

Richards Music Centre (RMC), Highgate School

Sustainability Statement

Highgate School

December 2022

Quality information

Prepared by	Checked by	Verified by	Approved by
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Revision History

Revision	Revision date	Details	Authorized	Name	Position
1	10/07/2022	QA	Y	GA	AD
2	11/08/2022	QA	Y	RH	AD
3	03/11/2022	Final Report	Y	GA	AD
4	23/11/2022	Incorporation of final client comments	Y	GA	AD
6	19/12/2022	Revision of drawings	Y	GA	AD

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Executive Summary

Overview

AECOM's Sustainable Development Group has been commissioned by Highgate School to prepare a Sustainability Statement, to accompany a detailed planning application for the construction of the Richards Music Centre (RMC) (hereafter referred to as the 'Proposed Development') located in the administrative boundary of the London Borough of Haringey (LBH).

The approximately 0.2 ha plot of land (hereafter referred to as the 'Site') is located on the western slope of Highgate Hill. The Site is bounded by Bishopswood Road to the west, by Broadlands Road in the northwest, the rear gardens to properties fronting Broadlands Road in the north and rear plots to properties on North Hill to the east.

Proposed Development

The detailed application seeks planning permission for:

'Redevelopment of Richards Music Centre, including complete demolition of existing structure and development of a replacement building of two and a half storeys plus basement, and associated landscaping with improved provision for emergency services, servicing and disabled parking.'

The overall Proposed Development will provide 1,784 m² Gross Internal Area (GIA). This area includes drama classrooms, a theatre, staff offices and sports changing rooms.

Summary of Design Response

The Proposed Development will contribute to sustainable development, as identified in the technical reports submitted alongside/with the planning application, in relation to key sustainability issues as follows:

- Optimising the use of land by building on previously developed land. The Design and Access Statement details how the existing building does not meet modern requirements both in terms of its construction and energy efficiency. In addition, there are structural problems with the building's foundations due to drainage issues. The building is not compatible with pupil use due to restricted headroom and narrow stairs and corridors which restrict pupil movement therefore, it is not feasible to repurpose or refurbish the building.
- A daylight and sunlight assessment has been undertaken regarding key surrounding residential properties. The study concludes that the scheme has been actively designed to best protect daylight and sunlight amenity to the surrounding properties.
- The proposed energy strategy for the Site includes the following measures, which results in a site-wide regulated carbon saving of 2.3 tCO₂/year, which is 43% of the baseline emissions of 5.4 tCO₂/year. The preferred energy strategy for the Site is:
 - Energy efficient fabric and buildings services design;
 - A Ground Source Heat Pump (GSHP) system to provide space heating and cooling to the building and hot water to changing room areas;
 - A 136 m² photovoltaic (PV) array on the roof of the building.
- Specification of low water use fittings, water meters, leak detection and flow control devices to minimise water usage is proposed. The design of the Proposed Development will aim to minimise internal potable water consumption within the building by a minimum of 25% over the baseline building water consumption in line with the BREEAM New Construction (NC) 2018 credit Wat 01.
- To reduce the burden on the environment of the major building elements, the overall impact will be assessed using whole life cycle models and Environmental Product Declarations (EPDs).

- The Proposed Development will provide internal, dedicated and appropriately labelled and segregated waste management facilities, to enable and encourage future occupants to recycle waste. A minimum of 65% of municipal waste generated by the Proposed Development will be diverted from landfill for reuse, recycling, or recovery in line with the London Plan.
- Circular Economy commitments for the Proposed Development have been developed through a collaborative, cross-disciplinary approach. The Circular Economy Statement details the circular economy opportunities identified for the Proposed Development. A Construction Resource Management Plan (CRMP) will also be produced by the contractor/s in line with BREEAM requirements.
- An ecologist has been appointed at an early design stage to inform the design process. A Preliminary Ecological Appraisal (PEA) has been undertaken and appropriate measures, as necessary, will be implemented for the avoidance, mitigation or compensation of the potential impacts of the Proposed Development.
- Significant levels of landscaping and planting are to be included within the scheme including:
 - Sunken garden over the basement area including herbaceous flowering plants.
 - Creating a garden area between RMC and the boundary including shade tolerant understory planting consisting of shrubs and herbaceous plants.
 - Planting new trees to provide succession to help maintain the treed boundary.
 - Species rich amenity grass terrace area adjacent to the West façade.
- The landscape strategy confirms an Urban Greening Factor (UGF) of 0.313 due to the variety of habitats on site including specie rich grassland, flower rich perennial planting, and a mix of proposed large and medium sized tree species.
- The Proposed Development is implementing mitigation measures to help create a development which has the capacity to adapt to the projected effects of climate change including: fabric first approach to the building envelope, use of native planting, a drainage strategy accounting for future climate change and provision of low water-use fittings. A climate change adaptation strategy appraisal is being developed in line with BREEAM requirements.
- A Flood Risk Note (FRN) has been prepared and submitted alongside the planning application which cross refers to the previous FRA undertaken in 2019 which covers the Bishopswood campus (Mallinson Sports Centre, temporary accommodation within the current sports pitch, RMC, Orchard Synthetic Pitch and Tatham's Field Synthetic Pitch) and the Senior School Campus (RMC Science block, Island Site Tunnel Building and Dyne House). The FRN confirms that the Site is located in Flood Zone 1. Therefore, the risk of flooding from fluvial and tidal sources to the Site is low. Other sources of flooding such as infrastructure flooding, surface water flooding and groundwater flooding and sewer flooding have been reviewed but are reported to be low/no risk.
- The scheme incorporates attenuation and Permavoid modular storage units which result in the calculated Site's discharge rate of 5 L/s (greenfield rate).
- The Proposed Development Site falls within the Haringey Air Quality Management Area (AQMA). An Air Quality Assessment (AQA) has been carried out and concludes that the Proposed Development is Air Quality Neutral for Transport and Building Related Emissions.
- An External Plan Sound Assessment has been carried out for the Proposed Development and submitted alongside the planning application. Based on the results of the survey, mechanical plant sound emission criteria have been proposed in accordance with BS 4142, to be achieved at the worst affected window of the nearest appropriate assessment location. A full plant sound emission assessment will be completed to discharge any planning conditions regarding sound.
- The proposed external lighting will be designed in line with best practice and BREEAM NC 2018 credit Pol 04. It will be automatically controlled for prevention of operation during daylight hours and ensure that upward

lighting will be minimised, reducing unnecessary light pollution, energy consumption and nuisance to neighbouring properties.

- Considerations have been made for all users including, but not limited to, people with mobility impairments and people with visual impairments in line with Approved Document M (July 2020).
- The Site is located within an area of 'good' public transport accessibility. Within the locality of the Site there is a wide network of footways, providing connections to the local public transport nodes (including Highgate Underground station).
- The project is targeting BREEAM NC 2018 credit Man 03 - Responsible Construction Practices which recognises and encourages construction sites which are managed in an environmentally and socially considerate, responsible and accountable manner. A Construction Methodology and Management Plan has also been prepared and is submitted in support of the planning application and includes traffic management, waste management and noise and dust mitigation measures. The contractor, once appointed, will be conditioned to develop further construction management measures.
- A BREEAM Pre-assessment has been undertaken for the Proposed Development and identified that a "Very Good" rating can be targeted. However, Highgate have an aspiration to uplift to Excellent, if feasible a full BREEAM New Construction 2018 assessment will be undertaken post planning at which point a further review will be undertaken to confirm whether the target rating can be uplifted to Excellent.

1. Introduction

- 1.1 AECOM's Sustainable Development Group has been commissioned by Highgate School to prepare a Sustainability Statement, to accompany a detailed planning application for the construction of Richards Music Centre (RMC) (hereafter referred to as the 'Proposed Development') located in the administrative boundary of the London Borough of Haringey (LBH).
- 1.2 The approximately 0.2 ha plot of land (hereafter referred to as the 'Site') is located on the western slope of Highgate Hill. The Site is bounded by Bishopswood Road to the west, by Broadlands Road in the northwest, the rear gardens to properties fronting Broadlands Road in the north and rear plots to properties on North Hill to the east.
- 1.3 The detailed application seeks planning permission for:

