Design & Access Statement

Spalding Academy – 1FE School Expansion
32094-XX-XX-RP-A-1001



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Contents

1 Introduction 5

1.1 LCC Statement of Need 5
1.2 Statement Overview 6
1.3 Report Content & Structure 6
1.4 The Brief 6

2 Site Analysis 7

2.1 Site Context 7
2.2 Existing Land Use 8
2.3 Local Building Heights & Sun Path 8
2.4 Existing Site Photographs 8
2.5 Existing Landscaping 11
2.6 Existing Vehicular & Pedestrian Movement 11
2.7 Ground Contamination 11
2.8 Flood Risk 12
2.9 Ecology 12
2.10 Arboricultural 12
2.11 Archaeology 12

3 Design 13

3.1 Key Design Principles 13
3.2 Amount 13
3.3 Layout 14
3.4 Scale 17
3.5 Landscaping 17
3.6 Appearance 18
3.7 Drainage 21

4 Access 22

4.1 Vehicle Access 22
4.2 Pedestrian Access 22
4.3 Inclusive Access 23

5 Sustainability 24

5.1 Low Energy & Sustainable Design 24
5.3 Building Envelope 24
5.4 Domestic Services Strategy 24
5.5 Heating Strategy 24
5.6 Ventilation Strategy 24
5.7 Natural Daylight 24
5.8 External Lighting Strategy 24
5.9 End User Policies 24

6 Crime Prevention 25

6.1 Crime Prevention 25
6.2 Access & Movement 25
6.3 Structure 25
6.4 Surveillance 25

7 Site Setup 26

8 Conclusion 27

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1 Introduction

1.1 LCC Statement of Need

Spalding Academy has been identified for additional secondary pupil places in the Spalding area, in order to meet LCC's statutory obligation to ensure sufficient pupil places in the county as demographic pressures from new housing and large cohorts from the primary sector are projected to put pressure on secondary school places over the next few years. The proposal is for an increase in the school's PAN (Published Admission Number) from 270 to 300, which would see an eventual increase in capacity from 1350 to 1500 by September 2027. This would be phased in over the five years, with up to an additional form of entry (30) of pupils being admitted each year until the new capacity is potentially reached. Being able to provide school places locally will reduce the likelihood of pupils having to be transported to alternative schools outside of the local area, therefore reducing traffic, congestion and related air pollution.

The addition of a further eight new classrooms is considered the best way to provide the accommodation required for the increased capacity, and to provide modern, appropriate, teaching facilities to meet the needs of an increasing number of young learners in the local Spalding area. The new classrooms will be provided in a new, standalone two storey block adjacent to the eastern boundary of the Spalding Academy site.

The careful siting of this proposal has been considered so as to not impede on sports pitch areas, or areas which could be utilised for sporting activities, however the school does benefit from a great deal of playing fields and sports grounds. Instead the extension occupies part of the school that is currently underused, having previously been a vocational training area that is now overgrown.

As a result of the expansion it is anticipated that an additional 18 staff will be employed, again over the next five years. This will result in a small increase in the number of cars accessing the site but there is currently ample parking provision for staff and it is not intended to add to this provision as part of this project.

If the planning application is approved, it is intended that building of the new classroom block would commence in summer 2021, with a build time of around ten months expected, for delivery of the new block in time for the start of the school year in Sept 2022.

This will not impact on the proposed music block and changing rooms that are being planned by the school as self-funded extensions.

As there will be an increase in the number of pupils accessing the site by the end of the expansion, it is possible that additional cycle shelters may be installed as part of this project. The size and location of these facilities will be discussed with the school prior to the project starting on site and could be subject of a planning condition on grant of permission.

1.2 Statement Overview

This statement is part of an application for full planning permission for the construction of a new two storey 8 classroom building on the existing campus at Spalding Academy. The building will provide additional teaching space to supplement and complement provision within the existing teaching blocks and forms part of the strategy to provide an additional 150 places at the school by 2027.

1.3 Report Content & Structure

This document contains a summary of the site context, history and analysis of the surrounding area. It will also provide a rationale of the design principles and explain the steps taken in order to reach an agreed solution. This is in accordance with the requirements of the planning application processes, which were introduced by the Government in May 2006. These are set out in the circular "Guidance on changes to the development control system", effective from 10th August 2006, and are explained further in the publication "Design and Access Statements – How to write, read and use them" (2006).

The statement is structured as follows:

- Section 1 is an introduction outlining the project brief and background information
- Section 2 is an evaluation of the site context, outlining existing and previous uses
- Section 3 is an evaluation of the key design principles and explains the design rationale
- Section 4 outlines the vehicular and pedestrian access to and around the site
- Section 5 outlines the sustainability principles of the design
- Section 6 explains the crime prevention measures incorporated in the design
- Section 7 summarises the proposed construction site setup and access
- Section 8 concludes the report
- Section 9 displays reference to appendices

This document should be read in conjunction with the accompanying submission package including all drawings, reports and the application form.

1.4 The Brief

Lincolnshire County Council Corporate Property Team appointed Kier Design and Business Services to undertake a feasibility report and develop proposals to provide an additional standalone 8-classroom teaching facility on the existing school site.

The aim is for the school development to start on site in the summer of 2021. The proposal will incorporate as far as possible all of the accommodation in order to comply with Building Bulletin 103 and statutory requirements. The full accommodation schedule is listed within section 3.6. This application covers the building of a new school building, including landscaping works, site access and all associated services.

