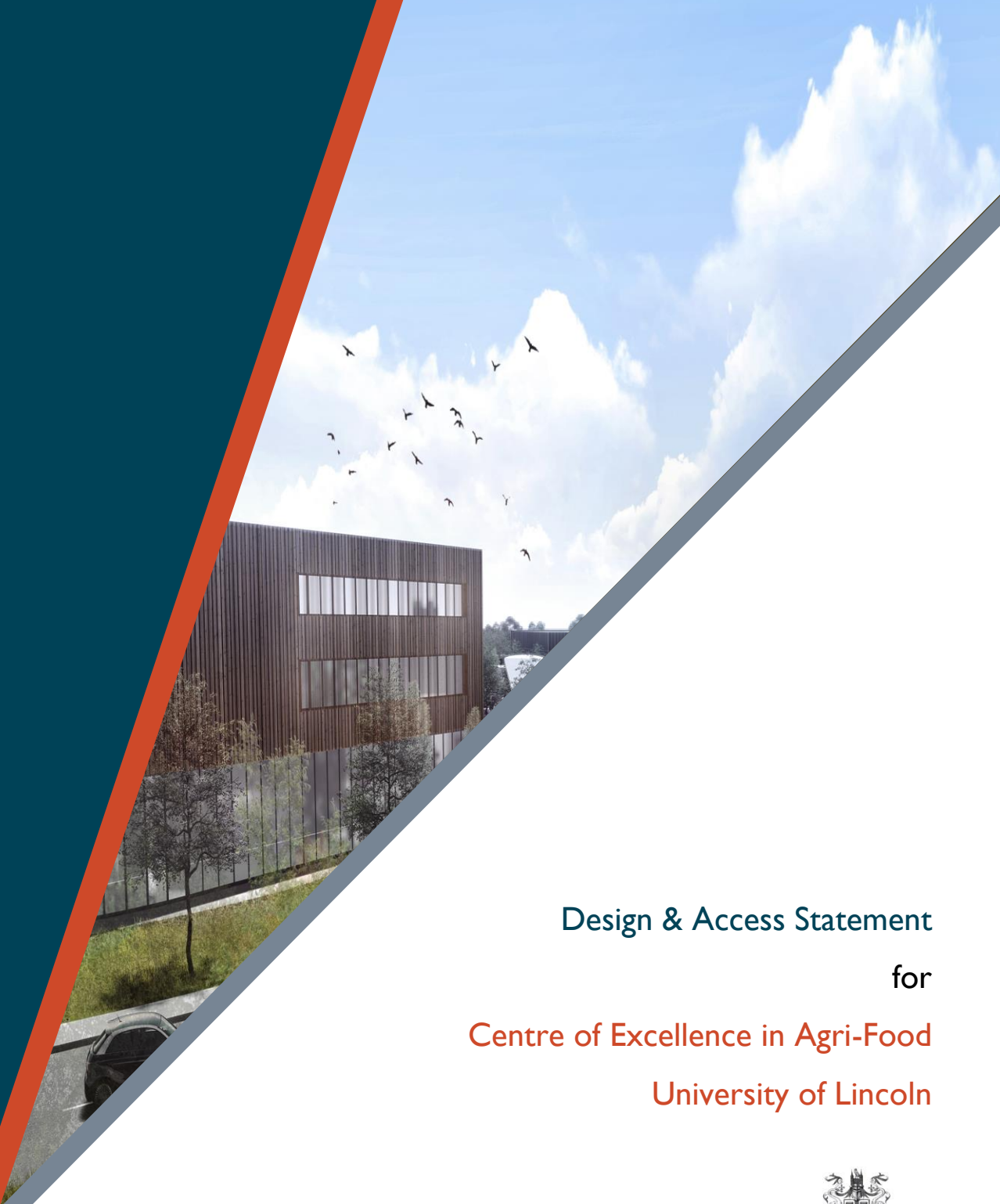


PICK EVERARD



Design & Access Statement
for
Centre of Excellence in Agri-Food
University of Lincoln



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Document History

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1.0 Introduction

1.1 Description

This Design and Access Statement was commissioned by the University of Lincoln. The content of the report is reflective of the timeframe to undertake the design and co-ordination of the proposed scheme and therefore has abbreviated content.

The intention of the statement is to provide an overview of the design proposals for a new research and development facility for the University of Lincoln, known as the 'Centre of Excellence in Agri-Food Technology'.

The facility is to be positioned on the land off the A151 to the west of Holbeach and is anticipated to be the first step in delivery of the proposed Holbeach Food and Enterprise Park.

The Centre of Excellence in Agri-food Technology building is an Innovation Hub for the Agri-food industry through which the University will be able to meet the innovation, research and knowledge transfer needs of Greater Lincolnshire's Agri-food businesses, notably the SME business community.

The 'state of the art' facilities will enable innovative new products and processes to be developed by businesses. The Centre will be home to a community of leading industrial scientists and their support team with the accommodation stimulating intelligence and knowledge sharing between the business and academic community.

The Centre's position at the gateway to the Food Enterprise Zone (FEZ) ensures that the University's exceptional facilities and expertise are readily accessible to businesses, widening the appeal of the FEZ to the entrepreneurial, high-tech food businesses which it seeks to attract to secure inward investment, growth and success of Greater Lincolnshire's Agri-food sector. As the FEZ grows it is intended that the Centre will grow its activities and footprint to meet future need which the development accommodates.

2.0 Site

2.1 Site Context

The proposed Food Enterprise Zone lies to the west of Holbeach. The site is bounded by the A151 and A17 and framed by a Distillery Farm and residential caravan site. The identified site for the 'Centre of Excellence in Agri-Foods' is 0.965 hectares of relatively flat agricultural land.

The proposed site features are on the site frontage in the form of drainage ditches. Energy distribution paraphernalia (pylons, substations, power stations), together with light industrial units and glasshouse horticulture, were identified in the Landscape Capacity Study as major features in the wider landscape around Holbeach. To the north of the application site lies one such unit, in the form of Distillery Farm and the light industrial unit occupied by "Frontier". Further to the south there are residential caravans.

The existing A151 and A17 are subject to highways improvements referred to as the 'Peppermint Junction Improvement Scheme' which enables a number of surrounding sites to be developed for residential use along with the Food Enterprise Zone.

2.2 Survey Information

A detailed topographic survey of the site has been undertaken. This survey information has formed the basis for all detailed design, providing accurate plan and levels data within the site boundary.

Statutory utilities surveys via EnviroCheck have been commissioned.

A ground investigation survey has been commissioned.

