# 3. Mitigation Measures

Given the intermittent use of the 3G Football Pitch and MUGA and the overall predicted noise levels being within the range of conversation, the 2018 ES considered mitigation measures were not required as temporary increases in the prevailing noise levels should be acceptable. It should also be borne in mind that the 2018 ES assessment adopted a conservative approach and is based on higher noise source levels compared to those specified by Sport England as typical AGP levels. However, notwithstanding this, following comments from Sport England in July 2019 that measures to reduce noise impact on residents should be provided prior to planning approval (rather than provided via planning condition), the design team have further investigated ways of providing mitigation measures into the design of the Development.

A commitment has been made to include the following inherent mitigation measures as a minimum, which comprise a combination of engineered and operational solutions into the design.

With regard to engineered solutions the following has been considered and included in the design as a minimum:

1. A weld mesh (twin bar super rebound fence noted on page 22 of the updated Landscape Design and Access Statement for Application B – refer to Appendix B) with EPDM rubber inserts and fixings to reduce rattle and ball impact noise during play.

The above product with inclusion of EPDM rubber inserts is quieter to ball impacts compared to rebound boards. Based on test data provided by the manufacturer, impact ball noise levels reduced from 93dB(A) at a measurement distance of 300mm from the fence to 66dB(A) (refer to **Appendix B**). We are confident that the above measure in combination with control of operational hours, both of which could be secured via planning condition, will be more than sufficient to mitigate noise impact and reduce noise to an acceptable level.

A maintenance scheme will be implemented to prevent deterioration in performance of the sports facilities that could result from damaged panels, loose brackets, worn AV bushing and squeaky gates. This would be secured via planning condition by LBRuT.

Page 22 of the Landscape Design and Access Statement for Application B (refer to **Appendix C**) has been revised accordingly to provide the following wording and updated plan:

'In respect of noise, there are a number of design solutions that will be incorporated into the design as a minimum to reduce rattle and ball impact noise, including a weld mesh with EPDM rubber inserts and fixings. A maintenance scheme will be implemented to prevent deterioration in performance of the sports facilities that could result from damaged panels, loose brackets, worn AV bushing and squeaky gates.

Furthermore, residential building will be designed such that internal noise levels do not exceed 35 dB LAeq,16h during the daytime and 30 dB LAeq,8h & 45 dB LAmax at night from anonymous sources of noise such as road traffic. As noise levels from anonymous sources will be greater than those expected from the 3G Football Pitch and MUGA, the façade will be sufficient to reduce noise to an appropriate level.'

In terms of operational solutions, the hours of play would also be restricted to up to 9pm Monday to Saturday and 8pm on Sundays and Bank Holidays, reducing the impact of evening noise levels.

