



DAME ALICE OWENS SCHOOL
PROPOSED NEW GENERAL TEACHING BUILDING

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Appendices

A Stage 2 Mechanical, Electrical and Public Health Technical Report by MLM

B Condition 4—Drainage Impact Study by Pure Structures

C Condition 5—Method Statement for Demolition and Construction

D Drainage Design Philosophy Report by Pure Structures

1.0 Introduction

1.1. Purpose of Statement

This document has been prepared to support a full planning application for the construction of a new three storey General Teaching Building to replace the current 3 storey General Teaching Building, to provide accommodation required to meet the current pupil numbers and curriculum requirements, and is to be read in conjunction with the drawings and documentation submitted as set out below:

Architectural Drawings

14157/TM/1	Topographical Survey
BA P16 336 001	Site Location Plan
BA P16 336 100	Existing Site Plan
BA P16 336 101	Proposed Site Plan
BA P16 336 102	Contractors Working Areas Plan
BA P16 336 210	Proposed Floor and Roof Plans
BA P16 336 310	Site Sections as Proposed
BA P16 336 320	Site Elevations as Existing
BA P16 336 321	Site Elevations as Proposed
BA P16 336 322	Proposed Elevations
BA P16 336 330	3D Visualisations
BA P16 336 331	Model Images

The design proposals are a development of the scheme detailed in the Outline Planning Permission, reference number 15/1851/OUT, and seek to address the Conditions attached to that permission.

A pre-application meeting was held at the school with Sharon Richards of Hertsmere Borough Council on 19th August 2016 at which the Outline Planning permission was reviewed, and the parameters for the proposal to be submitted for the Full Planning Application were discussed. The content of the Full planning Application in terms of drawings and documents was discussed and agreed.

The most recent building constructed at the school is the new Science Building which received planning permission in 2012. This building is located to the south side of the wooded bank and lake, an area of high landscape and ecology value, and the following reports were carried out in association with the Science Building application:

- Background Noise Assessment by Ion Acoustics
- Ecology Report by BSG Ecology
- Tree Report by Bartlett Consulting
- Flood Risk Assessment by Elliott Wood Partnership

These reports are relevant to this current application as the proposed building is located just to the north east of the wooded bank and lake, and have therefore been used to provide background information.

A new topographical survey has been commissioned which includes the area of the existing and new buildings and all associated landscaped areas.

Dame Alice Owens School | New General Teaching Building | Design & Access Statement | Full Planning Application Submission



Aerial View of existing school campus

1.0. Introduction

1.2. Dame Alice Owens School background

Dame Alice Owens School is situated on Dugdale Hill Lane, Potters Bar, Hertfordshire. The school is renowned for its excellent teaching standards, academic achievements and beautiful surroundings. The school was founded in 1613 in Islington, North London and was re-located to Potters Bar in 1973 when the original parts of the current campus were constructed. Since then the School has gradually added new facilities and replaced sub-standard facilities. The school has a long term strategy to upgrade the campus with buildings that are more appropriate to current and future education needs and factors such as environmental performance. The proposed new General Teaching Building will be located on the site of the former science building, which was replaced in 2013 by the new Science Building.

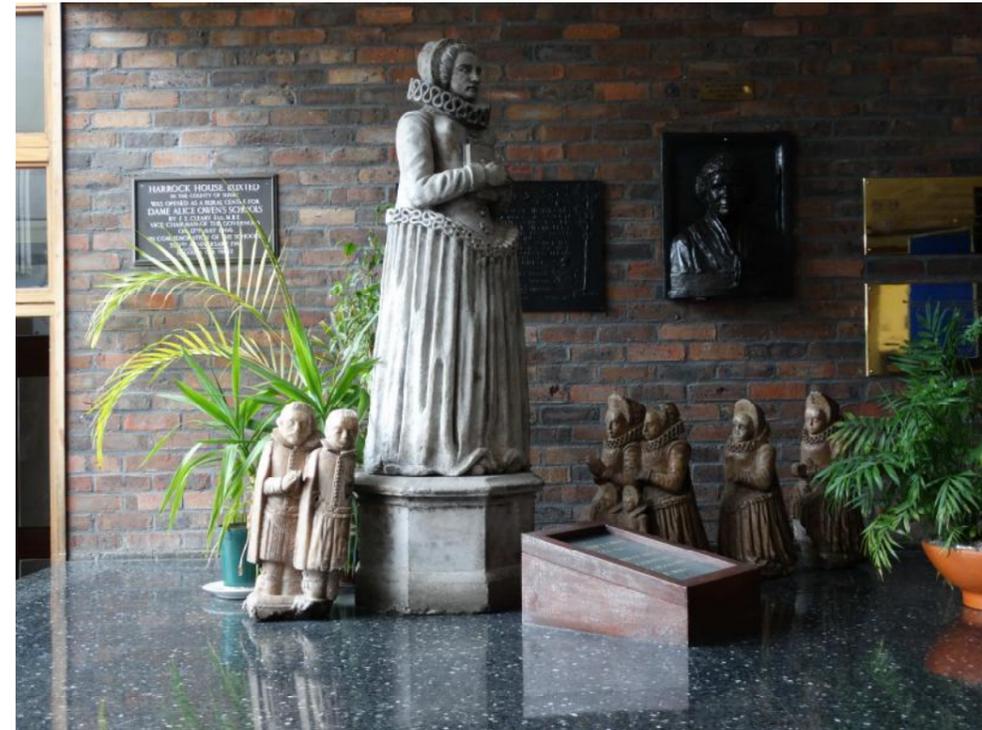
1.3. The Brief

This planning application is for a new general teaching building to replace the current general teaching building and to reinstate the site with a new landscaped area comprising a terraced zone (which can be used as an amphitheatre) and a formal courtyard to the north west of the proposed general teaching building.

