facility for sport provides sufficient benefit to the development of sport as to outweigh the detriment caused by the loss, or prejudice to the use, of the area of playing field to satisfy exception policy E5 of Sport England's Playing Fields Policy and Guidance March 2018
- 3) Planning permission is sought to create a full-sized multi-use AGP with associated features, including 4.2m high ball stop (acoustic) fencing and entrance gates to the perimeter linking to an access path from the main school building area; 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.

Also included are hard-standing areas complete with associated porous asphalt surfacing for portable goals storage, pedestrian circulation and access for maintenance and emergency access; approximately 15.00m high floodlighting mast system around pitch perimeter; 2.6 to 3m high maintenance equipment store located within AGP fenced enclosure; upgrading of the Grass Pitch 'B' with new lateral drains, sand-slits and sand topdressing.

4) MCC Planning Team have requested the following supporting information after receiving the invalid initial application:

- A scaled drawing of the site
- Red-line boundary of the application area
- A Design & Access Statement
- Details of the lighting scheme
- Justification for conversion of a grass pitch to synthetic 3G.

- Details of the drainage strategy & FRA
- A geotechnical assessment and report
- Details of operational aspects, noise management, community public access agreements, construction management.
- Acoustics – management of noise levels.
- Biodiversity Net Gain opportunities to give a 10% BNG

Also recommended by MCC to include:

- Remaining grass pitch to be included in the project, upgrading, age groups using this, why upgrading Pitch A instead of converting to an STP is not feasible for the school.
- Mounding – recommended that this be retained so far as is possible to act as a sound and visual baffle.

5) It was confirmed with MCC Planning Team in December 2023 that the school are continuing with the 'invalid' application. Submission of required documentation is expected in February 2024 following Sport England and FA consultation.

1.3 Location & Site Overview

1) Location - The site lies close to the M62 in north Manchester, the address is:

Our Lady's Roman Catholic High School
Alworth Road
Higher Blackley
Manchester, M9 0RP

OS co-ordinates: Grid Reference - SD 853045

X (Easting) 385334 Y (Northing) 404604

2) The grass playing field to the west of the school main building currently accommodates:

Pitch A – Grass Pitch (north), 82 x 46m approximately, plus margins.

Pitch B – Grass Pitch (south), 82 x 46m approximately, plus margins.

- Area to the north of Pitch A not usable as a playing surface due to rough surface and boggy conditions. There is a long-jump pit here.
- To the east of the main school is the Higher Blackley Education Village (Our Lady's RC High School, with existing 90 x 50m 3G AGP)
- Adjacent to this 3G is a macadam-surfaced MUGA of 35 x 31m approximately, with a further macadam MUGA to the north of the main school building of around 31 x 22m.

- 3) Both grass pitches and the formerly marked-out athletics track have been curtailed by placement of the spoil mound, which extends over 20 metres into the former playing surfaces.
- 4) The playing field site is bounded by pastureland to the north/north-east (with bridleway and informal track access for mowing equipment); the school buildings to the east and south; Boothroyden Road and residences to the west.

2.0 SITE OVERVIEW

1) The site was assessed in December 2023 by Hemstock Design (David Hemstock), to determine the points requiring further work to support the planning application process. Trial pits were subsequently excavated to check soil conditions, turf and levels were assessed and a meeting held with the School Business Manager, Jay Thomas. A topographic survey and Part 1 & 2 geotechnical assessment has been completed, together with trial pits excavated by mini-digger.

2) The site is fenced and secure. Maintenance access is currently through the main school area or via the track and gate to the north-east corner, this track running from the school, around the east and north of the site and to the public footpath/bridleway to the immediate west of the playing field boundary.

Construction equipment access for the new building was made via a temporary access from Boothroyden Road to the playing field south-western corner. This is intended to be opened-up again for the AGP pitch construction work.

3) The grass pitches have severe issues with drainage, being heavily waterlogged on the day of the assessment visit and trial pit visit. The grass pitches had apparently not been used since November and were not line-marked.

