

St Helens School Northwood
Planning Application Supporting Statement - Incorporating Design and Access Statement

Client St Helen’s Girls School Northwood
Project Name New Junior School
Project No 1284
Date July 2014



Amendments:

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IID Architects 1 Victoria Villas, Richmond, Surrey TW9 2GW | T 020 3274 1000 | F 020 3274 1001 | info@iid.co.uk | www.iid.co.uk

Directors Richard Matthews Dip Arch RIBA | Simon Tupper B Arch RIBA
Associates Gareth Box Dip Arch RIBA | David Brown BA (Hons) | Julia Gollings Dip Arch RIBA | Bernard GreenWalker BA (Hons)
David Moore Dip Arch RIBA | Maria Poveda Dip Arch RIBA | Alistair Reid BSc (Hons) ACIAT | Nick Rich Dip Arch RIBA
Consultant Alan Brown Dip Arch MA RIBA

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PLACE Design and Planning – Landscape Architects Drawings

C532_PL_001_GA Plan Rev01	1:500 @ A1
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ELLIOTT WOOD – Civil Engineers Drawings

213434 SKD01 Proposed Below Ground Drainage Strategy	1:500 @ A3
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APPENDICES

- 1 Arboricultural Schedule, Arboricultural Impact Assessment
- 2 Pre-Application Planning Advice Ref. PE/00040/2014
- 3 Consultation Material – (Exhibition Boards) – IID Architects `1284 Consultation 1 and 2.
- 4 Phase 1 Habitat Survey – Arbtech Consulting Ltd., dated June 2014.
- 5 School Travel Plan dated 2009.
- 6 Rainwater Harvesting Feasibility Report
- 7 Outline Energy Assessment for Planning
- 8 Landscape Strategy Report
- 9 Flood Risk Assessment – dated 28th July 2014 by Elliott Wood Consulting Engineers
- 10 School Recycling Policy documents

PREFACE

FULL PLANNING SUBMISSION CHECKLIST SUMMARY - NATIONAL AND LOCAL VALIDATION REQUIREMENTS:

- | | |
|--|--|
| <ol style="list-style-type: none">1 Application Forms – On-line submission.2 Appropriate Fee – Paid by cheque sent separately from application.3 Design and Access Statement - Included within the Supporting Statement as noted in Contents section above.4 Location Plan – Included with drawings.5 Block (Site) Plan – Included with drawings.6 Existing and Proposed Elevations – Included with drawings.7 Existing and Proposed Floor Plans – Included with drawings.8 Roof Plans – Included with drawings.9 Affordable Housing Statement – N/A10 Air Quality Assessment – N/A11 Biodiversity survey and report, Refer to sections 2.2 and 2.3 and Appendices 1&412 Daylight/Sunlight Assessment – Not considered applicable as not affecting neighbouring properties.13 Environmental Statement – Not considered relevant and not requested by LPA.14 Flood Risk Assessment - Refer to section 2.4 and Appendix 9.15 Foul Sewage and Utilities Assessment – Plans of proposed foul/surface drainage scheme provided – Refer to Elliott Wood's drawing 213434 SKD0116 Heritage Statement (including Historical, archaeological features and Scheduled Ancient Monuments) – N/A - Ref section 2.15.17 Land Contamination Assessment – Refer to sections 2.5 and 5.14. | <ol style="list-style-type: none">18 Lighting Assessment – N/A - Refer to Section 5.17 page 14.19 Noise Assessment – N/A20 Open Space Assessment – Not considered relevant but refer to 4.3 page 8 re impact on external activity areas.21 Parking Provision – Refer to section 5.7 and provision included with drawings.22 Planning Obligations – N/A23 Planning Statement - Supporting Statement submitted.24 Statement of Community Involvement – Refer to Appendix 325 Structural Survey – N/A26 Telecommunications Development – N/A27 Town Centre Uses – N/A28 Transport Assessment – N/A29 Travel Plan – Refer to Appendix 730 Tree Survey/ Arboricultural Implications – Refer to Appendix 131 Ventilation/Extract Statement – N/A32 Marketing Viability and Appraisal – N/A33 Financial Appraisal – N/A34 Agricultural Assessment – N/A35 Advertisement Justification Statement – N/A36 Street Scene Elevation – Not considered relevant as site is reasonably well screened from public highway by trees.37 Extensions to dwellings in Rural Areas – N/A38 Outline Applications – N/A39 Lawful Development Certificates – N/A |
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1.0 Introduction

1.1 Purpose of Statement

This report has been prepared in support of the attached application for Full Planning Consent for the replacement of the existing Junior Department at St Helen's School in Northwood. It describes the background to the proposed development and the design objectives which have generated the organisation, form and appearance of the proposals.

The report has been prepared by IID Architects on behalf of the applicant, St Helens' School in collaboration with the following members of the Design Team appointed by the School:

- PLACE Design and Planning – Landscape Architects.
- CPW - Environmental Services Engineers.
- Elliott Wood - Structural and Civil Engineers.

This statement explains the design rationale behind the development proposals for a replacement Junior School which are the focus of this application. These proposals are set within the context of a wider site Master Plan which is also submitted to provide a strategic overview of the site and an anticipated framework for future development.

Full planning approval is being sought for the Junior School only. Approval is not being sought for the Strategic Master plan see Figure 20, which has been submitted as an informative only to illustrate the wider site wide consideration on which the Junior School proposals have been based.

The statement is to be read in conjunction with the drawings as scheduled and submitted with the Full Planning application to Hillingdon Borough Council.

1.2 Background and case for development

Applicant:

St Helen's School Northwood is an independent girls' day school for girls from 3-18 that was founded in 1899. Originally a boarding school, it has been a day school since 2009. With a long tradition of which it is justly proud the School is looking to the future and the need to develop its facilities to meet the requirements of contemporary education. In her summary of the School's position the Headmistress notes that it *'is proud of its tradition of educating girls to the highest academic standards while at the same time maintaining their extra-curricular interests and promoting their development into well-rounded and balanced young women.'*

Whilst the School enjoys a strong reputation, Governors are mindful of being in 'what must be the most competitive independent market in the UK.' Building on the solid foundations of its heritage St Helen's is therefore now looking to progressively improve its facilities to meet the needs of 21st century education starting with the Junior School.

In developing the School's vision for the future the Headmistress has emphasised that *'....the School is moving away from its traditional roots by becoming a day school and is competing with its neighbouring schools.....'* In respect of the new Junior School she notes that it *'...offers us the opportunity to take a very big step into the twenty-first century and to promote a more open and spacious environment which will provide the model for the future development of the School as a whole'.*

It is this broader long term vision that has informed the design of the new Junior School and the development of the strategic Master Plan.

Existing Accommodation Shortfalls:

Whilst the site and the accommodation appear pleasant and generous, there are a number of shortcomings which inhibit the effective delivery of the School's vision and these are highlighted in Figure 9.

These shortcomings together with the key positive features identified on Figure 10 have then informed the proposed long term site Master Plan strategy (refer to Figure 20) on which the detailed proposals for the Junior School Proposal have been based.

1.3 Consultations and Engagement process

Consultation with the Local Authority, neighbourhood, parents and staff has taken place during the development of the proposals for the new Junior School buildings and wider site improvements. This included the following:

- March 2014 – Formal pre-application Planning Submission made. Response received from Hillingdon Borough Council dated 3rd June 2014 (Reference Number: PE/00040/2014). Planning Officer responsible – Joanna Hart. Refer to Appendix 2 for details.
- April 2014 – Initial Public Consultation with local community, parents, staff and pupils. Refer Appendix 3a for details.
- June 2014 – Developed Proposals available for viewing by the local community. Refer Appendix 3b for details.
- August – Exhibition of final proposals for public viewing prior to and during planning consideration.