The proposed location is formerly brownfield, as it was the site of the former science building, and was re-landscaped with the current mounds and small trees when the new Science Building was constructed.

The new proposals involve the re-location and/or replacement existing small trees, and the re-modelling of the mounds to create a new and more formal courtyard arrangement.

The new building is located to the north east of the wooded bank and lake, with a building line that aligns with the neighbouring Edinburgh Building which is set slightly further from back from the bank than the neighbouring Edward Guinness Building. No existing mature trees in this important group are affected by the proposals.



Statue of Dame Alice in school reception



North west elevation of the existing General Teaching Building

1.3. The Brief (continued)

The current general teaching building is a SEAC (South East Architectural Consortia) building constructed from a combination of steel and reinforced concrete frame, crittal type windows, concrete panels and other systems and materials. Generally the environmental performance of these buildings is very poor with associated problems of fire safety and the presence of asbestos. The learning environment is also poor, with many classrooms having poor natural light standards and suffering from over heating in summer and cold conditions in winter. The building also has high running and maintenance costs. For these reasons it is proposed to replace this building with a building designed to current standards and with a greatly improved education environment. The new location also opens up a significant opportunity to create an important landscaped area in the heart of the school campus with major social and education benefits. The proposed location is formerly brownfield, as it was the site of the former science building, and was re-landscaped with the current mounds and small trees when the new Science Building was constructed.

The new building has a gross internal floor area (GIFA) of 1960m² and replaces a building with a GIFA of 1920m².

A schedule of proposed areas is provided on the next page.



Bridge link to existing General Teaching



Existing General Teaching Building



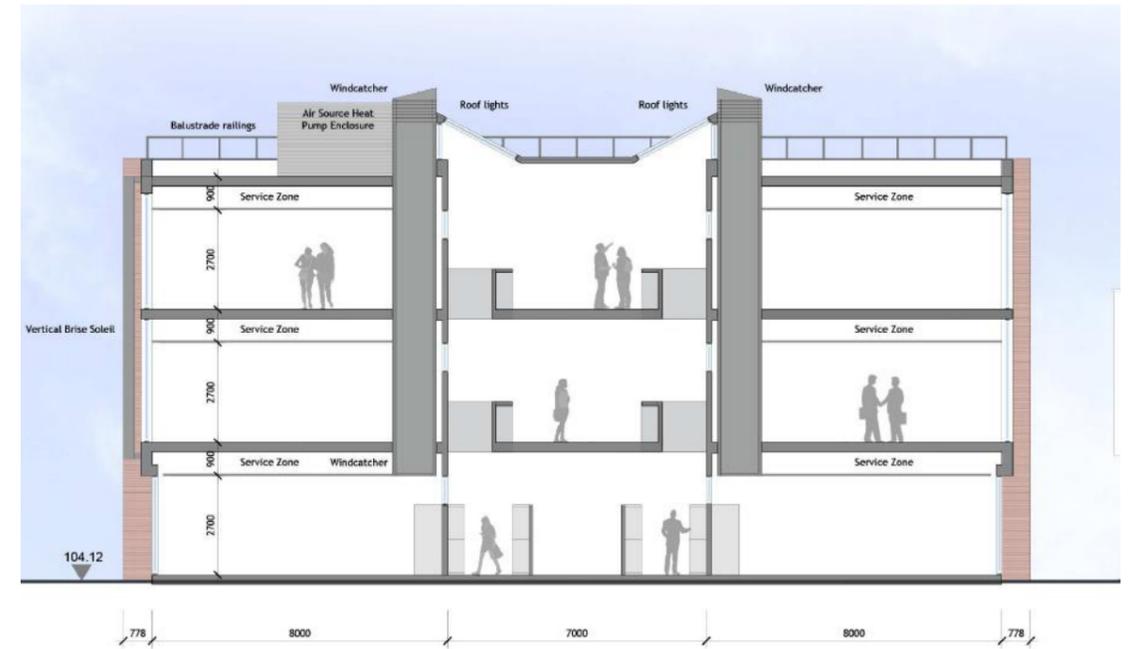
Existing Staircase from front playground

1.3. The Brief (continued)

Schedule of Areas

Facility	Area s m2	Total Area m2
12 General Classrooms	55	660
6 Extensive Classrooms	60	360
3 Group Rooms	20, 22, 30	72
4 Offices	8.5, 8.5, 14, 32	63
18 Classroom Stores		75
General Store	5	5
Cleaners Room	5	5
2 Girls Toilets	14	28
2 Girls cubicle toilets	3.5	7
2 Boys Toilets	14	28
2 Boys cubicle toilets	3.5	7
3 Staff/Access toilets	3.3	10
420 Pupil lockers		93
Total Net Area		1413
Circulation (including lift)		430
Plant (within building)		32.5
Float (internal walls, voids etc.)		84.5
Total GIFA		1960

The new building will be innovative in its use of natural light and ventilation and other environmental and construction strategies to provide an internal environment that is comfortable, inspiring and suitable for current teaching and learning requirements.