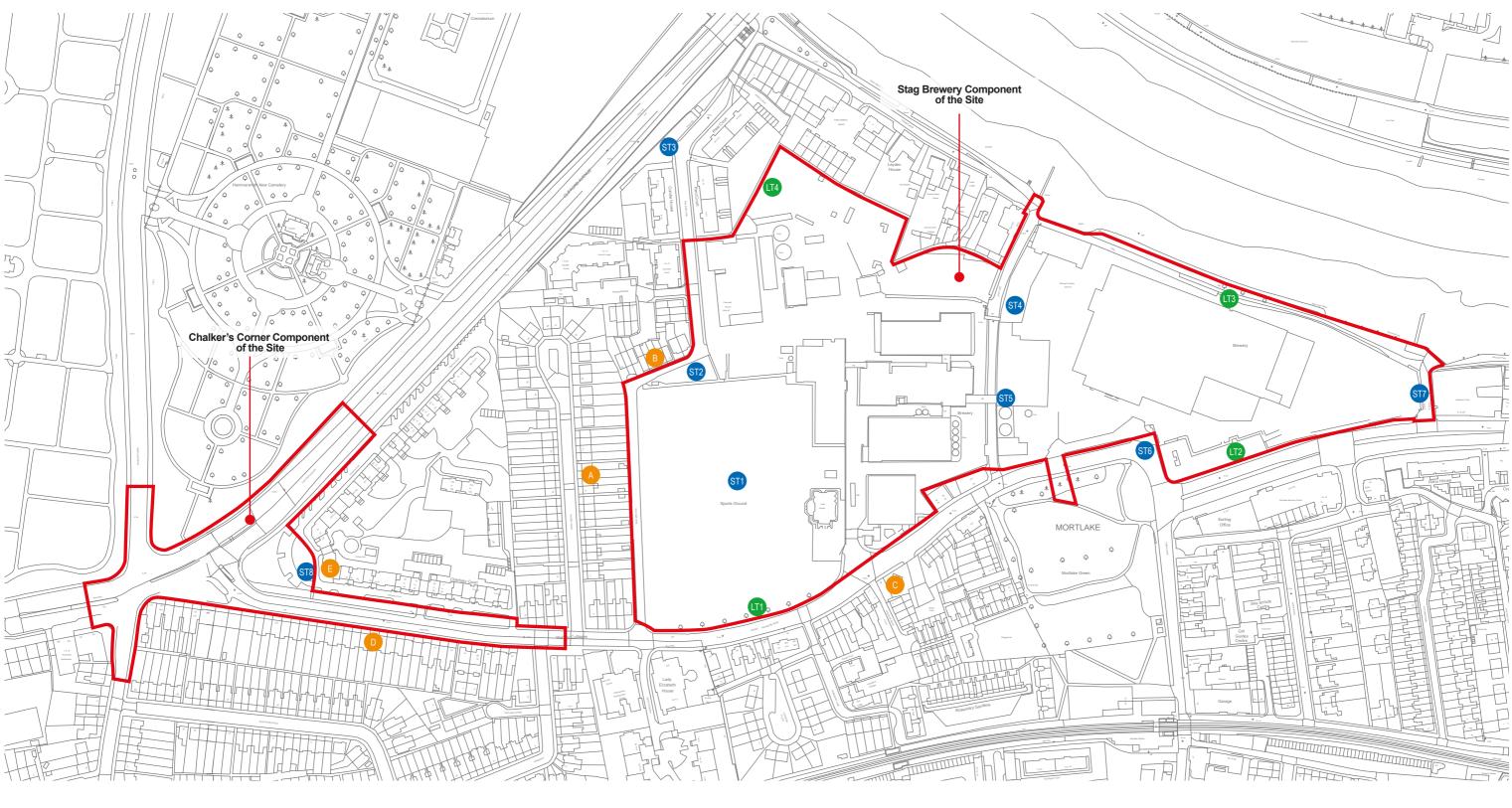
#### 4. Conclusions

With incorporation of mitigation measures as detailed above into the design of the Development, in addition to restriction of operational hours, noise impacts on surrounding existing and future sensitive receptors would be reduced as far as reasonably practicable thereby adequately safeguarding existing and future amenity.

# **Appendix A**

- 2018 ES Figure 9.1: Noise Monitoring and Sensitive Receptor Locations
- Sensitive Receptors Distance Plan to the proposed outdoor sports facilities (ref: 16019\_16019-SQP-ZZ-SK-033)











Long Term Noise Monitoring Locations



A Noise Sensitive Receptor



Short Term Noise Monitoring Locations

Project Details

Figure Title

Figure Ref

Date

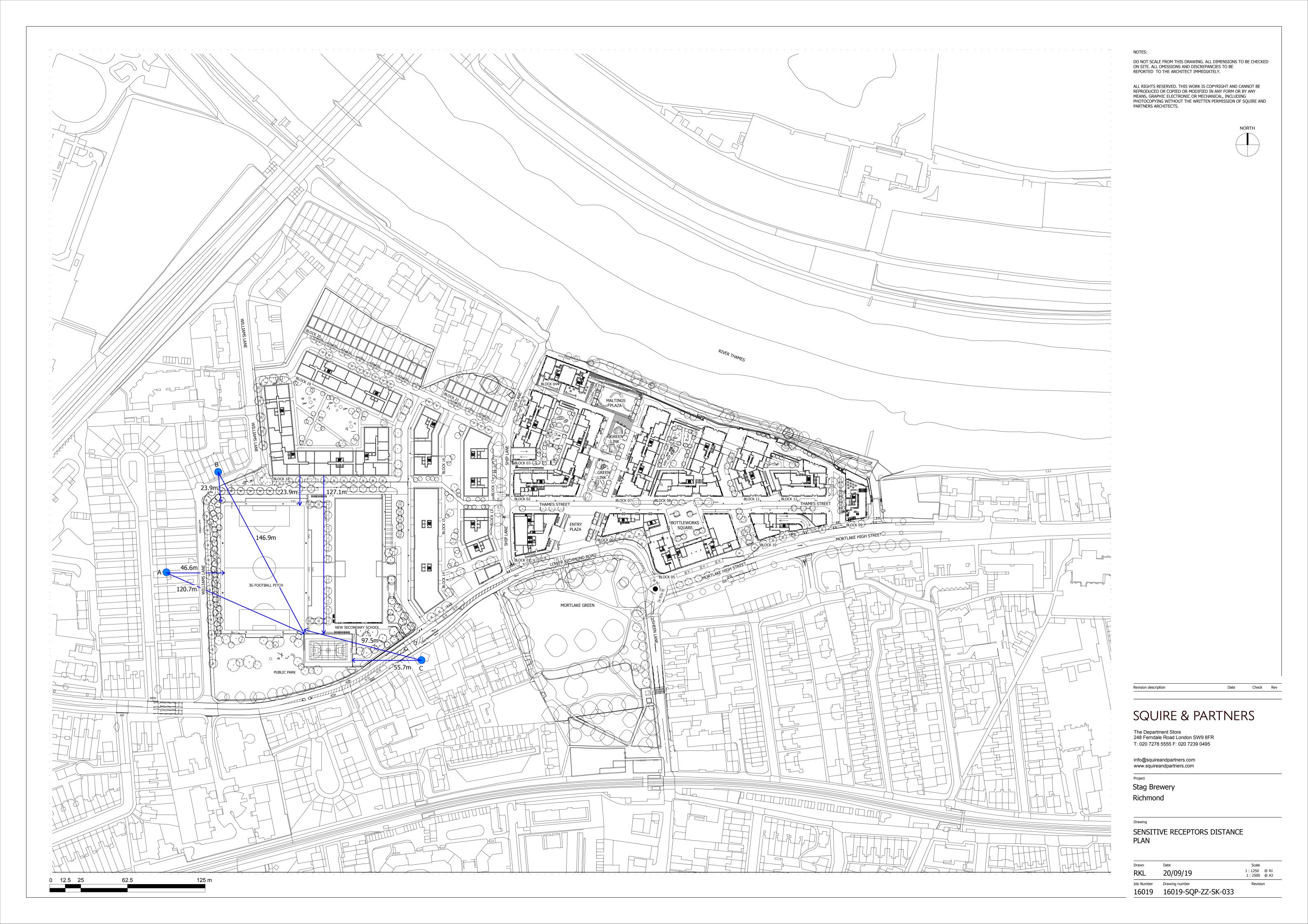
Figure 9.1: Noise Monitoring and Sensitive Receptor Locations

WIE10667-101\_GR\_ES\_9.1A

File Location 

WIE10667-101: Stag Brewery, Mortlake

www.watermangroup.com



# **Appendix B**

• EPDM Inserts noise reduction test method and results (Source: Zaun)

## EPDM Inserts noise reduction test method and results

The following information has been used recently to support the sale of our products and the use of EPDM inserts, this may assist you in the future.