The design incorporates appropriate security measures which include lighting and a CCTV security system.

2 Site Analysis

2.1 Site Context

The school site is situated at the end of Neville Avenue, a residential street located off Halmer Gate close to Spalding town centre. Halmer Gardens (also a residential street which runs parallel to Neville Avenue) is designated as the exit route from the school when utilising the school's one way system.

The school site runs down as far as Matmore Gate and Birch Grove to the south east of the playing fields. The A16 is located to the east of the school campus. The adjacent site to the east of Spalding Academy is occupied by Spalding Priory SEND School. Spalding High School is also located nearby on Stonegate.



Aerial Site Plan—Imagery©2019CNES/Airbus, Getmapping plc (Google Maps)

2.2 Existing Land Use

The site is fully occupied by the school, with on-site parking to the north east corner, accessed via Neville Avenue. Hard play areas are located throughout the site including the north east corner adjacent to the carpark, central playground areas and also the basketball courts adjacent to the proposed building location. Playing fields including marked sports pitches are located to the south of the site. The school accommodation consists of a number of teaching blocks including the original school buildings which were partitioned to form separate boys' school and girls' schools in 1941. Since then a combination of permanent and temporary buildings have been added to the campus to create additional teaching space and sports facilities.

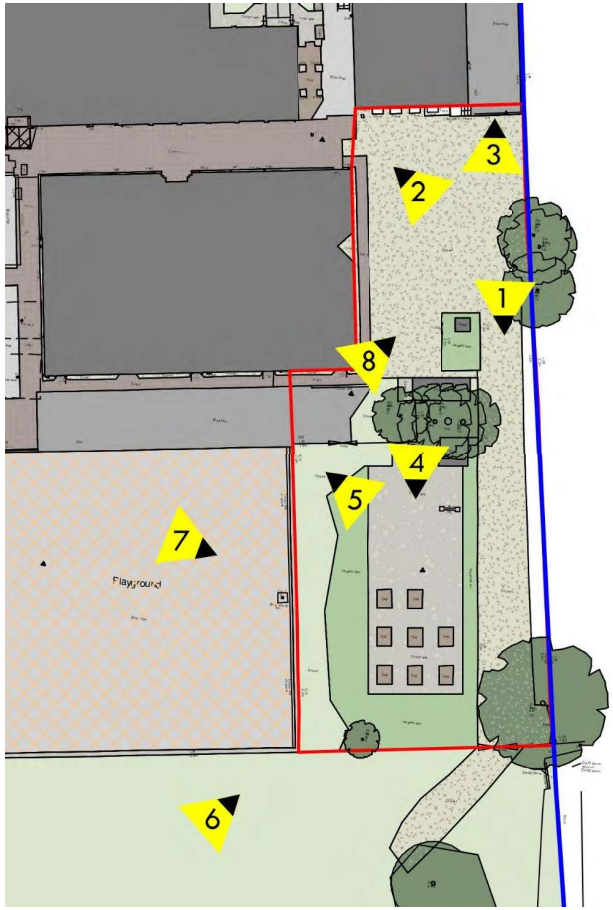
The school has also gained planning approval for two other smaller construction projects on the site including an extension to the music block (Ref: H16/0870/20) and additional PE changing facilities (planning Ref: H16/0152/20). It is anticipated that these projects will commence midway through 2021 and be complete ready for the September term 2021.

2.3 Local Building Heights & Sun Path

It is not envisaged that shadowing will be an issue, with the new building being located on the east perimeter of the campus, which is bordered by a hedge. To the east of the hedge is the open playing field at Spalding Priory School. To the north, south and west of the new building will be open areas of playground, playing field and basketball courts respectively.

The following two pages indicate key factors on the site, including views onto and from the site, surrounding buildings and their location.

2.4 Existing Site Photographs



Position of site photos



01.



02.



03.



04.



05.



06.



07.



08.

2.5 Existing Landscaping

The site contains many trees and groups of shrubs, some of which are in a poor condition or appear to have been self-set. A number of these trees and shrubs will need to be removed prior to development of the site which has stood unused for a number of years.

An existing beech hedge runs along the boundary of the site and this is in good condition and we would expect to retain it in its existing location. There are also some trees along the boundary with the Priory School site which will require root protection measures throughout the construction period.

A detailed Arboricultural Assessment has been carried out and the findings have been utilised to inform the design proposals. These reports form part of this application and a summary has been provided in section 2.10 of this report.

2.6 Existing Vehicular & Pedestrian Movement

Existing vehicular and pedestrian access is gained from Neville Avenue. To the front of the school is a car parking area with one entrance/exit, the tarmac area is formally laid out with line markings.

A fence line secures the whole school site and the car park area. Access to this is gained through pedestrian and vehicular gates. A one-way system operates within the school campus and exit from the site is via Halmer Gardens.

Students arrive by a variety of means: on foot, by bicycle, by local authority transport service or by private car.

Times are as follows:

Arrive 08:15 – 08:30

Depart 15:05 – 16:00

Staff typically arrive at school from 07:30 and leave by 17:30

Outside of drop-off times, the school receives visitors throughout the school day.

2.7 Ground Contamination

A Site Investigation report has been produced by Delta Simons and has been included with this application. A summary of the findings is as follows:

Geology

The Site is underlain by Superficial Tidal Flat Deposits (Clay and Silt). The underlying bedrock is the Oxford Clay Formation (Mudstone).