Proposed Sections—NTS

1.3. The Brief (continued)

The main purpose of this application is to provide improved general teaching accommodation and to replace the seriously deficient existing building. The opportunity is being taken to provide an additional three classrooms and this is justified by a current deficit of accommodation with some lessons taking place in alternative unsatisfactory spaces across the campus. There is no planned increase in pupil numbers and therefore no changes to the parking and vehicular access arrangements. In addition no further changes to the waste storage and collection arrangements are proposed.

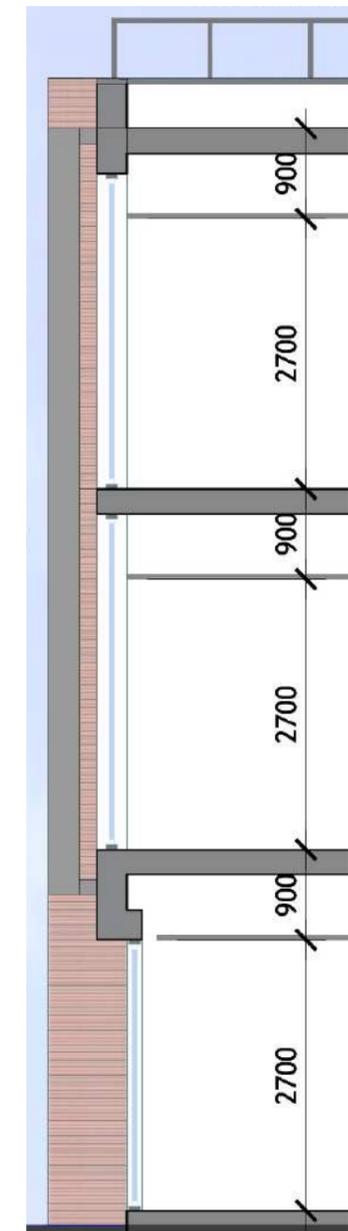
The new building occupies a prominent position at the centre of the school campus between the high quality landscape of the lake and woodland, and a new formal courtyard would be created in front of the new building. The design approach takes its precedence from the successful recent buildings, notably the Arnold Lynch and Science Buildings. The selected pallet of materials is similar to the Science building with a combination of subtle decorative brickwork and large areas of glazing and solid panels to the principal elevations facing the courtyard and the lake.

The project provides an opportunity to create a significant new landscaped area running through the campus from the south west edge of the front playground to the new general teaching building.

The new building will be highly energy efficient, partly due to its efficient surface to volume ratio and partly through the use of sustainable energy strategies and technologies as described later in this statement. A formal BREEAM assessment is not required, but a pre-assessment indicates that a "Very Good" rating would be achieved.

This building replaces the accommodation in the existing general teaching building and adds a further three classrooms, 2 offices and group rooms. The building has been designed to DfE Building Bulletin 103 standards, with some modifications specifically requested by the school within the overall area parameters.

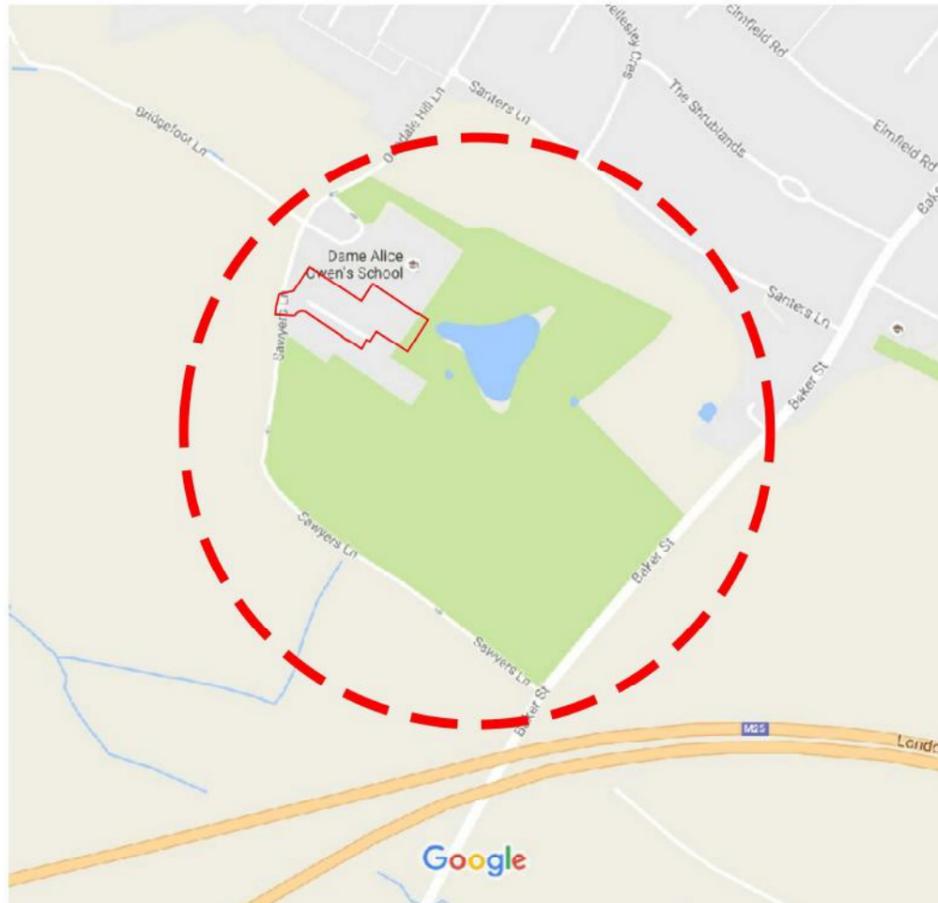
The school is in serious need of improved general teaching facilities to match the quality of the more recent parts of the school campus. The current general teaching building does not provide an acceptable environment for students or staff.