2.0 Description of Existing Site and its Environs

2.1 Location, size and general site context

- Site Address St Helen's School Northwood, Middlesex HA6 3AS.
- Overall School site area (Blue line boundary) = 7.82ha. Application site area (Red line boundary) = 1.7ha



The School site is located close to Northwood commercial centre with the southern boundary with the majority of principal points of access fronting Green Lane. The main visitor access to the senior school is situated at the junction of Eastbury Road and Carew Road.

The other 3 boundaries are surrounded by typical and relatively quiet North London residential areas with tree lined roads and substantial properties set back from the road. Refer to figure 5 for a description of the character of the Northwood Frithwood Conservations Area.

Figures 3, 6 and 7 provide an analysis of the site including the current organisation, pedestrian and vehicular access, external site environs, existing shortcomings and key qualities.

The site is well maintained and has generous and pleasant character with a significant number of mature trees some of which are protected – refer to Appendix 1. It slopes relatively gently from north to south and the long views within the site enhance the sense of openness and help to create an expansive feel. The various meandering paths contribute to its relaxed and informal feel together with the various open undesignated grassed areas.

The Headmistress notes that *'We are proud of our open and attractive site and I would like any buildings to enhance this and to provide access to it.'*

The site sits within the Northwood Frithwood Conservation Area (CA), the boundaries of which include the fringes of three of the site's boundaries (western, northern and eastern), including a number but not all of the existing buildings – refer Figure 6 for details. There is however, a significant area at the centre of the site which is excluded from the CA.

2.2 Trees

Refer to Appendix 1 for the Arboricultural Schedule, Impact Assessment and Method Statements prepared by MJC Tree Services

The proposed development requires the removal of several trees of varying grades from 'A' to 'U'. These trees are internal to the site and of limited public visual amenity value. The trees to be removed to facilitate the development of the Junior School range in size and category with two holding TPO status and ten in the conservation area. However, the proposals provide the opportunity to retain the small leafed lime in the centre of the western courtyard and mature oaks to the north which will form the boundary to the school playground. A substantial number of new trees are proposed across the whole school site, not just the Junior School, to enhance and maintain the school's strong parkland style landscape long into the future.

The loss of existing trees will be mitigated by the planting of a substantial number of new trees (see the landscape proposals drawing C532_PL_001 and Appendix 8.). The tree strategy seeks to enhance and integrate the built form into the parkland setting that is St. Helen's School grounds. The trees will be used to provide a structure to the different areas around the Junior School, from demarcating the routes through to defining the playground spaces. Many of the trees are varieties

of natives, cultivated specifically for planting amongst built form with narrower crowns than their native forms. The grouping of trees provide character to the spaces, woodland-style planting within the playground, orchard-style around the wildlife area and ornamental to the arrival spaces. Varieties to include: hornbeam, oaks, magnolias, liquid ambers, scots pine, rowan, field maple and cherries.

2.3 Ecology

A Phase 1 Habitat Survey was undertaken by Arbtech in June 2014 (Refer to Appendix 4 for details) the conclusions and recommendations of which are summarised below.

- Amphibians: There are two ponds outside the application site in which there was a moderate potential for the presence of amphibians and poor or below average rating for Great Crested Newts. Hence it is unlikely GCN's are using these ponds.
- Badgers: No badgers were found on site, although some may occasionally visit the site.
- Bats: There was moderate potential for bats in the area of Mackenzie and Claremont (i.e. outside the application site) but none were noted during the survey. None of the trees that are to be removed have any features suitable for roosting bats.
- Barn Owls: There are no foraging areas for barn owls, or suitable buildings or trees for their nesting.
- Nesting birds: Several nests were observed on site in trees and buildings and these areas could be used again for nesting in the future.
- Other terrestrial mammals: No suitable habitat or evidence of mammals was found.
- Reptiles: Some moderate potential was noted for reptiles in areas of long grass and a compost heap outside the application site.

Based on the evidence, the Ecologist recommends the following in relations to further surveys before development work commences:

- Habitats: No further surveys recommended.
- Amphibians: Bottle trap surveys in the area around the pond by Mackenzie for Great Crested Newts which although unlikely to be found may be present.
- Badgers: No further surveys required.
- Bats: No further surveys are required in relation to the application site, but trees within the application site should be checked before development commences.
- Barn Owl: No further surveys required.
- Nesting birds: Tree removal to be scheduled outside the nesting season, and any nesting lost replaced.
- Other terrestrial mammals: No further surveys required.
- Reptiles: No further surveys required unless areas of long grass need to be removed.



2.4 Flood Risk

Refer to Environment Agency Flood Map below and to the detailed Flood Risk Assessment prepared by Elliot Wood Consulting Engineers see Appendix 9.

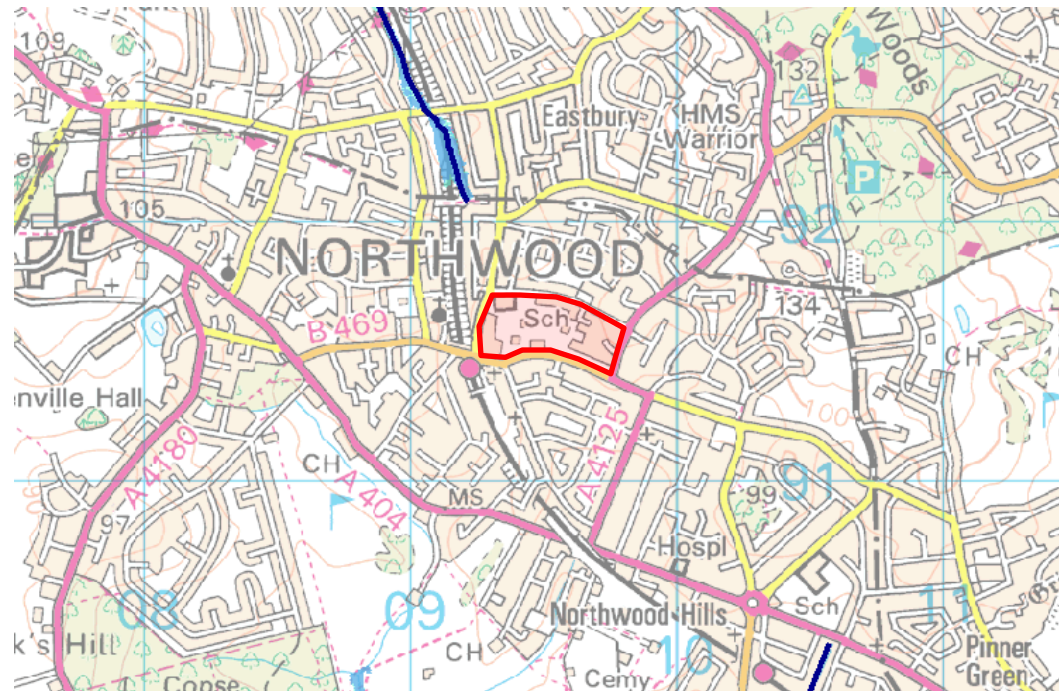


Figure A Abstract from Environment Agency Flood Map

2.5 Ground Conditions :

A ground investigation within the development zone is due to be carried out during the 2014 summer break to confirm the soil and groundwater conditions. The current understanding of the ground conditions on site is based on a previous ground investigation undertaken in the location of the sports hall to the south west of the development site.