Ground Conditions

The shallow bearing strata is considered relatively weak, dictating the requirement for piled foundations and a suspended ground slab. A summary of the ground conditions within the area of development are as follows:

- 0.25m Made Ground
- 21m Tidal Flat deposits, consisting of very soft Silt, very soft clay and loose sand
- Weak mudstone, proven to a depth of 25m bgl.
- Groundwater was recorded at 2.1m below ground level.

The clay was found to be shrinkable with a 'moderate' potential for volume change. As such, ground heave protection measures will be required.

CBRs were measured as 0.4%-0.77% within the clay strata.

Water soluble sulphate concentrations were found to be generally low across the site, however, elevated total potential sulphate was recorded. As such, the site is classified as Design Sulphate class DS-4 and Aggressive Chemical Environment for Concrete AC-4.

Contamination

Potential sources of contamination have been identified at the Site associated with historical development and the presence of a potentially infilled pond within the proposed building area. The phase 2 site investigation has shown elevated levels of heavy metals and TPHs, however, these are considered below the applied 'residential without plant uptake' end use. The risk of the Site requiring widespread remediation to protect end users is considered to be low, although localised remedial measures, for example provision of a clean soil cover for proposed soft landscaping, are required.

Ground Gas

The Phase 2 intrusive site investigation detected elevated methane concentrations. As such, the site has been classified as Characteristic Situation 2 (CS2) and a ground gas membrane will be provided as part of the development proposals.

2.8 Flood Risk

A preliminary flood risk assessment has been carried out and the results are as follows.

The Environment Agency's Flood Zone mapping and technical assessment identifies that the site is in Flood Zone 3. An Exception Test has been undertaken to demonstrate the benefits of the proposed development in support of a full Planning application.

The Environment Agency's flood mapping tools identifies the site and surrounding areas to be at medium risk from fluvial flooding and at low to medium risk from pluvial flooding.

Surface water drainage proposals for the proposed works should be developed in accordance with 'CIRIA C753 The SuDS Manual 2015'. The limiting discharge rate to the drainage ditches and subsequent Exeter Drain should be limited to the 'greenfield' run off rate, wherever possible, or a minimum of 2 l/s to prevent flow control blockage issues, subject to consent from the South Holland Drainage Board and the Local Lead Flood Authority.

The finished ground floor level to the proposed classroom block should be set the same as the existing nearby buildings, with a minimum finished ground floor level of 3.00m to mitigate against the surrounding surface water flood depths of up to 0.3m.

2.9 Ecology

A pre-application planning consultation was undertaken on 24th February 2021 and it was discussed that the building would be located on an area of previous hardstanding which was partially utilised as a construction-skills area. An ecological impact assessment was not requested.

2.10 Arboricultural

An arboricultural impact assessment has been carried out and the findings have been utilised to inform the design of the school proposals. The site constraints require a number of existing trees and groups of shrubs to be felled / removed. These are highlighted on the Tree Removal and Protection Plan ref: 1307-D-002.

The design team will work to ensure that all works on the site will minimise disturbance to the trees. The design of tree protective measures will be carried out and a method statement provided. Protective fencing will be designed in accordance with BS5837:2012.

For further information, please refer to:

• Spalding Academy Arboricultural Impact Assessment ref: TWC-1307-R-001

2.11 Archaeology

A pre-application consultation was held with Marc Willis of LCC, who also spoke with the Historic Environment Team regarding the proposals. Jan Allen has since confirmed that, *"there are no known archaeological implications on this site and no archaeological work would be recommended".*

3 Design

3.1 Key Design Principles

The design process is reflected in the following aims, which have been the guiding principles when developing the design.

Character & Elevational Treatment
To design and construct an individual building of architectural merit which acknowledges the surrounding buildings whilst maintaining a sense of identity as a new an inspiring addition to the campus. Materials will link in with the pallete of the existing campus in colour or texture whilst creating an individualistic and stimulating visual impression.

Scale, Height & Massing
To keep the scale and size relating to its surrounding area and neighbouring buildings, to be in context with the local vicinity, whilst maintaining a practical size with spaces appropriate to the function.

Functionality
To provide buildings which will meet the long term needs of the end user (the school) and the main client (Lincolnshire County Council). The building will meet all accommodation requirements whilst creating light, enjoyable and inspirational spaces.

Standards
The design and specification of the building will fully comply with the Building Regulations meet British Standards where applicable. The design will incorporate the standards and principles set out in Building Bulletin 103 where this is practical.

Orientation
Orientation of the building will allow the classrooms to face the external play areas, allowing for a direct link to outdoor activities from the ground floor. Layout of the plan will arrange primary fenestration away from neighbouring properties. The principle façade will be the west-facing elevation which looks onto the basketball courts and main school campus.

Access & Movement

Existing staff numbers: 141 Full and Part Time Contracts (approx. 118 full time equivalent) with approximately 12 additional staff at exam times.
Existing student numbers: 1205.

Anticipated visitors: The school receives regular visitors e.g. Pediatricians, Speech and Language Therapists, Physiotherapists, Occupational Therapists, Social Workers, Nurses.

Existing parking provision: two staff car parks - one at either end of the school. These parking areas have a total 131 spaces with 5 accessible spaces. This will be sufficient for any additional members of staff to park on site if required as part of the expansion works.