'Redevelopment of Richards Music Centre, including complete demolition of existing structure and development of a replacement building of two and a half storeys plus basement, and associated landscaping with improved provision for emergency services, servicing and disabled parking.'
- 1.4 The overall Proposed Development will provide 1,784 m² Gross Internal Area (GIA). This area includes drama classrooms, a theatre, staff offices and sports changing rooms.
- 1.5 For further details on the design of the Proposed Development, please refer to the Design and Access Statement (DAS) and the Planning Statement submitted with the planning application.
- 1.6 This report provides a summary of the contribution that the Proposed Development will make to sustainable development and examines how it responds to national, regional, and local sustainability policies.
- 1.7 The Sustainability Statement has been prepared using information included in a number of documents that are submitted with the planning application for the Proposed Development. The sustainability measures described herein have been developed in consultation with members of the design team and wider project team.
- 1.8 The following documents, which will be submitted alongside the planning application, have been consulted while developing this statement:
 - Daylight and Sunlight Report (Anstey Horne);
 - Preliminary Ecology Appraisal (Arbtech);
 - Preliminary Roost Assessment (Bat Survey) (Arbtech);
 - Landscape Design and Access Statement (LDA Design);
 - Landscape Masterplan (LDA Design);
 - Site Wide Flood Risk Assessment (Edenvale Young);
 - Flood Risk Note (Expedition);
 - Arboricultural Tree Survey (Arbtech);
 - Sustainable Urban Drainage Statement (Expedition);
 - Air Quality and Dust Management Plan (Highgate School);
 - Design and Access Statement (Hopkins);
 - Construction Methodology and Management Plan (Sky Blue Building);
 - Transport Statement (Transport Planning Associates);
 - Travel Plan (Transport Planning Associates);
 - Pre-Demolition and Pre-Redevelopment Audit (KaNect);
 - Circular Economy Statement (AECOM);
 - Whole Life Carbon Assessment (AECOM);
 - Air Quality Assessment (AECOM);

- External Plant Sound Assessment – Environmental Sound Survey (Applied Acoustic Design);
- Operational Waste Management Plan (KaNect);
- Energy Statement (AECOM);
- Archaeology Assessment (Compass);
- Heritage Statement (Bidwells);
- Basement Impact Assessment (Expedition);

2. The Site and the Proposed Development

- 2.1 The approximately 0.2 ha Site is located on the western slope of Highgate Hill. The Site is bounded by Bishopswood Road to the west, by Broadlands Road in the northwest, the rear gardens to properties fronting Broadlands Road in the north and rear plots to properties on North Hill to the east.
- 2.2 The Site is currently occupied by one building: the Richards Music Centre (RMC). The proposal seeks to demolish the existing building to enable the construction of a mixed-use educational building which includes drama classrooms, a theatre, staff offices and sports changing rooms. The DAS reports how the current building is being used as a temporary base for the Sports and Exercise department with limited pupil sports use. The Design and Access Statement details how the existing building does not meet modern requirements both in terms of its construction and energy efficiency. In addition, there are structural problems with the building's foundations due to drainage issues.



Figure 2-1 Site location of the Proposed Development (Proposed Development area is highlighted in orange) (Source: Hopkins)

3. Planning Policy Context

3.1 Policy overview

- 3.1 The sustainability strategy for the Proposed Development has been developed in response to regional, and local policies that aim to ensure a sustainable built environment.
- 3.2 Section 38(6) of the Planning and Compulsory Purchase Act 2004 requires planning applications to be determined in accordance with the statutory Development Plan, unless material considerations indicate otherwise. The Statutory Development Plan for the Site includes the London Plan 2021 at a regional level, the Haringey Local Plan 2017 Haringey Local Plan, which is reviewed in more detail below.
- 3.3 The main policies of relevance are summarised below.

3.2 Regional Policy (Greater London Authority)

3.2.1. The London Plan

- 3.4 The London Plan: The spatial development strategy for Greater London, published on 2 March 2021, sets out a framework for how London will develop over the next 20-25 years and the Mayor's vision for Good Growth. The London Plan is part of the statutory development plan for London, meaning that the policies in the London Plan should inform decisions on planning applications across the capital. Borough's Local Plans must be in 'general conformity' with the London Plan, ensuring that the planning system for London operates in a joined-up way and reflects the overall strategy for how London can develop sustainably, which the London Plan sets out.
- 3.5 The key objectives of the London Plan include the concept of Good Growth – growth that is socially and economically inclusive and environmentally sustainable – underpins the London Plan and ensures that it is focused on sustainable development.
- 3.6 The key policies within the London Plan which are relevant to the development of the sustainability strategy for the Proposed Development include, but are not limited to, the following:
 - Policy G5 Urban greening;
 - Policy SI 1 Improving air quality;
 - Policy SI 2 Minimising greenhouse gas emissions;
 - Policy SI 5 Water Infrastructure;
 - Policy SI 7 Reducing waste and supporting the circular economy;
 - Policy SI 8 Waste capacity and net waste self-sufficiency;
 - Policy SI 12 Flood risk management; and
 - Policy SI 13 Sustainable drainage.

3.2.2. Sustainable Design and Construction SPG

- 3.7 The Mayor of London Sustainable Design and Construction Supplementary Planning Guidance (SPG) has been revoked and is cited as being no longer relevant for the London Plan¹. However, the structure of the SPG has been used to structure preparation of this Sustainability Statement.

3.3 Local Planning Policy (Haringey)

- 3.8 The Haringey planning guidance consists of a series of documents that together form an overall set of rules. The council's Planning Committee must normally take these rules into account when making planning

¹ <https://www.london.gov.uk/what-we-do/planning/implementing-london-plan/london-plan-guidance-and-spgs>

decisions on things like new homes, shops and other facilities, so it's important they are right and meet the ambitions of local people.

3.9 Those of relevance to the sustainability strategy of the Proposed Development include:

- Local Plan: Strategic Policies 2013 (with alterations 2017);
- Haringey Development Management Development Plan Document (DPD), 2017;
- Haringey New Local Plan: First Steps Engagement, 2020;
- Sustainable Design & Construction, Supplementary Planning Document Adopted March 2013; and
- Highgate School SPD, March 2021.

3.3.1. Haringey Local Plan

3.10 There are several key policies and documents that planning applications in Haringey are determined by. The Local Plan 2017 sets out a vision and key policies for the future development of the borough up to 2026. It takes forward the priorities of Haringey's Sustainable Community Strategy and other plans and strategies, to identify a vision for Haringey as a place to live, work and visit, and contains key policies and an implementation framework to deliver the vision.

3.11 The design of the Proposed Development will need to respond to the relevant policies in the Haringey Local Plan including, but not limited to, the following:

- Policy SP4: Working towards a low carbon Haringey details:
 - "1....all new developments to take measures to reduce energy use and carbon emissions during design, construction and occupation, by incorporating the following measures:*
 - b. From 2011 onwards all new non-residential development shall be built to at least BREEAM "very good" standard and should aim to achieve BREEAM "excellent" or the current nationally agreed standard. All new non-residential development shall be zero carbon from 2019....*
 - "2. The Council will promote low- and zero-carbon energy generation through the following measures:*
 - c. Requiring all developments to assess, identify and implement, where viable, site-wide and area-wide decentralised energy facilities including the potential to link into a wider network;*
 - d. Establishing local networks of decentralised heat and energy facilities by requiring developers to prioritise connection to existing or planned networks where feasible;*
 - e. Working with neighbouring boroughs and other partners to explore ways of implementing sub-regional decentralised energy networks including the potential in the Upper Lee Valley Opportunity Area; and*
 - f. All new developments are required, where viable, to achieve a reduction in predicted carbon dioxide emissions of 20% from on-site renewable energy regeneration, which can include connections to local sources of decentralised renewable energy".*

3.3.2. Haringey Development Management DPD

3.12 The Development Management Development Plan Document (DPD), adopted in 2017, documents that it gives effect to Haringey's spatial strategy and the key objectives of the Strategic Policies Local Plan by supporting proposals that contribute to the delivery of sustainable development in accordance with the strategy, and providing a clear framework for resisting development that would be at odds with the Local Plan. DPD Development Management policies relevant to the sustainability strategy for The Richards Music Centre include the following:

- Policy DM4: Provision and design of waste management facilities, states that, *"All proposals should consider how to sustainably manage waste arising from the development during the design, construction and occupation phases of new developments."*

- Policy DM21: Sustainable design, layout and construction, requires that, *“All new development, including building and landscape works, will be expected to consider and implement sustainable design, layout and construction techniques. Proposals should:*
 - (a) *Apply the energy hierarchy to minimise energy use in order to meet, and if possible exceed, minimum carbon dioxide reduction requirements;*
 - (b) *Apply the cooling hierarchy to reduce the potential for overheating and limit reliance on mechanical air conditioning systems;*
 - (c) *Maximise opportunities to enhance biodiversity on-site, including through appropriate landscaping, Sustainable Drainage Systems, living roofs and green walls*
 - (d) *Wherever possible, use building materials with high environmental performance ratings; and*
 - (e) *Seek opportunities for locally sourced labour.”*

3.3.3. Haringey New Local Plan: First Steps Engagement

- 3.13 Haringey has begun the process of preparing a New Local Plan which will replace the existing Local Plan documents adopted in July 2017. Formal consultation on the New Local Plan: First Steps ran from 16 November 2020 until 1 February 2021.
- 3.14 The New Local Plan First Steps Engagement document sets out the key issues to be addressed by the New Local Plan, asks about the issues and challenges facing the future planning of the borough and seeks views on options to address them.
- 3.15 A Draft Local Plan is due to be published for consultation in summer 2022 but no document has been published yet (accurate at time of writing report). For further consideration of the new Local Plan, please refer to the Planning Statement.