Proposed Part Sections—NTS

2.0. Site Context

2.1. Site Location



Site Location—source google maps NTS



Site Location—source google maps NTS

2.2. Site Context and Character

The proposed site for the new General Teaching Building is on the site of the former Science Building, which was demolished when the new Science Building was constructed in 2013 and is located between the woodland area and the main administration building. To the north east is the main Administration building, to the north west is the Edinburgh Centre, to the south east is a grassed bank with mature woodland and lake, and to the south west is the Edward Guinness Building.

Although the school buildings are located approximately 400 meters from the M25, the proposed general teaching building is surrounded by existing buildings and therefore not subject to noise disturbance. An acoustic survey was carried out for the Science building, which lies in a direct sound path from the M25, did not require any special acoustic measures.

The site levels vary across the campus. Viewed from the south, the levels are higher to the east and west with the main campus area in the centre being approximately 4 metres lower.

The proposed building has a ridge height that is no higher than the ridge of the neighbouring Edward Guinness Building.

The adjacent buildings are predominantly of masonry construction and this theme is reflected in the materials selected for the proposed building.



3D view from west



3D view from east



Lake on school campus



Broad steps leading to Lake



Site of the new General Teaching Building from the south east



North east elevation of Edward Guinness Building



Existing School Administration Building from the south east



Science & Drama Blocks



Science Building approached from Edward Guinness Building



Proposed Site for new general teaching building from west

3.0. Site Analysis

3.3. Landscape, environment and bio-diversity

The site for the new general teaching building was previously brownfield as it was the site of the former Science Building. The current mounds are recent and have little ecology value. The site is adjacent to the woodland area and lake but this is entirely unaffected by the proposals.

A Tree Report by Bartlett Consulting was commissioned and submitted with the Science Building Planning Application and this has provided useful background information.

An ecology report by BSG Ecology was submitted with the Science Building Planning Application and this has also provided useful background information.

The proposed building is designed with a "green roof", both to manage rainwater off-flow, and there-by reduce the load on underground surface water attenuation or soakaways, and to provide a bio-diversity habitat. The new building is located between the high value ecology area to the south east and the proposed extended landscaped areas to the west, and the green roof thereby provides a link between these areas.

The landscape proposals will include replanting or replacement all the trees removed for the construction of the new building and provide some additional tree planting on the new landscaped areas.

The new landscaped areas are predominantly laid to grass with new paths to be constructed with resin bound gravel to match the existing recent paths. The circular seating area in the centre of the formal courtyard and the edges of the terraces of the amphitheatre comprise 400mm high concrete retaining and seating units.

3.4. Access and Movement

Approximately 48% of students travel to school by bus and 25% travel by foot and the rest travel by car. Details are contained in the Green Travel Plan prepared by the school.

The main access to the school is from Dugdale Lane to the west where there three vehicular and pedestrian entrances. It is proposed that the vehicular entrance furthest south on Dugdale Lane will be used as the contractors construction access point. A Contractors Access and working areas plan has been developed to demonstrate how the building will be constructed whilst maintaining the safe operation of the school.

The diagram opposite shows the pedestrian flows in the central part of the school campus and how the proposed building relates to this movement.



Site Plan indicating pedestrian routes

4.0. Planning Context

4.2. Outline Planning Permission Conditions

The Outline Planning Permission is subject to 7 conditions which are addressed as follows:

1. *Application for approval of reserved matters to be made within three years of the approval date.*
Response: This condition is met
2. *No development shall take place until samples of materials to be used in the construction of the external surfaces of the development have been submitted and approved.*
Response: Samples of the proposed brick and glazing system frame finish and colour will be submitted for approval during the planning approval period
3. *No development shall take place before a scheme of landscaping, phased in relation to any phasing of the development, which shall include details of hard and soft landscape works and earthworks, has been submitted and approved in writing.*
Response: The proposals as contained in this report and on the submitted drawings indicate the proposed landscaping scheme. The Contractors working areas drawing indicates the phasing of the landscape works
4. *No development shall take place before a Drainage Impact Study, a surface water drainage scheme for the site (based on sustainable drainage principles SuDS) has been submitted to and approved in writing.*
Response: A Drainage Impact Study is submitted as Appendix B to this report
5. *No development shall take place before a method statement for the demolition and/or construction of the development hereby approved has been submitted to, and approved in writing by, the Local Planning Authority.*
Response: A method statement is submitted as Appendix C to the Design and Access Statement. This is supported by drawing P16-336-102—Contractors Working Areas Plan.
6. *Before commencement of the Development. Detailed proposals of the fire hydrants serving the development as incorporated into the provision of the mains water services for the development whether by means of existing water services or new mains or extension or diversion of existing services or apparatus shall be submitted to and approved in writing by the Local Planning Authority.*
Response: An existing Fire Hydrant has been located in front of the entrance to the Edward Guinness Building, as indicated on drawing P16-336-101—Proposed Site Plan, and this is within 21 metres of the nearest point of the proposed General Teaching Building. The Mechanical, Electrical and Public Health Technical Report (Appendix A) provides further information regarding the Fire Hydrant.
7. *Response: Plans and documents approved with the Outline Permission have been used as the basis of the developed scheme submitted herewith for Full Planning Permission.*



Area of proposed re-development

5.0. Design

5.1. Purpose of development

The purpose of the development is to replace the current general teaching building with a new building designed to current standards and to meet present and future education needs.