2.3 Site Topography

The site itself is broadly flat with land levels ranging from +2.76 to +2.92 over a 100m distance. The A151 sits above the site at +3.83 to +3.94 therefore a change in level is to be accommodated via the access roads serving the site. Between the site in general and the site boundary to the A151 sits a drainage ditch with a low point of +1.64m. The proposed temporary access road will need to bridge the drainage ditch.

2.4 Site Ecology

The ecology survey undertaken has identified that the site's plant habitants are not a constraint to the proposed development.

There are no constraints to the proposed development from protected species. Consideration to breeding birds is required if the development requires the clearance of a potential bird nesting habitat during the breeding season.

The ecology report identified that no mitigation is required for plant habitants.

It is envisaged that the habitats could be enhanced through the planting of a mixed species native hedge with trees around the perimeter of the site, and any internal soft landscaping could also use native trees and shrubs, or at least non-native tree and shrub species which are known to be valuable to wildlife.

The ecology report identified that no mitigation is required for protected species except for standard mitigation for nesting birds.

Outline planning approval, condition 02 identifies that the development needs to be in accordance with Ecology Report (Tim Smith Ref: 2016/06/386).

2.5 Flood Risk Assessment

JBA Consulting was commissioned by the University of Lincoln to carry out an FRA for the proposed site. The FRA was prepared in accordance with the NPPF and associated PPG.

The proposed development site is at risk from flooding as a breach of tidal flood defences.

The site is at low risk to very low risk of surface water flooding.



400m³ storage volume would be required to accommodate runoff rate for the 100-year storm. SuDs in the form of ponds or swales could be included or geo-cellular crates beneath the car park.

It is recommended that a finished floor level of +3.7m is required to suit NPPF guidance or reduced increase in floor level of 300mm above surrounding ground levels but with the inclusion of resilient building design.

Outline planning approval, condition 02 identifies that the development needs to be in accordance with Flood Risk Assessment (JBA Consulting Final V 3.0 dated 23. August 2016);

2.6 Archaeology

Allen Archaeological was commissioned by the University of Lincoln to carry out an archaeological survey of the site.

Allen Archaeological concluded that there is a low potential for the proposed development to impact upon the archaeological and historical significance and setting of the surrounding area.

Outline planning approval, condition 02 identifies that the development needs to be in accordance with Archaeological Evaluation Report: Geophysical Survey by Magnetometry (Allen Archaeology Ltd Report) No: AAL 2016142, September 2016)



2.7 Outline Planning Application

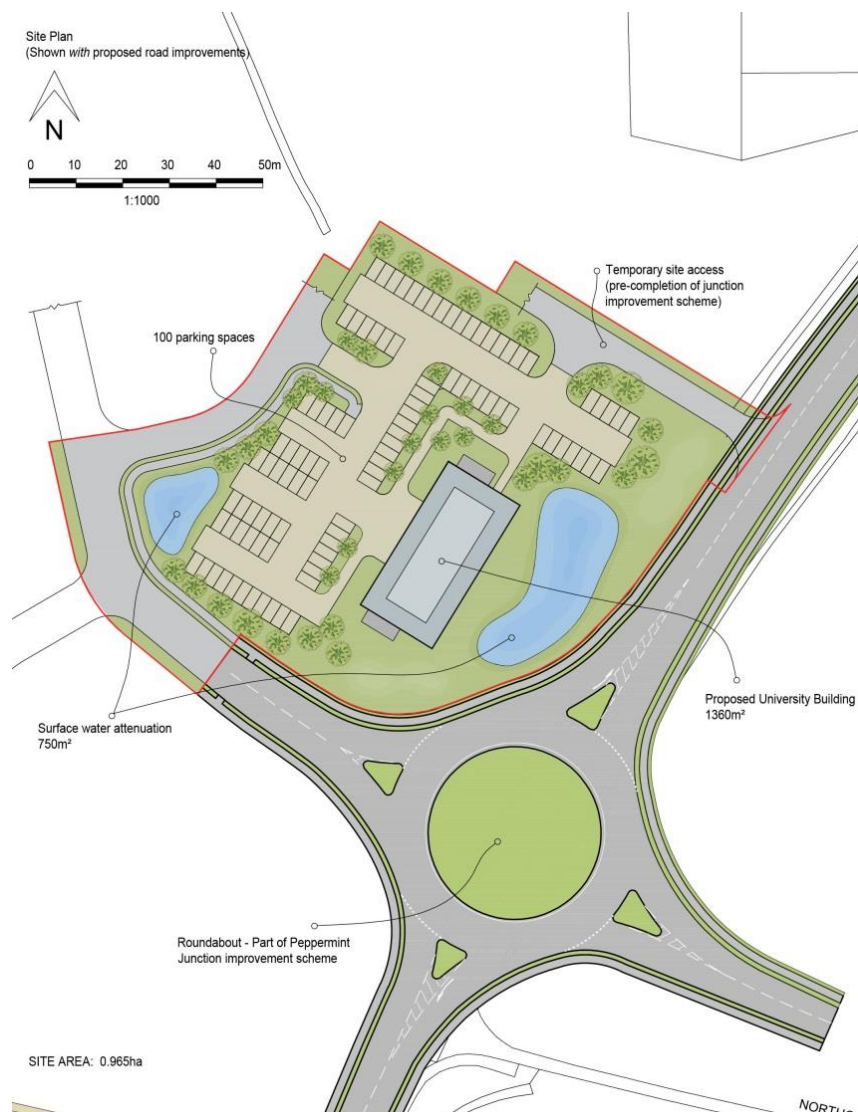
The outline planning application submitted to South Holland District Council by Robert Doughty Consultancy on 03rd August 2016, planning reference number H09-0771-16 was formally approved with 12 no. conditions on 08-11-2016.

Information submitted by Robert Doughty includes the following:

- Design & Access Statement
- Site Location Plan
- Block Plan
- Food Risk Assessment
- Protected Species Report
- Archaeological Report
- Planning Statement
- Geophysics Survey

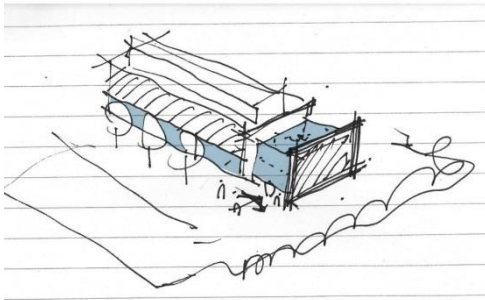
2.8 Site Masterplan – Outline Planning Application

Proposed Site Plan



3.0 Design Proposals - Concept

3.1 Initial Concept Sketch



4.0 Design Proposals - Site

4.1 Site Layout & Design Considerations

An outline planning application developed and submitted by Robert Doughty Consultancy has provided a basis for the scheme development.