3.3.4. Haringey Sustainable Design and Construction SPD

- 3.16 The Haringey Sustainable Design and Construction Supplementary Planning Document (SPD) was adopted in February 2013. The document supports the Local Plan: Strategic Policies (adopted March 2013) and is considered in determining applications.
- 3.17 The Haringey Sustainable Design and Construction SPD has been a key document of reference in the development of the Highgate School Richard Music Centre sustainability strategy.

3.3.5. Highgate School Supplementary Planning Document

- 3.18 A supplementary planning document has been produced by Haringey in consultation with Highgate School specifically for the Highgate School Masterplan and was adopted in March 2021. The SPD *“provides direction on how the policies of the statutory Development Plan will apply in considering any application brought forward by the School and recognises the Council’s obligations under the National Planning Policy Framework (NPPF)”* and is a material consideration in determining planning applications for the School
- 3.19 Key sustainability considerations set out within the Highgate School Supplementary Planning Document include:
 - *encourage, work with and persuade families, employees and other members of the local community to adopt sustainable habits including (see below) driving to school less;*
 - *demonstrate how it is protecting and enhancing the biodiversity of its estate within future applications. The Council will encourage development which reduces energy demand and carbon emissions through the uses and/or the specification of sustainable/renewable building materials including energy-efficiency lighting, passive solar and other energy methods, as well as relying on natural light and ventilation, utilising other low carbon technologies. These measures should be considered alongside policies on climate change (SP4). In new build developments, the Council will expect all developments within the School to be Zero Carbon in accordance with the London Plan and Haringey’s Local Plan Policy SP4.*
- 3.20 The Council will also expect Highgate School to achieve at least a BREEAM Very Good rating with an aspiration to reach Excellent where feasible. For refurbishments, this would be a target (given the limitations associated with older construction technologies).

3.3.6. London Borough of Haringey Quality Review Panel and Pre-Application Consultation

- 3.21 Highgate School have engaged with Haringey through a Quality Review Panel consultation. As described on Haringey's website, the QRP *"brings together a team of independent professionals from a range of backgrounds to scrutinise all major development proposals. The QRP advises applicants, council officers and the Planning Committee on their consideration of how well a development scheme is meeting the principles of the Haringey Development Charter (see Policy DM1 in Haringey's Development Management DPD)"*.
- 3.22 A Report of Formal Review Meeting: RMC, Highgate School dated 2nd February 2022 which included the following comments in relation to Sustainable design:
- *The panel feels that the approach to sustainability is positive, but it would like to see a calculation of the scheme's embodied carbon.*
 - *The panel feels that the building's form factor, the proposed use of a timber structure and the use of heat pumps strengthen the building's potential environmental performance.*
 - *However, the panel is concerned by the extent of glazing proposed and it recommends that this is reassessed, with excess glazing removed.*
 - *The panel would like to see cycle parking provided for visitors.*
- 3.23 A further pre-application sustainability meeting was held 11th February 2022 where AECOM presented the sustainability strategy for RMC. Haringey provided a Pre-Application Planning Advice Note in response and the comment included the following specific items in relation to RMC:
- *Consider the large amounts of glazing on the north elevation; this is great for daylight and views out, but it may result in higher heat losses. Triple glazing may be more appropriate for this elevation.*
 - *Submit a plan to show which spaces require mechanical cooling.*
 - *Submit details of the mechanical cooling energy demand (kWh/m²/year), energy use, specification of equipment and efficiency, and how the cooling demand has been reduced as far as possible in line with the Cooling Hierarchy for those spaces.*
 - *Explain in the application how the two-stage heat pump will work, and for what uses.*
 - *Explain in the application how the ventilation will work (including diagrams preferably). And, set out why the displacement variable volume mechanical ventilation method for the studio theatre is better than other options.*
 - *Good to see the GSHP proposal, please ensure you provide the relevant spec and details for the system and hot water storage in the application. Include detail on whether it will meet 100% of the space heating/hot water demand and explain the two-stage system.*
 - *Good to see PV will be included, please specify output, modelled energy generated per year, orientation, tilt, efficiency.*
 - *BREEAM Very Good currently targeted and achievable; please see how you can push this scheme further to achieve Excellent.*
 - *Discussed that the sports pitches won't be watered, but the sustainable drainage strategy for the site may include the sports pitches.*
 - *Supportive of landscaping and staff breakout areas, subject to detail.*

4. Assessment Methodology

- 4.1 This Sustainability Statement has been structured around the Greater London Authority's (GLA's) and Haringey sustainable development aims and objectives and assesses/reviews the sustainability features included in the Proposed Development.
- 4.2 The sustainability measures described in this Sustainability Statement have been developed in consultation with members of the design and project team through the review of the various documents as listed in Section 1: Introduction.
- 4.3 A BREEAM Pre-assessment has been undertaken for the Proposed Development and identified that a "Very Good" rating can be targeted. Highgate School have an aspiration to uplift to Excellent, if feasible. A full BREEAM New Construction 2018 assessment will be undertaken post planning at which point a further review will be undertaken to confirm whether the target rating can be uplifted to Excellent.

5. Sustainability Assessment

5.1 Resource Management

5.1.1. Land use

- 5.1 The existing site is currently occupied by one building, the Richards Music Centre (RMC). The Design and Access Statement (DAS) details how additional and improved space is needed to meet the academic and timetabling requirements of the Senior School campus. During the review of the estate the RMC was identified as a suitable location, where redevelopment of a redundant building would provide sufficient space for the current and future needs of the school.
- 5.2 The existing RMC building is spatially inefficient and inaccessible to wheelchair users (or those with ambulatory impairments) due to restricted headroom and narrow stairs. The DAS also details how the existing building does not meet modern requirements in terms of its construction and energy efficiency. In addition, there are structural problems with the building's foundations due to drainage issues.
- 5.3 The existing site comprises of an existing building and hard standing and therefore constitutes brownfield land. The use of a brownfield site for the Proposed Development is in line with the London Plan 2021 Policy GG2.

5.1.2. Site Layout and Building Design

- 5.4 The DAS outlines the design for the Proposed Development. For ease of use by both sports teams and Sports & Exercise staff, direct access is provided to the synthetic pitch from the basement changing rooms. Spectating points to the synthetic pitch are provided from the viewing gallery at podium level that includes bench seating set within the north-facing facade bays. Windows and full height glazing along the length of the north facade provide views out at both ground and first floor levels. The width of the podium area is set to allow maintenance and emergency vehicle access but is primarily for pedestrian use.
- 5.5 The drama department constitutes the largest area, within the brief, and is a key driver of the design. As drama classrooms occupy the majority of the first floor, the 2-storey studio theatre has been partly sunk into the ground, minimising the overall massing. A sunken garden at the east end allows light and ventilation into the associated workshop and technician spaces and provides a secondary emergency escape route. The changing rooms are located to the west with direct access to the sports pitch and the podium area; the corner location creates minimal intrusion onto the playing / run-off zones and allow the changing facilities to be used independently from the rest of the building (i.e. out of regular School hours). Staff offices and breakout spaces are located on the two floors above the changing rooms, with views north over the pitch.
- 5.6 The basement has three main functions: the Studio Theatre and associated supporting spaces, Sports and Exercise changing facilities and a mechanical plant room. The underground location will aid the acoustic dampening of the Studio Theatre and the mechanical plant.
- 5.7 At ground / podium level the building is set back from the sports pitch to maintain the school's existing access route to eastern part of the site. There is a single, clearly defined entrance into the central foyer and circulation route. The existing building line at the rear has been maintained, protecting the amenity of neighbouring gardens.
- 5.8 The active drama classrooms are located on the north side of the building with a circulation corridor to the south side to provide a visual and acoustic buffer to the neighbouring properties. The staff breakout space & kitchenette provides a communal facility for social activities, meetings or functions with a high vantage point over the synthetic pitch allowing additional secondary supervision of the wider site.
- 5.9 Please refer to the DAS, submitted with the planning application, for further details.

5.1.3. Heritage

- 5.10 A Heritage Statement has been carried out for the Proposed Development and has been submitted with the planning application. The Heritage Statement has considered the impact of the Proposed Development on the Highgate Conservation Area to satisfy the provisions of Section 72 of the Planning (Listed Buildings &

Conservation Areas) Act 1990 and the National Planning Policy Framework. The Heritage Statement concludes that the Proposed Development is considered to preserve the character and appearance of the Conservation Area through the use of adopting a responsive design. Two of the key design features include ensuring existing site lines across the Site looking towards the rise in land are preserved and the use of the established material palette which is in keeping with the many high-quality modern buildings located throughout the conservation area (and specifically within the school's estate).

- 5.11 The Bishopswood Road Campus Archaeological Assessment concludes that given the lack of historic development across the Site prior to the later-19th century and the subsequent level of landscaping and ground disturbance, the Proposed Development will not affect any archaeologically significant deposits.
- 5.12 Refer to the Heritage Statement and Archaeological Assessment, submitted with the planning application, for further details.

