University of Lincoln

Masterplan 01

Design and access statement

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Allies and Morrison
Architects

UNIVERSITY OF LINCOLN

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PREFACE

This document has been prepared by Allies and Morrison architects and Schoenaich landscape architects on behalf of The University of Lincoln, to provide a framework for the future design of the Brayford Pool Campus in central Lincoln, and for submission of an Outline Planning Application.

CONTENTS

1 INTRODUCTION

This document sets out a masterplan for the University of Lincoln's Brayford Pool Campus, in central Lincoln. It follows in the footsteps of a previous masterplan by Rick Mather Architects in 2001.

Allies and Morrison have been working with the University since October 2009 to re-address the Brayford Pool campus masterplan, with a particular emphasis on the south-east quadrant of the campus. This area has already been partly developed to the north and east, but around two hectares remain undeveloped.

Although new development (including buildings, infrastructure and landscaping) in the north- and south-east quadrants has followed an overall strategy, it would be fair to say that some development has taken place without the benefit of an up-to-date strategy for campus-wide development. The University of Lincoln, recognising that future development must take place within controlled parameters, have therefore instigated this 'refresh' of the development strategy.

The masterplan represented in this document responds to this inherited condition, enhancing the existing positive assets of the campus, and providing a set of flexible rules and conditions which will enable the University to develop successfully in the future.

Whilst this document does not define the design of individual buildings, it does provide an illustration of plot definitions and massing. This could be varied in the future - as detailed development proposals emerge, within the parameters set in this document.

This document is being submitted to Lincoln City Council as part of an outline planning application for the masterplan.

2 THE UNIVERSITY'S VISION AND ASPIRATIONS

2.1 Vision

The University of Lincoln aims to become one of the top 50 universities in the United Kingdom. The University's strategic objectives are as follows:

- To be recognised for teaching and learning that is informed by research and that is relevant to practice as well as for students and peers.
- To produce independent enquiring graduates, who enjoy learning, are enterprising, employable, and able to make a positive contribution to society.
- To attract, develop and retain the best staff.
- To maintain financial stability and sustainability.
- To engage with and contribute to the development of our partners and communities, locally and further field.
- To enhance the reputation and external profile of the University.

The vision and long term aim has always been to build a new university campus in the heart of the city of Lincoln. Following from the successful development of the campus to the present date, the University now wishes to embark on a new tranche of development on the Brayford Pool Campus, which will see the delivery of several major capital projects. In order to facilitate this, the University has identified a requirement to re-address the Brayford Pool campus masterplan, with the inclusion of a coherent landscape strategy which will unify the campus.

The new developments will create the type of facilities that the University of Lincoln requires in order to achieve its strategic objectives, providing exemplary teaching and learning in world class buildings.

2.2 A national beacon for Higher Education

Currently the university has over 11,000 students and 1,300 staff distributed across its five campuses in Lincoln (Brayford and Cathedral), Riseholme, Holbeach and Hull. Teaching and research is carried out by the University's six academic faculties:

- Agriculture, Equine & Food
- Art, Architecture & Design
- Business & Law
- Health & Social Sciences
- Media, Humanities & Performance
- Science

The University is also expanding its Science, Technology, Engineering and Mathematics (STEM) portfolio with the development of a strategic engineering partnership with Siemens, which has led to the construction of a School of Engineering on the Brayford Pool campus.

The University currently has some 104,000 square metres of space distributed across its four campuses. A major rationalisation and development programme is underway and this will enable the disposal of numerous freehold and leasehold properties inherited at the University's foundation in 2001. Simultaneously, a smaller volume of new freehold space is being constructed on the University's principal campus to support the University's growth and the enhancement of student and staff experiences.

The development of new accommodation should allow the University to act as a beacon for education within the local community by providing buildings that raise aspirations – on the inside, as well as the outside. Developments should facilitate 21st century learning rather than 20th century teaching and provide opportunities of partnership working and sharing of spaces, for example with schools and employers.

The existing buildings and the new developments must be closely related. Good circulation routes should be provided between new and retained structures. This will mean that occupants of existing buildings will have reasonable access to the full range of social, learning and support facilities provided in the new environments.

2.3 A sustainable environment

As a public institution the University takes its responsibility to provide a sustainable environment very seriously. Future students will have an increasing expectation that colleges will provide such an environment. The principles of sustainability involve developing environments that ensure that we live within sustainable limits, are economically viable over the lifetime of the project and, above all, are attractive and pleasant environments for occupants. Please refer to section 18 of this document for further detail.

2.4 Masterplan history

The Brayford Pool campus was masterplanned in 2001 by Rick Mather Architects. This masterplan arose from the University's desire to have a coherent strategy for its development over a 10 year period.

This work followed the development of the northern 'quadrants' of the campus, those adjacent to the Brayford Pool and Foss Dyke and north of the railway lines, and the partial development of the southern quadrants.

By this time, the Main Administration Building and the Media Humanities and Technology Building (at that time the Learning Resources Centre) were built, as was the Science Building to the south. The Sports Centre had also been developed, and the Students Village occupying the north-western area was also complete.

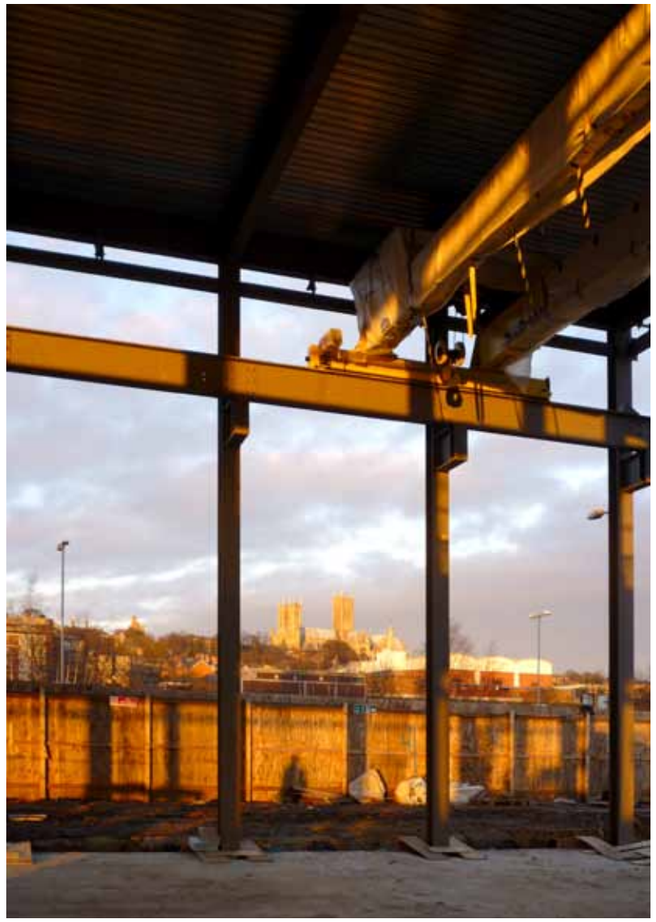
Although much development had taken place on the campus, the 2001 masterplan established important principles for the future development of the campus, particularly the remaining undeveloped land to the south-east quadrant.

These principles established a flexible block structure that allowed views of the cathedral whilst gradually knitting the campus into the existing urban centre. It incorporated a high level of permeability, incorporating new and existing routes and a new railway crossing. Existing historic buildings to the east of the site were intended to be retained and re-furbished.

Development from 2001 to the present day has followed the principles of the 2001 masterplan, with the renovation and extension of the Great Central Warehouse to form the main University Library and the conversion of the Engine Shed to form the Student Union and a performance venue.

2.5 Masterplan refresh

The development of the south-eastern quadrant has now reached a point where it is necessary to re-address the masterplan and overall vision for this area of the campus, and to establish a strategy for 'refreshing' the masterplan, establishing principles for the next phase of development as well as a plan for the design of the public realm, in order to better integrate the different parts of the campus ciples of the 2001 masterplan, with the renovation and extension of the Great Central Warehouse to form the main University Library and the conversion of the Engine Shed to form the Student Union and a performance venue.



The new Faculty of Engineering building whilst building was in progress, April 2011

3 LINCOLN

Lincoln is situated 150 miles north of London, or 40 miles north-east of Nottingham. With a population of approximately 85,000 or 120,000 including the entire urban area, it is a relatively small city today, although its historical importance as a Roman and Medieval settlement was significant.

Lincoln's economy is based mainly on public administration, commerce, arable farming and tourism. Although some of the Industrial firms like Rustons Gas Turbines (now Siemens) are still in existence, many of Lincoln's industrial giants have ceased production in the city, leaving large empty industrial warehouse-like buildings. Some of these sites to the south of the city centre around Tritton Road have been taken up by retail-park development, and more recently some these buildings have become multi-occupant units, with a diverse range of businesses taking up space.

Like many other cities in Britain, Lincoln has developed a growing IT economy, with many e-commerce mail order companies setting up in or around the city. A plethora of other, more conventional small industrial businesses are located in and around Lincoln. One of the reasons for building the University was to increase inward investment and act as a springboard for small companies. The University's presence has also drawn more businesses of various kinds to the town centre around the Brayford Pool.

Lincoln - Location

4.0 LINCOLN'S HISTORY

In order to understand the University site and its city context, it is important to have some notion of how the city of Lincoln has developed over time.

Lincoln is an ancient city, with its origins in an Iron Age Celtic settlement. This settlement and subsequent development owes much to the geography of the area - the natural pool at the bend of the River Witham (the Brayford Pool), and the steep hill commanding a defensible position.

The following pages give a short description of Lincoln's development up to the present day.

Re-construction of Lindum Colonia - the Roman settlement in the early fourth century AD.

4 LINCOLN'S HISTORY

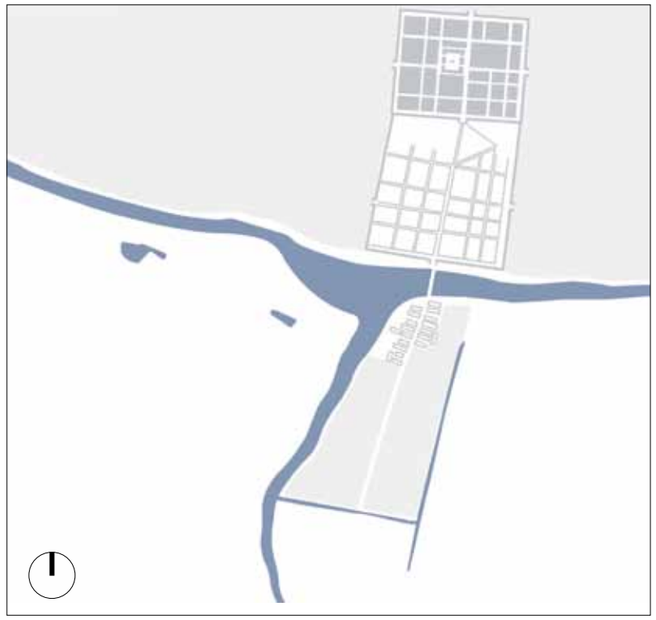
4.1 Iron age and Roman

An Iron Age settlement dating to the first century BC was found by Archaeologists in 1972. This is thought to be the earliest origins of Lincoln, and was built next to a deep pool formed by a natural widening of the River Witham, now known as the Brayford Pool, and at the foot of a large hill. This early settlement was known as Lindon – "The Pool".

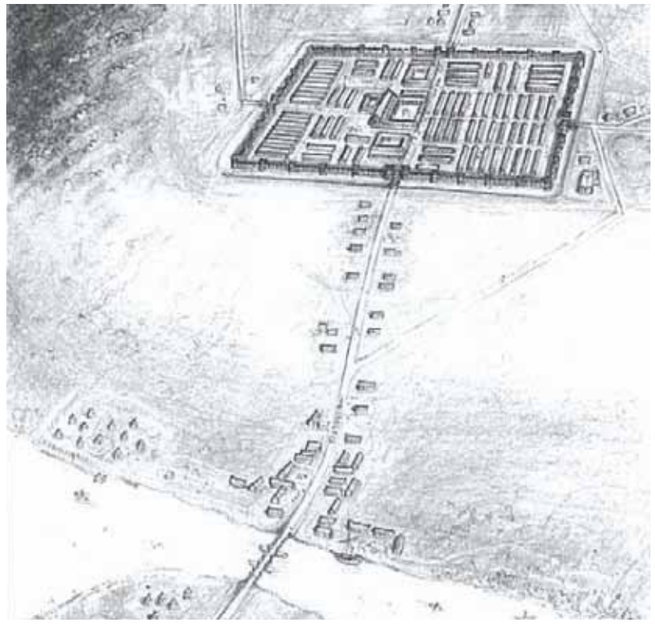
This part of Britain was conquered and occupied by the Romans in AD48. Soon afterwards, a legionary fortress was established high on the hill at Lincoln, a strategically important and easily defensible position. The fortress overlooked the Brayford Pool, and was situated at the northern end of the Fosse Way road (now the A46).

The Roman fortress settlement was known as Lindum, and became Lindum Colonia in AD 71 when the Legion moved on to York, and Lindum became a settlement for army veterans. The original hill-top fortress was at this point extended to roughly double its size, southwards down the hillside to connect the settlement with the Brayford Pool.

The settlement flourished, with trading connections from the sea via both the River Trent and River Witham (although it is now thought that the Foss Dyke was not constructed by the Romans), until the mid forth century, when the city began a slow decline concurrent with the fall of the Roman Empire.



Lincoln - 300 AD



Lincoln - Early Roman settlement

4 LINCOLN'S HISTORY

4.2 Medieval

After the first destructive Viking Raids in the 860's and 870's, the Danes settled in Lincoln towards the end of the ninth century. This brought a new phase of economic development to Lincoln, and over the subsequent two centuries the city flourished and again rose to prominence. In 1068, following the Norman conquest of Britain, William I ordered a castle to be built on the site of the first Roman fortress, for the same strategic reasons.

Soon afterwards, in 1092, a Cathedral was begun in a walled precinct facing the Norman castle. The original building was destroyed in a fire, and again in an earthquake in 1185. It was again re-built and enlarged, and at this time had spires which made it the tallest building in Europe. As Lincolnshire was the largest diocese, Lincoln was a powerful and wealthy centre of the church administration. This is highlighted by the building of the administrative complex of the Bishop's Palace, one of the most important buildings in Britain, to the south of the Cathedral in the late 12th century.

Lincoln's wealth and power continued to increase through the medieval era, and by 1150 it was one of the wealthiest towns in England. The basis of this economic success was cloth and wool, which was exported to Flanders. Outside the castle and Cathedral precincts, the old town clustered around Bailgate and down Steep Hill towards High Bridge and the docks along Brayford Pool.

The city again began an economic decline from the 14th Century, due to a number of factors including a succession of plagues and the lower town's tendency to flood. In the 16th Century, the dissolution of the monasteries exacerbated Lincoln's decline, with the main sources of diocesan income being cut off.

Lincoln - 1300

Lincoln Cathedral

4 LINCOLN'S HISTORY

4.3 Agricultural and Industrial Revolutions

Lincoln's economic fortunes began to pick up during the Georgian Era, with technological progress in agricultural methods and the large amount of flat land suitable for arable farming providing a new merchant economy. A number of fine Georgian buildings are in evidence around the city, notably around the Cathedral and Castle precinct area in Minster Yard.

The building of the railways in 1846 brought a new age for the city. By the 1850's Lincoln had four lines and two railway stations, connecting Lincoln via the Great Northern Loop line to Gainsborough, Boston and Spalding, and joining the Great Northern main line at Peterborough.

The railway obviously improved connections to the city enormously, and changed the appearance of the lower part of the city, bringing not only new stations but sidings and goods yards (one of which became the site for the University). It allowed the development of a large number of industries around it – at first based on the production of agricultural machinery but later engineering firms (including Ruston's) and other heavy industries. The areas to the south of the city, around High Street, were developed with terraced housing to accommodate the expanding industrial workforce.

Lincoln - 1840

Lincoln - 1883

4 LINCOLN'S HISTORY

4.4 Twentieth century

During the first and second world wars, Lincoln was heavily involved in war production. The first tanks were invented, designed and built by William Foster & Co during the First World War, and during the Second World War Lincoln produced a variety of tanks, aircraft, munitions and military vehicles. Lincoln was heavily bombed during World War II, with the heavy engineering plants being major targets.

Ruston and Hornsby began producing diesel engines for ships and trains, and later in the 1950's started producing the worlds first gas turbines for energy production. Ruston Gas Turbines (as R & H became) was the largest employer in the city at this time, employing over 5000 people.

Engineering remained the dominant employer in the city until the 1960's, but as with the rest of the country, heavy industry declined in Lincoln towards the end of the twentieth century, in favour of a more service based economy. Today a significant number of people are still employed in Lincoln in engineering and the production of turbines.

Large suburbs and public housing schemes saw the city grow in the twentieth century. The St Giles estate to the north of the city was the first of these schemes to be built from 1914. This was intended to provide a higher standard of accommodation to poorer families than the dense terraces to the south of the city. Further estates (the Ermine estate to the north, and the Birchwood estate to the west) have resulted in the city occupying a far larger geographical spread. The city has also grown to the east, largely through private developments.

Lincoln has also developed its retail sector from the 1980's onwards, with the building of several large developments in the city centre - the Waterside Centre and St Marks. The latter occupies former engineering works land to the south of the city centre, and links the High Street with the Tritton Road trading estate to the south of the University. Changes to the road network, particularly the building of Brayford Way linking Carholme Road to Tritton Road and Ropewalk, allowed both the further expansion of the Tritton Road retail area, and the instigation of the University of Lincoln on former railway goods yards to the south of the Brayford Pool.

The opening of the University has had a major effect on the city, being a major employer in its own right, attracting business and enterprise to the city, and of course catalysing many new businesses due to the student economy.

The history of the Brayford Pool campus is outlined in section 8.2.

Lincoln - 20th century


RAILGATE
OPEN
2

5 LINCOLN TODAY

The following series of diagrams explain the make up of the city centre today in terms of use or character. Of course, the city is much more complex than this, but it is certainly possible to identify areas that maintain an overall character or identity.

Lincoln is, perhaps because of its topography and history, quite clear in its form and disposition of different areas of use.

5 LINCOLN TODAY

5.1 Uphill Lincoln and High Street

Uphill Lincoln

As has been described previously, the Roman settlement was situated to take strategic advantage of the steep hill on which Lincoln is situated. Subsequent historic development followed the same pattern and, unsurprisingly, the uphill district is characterised by the city's historic cathedral and castle, several sections of Roman city wall, and a large number of historic buildings dating from the medieval era onwards.
Because of this, the uphill district is the area most visited by tourists, with several large hotels in the area. The Bailgate area provides niche retail, restaurants and cafes which also benefit from the tourist trade. Housing in the uphill area tends in general to be at the higher end of the market.

High Street

Historically, the uphill area has always had some connection with the River Witham and Brayford Pool, enabling the city to trade. The Roman city, having firstly occupied the uphill area, extended the city walls down the hill to make this connection. The historic route along The Strait and High Street is today the main retail spine of Lincoln. The character of this route gradually changes as you walk down the hill, from smaller independent outlets to larger national retail brands further down the hill.There is a clear change in character of the High Street as it crosses the railway level crossing at St Mary's Street. Historically, the route southwards was the Roman Ermine Street built on a causeway to carry the Roman road above the flood plain, and although some development occurred along this route in Roman to medieval times, it was outside the city walls and so unprotected. The advent of the industrial revolution and the large scale development of terraced housing for factory workers in the flat area to the south east of Lincoln began to give this part of the High Street a different character, more oriented to the workers living in the surrounding streets. Today, the differing character remains, although new developments such as the St Marks retail area have increased the desirability of the retail offer.

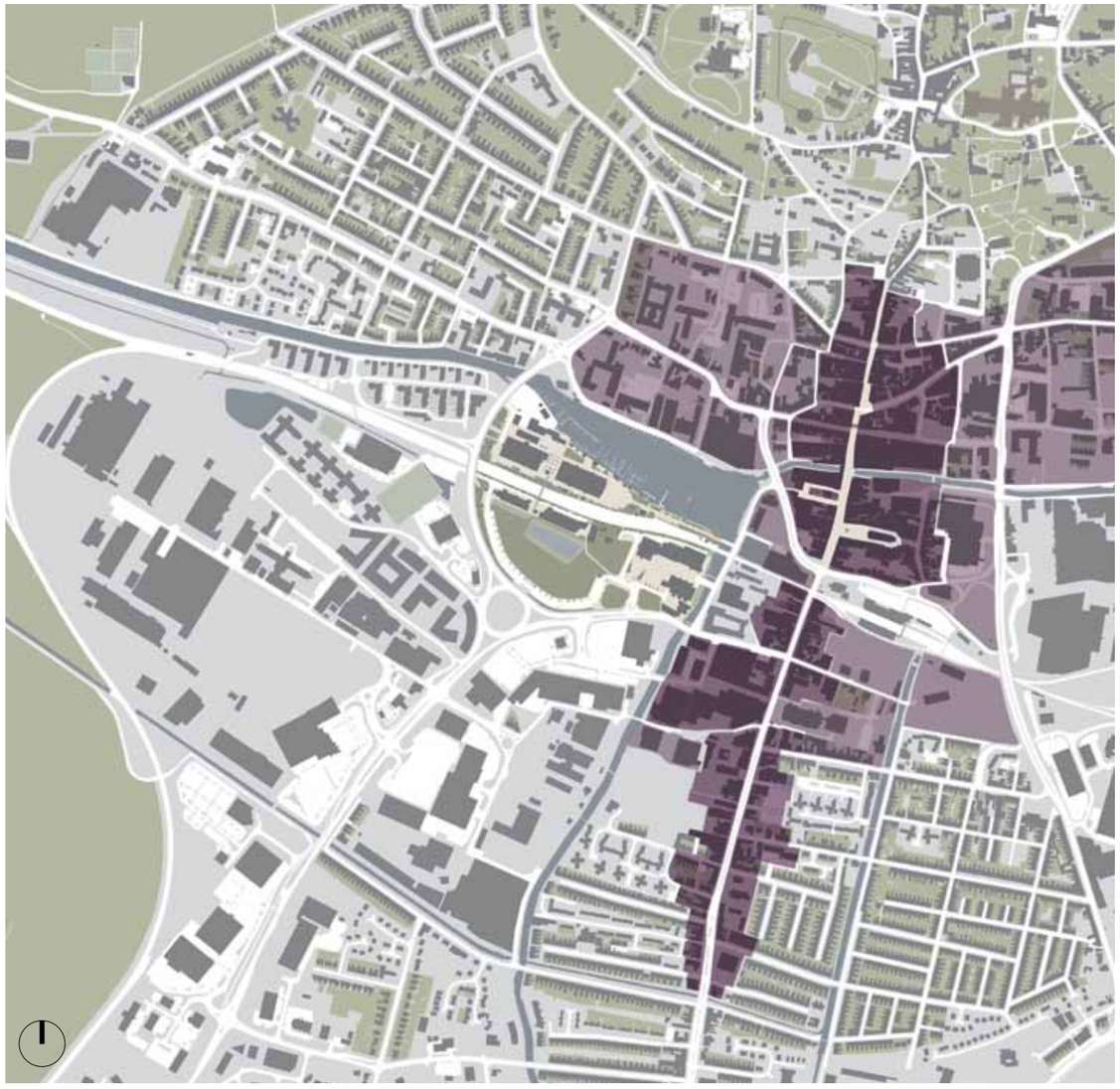
High Street Uphill Lincoln

Cornhill - part of the High Street retail area

5.2 City centre commercial

The areas peripheral to the main retail spine of High Street, but in key central locations tend to be where offices and other commercial premises are located today. The area between Brayford Wharf North, Newland and Beaumont Fee as an example, is varied in its uses but is typified by office buildings (including the City and County Council offices), hotels, a cinema and both surface level and multi-storey car parks.

Historically, these areas were developed as moderately wealthy residential suburbs, and this is still apparent in the mix of building types today. A large number of the residential buildings have now been converted to commercial uses, and sit alongside larger purpose-built commercial premises.



Commercial Areas

5.3 Industrial

The arrival of the railways in the 19th Century brought a large amount of industrial activity to the city. The factories and engineering works made possible by the new rail connections clustered around the railway in the flat areas at the foot of the hill, and along the banks of the River Witham. Some of these industrial sites are still in evidence today, mainly to the eastern side of Broadway, notably Siemens, and to the south of the Brayford Pool in the Tritton Road area. Some sites are presently disused, whilst others have been redeveloped as retail parks or in the case of some warehouse buildings, converted to residential use.

Industrial areas

Industrial Areas

5.4 Residential

Although residential buildings and smaller residential areas are evident in the peripheral city centre and commercial areas (particularly recently as the University has been developed and city centre living has become more popular), the main residential areas of Lincoln are those to the west (Carholme Road and West Parade to Yarborough Road), to the south (Each side of the High Street, including the Sincil Bank area) to the east (Monks Road area) and large to the north (along Wragby Road, Nettleham Road and Newport).

These areas differ in character; the areas around Monks Road, High Street and Sincil Bank largely are low lying areas developed with rows of terraced housing situated close to the industrial areas that grew up around the railway. Around Carholme Road, West Parade and Yarborough Road, the housing was developed for the more affluent middle class, and although still fairly dense, the houses are larger with gardens. To the north, the areas along Wragby Road, Nettleham Road and Newport differ amongst themselves, but in general were developed later (20th century) and include a mix of middle class semi-detached housed alongside several large housing estates such as the Ermine and St Giles estates.

Foss Bank looking towards Carholme Road

Residential Areas

5.5 Retail park and green areas

Retail park

As has been mentioned above, the area of the city around Tritton Road, to the south of the Brayford Pool and the west of High Street has now been re-developed to form large retail parks. The decline of large scale industry in this area meant that relatively large plots of land were available on the periphery of the city centre, and this made the area attractive to large 'destination' retail warehouses, needing large amounts of on site car parking.

When these retail developments started in the 1980's, they were almost completely disconnected from the city centre and the high Street. More recently, this area has been re-connected to the southern part of the High Street by the St Marks development, which provided an anchor department store to attract shoppers further along the High Street.

Although the retail park areas are now connected to the High Street, the pedestrian experience could be vastly improved, especially in the areas next to Tritton Road and Ropewalk. Connections from these areas to the University are particularly important. The next phases of development of the retail areas will provide an opportunity to address these issues.

Green areas

Although there are many small scale public squares and spaces within the fabric of the city, green public parks and gardens (excluding school playing fields) are not easy to find in the city centre. Green spaces are limited to the garden of the Usher Art Gallery on Lindum Terrace, the Arboretum on Monks Road, and Liquorice Park on Yarborough Road. Other green spaces exist within the castle walls, to the rear of the Lawn hotel and in the grounds of the Bishops Palace. At the edges of the city, larger parks and green spaces exist; Boultham park to the south, the West Common along Carholme Road, and the South Common.

Retail park and green areas

The Usher Gallery gardens

Retail developments to the south of the Brayford Campus

Retail parks

Green areas

The Jews House - A listed building in Uphill Lincoln

6 HERITAGE, CONSERVATION AND ARCHAEOLOGY

6.1 Conservation areas

Although the majority of the Brayford Pool campus is not in a conservation area, the boundary of the West Parade and Brayford conservation area cuts across parts of the north- and south-eastern quadrants of the campus. This area takes in the historic buildings of the University's south-east quadrant, the original 'Engine Shed' and Great Central Warehouse, which has now been converted to be the University's main library. The proximity of the conservation area to new university buildings places an obligation on the design of the new building to take the character of the conservation area into account.

6.2 Listed buildings

There are many listed buildings in Lincoln, as can be seen from the diagram opposite. The vast majority of these are clustered around the HIgh Street, Strait and uphill areas, with far fewer south of the railway.

The only listed building of note adjacent to the University campus is the former Lincolnshire Motor Company showroom building on Brayford Wharf North - a 1959 modernist building designed by Sam Scorer.