The analysis has been taken from tests on our Duo sports fencing fixings every 200mm and EPDM inserts. This compared against a Duo 6 fence without the EPDM inserts but with the same 200mm centres. The test was completed by propelling a football at a fence from a distance of 2 metres on four separate occasions. These tests were undertaken in natural sound with a basic reading of between 40-50 db of sound using a mini sound level metre. The readings were taken by placing the noise device at a distance of 300mm from the fence panel, positioned in-line with the post.

With EPDM inserts - the following readings were recorded;

72.7 dB 62.5 dB 65.4 dB 65.0 dB

This works out to an average of 66.4 dB

The same test has been completed on a Duo 6 fence with fixings every 200mm but without the EPDM inserts on four separate occasions - the following readings were recorded;

93.7 dB 89.3 dB 94.6 dB 95.8 dB

This works out to an average of 93.35 dB

This is circa a 29% improvement - however the dB scale is not linear, so 66dB is roughly equivalent to talking 1m away or a car travelling on a street. The 93dB is roughly equivalent to a heavy truck passing.

For further explanation see http://www.helpcharts.com/decibel-range-chart-info.html

lan Wright
Commercial Manager
Zaun Limited
Steel Drive
Wolverhampton
WV10 9ED
Mobile +44 (0)7747 037 282
Phone +44 (0)1902 796 699

Phone +44 (0)1902 796 699 Fax +44 (0)1902 796 698

ian.wright@zaun.co.uk www.zaun.co.uk

# **Appendix C**

- Page 22 of the revised landscape DAS for Application B
- School Landscape GA Plan (Interim) (ref: P10736-00-001-132)



0

### **GILLESPIES**

#### 5.10 Fencing

The school grounds will be fenced as indicated and include a full size all weather (3G) football pitch, a Multi-use Games Area (MUGA) and Habitat Area – as designated by Department for Education and Education Funding Agency's recommendations, as well as circulation and open space for children during breaks and outdoor activity times. These facilities, along with the second Play Space on the roof of the school building, and the indoor gymnasium, will be accessible to the residents of the site development and the wider community of Mortlake under a Community Agreement (a draft has been submitted with this application). This is covered in more detail elsewhere in this submission.

Fencing Detail

Fencing to Sports Pitch and MUGA, as well as school grounds and Habitat Area is based on industry standards and is in accordance with ESFA requirements and Sport England recommendations.

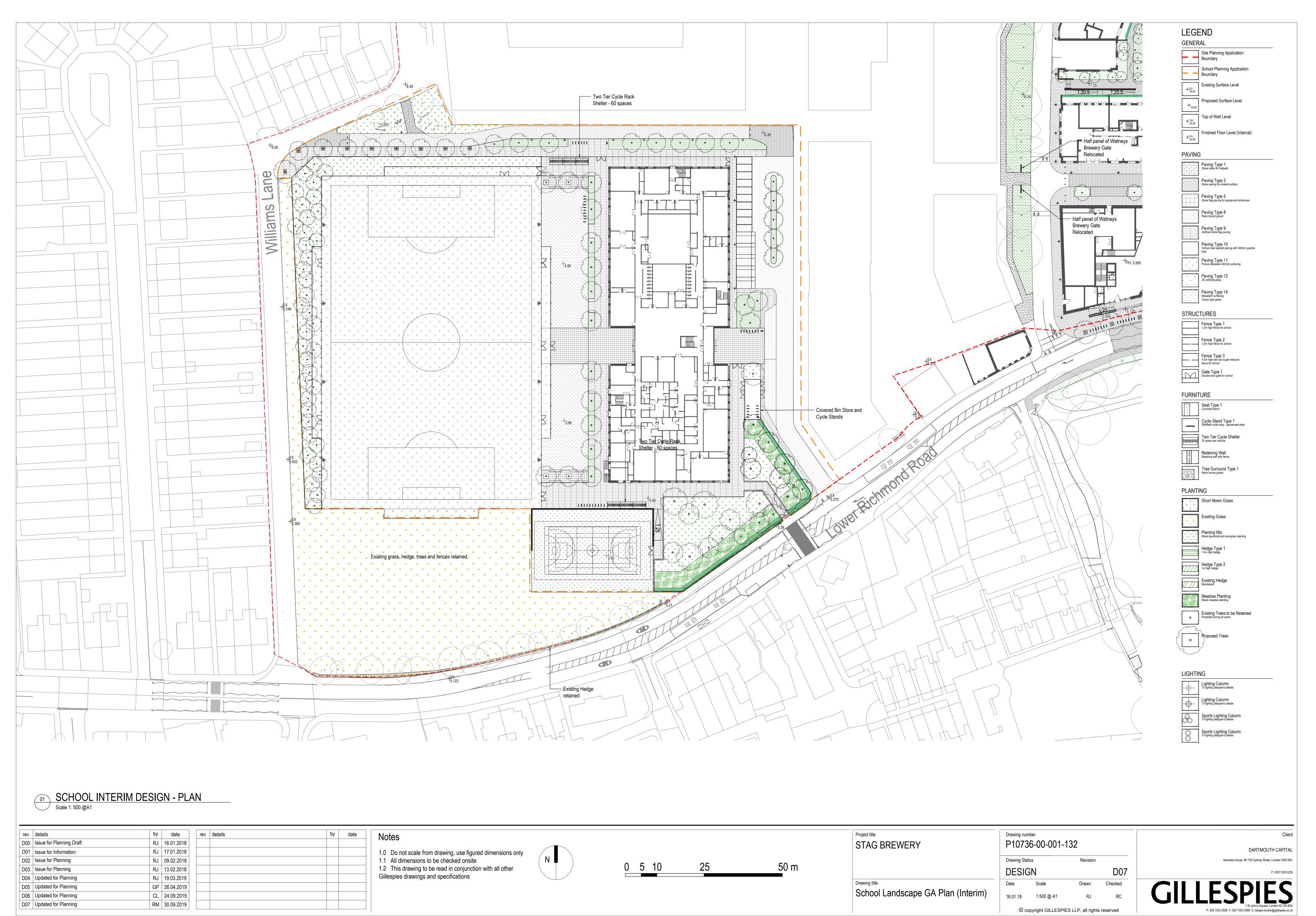
Lighting has been designed for the sports pitch to designated FA levels (Category 2&3) – refer to Sports Pitch Lighting Assessment 547-(010)-RP-EX-LA.