5.1.4. Daylight and Sunlight

- 5.13 A daylight and sunlight assessment has been undertaken regarding key surrounding residential properties. The study details how the scheme has been actively designed to best protect daylight and sunlight amenity to the surrounding properties. The assessment found that the Proposed Development will not significantly reduce sunlight or daylight exposure to existing surrounding properties. In some cases, there are light gains due to the Proposed Development, especially relating to 2 Bishopswood Road.
- 5.14 Refer to the Daylight and Sunlight Report, submitted with the planning application, for further details.

5.2 Energy use and carbon emissions

- 5.15 An Energy Statement has been produced for the Proposed Development. The Energy Statement describes the proposed energy strategy as per the GLA Energy Hierarchy of 'Be Lean'; 'Be Clean'; 'Be Green'; and 'Be Seen', as set out in the London Plan.
- 5.16 The preferred energy strategy for the Site is:
- Energy efficient fabric and buildings services design;
 - A GSHP system to provide space heating and cooling to the building and hot water to changing room areas;
 - A photovoltaic (PV) array on the roof of the building.
- 5.17 Calculations suggest this strategy would save 2.3 tCO₂/year, which is 43% of the baseline emissions of 5.4 tCO₂/year.
- 5.18 The below sections detail the response of the design to each level of the Energy Hierarchy.

5.2.1. 'Be Lean' – Passive Design and Energy Efficiency

- 5.19 The passive design measures included in the proposed buildings are outlined in the Design and Access Statement, and include:
- Efficient building fabric with U-values optimised to reduce heating and cooling loads;
 - Solar control glazing to optimise daylighting and thermal gains whilst minimising cooling demand;
 - Service routes minimised to reduce heat loss;
 - Solid panels and shading included in the building façade to manage solar gains.
- 5.20 Energy efficient equipment has also been proposed where practicable, including energy efficient lighting and ventilation systems.

5.2.2. 'Be Clean' – District Heating

- 5.21 The London Heat Map² has been consulted in order to determine whether there are any existing or planned heat networks within the vicinity of the development. In the map extract in Figure 5-1 below, the Site location is marked with a red star. The map shows that there are no existing heat networks in the vicinity of the Proposed Development (which would be shown in red if these were present). There are also no proposed networks (which would be shown in orange). The Site is not located in a heat network priority area.

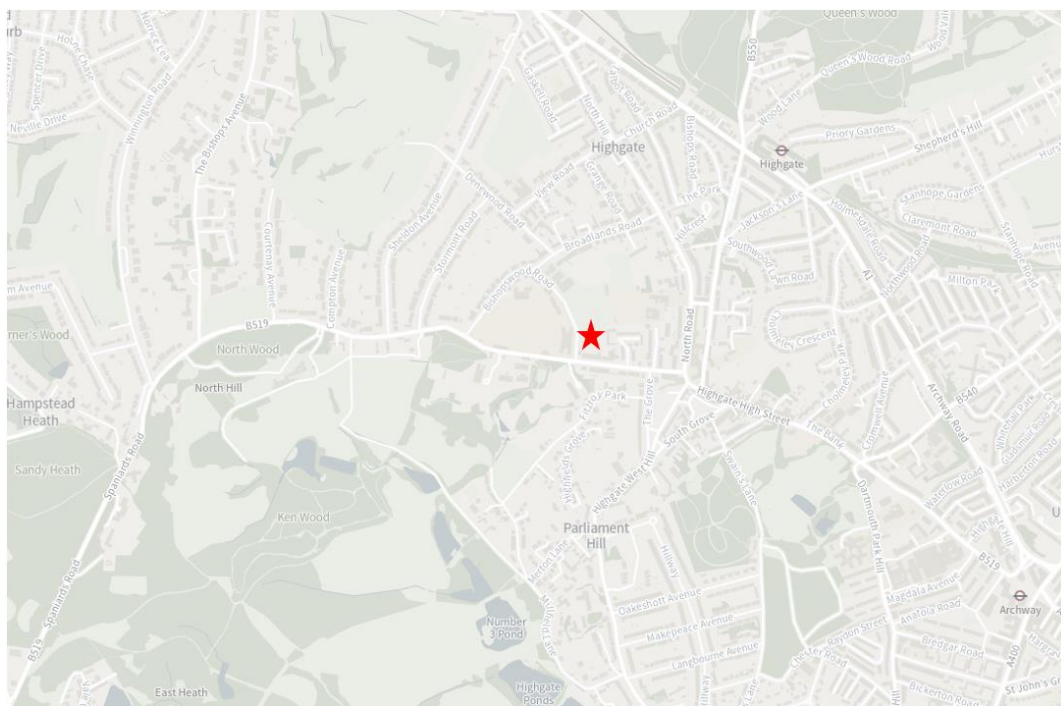


Figure 5-1 Extract from London Heat Map (the site is shown with a red star)

- 5.22 Connection to the wider school site was also considered for the proposed building. The closest other school building to the Site is the Highgate Junior School building on the opposite side of Bishopswood Road. However, no modifications are proposed to this building. Other school buildings are a significant distance from the Proposed Development, and there are no plans for heat networks to these buildings. In addition, the RMC development is relatively small and is unlikely to be able to accommodate significant plant to provide heating for export.
- 5.23 The LBH Highgate School SPD acknowledges that connection of the school buildings together in a heat network is not unviable. It states that *"Whilst it would be desirable to establish a school-wide decentralised heat and energy facility, including the potential link into a wider network should one come forward, the fragmented nature of the School's estate makes this unviable. The Council will assess the approach to energy and carbon conservation against policy on a site-by-site basis in the detailed planning application stage looking to make each building as energy efficient as possible."*
- 5.24 For the reasons outlined above, connection of the Site to the wider school estate is not proposed. The Proposed Development is designed to have a building-scale heating system with ground source heat pumps providing low carbon heating and cooling to the Proposed Development. It is proposed that the building is future-proofed to allow for connection to a district heat network if a low carbon network is developed in the future.

5.2.3. 'Be Green' – On-site Renewable Energy Generation

- 5.25 Solar PV are being proposed on the roof to generate electricity and offset grid electricity and help meet peak demands, which will further reduce carbon emissions.

² <https://maps.london.gov.uk/heatmap>

- 5.26 An area of roof suitable for approximately 136 m² of PV panels was identified. It was calculated that a PV array on this roof area could supply approximately 16,357 kW h of electricity per year, with a carbon saving of 2 tCO₂/year.
- 5.27 The feasibility assessment of low and zero carbon technology options also found GSHP to be suitable for the Site. Other technologies were ruled out due to site constraints, air quality, noise and access issues or incompatibility with the preferred options.

5.2.4. Carbon offsetting

- 5.28 To meet the GLA requirement of achieving 100% reductions in regulated emissions, it will be necessary to offset the residual regulated carbon emissions through a cash-in-lieu contribution to the LBH carbon offsetting fund. Over a 30-year period it is estimated that the cumulative shortfall would be 93 tCO₂. This would result in an estimated payment of approximately £8,801 at the GLA carbon offset price of £95/tonne. This is subject to agreement with LBH.

5.2.5. 'Be Seen' – Monitoring, Verification and Reporting

- 5.29 To address the final step of the hierarchy ('Be Seen') comprehensive monitoring and metering systems to measure actual energy and carbon performance will be installed as part of the works. These will enable the building's landlord to report operational energy use to the Mayor for at least five years via an online portal in line with the 'Be Seen' criteria in the London Plan.

5.2.6. Demand Side Response

- 5.30 The London Plan Policy SI 2 encourages developments to minimise both annual and peak energy demand. The Energy Statement outlines the measures that the Proposed Development is reviewing to respond to this policy.
- 5.31 Refer to the Energy Statement, submitted with the planning application, for further details.

5.3 Water efficiency

- 5.32 The design of the Proposed Development will aim to minimise internal potable water consumption within the building by a minimum of 25% over the baseline building water consumption in line with the BREEAM NC 2018 credit Wat 01. This will be achieved through the specification of water-efficient sanitary fittings such as low flush toilets and wash hand basins.
- 5.33 Water meters are proposed to help prevent water wastage. The water meters will be connected to the Building Management System (BMS) to provide visibility of the consumption to make changes to minimise usage.
- 5.34 Water leak detection and flow control devices will be provided in line with the BREEAM criteria. These will regulate the water supply to each WC area according to demand and provide a monitoring system to alert if there is a major leak to further reduce water wastage.

5.4 Materials

- 5.35 Preference will be given to materials with lower environmental impacts. To reduce the burden on the environment of the major building elements, the overall impact is being assessed using whole life cycle models in line with BREEAM NC 2018 credit Mat 01 and the London Plan Policy SI 2 Minimising Greenhouse Gas Emissions. This is described further below.
- 5.36 The use of cement replacements such as Ground Granulated Blast-furnace Slag (GGBS) have been considered for the substructure and superstructure and is discussed further within the Circular Economy Statement and Whole Life Carbon Assessment. The use of alternative materials, such as K-briq and Biohm (mycelium) insulation will also be explored further during specification in detailed design. These materials are highly circular as they are derived either from recycled materials or from a natural renewable source.