Listed buildings and Conservation areas

6 HERITAGE, CONSERVATION AND ARCHAEOLOGY

6.3 Townscape and inherited character

Lincoln City Council has developed the Lincoln Townscape Assessment, in order to map all areas of Lincoln in terms of their character. 108 'character areas' have been identified and the townscape of each area assessed in terms of its history and development, urban form and the public's views of character.

The Brayford Pool campus sits within three of the character areas identified by Lincoln City Council. The north-western quadrant has been identified in its own right as the 'Campus Village' character area; the north-eastern quadrant is part of the 'Brayford' area (along with the area around Brayford Wharf East) and the majority of the southern quadrants form the 'Lincoln University South' character area.

The University campus also borders several adjacent character areas; 'Tritton Road Industrial' to the south, 'Boultham Mere' to the west, 'Carholme Road' and 'Fossdyke north' to the north.
The character area studies contain a large amount of detailed information about each character area. The relevance for the future development of the masterplan is to gain an understanding of the inherited character and history of the area, in order to develop sensitively and appropriately in the future.

In terms of this masterplan study, the most relevant areas to consider are 'Lincoln University South' and 'Brayford'. The key characteristics of the areas are as follows:-

- Lincoln University South
- Post-modern style buildings throughout area.
- Large building footprints.
- Unity in architectural style and repetition of materials.
- Large blocks in west of Character Area with limited or unclear permeability.
- One 'urban' block containing the main university buildings.
- Lack of enclosure from large roads, car parks and grassed areas.
- Brayford Way cuts across area affecting pedestrian movement.
- Strong traffic links to rest of city via Brayford Way and to rest of area via pedestrian routes.
- Pedestrian routes limited to footway on Brayford Way and two footbridges over railway line.
- Railway line forms boundary to the north.

Brayford
- Key position in Lincoln sited below the north escarpment and the Cathedral and Castle, and at the confluence of the Fossdyke and River Witham, as well as being close to the commercial and retail centre of High Street and between the city centre and the University.
- The Modern Period (1968-2007) has seen large-scale redevelopment of the area that has created a markedly different character with the loss of much of the earlier townscape.
- The Brayford Pool and the River Witham themselves are key characteristics and the Character Area is focused around them with many large, mainly modern buildings of different styles and form facing onto the water
- A lively character, during both the day and night, with a variety of uses including commercial and leisure, and as part of Lincoln University campus
- Two distinct urban forms within the Character Area, both facing the waterfront: - the more dense Brayford Wharf North and Brayford Wharf East, and the 'campus-like' university south of the Brayford.
- Limited sense of enclosure around the Brayford due to the variety of building types and scales, and some large spaces between them.
- Brayford Pool has a long and complex history of developments dating from Prehistoric times, some of which can still be seen in the current townscape.
- Survival of a few smaller scale buildings and long narrow plot layouts on Brayford Wharf North and Brayford Wharf East reflecting previous townscapes.
- A mix of modern purpose-built buildings and converted railway buildings form part of the University of Lincoln campus in the south of the area.
- Good pedestrian routes around the water throughout the Character Area; however, there are poor pedestrian links to High Street, and, in part, to Newland to the north.
- There are important views to the Cathedral and hillside throughout area but these are obscured in many places by tall buildings.
- Almost surrounded by busy roads. Heavy traffic along the raised roadways of Brayford Way and Wigford Way acts as a barrier to movement between the Character Area and other parts of the city.

It is important that the character of these areas is taken into account and respected in the detailed design of any buildings, particularly to safeguard elements of the character areas that are felt to be important. In the case of Lincoln University South, maintaining views of the cathedral, keeping the buildings to an appropriate scale, and positioning the building to create a better sense of enclosure to the area are all important aspects of design. In general, the area has a diverse mix of building type, with a variety of scales, materials and function. Any new university buildings should not depart significantly from the scale, massing or footprint of the established character area buildings, and materials should be chosen carefully to be appropriate to the surroundings and general context of Lincoln.

6.4 Archaeology

There have been various excavations on the Brayford Pool campus to date, the most recent being carried out by Lindsey Archaeological Services in 2008. This excavation, which found evidence of Mesolithic settlement, was carried out as a 'watching brief' during the construction of the Delph Pond.

The campus area is important archeologically, and further excavations may be required as and when new development takes place.

7 INTEGRATION WITH THE CITY

7.1 Linking Lincoln

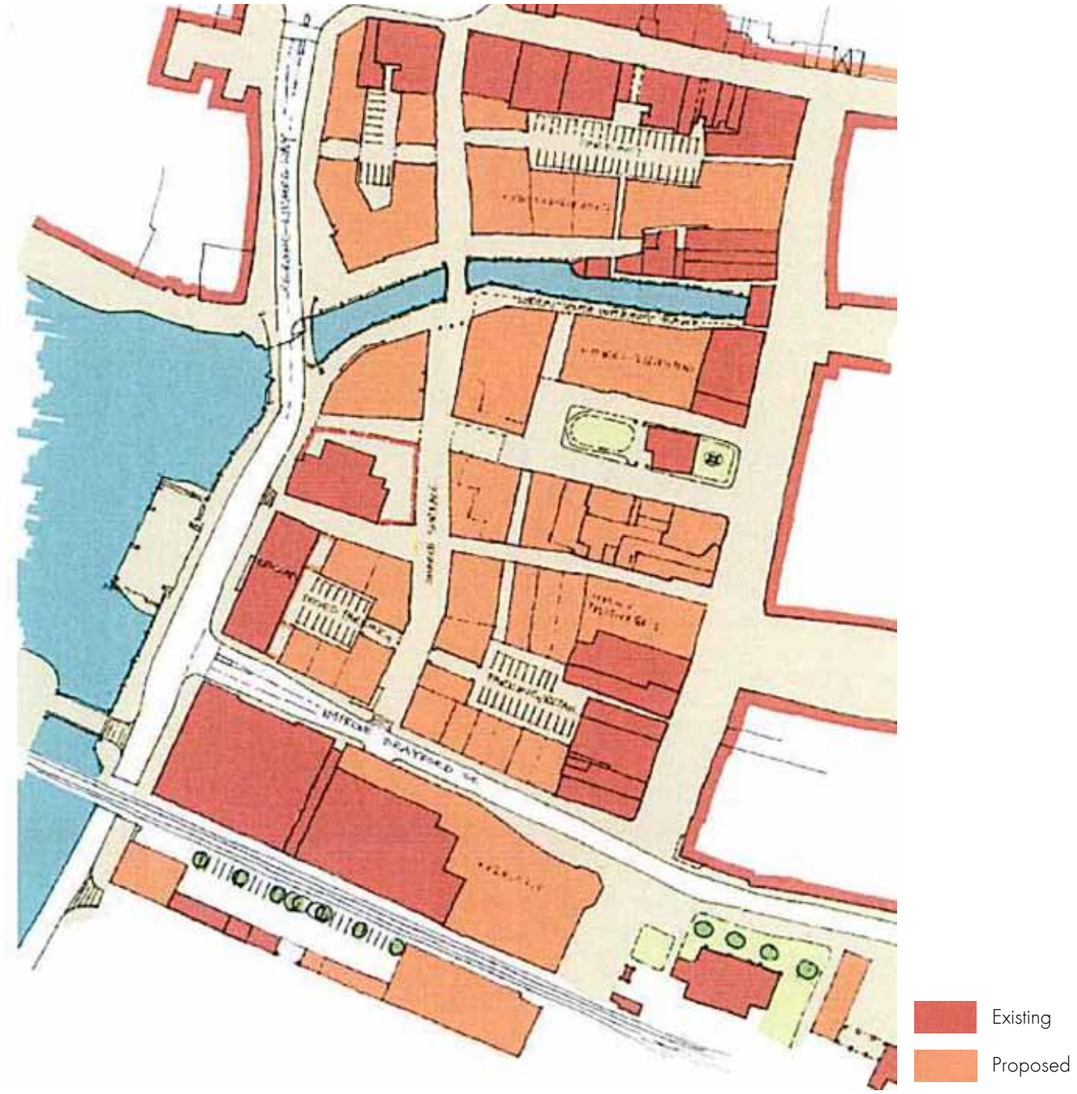
Recognising the need to formulate a coherent strategy for future development in Lincoln, Lincoln City Council in partnership with Lincolnshire County Council, Lincolnshire Enterprise and the East Midlands Development Agency commissioned the Princes Foundation for the Built Environment to provide advice in the preparation of a city centre masterplan. This resulted in the document 'Linking Lincoln – Enquiry by Design' published in 2007.

Since then, as projects and strategies have developed, the Linking Lincoln project has continued to evolve, with the masterplan being tested through further workshops with stakeholders, including the University of Lincoln.

The 'Linking Lincoln' document gave advice on a general strategy for the city, but also focussed on a number of 'Key Intervention Sites'. The most relevant of these in terms of the Brayford Pool Campus masterplan looked at the Wigford Way area, the area between High Street and Brayford Wharf North known as Wigford Yard and St Marks.

7.2 Wigford Way site

In this area, the re-alignment of Wigford Way is suggested, in order to facilitate a more useable series of urban blocks, with the intention of maximising frontages to the High Street, the River Witham and the Brayford Pool. This is a long term approach, as it involves a serious road re-alignment and the re-development of a large amount of land. If instigated, it would provide increased permeability in the area, new links between the Brayford Pool (and University) and the High Street, and an improvement in setting along the Brayford Pool and River.



Wigford Way Site
Image from 'Linking Lincoln – Enquiry by Design' 2007, the Prince's Foundation.

7.3 University site

The area between Brayford Wharf East and High Street is currently used as car parking and service yards – it is really the back of buildings facing the main roads. It is suggested here that this urban block is redeveloped to provide a new pedestrian link Between Brayford Wharf East and High Street, and also to establish a new 'University Square' reached by crossing a wide bridge across the River Witham.

In addition to the suggestions in the City Centre Masterplan, this area will also suffer from the increase in railway freight traffic proposed by Network Rail. Careful consideration needs to be given to mitigation measures on Brayford Wharf East to avoid queuing traffic and pedestrians at the level crossing. Significant investment will be required to implement these mitigation measures, to avoid detrimental effects to the university campus.

University Site
Image from 'Linking Lincoln – Enquiry by Design' 2007, the Prince's Foundation

7.4 St Mark's site

As well as the suggestion that more activity faces St Marks Street and other key routes, the suggestion in this area is to increase density to the western side (facing Ropewalk) – to develop on land that is currently surface level car park.

St Mark's Site
Image from 'Linking Lincoln – Enquiry by Design' 2007, the Prince's Foundation

7 INTEGRATION WITH THE CITY

7.5 The East-west link

The East-west link refers to a proposed strategic change in highways and transportation infrastructure, intended to connect the High Street with Canwick Road, and running along the current line of Tentercroft Street.

This link has become necessary because of changes to railway timetabling, meaning that an increased amount of freight trains will pass through the city. This in turn will mean that 'downtime' on the High Street level crossing will significantly increase in the future, causing knock-on effects for bus and car traffic on High Street and St Mary's Street.

The main impact of this for the University masterplan is the potential increased downtimes to level crossings, both on the High Street, and Brayford Wharf East. This raises questions as to pedestrian and vehicle permeability in the area generally, and increases the desire to form a new pedestrian link between Brayford Wharf east and High Street. It also increases the need for a further pedestrian connection across the railway between the north- and south-east University quadrants, and to provide a permanent way of crossing the high Street railway crossing, perhaps by means of a bridge link or pedestrian underpass. In addition to these impacts on pedestrian and road traffic, the University will also suffer greater levels of noise from the railway, and this may mean that further noise mitigation measures need to be considered in future buildings.

It is possible as a result of the East-west link, that the High Street from St Marks Street to St Mary's Street may become pedestrianised. The character of this part of the High Street would potentially change considerably, especially if a pedestrian link can be formed from the University.

7.6 Brayford Pool EDF

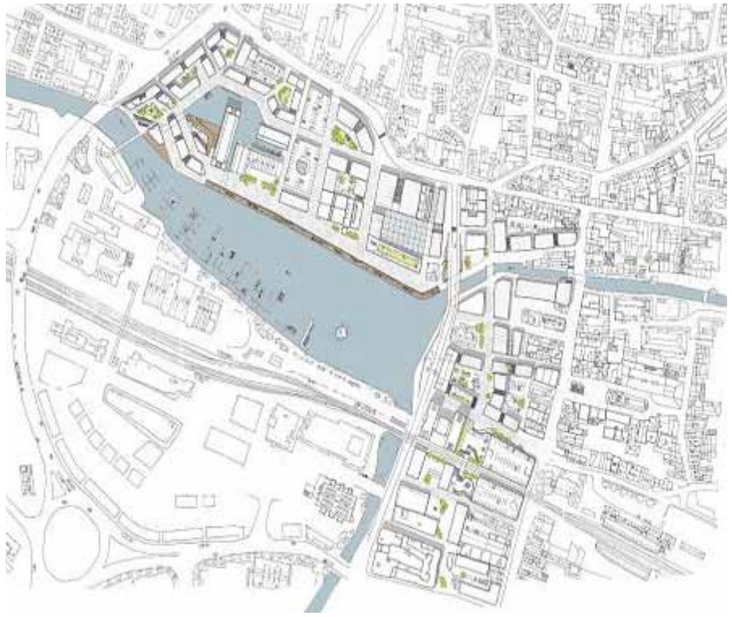
This Enabling Development Framework document has been produced by an independent group to provide "a vision which will provide developers (public and private) with a level of certainty in land assembly, assuming that the EDF achieves a level of 'prior endorsement' by the local planning authority."

The scope of the study overlaps with that of the Linking Lincoln city centre masterplan, particularly to the eastern side of the Brayford Pool where the street pattern and grain of the city centre masterplan are adopted.

To the northern side of the Brayford Pool, between Brayford Wharf North and Newland, a new urban structure has been suggested, with an illustrative vision of the qualitative aspects of the scheme.

At the time of writing, the Brayford Pool EDF has not been endorsed by the City Council.

The east-west link (diagram)
Image: Capita Lovejoy, Lincoln City Council, 2010



Brayford Pool EDF
Image: BP EDF Consultancy, 2010

8 SITE CONTEXT

The Brayford Campus site is unique in its situation, history and development, and this has given the campus a particular sense of place.

In the following pages we describe the Brayford Pool campus as it currently exists (critically in some cases), as well as defining the constraints to development, and the particular physical assets that already exist and that should be maintained and enhanced in the future.


Cathedral
Castle
Carholme Road
Brayford Wharf North
Brayford Pool
NE
NW
Fossdyke Canal
Railway
Railway Station
Brayford Wharf East
SW
SE
Brayford Way
Ropewalk
Tritton Road

8 SITE CONTEXT

8.1 The Brayford Pool campus

The University of Lincoln's Brayford Pool Campus is situated in the low lying area of 'downhill' Lincoln, adjacent to the River Witham and Brayford Pool, to the south-west of the city centre.

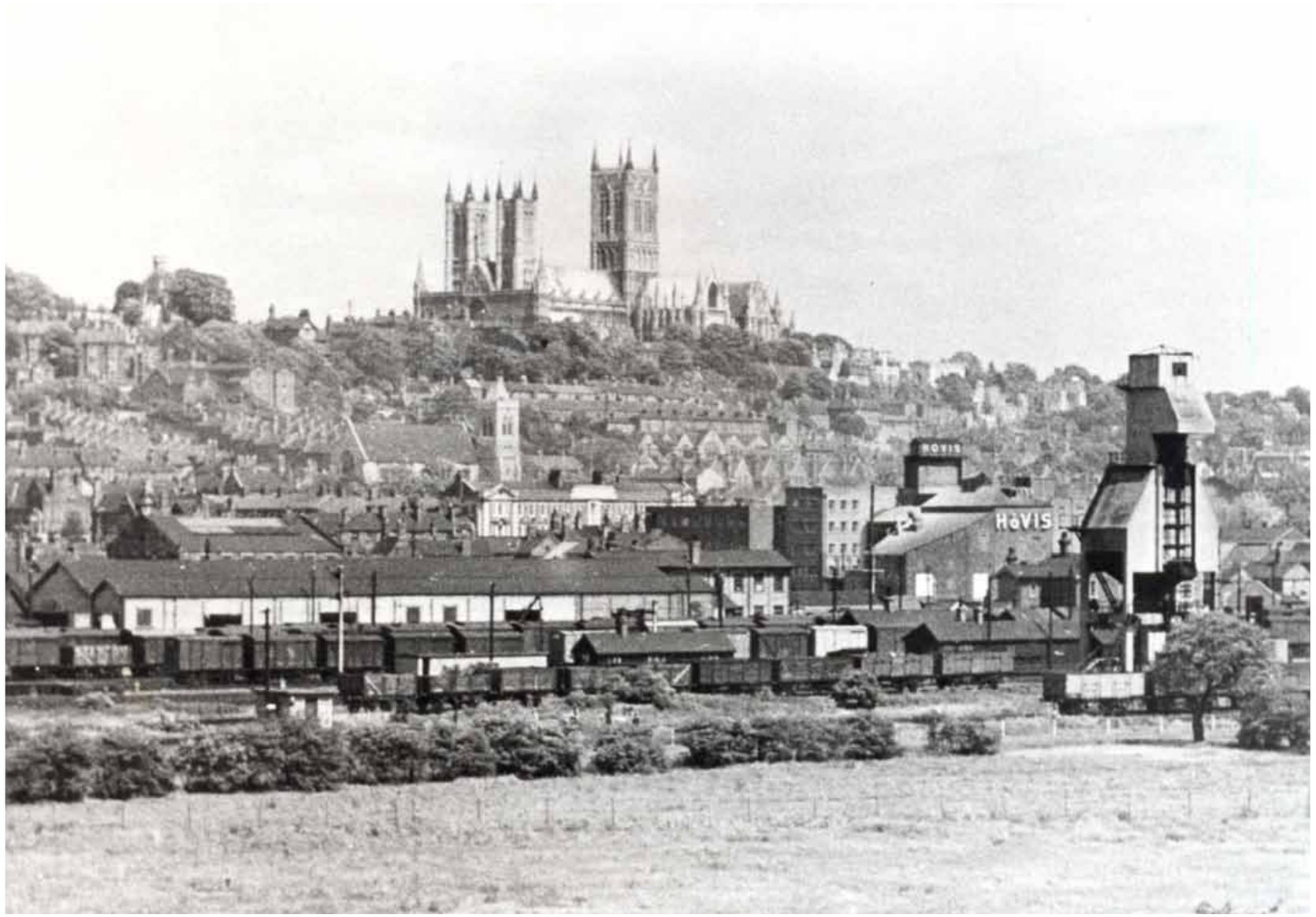
The campus as a whole is roughly defined by the River Witham to the east (although the university is now expanding eastwards across the river), the Brayford Pool and Foss Dyke to the north, and the sweep of Brayford Way to the south-east. To the south-west, the University's ownership is more complex and borders a retail development and an area of new student housing around Poplar Avenue. The campus is divided into four quadrants by Brayford Way, the road built at the founding of the campus to facilitate access from the Tritton Road area northwards across the Brayford to Carholme Road, and the railway which runs roughly east-west across the campus.

Future development of the campus will be focussed on the south-east quadrant of the campus. Bordered by the railway to the north, Brayford Way and Ropewalk to the west and south, and the River Witham to the East, this quadrant has a large amount of land available for new development, as well as a number of existing buildings, largely to the north and east, such as the Engineering Hub, Science Building, the Architecture Building, The Engine Shed and the main University Library.

In terms of this study, the brief from the University of Lincoln is to provide a masterplan that primarily addresses the area defined by the red line in the diagram opposite. This includes the north- and south-east quadrants of the Brayford Pool Campus, and well as small areas of the western quadrants, and Wigford Yard area between Brayford Wharf East and High Street.

It should be said here that although the primary focus of the masterplan is this area, the wider area of the Brayford Pool campus has also been considered, as well as areas of the city outside the campus. It has been necessary to widen the study area in order to address the issues of integration into the wider city, particularly permeability and pedestrian routes to the surrounding areas.

The Brayford Pool campus


HOVIS
HOVIS

8.2 Site history

The Brayford Pool itself has always played a pivotal role in Lincoln's history – indeed Lincoln began to be settled because of it, and the banks of the north and eastern sides have since Roman times been occupied by wharfs to facilitate the handling of water-borne goods. The southern bank of the Brayford was never used for this purpose.

Prior to 1846, the area south of the Brayford Pool was low lying undeveloped common land known as Holmes Common, drained by the Delph Drain. The Building of the railways began in 1846, and by 1851 the loop line of the Great Northern railway had been built, taking the same line as the present day railway across the site. The area remained in this state until the 1880's, when an engine house and several goods warehouses began to appear. This continued into the twentieth century, and by the 1920's the site was completely covered by railway sidings and goods yards which became known as Holmes Yard. These sidings served the burgeoning industrial area around the railways, and included a coal stage for refuelling trains.

During the twentieth century, and certainly until the 1970's, the nature of the site did not really change, with railway sidings and goods handling still apparent. As the city's heavy industry declined, so did the necessity for the goods yards, sidings and warehouses, and these were gradually abandoned. The area then fell into disuse dereliction until the mid 1990's, when the University campus was begun

The Brayford Campus was established in 1996, as part of the new University of Lincolnshire & Humberside. The development of the site was made possible by a large highways project, connecting Tritton Road to Carholme Road by a new road called Brayford Way, and allowing the area to be accessed from the north and north-west.

In 2001 the University relocated its headquarters from Hull to Lincoln and changed it's name to the 'University of Lincoln', and since then the University has been steadily growing.

The north-east quadrant was the first to be developed in the 1990's, and the campus's first building, the Main Administration Building, can be found here.

Campus Site - looking west 1995

Campus Site - looking east Mid 20th century.

Main Admin Building

EMMTEC and Institution of Media, Humanities & Technology, looking north east

EMMTEC and Institution of Media, Humanities & Technology, looking east

9 SITE DESCRIPTION

9.1 North-east quadrant

The north-east quadrant was one of the first parts of the Brayford Campus to be developed, giving the University an immediate presence facing the waterfront of the Brayford Pool.

This part of the campus is developed with two large multi-use faculty and administrative buildings (the Main Administration Building and the Media, Humanities and Technology Building), which sit parallel to the railway and the bank of the Brayford Pool. Smaller buildings such as the EMMTEC (East Midlands Media and Technology Enterprise Centre), a building housing Student Services, the Primary Care Trust, a crèche and a bar are situated to the north-west of the two larger buildings.

This part of the campus is accessed by foot along a long driveway from Brayford Wharf East. This occupies a relatively narrow space between the water and the railway, and so is unsuitable for larger buildings. The old East Holmes signal box can be seen adjacent to the railway at the start of the entrance walk.
The access walk is split into a trafficable drive (although not open for general vehicle access to the university) and a footpath immediately next to the bank of the Brayford Pool, with a varied and sometimes sparse row of trees between. Although the footpath is potentially the more pleasant route, being next to the water, people generally tend to use the paved vehicle surface rather than the un-paved and often muddy footpath.

As the Main Administration Building (MAB) is approached, a small pavilion building on the left of the driveway houses the Lincoln Canoe Club, which occupied a building on the site prior to the instigation of the university and was re-housed. There is a large open space in front of the MAB, with delineated block-paved vehicle routes forming a semi-circular arc to the left and right. The space that is formed in front of the building (originally intended as an open air performance space) is paved and contains no vegetation. It is not a welcoming space, and seems to be underused. Crossing this space, the main entrance to the MAB is seen at the moment as the main entrance to the University. This leads to a large atrium space that forms a pedestrian route through the building from east to west.

The public space to the north of the MAB is one of the most successful in the campus presently, although improvements could be made. It has a reasonably strong character, being next to the Brayford, but also enclosed by the building facade. Seating areas, views of the cathedral and appropriate planting to landscaped areas help to make this a successful place. The pedestrian route that passes through this area continues through a square, and then between the Media, Humanities and Technology (MHT) Building and EMMTEC towards the Student Village to the west.

The square between the MAB and MHT buildings should be one of the University's key public spaces. It is relatively well defined by buildings and links to the 'waterside' space described above. Poor quality landscape treatments and planting has contributed to this space not being as successful as it should be.

To the south of this space, a lift and stair tower gives access to a pedestrian footbridge across the railway to the south-east quadrant. This is a key linking point between the north- and south-east quadrants.

To the southern side of the MAB and MHT buildings, a paved road next to the railway provides the main service access to these large buildings. Some car parking is also providing to the south-west of this service area.

Walking eastwards between the MHT and EMMTEC buildings, the public route is compressed to be relatively narrow. The MHT building is cut away at ground and first floor levels along this route, to form a covered, colonnaded route. To the east, a larger space opens out, crossed by a service road. This peripheral space is next to the raised Brayford Way, with densely planted embankments providing a green edge to the space. Directly ahead, the primary pedestrian route to the student village is through a purpose-built tunnel forming a level underpass below Brayford Way. This pre-cast concrete tunnel is generous, light and well maintained and so is not unpleasant.

The area to the south of the EMMTEC building is less well formed, although the PCT and student services block also provides some enclosure to the public square described above. To the west of this a crèche seems currently to be at the edge of the campus. These buildings do not form an adequate frontage to the public square, or an adequate frontage to the Brayford Pool. Service and car parking areas sit on the Brayford side of these buildings.

To the north-west, an area occupied mainly by car parking fronts the Brayford Pool and continues below the underpass of Brayford Way. This area has only recently been acquired by the university having previously been used for marina activities, and is intended for re-development by the University.

The Brayford Pool waterfront along the length of the north-east quadrant is one of the most important aspects of the siting of the University, helping to define its character. The waterfront itself is under the control of the Brayford Trust, a charity that aims to maintain, improve and enhance the Pool and its environs. The waterfront gives access at various points to boat moorings, usually via a controlled access gate. The quality of the landscape at the waters edge varies considerably along the length of the pool.

9 SITE DESCRIPTION

9.2 South-east quadrant

The area of primary interest in this study is the south-east quadrant. This has the largest amount of developable space on campus, and will therefore be the focus of future building programmes.

The main pedestrian entrance is from Brayford Wharf East via a recent footbridge across the River Witham. Crossing this modern bridge, a large open square is defined by the University's Main Library (the converted Great Central Warehouse) to the south, the Engine Shed (a student union and events building, converted from a historic railway shed) to the north, and the Lincoln Performing Arts Centre (LPAC - a new performance venue) to the west. The square is currently only half formed, and needs further definition and an appropriate landscape solution.

The Main Library and Engine Shed form an important frontage to the River Witham to the east. Together with the new Enterprise @ Lincoln bulding to the south, these buildings address the waterfront in a positive way, although planting and landscape treatments to the river banks could be addressed in the future. The new or re-modelled building elevations facing the river seem appropriate given the industrial history of the site. Further fragments of this history can also be seen in this area, for example an iron footbridge across the river.

To the south-east corner of the campus, adjacent to Ropewalk and Brayford Wharf East, a converted brick building is now Sparkhouse Studios, housing small and start-up businesses.

Two further buildings, the Science Building to the north-west, and to its east the Architecture Building hold the northern edge of the quadrant next to the railway. In a similar way to the MAB and MHT buildings, a service road runs between the buildings and the railway allowing the main route of service access. Between these buildings there is a small space, with a stair and lift tower giving access to the 'Science Bridge' to the north-east quadrant. The route in front of the Science and Architecture buildings is axial, and leads directly to the 'Library Square'.

The Engineering Hub was completed in 2011, and now sits to the south east of the Architecture building. This building is the first new building to be built according to the principles in this document, and reinforces the axial route described above.

The main vehicle entrance to the south-east quadrant is via a large controlled junction to Ropewalk. This junction is currently unsatisfactory in terms of the dominance of vehicular traffic over pedestrians, and the constraints placed on future development by the layout.

The Ropewalk junction leads to several access roads serving the LPAC, Library and Sparkhouse buildings, and also to the Engineering Hub and west to Boulevard Road. This follows the curve of Brayford Way and contains a large number of surface level car park spaces. Trees have been planted along this edge to the campus, but they have not grown well and seem sparse.