Fencing heights of 4.5m, 3m and 1.2m is in accordance with height requirements under SAPCA (Spots and Play Construction Association)Code of Practice for the Construction and Maintenance of Fencing Systems

All fence types are twin bar super rebound and black in colour. Products from manufacturers such as ZAUN and Sports & Safety Surfaces or similar approved will be used.

In respect of noise, there are a number of design solutions that will be incorporated into the design as a minimum to reduce rattle and ball impact noise, including a weld mesh with EPDM rubber inserts and fixings. If required from further subsequent detailed assessment, an acoustic grade timber fence with sufficient mass (15kg/m2) or barrier made from transparent/opaque plastic material where visual amenity is an important consideration will be incorporated. A maintenance scheme will be implemented to prevent deterioration in performance of the sports facilities that could result from damaged panels, loose brackets, worn AV bushing and squeaky gates.

Furthermore, residential building will be designed such that internal noise levels do not exceed 35 dB LAeq,16h during the daytime and 30 dB LAeq,8h & 45 dB LAmax at night from anonymous sources of noise such as road traffic. As noise levels from anonymous sources will be greater than those expected from the 3G Football Pitch and MUGA, the façade will be sufficient to reduce noise to an appropriate level.





# **Appendix C**

Date:
[Amend as appropriate]
The [ ] School
London Borough of Richmond Upon Thames Local Authority
Barnes Eagles Football Club

Draft Agreement in relation to arrangements for community use of sports facilities at [ ] School

In connection with Planning Permissions 18/0547/FUL; 18/0548/FUL and 18/0549/FUL

# Contents

No	Heading	Page	
	Clauses		
1.	Recitals	3	
2.	Definitions and Interpretation	3	
3.	Aims	Ę	
4.	Arrangements for Community Use	6	
5.	Targets for Community Use		
6.	Marketing and Promotion		
7.	Management	,	
8.	Financial Matters	8	
9.	Monitoring and Review	8	
10.	Disputes	9	
11.	Duration of Agreement	9	
12.	Authority	10	
13.	No Variations	10	
14.	No Agency	10	
15.	Severability	10	
16.	Waiver	10	
17.	Non-Assignability	10	
18.	Governing Law and Jurisdiction	10	
Schedu	ule 1	11	
Schedu	ule 2	13	
Arrang	gements for Community Use	13	
Schedu	ule 3	16	
Manag	Management Committee		



DATE [

#### [Amend Parties as appropriate]

- (1) THE [] SCHOOL of [insert address] ("the School")
- (2) London Borough of Richmond Upon Thames **LOCAL AUTHORITY** of [Civic Centre, 44 York Street, Twickenham, TW1 3BZ] ("the **Council**")
- (3) Barnes Eagles Football Club acting by [First Name of Trustee] of [Address] and [Name of Second Trustee] of [Address] ("Barnes Eagles")

#### 1. Recitals

- 1.1 Planning Permissions were granted by the Council for the Development subject to conditions and planning obligations. The Planning Agreement [and Condition [insert number]] to the Planning Permissions requires that an agreement shall be entered into between the School and Council that sets out the rights of Barnes Eagles and the general public to use the Sports Facilities within the Development.
- 1.2 The parties wish to enter into this Agreement in order to make the indoor and outdoor Sports Facilities at the Development and/or the wider school site, available (when their use is not required by the School) for use by the local community in compliance with the terms of this Agreement and the Planning Agreement [Condition [insert no.]].
- 1.3 The School is the owner of the School Premises and is responsible for their use.
- 1.4 The Council has responsibility for the provision of sports facilities in the Richmond area for use by and for the benefit of the community and is desirous of entering into this Agreement in furtherance of that responsibility and as the local planning authority in respect of the Development.

#### 2. Definitions and Interpretation

In this Agreement the following words or phrases have the corresponding meanings ascribed to them unless the context otherwise requires:

**Barnes Eagles** 

means the football club for boys and girls of all ages in Barnes, South West London, which has secured rights of access to the Artificial

Grass Pitch and changing room facilities at the time and rates under its Preferential Access Arrangements

#### **Casual Hire**

means availability for any individual(s) or groups to book the Sports Facilities for use on a pay-as-you-play basis, where space is available

#### **Community Use**

means use of the Sports Facilities by the local community including organised sports clubs, organisations and for Casual Hire.

#### **Development**

means the development granted by the Planning Permissions incorporating an Artificial Grass Pitch, MUGA, Sports Hall, Activity Hall and community use facilities

#### Management Committee<sup>1</sup>

means the management committee as defined in clause [6.1] of this Agreement

#### **Parties**

means the parties to this Agreement

#### **Planning Agreement**

means the section 106 Agreement dated [ ] between Reselton Properties Limited and The London Borough of Richmond upon Thames under the Planning Permissions

#### **Planning Permissions**

means together planning permissions (references 18/0547/FUL, 18/0548/FUL and 18/0549/FUL granted by the London Borough of Richmond Upon Thames on [ ] or any amendment thereof

### **Preferential Access Arrangements**

means the Barnes Eagles' use of the Artificial Grass Pitch exclusively and changing room facilities for two nights a week [between 19.00 and 21.00] and between 09.00 to 15.30 on Sundays during the Football Association football season [August to May] fixed at

<sup>&</sup>lt;sup>1</sup> Delete definition if no Management Committee.