The ground investigation results revealed the site to be underlain by 1.2-2m of made ground consisting of sandy gravelly clay with brick and flint. The made ground is underlain by London Clay to 19m below ground. Below this is the Reading Formation consisting of silt and clay to depth. Testing carried out on the London Clay identified that it has very high shrinkage/heave potential. Groundwater levels were recorded at 0.3m and 1.7m below ground level indicating that the water table is perched on top of the London Clay.

2.6 Pedestrian and Vehicular Traffic and Access

The existing arrangements for pedestrian and vehicle access and egress are indicated on Figure 7. The main school arrival entrances for both the senior and lower schools is from Green Lane. There are separate access points for the main school and Little St Helens visitor entrance in the top NW corner via Eastbury Road.

The site is characterised by numerous entrances around the boundary, creating some ambiguity for those unfamiliar with the site.

Parking for staff is distributed around the perimeter as indicated on Figure 7.

Whilst having a somewhat dispersed arrangement which, at first sight, may not be an ideal arrangement for parking and vehicle access, it does, however, effectively reduce the concentration of a large number of vehicles in one place which for the character of this site has benefits in terms of its character.

The pedestrian circulation from the visitors parking area to the school buildings is not well defined - encouraging parents to drop-off pupils outside the school buildings rather than to park up.

In terms of the School's current travel strategy refer to Appendix 5 for updated School Travel Plan dated 2010.

3.0 Planning Considerations

3.1 Planning Context

As already noted the site is located partly within the Green Lane Conservation Area and the planning policies in relation to the CA have therefore, been a major consideration in the development of the design proposals.

Planning history in relation to the site includes:

- Sports Hall – approved and constructed dated 2002-05.
- Tennis Dome – approved Feb 2014
- Boundary works to Green Lane – Approved Feb 2014.

3.2 Relevant Planning Policies

Based on its location within the Northwood Frithwood Conservation Area Local Plan (2012) the following planning policies have to be taken into account:

Policy BE4 states that: "New development within or on the fringes of conservation areas will be expected to preserve or enhance those features which contribute to their special architectural"



and visual qualities; development should avoid the demolition or loss of such features. There will be a presumption in favour of retaining buildings which make a positive contribution to the character or appearance of a conservation area. Applications for planning permission should contain full details, including siting and design, or replacement buildings. Applications for consent for demolition will depend upon the submission and approval of such details."

The central siting of the building, the low partially earth sheltered form and scale together with the proposed materials have sought to take account of the sensitive character of the conservation area, and of the need to be considerate of the impact on adjoining properties

Strategic Objectives

SO1: Conserve and enhance the borough's heritage and their settings by ensuring new development, including changes to the public realm, are of high quality design, appropriate to the significance of the heritage asset, and seek to maintain and enhance the contribution of built, landscaped and buried heritage to London's environmental quality, cultural identity and economy as part of managing London's ability to accommodate change and regeneration.

The proposals seek to enhance the public realm and to provide a high quality building and external spaces which will positively contribute to the quality of the immediate area. Views into the site will be improved and enhanced.

SO8: Protect and enhance biodiversity to support the necessary changes to adapt to climate change. Where possible, encourage the development of wildlife corridors.

Through the various landscape proposals including intensive roofs to buildings the proposals seek to significantly improve the bio-diversity of the central section of the school site. These proposals are also part of a longer term development strategy the aim of which is to enhance the landscape quality of the entire school site.

The Council will ensure that climate change mitigation is addressed at every stage of the development process by:

- 1. Prioritising higher density development in urban and town centres that are well served by sustainable forms of transport.*
- 2. Promoting a modal shift away from private car use.....*
- 3. Ensuring development meets the highest possible design standards whilst still retaining competitiveness within the market.*
- 4. Working with developers of major schemes to identify the opportunities to help provide efficiency initiatives that can benefit the existing building stock.*
- 5. Promoting the use of decentralised energy within large scale development whilst improving local air quality levels.*
- 6. Targeting areas with high carbon emissions for additional reductions through low carbon strategies. These strategies will also have an objective to minimise other pollutants that impact on local air quality. Targeting areas of poor air quality for additional emissions reductions.*
- 7. Encouraging sustainable techniques to land remediation to reduce the need to transport waste to landfill. In particular developers should consider bio-remediation (39) as part of their proposals.*
- 8. Encouraging the installation of renewable energy for all new development in meeting the carbon reduction targets savings set out in the London Plan. Identify opportunities for new sources of electricity generation including anaerobic digestion, hydro-electricity and a greater use of waste as a resource.*
- 9. Promoting new development to contribute to the upgrading of existing housing stock where appropriate. The Borough will ensure that climate change adaptation is addressed at every stage of the development process by:*
- 10. Locating and designing development to minimise the probability and impacts of flooding.*

11. Requiring major development proposals to consider the whole water cycle impact which includes flood risk management, foul and surface water drainage and water consumption.

12. Giving preference to development of previously developed land to avoid the loss of further green areas.³⁹ Bioremediation can be defined as any process that uses microorganisms or their enzymes to return the environment altered by contaminants to its original condition. Source: http://www.bionewsonline.com/w/what_is_bioremediation.htm London Borough of Hillingdon 88 Hillingdon Local Plan: Part 1 - Strategic Policies (Adopted November 2012) 8 Core Policies - Environmental Improvement

13. Promoting the use of living walls and roofs, alongside sustainable forms of drainage to manage surface water run-off and increase the amount of carbon sinks (40).

14. Promoting the inclusion of passive design (41) measures to reduce the impacts of urban heat effects.

As far as practical the proposals seek to address all of the above policies through a rigorous approach to sustainability (refer to section 5.17 and to the Statement from Consultants CPW for details). The proposals aim to meet or exceed the requirements of the London Mayoral Plan, adopting a balanced approach which through the ongoing development of the site will improve the energy performance / sustainability of the wider estate as well as focussing on the new Junior School. The sustainability proposals for this application have been developed in consultation with Hillingdon's sustainability officer.

4.0 Development Approach

4.1 The Client's Vision

The School is seeking an inspirational and innovative new Junior School which relates well to and is integrated with the landscape and which enhances the character of the site. Through the development of the strategic Master Plan the School is also seeking to improve other organisational and operational aspects of the wider site.

4.2 Development Constraints refer to Figures 6-8:

The principal development constraints which have been considered in the development of the proposals:

- The boundaries of the Northwood Frithwood Conservations Area.
- The existing historic pattern of development.
- Vehicle and pedestrian access and circulation.
- Surrounding environs including residential to the north and east and commercial/retail to the west and south.
- Existing landscape and protected trees.
- Relationships to other key zones within the school – refer to Fig 19 for preferred relationships.

4.3 Site Development Option Appraisal

The brief calls for a radical and inspirational solution for which a contemporary and innovative new-build solution is the School's preferred approach. Refer to section



4.4 for the Development Objective and to Figure 11 for a diagrammatic representation of the School's brief requirements.

This approach is based on an analysis of the site using the 'Target Brief' area of approximately 2100sqm of accommodation (at say 2 storeys for both economy and to minimise the footprint see Figure 11) and the exploration of five development options. It was this study which informed the selection of the proposed site for the new Junior School.

Option 1: (Fig 14) Mindful that the School is seeking an inspirational new facility; adaption of the existing buildings is not considered an appropriate option. The quality of accommodation and relationship to external spaces would inevitably be compromised, and the creation of a defined domain for the Junior School would be virtually impossible. Undertaking construction work at the heart of the site with difficult site access and the potentially severe and disruptive impact on the operation of the existing School, alongside the need for temporary accommodation was considered unacceptable. For these reasons Option 1 was not considered viable.