To the south, Brayford Way itself was laid out to form a wide arc from its junction with Carholme Road to a large roundabout meeting Tritton Road. The geometry of the road is now a major constraint in the design of the future masterplan, as is the barrier that the road and roundabout create to pedestrian movement to the south.

Between Boulevard Road and the Architecture and Science buildings, a large open grassed area is intended for future development. A pond known as the Delph Pond lies at the centre of this area. This is a piece of functioning drainage infrastructure controlled by the Upper Witham Drainage Board, and is designed to take surface water run off from the eastern campus as well as allow for flood attenuation. Culverts, both above and below ground, connect this pond with the surrounding network.

There are excellent views of Lincoln Cathedral from this area, something that has begun to be exploited in the previous masterplanning work and in the design and layout of the Architecture Building and Engineering Hub.

1)


2)

1) Library Square 2) Architecture building and Engineering Hub

9 SITE DESCRIPTION

9.3 South-west quadrant

The south-west quadrant is the smallest area of the University, and predominantly accommodates the University sports centre.
This is accessed by vehicles via the Boulevard Road and an underpass below Brayford Way - a circuitous route. By foot, access is either using the same route as above, via the 'Sports Bridge' from the Student Village, via steps directly from Brayford Way, or directly from an area of student housing to the south (see below).
The Sports Bridge lands to the rear of the Sports Centre, on a raised platform that then slopes in a long series of ramps to the buildings entrance area. A further raised access walkway and steps leads to an area of car parking to the rear of the sports centre.
Further car parking areas surround the south and east sides of the sports centre block, although to the eastern side a new extension has now been built. This accommodates a new Human Performance Centre.
Sports pitches border the centre to the east and west, the former being a full size artificial football pitch. To the north of this, a balancing pond connects with the delph drain described above, and an area of car parking provides the only opportunity for development in this location.
To the south-west of the sports centre, an area of private student housing – 'The Pavilions' – provides a visually poor backdrop to the area. This is a large complex providing student accommodation and facilities, and comprised of slab blocks of 5 to 9 storeys.


1)


2)


3)

1) "The Pavilions" Private student housing 2) Carpark and Sports Bridge 3) Aerial photograph of the South-west Quadrant

The Student village in the North-west quadrant looking east from campus

9.4 North-west quadrant

North West Quadrant:
Developed concurrently with the north-east quadrant above, this quadrant is largely occupied by the Student Village, an area of 17 blocks of 3 to 4 storey student flats.

These blocks of student flats are organised in a regular rhythm, and form private landscaped courtyards between each pair.

As described above, the primary pedestrian access to the north-west quadrant is via a tunnel link below Brayford Way. There are also pedestrian routes below Brayford Way to the north, from Brayford Way itself via a stair, and via Campus Way – also the main vehicular entrance to both the north-east and north-west quadrants. Campus Way slopes down from Brayford Way forming an embankment adjacent to the railway, and leads to three paved access roads which in turn allow access to the residential area and also to the north-east quadrant.

As well as the student residences, there are also buildings housing the University's accommodation office, the Village Hall (containing student and teaching facilities) and Bridge House.

A pedestrian bridge connects the Student Village with the sports centre to the south across the railway. This lands at the foot of Campus Way, adjacent to the Estates and Facilities Building.

Although the Blocks of student flats face the Fossdyke, this waterfront area is underused and disappointing. A service road runs along the length of the waterfront, as well as a lower towpath, and therefore the housing does not face the waterfront; this area almost seems like the back of the buildings.

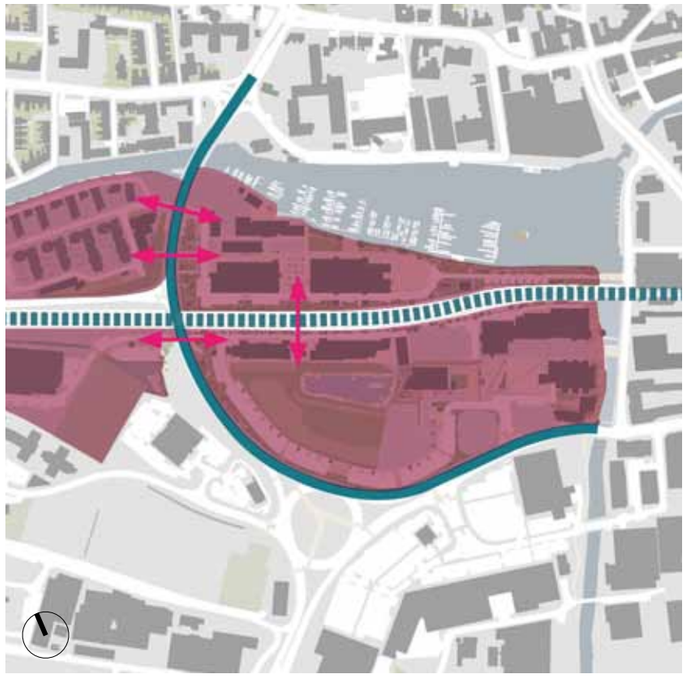
The student village

North side of student village facing Fossdyke canal

10 ASSETS AND CONSTRAINTS

10.1 Railway and Brayford Way

The key constraints to the south-east quadrant are the Railway and Brayford Way. These two pieces of major infrastructure effectively divide the campus into four quadrants, and necessitate bridges, crossings or tunnels to negotiate them. In addition, railway authorities are planning to increase rail freight traffic significantly by 2015. It is anticipated that this will mean that level crossing 'down time' on Brayford Wharf East and Lincoln High Street is increased at peak times, as well as increasing noise levels. In response to this, the City Council are instigating an Urban Design study and plan to build an east-west link road between High Street / St Mark Street and Pelham Bridge to the east, and possibly to pedestrianise the High Street from St Marys Street to St Mark Street.



Railway

Brayford Way

Existing crossing point

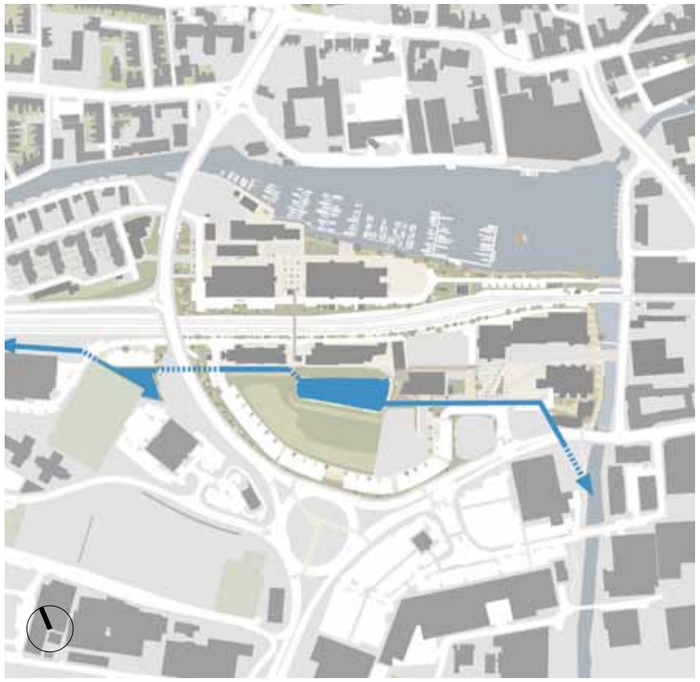
Underpass below Brayford Way, with the railway adjacent

10.2 Balancing pond and culvert

The recently re-cut Delph balancing pond is (and will remain) a major landscape element in the south-eastern quadrant, and its recent re-positioning and re-sizing was in line with a previous masterplan and the requirements of the Environment Agency and the Upper Witham Drainage Board, in relation to flood risk and surface water storage capacity. The pond is a functional piece of infrastructure, and it may be necessary to increase its capacity in the 2012 masterplan (dependant on negotiations with the two statutory bodies mentioned above).

An underground culvert runs eastwards from the balancing pond, and turns south-eastwards to the campus boundary with Ropewalk. There is a 6m exclusion zone above the culvert, placing a constraint on development along its length. The masterplan has been developed to take this into account, and buildings will sit entirely outside of this zone.

The delph pond functions as a device to balance the water levels in the surrounding area. It is also used to provide capacity in the event of flooding, and for surface water drainage.

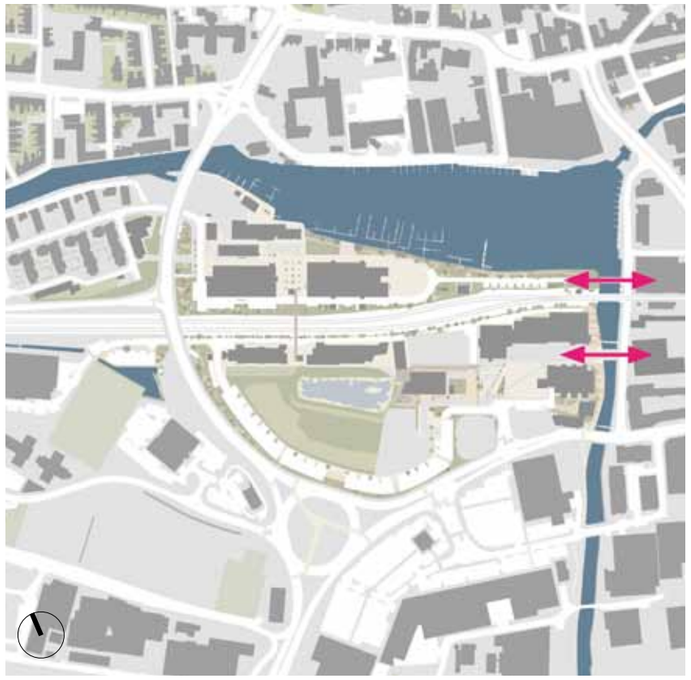


Balancing Pond and Culvert

The Delph balancing pond

10.3 Waterways

Whilst the campus is bounded on its north and east sides by the Brayford Pool and River Witham respectively, these waterways are as much of an asset as a constraint. Although they pose a definite barrier to movement and expansion, they provide an attractive and characterful backdrop to the University. The new bridge across the Witham connecting the south eastern campus to Brayford Wharf East was an important linking device in this area, and provides adequate permeability.



Waterways

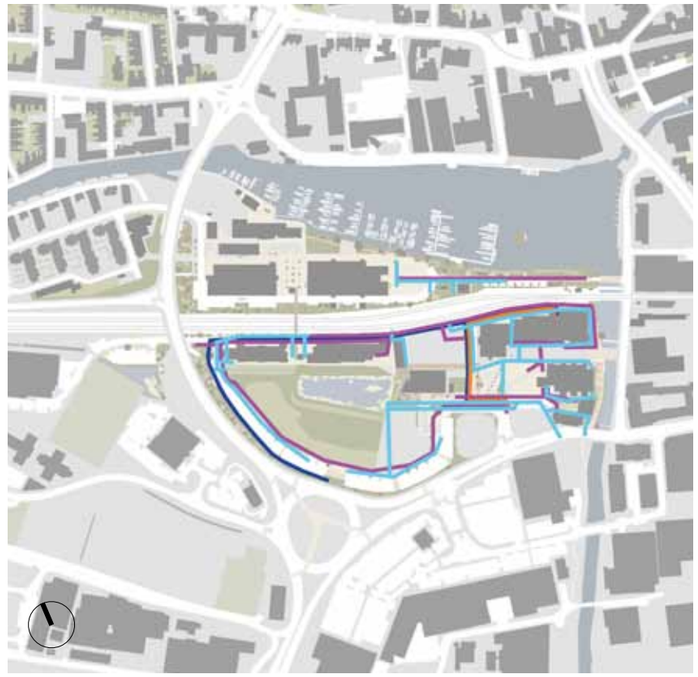
Bridge crossing

The River Witham with the new Enterprise@Lincoln building to the left.

10.4 Below ground services and infrastructure

Generally below ground services run along the service road to the west of the LPAC building, along the service road to the rear of the Architecture building and follow the Boulevard Road at the southern edge of the site.

There are other services running through the area, such as power cables directly across the site, but these are generally small power for lighting.



Cables

Sewers

Water

Gas

The service road to the rear of the Architecture Building

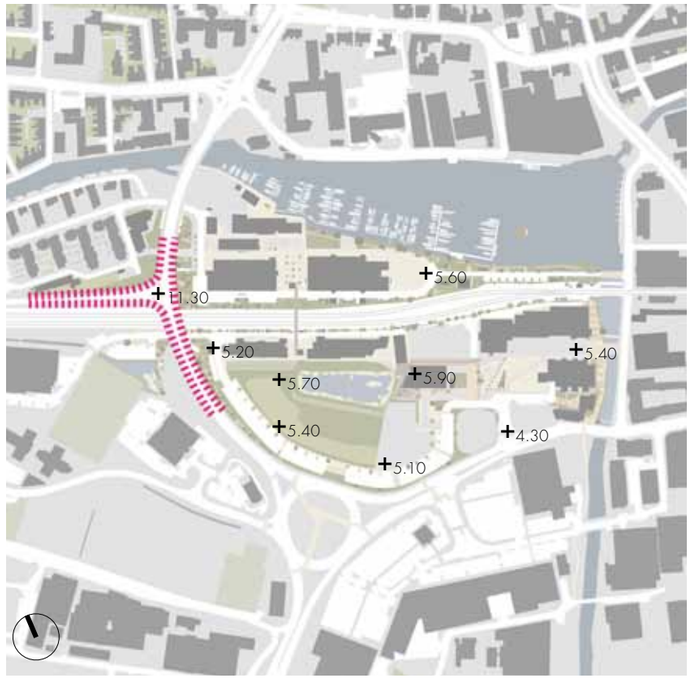
10.5 Topography and levels

The topography is generally fairly flat, with the exception of the raised embankment of Brayford Way. This limits or inhibits development, activity or pedestrian movement along the road from approximately 100m west of the Brayford Way roundabout. Changes in public realm or building finished floor levels as dictated by Environment Agency requirements may require local alterations or raising of current site levels. Levels to the south-east of the Architecture building, for example, vary from +5.00m to +6.00m AOD, with EA guidance that ground floor levels of buildings should be set at +5.80m AOD (the new Engineering building has been built to this higher level).

Flood Risk

In March 1947, after a particularly harsh winter, high rainfall accelerated the thawing of the River Trent and caused widespread flooding in the south of Lincoln. The area that is now the Brayford Campus was flooded to a level of around +5.0m to +5.5m AOD. Only the area around what is now the university library remained above the water line.

The campus sits in a low lying area adjacent to several waterways and is currently described as being either in flood risk zone 2 - medium probability (most of the north-east quadrant) or zone 3a - high probability (the remainder of the campus). All new development in zone 3a will need, as part of detailed flood risk assessments, to to pass the Environment Agency (EA) 'exception test'. As mentioned above, the EA will also require that the ground floor of new buildings be raised above the level of a 1 in 100 year flood event.



Topography

Raised embankments

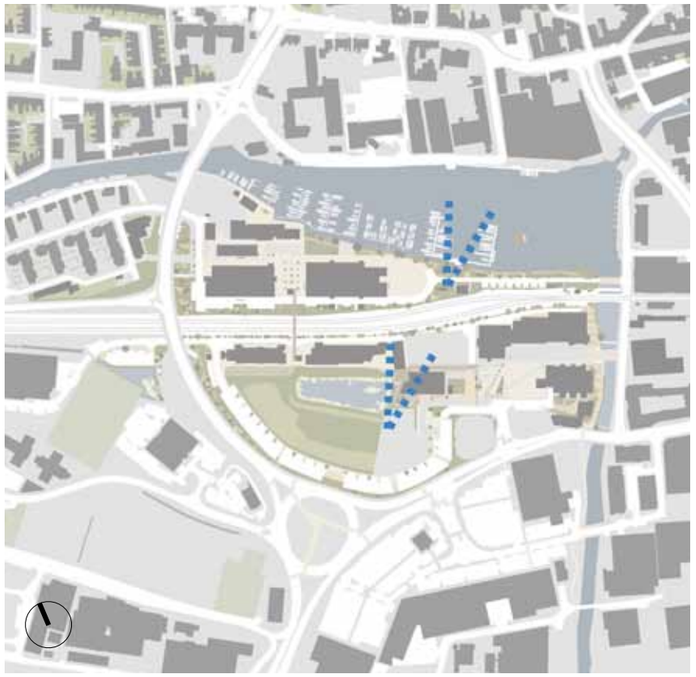
+5.10 Level above ordnance datum

The South-east quadrant looking north

10.6 Views

Excellent views of Lincoln Cathedral exist from the waterside in the north-eastern quadrant and from the grassed area to the south of the Delph pond in the south-eastern quadrant. This is of considerable importance in the future development of the campus, although views should be considered and controlled.

The new Engineering Hub building takes account of these important views, and together with the Architecture building 'frames' the view of the Cathedral.



Significant viewpoint

View of the Cathedral from the south-east quadrant.

11 EXISTING ROUTES AND CONNECTIONS

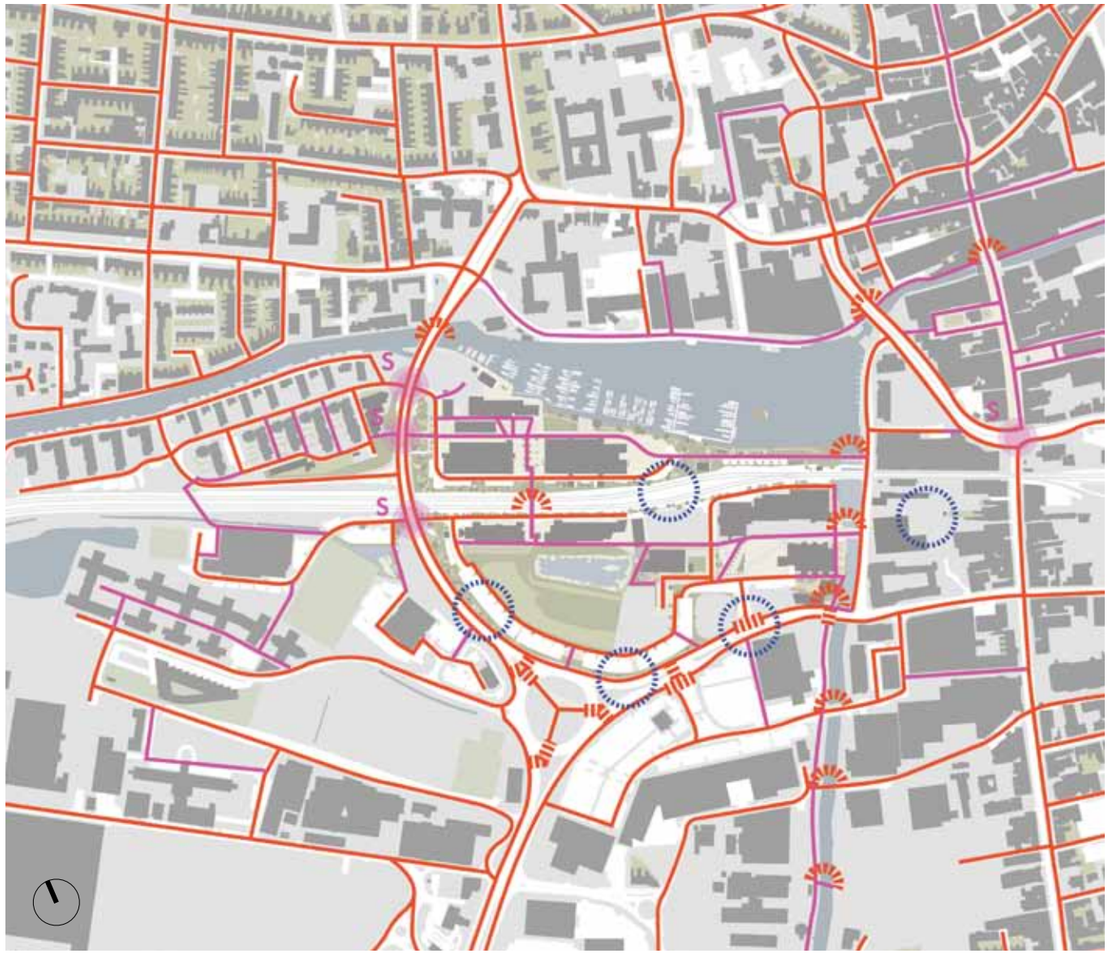
11.1 Pedestrian routes

Because of the infrastructural or natural barriers of Brayford Way, the railway, and the River Witham, existing connections to and from the north- and south-eastern quadrant are limited.

Pedestrian connections to the north-eastern quadrant are via a level bridge across the river Witham to the east, and along a long entrance driveway. To the north, no connections exist as the site is bordered by the Brayford Pool. To the west, connections from the north-west student village area are via a pedestrian tunnel or underpass below Brayford Way, or two stairs leading to the raised Brayford Way.

Connection to the south-east quadrant is at present limited to one pedestrian bridge across the railway, known as the science bridge.

The south-eastern quadrant is reached from Brayford Wharf East across a wide footbridge crossing the River Witham adjacent to the Engine Shed and Library. This bridge connects a partially formed public square between the Library and Engine Shed to the new Faculty of Business and Law on the eastern side of Brayford Wharf East. At present there is limited connectivity between Brayford Wharf East and the city centre. To the south, there are only three existing pedestrian crossings across Brayford Way and Ropewalk and only one link via a wide underpass below the raised Brayford Way connecting to the west.



Existing pedestrian routes

S Subway or tunnel

B Bridge

Footpath along street

Key route through building

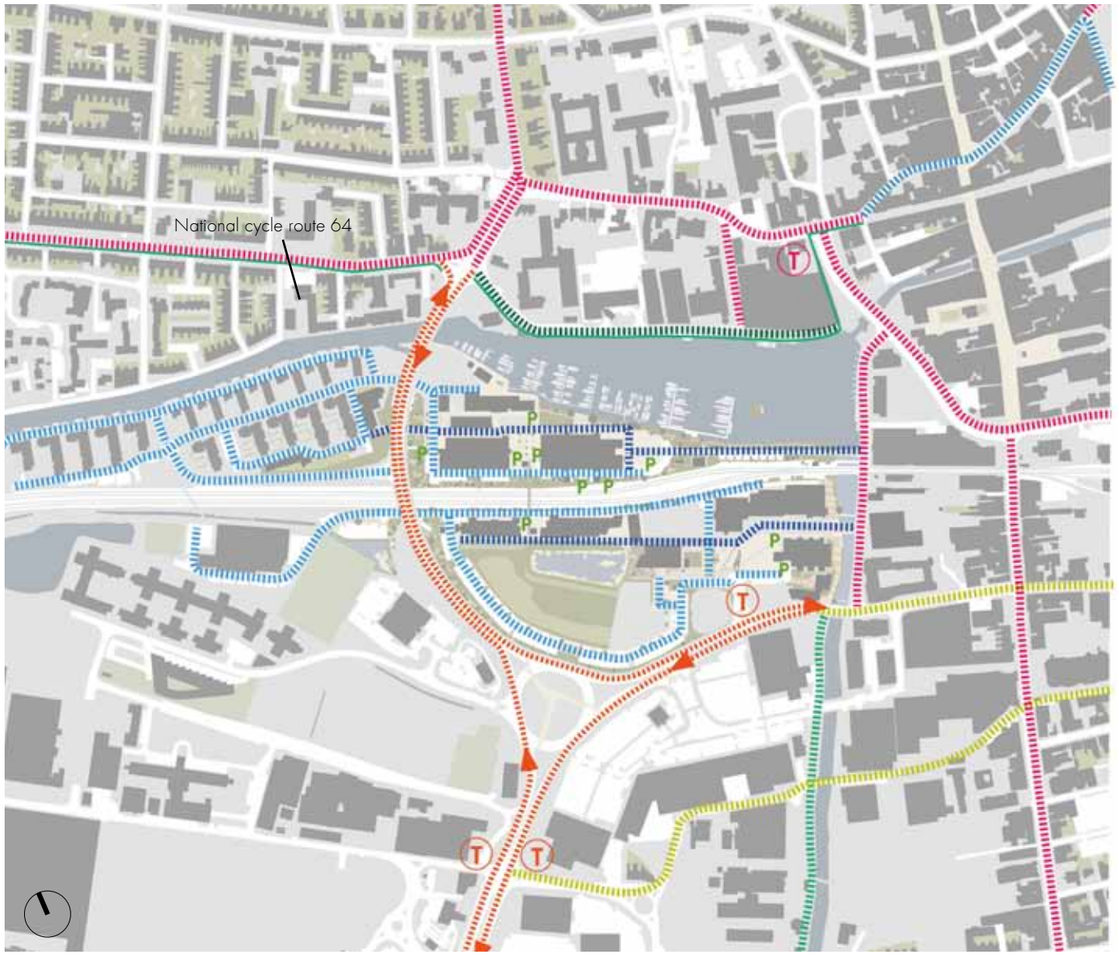
Pedestrian crossing

Traffic free route

Disconnection

11.2 Cycle routes

Although cyclists can use any of the streets and roads in the city and in the Brayford Pool campus, special provision has been made in a number of areas.
There are dedicated off-road cycle lanes along both sides of Brayford Way and Ropewalk with a toucan crossing at the Ropewalk junction to the south-east quadrant. To the south, an off-road route exists along the River Witham, which connects the University with the southern parts of the city.
To the north of the campus, routes are generally limited to roads, some being very busy, although the traffic-calmed Brayford Wharf North has a dedicated national cycle route (no. 64) which connects to the west to a traffic free route along the Fossdyke and then towards Skellingthorpe.
Within the campus itself, cyclists can use the network of campus roads, although they are required to dismount on pedestrian only routes, as shown in the diagram opposite. Cycle stands are available in the locations shown. These are generally Sheffield type stands and uncovered, and grouped in locations thought to be most suitable for building locations.



Existing cycle routes

- On-road cycle route
- Quiet or popular on-road route
- Route shared with pedestrians
- Traffic calmed street
- Dedicated cycle lane
- Toucan crossing
- Off road cycle route
- Route along campus road
- Cyce parking positions - existing

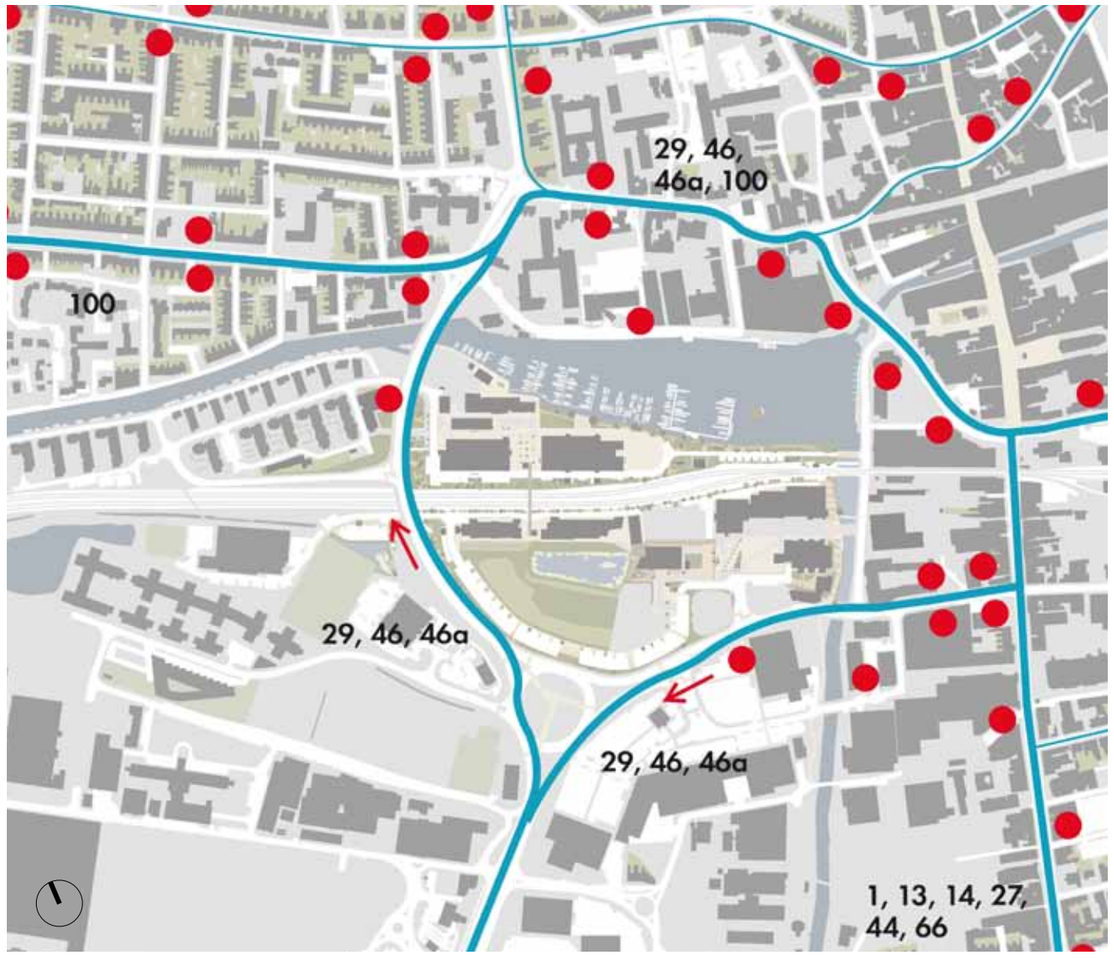
11.3 Public transport

Lincoln is generally well served by bus routes, with multiple routes serving local communities and outlying villages and suburbs. Generally these routes radiate out of the city, and terminate at the city bus station off Broadgate / Melville Street.