4) Soil pits were excavated to assess the topsoil and upper subsoil conditions. Topsoil depth was approximately 200mm over a very hard subsoil material of made ground. From analysis of satellite imagery from 2005 onwards, it appears that the construction of the new school involved demolition of the old buildings, this demolition rubble and clay mix then being laid over the playing field and topped with topsoil.

A planning application for the new school was submitted in 2007, app no. 082189, with the new school constructed in 2009. By 2013 the AGP was constructed. The new extension building was then constructed in 2021 over an area previously filled with the demolition material, the arisings forming the existing, new mound along the western boundary.

5) The satellite images below (Google Earth) show the playing field area being topsoiled with the rubble and other arisings from the old school site to the east presumably having been laid as a layer first.

A 5-metre spaced drainage system appears to have been installed over most but not all of the playing field after filling and re-topsoiling. This system appears to have stopped functioning efficiently, possibly through migration of fines into the drain trench permeable fill.

6) The grass pitches have a hard and impermeable subsoil present below the topsoil, limiting percolation of runoff through the subsoil, and possibly limiting lateral flow to any still-working drainage.

Approximately 20 metres additional length (and pro-rata width) has been lost for Pitch 'A' due to the spoil mound.



Old school demolished, new school constructed, topsoil being re-laid over the playing field area, 2009



Drainage trenches in the fill material, installed prior to topsoiling, Approximately 5-metre centres, apparently not extending fully to Pitch A

7) Trial Pit Excavation – Subsequent to the hand-dug trial pit work, a mini-digger was used to assess the soil profile to a greater depth. Six pits were dug in each corner of the proposed STP, on the spoil mound, and central grassed area (to locate existing drainage).



All trial pits were excavated into very hard made-ground, with arisings being of mixed compacted clay, brick-bats, concrete, other building-related materials, to a depth of 1 to 1.2m before original ground was encountered.



Soil Pit, western side of Pitch A – hard, impermeable and stony subsoil.

8) The spoil mound formed from arisings as the new building was constructed has taken up approximately 30% of the usable playing field:

- 1.06 ha current pitch and margin area
- 0.3ha usable playing field space occupied by the spoil mound



Above and below – trial pit on the spoil mound, proposed 3G STP south-western corner.





Spoil mound – clay mixed with brick, macadam, concrete, plastic, etc.



Spoil Mound – compact surface, debris includes tiles, brick, concrete, etc

9) **Vegetation Cover** - The existing grass pitch area has a uniform and dense cover of grasses and broadleaved weeds. Approximately 40% of the sward was of a presumably sportsfield-type of Perennial Ryegrass.