Cycle shelters are provided on site to encourage cycling to school and a number of buses provide transport to and from the Academy each day, whilst some pupils utilise other public transport facilities in the area. In addition to this a number of pupils walk to school on a daily basis. All buses, taxis and private vehicles follow the one way system on site.

A copy of the Spalding Academy Travel Plan has been submitted with this application.

3.2 Amount

The site covers a total of 11.76 hectares. The site will offer two car parks including accessible parking bays for disabled persons.

The building has a total gross internal area of 781.6m². This can be broken down into the following accommodation

Proposed New Building:
8 x General Teaching Classrooms @ 57m²
1 x staff room @ 16.3m2
1 x server room @ 4.6m²
1 x plant room @11.0m²
2 x unisex WC's @ 22.8m²
2 x accessible WC's @ 3.5m²
1 x Cleaners' Store @2.6m²
Appropriate circulation areas

3.3 Layout

Site Layout

In deciding on the location for the new building, three site options were considered. An analysis of these locations has been included below in order to clarify the reasons for the building location.

Site Option 1

The first location suggested by the school was possibly their preferred location, on the east side of the site adjacent to the basketball courts and school field on a currently disused area of the site.

Pros:
- Potential for separate site access from the south along the side of the playing field during the construction period.
- Adjacent hardstanding could become an enclosed contractors' compound
- Good views out across the playing fields and basketball courts.

Cons:
- The root protection area of adjacent trees and hedges are close to the proposed footprint
- Plan would have to be carefully considered to enable circulation of construction traffic around the building whilst scaffolding was in place.

Site Option 2

Site location Option 2 is an area of existing hard standing adjacent to existing playground and circulation areas.

Pros:
- No trees in the immediate vicinity
- Adequate space to facilitate access around the construction whilst scaffolding is in place

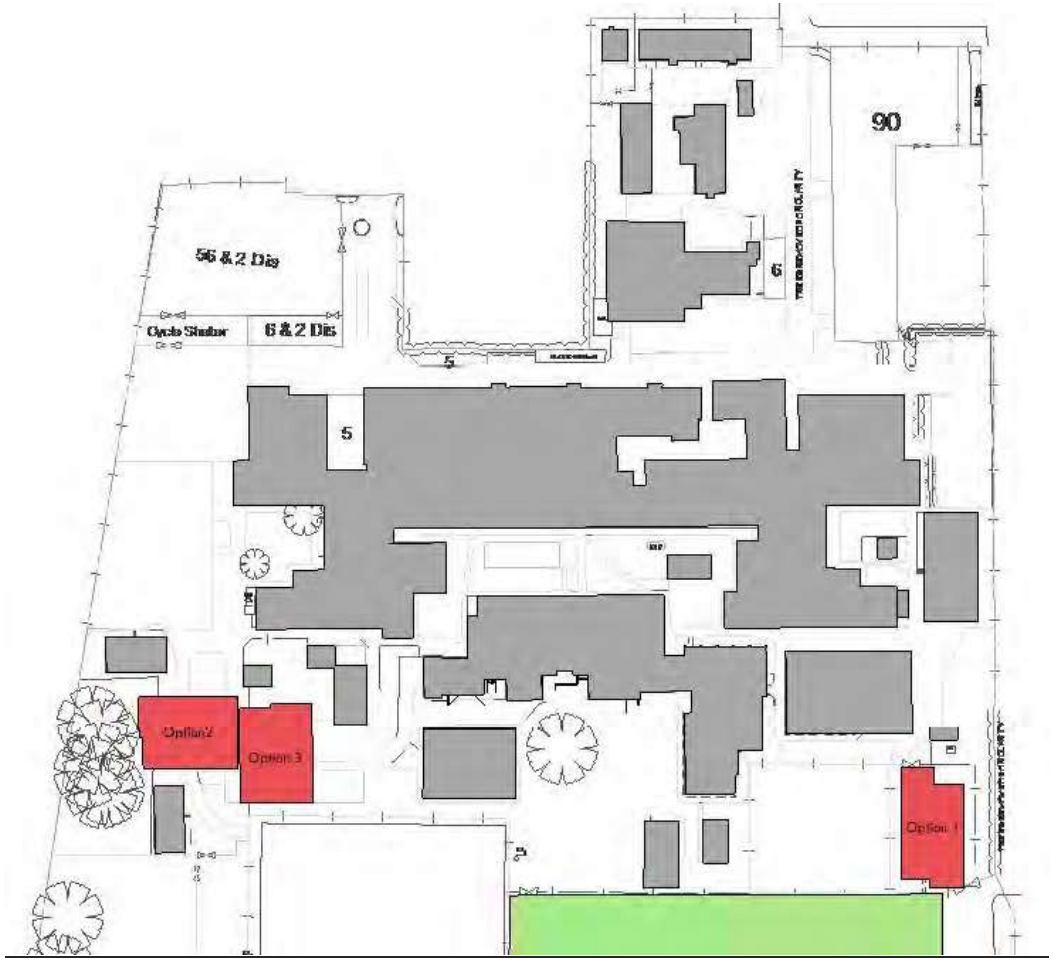
Cons:
- Construction traffic would need to enter the site from the north and segregation of school and contractor areas would be more problematic.
- Location of contractor compound would require careful consideration to avoid blocking access to other buildings in use nearby.