The University campus is served by several routes running along Brayford Way, Tritton Road and Ropewalk (routes 29, 46 and 87). These routes run between the city centre and areas to the south-east of the city, i.e. Skellingthorpe, Doddington, Swinderby and Newark. Routes in other directions involve a short walk from the campus to either the High Street, Carholme Road or to the bus station for virtually all routes. Clearly this is not ideal from the point of view of accessibility.

Several bus stops are situated around the campus, on Ropewalk, Brayford Way and Brayford Wharf East, but these only serve the routes mentioned above to the south-east of the city.

Train services to and from Lincoln are from Lincoln Central Station (formerly the Great Northern Station). Lincoln is not on the main east coast line, but connects to it at Retford (via Gainsborough), Newark or Peterborough. To the north-east, Lincoln also connects to Grimsby via Market Rasen.



Public transport routes

Bus stops

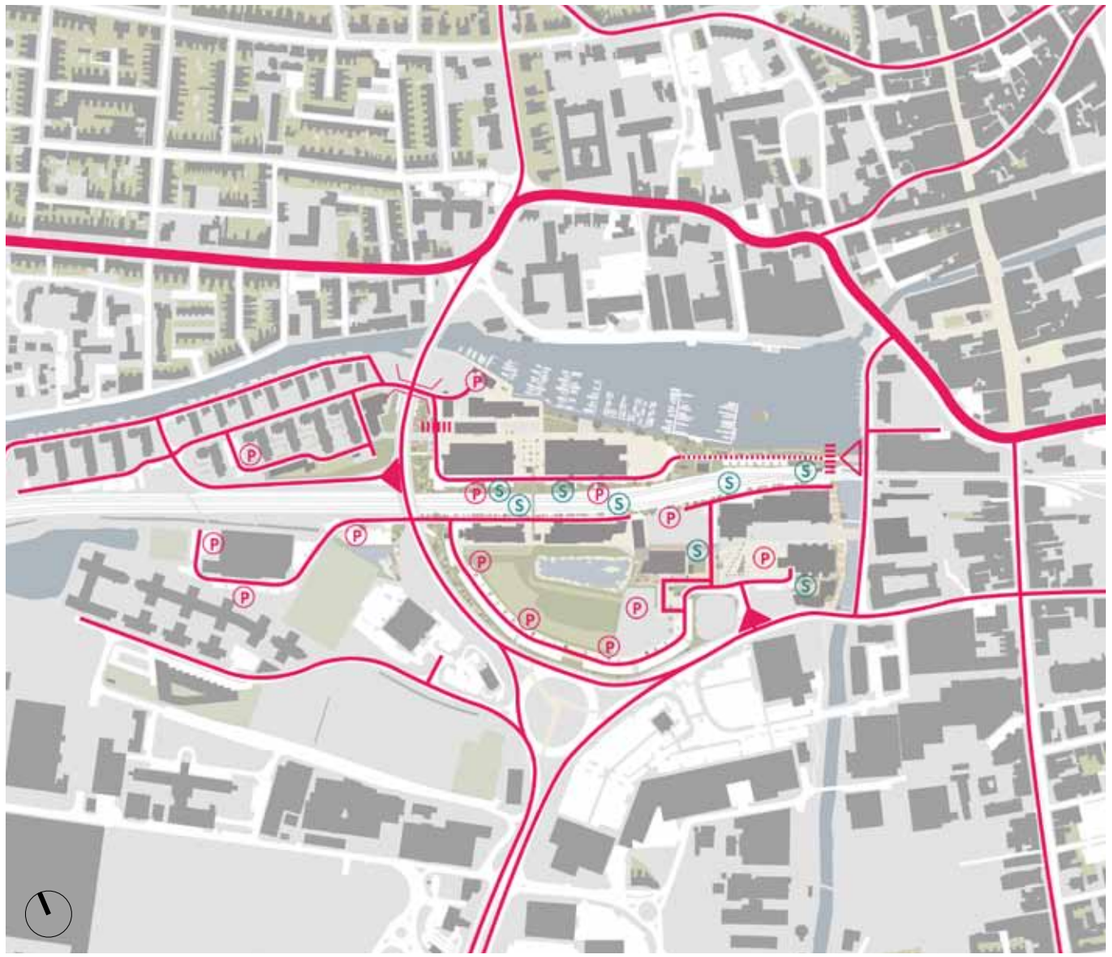
Bus routes

11.4 Traffic movement and car parking

Vehicle access to the north-east quadrant is principally from Campus Way, via the student village. The entrance driveway from Brayford Wharf East takes some traffic, although this is controlled and limited. There is car parking in the north-east quadrant in the areas shown, adjacent to the Brayford to the north-west and to the rear of the MHT building. Service vehicles are directed to the rear of the MAB and MHT buildings along a service road.

There is one entrance for vehicular traffic in the south-eastern quadrant, from a controlled junction on Ropewalk. This serves the south-east quadrant, and the south-west sports area via the sweeping 'Boulevard Road'. Campus buildings are generally serviced from a service road at the rear of buildings adjacent to the railway, and along a service road to the rear of the Library and Sparkhouse Studios. A further service road runs north-south from Boulevard Road to the rear of LPAC adjacent to the railway.

The main area of University car parking is currently situated in a temporary car park to the east of the Architecture Building, along the curving Boulevard Road, and in a temporary car park to the south of the Engineering Hub.



Proposed vehicle routes and parking areas

Parking area

Access only entrance

Main vehicle entrance

Access only

Vehicle route

Heavily Trafficked route

Service access

12 MASTERPLAN DESIGN PRINCIPLES

1

12.1 Integration into the city

From its inception, the campus has always been seen as part of the city. It should continue to improve its integration into the existing urban pattern. New connections should be made wherever possible or practical with key adjacent city streets or areas. Wigford Yard, as an example, should be opened to pedestrian traffic and linked to the High Street in collaboration with the City Council.

2

12.2 Legibility and accessibility

The University should be open, legible and permeable to all pedestrians. Streets and routes within the campus and from the campus to the surrounding city areas should be easy to use and navigate, and as direct as possible. Level changes should be avoided where possible, ground floor levels of building should be level with the streets or spaces around the buildings, and the public realm should be planned and designed to be fully accessible to people with disabilities or limited mobility.

3

12.3 Public spaces

The masterplan should form a series of interconnected squares or open spaces, with buildings placed to define these spaces clearly. Each of these open spaces should be designed to have its own character or sense of place, but to be unified by using common materials, planting or design detail.

The connecting or linking routes between spaces should be appropriate to their functional requirements (i.e. main pedestrian route or service route) but can be relatively narrow to give a dense urban pattern of development, whilst still allowing generous 'breathing spaces'. Existing squares or spaces (for example the square between the Engine Shed and Library) should be better defined where possible with new buildings, and subject to the same strategic landscape principles.

4

12.4 Views

New buildings in the south-east quadrant should be arranged specifically to allow good views of the Cathedral from the principle areas of public realm. The Cathedral view should not be ubiquitous, but should be 'framed' or controlled by the specific placement of buildings. Other axial or long views should be created through the campus where possible to aid legibility.

5

12.5 Entrances

The future development of the south-east quadrant should enable the 'entrances' to the campus to be re-emphasised and in some way clarified. The public square between the library and Engine Shed should in the future be the primary pedestrian point of access and orientation to the campus.
Alongside this, the vehicle entrance from Ropewalk should be re-addressed so that it becomes a well designed place in itself, a point of access and orientation, and the principle point of access for taxis and private cars.

6

12.6 Flexibility

The masterplan should be arranged to be specific where necessary, but to allow flexibility in the final positioning, size and design of individual buildings.

7

12.7 Sustainability

The masterplan should promote sustainable future development, in terms of limiting energy use and carbon emissions, promoting sustainable methods of transportation and movement, responsible use and disposal of water, and recycling of waste.

By its very nature an initial masterplan cannot expect to define a detailed specification for the buildings in their final form as it needs to maintain a level of flexibility to anticipate and adapt to future events and conditions. The kinds of technologies, priorities, equipment and methods of measurement that we have access to today may not be as relevant or appropriate in five, ten, or fifteen years time. There are now however overriding and established principles that can be followed to minimise the impact on the environment, particularly the levels of carbon emission and energy use, and to mitigate climate change.

8

12.8 Learning landscapes

The research paper 'Learning Landscapes in Higher Education' published in 2010 offers a number of principles for the design and development of teaching and learning spaces. Whilst this research paper is more detailed than can be accommodated in this document, the principles, where applicable, should be embodied into the masterplan.

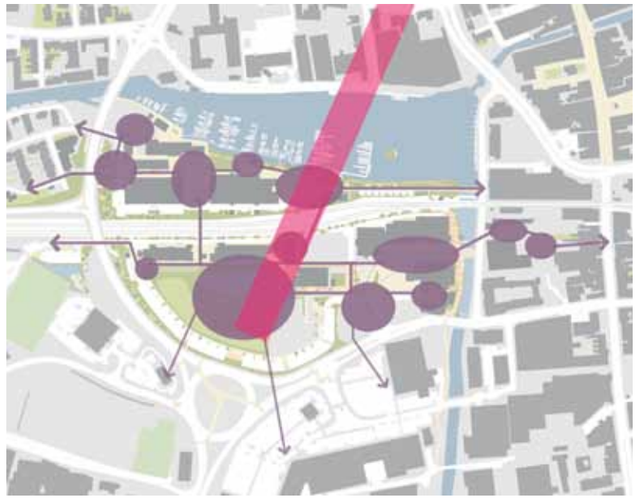
Whilst some of the principles are more relevant to the process design of individual buildings or spaces, this research does identify that;

"the vision and mission of a university can be enhanced by ensuring that each new teaching and learning space is designed so as to create the feeling of a coherent campus by articulating a sense of community and connectivity based on a university's identity and brand".

13 URBAN DESIGN STRATEGY

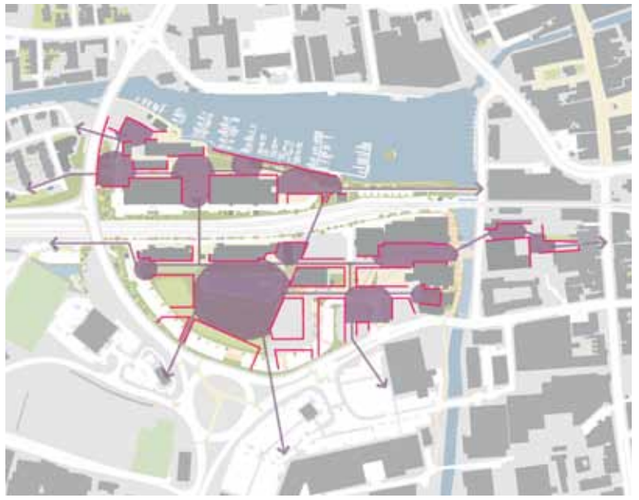
13.1 Interconnected Spaces

The existing campus goes some way in establishing the principle that there is a series of open public spaces, connected together by streets or (often relatively narrow) pedestrian routes. This principle allows a relatively dense and appropriately urban structure to form, with 'breathing spaces' between. These spaces need to link together to form a cohesive structure of public realm.



13.2 View of Cathedral

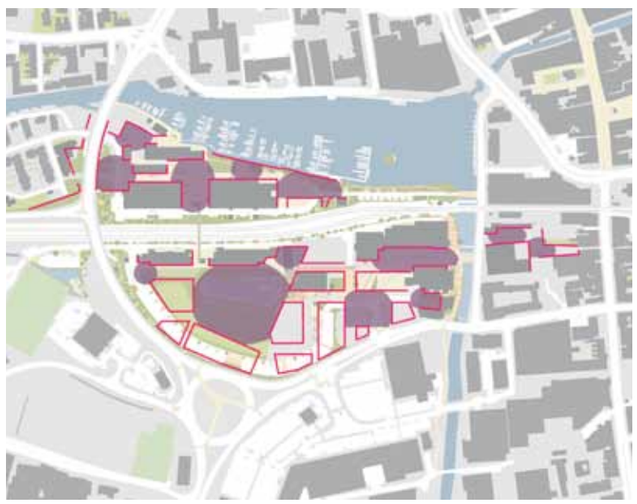
The iconic Cathedral view is given specific status from the large public space in the centre of the south-eastern quadrant. The view alignment creates a strong axis and defines the geometry of the western edges of buildings. This view has already been alluded to by the eastern facade of the Architecture building, and the new Engineering Hub further defines the alignment, the whilst maximising potential areas of development to the east.

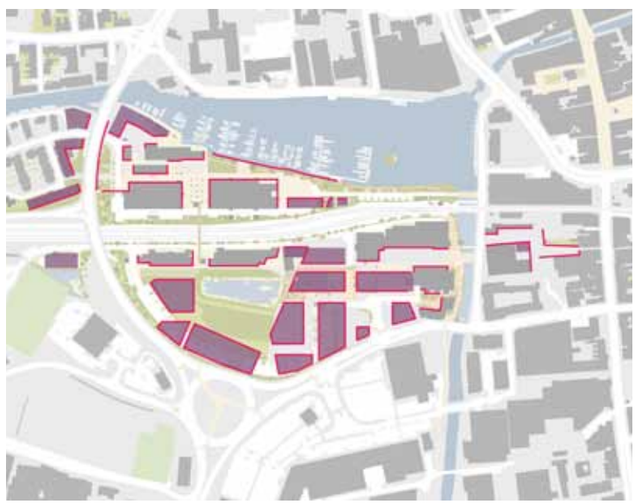


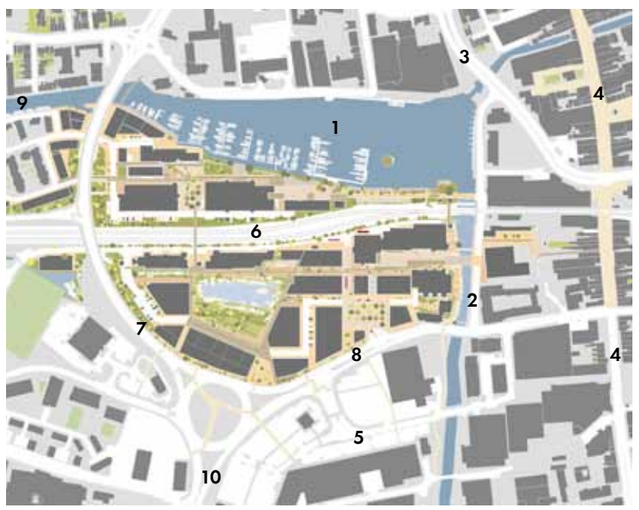
13.3 Definition of public realm

Although public spaces currently exist within the campus, they are often ill-defined or half-formed. The public spaces should be strongly defined, preferably by buildings, built edges or other strong features.

This will enable each space to develop a unique character or identity based both on the detailed design of the landscape, and the buildings surrounding it. The spaces themselves will be used for relaxation and amenity, but also for outdoor learning.







13.4 Buildings facing exterior streets

It is important that future buildings are arranged to face exterior streets. This not only normalises these streets and allows the potential for future activity, but also maximises the developable area within the campus. In the future, it is likely that the areas to the south of Brayford Way and Ropewalk are redeveloped, and that Brayford Way and Ropewalk are re-designed to provide a more successful streetscape. The city centre masterplan calls for just such an approach. This group of buildings therefore perform a role both in defining the 'edge' of the campus facing Brayford Way, and also the parkland space to their north.

13.5 Definition of future building plots

Potential future building plots are shown above. These are relatively large plots, but would be capable of sub-division and flexibility in their precise positioning. The building plots are arranged (as described above) to define clear and logical routes and public spaces. They also necessarily respond to existing geometries (Brayford Way in particular) and imposed geometries (the alignment of the Cathedral view).

13.6 Proposed masterplan

The masterplan is formed from all of the above principles and strategies, and is described in further detail in the following pages.

1) Brayford Pool
2) Brayford Wharf East
3) Wigford Way
4) High Street
5) St Marks
6) Railway
7) Brayford Way
8) Ropewalk
9) Fossdyke Canal
10) Tritton Road

Carholme Road
Fossdyke Canal
Brayford Wharf North
Brayford Pool
River Witham
Wigford Way
High Street
Brayford Wharf East
Railway
Brayford Way
Ropewalk
Ruston Way
Tritton Road
St Marks Street
River Witham
High Street

14 MASTERPLAN 01

14.1 Sub-division of the site

The design strategy set out on preceding pages has given rise to a series of routes and public spaces that sub-divides the available site area into discernable building plots. This arrangement is able to be varied within the parameters explained in section 14.8, and so allows flexibilty where necessary whilst defining certain building lines or edges where it is important to do so.

Artists impression of the new central space from the Delph Pond, looking towards the Engineering Hub

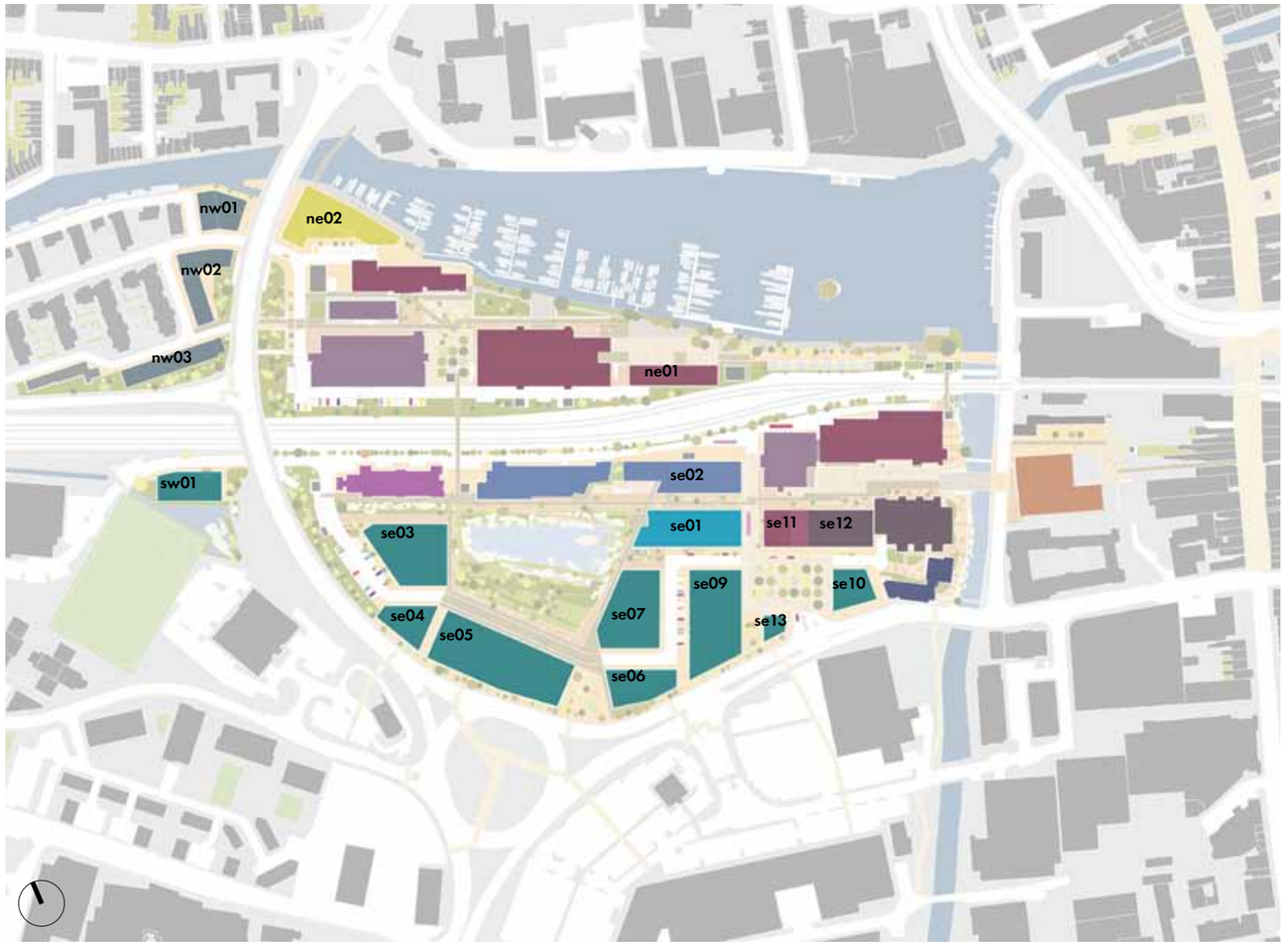
1 Main Admin Building
2 Media, Humanities & Technology
3 EMMTEC
4 Marina Building
5 New student housing
6 Student Village
7 Village Hall
8 Sports Centre
9 Witham House
10 Science Centre
11 Architecture Building
12 Lincoln School of Art and Design
13 Engineering Hub
14 Lincoln Performing Arts Centre (LPAC)
15 Student Centre
16 Business & Law
17 University Library
18 Enterprise @ Lincoln
19 Sparkhouse Studios
20 New building plots

14.2 Suggested uses

The diagram to the right suggests a future academic structure for the Brayford Pool campus, together with an approximate quantum of new developable Gross External Area (summarised below). This is based on the assumed heights of buildings outlined on page 59.

Some aspects of this structure have already been established; The Lincoln Engineering Hub, for example is due for completion in summer 2011. The faculty of Business and Law is also due to move into its newly refurbished building on the eastern side of Brayford Wharf East in summer 2010.

it should be noted that this arrangement of uses is indicative at this stage. The outline application does not define uses for each plot.



Building uses

- Administration, Student Facilities
- Faculty of Media, Humanities and Technology
- Faculty of Health, Life and Social Sciences
- Ancilliary
- Faculty of Business and Law
- Faculty of Art, Architecture and Design
- School of Engineering
- New buildings (as yet undefined)
- Enterprise / Business Services
- Residential

Summary of gross external areas

This outline application is for a maximum total of 106,563 m2 of accommodation. Masterplan 01 shows an indicative breakdown of uses as shown in the table below. Within the parameters of the application, it will be possible to vary the ammount of each use, up to the maximum shown in the table below, but without exceeding the overall total.

Land Use	masterplan 01 total m2	Total potential amount m2
Student Residential - C2	35138	up to 60000
Academic Building - D1	37911	up to 60000
University Office / Administration - D1/B1	2957	up to 3000
Commercial Office - B1	5000	up to 5000
Shops - A1 (UOL related)	2290	up to 8000
Restaurants & Cafes - A3	1640	up to 8000
Hotel - C1	6500	up to 7000
Car Parking	15127	up to 20000
Total area of development	**106563**	

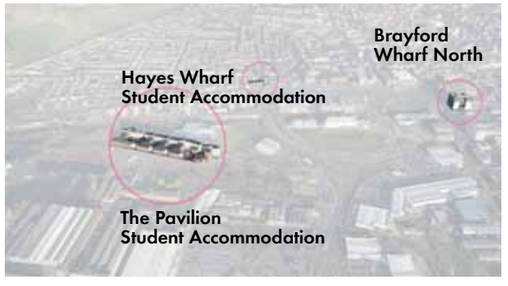
14.3 Scale, massing and height

Building heights on campus are currently between two and five storeys in height.

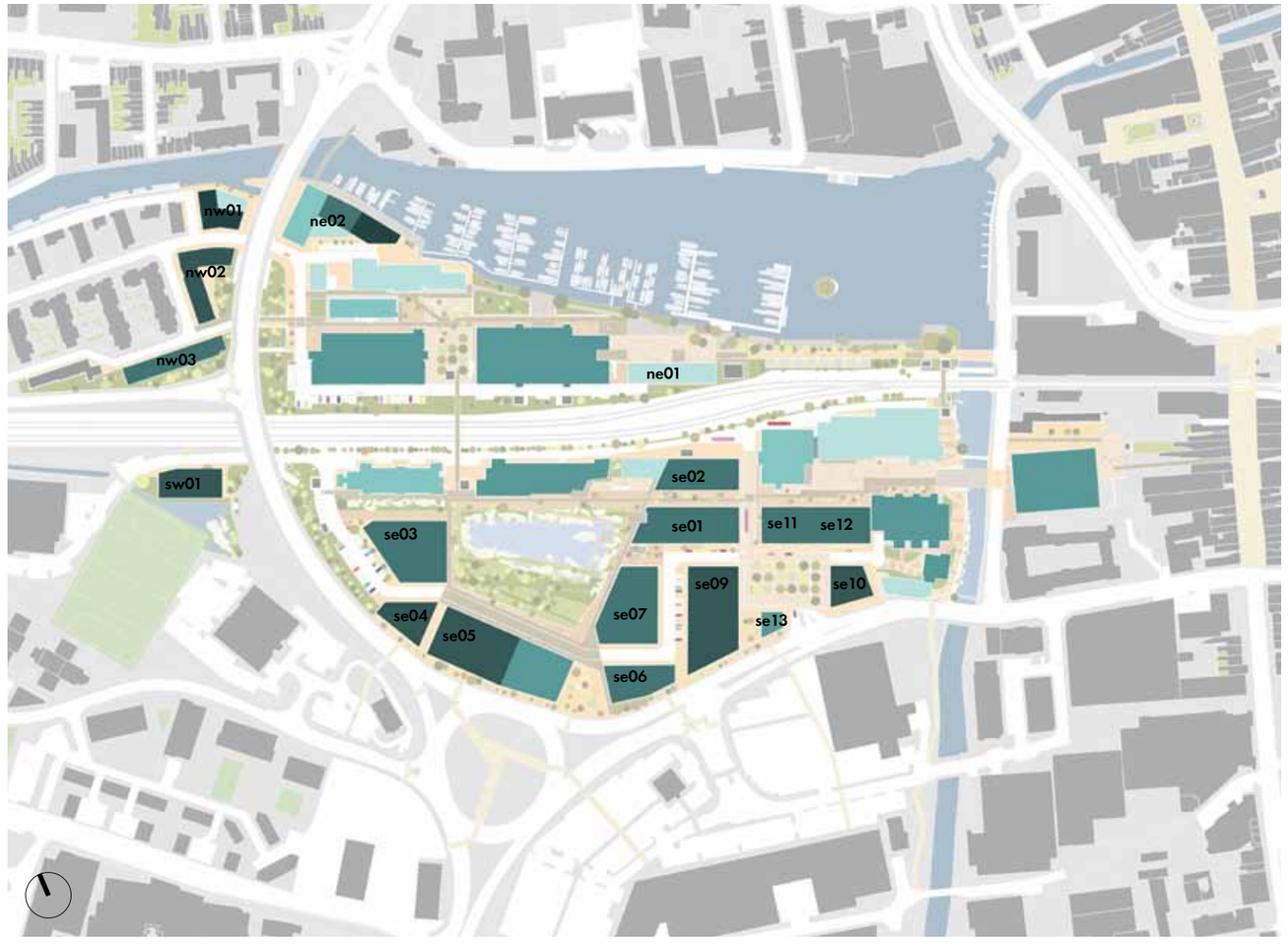
Taller building do exist in the surrounding city centre, in locations where it is thought that these do not cause concern or block views, or where they perform a strategic or significant urban role. In the area around the Brayford Pool campus, there are taller buildings immediately to the south (The Pavilions student accommodation rising to 9 storeys in places), to the north-west on the corner of the Brayford Pool (Hayes Wharf student accommodation, around 9 storeys), and to the east of the campus on Brayford Wharf North where several blocks of flats (The Junction at 9 storeys and the 10 storey Witham Wharf) are situated.