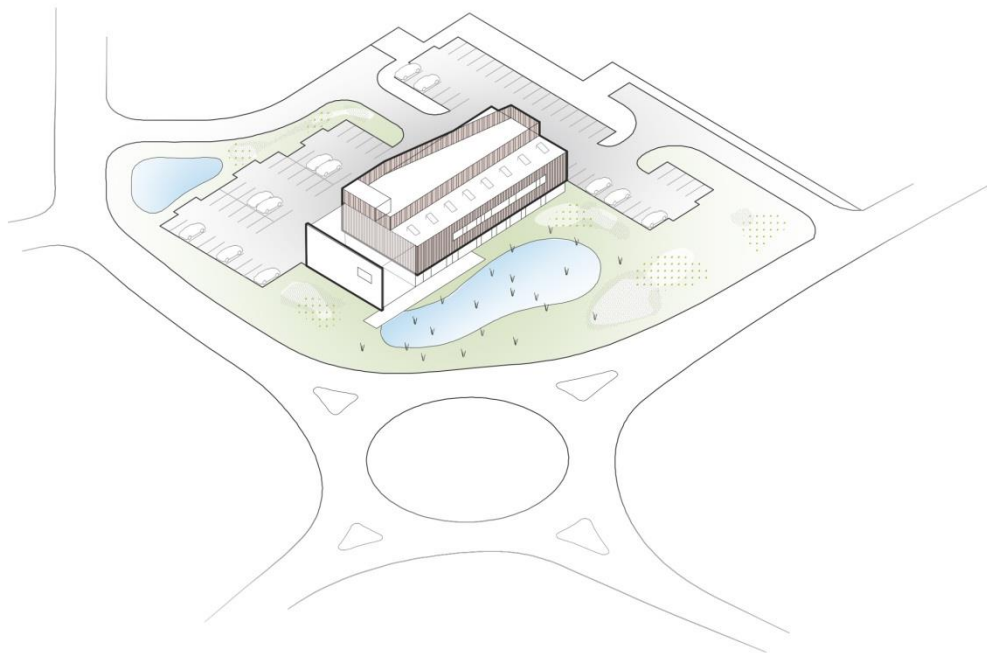
The site layout has been based on the outline planning application prepared by Robert Doughty Consultants. Whilst the outline application had all matters reserved, the Pick Everard Consultant Team has proceeded with scheme development on the principles generated within the outline planning application. As such key elements have been followed including the following:

- Site layout and building position
- Scale and massing
- Site attenuation measures
- Formalised Car Park Layout
- Prominent and eye catching design

The above combined an interesting landscape zone fronting the Food Enterprise Zone whilst accommodating an attenuation swale and surrounding soft landscaping appropriate of the fens.

Through discussion with Lincolnshire County Council and the University, the site entrance has been amended to mitigate the need for a feeder road. This is now reflected in the current site layout plans; however the team are still to receive feedback from the Local Planning Authority. Our Civils & Highways team have reviewed the design and confirmed acceptable with regards the relevant highways standards.

Site Concept - Layout



The above diagram demonstrates the proposed layout in a diagrammatical format with the new roundabout and highway works to the A151 in-situ.

It is envisaged that the site needs to appear permeable and attractive to passers-by and therefore it is proposed for the perimeter of the site to be bounded by a low level timber knee rail. A band of appropriately specified planting will be introduced to the rear of the knee rail offering a planted buffer between the A151 and the wider site.

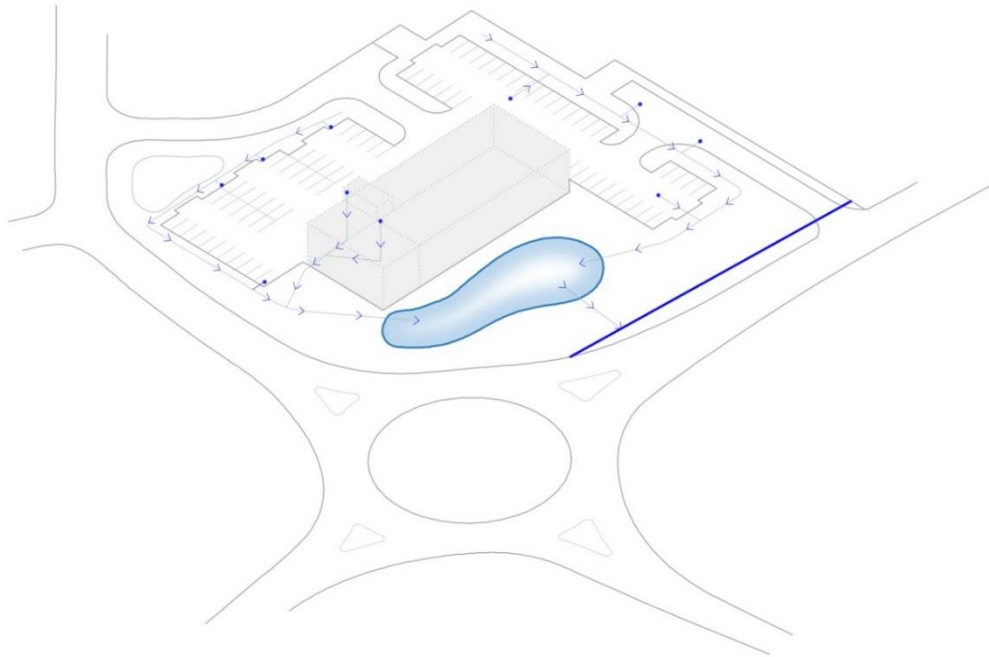
The car parking layout proposed will offer 82no. car parking spaces including 5 disabled bays and this will be accessed off an internal road serving the Food Enterprise Zone. A zone is allocated for 18no. car parking spaces in the future should the University wish to expand the provision.

Access is provided from the proposed FEZ Phase I highway which will extend from the existing roundabout located on the new Holbeach (Peppermint Junction) bypass. Provision is made for a manual gate to the site entrance restricting vehicle access out of business hours. Service ducting will be provided for the future upgrade to automatic or electrically controlled gate or bollard access. Car parking construction specification is as per the Civil Engineers design. Dedicated parking bays are block paved whilst vehicle circulation areas are tarmac. It is proposed that some areas of parking are identified as 'temporary' making provision for future development and extension of the building.