- 5.37 Along with consideration of materials with lower environmental impact within RMC, in line with BREEAM NC 2018 credit Mat 02 - new materials will be selected which have robust independently verified Environmental Product Declarations (EPDs), where possible. Furthermore, materials chosen will be robust, low maintenance and long lasting to suit the location and intended use wherever in line with BREEAM NC 2018 credit Mat 05.
- 5.38 Smart procurement will be implemented where possible, which will involve examining the sourcing of materials and logistics strategies of the supply chain to see if reductions in vehicle movements could be made.

5.4.1. Embodied Carbon in the Construction

- 5.39 The design team has carried out a Life Cycle Assessment (LCA) to assess the embodied carbon impact of the construction of the Proposed Development in accordance with the BREEAM NC 2018 credit Mat 01 and undertaken a Whole-Life Cycle Carbon Assessment (WLCCA) in line with the requirements of the London Plan. The Assessment provides the design team with information that will assist in identifying choices when finalising design solutions, to demonstrate where Whole life Carbon (WLC) savings have been made and where further WLC reductions could potentially be made.
- 5.40 The WLC Assessment confirmed that the overall whole life-cycle carbon of the Proposed Development over a 60-year study period (the 'reference study period' provided in the GLA's Draft Whole Life-Cycle Carbon Assessment Guidance (October 2020)) is around 3,000 tonnes CO₂eq which corresponds to 1,682 kg CO₂eq/m².
- 5.41 The completed GLA WLCCA template is submitted in support of the planning application. Please refer to the completed assessment results for details.

5.4.2. Circular Economy Principles

- 5.42 The principles of circular economy have been examined by the design team during the pre-planning stage and a Circular Economy Statement has been developed in accordance with the GLA guidance and submitted alongside the planning application. Circular Economy commitments for the Proposed Development have been developed through a collaborative, cross-disciplinary approach. The Circular Economy Statement details the circular economy opportunities identified for the Proposed Development, as explored through application of the nine circular economy principles.
- 5.43 The Circular Economy Statement culminates in a series of targets which include:
- To target diversion of a minimum of 95% of non-hazardous waste demolition waste from landfill for reuse, recycling or recovery;
 - To target diversion of a minimum of 95% of excavation waste generated from the Proposed Development from landfill for beneficial use;
 - To target diversion of a minimum of 95% of construction waste generated by the Proposed Development from landfill for reuse, recycling or recovery;
 - To facilitate recycling levels in operation which will exceed the municipal waste recycling target of 65% by 2030;
 - To specify a minimum 20% of the total value of the selected products and materials to include recycled and reused content; and
 - Principal contractor to provide a Post-Construction report to the Greater London Authority.
- 5.44 In line with the circular economy principles, the Proposed Development has been designed for adaptability. Adaptability has been considered throughout the design through the use of generous floor to ceiling heights and the ventilation systems have been designed to work with different partitions.
- 5.45 The building has been designed with disassembly at end-of-life considered through measures including, but not limited to, the use of mechanically fixing together all factory timber construction components and the removability of any pre-set concrete floor and walls. The feasibility of using lime mortar within the façade is to be explored through detailed design and through contractor engagement. This would assist in allowing for disassembly at end-of-life, as allows for bricks to be easily separated which can then be cleaned for reuse.

- 5.46 Refer to the Circular Economy Statement, submitted alongside the planning application, for further details.

5.5 Waste

- 5.47 Sustainable waste management procedures will be adopted during demolition, construction and operational stages to target waste minimisation and high recycling rates. A Construction Methodology and Management Plan has also been prepared and is submitted in support of the planning application and includes waste management.

5.5.1. Construction, Demolition and Excavation Waste

- 5.48 Waste management measures will be implemented in accordance with the Waste Hierarchy (see Figure 5-2).

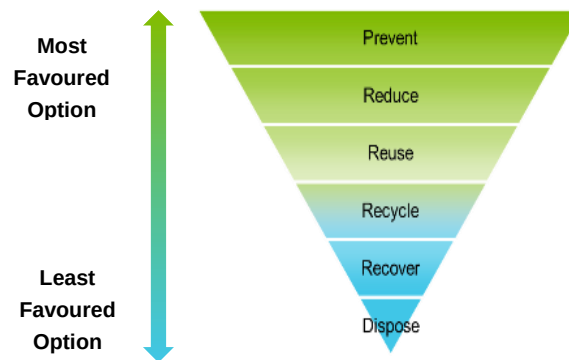


Figure 5-2 Waste Hierarchy

- 5.49 In line with BREEAM NC 2018 credit Wst 01, the Proposed Development aspires not to generate more than 13.3m³ (or 11.1 tonnes) of construction waste per 100m² GIA and to divert at least 80% by volume (or 90% by weight) of demolition waste to be diverted from landfill. In excess of BREEAM targets and as described in Section 5.4.2. Circular Economy Principles, the Proposed Development will target 95% beneficial use of demolition, excavation, and construction waste, in line with the London Plan and as detailed in the Circular Economy Statement.
- 5.50 The Pre-Demolition and Pre-Refurbishment audit highlighted that the front elevation stonework, bricks, and some of the carpet tiles can be reused. These materials can either be reused directly on-site or off-site, this is recommended to be further investigated by the Contractor. Other materials can be recycled these include, but are not limited to, the concrete, timber, and glass.
- 5.51 The standardisation within the design will also facilitate the use of precast or prefabricated risers, which will be further considered through detailed design. This standardisation will help to reduce offcuts and other construction waste.
- 5.52 The Principal Contractor will be required to monitor waste generated during the construction works to maximise reuse and recycling potential, which should allow for the levels of reuse and recycling to be increased throughout the construction period.
- 5.53 A Resource Management Plan (RMP) will be developed in line with the BREEAM 2018 criteria before works commence on site by the Principal Contractor to identify the waste arising from the Proposed Development, the RMP will aim to promote resource efficiency and to prevent illegal waste activities. Resource efficiency includes minimising waste at source and ensuring that clients, designers and principal contractors assess the use, reuse and recycling of materials and products on site and off site.

5.5.2. Operational Recycling & Waste

- 5.54 The Operational Waste and Recycling Management Strategy within the submitted Circular Economy Statement for the Proposed Development demonstrates how sustainable methods for waste and recycle management have been considered. The OWMP provides estimates of the quantities of waste generated and locations of temporary storage locations for bins in line with London Plan Guidance.

- 5.55 The OWMP details how Highgate School is anticipated to produce 94,279 L of waste from all buildings per week, equating to approximately 422 tonne per year. Where Highgate School comprises of three schools including the Pre-Preparatory School, Junior School and Senior School.
- 5.56 In line with the BREEAM NC 2018 criteria, the bins will be clearly labelled, to assist with segregation, storage, and collection of the recyclable waste streams. The waste store within the Proposed Development will be easily accessible to facilities operators for the deposit of materials. Adequate signage will be provided to encourage occupants to participate in maximising the diversion from landfill.
- 5.57 A minimum of 65% of municipal waste generated by the Proposed Development will be diverted from landfill for reuse, recycling, or recovery in line with the London Plan.
- 5.58 Refer to the OWMP, submitted with CE Statement in support of the planning application, for further details.

5.6 Nature Conservation, Biodiversity and Landscaping

- 5.59 A suitably qualified ecologist (SQE), as defined by BREEAM, has been appointed at early design stages to review the existing site ecology and to provide advice on enhancement opportunities as part of the Proposed Development.
- 5.60 An Ecological Impact Assessment (EclA) of the existing Site, including a bat survey, have been undertaken and submitted alongside the planning application. The EclA was undertaken to provide a current ecological baseline at the Site and to assess potential effects of the Proposed Development in relation to any identified ecological constraints and highlight opportunities for enhancement.
- 5.61 No features of bat roosting value were observed within or on the buildings and tree within the Site and no bat evidence was found. The existing building on the Site has negligible bat habitat value based on a lack of suitable features. There are no evident major commuting bat routes. No further bat surveys are required although lighting should be controlled along the Site boundary to avoid affecting any potential commuting bats.
- 5.62 In line with recommendations made within the EclA, habitat boxes for birds/bats shall be installed and the native tree species shall be planted. The proposed landscape strategy seeks to connect the Proposed Development into the surrounding estate and adjacent playing pitches. The key features are:
- Sunken garden over the basement area including herbaceous flowering plants;
 - Creating a garden area between RMC and the boundary including shade tolerant understory planting consisting of shrubs and herbaceous plants;
 - Planting new trees to provide succession to help maintain the treed boundary;
 - Species rich amenity grass terrace area adjacent to the West façade.