£6,000 per annum subject to the increases in Schedule 2 paragraph 3.4 and Preferential Access shall be construed accordingly, but excluding the use of the MUGA, Sports Hall and Activity Hall.

**Review Committee** means representatives of each of the Parties

to this Agreement or their nominees

School Core Times means 8am to 4pm Mondays to Fridays during

term time as defined in Schedule 2 to this

Agreement

School Premises means the land and buildings comprising the

School and edged red for identification

purposes only on plan [ ]

Sports Facilities means the sports facilities identified in

Schedule 1 to this Agreement forming part of

the School Premises

#### 3. Aims

The Parties agree to pursue the following aims:

- Providing opportunities for the local community and sports organisations to participate in sport and physical activity for health improvement and development of their skills, particularly amongst low participant groups;
- Operating in line with the national agenda for sport taking into account nationally adopted strategies;
- Generating positive attitudes in sport and physical activity by young people and reducing the drop out rate in sports participation with age;
- Increasing the number of people of all ages and abilities participating in sport and physical activity including people with disabilities;

- Using the facilities to encourage the range, quality and number of school sports club links and to stimulate competition that is inclusive of young people and adults;
- To provide affordable access to the facilities and to be self financing in terms of Community Use;
- To provide a football development hub for the community and strong school / club links.

#### 4. Arrangements for Community Use

The School agrees to make the Sports Facilities available for Community Use in accordance with the provisions of Schedule 2 to this Agreement.

#### 5. Targets for Community Use

The School shall use reasonable endeavours to support the achievement of making a contribution to local participation targets for sporting and physical activity. The School shall work with London Borough of Richmond Upon Thames and London Sport to provide a range of opportunities and pathways for the community. These may include existing initiatives and will also include new and local activities.

#### 6. Marketing and Promotion

- 6.1 The Management Committee will be responsible for marketing and promoting the Sports Facilities in accordance with the agreed aims and targets.
- 6.2 A marketing strategy will be prepared by the School and submitted in writing for approval by the Management Committee (not to be unreasonably delayed or withheld).
- 6.3 The Review Committee will implement and review the approved marketing strategy on an annual basis.

#### 7. Management<sup>2</sup>

- 7.1 A Management Committee will be established within 3 months of the date of this Agreement to develop Community Use of the Sports Facilities in accordance with the terms of reference and constitution of Schedule 3 to this Agreement.
- 7.2 Membership shall include representative(s) (or their nominee) from each of the following:-
  - (a) The School<sup>3</sup>
  - (b) The Council or Sport Richmond<sup>4</sup>
  - (c) Barnes Eagles
- 7.3 Under these terms of reference, the Management Committee will, in accordance with this Agreement, seek to establish a practical policy framework for the day to day management and operation of the Sports Facilities in accordance with Schedule 2. This framework should seek to enable:
  - (a) a policy of affordable pricing to assist in the achievement of the aims of this Agreement. The policy will ensure that prices shall be no greater than similar local authority run facilities in the area;
  - (b) the promotion and forward planning of development activities, at times which best suit the target groups;
  - (c) equal opportunities of access;
  - (d) an easy and accessible booking arrangement for Community Use and block booking, this system to be reviewed on an annual basis;
  - (e) an appropriate marketing strategy for the marketing of the Sports Facilities for Community Use.
- 7.4 The School will be solely responsible for the Sports Facilities and shall:-

<sup>&</sup>lt;sup>2</sup> Delete clauses 7.1-7.3 if a Management Committee is not required.

<sup>&</sup>lt;sup>3</sup> To be the most appropriate person(s), such as Governor, Head Teacher, Head of PE.

<sup>&</sup>lt;sup>4</sup> Lucy Thatcher to confirm

- (a) resource, control and routinely ensure the maintenance of the Sports Facilities in a manner that will allow achievement of the agreed aims;
- (b) make the Sports Facilities available on the occasions and times specified in Schedule 2:
- (c) ensure provision of heat, light and water and such other amenities as required for the Sports Facilities and their intended use;
- (d) ensure that the Sports Facilities comply with all legislation and guidance in force at the time of this Agreement relating to access for disabled users; and
- (e) cover the cost of gas, fuel, oil, electricity, water, rates and taxes that may be attributable to the use of the Sports Facilities and shall be entitled to deduct the reasonable costs from the hire charges and income received from Community Use.

#### 8. Financial Matters

- 8.1 The School endeavours to ensure that the costs of operating Community Use at the Sports Facilities will be fully covered by income from such use and any surplus will be utilised to:
- 8.1.1 Agree to contribute to an agreed contingency or sinking fund for major maintenance, repairs and ultimately renewal of fixed life elements of the Sports Facilities.
- 8.1.2 Maintain a reasonable stock of sports equipment for use in connection with the Sports Facilities.
- 8.1.3 Enhance the quality and amenity of the Sports Facilities.

#### 9. Monitoring and Review

- 9.1 2 months prior to the date on which the Review Committee produces its annual report the School shall make available to the Review Committee details of all usage, bookings, maintenance and financial matters relating to the Community Use of the Sports Facilities to assist with the development and improvement of community access.
- 9.2 The Review Committee shall undertake an assessment of the adequacy of the implementation of this Agreement in relation to:

- hours of use of the Sports Facilities;
- pricing policy;
- compliance with targets and aims of this Agreement;
- marketing;
- financial performance of the Sports Facilities during the previous year; and
- maintenance.
- 9.3 The Review Committee shall prepare a report based on the above assessment and prepare recommendations as to how Community Use of the Sports Facilities can be further developed and improved.
- 9.4 The School shall implement all reasonable recommendations of the Review Committee as soon as reasonably practicable.
- 9.5 In the event any significant changes are required to this Agreement as a consequence of each or any annual review prior written approval of each of the Parties to this Agreement shall be required.
- 9.6 The School shall not materially reduce the level of community access to the Sports Facilities required by the Planning Agreement [and Condition [insert number]] of the Planning Permissions without the prior written approval of the Council following consultation with Sport England.