Option 2: (Fig 15) A new build facility might just have been possible on the site of Lund and the existing temporaries. This area is however, already relatively crowded and so for some of the same factors relating to Option 1, together with the need to create space for future development and not to crowd this corner of the site Option 2 was also not considered viable.

Option 3: (Fig 16) A part new build extension to and remodelling of Mackenzie might have been possible to provide the accommodation required. Again relationships to the external areas would be restricted and this being the lower section of the site, would lead to a somewhat hidden development - not the opportunity for an inspirational new facility that the School is seeking. Hence this Option was not considered appropriate.

Option 4: (Fig 17) An entirely new build option in the top NE corner of the site might just be possible, but access would be difficult and the impact on the properties on Carew Road was considered unacceptable. This would also tend to create a somewhat isolated new facility distanced from the main hub of the school and not well related to the other lower school buildings. Compared to Option 5 therefore this option was considered less satisfactory.

Option 5: (Fig 18) This provides a wholly new-build facility at the heart of the school and for the following reasons this was considered the most appropriate location for the new Junior School:

- Could be constructed with limited impact on existing school.
- Only partially within conservation area.
- Some but limited adverse impact on existing trees, some of which have TPO's.
- Potentially well connected to other lower and upper school areas – an ideal transition focus. Refer to Figure 19 for strategic relationship diagram.
- Good opportunities to create a prominent new entrance with good vehicle access for drop off.
- Makes good use of an existing underused area of site.

- Excellent opportunities to integrate new facilities into the landscape and to create an inspirational, state of the art, KS2 facilities with generous and well related external areas.

NB

- Some reconfiguration of the existing Nursery Play area is required which will also be able to improve the existing poor relationship between internal and external spaces.
- Development on either of the two existing pitches was ruled out due to the potential loss / compromising of outdoor playing fields and sports facilities which would not be supported by the Planning Authority Sport England and therefore were not developed further.
- An assessment of the grassed area to the east of the central parking area was also undertaken with regard to loss of possible grass pitches in excess of 0.2Ha as defined by The Town and Country Planning (General Development Procedure) (Amendment) Order 2009. This defines a playing field as *"the whole of a site which encompasses at least one playing pitch."* and *"a delineated area which, together with any run-off area, is 0.2 hectares or more, and which is used for association football, American football, rugby, cricket, hockey, lacrosse, rounders, baseball, softball, Australian football, Gaelic football, shinty, hurling, polo or cycle polo."*

Schedule 5 of the Town and Country Planning (Development Management Procedure) Order 2010 states that the Local Planning Authority is only required to consult Sport England on land which has been used as a playing field at any time in the past 5 years. An aerial photos taken from the Council's GIS system shows that a rounders pitch was marked out in this location in 2012.

The area in question is illustrated on Figure B below. Taking account of the tree spread and ground levels which fall off significantly to the west, the usable area is approx. 55m x 30m i.e. 0.165Ha which falls well below the areas defined in the order.



Figure B Abstract from Aerial Photo showing activity area



4.4 Development Objectives

Based on the Client's brief and of the site including the above Option Appraisal, the proposals for the new Junior School have been based on key relationships illustrated on Figure 19 and the following development objectives:

- Create clear identity for Junior School with its own separate entrance and convenient drop-off access.
- Integrate the new building with the landscape – using the concept of 'fingers into the landscape' with intensive green roofs and open courts – refer to figure 12 for a mood board reflecting the feel of the proposed concept.
- Keep the organisation and layout clear, simple and intelligible.
- Enhance and consolidate links between the three Lower School buildings and between the Senior and Junior School domains.
- Minimise the impact on the surrounding properties.
- Create a new shared social PLAZA and Focus at the heart of the site.
- Generally improve the landscape layout at heart of site which currently lacks coherence, as well as improvements to traffic movement.

Figure 19 illustrates the key relationship being sought between the Junior School and the other lower school buildings and the senior school. It represents a logical journey from foundation stage through to sixth form, and ensures that there is adequate accessible external space surrounding the new Junior School.

5.0 Design and Access Statement

5.1 Introduction

The following 'Design and Access Statement' generally follows the original CABE guidelines for D&A Statements, incorporated as part of this more comprehensive Planning Statement.

5.2 Scope of Proposed Development Works

This application includes the following scope of works:

- A new part single and part two storey junior school.
- Associated hard and soft external landscaping including reconfigured car parking and improved vehicle drop off.

5.3 Use

The new accommodation will provide contemporary teaching and support facilities within an entirely stand-alone Junior School for around 264 Key Stage 2 pupils from years 3-6 (i.e. ages 7-11). This replaces existing unsuitable accommodation which is approximately 1,540m² (260 m² temporaries + 680m²

Mackenzie + 600 m² Claremont) and which will be either removed or adapted for other purposes. No increase in overall pupil numbers is proposed.

In addition to the pupils there are approximately 30 core Junior School staff, including teaching and non-teaching staff, who work alongside others from the main school who provide specialist teaching and general support.

No increase in either pupil or staff numbers beyond the existing is envisaged.

Normal hours of operation for the new school will be from 7.00am through to 10.00pm Monday – Friday, 8.00 – 9.00pm Saturday and 10.00am – 6.00pm Sunday. This follows the pattern of operation for the rest of the school site of which the new Junior school is an integral part.

5.4 Amount

The total gross external area of the new Junior School is **2230m²** with **1559m²** at ground floor and **671m²** at first floor.

There are no existing buildings on the application site to be demolished and so the net gain in floor area = **2230 m²**. The proposals will however result in the removal of the two temporary classrooms north of Lund with an area of **260m²**.

The new Junior School includes the accommodation illustrated in the diagrammatic illustrated in brief Figure 11.

5.5 Master Plan Layout and Design

Introduction - Based on an analysis of the existing site, its shortcomings and assets, together with the anticipated scope of future requirements, Figure 20 illustrates the School's current strategic approach to the future development of the site.

Approval for this Master Plan is not being sought but it has been included as part of this Supporting Statement for information and to evidence that the proposed location and design of the new Junior School has been guided by a broader strategic consideration of the overall site.

As the Master Plan is a strategic document, there are some areas of detail which differ from the submitted proposals for the Junior School. The overall principles however, remain relevant.

Organisation – The Master Plan is based on the Junior School Development Option 5 which locates a new-build facility at the heart of the site, creating the potential for a positive link between the Foundation Stage, Infants and Junior domains and also between the Junior and Senior domains. This places the KS2 areas at the focal point of the site reflecting the midway stage in a girl's school journey, still part of the Lower School but aspiring to and looking towards the next stage as a senior pupil. It also places the new Junior School close to the main drop-off/collection route with the opportunity for its own secure and separate main entrance, currently lacking. Refer figure 19.



This site strategy locates the new Junior School in a prominent and visible position and allows ample secure external space surrounding it. It also allows the new facility to be built without disrupting the existing Junior school which can simply relocate once the new building is completed.

Central plaza - With the rationalisation of the central tennis courts it is possible to create a positive central Plaza for both the Junior and Senior girls, onto which the new Junior school would face. This will provide a valuable additional social area, meeting the requirement for additional good quality and varied informal external spaces as well as provision for ad-hoc overspill parking for special events.

Infrastructure rationalisation – As part of the proposals some rationalisation and reconfiguration of the central car parking and vehicle access is required to ensure appropriate control and security measures in relation to safeguarding.