Whilst the masterplan does not place strict limits on the height of any individual building, it proposes a general massing which completes the south-eastern quadrant with buildings of similar size to those that exist already on site, or already have planning permission. This is generally up to 5 or 6 commercial or academic storeys (assuming a 4m floor to floor height) or up to 7 residential storeys (3m floor to floor height). A taller area has been proposed to the north-west adjacent to the Brayford pool and Fossdyke. This has deliberately allowed for a building that relates to the taller residential tower opposite, and to mark the entrance to the marina.

As individual buildings come forward for development, they will be subject to detailed planning applications, where the proposed height and massing of each will be tested.



Taller buildings adjacent to the Brayford campus

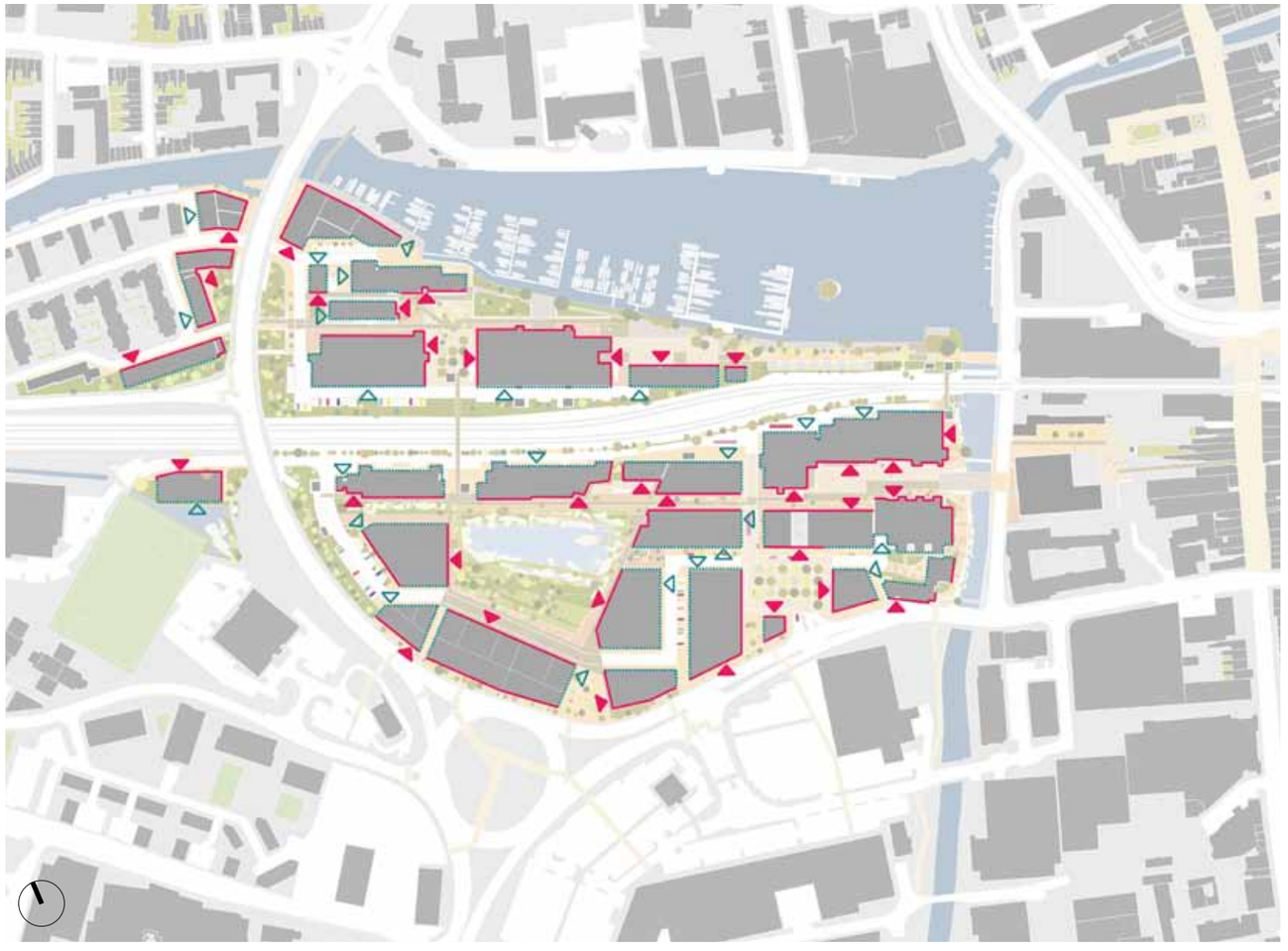


Building heights

14.4 Fronts and backs

The position and relative importance of new routes and spaces in the masterplan gives rise to a clear hierarchy of facades for each building. This allows us at this stage to propose which streets allow buildings to be serviced, and where principal building entrances should be located. This strategy is shown in the diagram opposite.

As buildings are designed in detail, there may be a particular servicing or functional requirement that requires a change to this strategy, and in some cases (for example in the new buildings facing Brayford Way) there is a requirement that buildings have a principal elevation facing both the outside street and the central park space. In these cases the design of the building will eventually determine where the service access is located.



Fronts and Backs

Primary frontage

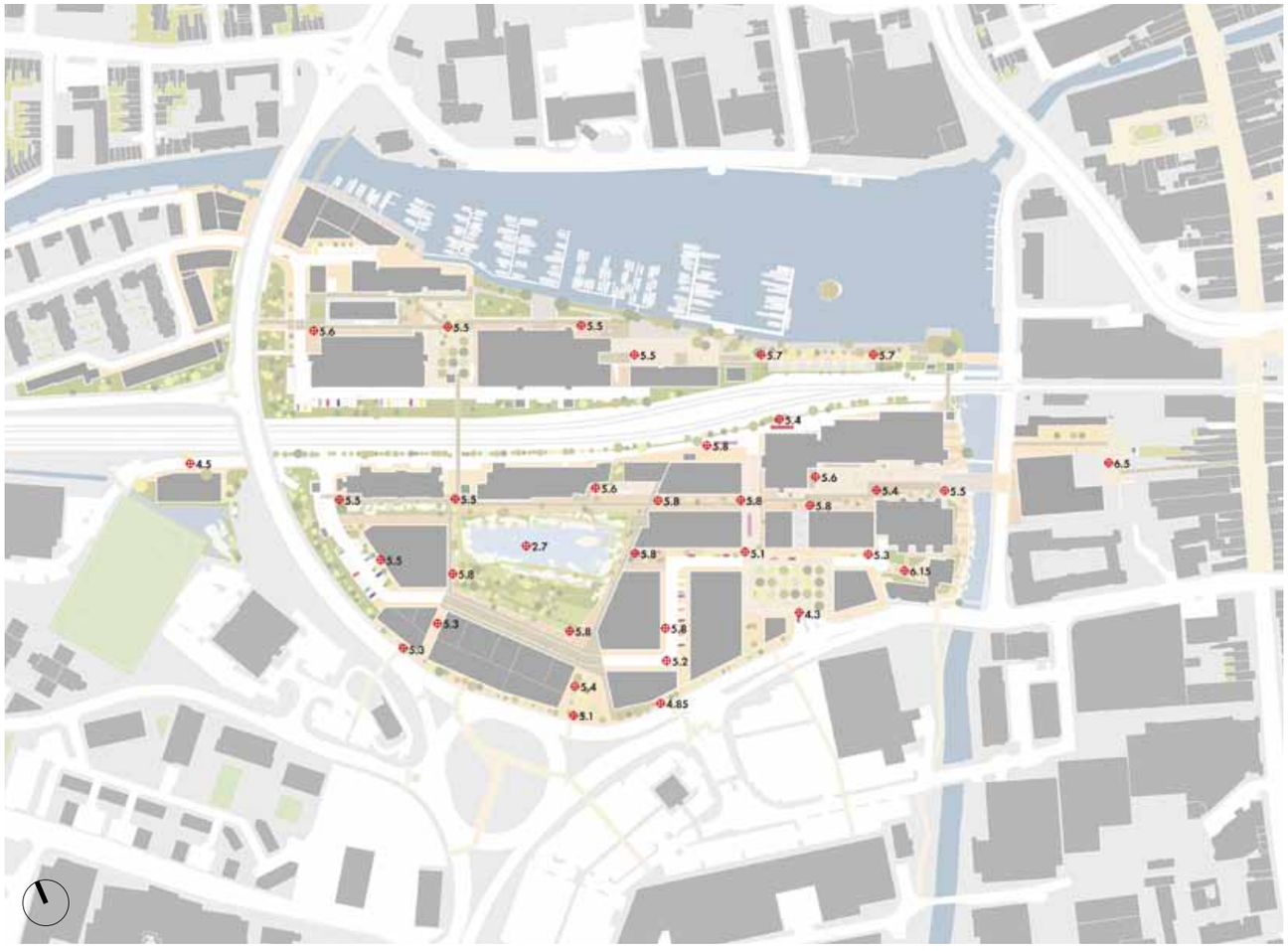
Secondary frontage

Service or back entrance

Main entrance position

14.5 Levels and topography

Although the levels across the site are relatively flat at present, Environment Agency requirements currently advise that the ground floor level of any new buildings should be set at +5.8m AOD. This level is above the 1:100 year flood risk level, accounting for global warming and freeboard allowances, and in some cases higher than existing site levels, particularly to the south of the campus. Best practice requires that areas of public realm adjacent to buildings should be as close to this level as possible in order to facilitate adequate access to the buildings for all users. These higher levels of public realm therefore require that current levels are (generally) raised around the building. The implication of this is that in the future masterplan, levels will need to be raised as necessary to facilitate the new requirements, whereas in 2012 some temporary works will need to be provided to successfully negotiate between proposed and existing levels.
It will not always be possible to raise levels generally, particularly adjacent to Brayford Way and Ropewalk, where levels will need to be remediated back to existing levels as they meet the public roads. In these cases, more localised solutions for entry, exit and servicing of buildings will need to be devised as detailed designs come forward.



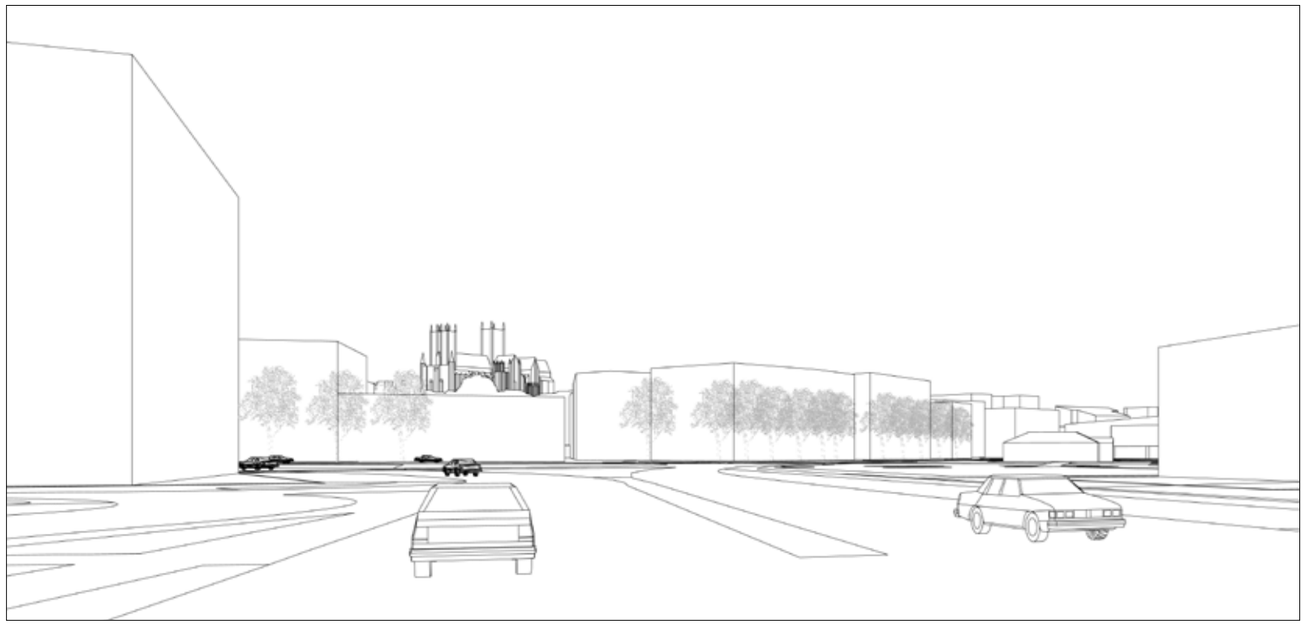
Proposed site levels

14.6 Views

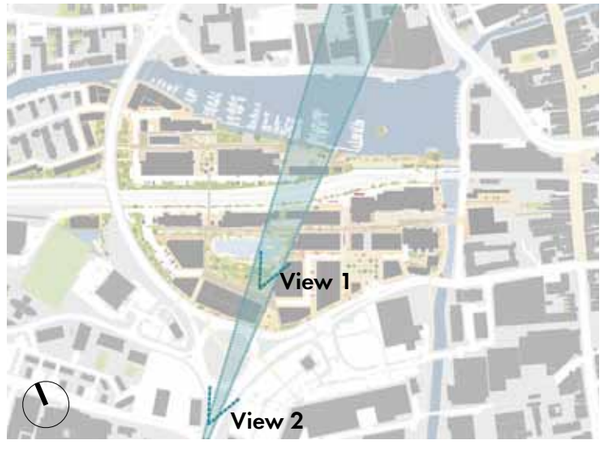
A key element of the proposed masterplan is the geometrical alignment of buildings to allow a ‘framed’ view of Lincoln Cathedral from the central park space. This has been tested by three dimensional modelling from viewpoints in this area, as shown opposite. It should be noted that these views are not ‘verified’ and are illustrative.

Views of the Cathedral from Tritton Road, have also been considered. In the masterplan, alower building height has been imposed on buildings facing Brayford Way which affect this view, in order that the Cathedral will be viewable from Tritton Road. Clearly as the Tritton Road roundabout is approached, at some point this view will not be visible due to the proximity to buildings and Trees.

Views from the raised Brayford Way flyover toward the Cathedral have also been considered in the application.



View 2, towards Lincoln Cathedral, from Tritton Road



View cone to Lincoln Cathedral, showing key view positions

View 1, towards Lincoln Cathedral from the central green space, with the new Lincoln Engineering Hub building to the right.

14.6 Views

The views on this page show an impression of what two of the main spaces of the new masterplan could be like once development has taken place.

The view on the left shows the central landscaped space, with the Architecture building on the right hand side and the Delph pond in the foreground. The buildings surrounding the park should provide a strong sense of enclosure to the space, making this a real focus for the campus.

The view to the right shows the new entrance square off Ropewalk. Whilst currently this is only a traffic junction, in the future it is planned to be a planted square, shared by vehicles and pedestrians. The buildings are again shown indicatively (with the exception of the Engineering Hub in the background).

Opposite page: Artists impression of the central landscaped area and Delph Pond, looking west.

Artists impression of the entrance square off Ropewalk, looking north

14.7 Signage and wayfinding

A succesful public realm should need a minimum of signage in order to functin as a legible piece of city. The masterplan has specifically been designed to aid legibility in providing a clear network and heirarchy of routes.

Signage will will still be required however, as many users of the campus will be visiting for the first time and will be looking for a specific building.

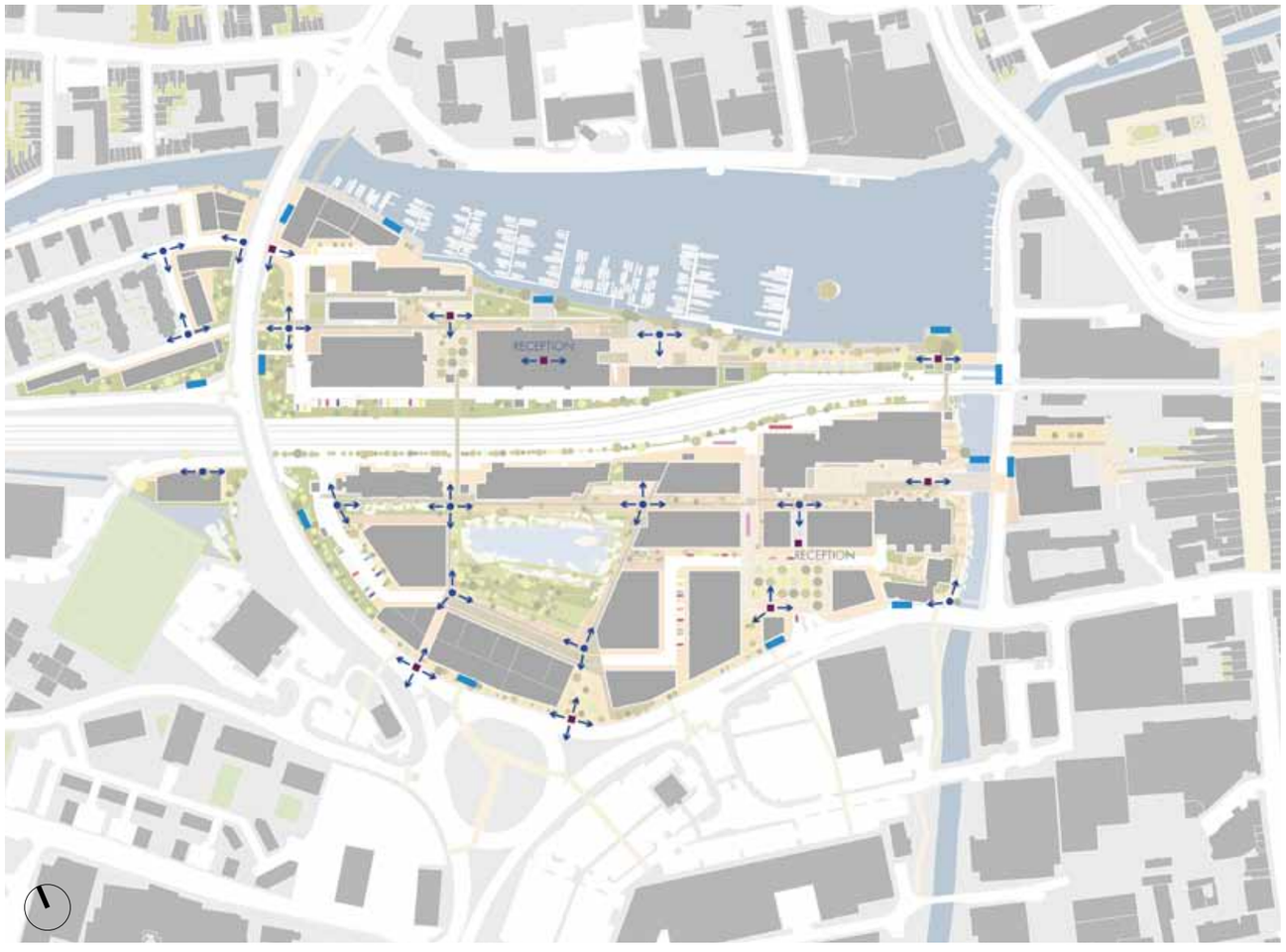
The signage strategy suggested here involved a heirarchy of four types of sign;

- 'University of Lincoln' entrance signage; located at key entry points to the campus, and used to identify the campus as a whole.

- Entry point map and directional signs; located at key pedestrian entrance points to the campus, for example in the Library Square. These are intended to provide key information on the whole campus, and to identify key buildings, faculties and departments.

- Finger signage; located at key route intersections, and intended to offer further wayfinding guidance within the campus. These signs will also give re-assurance to people who are already en-route.

- Building signage; Identifying individual buildings, and located at the building main entrances. There will also be a requirement for signage within buildings directing people to individual departments or rooms.



Brayford campus signage strategy

Campus map (orientation) and directional signage

Finger board directional signage

University of Lincoln signage

14.8 Flexibility: development parameters

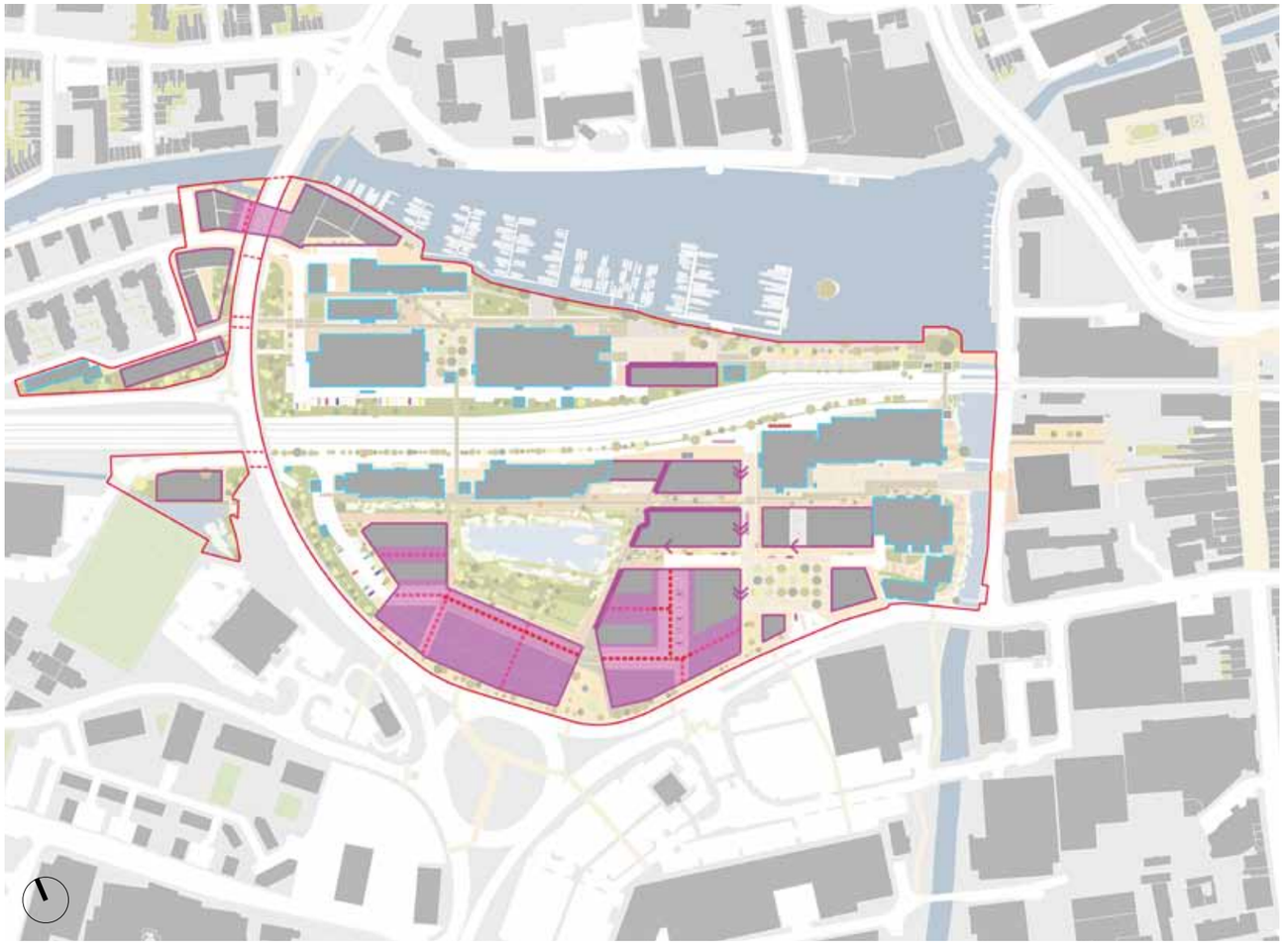
A series of parameter plans have been produced to describe the actual parameters of allowable development that form the planning application. These are;

Development zones
This plan (shown to the right) shows the maximum developable plot areas as illustrated by the masterplan. It defines building lines that are in some cases are firmly fixed, but in other cases are allowed to deviate from that shown by a defined amount. It also defines the relationship of key building lines in terms of alignment to each other, and the location and allowable deviation of secondary routes.

Public realm areas
This plan defines the areas of the masterplan that are set aside for public realm of any description - i.e. Pedestrian, cycle or vehicle routes, squares, green areas, planted areas, areas of water that are within the control of the University, service and delivery areas and areas of car parking. As with the development zone plan, this plan defines some edges as being fixed, whilst allowing some to deviate from that shown.

Height limits plan
Fixes the allowable limit of vertical development in terms of building height. This plan, combined with the development zones plan, gives an overall maximum massing that would be permissable, although it is acknowledged that a finer grain of design is necessary for each proposed development.

All parameter plans are included at the end of this document for reference.



Development parameter plan

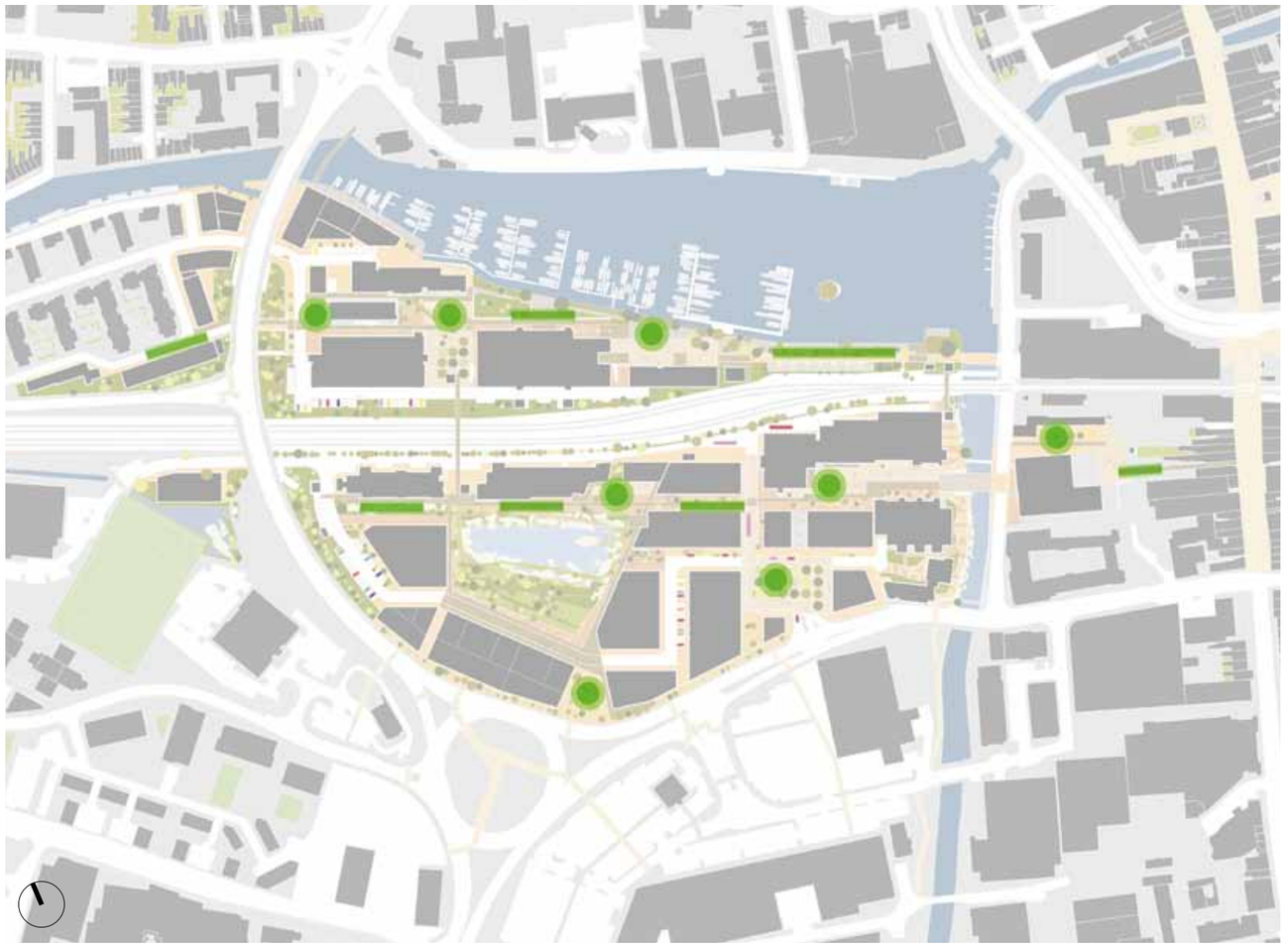
- Existing Buildings
- Fixed Building line
- Building line able to deviate by approx 4m
- Building frontage alignment
- Building frontage alignment
- Pedestrian and/or vehicle route through development zone
- Limit of deviation of route

14.9 Public art

Integrated design
The use of art within the public realm aims to integrate the skill and creative vision of artists in the process of creating new spaces, or regenerating existing ones. It can help to create a sense of place and identity, and potentially allows a greater involvement of local people in the university. Art can benefit spaces by increasing their use, helping to reduce crime levels and creating a sense of ownership. It can bring a lasting cultural diversity, creating spaces that are enjoyed by visitors, students and local residents, and those working in and around the campus.