It is proposed that in the most part the building will be bound with tarmac footway except for the raised 'boardwalk' utilised for external break out for staff and users.

The attenuation swale incorporated within the scheme required to mitigate the flood risk as identified in the Flood Risk Assessment will become an important feature to the front of the site. This swale is designed to continually hold a body of water creating a strong landscape feature whilst offering a habitat area for wildlife. Building users will have access to a timber boardwalk which over-looks the swale and soft landscaping areas.

Site Concept – Drainage & Attenuation



External lighting will be incorporated into the landscape as per the Building Services Engineers specification.

Site Layout – Proposed



5.0 Design Proposals - Building

5.1 Building Concept

Well-designed buildings lift the spirits and aspirations of everyone who uses them, and provide facilities that are fit for purpose, inclusive and built to last. The following aspirations are embedded in the approach to design.

- All new University buildings should be of high quality design that inspires users.
- A sustainable approach to design should be adopted that responds to the University of Lincoln's sustainability strategy.
- Good organisation of spaces in plan and section, offering easy legibility and fully accessible.
- Internal spaces that are well proportioned and fit for purpose that meet the needs of the brief.
- Well-designed external spaces offering a variety of different settings with specific functions
- Buildings and grounds should be welcoming, safe and secure and inviting to all users.
- Good use of sites balancing the needs of pedestrians, cyclist and motorists.
- A simple palette of attractive materials, detailed carefully to be durable and easily maintained and to age gracefully.

The building design provides high-quality, flexible, and well-considered new accommodation for the University of Lincoln. Our proposals for the 'Centre of Excellence in Agri-Foods' have been influenced and driven by a number of key documents and end user consultation through a very short period of time.

Several key phrases have been highlighted during the course of client discussions:

- "Reflective of the fens"
- "Contemporary"
- "Expressive of advancement"
- "Modern university campus"
- "Flexible"

With the above in mind the concept and building organisation is simple. The building format is based on a rationalised and efficient timber box whereby the entrance and communal aspects of the accommodation are revealed like an opening draw, and expressed through the transparency of the contrasting glazing.

The external façade offers a visually strong and pure aesthetic which is sympathetic with the surrounding context and equally offers a contemporary image for the frontage of the Food Enterprise Zone.

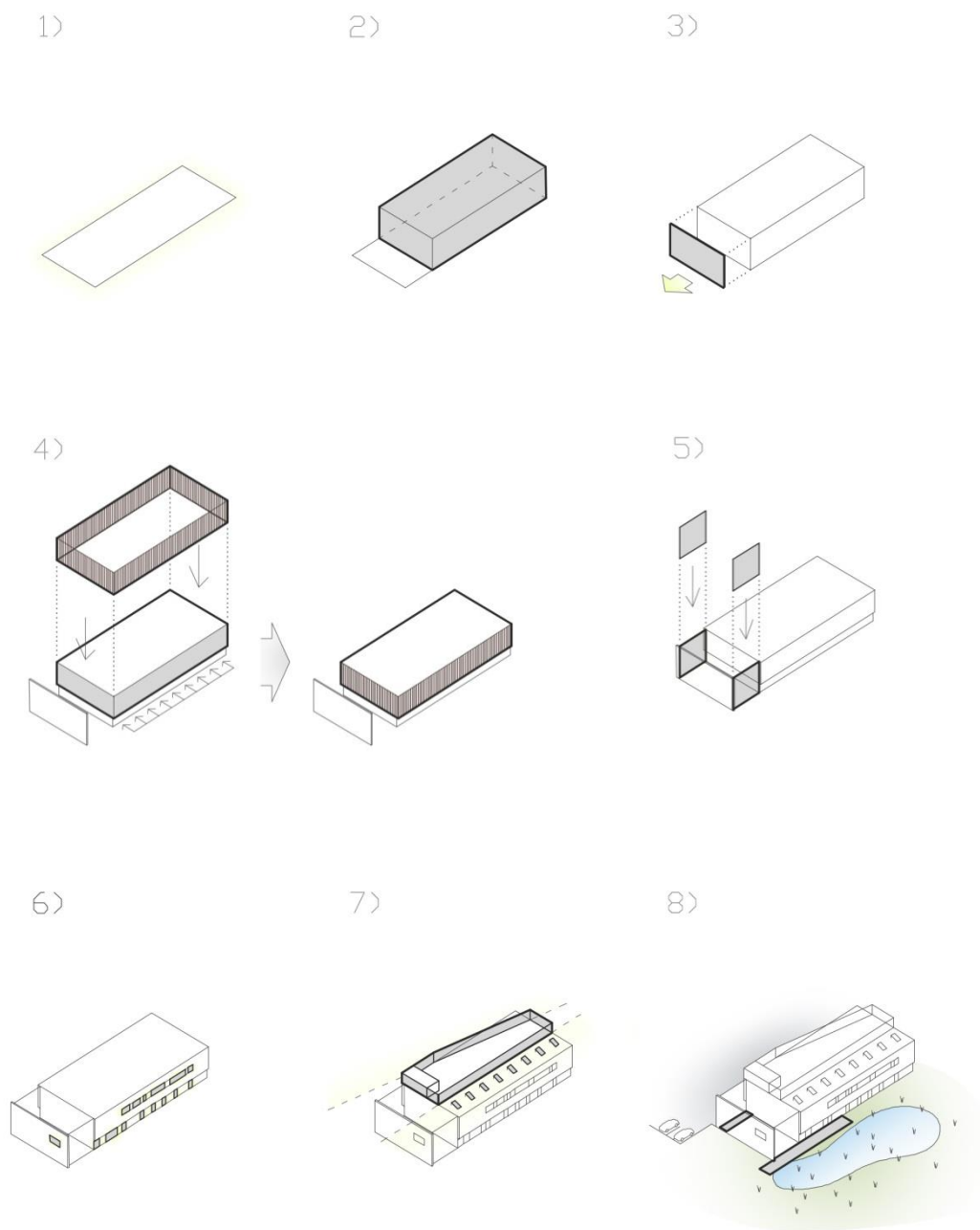


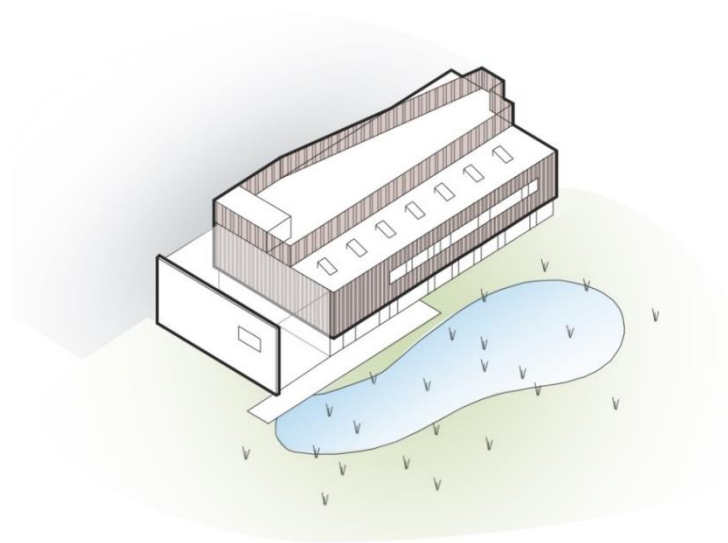
The building is approached from all elevations therefore each façade requires design consideration. The elevations are ordered ensuring key alignment of materials and interfaces between floors.