The proposals include:

- New entrance forecourt in the semi-public domain and not within the secure school site allowing visitors to safely enter the new school.
- New visitors' parking in the semi-public domain and not within the secure school site.
- New drop off and reconfigured central area to achieve a rational layout with a more effective drop-off via Green Lane and improved coach parking.
- Retention of a managed traffic through route between Green Lane and Carew Road, which will only be required if Green Lane is congested.
- This arrangement should significantly reduce the traffic impact on Carew Road when Green Lane is not congested.

Sports - The sports facilities become a continuation of the specialist areas, adjacent to the main public access, well connected to the main field areas and with easy access from both the lower and senior Schools. Consideration was given to the use of both of the existing sports pitches, but there were no real benefits in terms of the overall site strategy and this would also potentially disrupt the existing direct relationship between the sports centre and the field areas. As already noted development in these areas would also not be acceptable to either the LPA or Sport England.

Nursery play - Some reconfiguration of the existing nursery play area is required although no internal alterations are proposed.

Future development opportunities - Once the Junior School has vacated its existing accommodation this becomes available for alternative uses either as remodelled existing buildings or as development sites for new buildings.

The latest long term Master Plan in Figure 20 proposes the following future developments. Figures 24 and 25 also illustrate the School's current aspirations in terms of future development packages, with the Junior School falling in Package P1.2.

- Existing Junior School temporary classrooms to be removed to create another open courtyard giving views across the site from the specialist science / music areas at the rear.
- Remodelling of the main visitor's entrance approach from Eastbury Road to include new repositioned entrance lobby, creation of new enlarged foyer and

reception area, reconfigured administrative offices together with rationalised circulation with lift access to first floor.

- Extension and remodelling to dining areas including improved circulation around the main courtyard.
- Improved and upgraded accommodation within the main senior School to improve staff and other support facilities and to provide additional teaching areas once the existing administrative and sixth form areas have been vacated.
- Consolidation and extension of specialist areas within the western section of site including a two storey extension to Science to create new sixth form labs and the remodelling of Lund as an extension to the music department including additional music practice facilities.
- Insertion of new-build link between Claremont and Mackenzie providing new lift and stairs to allow full accessibility to the existing buildings and providing a separate entrance for sixth form students from Green Lane.
- Adaptation / remodelling of both Claremont and Mackenzie to provide a replacement and consolidated sixth form study and common room centre in Claremont with 'St Helens' Futures' (careers and training links) plus support areas in Mackenzie.
- Extension to sports hall to create additional changing facilities to replace the current changing areas in the main building; together with squash courts and a new pupil entrance.
- Creation of new Library/Learning Resource Centre using the area of the vacated changing rooms as part 2 storey new build and part conversion. Existing library above the main hall to be used for public examinations.
- Gwyer to be converted to breakfast and after school club base, together with some staff accommodation.
- Longworth to be converted to on-site staff accommodation to assist with recruitment and retention of staff.

5.6 Junior School Layout and Design– Refer to IID Drawings

Building concept – Several possible building forms were explored for the new Junior School development and from these the option selected as best meeting the design objectives was the concept of fingers into the landscape Figure 26. This is part single and part two storey with the landscape taken up and over the roof of the single storey elements. This achieves a balance of building volume and form which will minimise the adverse visual impact on the open landscape in this area of the site. The extended fingers create open rather than closed courtyards connecting the building into the broader landscape and defining the Junior domain.

Layout and Organisation – The form is intentionally simple and straightforward to read. The single storey elements contain the shared and specialist areas with the main classroom bases located in the central two storey element – Years 3 and 4 at GF and years 5 and 6 at FF. The gentle curve of the layout connects the new Junior School with the Little St Helen's (Nursery and Infants) and endeavours to reflect the relaxed character of the site.

Building form – This is a mixture of single and 2 storey elements, with the landscape running up and over the single storey intensively planted roofs. The 2 storey



element is a single ply membrane roof with an array of photo voltaic cells, with a long tapering glazing slot providing light and ventilation to the central areas below. The perimeter form seeks to provide a sweeping and elegant overhang which should also help to create a welcoming and sheltered building edge.

Main Entrance / approach – The new Junior School has its own separate entrance at the end of the main link circulation with dual access from within the site for staff and students and from the secure and controlled access from the adjacent public approach for visitors. This will be a prominent feature entrance with a peeled up roof which is intended to register positively from both the existing main School and from the public approach. As a new landscape-rich building at the heart of the site with significantly improved landscaped surroundings this should provide the visible new and contemporary development to which the school is aspiring. It should also improve the broader public domain.

Internal circulation – The internal circulation is a simple inverted 'T' shape, with 2m width east / west routes at GF looking out into the courtyards, with generous 5m breakout areas running north/south between classrooms at each floor level.

Access between floors is via stairs and platform lift at the heart with a covered external stairs at the far end providing direct access to the external areas for the first floor classes. This arrangement affords a variety of alternative routes between floors and between class bases and the hall which helps to alleviate congestion. The internal lift will also give access to the external roof terraces.

Front of house areas – In conjunction with the Junior Head and administrative support, as far as possible, accommodation which might be shared by others has been located close to the entrance. This includes:

- Music room – for rehearsal and small performance and acoustically separated from the other areas.
- Library and Resource area giving a positive impact on arrival and easily accessible to Foundation stage pupils if required.
- Main hall close to class bases and front of house meeting requirements for performances as well as regular class assemblies. The hall is proportioned to allow easy sub-division using a sliding acoustic screen with separate entrances to each section and direct access to paved external areas from each.

Class base areas – The class bases as illustrated are based on a notional 58 m² overall area allowing the specified 53m² for the basic class base plus 5 m² for coats and general storage. At this stage coats storage has been allowed for on the basis of individual lockers within each class room and class storage is provided in each class base with bespoke storage walls with integral projection.

Specialist areas – Science is located at ground floor with easy external access to outdoor environmental learning areas – e.g. pond and environmental areas.

Drama is linked to the main hall with shared storage allowing this also to be used for backstage facilities when needed.

Art and D&T are located at first floor opposite each other close to years 5 and 6, each with external access to a roof terraces for external project work.

Music is separate in the western wing for acoustic reasons.

Storage – Storage is allowed for within each individual teaching area both general and specialist, with central stock storage at ground floor together substantial external equipment store

Staff and support areas – Offices are provided for the Head of the Junior School, together with admin support adjacent to the main entrance, with learning support nearby and other offices for senior teachers close to the heart of the building to assist with general supervision.

A central staff room for social use and limited working and including a small kitchenette is provided at ground floor overlooking the eastern courtyard.

Staff toilets are distributed around the accommodation together with a staff shower and toilets adjacent to the staff room.

Toilets and welfare facilities – Pupils' toilets are provided at both levels at the heart of the building serving the main class bases with external access to the ground floor toilets for play area use.

A hygiene room for pupils requiring physical support is provided at the heart of the School with additional accessible toilets for staff and visitors near the front entrance.

Catering : The Junior School will use the main school dining area and hence there are no kitchen facilities included as part of the proposals. Only limited tea prep facilities for staff and students are proposed.

5.7 Building materials

- **Roof:** Single ply flat roof to the two storey section and intensive landscaped roofs to the single storey sections.
- **Fascias and Soffits:** Patinated standing seam zinc parapets and fascias with cedar or larch boarded soffits.
- **Brise Soleil :** Colour coated proprietary aluminium.
- **Rainwater goods:** All concealed.
- **Windows and External Doors:** High performance combination timber and aluminium faced windows and external doors with some elements of aluminium curtain walling to the double height end screen to the end walls of the central section.
- **External Wall Facing Materials :**
Single storey wings – Soft red mixed stock brick with natural mortar and semi recessed joints.
Two Storey central section – Terra cotta rain-screen cladding

5.8 Landscaping – Refer to PLACE D&P Dwg 532 PL001 & Landscape Strategy Report Appendix 8.



Introduction:

Based on an analysis of the existing site, its constraints and assets, together with the anticipated scope of future requirements, the Landscape Master plan (refer to Place D+P's Landscape Strategy) sympathetically situates the new Junior School into the landscape and illustrates the design intention for the creation of: a multiuse Plaza Area, Learning Courtyards (with surrounding mounded play area and roof access), new Little St Helen's and the Gables' play area, an outdoor classroom, amended parking areas and ecologically-driven areas (such as the wildlife garden and pond and intensive and extensive roofs).