#### 10. Disputes

The Review Committee and Management Committee shall use reasonable endeavours and act in good faith in the resolution of any disputes that may arise in connection with the carrying out of their duties pursuant to this Agreement.

### 11. Duration of Agreement

This Agreement shall operate for so long as the School Facilities are provided in accordance with the Planning Permissions. In the event the School should cease to operate the Parties agree to make every effort to secure the continued operation of the Sports Facilities for Community Use.

#### 12. Authority

The Parties warrant that they have the full right and authority to enter into this Agreement.

#### 13. No Variations

This Agreement may only be varied in writing by a document executed by all the Parties hereto.

#### 14. No Agency

Nothing in this Agreement shall be construed as creating a partnership, a joint venture, a contract of employment or a relationship of principal and agent between the parties hereto.

#### 15. Severability

If any term condition or provision contained in this Agreement shall be held to be invalid unlawful or unenforceable to any extent such term condition or provision shall (save where it goes to the root of this Agreement) not affect the validity legality or enforceability of the remaining parts of this Agreement.

#### 16. Waiver

No term or provision of this Agreement shall be considered as waived by any party to this Agreement unless a waiver is given in writing by that party.

#### 17. Non-Assignability

This Agreement is personal to the parties and none of them shall assign sub-contract or otherwise deal with their rights or obligations without the prior written consent of the others.

#### 18. Governing Law and Jurisdiction

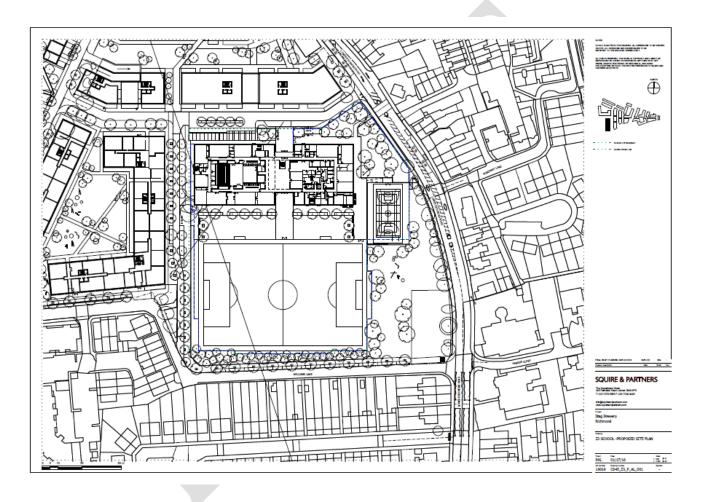
This Agreement shall be governed by the laws of England and Wales and the parties submit to the exclusive jurisdiction of the courts of England and Wales.

#### Schedule 1

1. The outdoor sports areas and facilities to be made available for Community Use shall comprise the following as shown on the attached plan(s)):-

Artificial Grass Pitch (64m x 100m)

MUGA (26.5m x 36.3m)



The indoor sports areas and facilities (together with any ancillary facilities [toilets, changing rooms etc]) to be made available for Community Use shall comprise the following as shown on the attached plan(s)):-

Sports Hall (34.5m x 20m)

Activity Hall (10m x 15m)

Changing rooms



#### Schedule 2

Arrangements for Community Use

#### 1. Users

- 1.1 The Sports Facilities shall be made available for Community Use.
- 1.2 The School shall allow Barnes Eagles' Preferential Access Arrangements to the Artificial Grass Pitch and changing room facilities in this Agreement.
- 1.3 Barnes Eagles will have Preferential Access to the Artificial Grass Pitch and changing room facilities. This will entitle them to secure their preferred sessions for hire prior to any other users before the commencement of each school year over a minimum term of 25 years from [insert date]. They will forego their right to Preferential Access Arrangements for the season in the event that confirmation of their bookings is not received for the forthcoming football season by 31 July each year. They will still be entitled to the prevailing rates charged by the Council for any bookings made that season.
- 1.4 Barnes Eagles' Preferential Access Arrangements may only be terminated with their written consent.
- 1.5 Barnes Eagles may use the MUGA, Sports Hall and Activity Hall by confirming bookings at the prevailing rates charged by the Council.
- 1.6 The School may enter into a similar arrangement with other local groups for the use of the Sports Facilities for Community Use similar to Barnes Eagles provided that the Preferential Access Arrangements are not affected. The Management Committee will review the status of any arrangements with other local groups (excluding Barnes Eagles' Preferential Access Arrangements) on an annual basis.
- 1.7 The Management Committee may enter into a similar arrangement to Barnes Eagles with more than one club for the use of the same facility type that does not affect Barnes Eagles' Preferential Access Arrangements.

### 2. Hours of Access for Community Use

**TERM-TIME** 

Community Use Mon - Fri: 4pm - 9pm

Sat : 9am – 9pm

Sun\*: 9am – 8pm.

**SCHOOL HOLIDAYS** 

Community Use Mon - Fri: 9am – 9pm

Sat : 9am – 9pm

Sun\*: 9am – 8pm.