Transparency and connection with the proposed landscape will offer building users an enhanced environment giving a greater connection with the surrounding landscape which in turn offers a greater sense of well-being in the built environment.

Externally the interplay of transparent and solid offers definition and hierarchy of spaces which is reflective of internal function and use. Increased glazing areas are identified as communal or more relaxed environments in comparison to research laboratory spaces which having glazing arrangements to suit daylight criteria.

Building Concept - Component Diagrams





5.2 The Brief – Internal Organisation

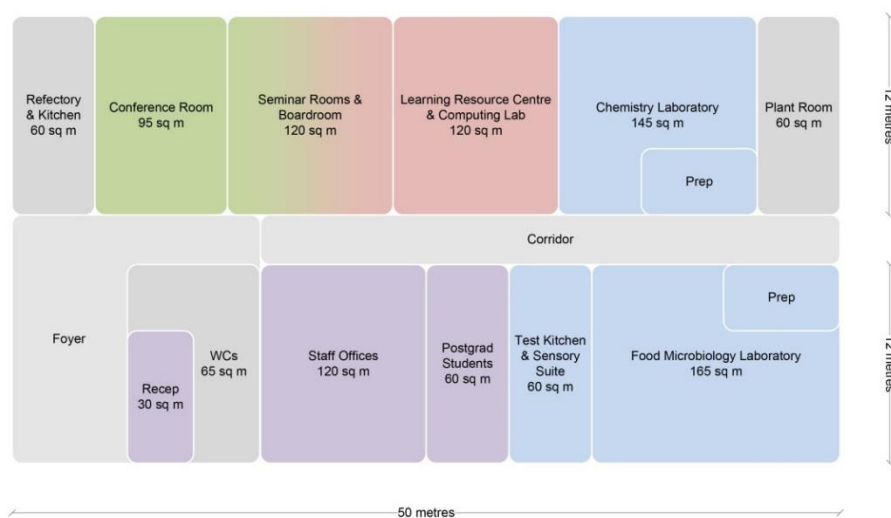
As part of an ERDF funding bid, the University provided an indicative schedule of accommodation to identify the key internal functional requirements of the building which was used to form the scale and mass identified in the Outline Application.

Holbeach Development
Proposed Layout – Phase 1
2 February 2016 – Version 2

Legend

■ Conference	■ Office
■ Teaching	■ Ancillary
■ Research	■ Circulation

Gross Internal Area = 1,350 sq m



The schedule of accommodation has been updated marginally through design development and Client instruction but the basic principles of accommodation type remain. The current brief makes for the provision of 1381m² of accommodation split over two storeys in the most part with an extension of stair access to the roof level.

Ground Floor GIFA:	688m ²
First Floor GIFA:	669m ²
Second Floor GIFA:	24m ² ge
Total GIFA:	1381m ²

In addition to the above, the scheme needs to achieve a BREEAM Excellent rating to meet funding criteria. The project will be assessed under BREEAM 2014 - 5.0, New Construction, Higher Education.

The internal configuration of spaces has been developed in conjunction with end users to ensure key adjacency requirements are incorporated into building design.

The plan arrangement is simple with the accommodation accessed from a central circulation spine. The main entrance and foyer space is a double height space which offers a sense of arrival and importance to the building. Small glazed group rooms overlook the foyer from first floor offering visual interaction. The foyer space links fluidly with the refectory area which overlooks the swale and soft landscaping area of the site. Visibility and transparency is maximised in this area.

Ground floor accommodation comprises of; reception, admin refectory, server room, seminar/networking suites, kitchen, plant room, staff office space.

First floor accommodation comprises of; library & information suite, post graduate office, food development laboratory & sensory suite, chemistry laboratory and food microbiology laboratory. An early decision was made to locate all laboratories on the first floor to aid easy mechanical ventilation and extraction solutions.

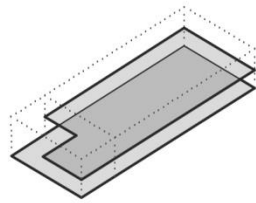
The building benefits from two stair cores at each end of the building. Both are expected to be utilised through the course of the working day, however Stair One adjacent to the foyer is recognised as the principal stair. A platform lift is positioned opposite Stair One for ease of access and in accordance with AD: Part M.

Toilet cores and facilities are vertically stacked for both ground and first floor locations.

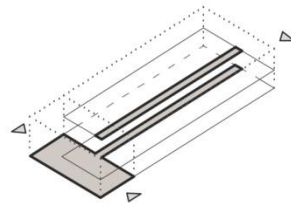
Second floor accommodation is only the extension of Stair One to provide access to the roof top external plant area.



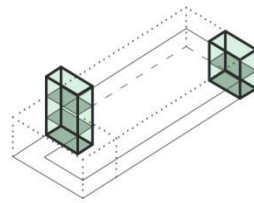
Building Concept - Internal Spatial Distribution