Site Option 3

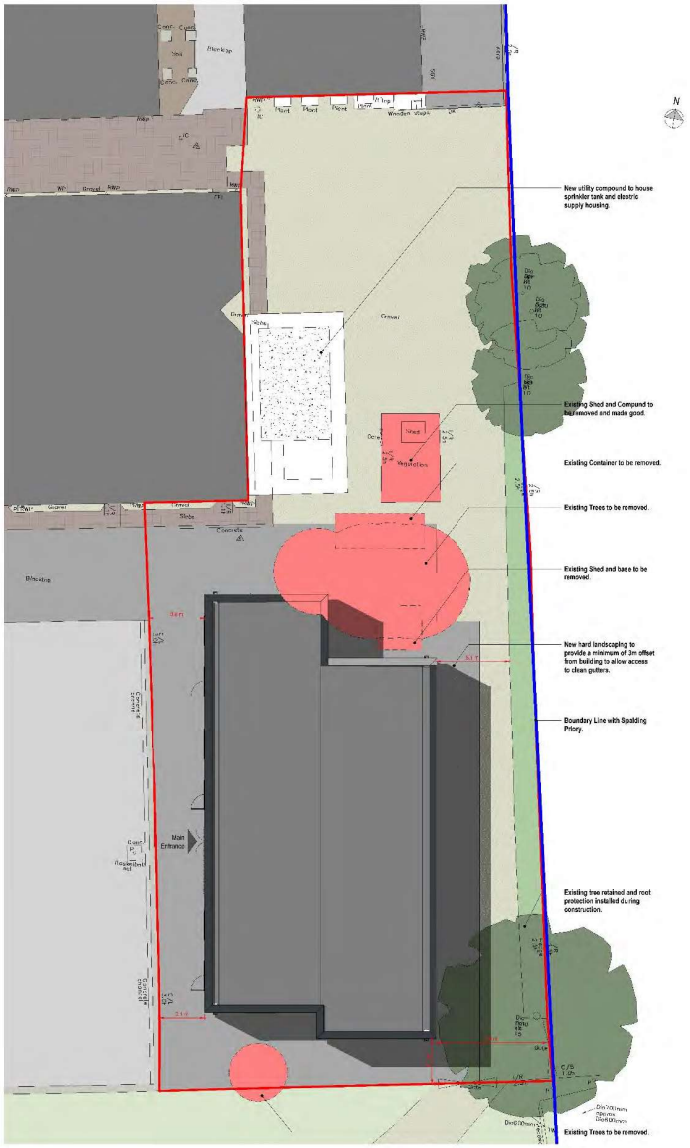
Site location option 3 is adjacent to option 2 but slightly further from the western boundary. The site is currently an area of partial hard standing adjacent to modular buildings. The building footprint would be turned through 90 degrees relative to option 2 in order to best utilise the available space.

Pros:
- Area currently under-utilised

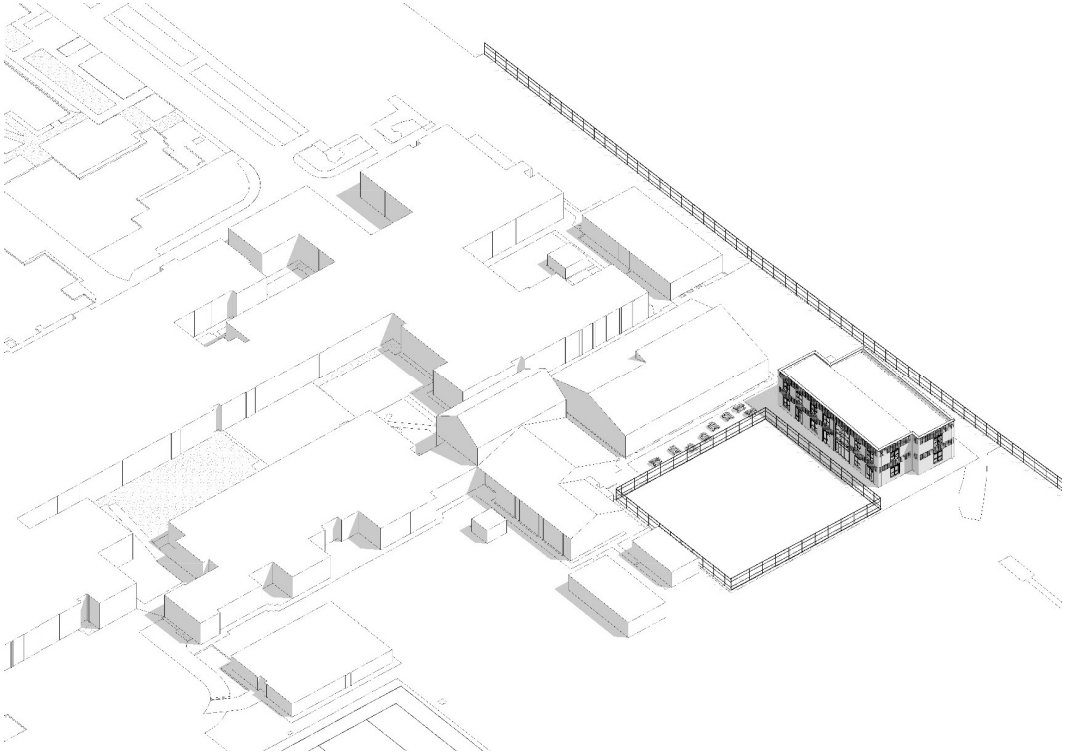
Cons:
- Close proximity to trees could prove problematic in terms of root protection area and also positioning of scaffold
- Other buildings nearby could be problematic to access around the construction site.
- Site traffic would need to access via the north of the site as with option 2



Location options for new teaching block



Proposed Site Plan (Option 1 - Chosen option)



Aerial view of new building's proposed location

As a result of the analysis carried out in the Feasibility Study, site option 1 was identified as being the preferred location for the new teaching block. The siting of the building in this location has been depicted in the images above.