#### 3. Pricing

- 3.1 A policy of affordable and sustainable pricing shall apply to maximise Community Use and in accordance with the aims of this Agreement. Initial suggested pricing has been included below (excluding Barnes Eagles pricing).
- 3.2 Initial pricing (excluding Barnes Eagles pricing) will be subject to review and approval by the Management Committee and will be reviewed and set on an annual basis by the Management Committee thereafter.
- 3.3 The Management Committee will seek to maintain an affordable pricing policy which ensures the sustainability of the facilities.
- 3.4 Barnes Eagles' fees will be fixed at £6,000 per annum for the Preferential Access Arrangements and subject to a 1% increase per annum from years 2-10 of this agreement and 3% increase per annum from years 11-25. Additional hours will be subject to the Facility Hire charges below unless a discount rate is negotiated by separate agreement.
- 3.5 If the Artificial Grass Pitch and changing rooms are not available at any time during the Barnes Eagles Preferential Access Arrangements then the Management Committee will use all reasonable endeavours to provide an alternative facility. In the absence of a suitable alternative, the School shall refund part of the Barnes Eagles' fee referred to in paragraph 3.4 above proportionate to the length of time that the facilities are unavailable upon request.

#### **Facility Hire per hour:**

Artificial Grass Pitch Whole pitch hire - £118.00 Third pitch hire - £60.00

<sup>\*</sup>Including Public Holidays and Bank Holidays

Block booking (10 sessions or more) - £98.33 Weekend match hire (whole pitch – 2 hours) - £118

#### **MUGA**

Casual Hire - £20 Block booking (10 sessions or more) - £16.67

#### **Sports hall**

Casual Hire - £68 Block booking (10 sessions or more) - £56.67

#### **Activity hall**

Casual Hire - £43 Block booking (10 sessions or more) - £35.83

### 4. Booking arrangements

- 4.1 An easy and accessible advance booking arrangement for Casual Hire and block bookings shall be established for hire of the Sports Facilities using a standard booking form.
- 4.2 The agreed booking arrangements shall operate as determined by the Management Committee.

The School to inform Barnes Eagles when booking is available for the next season (depending on the booking arrangements agreed).

#### 5. Parking Arrangements

5.1 The school has 15 car parking spaces which shall be available to park for Community Users on a first come first served basis with other users of the site.

#### Schedule 3

Management Committee

Terms of Reference and Constitution

#### 1. Purpose

- (a) To monitor progress against agreed aims and targets: programming, usage and financial and to provide regular reports for the stakeholders of the school on those topics.
- (b) To arrange and hold six-monthly meetings for the purposes of community liaison.
- (c) To decide on policy issues e.g. pricing, the framework of sports programmes and staffing.
- (d) To ensure effective partnership working between the organisations involved in school community use.
- (e) To determine strategies for future developments at the School and timetables for their implementation.

#### 2. Officers

The Chair shall have the following roles;

- Role of Chair:
  - To direct and control the meetings of the committee.
  - To cast a further vote if necessary to resolve any tied decision(s).
  - To represent the committee at other meetings and functions as necessary.

A Secretary will be elected by the full committee at the first meeting of each financial year (April to March) and will serve for one full year.

- Role of Secretary:
  - To compile and maintain minutes of all meetings.

- To compile and issue agendas for meetings in timely fashion.
- To take care of all communications to and from the committee.

#### 3. Operation

- (a) The full committee will convene at least twice per annum and four times per annum in the first year of operation. Additional meetings will be held as considered necessary by a simple majority of members.
- (b) The School will resolve day to day issues.
- (c) The School will not make any decisions unilaterally affecting the use and availability of the Sports Facilities that impact on the Preferred Access Arrangements without consulting with Barnes Eagles.
- (d) Day to day operation will be the responsibility of the School.
- (e) Sub-groups/committees may be formed by the Management Committee if considered necessary or desirable.

#### 4. Reporting

- (a) Minutes of committee meetings will be maintained.
- (b) A formal annual short briefing report, as set out in paragraph 9 of this agreement, will be issued to cover policy, financial and sports development matters.
- (c) Other specific reports requested by other committee members when possible.

**IN WITNESS** whereof the hands of the parties or their duly authorised representatives the day and year first above written.

Amend as appropriate]
igned by
ouly authorised by the School
igned by
ouly authorised by the Council
igned by
ouly authorised by Barnes Eagles Football Club



# Appendix D



#### **Waterman Infrastructure & Environment Limited**

Pickfords Wharf, Clink Street, London, SE1 9DG www.watermangroup.com

# Stag Brewery AGP & MUGA

# Briefing Note - Noise Emissions

Date: 17 December 2019

Client Name: Reselton Properties Limited

**Document Reference:** WIE10667-106-BN-6.3.3

This document has been prepared and checked in accordance with

Waterman Group's IMS (BS EN ISO 9001: 2015, BS EN ISO 14001: 2015 and BS EN ISO 45001:2018)

Issue Prepared by Checked & Approved by

Innes Urbanski Mark Maclagan Associate Technical Director

IMES WASIONS

#### 1. Introduction

003

- 1.1. We have been asked to assess the acoustic benefits to be delivered by the installation of a 2.5m acoustic fence along the northern and western perimeters of the proposed Artificial Grass Pitch at the Stag Brewery.
- 1.2. Accordingly, this Briefing Note presents the results of the predicted noise emissions from the Stag Brewery AGP and MUGA based on advice within Sport England's 'Artificial Grass Pitch (AGP) Acoustics Planning Implications<sup>1</sup>'. Sport England advocate that noise emissions where possible should not exceed 50dB L<sub>Aeq,1hour</sub> from AGPs.
- 1.3. Noise emissions are predicted based on a source noise level of 58dB L<sub>Aeq,1h</sub> 10m from the centre-line 1.5m above ground level using CadnaA noise modelling software. Noise contour plots at 1.5m above ground level have been generated for the current mitigation scenario and for an enhanced mitigation scenario. Predicted noise levels incident on the nearest existing and future residential properties are also presented.
- 1.4. The current mitigation scenario includes provision of EPDM inserts on the mesh weld fence, which will reduce impact noise<sup>2</sup> from 93dB(A) to 66dB(A) as measured at a distance of 300mm from the fence panel. This is considered to represent acceptable noise mitigation for the wider existing and proposed residents.
- 1.5. In accordance with LBRuT preference, enhanced mitigation consisting of a 2.5m high acoustic barrier set back from the mesh weld fence adjacent to the AGP on the northern and western boundary has been assessed.