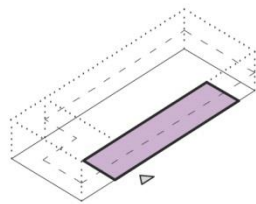
2 FLOORS



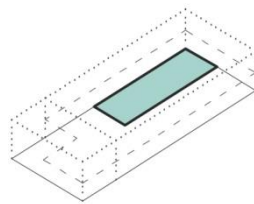
HORIZONTAL
COMMUNICATIONS



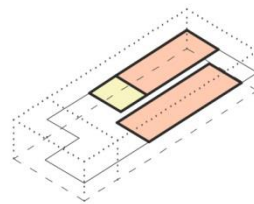
VERTICAL
CONNECTIONS



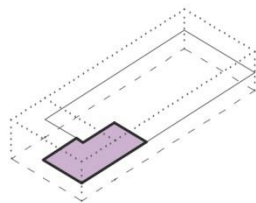
SEMINARS



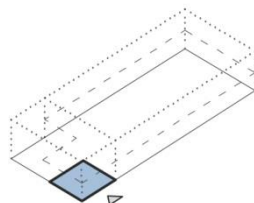
OFFICE



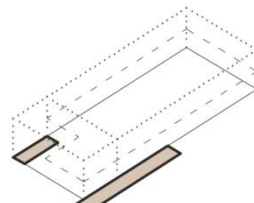
LABS



LIBRARY

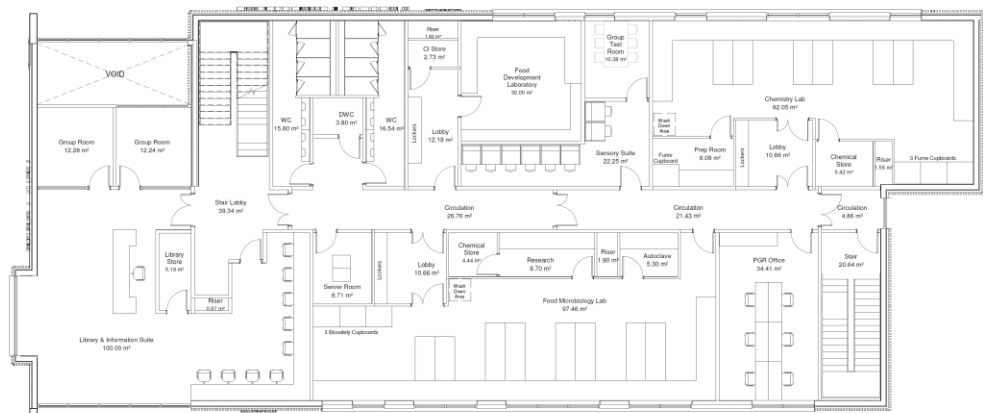


REFECTORY



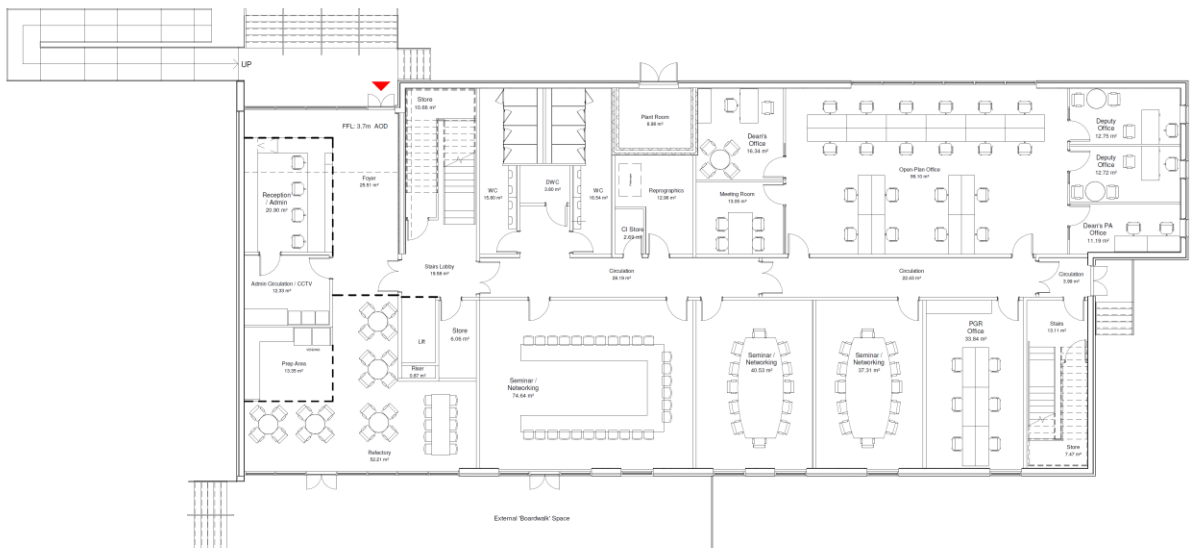
EXTERNAL
SPACES

Building Layout – Proposed General Arrangement



L1 - First Floor (Planning)

1 : 100



L0 - Ground Floor (Planning)

1 : 100

5.3 Scale and Massing

The scale and massing of the building is reflective of the Outline Planning Approval.

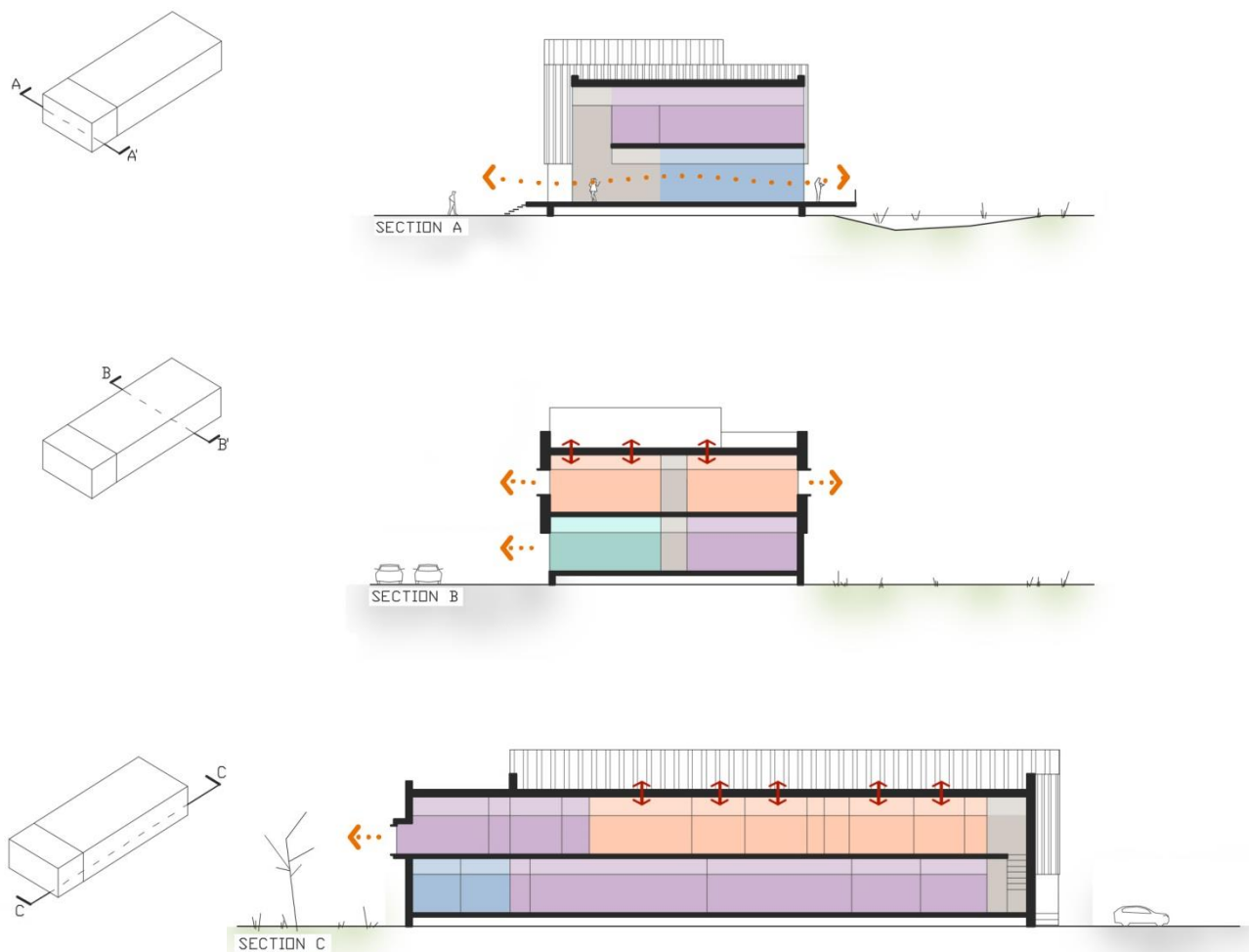
The building is raised above the surrounding ground level by 900mm to mitigate flood risk as identified in the FRA. Steps and ramps are identified in the design to meet AD: Part M. Reducing the building level to 300mm above the surrounding ground level is acceptable; however resilient construction needs to be considered which requires a University directive as this will have an impact on electrical installations, construction methodologies, risk, and insurance premiums.