Internal Layout

The design brief is as follows:

· 8 Classroom multi-storey block (preferably 2 storey)

· Each classroom 57m² with teaching wall

· Plant room, server room, cleaner stores

· WC's including DWC

· Vertical circulation including lift

The layout of the teaching block has been adapted to suit the available area in site option 1. This location is a slightly narrower site and space would be required for scaffold and circulation around the building during construction as well as maintaining access through to the playing fields once the building is complete. Therefore the building form will need to be elongated in order to provide the accommodation in a narrower footprint.

The ground floor accommodates a main entrance area with an accommodation stair. A second circulation area incorporating a lift is located on the opposite side of the building. Four 57m² classrooms have been included at ground floor level, each one including a teaching wall.

Open plan unisex WC's have been incorporated with 6 full height cubicles and communal wash-troughs. Adjacent to the cubicles is a self-contained accessible WC and a cleaner's store.

A plant room with its own external access is located at ground floor and an adjacent internal room accessed from the main circulation corridor will form a server room.

At first floor much of the ground floor footprint is replicated by way of 4 classrooms, circulation areas and unisex WC's. The main difference at is that the space above the plant/ server rooms will become a staff room.

Windows have been incorporated at the end of the corridor on each level to provide natural light and connection to the surroundings.



Ground Floor Plan



First Floor Plan

3.4 Scale

The teaching block will be a two storey building with a flat roof located behind a low parapet wall. Gutter maintenance will be carried out by mobile elevated platform or ground based industrial vacuum cleaners from the perimeter of the building, hence the fact that the parapet wall can be kept relatively low.

Building heights around the campus vary from single storey teaching blocks to double height hall spaces – these buildings have a mix of pitched and flat roofs. The new building will not sit directly adjacent to any existing school buildings. The closest building to the new teaching block would be a 1.5 storey block with dual pitched roof.

Residential properties on Birch Grove sit almost 40m away from the new teaching block and direct views would be screened both by the angle of their aspect in relation to the new building and also the trees along the site boundary and within their gardens .

The building form will be broken down by means of elevational treatments such as feature brickwork banding, fenestration areas and feature panels around the fenestration, thereby providing architectural interest at all levels of the building façade.



Feature elevational detailing

3.5 Landscaping

Hard Landscape Design

The hard landscape design is limited to the immediate area around the perimeter of the new building in order to provide safe accessibility for all including access for a mobile platform for gutter maintenance. A tarmac surface will match in to the adjacent footpath and play area.

Soft Landscape Design

The east side of the site is bordered by a hedge and trees. This shall remain in place and the appended Tree Protection Plan provides details of how these shall be protected during the construction period.

3.6 Appearance

The building shall be a brick construction with powder-coated aluminium windows in order to match in with the existing site aesthetic. Brick detailing and contrasting window reveals shall provide architectural interest whilst helping to define the main entrance façade.

A 'wave' of brick protrusions will be created above ground floor and first floor windows starting with a 10mm projection on alternate stretchers and moving through to 15mm and then 20mm projections and gradually reducing to 10mm. When viewed from a distance this will create a 'wave' effect on the façade which will change with daylight and orientation in relation to the building.

It is proposed that window reveals shall be created in a bright and lively colour to reflect the vibrant nature of the new building.



Proposed brick detailing at parapet level



View of the building from the playing field



View from the north of the site



View from the north west of the building



View from basketball court to the west

3.7 Drainage

The Exeter Drain runs south along the west boundary of the site. The northern portion of the drain approximately 250m long is culverted with a 1200mm diameter pipe, and the southern section is an open ditch. All the surface water drainage for the site currently discharges to the Exeter Drain.

The foul water drainage for the site currently discharges into a manhole located in Neville Avenue adjacent the main entrance to the academy. This discharges into the public sewer in Neville Avenue. An enquiry with Anglian Water confirmed that a foul water connection would be permitted to discharge to the public sewer in Neville Avenue. See the Anglian Water response email in Appendix E

The use of swales and open attenuation SuDS solutions are not considered appropriate due to the constraints of the site, compatibility with foundation solutions and the interface with the surrounding external landscaping and infrastructure. Open water features are also generally not considered suitable in an education environment for health and safety reasons. The most appropriate option for surface water drainage is to use an attenuation tank in conjunction with a flow control device, which will lead to a reduction in the discharge rate from the new site development, and deliver the betterment desired by all stakeholders.

The proposed foul water from the new two-storey classroom block will be collected via a new gravity drainage pipe discharging into a below ground pumping station located northeast of the new block approximately 10m away. A rising main pipeline will convey the foul water to a discharge chamber located in the northwest corner of the car park on the north side of the academy, near the main entrance. A short 150mm diameter gravity pipeline will connect the discharge chamber with the public sewer in Neville Avenue, subject to approval from Anglian Water.

Full details of the proposed drainage proposals are outlined in the Drainage Strategy, Drainage Plan and Drainage Details submitted as part of this Planning Application.