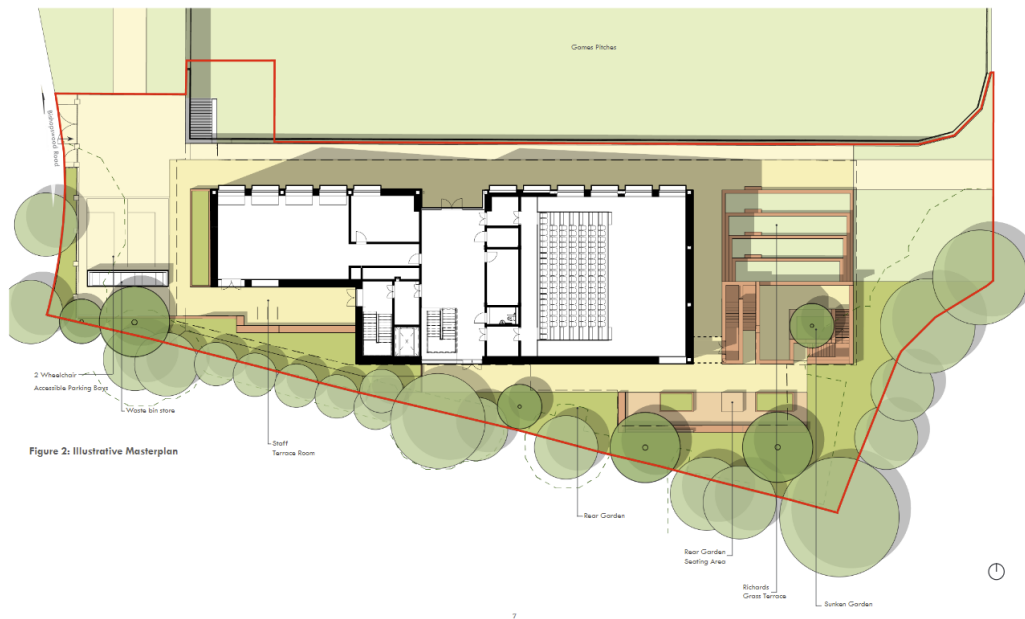


Figure 5-3 Proposed Development Landscape Illustrative Masterplan (Source: LDA Design)

- 5.63 It is proposed that a landscape and habitat management plan appropriate to the Site shall be produced prior to occupation (in accordance with BREEAM requirements). The plan will cover at least the first five years after project completion and aims to ensure that the Site ecology is properly managed.
- 5.64 The project will seek expert view from London Borough of Haringey's arboriculturist prior to removal of any mature trees. Currently the proposal is to remove 4 trees and replace like-for-like within the School's campus. This is further detailed in the DAS and Arboricultural Impact Assessment.
- 5.65 Overall, the landscape strategy confirms an Urban Greening Factor (UGF) of 0.313 due to the variety of habitats proposed on site including specie rich grassland, flower rich perennial planting, and a mix of proposed large and medium sized tree species.

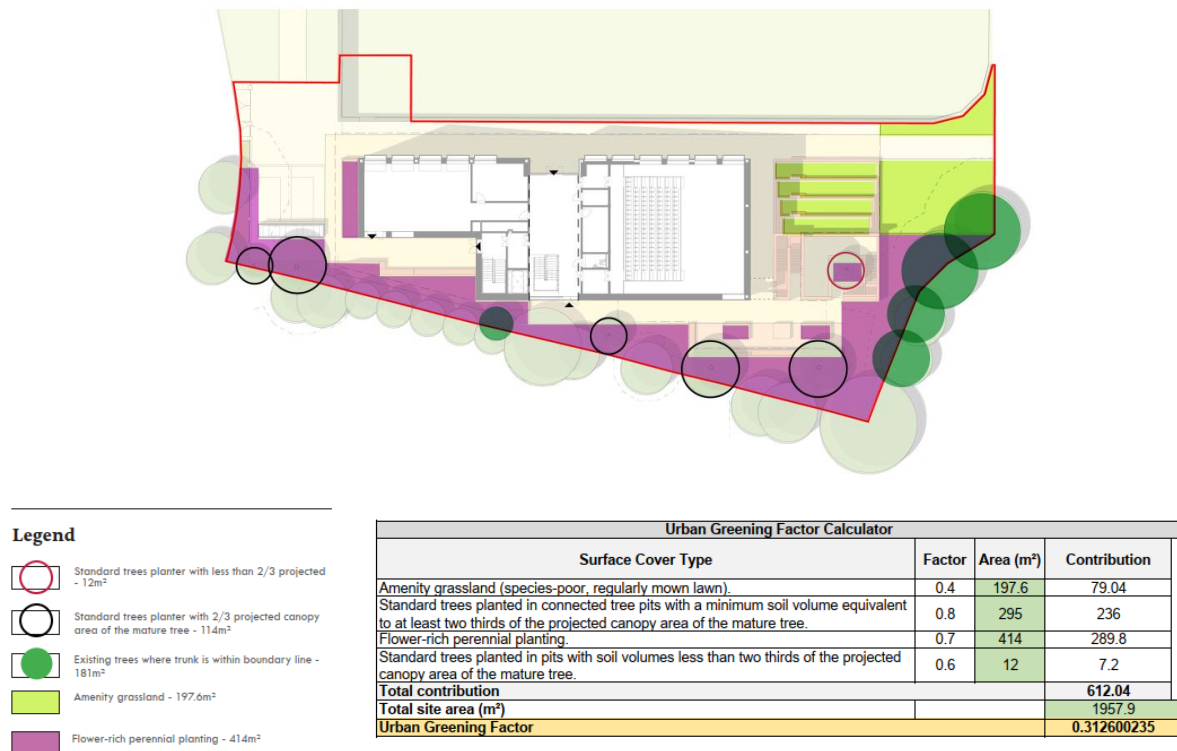


Figure 5-4 Urban Greening Factor Calculation (Source: LDA Design)

- 5.66 Refer to the PEA, Landscape DAS and EcIA submitted with the planning application for further details.

5.7 Climate change adaptation

5.7.1. Tackling Increased Temperatures and Drought

5.67 The Proposed Development is implementing the below mitigation measures to help create a development which has the capacity to adapt for the projected effects of climate change:

- Designing a fabric first approach with a high-performance façade and glazing being proposed to ensure a low air permeability;
- Creating biodiverse landscaped areas;
- The proposed planting will include native species to reduce water required for irrigation;
- A Flood Risk Assessment and separate Drainage Strategy has been produced to mitigate the risk of off-site flooding and integrate the use of Sustainable urban Drainage Systems (SuDS) within the Proposed Development;
- The provision of low water-use fittings to reduce the demand for water use;
- The use of durable materials in accordance with BREEAM NC 2018 credit Mat 05 (Designing for durability and resilience).

5.68 A Climate Change Adaptation Strategy will be produced in accordance with BREEAM NC 2018 credit Wst 05 (Adaptation to climate change) to identify the hazards and risks associated with future climate, and proposed mitigation measures.

5.7.2. Flooding Risk and Surface Water Run-off Management

5.69 A Flood Risk Note (FRN) has been prepared and submitted alongside the planning application which cross refers to the previous FRA undertaken in 2019 which covers the Bishopswood campus (Mallinson Sports Centre, temporary accommodation within the current sports pitch, RMC, Orchard Synthetic Pitch and Tatham's Field Synthetic Pitch) and the Senior School Campus (Science block, Island Site Tunnel Building and Dyne House). The Site Wide Flood Risk Assessment for the Highgate School Campus confirms that the Site is located in Flood Zone 1 – an area assessed as having a less than 1 in 1,000 annual probability of fluvial or sea flooding (<0.1%). Therefore, the risk of flooding from fluvial and tidal sources to the Site is low. Other sources of flooding such as infrastructure flooding, surface water flooding and groundwater flooding and sewer flooding have been reviewed but are considered low risk. To mitigate groundwater flood risk for the Proposed Development the basements will be designed to be waterproofed for the lifetime of the development.

5.70 A Basement Impact Assessment (BIA) has also been undertaken which considers any risks from ground water displacement and reviews the impact of the basements across the Site. The site-specific ground investigation documents that clays were encountered within and beneath the superficial soil deposits. The cohesive nature of the clay strata/formations indicates that there is likely limited existing ground water movement within these unproductive aquifers underlying the Site and within the immediate vicinity. Hence, the BIA concludes that the basement should not significantly alter the ground water regime.

5.71 The Sustainable Urban Drainage Statement details how infiltration is not feasible due to the clayey nature of the ground. Hence, surface water drainage flows will be attenuated in a below ground attenuation tank (ACO Stormbrixx) and a shallow podium drainage system in the external spaces above the basement. This will be integrated with green spaces and landscaping above the basement roof slab.

5.72 The Drainage Strategy has been developed in consultation with the LBH, the lead local Flood Authority (LLFA). The report confirms that the Site's discharge rate is proposed to be 5 L/s (greenfield rate). An allowance of 40% has been made for climate change in all calculations in line with the Environment Agency's guidance. The following SuDS have been deemed most appropriate to provide source control, improve water quality, reduce flood risk, and restrict surface water run-off:

- An attenuation tank; and
- Permavoid modular storage units above the basement roof slab.

5.73 Refer to the Site Wide FRA, Flood Risk Note and Sustainable Urban Drainage Statement, submitted with the planning application, for further details.