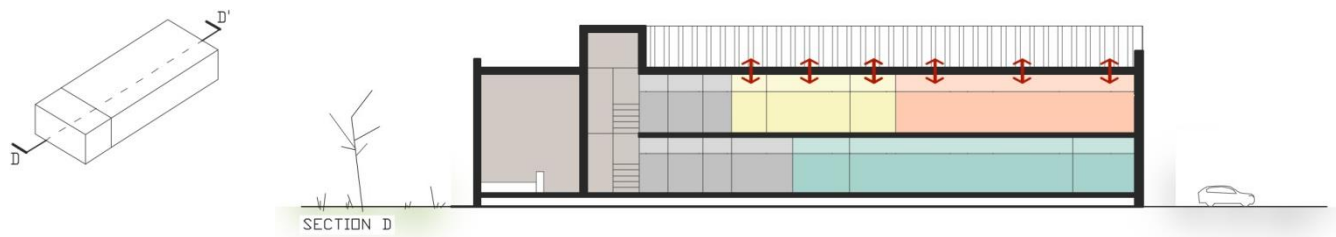
The two storey proposal has a floor to floor dimension of 3900mm designed to accommodate service distribution.

Material distribution to the building façade offers a reduced scale providing distinction to both the ground and first floor.

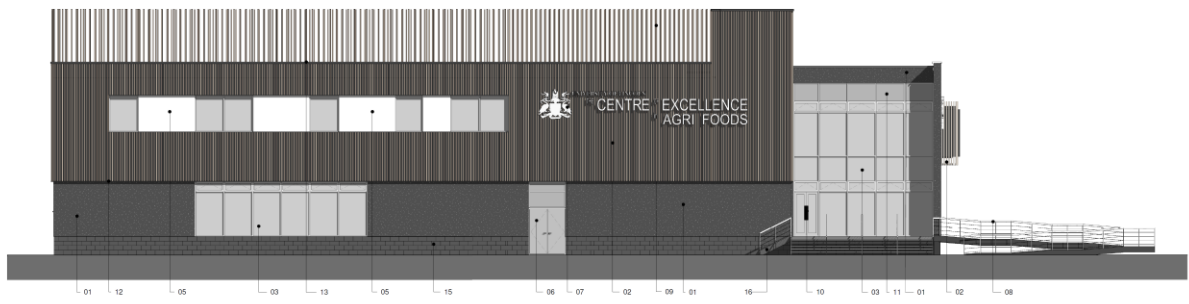
Roof top plant is hidden by a timber screen which is set back from the building edge. Whilst this offers additional height to the building, the mass is reduced by the offset and the cladding arrangement which reduces in density to the remainder of the building.

Building Concept – Design Sections

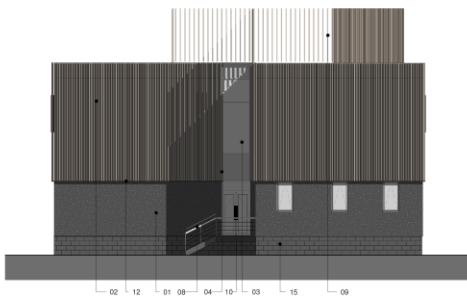




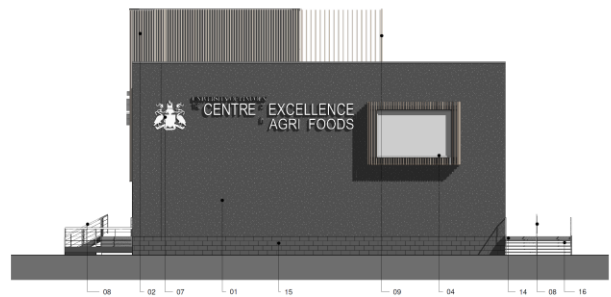
Building Scale – Proposed Elevations



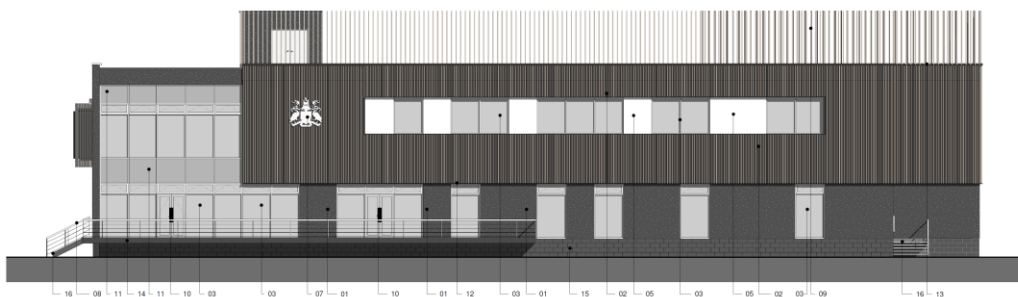
North-West Facing Elevation (Planning)
1 : 100