4 Access

4.1 Vehicle Access

The main site entrance for vehicles, pedestrians and cycles is located at the end of Neville Avenue. Car parking is located adjacent to the entrance gates. A one-way system is in place for traffic moving through the school site and exit from the school is via Halmer Gardens. Addition of the new block will not alter the current site setup.

The existing car park has a total of 131 permanent parking spaces plus an additional 5 no. disabled parking spaces positioned within close proximity of the main entrance.

Access for service and delivery vehicles will be via the main site vehicle entrance and via the one-way route through the site, as per existing arrangements.

Emergency vehicle access is to remain as existing throughout the site. A corridor for emergency vehicle access onto the playing field shall be maintained along the eastern boundary of the site and through the existing double gates leading to the playing field. .

4.2 Pedestrian Access

Pedestrian routes from the carpark and entrances and through the site are currently in operation and will remain as existing. Pedestrians will mainly access the new teaching block from the north of the new building. Hard-surface paths leading to the area of the new block are currently in place around the perimeter of Block 4 enabling pedestrian and wheelchair access from the north and west of the existing campus. These paths shall link to a new 3m wide tarmac path installed around the perimeter of the new building.

Access to the double gates onto the playing field along the east boundary of the site shall remain operational for both pedestrians and maintenance vehicles utilising the existing compacted gravel pathway.

4.3 Inclusive Access

The new building has been designed in such a way that all persons using the teaching block will be able to do so in the same manner as one another, regardless of disabilities.

Site Approach & Entrance

Disabled parking places are already located within the main carpark at the entrance to the site. The route from the carpark to all entrances will have a level access, with a maximum of 1:15 gradient where ramps are required.

Building Circulation & Wayfinding

All corridors within the new building shall have a minimum unobstructed width of 1800mm, with the majority of circulation routes measuring in excess of 1900mm wide in accordance with Approved Document M.

The building shall be equipped with a passenger lift which will provide first floor access where required. Staircases within the building have no more than 12 risers per flight and shall be complaint with Approved Document M. Way finding and tonal contrast will ensure that appropriate LRV's are achieved between different elements such as walls, ceilings, floors, doors, fittings and ironmongery throughout the building.

Door and Windows

The main entrance doors will provide a minimum clear opening width of 850mm per leaf with push button automation operable from wheelchair height. All new internal doors will provide a minimum clear opening width of 850mm; Doors on circulation routes will have vision panels, in accordance with Approved Document Part M, and all full height glazing will feature manifestation.

WC's & Hygiene Facilities

The new building will contain an accessible WC on each floor as well as an enlarged ambulant-disabled cubicle within the unisex WC facility on each floor.

Fittings & Signage

Lighting and usability of features, such as control panels and switches, will be in accordance with Approved Document Part M and British Standards BS-8300. Signage will be clear and in accordance with Approved Document Part M. All switches, outlets and controls should be at heights to reflect usage.

5 Sustainability

5.1 Low Energy & Sustainable Design

The aspiration of Lincolnshire County Council is to create a net Zero Carbon estate by 2050. In creating new sustainable buildings the council is taking advantage of existing technologies to increase energy efficiency, reclaim heat and enable installed systems to be compatible with heat pumps as the reliance on natural gas becomes less viable. This strategy will further reduce their Carbon footprint and ensure the building is fit for purpose.

To achieve this strategy the following technologies are being utilised in the construction of the new building:

5.2 Lighting

The Lighting in and around the building will be all LED with low energy use and high lumens per watt output, the luminaires within the building will be automatically controlled complete with manual overrides.

The luminaries positioned around the building will be controlled photo electric cell and mechanical timers.

All luminaires will complete with integral emergency invertors and be designed to CIBSE guidelines.

5.3 Building Envelope

The new building has been designed to minimise energy usage by utilising a good quality thermal envelope that enhances the minimum requirements in the Building Regulations for thermal transmittance through the building fabric. The proposed palette of building materials help to achieve favourable U-values minimising heat losses through the building fabric whilst the glazing will be specified to minimise the overheating risk and any associated requirement for mechanical cooling.

5.4 Domestic Services Strategy

Water usage will be kept to a minimum with all taps working through PIR sensor operation. WCs are also PIR operated.

5.5 Heating Strategy

Condensing boilers will run on low temperature to supply heat to underfloor heating throughout the block. Each will room will have individual thermostat control. Zoning and local control of heat emitters and ventilation units through BMS will ensure all areas are only using energy during occupied hrs. Air conditioning – This will be kept to a minimum with only the server room cooled through a split AC unit.

5.6 Ventilation Strategy

Heat recovery Ventilation – All classrooms will have heat recovery ventilation units. Reclaiming up to 90% of heat from the expelled air. These units will operate on both a rise in CO2 and temperature rise.

5.7 Natural Daylight

Natural daylight shall be provided to classrooms, staff room, corridors, stairwells etc. to enhance the visual environment, however this needs to be controlled so that glare doesn't become an issue. The levels of daylight being received by different spaces is modelled using an approach called Climate Based Daylight Modelling, this determines the Daylight Autonomy and the amount of Useful Daylight Illuminance (UDL) on the working plane, i.e. at desk height. This can influence the window design so that there is an even spread of daylight across the room.

5.8 External Lighting Strategy

External lighting on the building façade shall be controlled to a level appropriate to the surrounding environment to minimise obtrusive light spill.