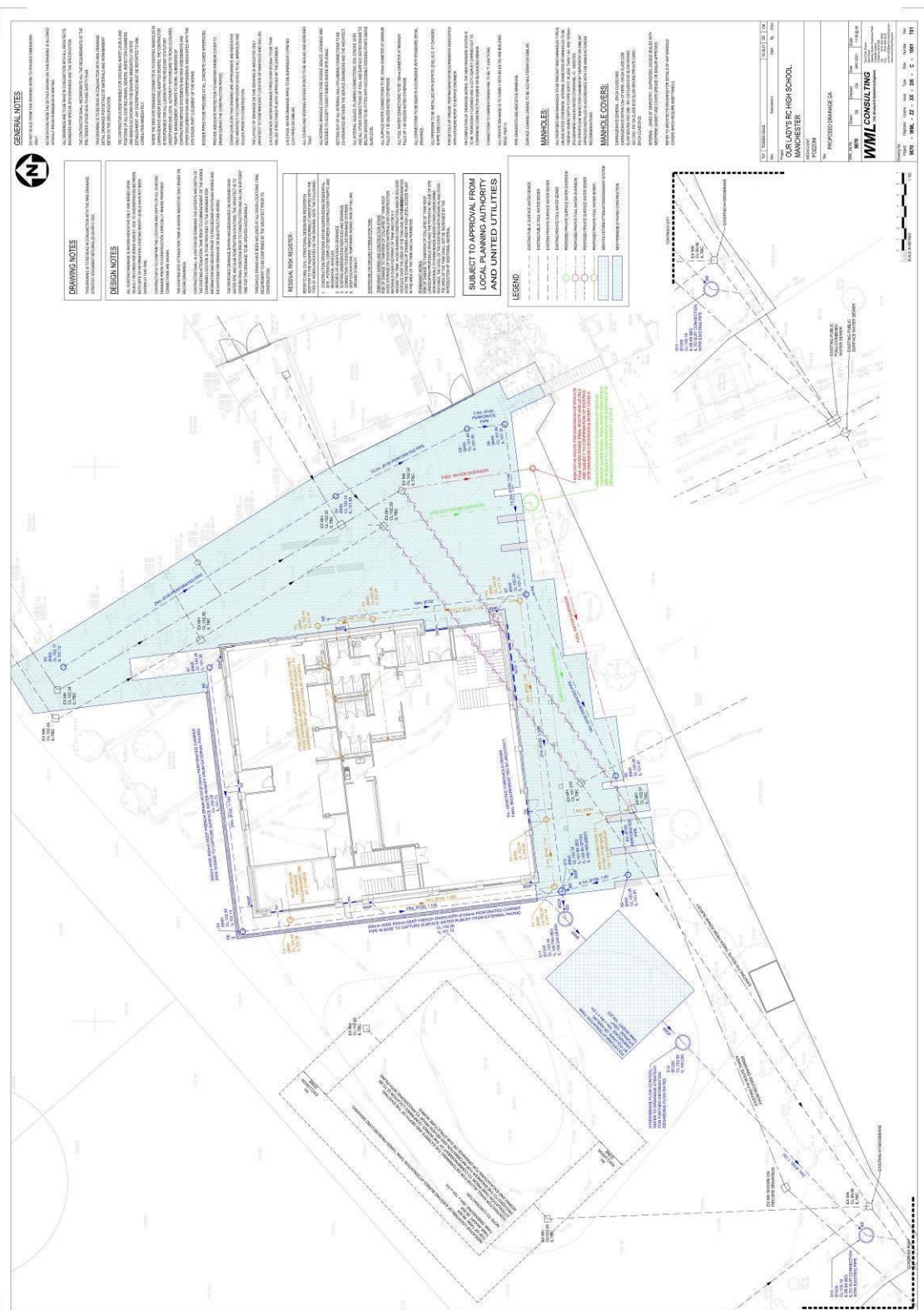
10) Root development was good, but the topsoil profile was very wet, the surface boggy underfoot, with no use possible due to poor conditions, this explaining the lack of wear at key points such as goalmouths, centre circle.