Public art can be extremely diverse in its nature, as illustrated overleaf. A public art strategy will be developed by the university as the development of the masterplan progresses, with local artists being involved at an early stage to ensure integration with the development as a whole.

The diagram to the right is intended to provide example locations for public art, and is not intended to be definitive.



Potential locations for public art

Public Art located in major public spaces

Public Art located along public routes

Art can be incorporated into the structure or fabric of a building, forming gates, fencing, windows, surfaces or details.

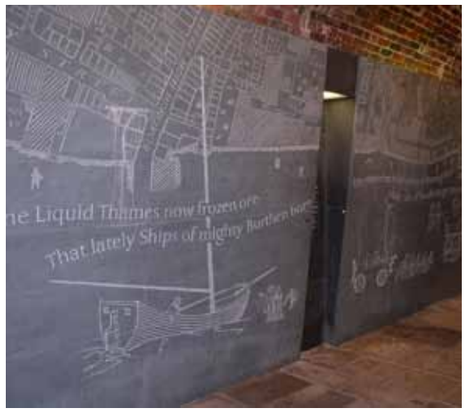
Permanent or temporary installations can be provided, for example by performances.

Integration into the hard landscape design, becoming seating, signage, paving designs, or water sculptures.

Stand-alone sculptures or pieces of art within spaces.

Public art can be internal or external, and of different scales.

The lighting of the spaces or buildings can be utilised - using coloured lights or moving images.



Reference can be made to the historical context of the site, or to archaeological interest in the site.

Using innovative techniques in the soft landscape design and planting scheme.

15 PROPOSED ROUTES AND CONNECTIONS

15.1 Pedestrian routes

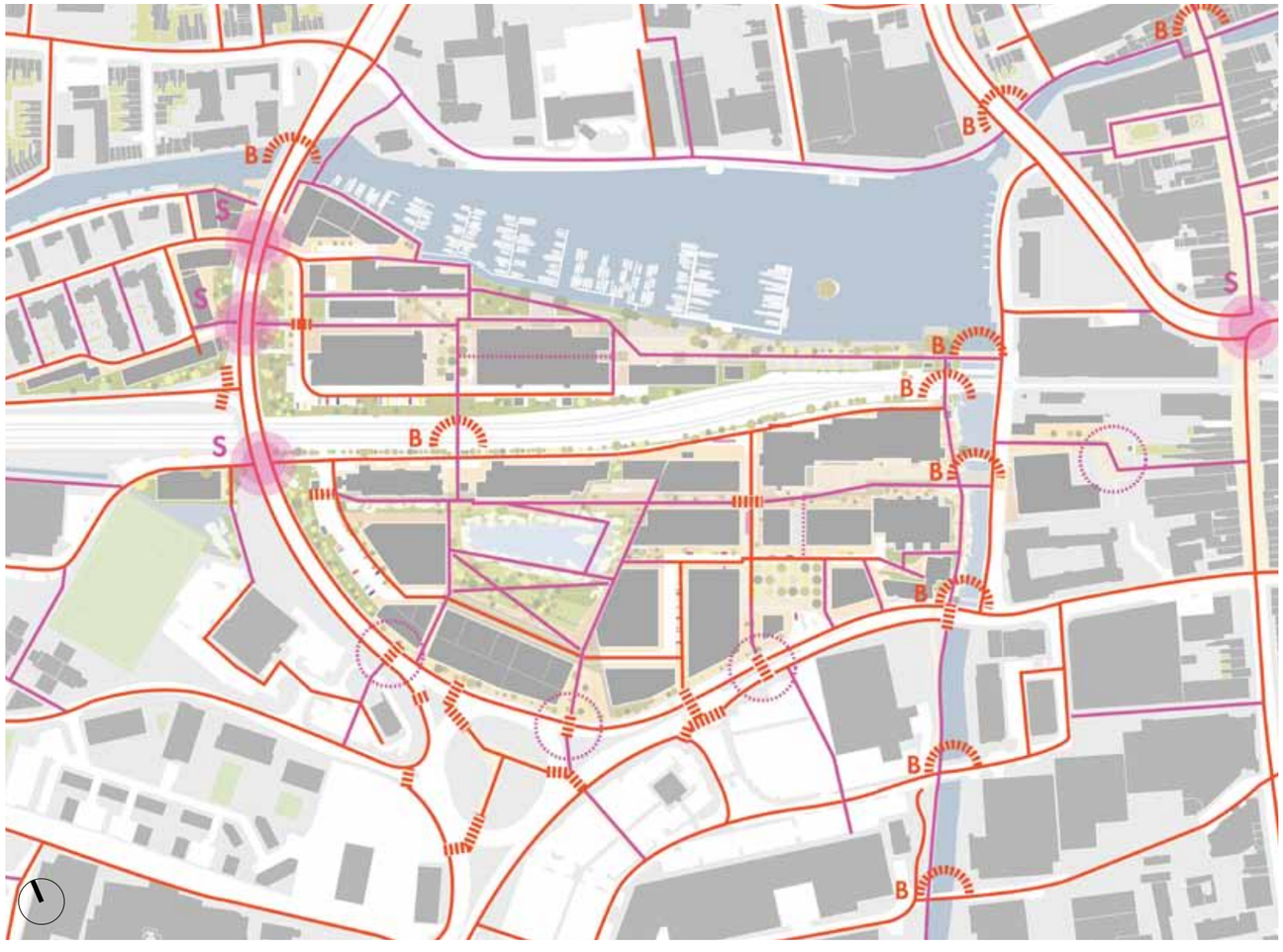
Generally, the masterplan has been arranged to provide a flexible network of pedestrian routes, linking public spaces together. As far as possible within physical constraints, routes have been aligned to be clear, logical and legible, with a recognition that people generally like to travel in straight lines between key points.
As described in section 11, there are currently a number of 'disconnections' that the masterplan addresses; these are to;

- form a new bridge link across the railway to the north-east of the Architecture building.

- form a new route from the Library Square across Brayford Wharf East and to the High Street via Wigford Yard.

- propose more useable and logically positioned pedestrian crossings to Brayford Way and Ropewalk, giving better access to the areas to the south.

- Allow for a new railway footbridge to the east of the campus, adjacent to Brayford Wharf East.



Proposed pedestrian routes

S Subway or tunnel

B Bridge

Footpath along street

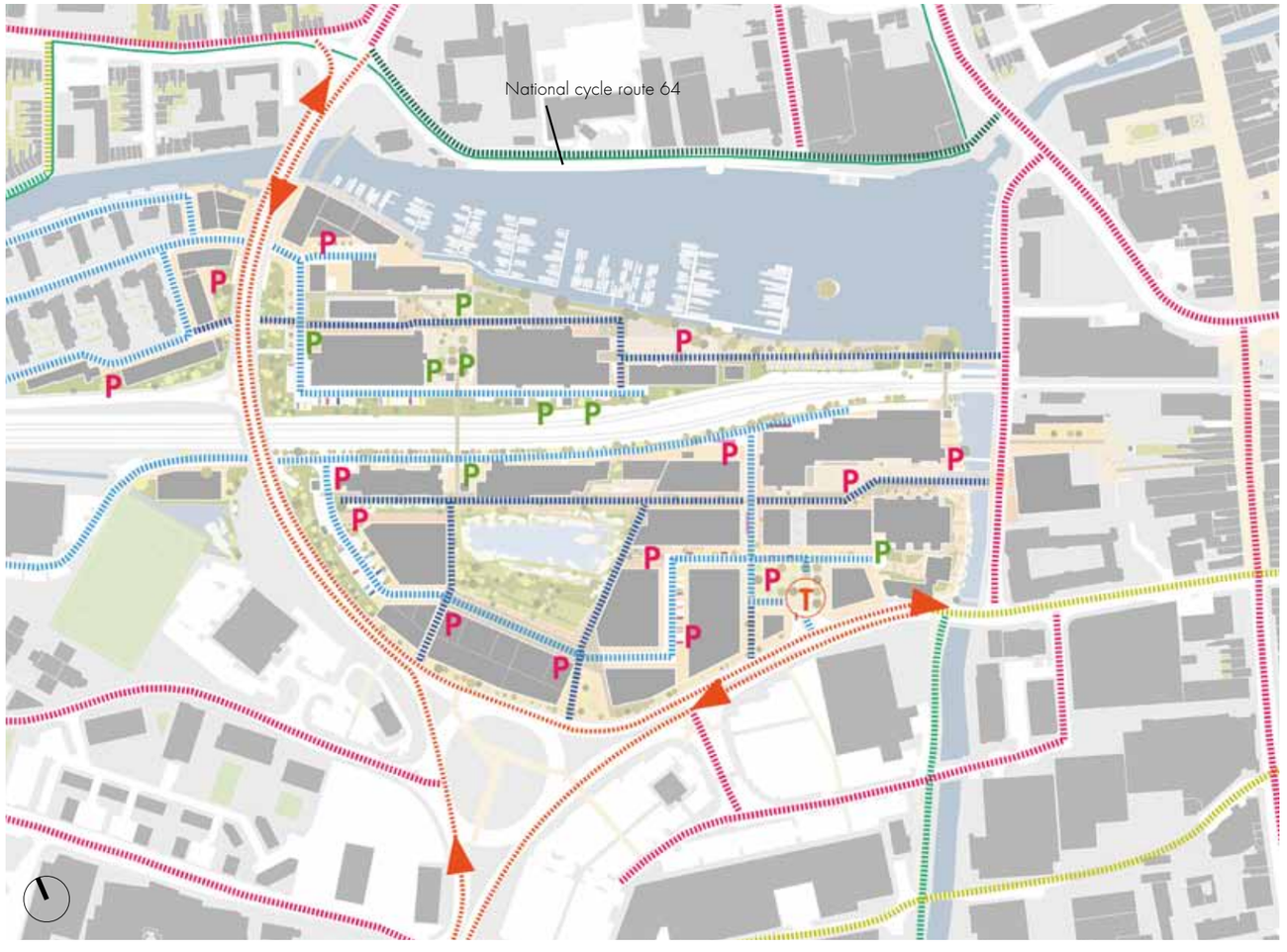
Key route through building

Pedestrian crossing

Traffic free route

15.2 Cycle routes

Cyclists will be able to use all of the existing campus roads, and the new access roads that are not designated as pedestrian only. Cycle parking will be provided in the positions shown; some of these spaces are existing locations, some re-configured and some new. Parking spaces will generally be dispersed and located in clusters close to buildings. As well as these clusters of stands, larger areas of designated covered parking will be available in the locations shown.

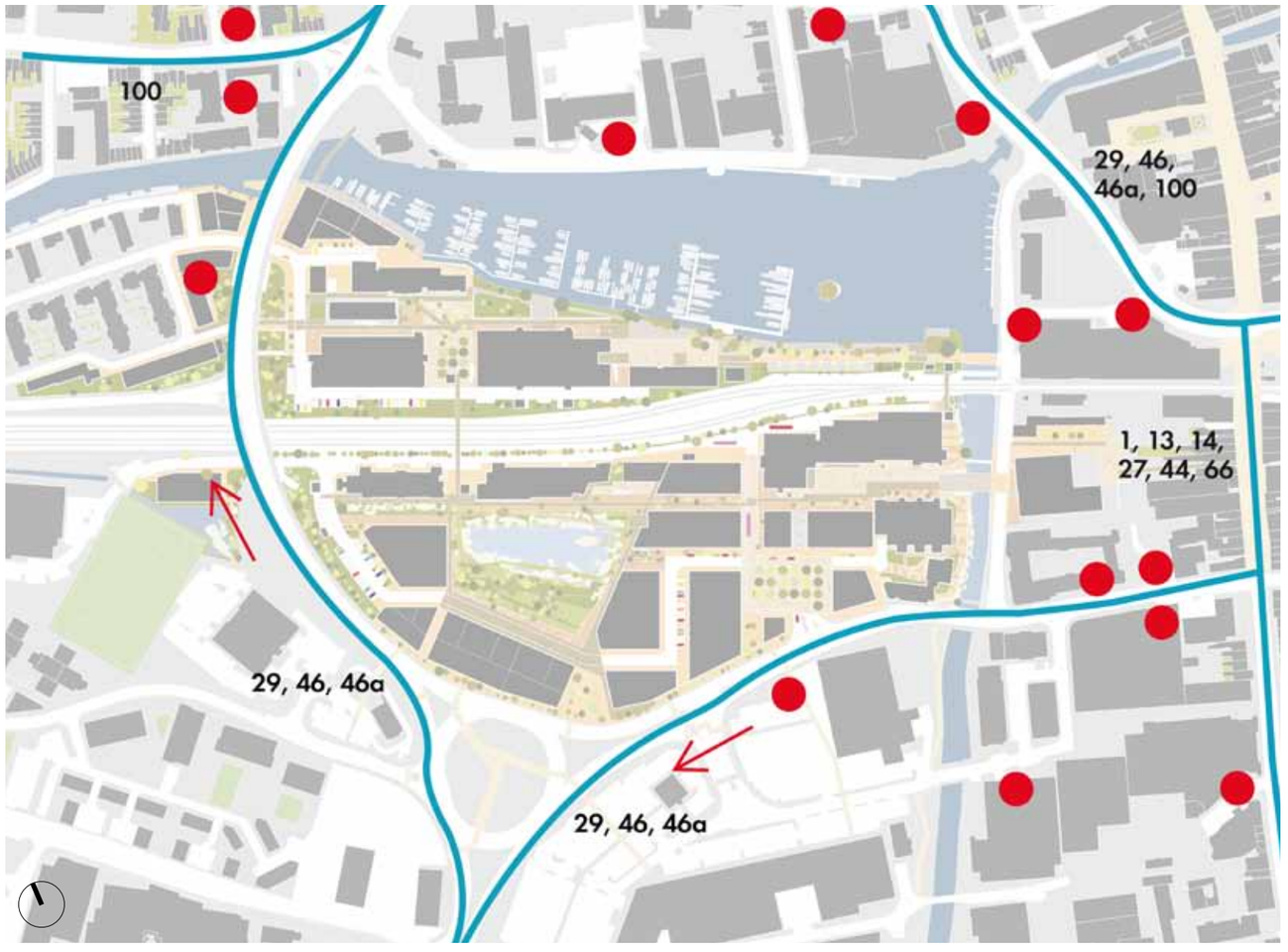


Proposed cycle routes

- On-road cycle route
- Traffic calmed street
- Off road cycle route
- Quiet or popular on-road route
- Dedicated cycle lane
- Route along campus road
- Route shared with pedestrians
- Toucan crossing
- Cyce parking positions - proposed and existing

15.3 Public transport

Public transport routes will be unaffected by the proposed masterplan, although transport companies alongside the County Council may wish to provide additional facilities or stops adjacent to the campus as it develops. Improved pedestrian connections to the High Street will potentially improve the access to public transport (particularly the bus station and train station) from the campus.



Public transport routes

Bus stops

Bus routes

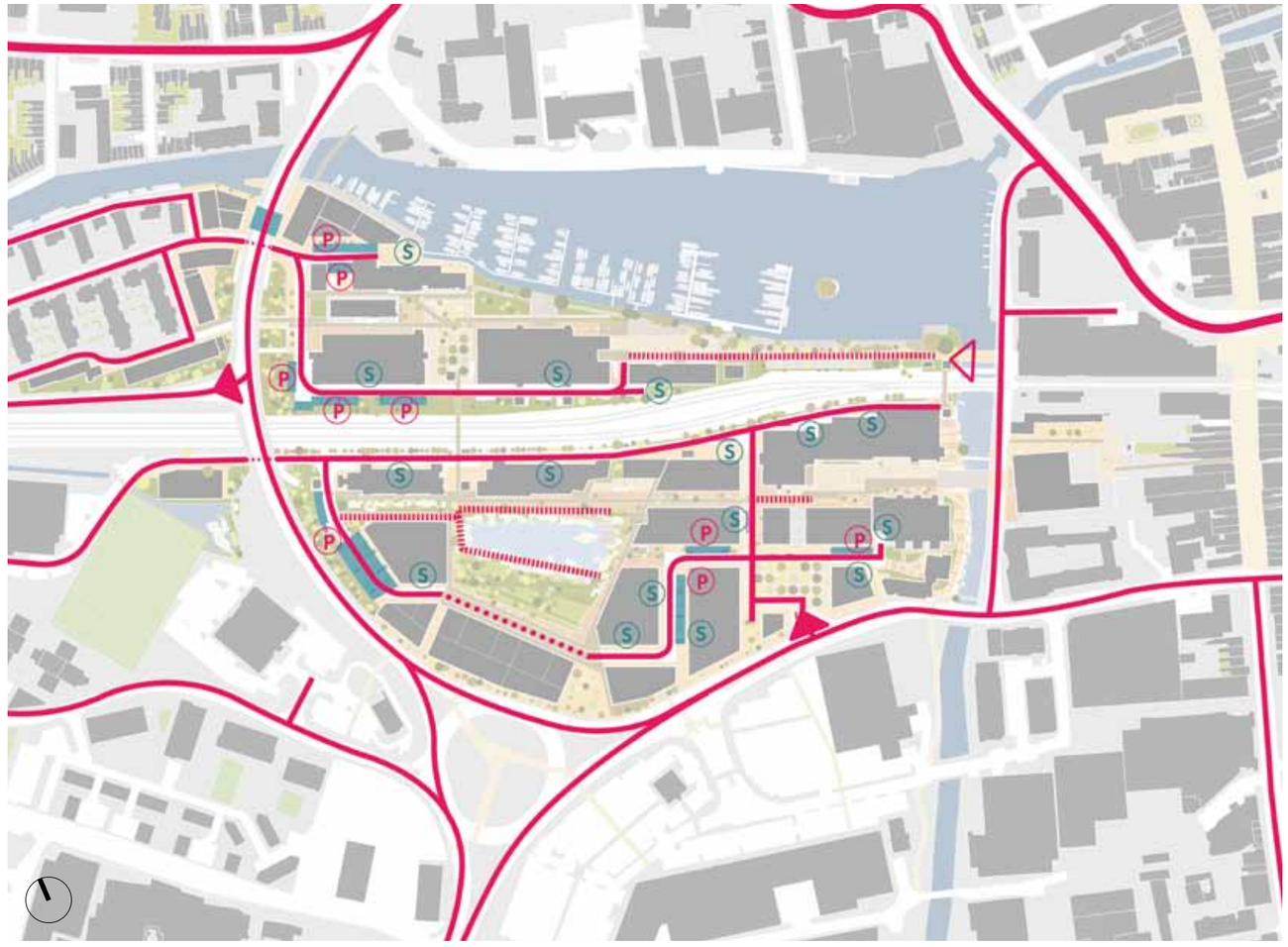
15.4 Traffic movement and car parking

Private cars, service and delivery vehicles will continue to use the same access points into the campus from the wider road network. Access to the north-east quadrant will largely be via Campus Way and the student village (and then under the raised Brayford Way). Car parking in this area will be reduced in the future, as the area adjacent to the Brayford Pool and Fossdyke currently used for car parking will be redeveloped. Other areas of car parking to the rear of the MHT building will remain, as will the main service routes to buildings.

Access to the south—east quadrant will be via the existing junction at Ropewalk. It is the intention that once vehicles turn off Ropewalk, they enter a landscaped square (rather than a vehicle-dominated junction as is presently the case), with a shared surface carefully located tree planting giving greater pedestrian priority and a greater sense of place.

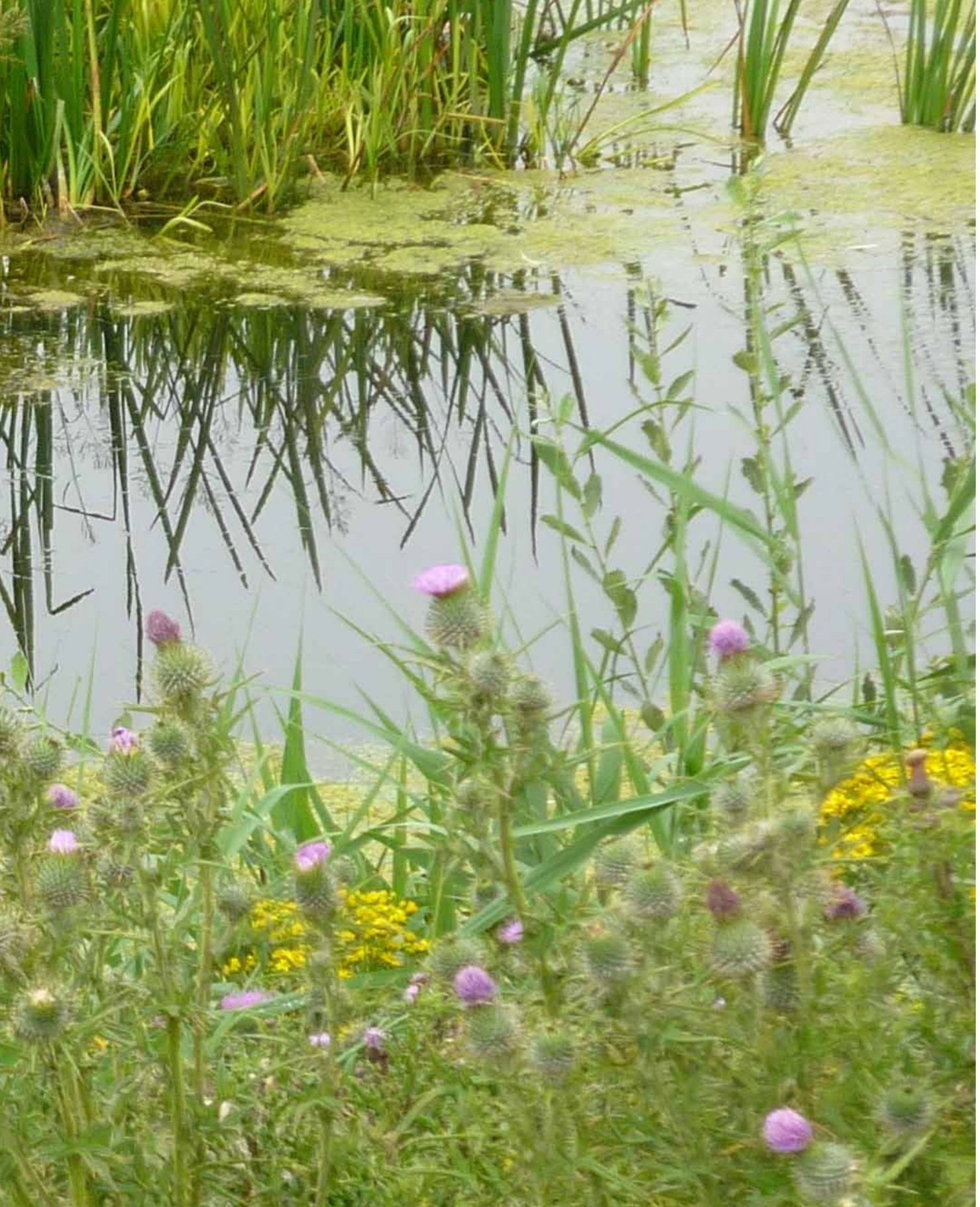
This square will then allow access to a number of vehicular roads (of varying treatment depending on their relative importance in the plan), serving the campus buildings. The Boulevard Road will be diverted to the north of a building plot which faces Brayford Way. As the Boulevard Road runs through the park area, it will be a 'shared surface' environment, with high quality paving material, and no parking spaces.

A multi storey car park has been allowed for in the new masterplan. The location of this buidling is intended to be flexible at this stage, but it is likely that it will be located adjacent to the new entrance square off Ropewalk.



Proposed vehicle routes and parking areas

Parking area
Access only entrance
Main vehicle entrance
Access only
Vehicle route
Heavily Trafficked route
Service access
Shared surface vehicle route



16 LANDSCAPE STRATEGY

The following section describes the landscape strategy and design principles. Sketch designs for selected areas of the site, described in the document as Core Areas and Character Areas are illustrated on the following pages.

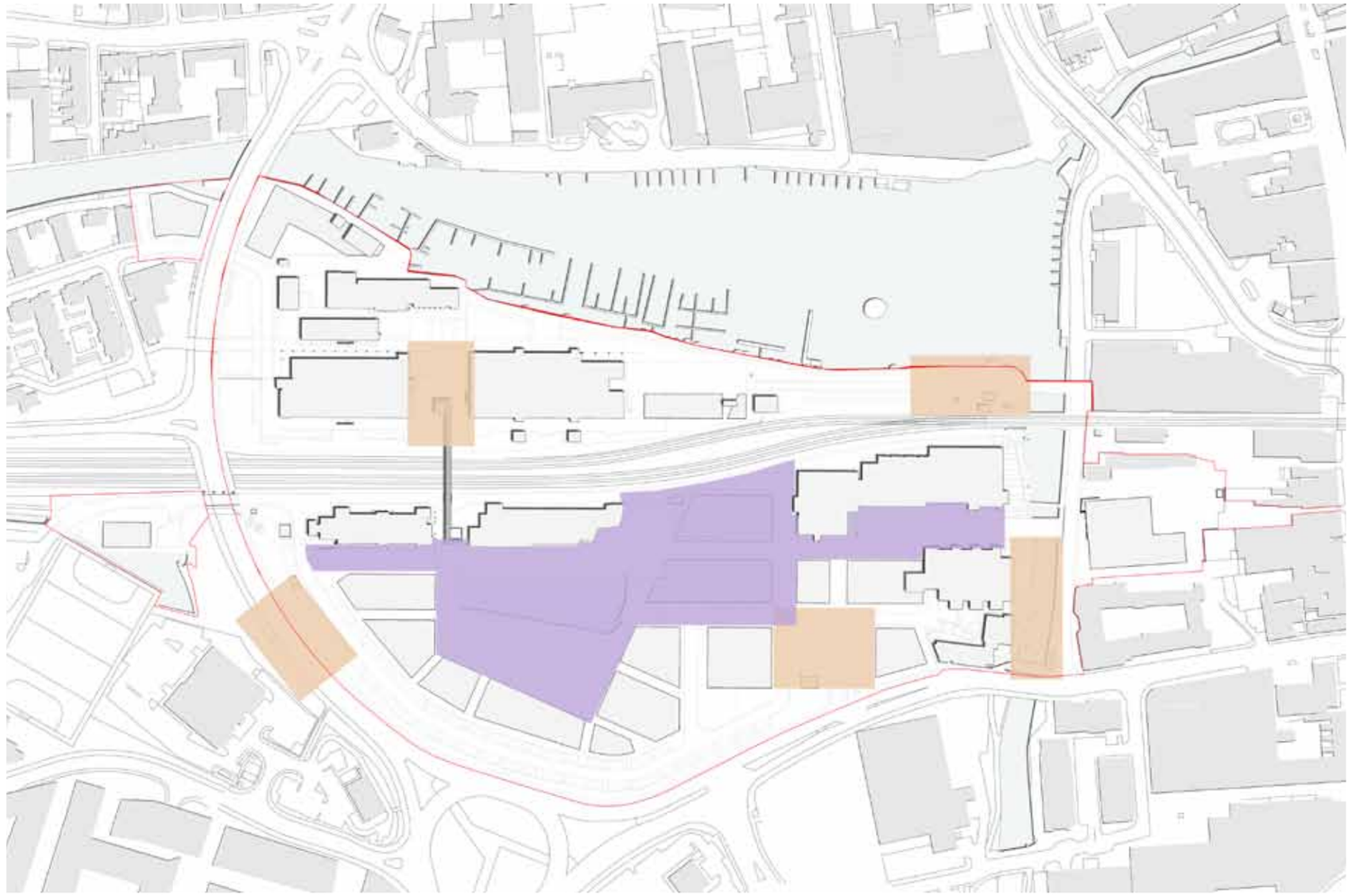
Landscape design principles based on Allies and Morrisson's masterplan principles are set out with particular emphasis on open space design and vegetation strategies.