Proposals:

The **Learning Courtyards** will be predominately hard communal areas for gathering, socialising and informal lessons and play. Moveable seating will be provided for staff to arrange for specific activities. The existing mature trees (including lime and poplar trees) with proposed groundcover planting beneath will provide shade and vertical accents. Landform elements of turf mounds and valley pathways punctuated by existing and new tree planting provide a landscape of adventure and fun to the north of the proposed Junior School building. This aims to complement the roof forms of the proposed building and help the building to nestle into the existing site.

The existing **Little St Helen's Nursery play area** is to be relocated from its present position to the east of the Little St Helen's building to enable the construction of the new Junior School. Play equipment to be refurbished and relocated or replaced where necessary, in accordance with EN:1176 (play equipment) and EN:1177 (safety surfacing). A Registered Play Inspector will carry out a Post-installation Safety Inspection to ensure the works have been carried out to best practice. The woodland inspired design of the new area shall concentrate on the following: adventure; exploration; learning through play; and safety.

An area adjacent to the new Junior School Building forms an occasional **outdoor classroom** for use at warmer times of the year. The space is linked to the proposed new building by a short pathway. The seating and surfacing to be confirmed by school (there is potential to reuse timber from removed trees to form stump seats). A canopy above the space shall provide shade and protection from light rainfall. Existing and additional tree planting is used to form a backdrop to the space and anchor the area into the landscape. This area could be linked to the adjacent wildlife pond, providing an outdoor setting within which to continue learning about wildlife.

Soft Landscape Design :

The tree strategy seeks to enhance and integrate the built form into the parkland setting that is St Helen's School grounds. The trees will be used to provide a structure to the different areas around the Junior School, from demarcating the routes through to defining the playground spaces. Many of the trees are varieties of natives, cultivated specifically for planting amongst built form with narrower crowns than their native forms.

The grouping of trees provide character to the spaces, woodland style planting within the playground, orchard style around the wildlife area, replacing new for old

and ornamental to the arrival spaces. (Varieties include: Hornbeam, oaks, magnolias, liquid ambers, scots pine, rowan, field maple and cherries).

The roof gardens will be planted with species which are naturally drought tolerant and aim to create an experiential journey through indicative 'biomes' such as the temperate seasonal forest (with species such as Liriope) and Temperate Grass and Shrubland (with species such as Stipa tenuissima) on the Intensive Roofs while the Montane Grasslands (with species such as Sedum acre and Carex montana) will feature on part of the Intensive Roofs and all of the Extensive Roofs. The roofs will be secured by a planted green screen (ivy) which will maintain a secure boundary around the roofs' path network.

At ground level the planted areas surrounding the building, further nestling the building into the surrounding landscape, will be low maintenance shrubs and perennials giving seasonal interest with minimal needs, these species will include native species such as Cornus and dense groundcovers (for weed control) such as variations of Vinca.

Hard Landscape Design:

The paving materials selected for this site were chosen to best match the site's existing materials and the new Junior School's interior and exterior finishes. At the entrance plaza, stone setts will be used to announce the building's entrance, adjacent to this a Breedon Gravel footpath connects pedestrians both to the car park drop off area as well as circulating traffic to the eastern side of the building, the wildlife pond and garden, the outdoor classroom as well as the Little Juniors and Gables buildings. Both the plaza and the Junior School's Learning Courtyard's area (including rooftop access) will be set in resin bound gravel. The resin bound gravel's porous surface will allow for sustainable drainage.

The children's play area, in between the Little Juniors and the Gables, will feature a macadam path for scooter play on its outer edges while inside a rubber play surface will facilitate more physical play and interaction with the play equipment.

The furniture for this site has been selected in accordance with EN: 1176 (play equipment) and EN1177 (safety surfacing). The equipment includes woodland style elements such as boulders, stools made from tree stumps, tunnels, trim trails and a sand pit. Elsewhere, furniture includes colourful, modular cube seating in the Learning Courtyards. Their modular quality allows them to have multiple configurations and therefore cater for a number of different types of informal events. The outdoor classroom will potentially feature seats made from the tree stumps from the site's felled trees.

Appearance and Scale:

Along the Junior School's northern elevation, the existing mature lime tree, located on the western side of the Learning Courtyards between the building's fingers, together with the surrounding mature trees at the courtyard's northern edge will help frame the new Junior School. These trees, which include birch, lime and poplars, range in approximate height from 10 – 20 meters, offering the surrounding first and second-storey classrooms' views of their mature canopies. The existing and newly planted trees' vertical trunks rhythmic quality will simulate the Junior School's



window frames. They will also provide a shaded understory within which the children can play with the relocated trim trail. Mounded landscapes under these tree canopies will envelope the Junior School's Learning Courtyards, containing sound and activity whilst providing a playful area on which children can play. These mounded forms, together with the mature and new tree canopies, will help situate the new Junior School within its mature-tree setting, whilst the land forming will allow the new building to seemingly extend out from surrounding landscape.

Along the buildings southern facade, mature trees, such as ash, lime and horse chestnut trees, ranging in size from 15-20 meters high, will equally frame the one- and two-storey Junior School. These mature canopies will provide shade to a large area of the new building whilst offering green-canopied views from the new classrooms. Additional tree planting along the Entrance Plaza and drop off area will extend this tree-lined facade, reaffirming the site's setting within mature-tree location in the Northwood Conservation Area. The mature trees surrounding the wildlife pond and garden will both offer shade and a naturalistic setting within which to participate in discovery learning. New trees will be planted in the Little Junior's and Gables' play area, enhancing the newly-created woodland play area with a shaded canopy.

5.9 Access (vehicular and pedestrian)

Vehicular and Cycle Access / Parking

- **Main Approach:** The main public approach will be via Green Lane with a gated managed semi-public domain which remain open throughout the School day and for out of school activities. There will be direct secure access to the new main entrance for visitors.
- **Deliveries/Collections:** General deliveries/collections will be via the Green Lane car parking area and to the new main Junior School entrance. Refuse will be collected from the existing central recycling and refuse area with managed access via the new central plaza.
- **Parking:** See below for the comparison between existing and proposed parking provision.

	Existing	Proposed
Visitor / Staff	83	89
Disabled	2	2
Coaches/Minibuses	6	7

Visitor and staff parking has been redistributed and marginally increased.

The existing car parking has been reconfigured to create more rational layout and a drop off zone to avoid the congestion currently caused when coaches are parked. This should result in less traffic impact on Carew Road, with the drive through arrangement only being used when Green Lane is seriously congested.

The central plaza will also be used for coach and mini-bus parking at the beginning and end of the school day and for special school events. But this managed by the school and access to this area for vehicles is gated.