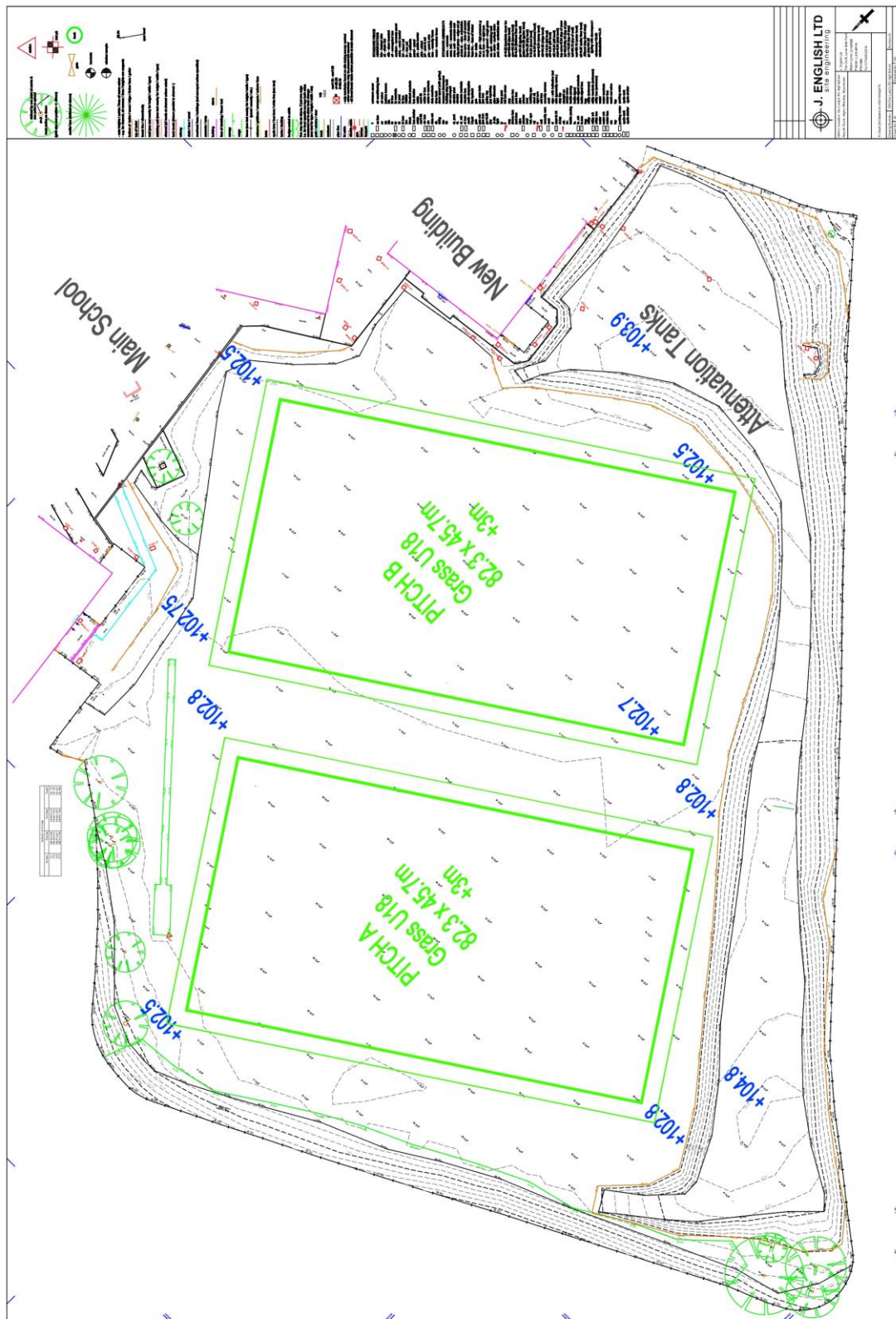


Easten & western ends of Pitch A, waterlogged ground, high weed content



**80mm uPVC corrugated plastic land drains at 5-metre centres
over part of the playing field**





Current layout of the grass pitches



**Proposed layout of the new 3G STP and grass pitch B,
Showing the extent of the spoil mound**

3.0 Non-Technical Points

- 1) The official school size is for 750 students, but the school currently has 962 students from age 11-16 years old with a maximum number of 1042 expected to be reached in a few years time. With the grass pitches effectively being out of action from November to March each year, and the sports centre 3G STP being heavily used and limited to daylight use only, the school are experiencing problems in providing adequate outdoor sports areas and have a limited scope for different sports.
- 2) Current and projected use of the synthetic surfaced pitches – The School Business Manager, Jay Thomas, also manages the sports centre and 3G pitch bookings. An outline business plan has been put together based on evidence to support an additional, full-sized and more flexible multi-use AGP. This is to be included in the application supporting documentation in a refined state.

In essence, the pressure on use of the existing, smaller-sized 3G is such that there is no doubt from the school side that, apart from satisfying all-year round needs of pupils, the combined facilities of this sports and education hub will prove a popular and vibrant venue for all types of users. The strategy for development of the site of course covers the sinking funds required for future carpet replacement.

- 3) The school have not as yet directly contacted the Manchester MCR Active organisation in connection with the 'Manchester's Playing Pitch and Outdoor Sport Strategy and Action Plan (2022-2031)', but are aware of the contents.

Likewise, the Local Football Facility Plan (LFFP) for Manchester, produced by the FA, Football Foundation, Sport England and a range of local partners has informed the basis of the project, with 9 x 3G new projects given priority for potential investment in the LFFP. The document also highlights 20 sites prioritised for grass pitch improvements. The Our Lady's RCHS grass Pitch 'B' will be upgraded without the need for this source of funding, adding a winter-use grass pitch to a site currently without any winter play.