North-East Facing Elevation (Planning)
1 : 100



South-West Facing Elevation (Planning)
1 : 100



South-East Facing Elevation (Planning)
1 : 100



5.4 Building Materials and Construction

The facing materials have been selected as a result of consideration of the following issues:

- The provision of a strong civic presence
- A clean, simple and contemporary aesthetic
- Robustness and ease of maintenance
- Environmental performance
- Cost effective considerations
- A simple, consistent parapet line conceals the roof and simplifies construction

Key materials specified:

- Polished facing blockwork below DPC.
- Insulated render on SFS system
- Vertical timber cladding on SFS system
- PPC aluminium curtain walling
- PPC aluminium windows

Timber Cladding Precedent Images – Modern education facilities



5.5 Preliminary Visuals



Aerial view from the south



View from the south



View from the northwest



View from the southeast



View to the main entrance



View of the reception area





View of the refectory



View of the library



Cross section through main entrance, refectory and library

5.6 Access & Maintenance

In accordance with the requirements of CDM legislation, due regard to the ongoing maintenance of the proposals has been made during the design process. This ensures that a simple and pragmatic approach is incorporated for construction access and ongoing maintenance. In the meantime strategic decisions have been made as follows:

Plant and rooftop maintenance provision:

- A ground floor level plant room is provided for incoming services and electrical switch gear. This space is accessed from external hard standing.
- Mechanical plant is located on the roof within an external plant area screened for safety aesthetics. Access is via the extension of Stair One.
- Localised fall restraint will be provided, if necessary, to areas of roof accessible beyond the screened area.
- Roof gutters are located for easy and safe access within the screened area.
- Ceilings are set at 2500 mm, 2700mm or 3000m AFFL and standard University health & safety protocols are expected for maintenance at these heights.

Building fabric cleaning and maintenance provision:

- External window cleaning generally will be from ground level by pole-handled brushes. Areas of hard-standing have been designed in the landscape proposals to accommodate appropriate circulation areas.
- Internal high-level maintenance & cleaning will be by lightweight AWP mobile units (such as the Genie Run-about with Jib) or temporary scaffold platform. The main entrance doors will be designed for ease of equipment access.
- All major service risers in the building are easily accessed areas and full height (2100mm) access doors are incorporated in the proposals.
- Cleaners' stores are distributed throughout the floor plan on each floor.
- With regards to specialist areas such as laboratories and associated ancillary spaces, it is expected that University health & safety protocols are maintained for the ongoing management of these areas.

Construction access:

- It is intended that construction access will be via the FEZ access road leading from the A151. As the site has limited constraints a self-contained construction compound can be established. Further detail of this will be provided within a detailed Construction Method Statement developed by the appointed Contractor.



6.0 Structural & Civil Engineering

6.1 Overview

Substructure is currently identified as a piled foundation solution due anticipated ground conditions. Further analysis is required following the commission of the Phase 1 & 2 ground investigations.

The ground floor is intended to be a suspended slab given the position above the surrounding ground. The currently proposed floor construction is identified as 'beam and block'.

The structural frame for the new building is to comprise of a braced structural steel frame with a precast concrete first floor construction. A lightweight structural roof is used over the main entrance area.

A steel frame has been adopted to provide a lightweight structure with clear spaces and to allow future flexibility for the University as there are no internal loadbearing walls. Bracing and columns are positioned so as to minimise the intrusion on laboratory spaces and open areas.

It is intended that all steelwork has intumescent fire paint protection.



7.0 Building Services

7.1 Overview

With the aim to deliver an environmentally responsible development, a considered construction approach will be adopted utilising low energy design principles where possible. The aim is to minimise energy demand of the proposed new building through a fabric first approach and proficient use of services. It is intended to increase the new building elemental energy efficiency by influencing the materials of construction with improved levels of insulation and air permeability.



8.0 Statutory Approvals

8.1 Accessibility

The building proposals present a fully accessible facility, minimising barriers both to access, research and learning. The raised building level adds some complexity but ramped access is provided to the main entrance and disabled parking bays are positioned close to the main building access.

The internal arrangement is simple and legible: the plan provides a simple principal circulation arrangement. This legibility is strengthened further by direct visual and physical connections to the external landscape, and internally between the key activity spaces.

WC facilities are within prescribed travel distances and in accordance with AD: Part M.

A Part M compliant platform lift provides vertical movement.

The reception desk is designed in accordance with AD: Part M.

8.2 WC Provision

The building layout provides 10 no. toilets with 2 no. allocated as Disabled Access.

Occupancy projections are 71 users by 2025/26. As such we have designed the building to accommodate the relevant number of occupants in the future. Based on Workplace (Health, Safety and Welfare) Regulations 1992. Regulation 20, Sanitary conveniences.

On the basis of 76-100 people at work, a requirement of 5 wc's and 5 wash hand basins is determined.

We have also made provision for utilisation of the seminar/networking facilities which could be offered for private therefore increasing the capacity of the building during utilisation periods to circa 200 people potentially.

Therefore the WC numbers are reflective of such occupancy.

8.3 Acoustic Design

The internal passage of sound from room to room needs to be assessed with the Acoustic Consultant to agree dB ratings for walls to ensure the acoustics meet the University's requirements. Additionally, the level of acoustic absorption within each space and the relevant ceiling condition and wall absorption will need to be further considered.

It is not anticipated that the internal activities will be adversely affected by any existing environmental noise, as the site does not present any major acoustic issues and the ventilation strategy incorporated is mechanical which therefore provides additional resilience in terms of reducing window opening requirements.

Conversely, it is not anticipated that the proposed internal activities will contribute to local noise pollution in a detrimental way; plant will be designed to meet established parameters and agreed with the planning authority as the detailed design progresses.



8.4 Waste Minimisation, Recycling and Storage

Recycling areas will be incorporated both internally and externally. Waste will be collected and segregated in the building, and daily collections will be made to transport waste to the external waste and recycling store to suit University waste protocols.

The external waste store is located to enable refuse vehicle access and is concealed with hit and miss timber fencing.



9.0 BREEAM

9.1 Overview

The European Structural & Investment Funds, requires the project to achieve a BREEAM 'Excellent' rating.

The project will be assessed under BREEAM 2014, New Construction, Higher Education with a target of 'Excellent'