5.2. Scope and size of development

The total site application area is 6590 sqm. The footprint of the new building is 654m² and the GIFA of the new building is 1960m².

5.3. Layout of Development

The maximum dimensions of the proposed building are 30.380m x 24.700m and the building is located and orientated to fit into the space between the Edward Guinness Centre and the Edinburgh Centre. The long elevations face SE and NW and the shorter elevations (facing the neighbouring buildings) face NE and SW. The front of the brickwork columns on the NW elevation align with the side elevation of the Edinburgh Centre, and the inside face of the first column on the SE elevation aligns with the edge of the broad steps that climb the bank towards the lake.

This leaves a minimum gap of 3.500m from the outer face of the SW elevation of the proposed building to the face of the Edward Guinness Building.

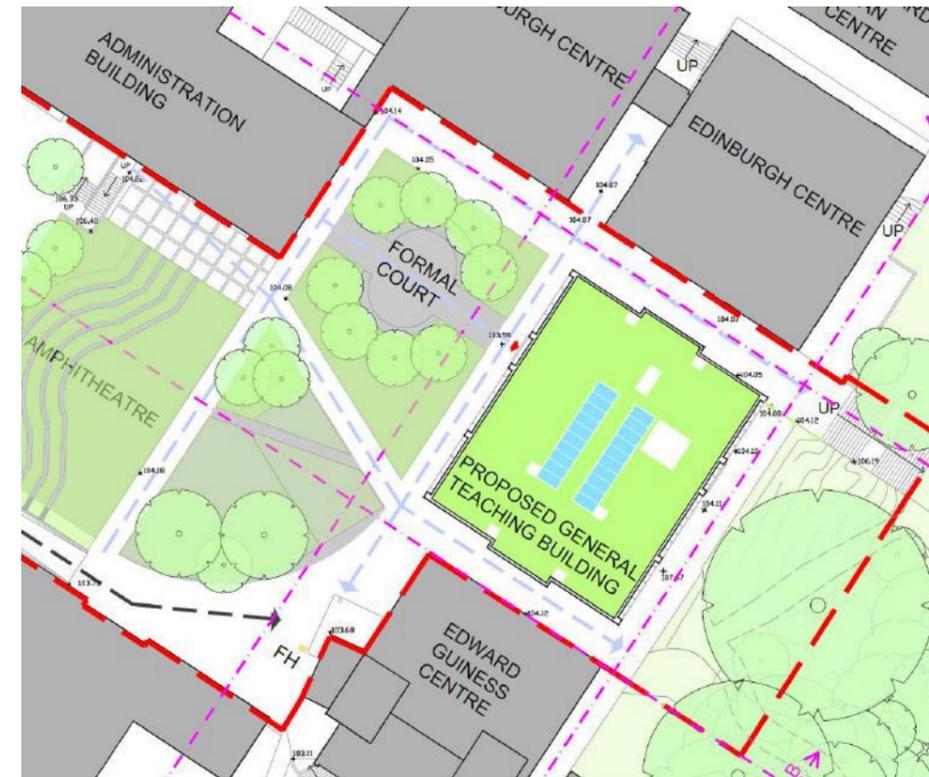
As described earlier, the main accommodation spaces (classrooms, group rooms and offices) face the new landscaped courtyard and the tree covered bank and the service spaces face the neighbouring buildings.

The principal approach is from the Administration Building via the new landscaped courtyard and a new path and social area are created on the axis of the main entrance. The main entrance is framed by a projecting bay window above with a metal clad enclosure that projects down to ground level to form an entrance porch with the main doors being recessed into the building. This entrance brings students into a central atrium space with staircases at either end. Ease of circulation and the provision of informal social and learning opportunities within the circulation areas are specific requirements.