5.9 End User Policies

A description of how mechanical and electrical systems operate and what the teaching staff need to know, how they operate the controls etc. shall be provided in a Building User Guide that will be submitted with the handover information on practical completion of the building.

6 Crime Prevention

6.1 Crime Prevention

Crime prevention has been considered throughout the design process, ensuring that users feel secure in and around the new facility and that the layout of the development does not create an environment conducive to crime.

6.2 Access & Movement

The principal entrances for pedestrians and vehicles at the front of the site are well monitored and secured during school hours.

Maintenance vehicles will only be able to access the playground areas under control of the site manager. The site is designed to operate a one way in-out system for vehicular traffic, to help maintain an orderly operation during busy periods and create a safer environment.

Access to the campus from the school field is controlled by a gate and high-level fence along the boundary of the school field.

6.3 Structure

The new teaching block will have one principle entrance area which will allow controlled access into the building should the school wish to install a swipe card or fob access system. Additional doors from ground floor classrooms and fire escapes shall be operated by an internal ironmongery solution. Entry point into the building shall be illuminated and monitored by CCTV. Robust materials such as aluminium and toughened glass shall be utilised in the design of doors and windows. Doors will comply with minimal security of • PAS 24:2012 • LPS 1175: Issue 7, SR2 • STS 201 or STS 202: Issue 3, BR2, and will comply with BS 4873:2009 (Aluminium) BS 6510:2010 (Steel), proof of certification from UKAS accredited certification body.

Glazed areas at the north end of corridors and in south facing classrooms will assist in monitoring the alcoves at either end of the building, and this area will also be covered by CCTV.

Building facades will be constructed of robust materials which can resist a reasonable amount of vandalism or attack. At the same time it is important that the materials give a comfortable appearance which gives the area a pleasant impression, to promote respect for the building and encourage regular maintenance. Brick detailing will be limited to high-level areas of the façade to prevent climbing.

The building will include a large flat roof area which will be maintained by mobile platform and therefore will have no external access onto it. Exposed rainwater downpipes will be located in positions which inhibit climbing or vandalism or will feature a protective cladding. All services entering the building will be within the building footprint and not fixed to external walls.

6.4 Surveillance

The proposal has been designed to maximise natural surveillance as far as possible. Full views of the main façade will be possible from the basketball court area and the rear of the building will be regularly utilised as an access route through to the playing field. Planting and site furniture will be avoided where this may hamper natural surveillance and the perimeter of the building shall be covered by CCTV.

An external lighting system will be designed in accordance with BS 5489. The position of lighting will be carefully considered, with areas of natural surveillance lit evenly creating a uniform light with minimal shadows. The principal entrance of the site and the building will be illuminated well to aid in way-finding.

7 Site Setup

Two options for construction site access have been discussed with the school namely;

1) Access via the existing vehicular entrance on Neville Avenue and through the existing school site

2) Access via existing gate onto the school field at Matmore Gate and across the eastern edge of the school field.

There are benefits and drawbacks to each of these options:

Access via main school entrance

This would be the cheapest and quickest solution, however it would involve a strategy for separation of site traffic from the rest of the live site. The school's existing one-way system would have to be redirected for the duration of the construction period and parking could become cut-off by the construction traffic route. Also with construction projects elsewhere on the school site and at the neighbouring Priory School likely to be running concurrently, the potential amount of construction traffic on Neville Avenue could become substantial.

Access via Matmore Gate and school field

The other construction projects for the music block and PE block extensions planned at the school have identified a proposed haul road along the eastern side of the playing field as a means of site access. Existing gates on Matmore Gate could be used to secure the site at the end of the day and site traffic could access the site with minimal disruption to the rest of the school. This would be a more costly and time consuming access provision however potentially it could minimise disruption to the rest of the school. There is also a possibility that any provision from the other contractors in terms of track mats or a stoned up haul road could be reutilised for the teaching block contract.

Site Compound

Whichever access route is utilised, part of the site compound is likely to be located in the area to the north of the new teaching block. The space is currently disused and the existing grit-store can be removed to form a large compound and contractor parking area. Some materials may need to be stored to the south of the proposed building on the edge of the playing field area due to access restrictions around the perimeter of the building.

8 Conclusion

Spalding Academy has been identified as a school which could increase its capacity in coming years to help achieve LCC's obligation to provide an increase in pupil spaces across the area. By 2027 it is anticipated that pupil numbers will increase from 1350 to 1500 throughout the school as a whole. Part of this exercise has highlighted a requirement for additional teaching space which has in turn led to the development of proposals for an 8 classroom teaching block.

Site locations have been assessed and a preference has been identified for locating the new teaching block on the eastern edge of the site adjacent to the boundary with The Priory School. The site has been disused for a number of years having formerly being used as a construction skills area. The teaching block would be a standalone 2 storey construction including 8 classrooms, a staff room and associated ancillary facilities. Access to the building would be possible from the existing pedestrian network around the campus, and the building would be located adjacent to the existing basketball courts and playing fields.

The building mass and form sit comfortably within the context of the campus and they are set far enough away from neighbouring properties to avoid any overlooking issues. The building has been designed to be sympathetic to the existing red brick constructions which feature heavily throughout the campus, whilst also creating architectural interest through detailing and splashes of contrast colours.

The new teaching block at Spalding Academy will provide an inspirational learning environment as well as a significant addition to the existing teaching space provision.