This section sets out the general strategy and principles of design for the future of the Brayford campus, including suggestions for how the landscaping might look. Specific proposals will be brought forward when appropriate.

16.1 Introduction

The following section introduces the landscape and vegetation strategy for the masterplan, which has been developed in consultation with architects and engineers. The diagram shows the character areas and the core area within the campus that have been developed into sketch design schemes, including the Library and MAB/MHT squares, Delph Pond and land adjacent to Brayford Way. The first section of the masterplan concept to be implemented, the Engineering Hub, has been designed in detail.

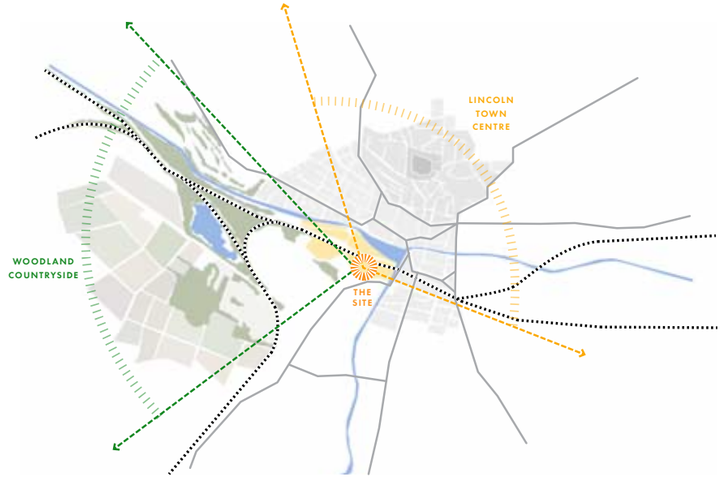
The masterplan design principles developed by the architects have set the parameters and the following section addresses how these are applied in terms of external space layout, vegetation, surfaces and furniture.



16.2 Landscape context

The University of Lincoln's Brayford Pool Campus is located at the junction of the River Witham and the Brayford Pool. The former industrial site lies halfway between Lincoln city centre and the city's rural edge in the south-west, where a lake and small woodlands stretch along the Brayford Canal and railway corridor (see aerial photograph on the right and adjacent diagram). This location between town and countryside has inspired the landscape strategy. The view from the approach via the Library Square and the long vista towards a wooded western edge of the site are significant and shall be enhanced.

Also see Section 8 – Site Context.



The rural edge
Typical Birch woodland with open grassland and ponds, seen from the towpath on the southern side of Foss Dyke, approximately 1.5 km west of the Brayford Campus.

Main pedestrian entrance to the campus with long view towards the green edge of Delph Pond

Lincoln town and the Cathedral
View of the historic townscape from the campus over the Brayford Pool.

16.3 Existing landscape

The campus' core area extends from the footbridge over the River Witham in the east, to the Science Building and Brayford Way in the west. It is the main axis that links faculty and civic buildings, and constitutes the heart of the campus south of the railway. Its significance as a barrier has been addressed in Sections 10 and 11.

The current landscape is fragmented and lacks identity. It is a composite, resulting from successive and separate interventions, buildings from various periods and disparate spaces between them. Landscape elements and materials are varied; the overall appearance does not convey a sense of unity or purpose befitting a university campus. The site lacks a unifying character and spatial definition, especially along the southern edge, where large retail stores dominate the aspect. Whilst the two eastern entrances into the site are open and with good connections to the town, there is no clear and inviting approach to the campus from the west. The open space lacks variety; the ground between the buildings requires a 'thread' that connects the old town, through the site, to the green spaces and trees beyond.

A positive aspect of the site is its mature tree cover. Two tree lines, both aligned parallel to Brayford Pool, dominate existing views. Age distribution of trees within the campus is narrow, and new trees were planted mainly along the site perimeter.

Main entrance to the campus - between the Library and the Engine Shed
Large unbroken areas of asphalt without furniture lack direction; there is no sense of arrival.

Delph Pond
The space lacks identity; the existing topography hides the pond and makes it inaccessible for recreation.

Area in front of the School of Architecture
Paths are too narrow for pedestrians and cyclists, which leads to erosion of adjacent grass banks.

Lincoln Performing Arts Centre frontage
The palette of materials is too large.

16.4 Interaction

The main users of the site are young people who interact with the public domain in an age-specific way. Students will use furniture in a casual way and find places for sitting, which may generally be considered uncomfortable.

Lincoln's research paper 'Learning Landscapes in Higher Education' found that academics and students need to be involved in design processes and suggests 'new pathways by which universities can link academic expertise to the process of estate development ...'. Future development of sketch designs into detailed plans could be based on curriculum linked processes as laid out in this document.

Library Square
This space needs to be open to accommodate marquees and cater for large events, but its surfacing should be improved and seats provided.

Small decks on lawn areas are multi-functional

Informal seating on single step

Furniture with flexible use

16.5 Landscape concept

The existing green infrastructure consists of pioneer-type, self-seeded trees along the railway line, trees along the Brayford Pool, newly planted trees adjacent to Brayford Way and small trees in the MAB/MHT square. The character of these zones is varied: the railway edge vegetation is naturalistic and diverse, the dominant tree species on Brayford Pool are mature willow and alder, which are in need of management, and on Brayford Way, semi-mature plane trees are arranged in a single line along the campus edge.

The concept for new planting is considered in a site-wide context and is based on the existing vegetation character beyond or adjacent to the campus. The nearby countryside in the west becomes an integral part of the campus landscape. A gradual transition from urban to rural is expressed through increasing density of trees and ground vegetation from east (town) to west (country). The existing green infrastructure along the railway is strengthened and a new route of trees runs along the main access path from the Library Square past the new Engineering Hub and the School of Architecture. The distribution of vegetation appears to be random; trees are planted as though they are self-seeded from the countryside to the west of the site, and a ground layer of wild flowers grows through the aggregate surface in a naturalistic rhythm.

The concept makes a lasting contribution to the landscape by creating places between buildings that give the campus a strong, memorable identity as well as providing a clear route through it and access to building entrances.

The concept comprises four layers that combine to create a unified landscape character. These layers define spaces and functions, emphasise vistas or set accents where they are needed (see Landscape Concept Diagram opposite).

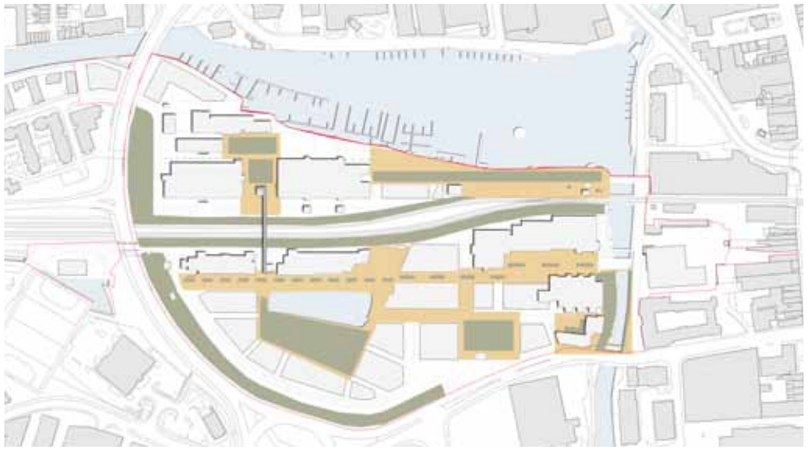
The Gravel Plane is the base layer, a free draining aggregate substrate forming the surface between buildings. The natural material is well compacted and suitable for walking and cycling whilst fulfilling the requirements of Sustainable Urban Drainage (SUDS).

The Broadwalk makes up the second layer, a 2.7-metre wide path which runs throughout the entire campus. It provides a flexible path system, whilst unifying the overall appearance of the campus landscape. The modular stone elements form a spine across the central gravel base with links to all building entrances.

The third layer introduces vegetation. Different species of colonising plants are sown into the gravel base. They will create a green and varying pattern of flowering and carpet-forming plants. The emerging pattern will make desire lines visible, as an integral part of a vegetation concept that is responsive to user patterns and encompasses a degree of randomness.

Trees standing in the gravel plane form the fourth layer. The canopies provide seasonal change and shade. The density of the two vegetation layers develops from east to west along the space, from a starker urban environment in the city to a softer landscape towards the woodland. The trees appear as though they had self-seeded in a natural rhythm. In places they stand in groups, some as single trees or as multi-stem specimens, and west of Delph Pond they form a woodland copse. Their pattern reveals and emphasises the change in character across the site, from urban towards the more rural part of Lincoln.

Existing Green Infrastructure



Proposed Green Infrastructure

04

TREES

03

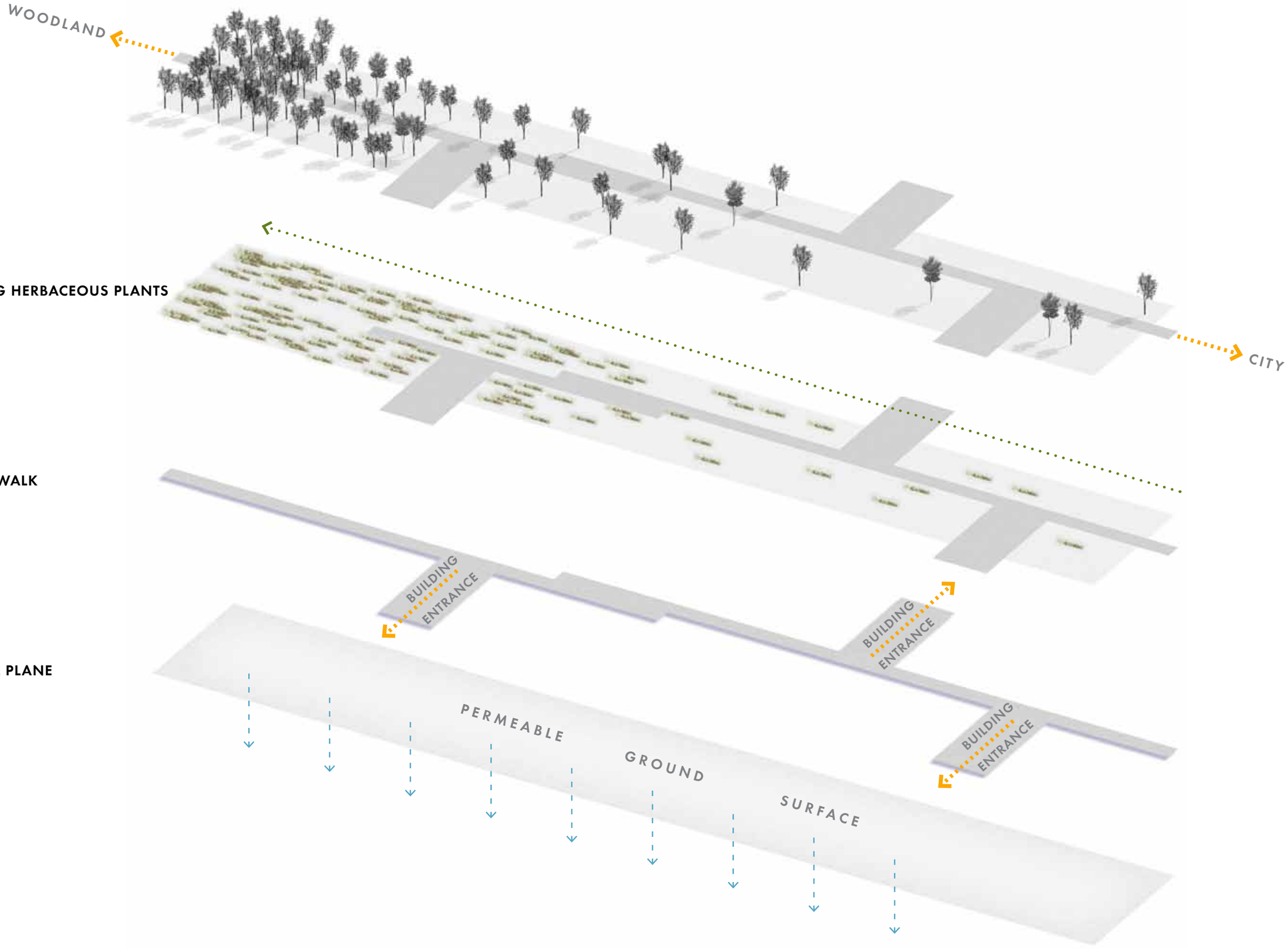
PIONEERING HERBACEOUS PLANTS

02

THE BROADWALK

01

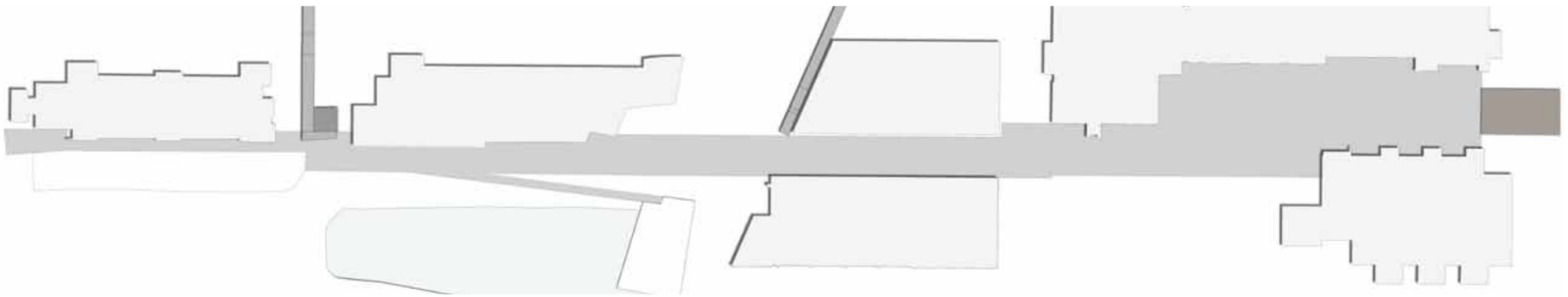
THE GRAVEL PLANE



The Gravel Plane

The gravel plane, a continuous, unifying surface of compacted aggregate, extends across the site. It creates a flexible surface that can accommodate various uses.

Seeds are incorporated into the substrate so that vegetation will emerge in places throughout the site.

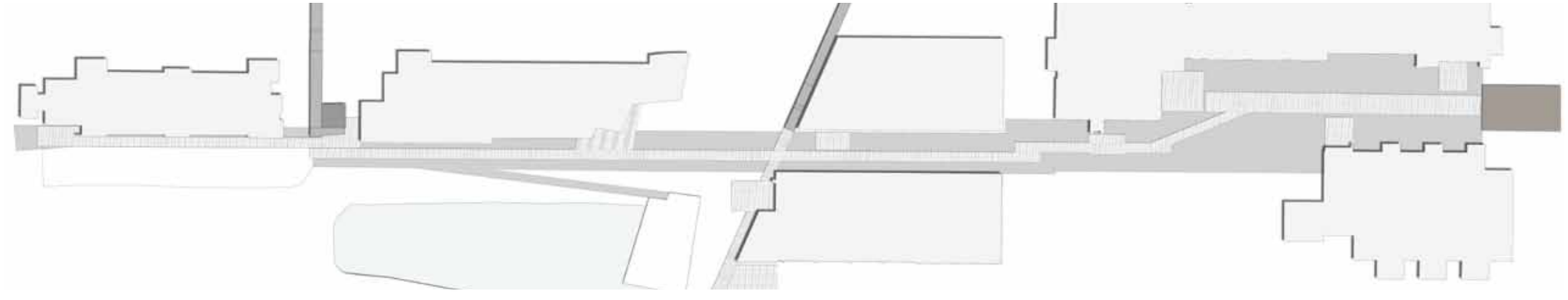


The Broadwalk

A wide granite path runs across the gravel plane. It links buildings and provides a clear route through the campus.

Paths describe the principle desire lines, emphasise changes in direction, thresholds and entrances, and provide a smoothly paved route to all buildings.

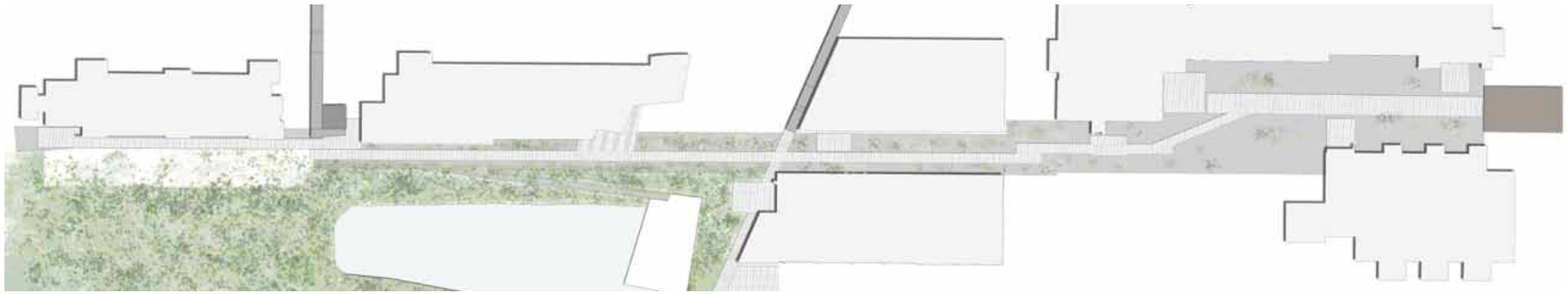
Paths structure the ground plane and define functional areas.



Pioneering herbaceous plants and grasses

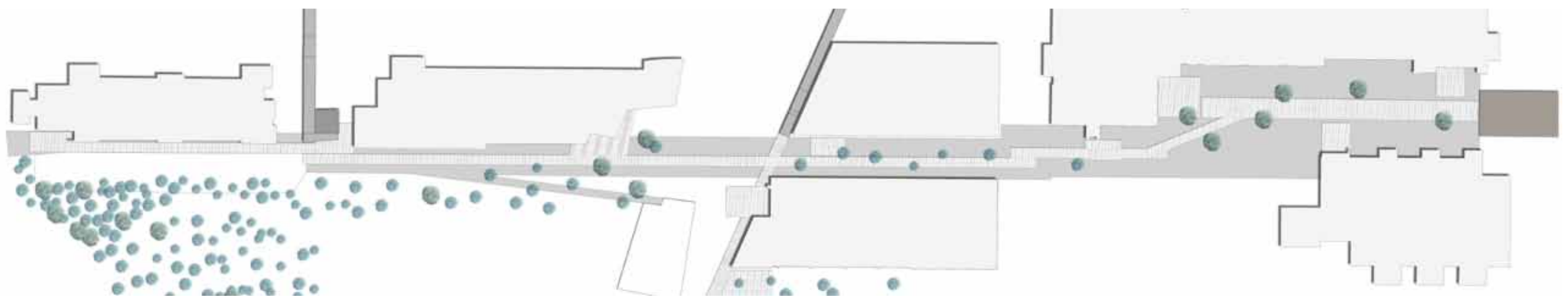
Wildflowers grow in the compacted aggregate surface; they contribute to biodiversity and create habitats. Deliberate informal planting at varying heights is used in a combination with semi-mature trees.

Grasses emerge from the aggregate surface.



Trees

Trees appear as though they have colonised the space. There is a dynamic development from the Library Square, with only a few trees, toward the western side of the campus, where tree density increases to form a woodland copse beyond Delph Pond. Trees gradually become denser from east to west and are planted as single and multi-stem specimens or smaller, young and bushy trees.



16.6 Landscape principles

In summary the landscape concept is based on the following design principles.

1. Integration into the town and countryside
The proximity of the adjacent countryside should be felt within the campus landscape and good connections to the city on all sides should transform the campus into a public open space for all.
This can be achieved by creating and maintaining long vistas.
From the site entrance at the Library Square a long view framed by buildings is accentuated by the Engineering Hub and reveals a new wooded, western campus edge. A spinal route, the Broadwalk, runs through the entire campus and to the countryside in the west. Its surface is a uniform paving material. This route is open to all and forms a legible connection between town and rural edge. The gradual transition is expressed in terms of increasing density of planting from the town to the countryside.

2. Identity
The campus should be coherent, inviting and legible. The external environment should have its own distinctive and memorable character that reveals a sense of innovation.
The vegetation strategy provides a unique and innovative approach to planting, envisaging pioneer-type vegetation with a naturalistic rhythm that resembles a random distribution.
By applying the same design language for materials, furniture and vegetation throughout the campus, a coherent landscape is created that transforms spaces into places with their own characteristic identity.

3. Coherence and Flexibility
Space between buildings should be transformed into places with an identity that have the potential to be redefined by activities occurring in them, which is one of the principles set within 'Learning Landscapes'.
Between the Broadwalk and the building edges is a compacted aggregate surface in which wild flowers are seeded. These areas are suitable for walking and cycling, and through the use of the space, desire lines and user patterns become an integral part of an ever changing landscape. This approach requires a visionary maintenance strategy that embraces change and vegetation development.
Furniture should be multi-purpose and flexible, such as small decks within grass areas or backless benches arranged to accommodate groups.

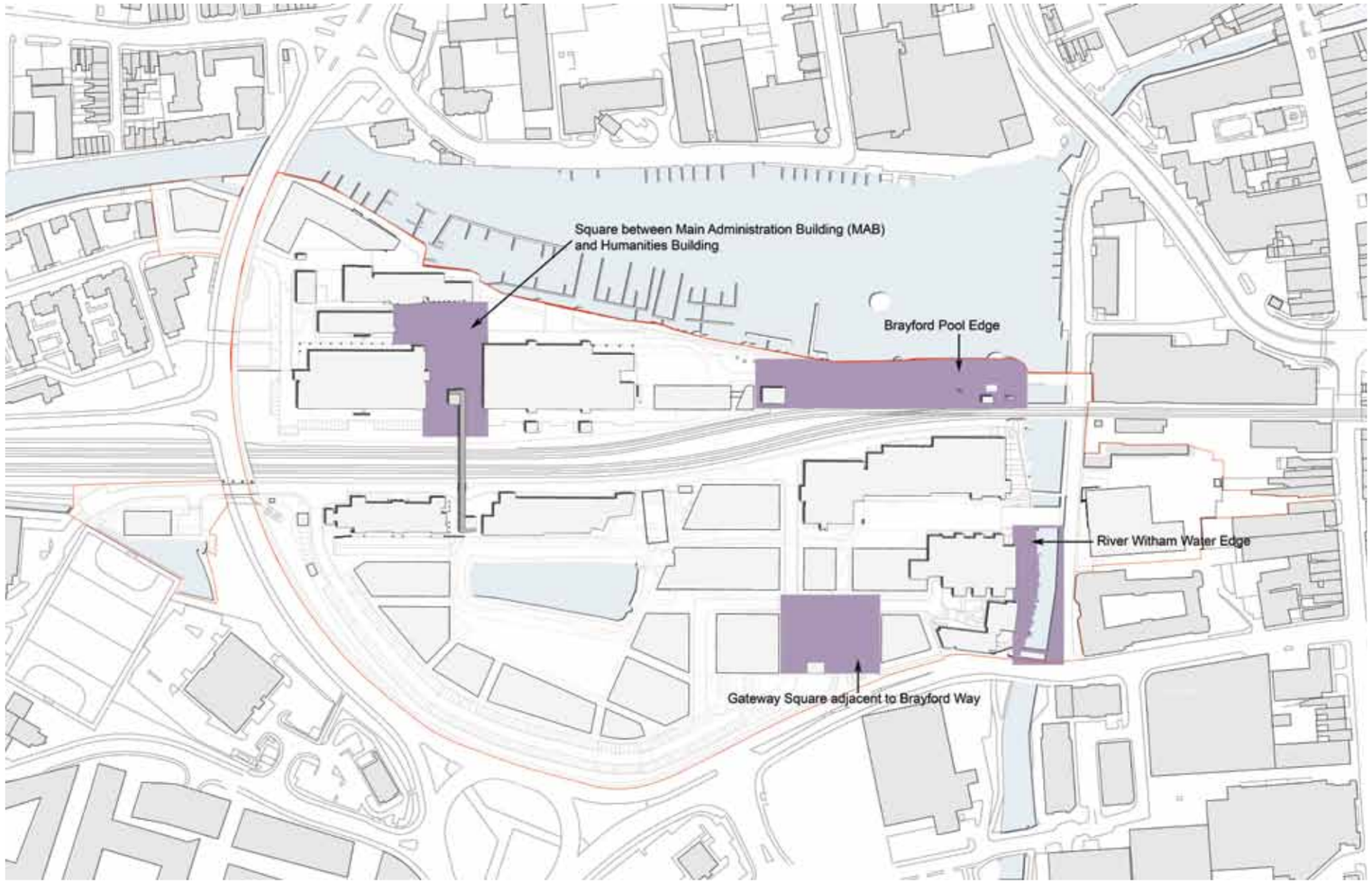
4. Teaching and learning spaces
'Learning Landscapes', Lincoln University's research project on develop¬ing and managing innovation in the design of teaching and learning spaces in higher education advocates the inclusion of students as clients and contributors to the design process. The campus should encompass a series of places that are suitable for different activities. Its layout as well as the selection and arrangement of furniture should accommodate the clients' needs. There should be intimate places for privacy and reading, large areas for congregating and promenading, learning zones where groups can sit and work, and tables for picnicking.

5. Sustainability
In terms of landscape, the concept should promote sustainable development through reducing the carbon footprint by: sourcing natural materials locally, developing vegetation strategies that increase biodiversity and biomass, considering and minimising maintenance hours, cutting fuel requirements and specifying hard surface materials that allow water to drain naturally back into the aquifer. All these objectives are achievable within the landscape concept. A long-term grounds maintenance strategy, based on dynamic landscape development, needs to be prepared and adopted in close liaison with Lincoln University's management team.