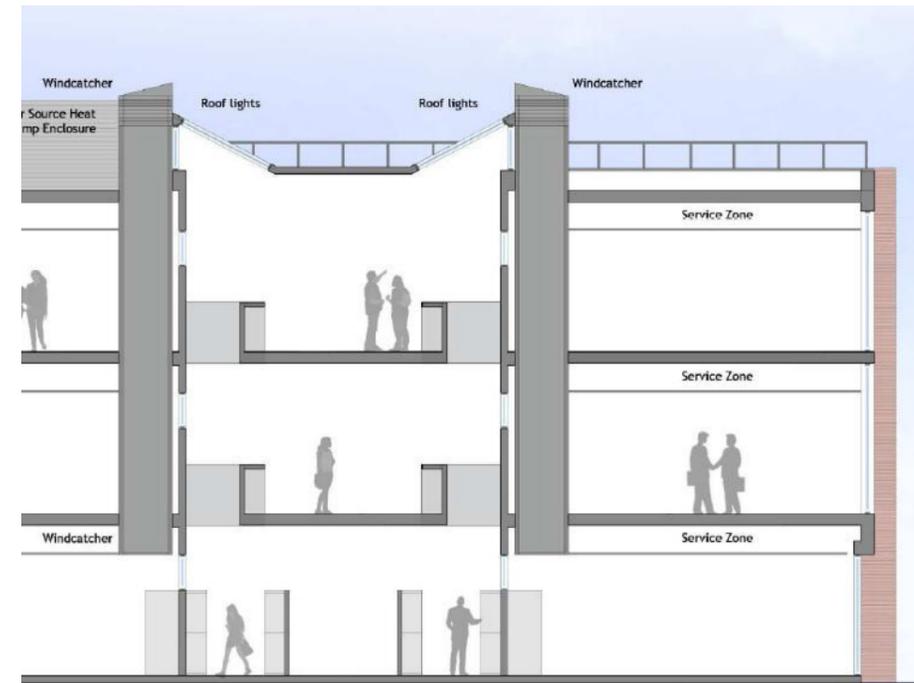
The building is simple and rectilinear in form and construction with a reinforced concrete frame and floors to provide thermal mass as part of the environmental strategy. The central circulation space with staircases at each end provides a horizontal glazed "slot" through the building to allow light and views to penetrate into the central areas. A second glazed "slot" is provided on the first and second floors, perpendicular to the atrium, across the offices and group rooms. The building also has two vertical "slots" with linear roof lights at the top to provide natural light and ventilation to the central areas. The intention is to create a light and airy interior in a deep plan 3-storey building.

The building has a platform lift for wheelchair users located in a central area easily accessible from the main entrance. The ground floor plant room is located with external doors facing the bank away from the courtyard with a vertical services riser next to the lift shaft. Energy for space heating and hot water is generated by Air Source Heat Pumps located on the roof.

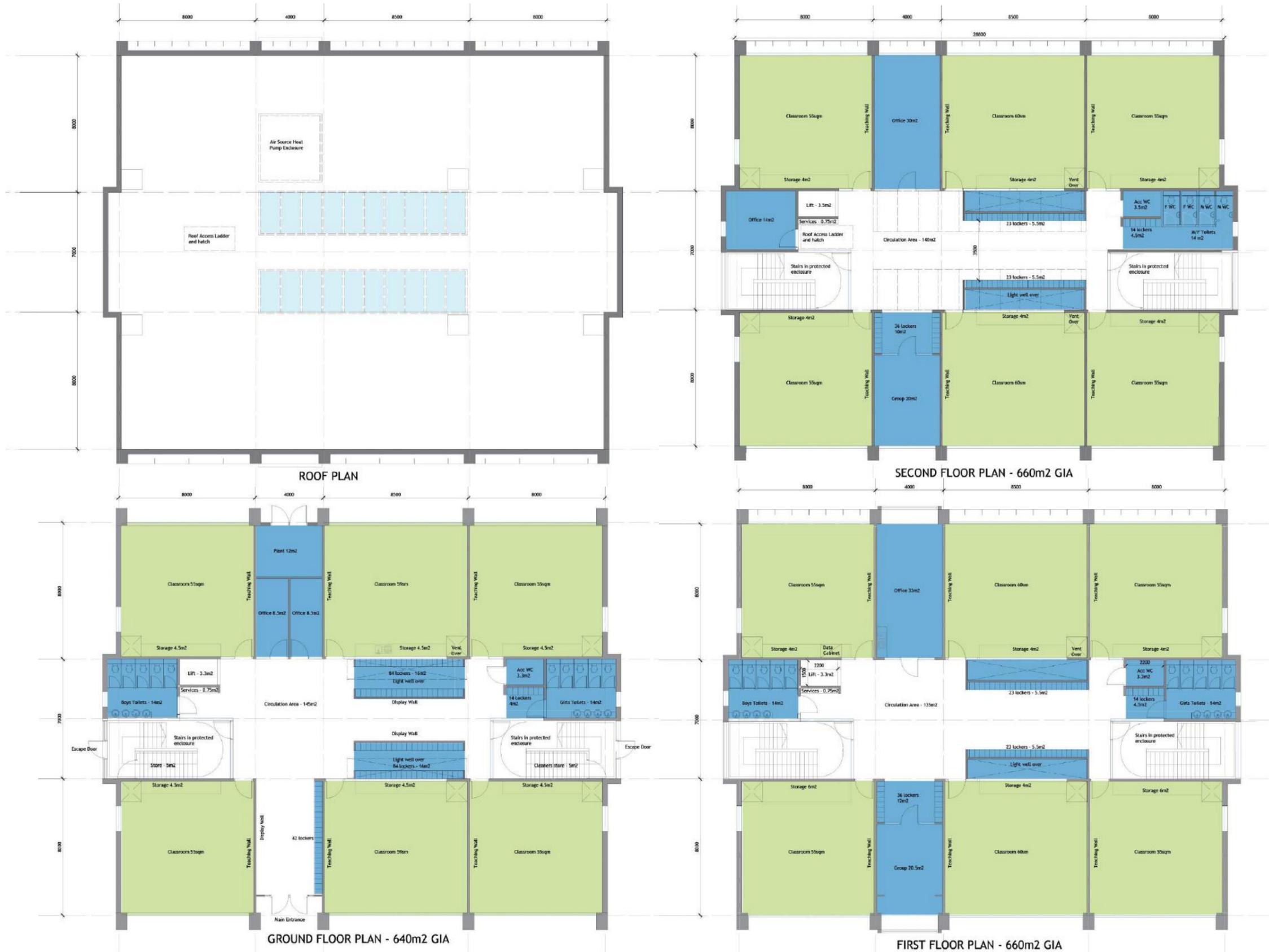
The general arrangement plans are shown on the next page.