Key targets in Manchester which the school fully supports are for:

- *Growth of women and girls participation (especially in the North of the City) - transition from and further growth of FA Wildcats and FA Squad Girls to affiliated football.*
 - *Further growth of disability football - outside of 'City in the Community'*
 - *Development of U18-21 provision.*
 - *Growth of Vets participation and transition from mainstream adult teams - recreational and small sided options*
 - *Participation growth within ethnic & low socio-economic groups (LSEG)*
- 4) The school have access to funding for a new 100 x 64m synthetic all-weather pitch to increase the capacity for outdoor play, by increasing playing area (removal of part of the western spoil mound) and through the more resilient

synthetic surface. As part of the project, the remaining grass area will be re-drained.

- 5) The current proposal offers an ideal opportunity to introduce a top-quality AGP for school pupils, with the existing Sports Centre 3G dedicated to aspiring local footballers, young and old and visitors alike, developing grass roots soccer and achieving the national aim of involving all ages in sporting activity throughout the year, in all weathers, all ages, male and female, all levels of ability or disability. The plan is to increase grassroots football development of the complex and to encourage whole-life sport by enhanced pathways into football and other sports where appropriate.
- 6) The school will use the new multi-use AGP during the academic day and after-school use. Operational times will provide opportunities for the AGP to be used to satisfy curriculum and recreational demands outside school times, whilst balancing the necessary protection of neighbours' amenity.
- 7) The AGP will replace part of the grass playing field at Our Lady's RC High School and this proposed location will give a convenient access for pupils to and from the school. Existing and additional sports that can be accommodated will then be as follows:

- Football
- Hockey
- Netball
- Tennis
- Badminton
- Other sports such as academy type skills cricket (drop cricket), rugby training, Lacrosse, Pickleball, Baseball, Softball, Bowls, Futsal, etc.

IN ADDITION – Upgraded Grass Pitch B, as part of the scheme:

- Soccer – on a fully drained grass surface
- Rugby - “ “ “
- Athletics – A 110m 8-lane grass running track will be marked-out during summer.

EXISTING 3G PITCH:

- Soccer – on a fully drained grass surface
- Rugby - “ “ “
- Disabled and Walking Football

- 8) Residential neighbours will not be adversely affected by this proposal. The closest residential neighbours to the subject area are located to the west along Boothroyden Road, approximately and at least 30m to house façades, with the additional baffling effect of the retained and reshaped spoil mound, intended to also have tree planting.
- 9) A surface water drainage strategy is being developed based on retaining the greenfield outflow rates by attenuating runoff within the AGP drainage layer. The drainage design will incorporate a silt trap arrangement to filter microfibres out before the runoff enters the road system.
- 10) The sports facility design is compatible and complimentary to an educational setting. Biodiversity is combined with screening for adjacent residences through a tree planting programme to the western boundary. The proposal

ensures there is no unacceptable level of impact to neighbours and the local environment by way of noise, light, flood risk or transport issues.

- 11) Our Lady's RC High School is committed to manage, maintain and properly fund the sports facility and will implement a community use management plan to ensure the AGP is correctly operated.
- 12) There will be increased traffic movements due to the new AGP, but there is sufficient car parking provision onsite at present. The school will implement a travel/parking management plan to direct all visitors to onsite parking areas.
 - Parking spaces – 50 school, 80 sports centre
 - Disabled spaces – 10 school, 10 sports centre
 - Access road spaces – 15

➤ **Total: 165 spaces**

These measures will ensure that parking demands are satisfied on site and do not result in overspill onto the adjacent residential roads when the AGP is in full use, after school at evenings and weekends.

- 13) Environmental Aspects – The project is to encompass tree planting over the area of the spoil mound, with understory wild flora seeding and installation of bat/bird boxes and other features as advised by the school's Ecologist.

14) SUMMARY POINTS:

In summary, this project will deliver genuine benefits in terms of sports engagement on grass and synthetic surfaces and as such the proposed sports facilities will serve to further enhance and extend the combined excellence in education and sporting offer that Our Lady's RC High School provides to its pupils.