#### 2. Results

2.1. Figure 1 presents the noise contour plot with the currently proposed mitigation and Figure 2 presents the noise contour plot with enhanced mitigation, namely 2.5m high acoustic barrier.

<sup>&</sup>lt;sup>1</sup> Sport England. (2015) Artificial Grass Pitch (AGP) Acoustics – Planning Implications. New Guidance for 2015. 2 Zaun Ltd. EPDM Inserts noise reduction test method and results.



Figure 1: Current Mitigation Predicted Noise Levels dB L<sub>Aeq,1hour</sub> (1.5m above ground level)

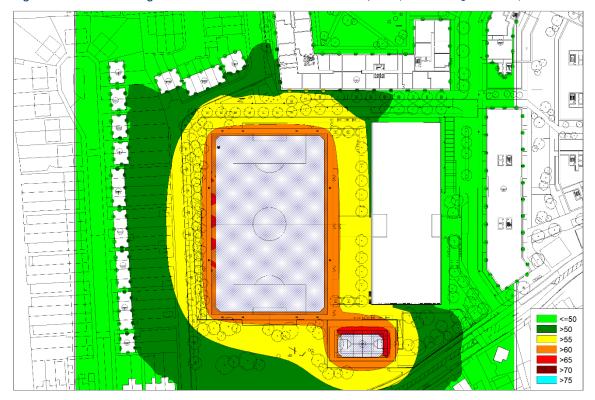
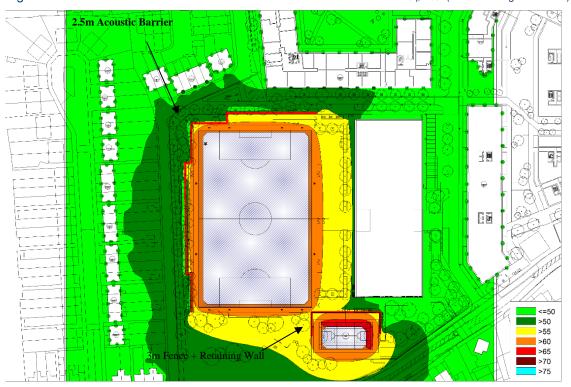


Figure 2: 2.5m Acoustic Barrier AGP Predicted Noise Levels dB L<sub>Aeq,1hour</sub> (1.5m above ground level)





2.2. Table 1 presents the predicted noise levels incident at ground floor level from AGP and MUGA use on 14-20 Williams Lane (north-west of the AGP), 31-37 Watney Road (rear of properties west of the AGP) and Block 18 (north of the AGP).

Table 1: Predicted Incident Noise Level Ground Floor dB LAeq,1hour

Location	<b>Current Mitigation</b>	2.5m Barrier
14-20 Williams Lane	54	50
31-37 Watney Road (rear)	53	49
Block 18	56	51

- 2.3. It should be noted that current mitigation does not take account of in-situ screening afforded to residents on Watney Road provided by garden fencing/wall and garden sheds and garages as illustrated in the street view image in Photograph 1. On this basis the predicted noise levels for the current mitigation scenario are likely to be lower than presented within Table 1. Also, the environmental benefit to residents on Watney Road, through provision of an acoustic barrier along the full length of the western boundary of the AGP is likely to be limited due to the existing in-situ screening.
- 2.4. Table 2 presents the predicted change in the prevailing evening noise level based on the results of the baseline noise survey undertaken in support of the ES. At measurement location LT4, which was at the north-west corner of the redline boundary of the Stag Brewery development at the rear of properties on Williams Lane, the daytime and evening average measured noise levels were 60dB LAeq,12h and 58dB LAeq,4h respectively.

Table 2: Predicted Change In Evening Noise Level at Ground Floor dB LAeq.1hour

Location	Current Mitigation	2.5m Barrier
14-20 Williams Lane	1.5	0.6
31-37 Watney Road (rear)	1.2	0.5
Block 18	2.1	0.8

- 2.5. The results in Table 1 illustrate that the SE guideline noise level of 50dB L<sub>Aeq,1h</sub> would be satisfied at ground floor level at the existing residential receptors under the enhanced mitigation scenario consisting of a 2.5m acoustic barrier.
- 2.6. Table 2 indicates that noise emissions from the AGP and MUGA will combine with the prevailing ambient noise levels to cause a slight increase in the prevailing noise level which is however considered to be acceptable.
- 2.7. It should also be noted that as part of the scheme, visual screening will be provided by planting of trees which form part of the landscape design surrounding the AGP. Obscuring the view of a receptor to a noise source is generally thought to have positive benefits with residents less likely to be bothered about a source they can't see where predicted increases in noise levels are marginal.



Photograph 1: Street View Williams Lane (rear of Watney Road properties) Looking North



## 3. Conclusions

- 3.1. Assessment of the potential noise effect of emissions from usage of the AGP and MUGA concurrently, using Sport England guidance, indicates that prevailing noise levels will increase slightly with current mitigation, but based on the measured prevailing noise levels would be less than 3dB and is therefore considered acceptable.
- 3.2. Provision of enhanced acoustic mitigation, namely a 2.5m acoustic barrier along the western and northern boundary of the AGP is predicted to allow the SE guideline value to be satisfied at existing sensitive receptors at ground floor level. The benefit of the additional proposed mitigation along the western boundary of the AGP is likely to be limited at properties on Watney Road at ground floor level due to the presence of existing in-situ screening from garden fences/walls, garden sheds and garages which are considered to already provide/act as an acoustic barrier to noise.