5.8 Pollution management

5.8.1. Land Contamination

- 5.74 The Site Investigation Report details that site investigations did not identify any significant potential contamination sources within the Site or its immediate surroundings. Whilst a localised elevated concentration of lead was measured, together with an occurrence of fibrous asbestos, the whole of the made ground, which is likely to be the only probable source of contamination, will be removed during basement excavation. Therefore, there will be no significant pollution linkages and no risk to the end-user, surface water or groundwater. No surface/groundwater abstraction points or source protection zones were identified.
- 5.75 The report concludes that, provided that appropriate remedial measures are adopted, the residual contamination risks are considered to be low for all potential receptors. A careful watching brief should be kept during construction and if obvious or suspected contamination is encountered this should be dealt with prescriptively; a suitable contingency should be in place in this regard.

5.8.2. Air Pollution

- 5.76 An Air Quality Assessment (AQA) has been prepared, and submitted in support of the planning application, which presents the findings of an assessment of the likely effects on air quality as a result of the Proposed Development. The AQA considers the construction phase of the Proposed Development and the impact on local air quality of emissions from road traffic associated with construction and operation of the Proposed Development.
- 5.77 The AQA concludes that the Proposed Development is considered to be Air Quality Neutral for Transport and Building Related Emissions as the development is defined as 'car-free' and has a zero-emission heat source as defined by the Air Quality Neutral London Plan Guidance.
- 5.78 An Air Quality and Dust Risk Assessment has been produced to assess the impact of the proposed redevelopment of RMC, in line with The Control of Dust and Emissions during Construction and Demolition SDG 2014. A further assessment which will form the Air Quality and Dust Management Plan will be carried out by the contractor once appointed. The Air Quality and Dust Risk assessment found that the dust emission magnitude for the demolition, earthworks, construction and track-out is medium due to the scale of the works, new basement, and presence of concrete in both the existing and proposed buildings.
- 5.79 The assessment details proposed mitigation measures including the implementation of best practice methods such as:
- Daily cleaning of the Site;
 - Production of a Construction Traffic Management Plan which include measures such as consolidating deliveries;
 - Preparing of materials (where possible) off-site; and
 - Requiring the contractor during demolition to carry out soft stripping to screen dust and prevent dispersion with water suppressions to damp down dust where necessary.
- 5.80 In addition, there will be continuous site monitoring which will allow the contractor to manage the generation of dust including PM10, PM2.5 and NOx emissions during construction and demolition.
- 5.81 Refer to the AQA, submitted alongside the planning application, for further details.

5.8.3. Noise and Vibration

- 5.82 An External Plant Sound Assessment has been carried out for the Proposed Development and submitted alongside the planning application. Environmental sound level surveys have been undertaken at the Proposed Development site to establish the prevailing background sound levels at the Site with respect to

the installation of new building services plant equipment. Based on the results of the survey, mechanical plant sound emission criteria have been proposed in accordance with BS 4142, to be achieved at the worst affected window of the nearest appropriate assessment location. A full plant sound emission assessment will be completed to discharge any planning conditions regarding sound.

- 5.83 Refer to the Noise and Vibration Assessment, submitted alongside the planning application, for further details.

5.8.4. Light Pollution

- 5.84 The Design and Access statement details how the Proposed Development will aim to ensure that night illumination around the Site will be designed to minimise light pollution but also avoid creating areas of shadow, especially along access route and at the building entrance.
- 5.85 In line with BREEAM NC 2018 credit Pol 04 the external upward lighting will be minimised to reduce unnecessary light pollution, energy consumption and nuisance to neighbouring properties. The external lighting will be automatically controlled for prevention of operation during daylight hours and presence of detection in areas of intermittent pedestrian traffic.

5.8.5. Water Pollution

- 5.86 In line with BREEAM NC 2018 credit Man 03 best practice pollution prevention policies and procedures on site in accordance with Pollution Prevention Guidelines will be implemented. These include green roofs and SUDs which will reduce water course run-off from the Site.
- 5.87 The Construction Methodology and Management Plan confirms that the contractor will be expected to carry out the works in such a way that, as far as is reasonably practicable, the amount of spoil and waste (including groundwater, production water and run-off) to be disposed of is minimised. Disposal of run-off water from dust suppression activities and cleaning will be done in accordance with the appropriate legal requirements.

5.9 Health and wellbeing of the design

5.9.1. Designing Inclusive Environments

- 5.88 Inclusive design has been an integral part of the design philosophy and will continue to inform the design process as it develops. Considerations have been made for all users including, but not limited to, people with mobility impairments and people with visual impairments in line with Approved Document M (July 2020).
- 5.89 The DAS states that:
- Any highly reflected surfaces will be carefully chosen so that they avoid causing confusion or disorientating people with sensory disabilities;
 - All corridors allow ample width for disabled users and doors and corridors will be designed to standards to facilitate easy movement for wheelchair users. Doors on all circulation routes will either be on hold-open devices or designed with a minimum opening force of less than 30 Newtons;
 - All new doorways on routes to be used by people in wheelchairs will have 300mm offsets and will be a minimum of 800mm wide per leaf unless power operated or held open; and
 - One goods lift has been included, which will be primarily used for maintenance and delivery for the Studio Theatre but will also provide access for wheelchair users. The lift will be designed to meet current standards of AD Part M as a minimum.
- 5.90 Refer to the DAS, submitted with the planning application, for further details.

5.9.2. Security

- 5.91 The Proposed Development has been reviewed by a Metropolitan Police Service's Designing Out Crime Officer (DOCO) who is part of the Crime Prevention, Inclusion and Engagement (CPIE) team. Advice was provided about the incorporation of Secured By Design principles into the design of the Proposed

Development. Although RMC is not currently in operation, students, staff and visitors regularly pass through the Site as it forms a principal route between the Senior School and Bishopswood Road Campuses, so it is unlikely that an increased number of people will be moving through the Site so it is unlikely that an increased number of people will be moving through the site. In which case, anti-social behaviour and crime should not be more frequent.

- 5.92 Due to the condition of the proposed routes, external lighting and landscaping the DOCO did not have any significant concerns regarding the occurrence of crime and antisocial behaviour in and around the Site. Careful consideration has been given to maximise natural surveillance across the Site.

5.9.3. Indoor Comfort and Health and Wellbeing

- 5.93 The design of the building aims to promote a healthy living environment that will reduce environmental stresses, facilitate physical activity, and promote mental wellbeing, daylight penetration, quality views, a good acoustic environment and access to outdoor spaces.
- 5.94 A project-specific indoor air quality plan, in line with the BREEAM NC 2018 criteria, will be produced to facilitate a process that leads to design, specification and installation decisions and actions that minimise indoor air pollution during occupation of the buildings.
- 5.95 Internal acoustics will be designed in accordance with relevant standards by a suitably qualified acoustician to ensure that the acoustic performance is fit for purpose. This is demonstrated by the BREEAM pre-assessment which details how the full credits for credit Hea 05 - Acoustic Performance are targeted.
- 5.96 In addition, the Proposed Development is targeting Hea 01 Part D: Internal and External Lighting Levels, Zoning, this credit encourages improved visual comfort for building users.
- 5.97 Refer to the DAS, submitted with the planning application, for further details.

5.9.4. Sustainable Construction Methods

- 5.98 The project is targeting BREEAM NC 2018 credit Man 03 - Responsible Construction Practices which recognises and encourages construction sites which are managed in an environmentally and socially considerate, responsible, and accountable manner. During the construction process, environmental impacts will be monitored including recording and reporting energy use, water consumption and transport data (where measured) resulting from all on-site construction processes throughout the build programme in line with the BREEAM criteria. All parties who at any stage manage the construction site (e.g. the principal contractor, the demolition contractor) will be required to operate an EMS (environmental management system) covering their main operations.
- 5.99 In addition, the Site is expected to be registered with the Considerate Contractors Scheme (CCS) to ensure that the construction Site is managed in an environmentally and socially considerate, responsible, and accountable manner. The Principal Contractor will comply with and exceed, where possible, the minimum requirements of the CCS.
- 5.100 Further details on traffic management, waste management and noise and dust mitigation are included in the Construction Methodology and Management Plan submitted in support of the application.

5.10 Sustainable transport

- 5.101 A Transport Statement has been produced and submitted in support of the Planning Application. The Transport Statement confirms that the Site is located within an area of 'good' public transport accessibility, which has been given a 4 Public Transport Accessibility Level (PTAL) rating. The Site is highly accessible for pedestrians and cyclists, supported by good infrastructure provision. Highgate School also provide a local door to door school bus services for pupils, with three routes currently in operation.
- 5.102 Two bus stops are located within close proximity to the Site providing direct connections to Brent Cross, Archway, Finsbury Park, Hampstead and Kings Cross. These bus stops are located on North Road, adjacent to the Site and are served by bus routes 143, 214 and 603. In addition, two further services, the 210 and 271, operate from the bus stops on Highgate High Street. Route 210 provides additional connections to

Brent Cross, Archway and Finsbury, while route 210 provides connections to Holloway, Highgate and Moorgate.