- **Emergency Access:** Access from Green Lane with through access to Carew Road via the new central plaza.
- **Cycles :** Limited cycle provision for both pupils and staff (20 stands) has been provided within the entrance forecourt, within in sight of the main reception area for security As a Junior School however, with pupils generally travelling from a significant distance, cycling provision for pupils has limited value.
- **Construction Traffic:** The proposed contractor's access and working area is indicated on Figure 29. To avoid congestion along Green Lane and to allow the main car park and entrance from Green Lane to be used during contraction work, the contractor's principal access is proposed from Carew Road, with wheelwash facilities being provided at the highway entrance. Access for principal construction traffic will be limited to Monday to Friday between 9.00am and 3.00pm.

Pedestrian Access:

The main pedestrian access to the new Junior School for visitors will be via Green Lane. Otherwise the new facility will be accessed by pupils and staff from within the main secure school domain – refer to Figure 20.

5.10 Inclusive Access

The proposed buildings and the immediate site around them will be fully inclusive and will conform to the statutory requirements set out within the Building Regulations Approved Document Part M and the guidelines set out by the Equality Act 2010. To support this all external access doors will have level thresholds.

All new internal doors will meet the requirements of EA/DDA and Building Regulations Part M in terms of width, weight and operation. Where required to meet EA/DDA and Building Regulations requirements assisted opening will be provided.

The proposed development is part single and part two storey and therefore includes for lift access to ensure that all new facilities are fully accessible for wheelchair users. This will also provide the access required to all of the upper roof terraces.

Accessible toilets are proposed for staff, visitors and pupil use in the new school.

With regards to sensory impairments all new teaching and learning areas will be designed to meet the necessary criteria for users with visual and hearing impairment.

The accommodation and the immediate site environs will be designed to suit those with visual impairment. The building layout is deliberately simple and



intelligible in form and there will be clear way-finding to suit users with sensory impairment. Potential obstructions will be appropriately signalled through the use of colour; and doorways and room entrances will also be appropriately differentiated to ensure an adequate contrast with surrounding surfaces.

The internal spaces will be acoustically designed to suit those with hearing impairments.

Disabled access and short term parking will be possible adjacent to the Main entrance as indicated.

Welfare facilities will be provided to suit wheelchair and other disabled users with a specific hygiene support room.

5.11 Site boundary treatment.

The proposed works are located within the core of the existing school site and no changes to boundary fences and gates of the main site are therefore, proposed. Otherwise the fencing details within the site are indicated on drawing C532_PL_001.

5.12 Ecological Impact

See section 2.3 for the Habitat Survey. The new proposals will include a Wildlife Garden and Pond, both offering children a wildlife discovery and learning area whilst also creating a habitat area that will encourage wildlife, such as amphibians like the Great Crested Newts, to thrive.

A mostly native selection of plants and trees has been chosen for seasonal interest; textural variety; wildlife habitat creation; biodiversity; and edible nature. This selection of vegetation will offer food and shelter to a --host of vertebrates and invertebrates, such as nesting birds, spiders, bees and other insects.

5.13 Noise

Due to the fact that the proposed developments effectively replace existing facilities with no proposed increase in pupil numbers, it is not envisaged that there will be any increase in site noise levels.

5.14 Site Contamination

Historic maps indicate that the site was residential before the existing school. As there is no evidence of historic industrial activity on site, any contamination in the soil is unlikely. The brick and flint in the made ground is likely to be from the previous Victorian properties which were demolished.

Further detailed investigations are being carried out during the summer break 2014 to validate the desk study evidence.

5.15 Heritage

From available evidence there is no indication of any specific heritage value in or adjacent to the site, and the pre-application advice did not refer to any.

5.16 Temporary Facilities

None are required to facilitate the proposed development.

5.17 Sustainability Statement –

Low Energy and Sustainable Design

With the aim to deliver an environmentally responsible development, an exemplar construction approach will be adopted utilising low energy design principles. The aim is to minimise energy demand of the proposed new junior school building through first fabric approach and proficient use of services. It is intended to increase the new building element's energy efficiency by influencing the materials of construction and by delivering passive engineering solutions.

The utilisation of passive measures to deliver energy efficient solutions invariably proves to be the most economical and socially acceptable inclusions on any scheme. As a consequence, the focus of the design at this early stage is to achieve compliance with the conservation of fuel and power requirements of Building Regulations Approved Document Part L by means of good passive design combined with a lean engineering approach. The design has also been focused to ensure compliance with the London Plan, in that the building's Target Emissions Rate (TER) is bettered by 40% - An Outline Energy Assessment for Planning is appended to this Design and Access Statement. The following areas have been targeted to this proposed design philosophy:

1. First Fabric Approach - Improved Building Envelope 'U' Values and Air Permeability
2. Hybrid Ventilation with Heat Recovery
3. Natural Daylighting
4. Passive Cooling via Exposed Thermal Mass
5. Smart Building Management System incorporating Zoning and Metering
6. Photovoltaic (PV) array located on the south facing pitched roof of the new building.

Building Envelope

With regard to the building envelope, the construction standards to be adopted on the proposed primary school building will generally exceed the requirements of the 2013 edition of Part L. The following 'U' Values will be adopted for the new Building Envelope:

Building Element	Part L Limiting Factor (W/m ² .K)	St Helen's Junior School (W/m ² .K)	Betterment (%)
<i>Exposed Wall</i>	0.35	0.21	40
<i>Roof</i>	0.25	0.14	44
<i>Exposed Floor</i>	0.25	0.18	28
<i>Windows Inc. Frames</i>	2.20	1.50	32

A building's air permeability has a direct impact on the energy consumption, as such we will target a 70% betterment of the Part L limiting factor and aim for a figure of 3.0 m³/hr/m² for the proposed development.



Passive Cooling Strategy

A common problem with the design of modern educational facilities is the potential to overheat. The building geometry and façade has been designed to minimise the potential cooling load to allow a passive cooling approach thus maintaining comfortable conditions without the need for energy intensive comfort cooling. The design solutions used to achieve and exceed compliance with BB101 are outlined below:

Thermal Mass

A heavyweight building is able to absorb (or release) heat into the building fabric which helps to reduce the variation in internal temperature as conditions change. On a summer/spring evening, the space will be filled with cool night air which removes the heat built up in the heavyweight building fabric thus 'charging' the thermal mass ahead of the next working day. The typical classroom contains exposed thermal mass in the form of blockwork walls to perimeter and internal corridor and exposed concrete (painted for aesthetics and increased reflectance for daylight). For comparative purpose, the results graph below includes the overheating results both with and without a suspended ceiling.

High Performance Glazing

The glazing specification is critical to achieving a pleasant internal environment. Modern high performance glazing has been selected to minimise the solar transmittance (or heat gains), whilst maximising the natural light transmittance by filtering the varying wavelengths of the sun energy, or electromagnetic radiation.

Hybrid ventilation

The hybrid ventilation strategy has the additional benefit of increasing air movement during the summer months to supplement the natural ventilation openings in removing the heat gains. The hybrid ventilation also facilitates a secure means to 'night purge' without the need for opening windows which may otherwise present a security threat.

Domestic Services Strategy

A new mains cold water supply shall be provided to the building complete with stopcock, mains meter, leak detection metering, sub-circuit/primary consumer metering and isolation at point of building entry.

Domestic hot water shall be generated via point of use water heaters. This method of hot water generation strictly allows for only 'on-demand' hot water generation, which reduces energy consumption associated with long pipework runs and provides resilience and robustness in terms of maintenance services. Domestic hot water for all sanitary ware items shall be distributed in accordance with the relevant BS standards and guidelines to mitigate any risk of legionella growth.

The cold water provision for the school will be directly mains fed, with no element of storage – this approach has been agreed with the Client.

For the inhibition of hard scale formation, an electromagnetic water conditioning unit shall be installed on the cold water incomer. The entire WRAS system shall be WRAS approved and be suitable for potable water.