- The previous filling and mounding on the playing field area has reduced usable area, has left a compact and impermeable subsoil, and reduces the drainage capacity and health of the grass pitches to the point where they are unusable through November to March and beyond.
- The proposed scheme will include reshaping of the mound to increase playing surfaces by at least 0.3 ha.
- The full-sized AGP will enable a variety of standard pitch sub-layouts for all ages and abilities.
- The grass Pitch 'B' will be fully upgraded to increase use through the winter months, including pipes, sand-slits and sand dressing.
- Parking and access has been taken into consideration. Low impact lighting is included, attenuated runoff to prevent flooding problems off site, biodiversity increase included, noise mitigation through design and management.



The spoil mound viewed from the south-west corner of the site

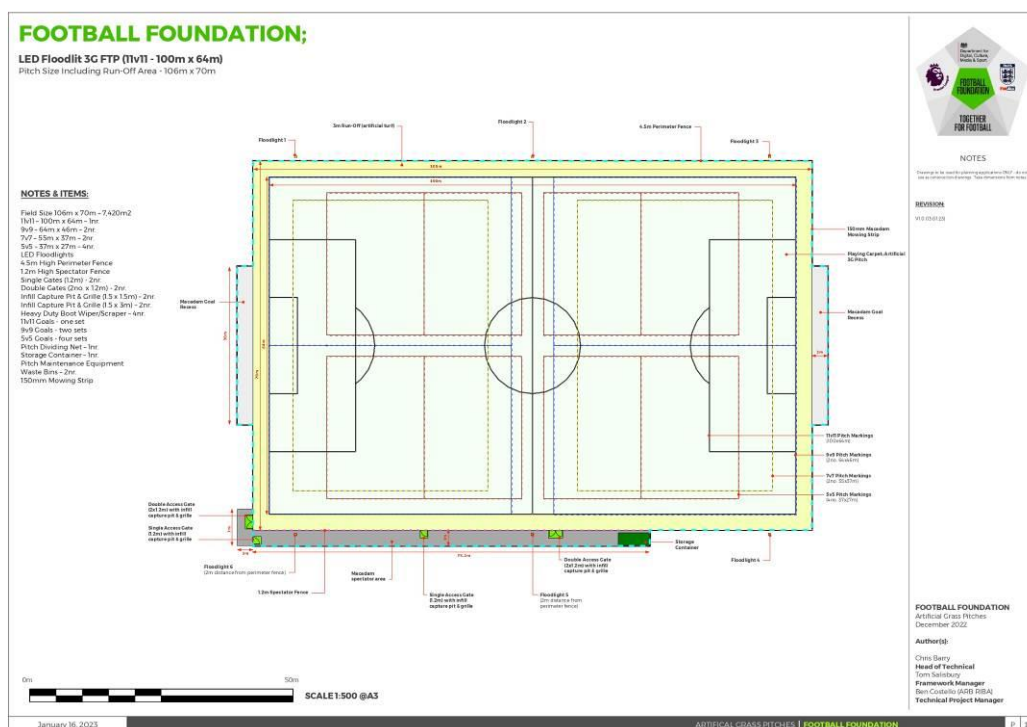


***The proposals in relation to the school buildings.
Spoil mound to be largely removed by re-distributing under the AGP.
Additional area of grass then available below Grass Pitch 'B'.***

4.0 NEW PITCH CONSTRUCTION PROPOSALS

4.1 Pitch Layout

- 1) The proposed AGP pitch has dimensions of 100 x 64m plus 3m margins all around, with goal recesses as shown in the Football Foundation typical pitch layout drawing below. Total area $106 \times 71\text{m} = 7,526 \text{ sq.m}$
- 2) Line marking for the range of sports intended is to be confirmed. Soccer primary and sub-layouts to be as follows:
 - 11v11 – 100m x 64m – 1nr. (black)
 - 9v9 – 64m x 46m – 2nr. (blue)
 - 7v7 – 55m x 37m – 2nr. (yellow)
 - 5v5 – 37m x 27m – 4nr. (red)



3) Other Items:

- 4.2m 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

4.2 Profiles

4.2.1 – Multi-Use AGP

- 1) The intention is to construct a synthetic pitch with dynamic base for longevity, with fencing, microfibre filtering, floodlighting, storage areas, maintenance and access path to the school.
- 2) Topsoil from the AGP working area to be stripped and carted to Pitch B for re-spreading. Spoil mound to be reshaped/respread.