- 5.103 The Site is located approximately 800m south of Highgate Underground Station, on the High Barnet branch of the Northern Line.
- 5.104 Despite the absence of formal London Cycle Network routes within the immediate vicinity of the Site, the Site is still easily accessible by cycle users due to the informal cycle routes located locally, in addition to the high-quality road network and the low car speeds.
- 5.105 The Site benefits from very good pedestrian accessibility, with bus stops, services and facilities and controlled crossings located within the vicinity of the Site and a safe connection between the different School buildings and facilities.
- 5.106 A total of 128 cycle parking spaces are provided within the school, across all its sites and buildings. Of these, 20 are covered (within the Junior School). For safety, all bike users must dismount their bikes at the school gate.
- 5.107 Refer to the Transport Statement submitted with the planning application, for further details.

6. BREEAM

6.1 Introduction to BREEAM

- 6.1 BREEAM (the Building Research Establishment's Environmental Assessment Method) is the world's leading and most widely used environmental assessment method for buildings. It sets the standard for best practice in sustainable design and has become the de facto measure used to describe a building's environmental performance.
- 6.2 BREEAM seeks to minimise the adverse effects of new buildings on the environment at global and local scales, whilst promoting healthy indoor conditions for the occupants. Building projects are assessed at the design and post-construction stages using a system of environmental issues grouped within the following categories:
- Management;
 - Health and Wellbeing;
 - Energy;
 - Transport;
 - Water;
 - Materials;
 - Waste;
 - Land Use & Ecology;
 - Pollution; and
 - Innovation.
- 6.3 The assessment of the building results in a final report and BRE Global BREEAM certificate detailing the performance of the assessed building against the environmental issues covered by the standard. The building's performance is expressed as a BREEAM rating to the scale shown on Figure 6-1 below.

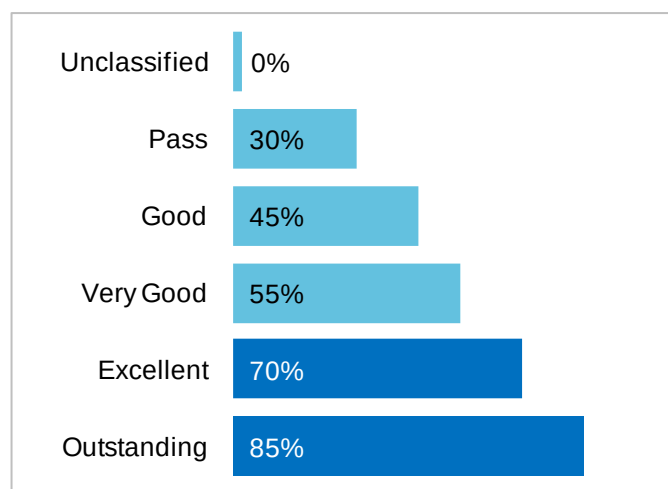


Figure 6-1 BREEAM rating benchmarks

6.2 Proposed Target Rating

- 6.4 The Proposed Development has been registered with the BRE under v3.0 of the BREEAM New Construction (NC) 2018 manual for fully fitted educational buildings. A BREEAM Pre-assessment has been undertaken and the proposed ratings are detailed in Table 1 below:

Table 1 BREEAM – Proposed Target Ratings and Scores

<i>Building</i>	<i>Target Rating</i>	<i>Target Score</i>
RMC (Fully fitted)	Very Good	67.16%

- 6.5 Section 6.5 provides further detail on the route to these ratings.
- 6.6 A BREEAM Pre-assessment has been undertaken for the Proposed Development and identified that a “Very Good” rating can be targeted. However, Highgate School have an aspiration to uplift to Excellent, if feasible. A full BREEAM New Construction 2018 assessment will be undertaken post planning at which point a further review will be undertaken to confirm whether the target rating can be uplifted to Excellent.

6.3 BREEAM Pre-assessment

- 6.7 This initial Pre-assessment is an indication of credits that could be targeted for the Proposed Development and is based on a series of assumptions and discussion with the design team.
- 6.8 To address the sustainability issues within BREEAM, a number of meetings have been held between the BREEAM Assessor and the design team. These workshops/meetings were used to identify target credits based on current design intent. BREEAM Pre-assessments were then produced and circulated to the client and design team for comment.
- 6.9 A summary of the Proposed Development’s performance is provided in Table 2 below.

Table 2 BREEAM New Construction 2018 Pre-assessment

			<i>Educational Building</i>
<i>Credit Ref.</i>	<i>Credit Name</i>	<i>Maximum Available Credits</i>	<i>Targeted Credits</i>
Scope			Fully fitted
Target Score			67.16%
Target BREEAM Rating			Very Good (≥55%)
Man 01	Project Brief and Design	4	3
Man 02	Life Cycle Cost and Service Life Planning	4	3
Man 03	Responsible Construction Practices	6	6
Man 04	Commissioning and Handover	4	4
Man 05	Aftercare	3	1
Totals		21	17
Hea 01	Visual Comfort	4	2
Hea 02	Indoor Air Quality	4	2
Hea 04	Thermal Comfort	3	2
Hea 05	Acoustic Performance	3	3
Hea 06	Security	1	0
Hea 07	Safe and Healthy Surroundings	2	2
Totals		17	11

			<i>Educational Building</i>
<i>Credit Ref.</i>	<i>Credit Name</i>	<i>Maximum Available Credits</i>	<i>Targeted Credits</i>
Ene 01	Reduction of Energy Use and Carbon Emissions	13	7
Ene 02	Energy Monitoring	2	2
Ene 03	External Lighting	1	1
Ene 04	Low Carbon Design	3	1
Ene 06	Energy Efficient Transportation Systems	3	2
Ene 07	Energy Efficient Laboratory Systems	n/a	n/a
Ene 08	Energy Efficient Equipment	2	0
Totals		24	13
Tra 01	Transport Assessment and Travel Plan	2	2
Tra 02	Sustainable Transport Measures	10	2
Totals		12	4
Wat 01	Water Consumption	5	2
Wat 02	Water Monitoring	1	1
Wat 03	Water Leak Detection	2	2
Wat 04	Water Efficient Equipment	1	1
Totals		9	6

			<i>Educational Building</i>
<i>Credit Ref.</i>	<i>Credit Name</i>	<i>Maximum Available Credits</i>	<i>Targeted Credits</i>
Mat 01	Environmental Impacts from Construction Products – Building Life Cycle Assessment (LCA)	7	7
Mat 02	Environmental Impacts from Construction Products – Environmental Product Declarations (EPDs)	1	1
Mat 03	Responsible Sourcing of Construction Products	4	1
Mat 05	Designing for Durability and Resilience	1	1
Mat 06	Material Efficiency	1	1
Totals		14	11
Wst 01	Construction Waste Management	5	3
Wst 02	Use of Recycled and Sustainably Sourced Aggregates	1	0
Wst 03	Operational Waste	1	1
Wst 05	Adaptation to Climate Change	1	1
Wst 06	Design for Disassembly and Adaptability	2	2
Totals		10	7
LE 01	Site Selection	2	0
LE 02	Ecological Risks and Opportunities	2	2
LE 03	Managing Negative Impacts on Ecology	3	3
LE 04	Managing Impacts on Ecology	4	4

			<i>Educational Building</i>
<i>Credit Ref.</i>	<i>Credit Name</i>	<i>Maximum Available Credits</i>	<i>Targeted Credits</i>
LE 05	Long Term Ecology Management and Maintenance	2	2
Totals		13	11
Pol 01	Impact on Refrigerants	3	0
Pol 02	Local Air Quality	2	2
Pol 03	Flood and Surface Water Management	5	3
Pol 04	Reduction of Night Time Light Pollution	1	1
Pol 05	Reduction of Noise Pollution	1	1
Totals		12	7

7. Conclusions

- 7.1 This Sustainability Statement demonstrates how the Proposed Development responds to the sustainability targets set out in the London Plan 2021 and LBH sustainability objectives.
- 7.2 The key sustainability features of the Proposed Development are as follows:
- Optimising the use of land by building on previously developed land, with a high-quality design appropriate to the historical context of the Site and local townscape.
 - The proposed energy strategy for the Site includes the following measures, which results in a site-wide regulated carbon saving of 2.3 tCO₂/year, via energy efficient fabric and building services design, an all-electric heating and cooling solution and by installing photovoltaic panels to generate renewable energy.
 - Good practice environmental design, including good daylight, ventilation and acoustics which will contribute to occupant health and wellbeing.
 - Ensuring that staff and students have access to terraces and landscaped areas offering amenity space.
 - Specifying water efficient fittings to reduce potable water demand.
 - Using responsibly sourced materials with robust environmental information, including low-VOC finishes and fittings, where feasible.
 - Providing ecological enhancements through a landscape strategy that aims to have a positive impact to the Site biodiversity has generated an UGF of 0.313 which aligns with the London Plan target.
- 7.3 In addition, an initial BREEAM Pre-assessment has been undertaken for the development. A full BREEAM New Construction 2018 Fully Fitted assessment will be undertaken post planning. A 'Very Good' rating is being targeted with an aspiration to uplift to Excellent, if feasible, post planning.
- 7.4 Overall, the Proposed Development aligns with national, regional, and local policy. The approach that is being implemented to integrate or embed sustainability principles fully onto the design of the Proposed Development.