Water saving measures to be adopted have been considered and detailed within the Rainwater Harvesting Feasibility Report which is appended to this Design and Access statement.

Heating Strategy

All Constant Temperature (CT) pipework shall be insulated throughout in accordance with building regulations. All Variable Temperature (VT) pipework shall be insulated where concealed and insulated within all plant areas.

New LTHW plant shall be provided to service the new building, via new gas condensing boiler plant.

The LPHW heating system shall comprise control facilities for optimum start and weather compensation. Pump sets shall be variable speed type and complete with integral speed controllers and pressure transducers located at suitable locations within the index leg. Pump-sets shall be twin-head type. Self-regulating differential pressure control valves shall be provided on all sub-circuits to avoid disparities in hydraulic pressure from the variable speed circuits. A packaged pressurisation unit shall be provided along with a combined dirt/air separator and other ancillary equipment necessary to make the system operate correctly.

Radiator and radiant panel installations shall comprise of heating circuits (zones) with separate weather compensation to radiator circuits and timed facilities to promote flexibility in out of hours use and operational energy efficiency. Final number of zones shall be dictated by the requirements of good thermal and comfort control of the LPHW system.

The heating system shall be designed for intermittent operation and shall be capable of maintaining the minimum internal design temperatures listed in the area data sheets for the project.

External Lighting Strategy

All external lighting will be in accordance with CIBSE Lighting Guide and BS EN 13201 and BS 5489.

External lighting shall be provided to circulation routes, main entrance, building façade and any external illuminated signs as indicated on the external lighting philosophy drawing enclosed.

As for the rest of the school site beyond the application boundary bollard lighting will be used to defined footpaths and parking area edges, together with lights mounted on the building with controlled spillage characteristics.

The entire external lighting scheme shall provide a uniform and visually attractive environment to emphasise the architectural features of the building but in keeping with the school's needs.



Control of all external lighting shall be via time clock and photocells. A manual override facility shall also be provided.

The external lighting will be designed in accordance with DCSF Building Bulletin 90, covering car parks, sports facilities, walkways and roads, entrances, particular building features and security requirements; incorporates lamps having an efficacy of at least 65 lumens per circuit watt fitted with both time controls and daylight level photocell controls achieve safe environments for people, traffic and the building; minimise light pollution and ensures light levels are kept within the limits as required by BS 5489 and avoid nuisance to the adjacent neighbourhood.

Utility Statement

Gas Service - Existing low pressure gas infrastructure runs along Green Lane, to the south of the school site. A new buried PE low pressure gas supply will be taken from the existing infrastructure within Green Lane to serve the new junior school building. The new supply will terminate within a gas meter house located to the south of the site, before going onto enter the new building via the ground floor plant room.

An application will be made based upon an initial estimate of 200kW gas load to serve boiler plant. The supply will terminate to a suitably sized emergency control valve within the gas meter house.

Water Utility Service

A single new connection will be provided to serve the new junior school building.

The new infrastructure load for the school has been assessed as 2.00 litres/second peak flow rate.

Enquiries have been submitted to the Utility Authority in regard to the dedicated new supply on this basis.

Fire Hydrant

Fire Officer's requirements are yet to be confirmed.

Electric Utility Services

Desktop record information received from Western Power Distribution (WPD) shows infrastructure local to the area of the new development.

A new connection application has been made from which we have received a budget quotation and proposals indicating that a low voltage (LV) supply from the existing low voltage infrastructure in the local area has the available capacity to feed the new junior school. New connection LV cabling route is to be confirmed.

Initial diversified new infrastructure loads have been estimated in the region of 200 kVA; although this figure will need to be re-assessed during the design development stage and as more detail is obtained.

It is anticipated at this stage that no diversion/lowering works are required for WPD infrastructure.

Telecommunications Utility Services - OpenreachBT

openreachBT desktop records show infrastructure local to the proposed new development.

It is anticipated at this stage that no diversion/lowering works are required, as the proposed development is clear of existing infrastructure.

A point of connection will need to be ascertained with openreachBT so that new services containment can be routed through to the development.

Materials

The developments will aim to maximise the use of recycled and reclaimed materials from sustainable sources. And the next stage of detailed design will consider the following:

Including low environmental impact materials.
Prioritising materials that maintain local character and ensure long life.
Maximising locally sourced materials.

Pollution

The development aims to minimise polluting emissions to water, air and soil, and to minimise noise and light pollution. In the proposals the following have been considered:

- **Noise, light and air pollution during construction** – Will be minimised through the use of contractors who are members of the Considerate Contractors Scheme.
- **Light pollution effects in and around developments** – External lighting will be designed in compliance with the ILE Guidance Notes for the Reduction of Obtrusive Light 2005 and in accordance with Outdoor Environment Lighting Guide LG6. The external lighting installation will be designed to the Environmental Zone of Category E2 which is for the Low District Brightness Areas.
- All external lighting will be automatically controlled by photocells and time clocks set to appropriate light levels and operating hours. A manual switch will also be provided for overriding of the photocell and time clock control.
- Wall mounted perimeter luminaires will have limited up-light ratio to reduce the amount of lighting pollution. New pathway luminaires and ground recessed tree up-lights will be fitted with suitable lighting control attachments to limit upward light and reduce glare.
- Required NO2 targets under an Air Quality Management Plan will be met.

Transport



There is **no** proposed increase in pupil and staff numbers as part of the development. The current overall pupil cohort of approx. 1200 for both senior and Junior School will **not** be exceeded.

The School has a Travel Plan which is included in Appendix 5 dated 2009 and updated 2010. Refer also to the footnote below re the School's Green Flag Award.*

Waste and Recycling – refer to the School's recycling policy

The development seeks to minimise waste and maximise re-use and recycling during demolition, construction and after occupation.

Demolition, construction or other reclaimed wastes will be re-used as appropriate.

Waste from new construction materials will be minimised by use of off-site manufacture where possible.

Re-cycled materials will be specified wherever possible for construction – e.g. recycled aggregates.

The waste strategy for the new facility will be an extension of the school existing system with a central recycling and waste storage area (see Landscape drawing C532_PL_001_GA Plan Rev01) plus other distrusted storage and recycling areas. The new Junior School will use the existing central area from which waste will be collected.

The School provides paper recycle bins in all classrooms and offices and actively encourage the staff and students to recycle.

Recyclable materials are taken from the site and dealt with by the Local Authority or by an approved commercial waste disposal operator.

The School has an Eco-Committee run by staff and pupils to ensure the school is sustainable – see Appendix 10.*

Water

The developments aim to conserve water resources, enhance water quality, incorporate water sensitive design and minimise vulnerability to flooding and the following have been considered:

- Minimising vulnerability to current or future flooding – refer to Elliott Wood drawing 213434 SKD01 and to Flood Risk Assessment Appendix 9.
- Incorporating measures to reduce water use, conserve water supply and quality.
- Conserving mains water and minimise discharge of waste water into the main drainage system.
- Minimising discharge of polluted water.

- Enhancing amenity and biodiversity through water sensitive design.
- Applying CIRIA guidance on SUDs where appropriate.

*Footnote **

Last year the School achieved their second Green Flag Award. They did this through raising awareness of Fair trade and listening to the feedback given from the last evaluation. They also obtained the status of a Fair-trade School. The plan included monitoring waste, performing inspiring assemblies and encouraging sustainable transport to school, which Junior School have managed by aiming to walk to school at least once a week. The feedback we received was outstanding and St Helens has been considered as a model school that could be used for a case-study by Eco Schools England.