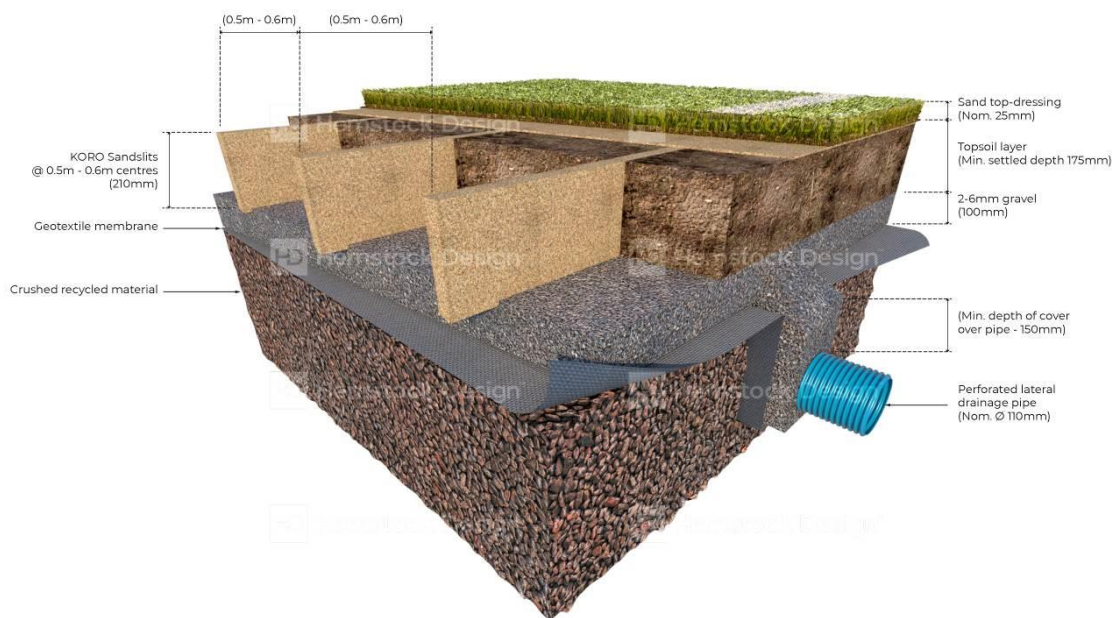
3D Section: FIFA Certified 3G Synthetic Turf System
Typical Build-up & Drainage Construction
Scale: N/A

Proposed illustrative AGP profile (sand-dressed finish intended)

4.2.2 – Grass Pitch ‘B’ Upgrading

- 1) The intention is, if possible, to extend this pitch further to the west by pushing back the spoil mound to give an extra 20m of usable grass (training grids). Current proposed size is approximately 83 x 46m plus 3-metre margins.
- 2) The pitch will have an additional layer of topsoil from the 3G pitch soil strip, giving around 450-500mm depth of topsoil as opposed to the existing 200mm only. This increase in topsoil depth will improve rooting capacity and water retention in drier weather and facilitate lateral movement of water for drainage.
- 3) The playing field area will be out of play during 2024, if the planned programme can be followed, during which time the school will use the existing all-weather facilities on site and hired local pitches.
- 4) The grass pitch is to have a 5-metre spaced lateral drainage system with 0.5m spaced sand slits and a 25mm sand topdressing, sown with a top-quality sportsfield Perennial Ryegrass
- 5) An upgraded maintenance programme has been developed for both pitches.

Proposed grass pitch pipe and sand-slit drainage profile, Pitch B:



3D Section: Natural Turf Pitch Surface
Typical Build-up & Drainage Construction
Scale - N/A

4.3 Maintenance

The proposal is for the Sports Contractor to provide maintenance on both pitches for a period of 6 to 12 months after practical completion. The pitch is to be tested and certified.

The School may look to purchase on-site based maintenance equipment, for regular operations such as brushing and cleaning, with supplementary contract-based periodic work.

NB: This document is intended to be a preliminary informative summary of the site and proposal. A full Design and Access Statement with a set of drawings and supporting reports and documentation is under preparation.



Signed:

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