Proposed Location of new Building



Part section through central circulation areas



5.0. Design

5.4. Scale of Development

Hertsmere Local Plan (2003) Policy D21 seeks to ensure proposals improve or respect their character of the surroundings and adjacent properties in terms of scale, massing, materials, layout, bulk and height. The overall building dimensions are 30.380m x 24.700m and the building is 3 storeys high with a flat roof, low parapet and perimeter guard rail. The overall height is 11.300m to the top of the parapet. This compares to the maximum height the Edward Guinness Building of 11.800mm. The building has a floor to floor dimension of 3.600m to allow adequate height for structure, services and generous headroom in wide classrooms. The building is dominated by the mature trees in the woodland to the east.

The site elevations show the scale of the building in relation to the surrounding buildings.

5.5. Appearance of Development

The proposed General Teaching Building is located on a former brownfield site with a woodland backdrop. The materials have been selected to harmonise with the surroundings and take precedence from the recent Science Building in accordance with Hertsmere Planning and Design Guide 2006 Part D. The drawing opposite shows a detail from the NW elevation showing the approach to the main entrance.

A light red multi brick has been selected, with vertical and horizontal stack bonding used on the columns and horizontal bands framing the large glazed areas, and standard stretcher bonding on the larger brick panels. The subtle contrast between the bonding will help to articulate the elevations and provide variety within a generally harmonious design. The ground floor external walls on the SE and NW elevations are set back approximately 450mm to create a shadow line under the brickwork band to create visual contrast between the ground and upper floors.

The Glazed areas in the bays contain Polyester Powder Coated aluminium frames in grey with full height glazed panels interspersed with solid, coloured areas containing opening ventilation panels. The glazed panels are set back between the brickwork columns to provide strong articulation to the bays, reflecting the classrooms and group rooms within the building. Vertical brise soleil fins are provided to the two upper floors on the SE elevation in line with the vertical window framing to moderate the solar gain and provide localised shading.

The opening vents in the elevations will be manually and automatically controlled and work in conjunction with the vertical "windcatcher" air shafts to allow fresh air intake for natural ventilation and night time cooling.

The perimeter edge protection railings at roof level provides safe access to the entire roof area for access and maintenance.



Part Elevation from NW



Part Elevation from NE

5.0. Design

5.6. Landscape Design

The landscape design strategy is to take the opportunity presented by the demolition of the existing General Teaching Building to create a significant new landscaped zone at the heart of the school campus that creates a varied and stimulating outdoor social and learning environment. The landscape design has been developed as an integral component with the design of the new building.

The key aspects of the landscape proposals are:

- A formal courtyard is created between the new building and the Administration Building with a circular seating area surrounded by a low (1.2m high mound). The existing trees will be replanted on the top of this circular mound. This will create a social and education opportunity for students and teachers between lessons
- 400mm high concrete seating units are used to create an amphitheatre in the area to the SE of the playground at the west side of the school. This will provide an informal social area and also a venue for outdoor performances
- Trees are planted in a curve behind the top seating terrace to provide shade and visual structure.
- Trees planted in the formal courtyard and at the upper level of the amphitheatre will be semi-mature and likely to include species of Winter Flowering Cherry, Red Oak, Scots Pine along with Pear, Apple and Quince.
- The existing timber framed planting areas are re-formed on the wedge shaped linking area between the courtyard and the amphitheatre
- New paths to provide effective linkage between buildings are created using the same resin bonded gravel as used in recent developments on the campus
- The green roof will provide an additional habitat area and a link between the woodland and lake and the new landscaped areas.

5.7. Flood Risk

A flood risk assessment was carried out by Elliot Wood with the Planning Application for the Science Building. This identified the main risk as the possible failure of the existing reservoir and remedial measures were proposed. The following extract is taken from the Elliot Wood Report:

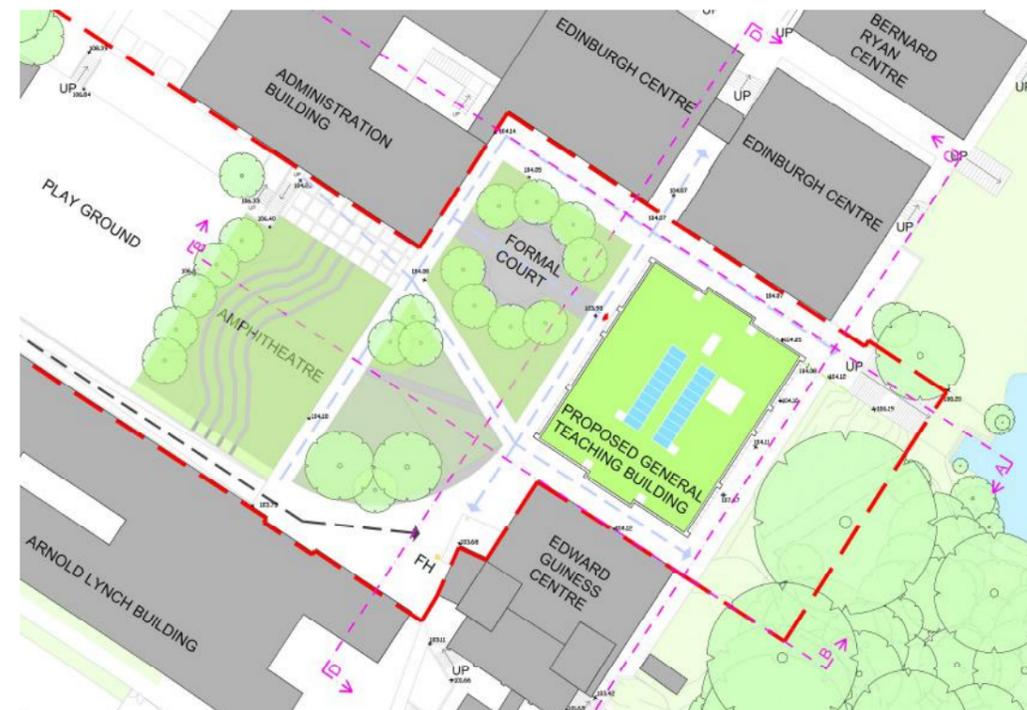
"All sources of potential flooding have been assessed, and the primary risk of flooding is from failure of the existing reservoir. The proposed development should not increase the risk of flooding, and provided remedial action is implemented and maintenance conducted on a regular basis, the risk of flooding from the reservoir is considered low. The risk could be reduced to negligible if additional remedial measures are implemented where recommended by the hydrological study.

The risk of flooding from all other sources is considered negligible."

As the new General Teaching Building is located in a similar relationship to the reservoir as the Science Building the same conclusions are regarded as valid.



3D view from the west



Proposed Site Development Area

5.0. Design

5.8. Acoustics

The proposed building is surrounded by existing buildings and the wooded bank with the only gap for potential sound passage being from the west across the proposed new landscaped area. The Acoustic Report carried out for the Science Building Planning Application identified the main source of noise as the M25 which lies over 400m to the south. It is therefore considered that external noise from outside the school boundary will not affect the proposed building.

5.9. Energy Conservation and Sustainability

The building is designed to comply with the demands of current Building Regulations Part L2A—Conservation of Fuel and Power. The form of the building, with its low surface to volume ratio, is inherently efficient in terms of heat loss, but this presents challenges for the natural lighting and ventilation strategy which have been addressed by the following features:

- The principle elevations have a high ratio of glazing to provide good daylight levels in the main teaching and learning spaces
- Opening panels are included in these elevations to provide fresh air intake which is drawn through the spaces in a controlled manner by the vertical wind catchers
- The energy source for space and hot water will be Air Source Heat Pumps located on the roof
- The building has a “green” sedum roof which moderates the rainwater flow and provides additional insulation as well as providing bio-diversity habitat
- Vertical “brise soleil” fins are proposed to the SE Elevation to moderate solar gain

5.10. Foul sewage disposal and Utilities

The foul sewage will be connected to the existing school system and the capacity has been assessed to be sufficient given that the total pupil numbers remain unaffected by this proposal. Further detail is contained in the Drainage Design Philosophy Report by Pure Structures attached as Appendix D.



Plan showing Noise source



Long Section through central circulation area

5.0. Design

5.11. Physical Model

A physical model of the site was used in developing the design, and the images below show the final version of the building located on this model.



6.0. Access

6.1. General movement to and around the building

Most students will approach the new General Teaching Building across the formal courtyard from other surrounding buildings. Some students will arrive from the Science Building and these will travel along the footpath between the new building and the Edward Guinness Building to access the courtyard. From here the layout of the courtyard directs student to the main entrance.;

6.2. Inclusive Accessibility

All aspects of the building will be designed to comply with Part M of the Building Regulations, BS 8300 and the Equality Act.

External routes around the building and across the landscaped area will generally be at maximum 1 in 20 slopes and so categorised as being "level".

It is not proposed to provide new ramps to the amphitheatre but disabled users can access the lower and upper terraces utilising existing ramps.

6.3. Internal Accessibility

The main entrance is clearly indicated by the form and design of the building and the layout of the courtyard paths.

All doors will be wide enough for wheelchair users and easy to operate. All access doors will have glazed panels where necessary. A platform lift is provided in a convenient location easily accessible from the main entrance.

Students with hearing and visual impairment will be considered in the design process for example all signage will be clear and easily legible. Part M guidance will be followed in all aspects of the design including the use of contrasting colours and surfaces.

All WC provision including, size, layout and design will comply with Part M.



External access

7.0. Conclusion

7.1. Summary and Conclusion

Dame Alice Owens School is currently using sub-standard accommodation to teach many core curriculum subjects. The existing General Teaching Building is no longer fit for purpose and is a maintenance, safety and energy burden to the school.

This proposal to replace the existing building with a new General Teaching Building, and create a significant new landscaped area, will transform the school and bring the standard of the general classrooms up to the same standard as the recent Science Building accommodation.

The project has already received Outline Planning Permission and this application seeks Full Planning Permission for a scheme developed within the parameters of the Outline Permission and in sympathy with the character of the school estate.

Special attention has been paid to the important natural area to the east of the proposed site with its high ecology value and also to the design and appearance of recent buildings on the site.

The opportunity presented by the demolition of the existing General Teaching Building has been taken to develop a new landscaped area with significant social and learning opportunities as well as adding to the beauty of the school environment.

This project is essential for the school to maintain and develop the high standard of education that it offers all students.