(also see Section 12, Masterplan Design Principles)

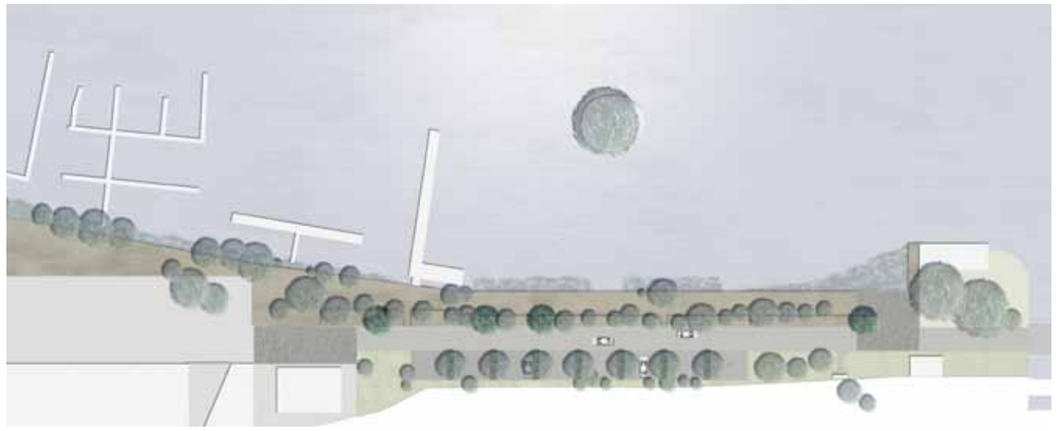
16.7 Character areas

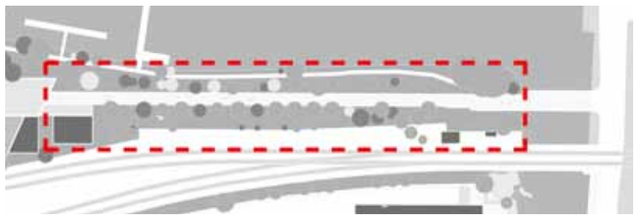
Within the scope of the masterplan brief, sketch schemes for the following four character areas have been developed: Brayford Pool Edge, Square between the Main Administration and Humanities Buildings, Gateway Square adjacent to Brayford Way, and River Witham Water Edge.



Brayford Pool edge

The current pedestrian approach is via a car park. By providing a wide walkway adjacent to the water, the focus is re-directed towards the site's greatest asset, its proximity to the Brayford Pool. The existing tree structure is re-enforced and, introducing a raised deck which also functions as a bench, unifies levels. The design principle of forming a strong identity gives rise to the planting concept. The proposed planting consists of the same species of trees or vegetation of a similar waterside character (willow and alder) as on the existing site.





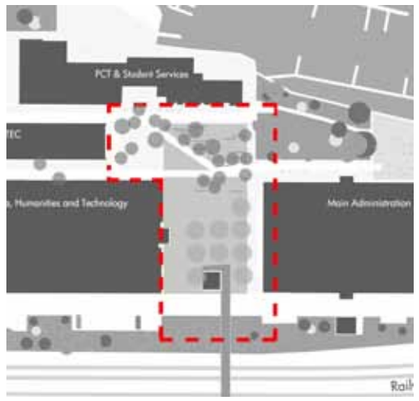
Square between Main Administration (MAB) and Humanities Building

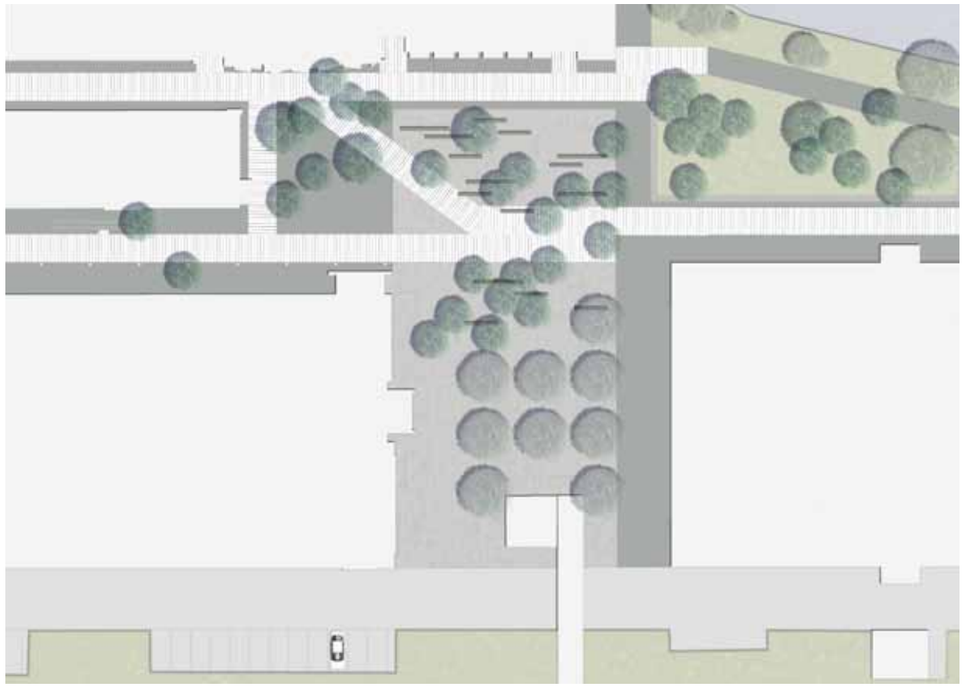
This busy area will form a focus for the inner campus. Views to the Brayford Pool and the Cathedral are managed to prevent obstruction from tree canopies and existing planting. This place is on the main route between the student village and the western campus. At the same time the space forms a large terrace that is linked to the catering outlet on the northern side of the square. The surface materials change; the Broadwalk cuts across a wide cobble terrace framed by compacted aggregate and wild flowers. A series of long backless benches provides seating , which can be used in two directions. They are arranged to be used by groups or opposite each other.

The southern side of the square is enclosed and trees near these buildings are re-planted on a grid. Thorough ground preparations guarantee good establishment. Waterside trees such as alder link in with the Brayford Pool vegetation. They are planted in a random pattern and appear to be drifting into the space, in contrast to the orderly tree grid, which is proposed between the buildings.

Existing MAB square

View across the existing planting bed



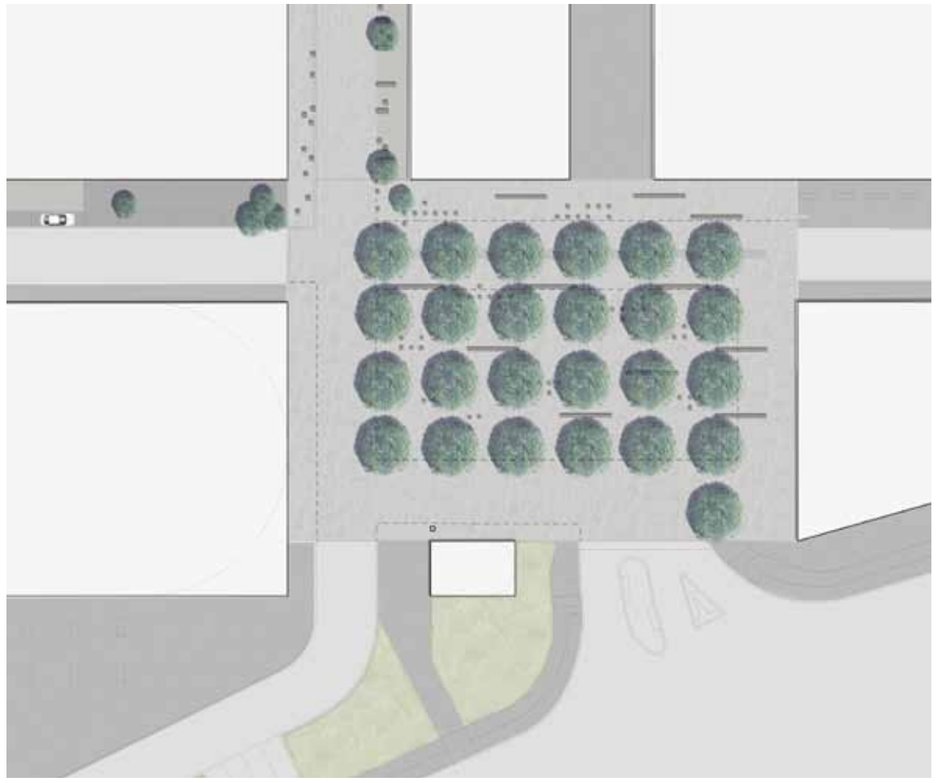


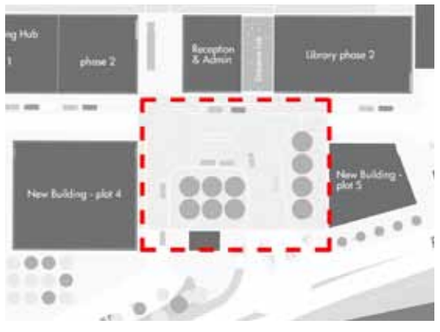
Gateway Square

This is a significant place because visitors arrive at the campus here, making it the University's southern 'face'. It is treated as a shared space in which pedestrians, cyclists, cars and delivery vehicles use the same surface. The shared surface principle defines 'streets' as areas where people and vehicles share the whole of the road space safely and on equal terms, and where quality of life takes precedence over ease of traffic movement. The square is designed to accommodate turning circles of all delivery vehicles and easy access to the car park adjacent to Brayford Way.

Gateway Square is the link between the University campus and the new part of Lincoln, which may change in appearance and use in time. Trees in this location are planted on a grid to integrate the surrounding architecture and form an edge to the site.

Benches are placed beneath the crowns of the trees, and the entire square becomes a pedestrian place.



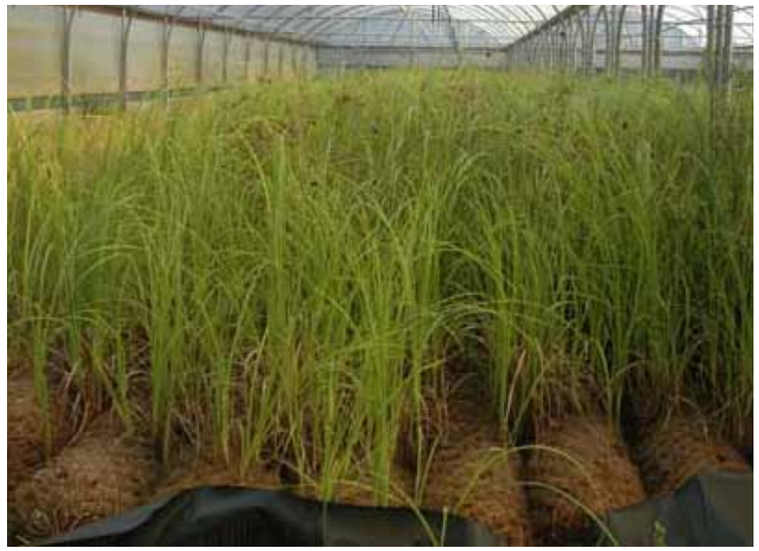


Allies and Morrison

Christopher Bradley-Hole Landscape
Schoenaich Landscape Architects

River Witham - Water Edge

The ground adjacent to the river on the eastern campus site should be planted with marginal aquatic vegetation. By using biodegradable planters even steep riverbanks can be vegetated. This would provide a green and pleasant edge to the campus along the river, giving it a distinctive character in contrast to the opposite, town-facing edge, which is hard. At the same time the planting will provide nesting habitats and increase biodiversity.



Engineering Hub Landscape Masterplan
Scale 1:250@A3

16.8 Engineering hub

Design Concept

The Engineering Hub is part of a new group of buildings to the south-east of the Architecture Building and to the east of Delph Pond. This location defines the building line and geometry along the eastern side of the new park, allowing views of the Cathedral. Together with the new School of Art to the north the site establishes the main pedestrian route in the south-eastern quadrant. The building will benefit from views and access to the new Delph Pond and its surrounding landscape.

A 2.7-metre wide path, the Broadwalk, leads through the entire core area of the campus and passes north of the Engineering Hub. It is paved with granite slabs and the ground between the path and around the buildings is formed by a compacted aggregate with wild flowers seeds. Trees are planted randomly in the gravel along the path and appear as if they have colonised the area. Some vegetation will establish in the porous surface, revealing patterns of movement by growing only in areas that are rarely walked or cycled upon.

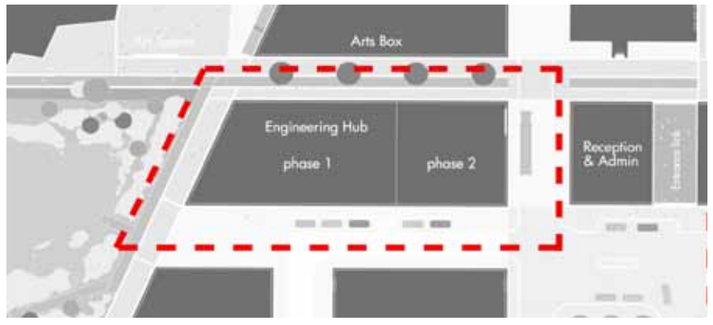
The western facade and main entrance face Delph Pond, and from here access is provided to a timber deck set at the water level. This area is a quiet seating space with views to the Cathedral.

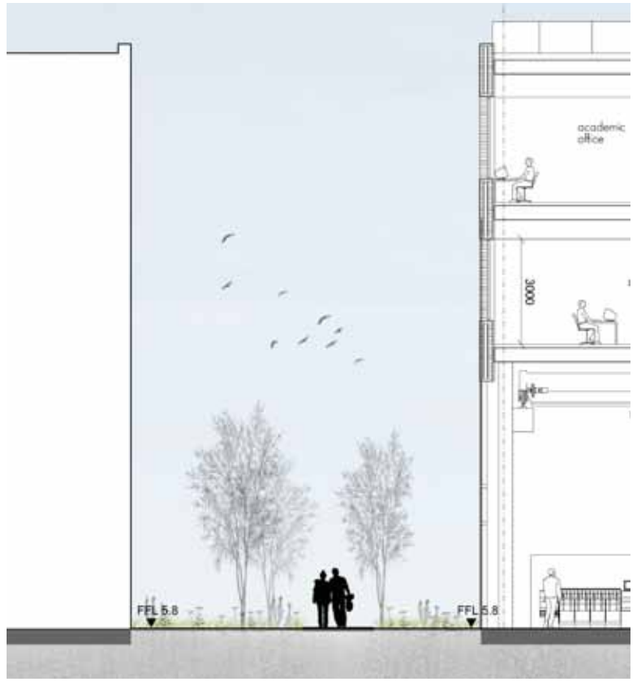
The area to the south of the Engineering Hub will be partly used as an 'outdoor studio', with benches in the shade beneath tree canopies.

The detailing of the area east of the outdoor studio responds to its function. The need for vehicular access to the building as well as the provision of a road in the south and east dictated the use of hard materials, such as tarmacadam for the road and granite cobbles for less trafficked areas. Disabled parking spaces are located in this zone, as marked on the plan.

The area to the north of the building is a gravel plane with the main stone path running across the whole site. Benches and clusters of individual seats are located in the gravel plane north of the Boardwalk.

Temporary retaining structures (gabions) edge the site to the south and the east to mediate between temporary level differences between site and adjacent areas.





Engineering Hub - Hard landscape details

Landscape materials for the campus are appropriate and robust. Compacted aggregate is a low cost material which is flexible, free draining and sustainable. A more hardwearing alternative used in areas for heavy vehicular traffic is coated tarmacadam with a surface finish that matches the compacted aggregate.

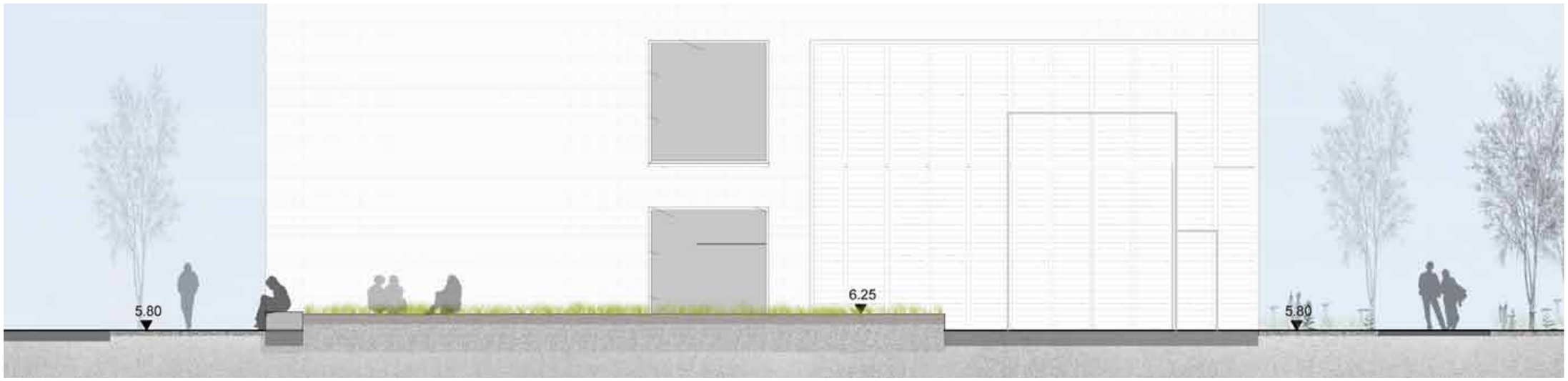
Different sizes of modules are used for the various functions of spaces. Along primary routes granite units of 300mm width and various lengths are laid to provide a high-quality and durable material. The paths have a generous width of 2.7metres. In places trees interrupt the line of the path, but the path width is always a minimum of 2.0 metres.

The site furniture is equally robust, consisting of long backless benches. More informal areas will receive timber seating elements while site furniture in association with the building will appear sculpted from the same granite as the paving.

Gabions are used as temporary retaining edges in the south to bridge the drop in level. They are stepped so that railings will not be necessary.

Phasing

The area immediately to the east of the building is a temporary open space on land which will be developed, in a later phase. The temporary landscape consists of a raised lawn with a wide edge for seating. A granite path runs along the eastern site boundary. This will be used by delivery lorries on the shared surface principles described above. Kerbs are flush to indicate the edges between vehicular and pedestrian areas without creating a road character. Some seating will be placed along this road.
Temporary retaining structures in the form of gabions edge the site in the south and east to mediate between level differences.



16.9 Delph pond

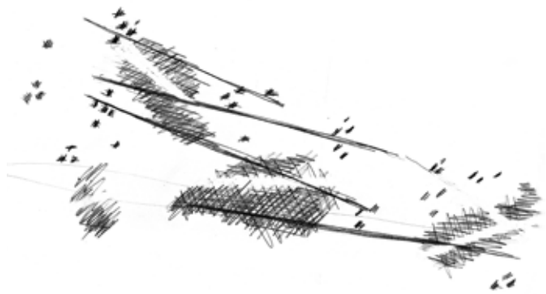
Design Concept

The Delph Pond green forms a focus for the campus and provides a large area of green open space. Therefore it needs to fulfil a number of functions, including space for gatherings and recreation and a variety of places that offer a retreat as well as an atmosphere of calmness within the busy campus.

The angular pond sits within a trapezoid space that will in the future be surrounded and overlooked by buildings. Its geometry is reflected in the linear terraces that marry the path levels with the water.

The straight lines of the terraces are set in contrast with informal tree planting; some trees are planted individually, others in groups or small copses. The trees are single, feathered and multi-stem specimens. The planting concept of seemingly random vegetation in a naturalistic pat¬tern is based on the top right sketch, which shows how trees (dots), small woodland copses (blocks) and terrace edges (lines) create a pattern that suits the geometry of the open space.

Diagonal desire lines, as shown on the Desire Line diagram opposite, are accommodated in a series of connected lawn terraces. The design allows cross cutting the space, but these routes are not surfaced as hard paths. Due to the steep gradients they will not be the easiest and busiest connections and therefore hard surfacing them is unnecessary.



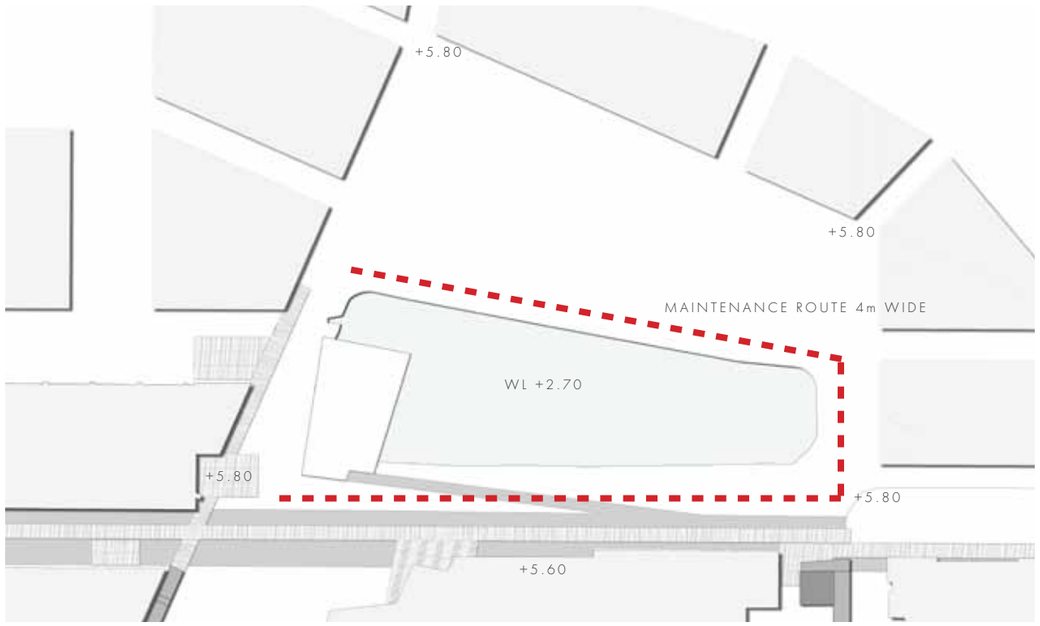
Allies and Morrison

Christopher Bradley-Hole Landscape
Schoenaich Landscape Architects

Delph Pond

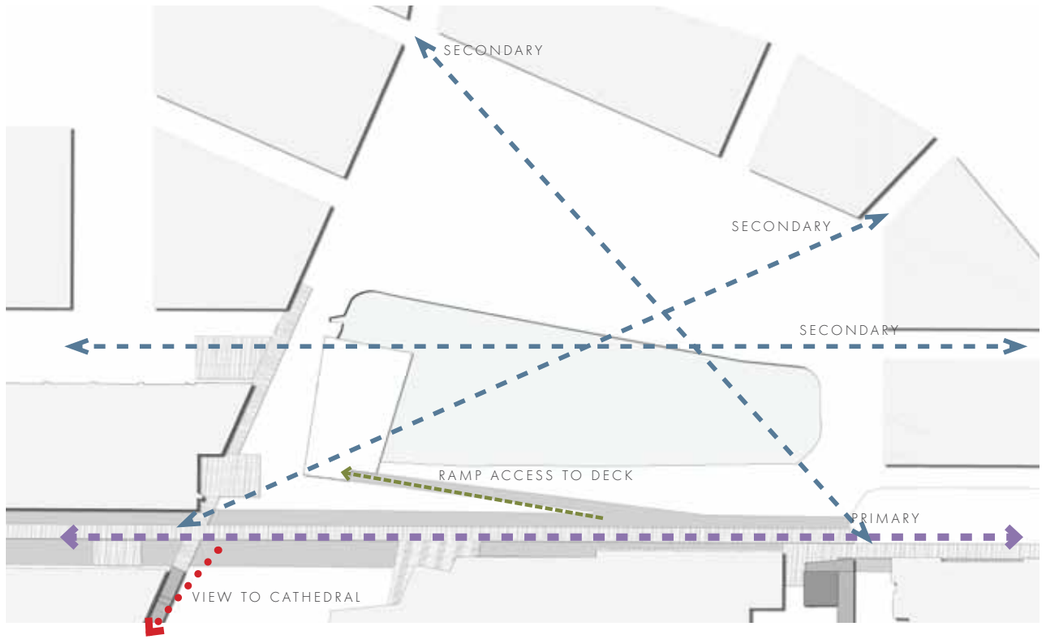
Constraints

The water level is almost 3 metres below the surrounding surfaces, so that the pond is invisible, unless from viewpoints directly adjacent to it, and is hidden from ground floor views within the building. The surrounding lawn area is set aside for flood attenuation and in areas where paths are close to the water's edge steep banks are incorporated. A 4-metre wide maintenance path is needed on three sides of the pond to clear vegeta¬tion and ensure free flow of water in and out of the culverts at its eastern and western ends. This means that marginal aquatic vegetation needs to be kept away from these areas and the main body of the water is to retain its straight edges. The new design should make greater use of the waterside as a recreational area. There are no trees within the lawns sur¬rounding the pond.



Desire Lines

The main pedestrian route runs south of the School of Architecture building towards the western campus and student village. Once new buildings on the southern side of the green are built, there will be desire lines crossing the space in all directions. Due to the site gradients and the multi-directional desire lines it seems appropriate to introduce grass as an accessible surface rather than restricting movement to a system of paths. The water and level changes will prevent people from cross cutting, unless they are using the green for recreation.

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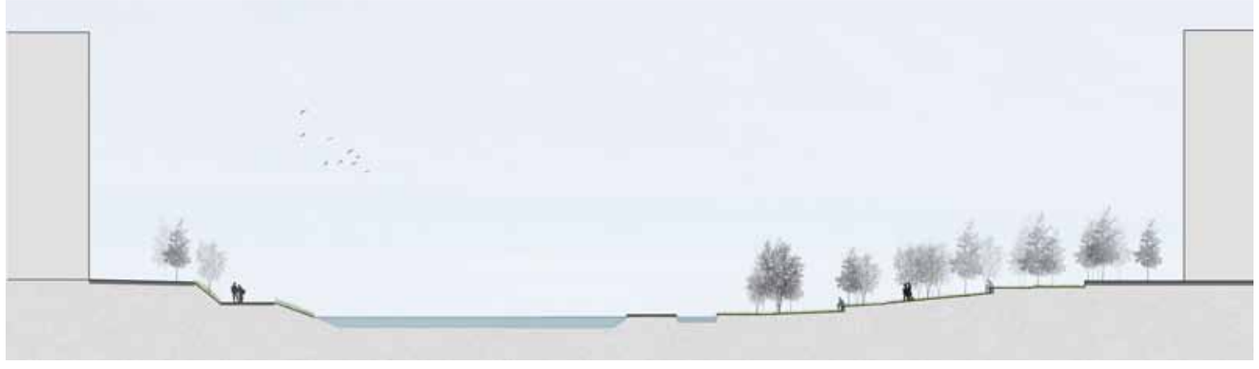
Delph Pond Masterplan

The combination of open areas with individual trees and copse wood–lands creates a variety of spaces needed within the campus for varying activities (see opposite page, Delph Pond Masterplan). Because the area will be overlooked and lower branches are removed from the trees, surveillance is good and security can be provided within a partially wooded space.

The terraces are retained by green banks or hard edges (see design sketch and section). The banks create a legible pattern that animates the green, especially when the sun is low or when seen from above. Shadow can create strong linear patterns, even on gentle gradients (see images Delph Pond Design Concept). Some retaining edges are built so they can be used as seats. None are higher than 60cm and handrails are not needed. The surface is lawn or longer, meadow-type grass which is strimmed a few times a year. The main routes cross the lawn as paths cut into the meadow grass, in keeping with the vegetation strategy of expressing desire lines in vegetation and creating an interactive, dynamic landscape.

Access for all is provided by short mown grass ramps at shallow gradients leading into the space and via a long ramp in front of the School of Architecture building allowing for a circular route without steps.

View looking south



North-south section with Architecture Building on left and terraced banks on the right

Delph Pond Vegetation Strategy

Trees are primarily native and consistent with the pioneer character throughout the campus in terms of species selection and random distribution. Typical species are birch and alder, hawthorne and snowy mespilus. The change from glades to copse and open lawn areas accommodates vary¬ing uses and diversifies habitats by creating a number of edge conditions which promote biodiversity, such as woodland edges, where the micro-climate varies between sunny and shady aspects. Grassland species under tree canopies differ from plants that prefer sunny aspects. By introducing woodland bulbs into the areas that are mown less frequently, the spring aspect before the trees leaf out will be very attractive.

The differing mowing regime encourages invertebrates and consequently bird populations. Grassland at different gradients, banks and retaining edges that can be formed by gabions all provide habitats for a wide range of species.

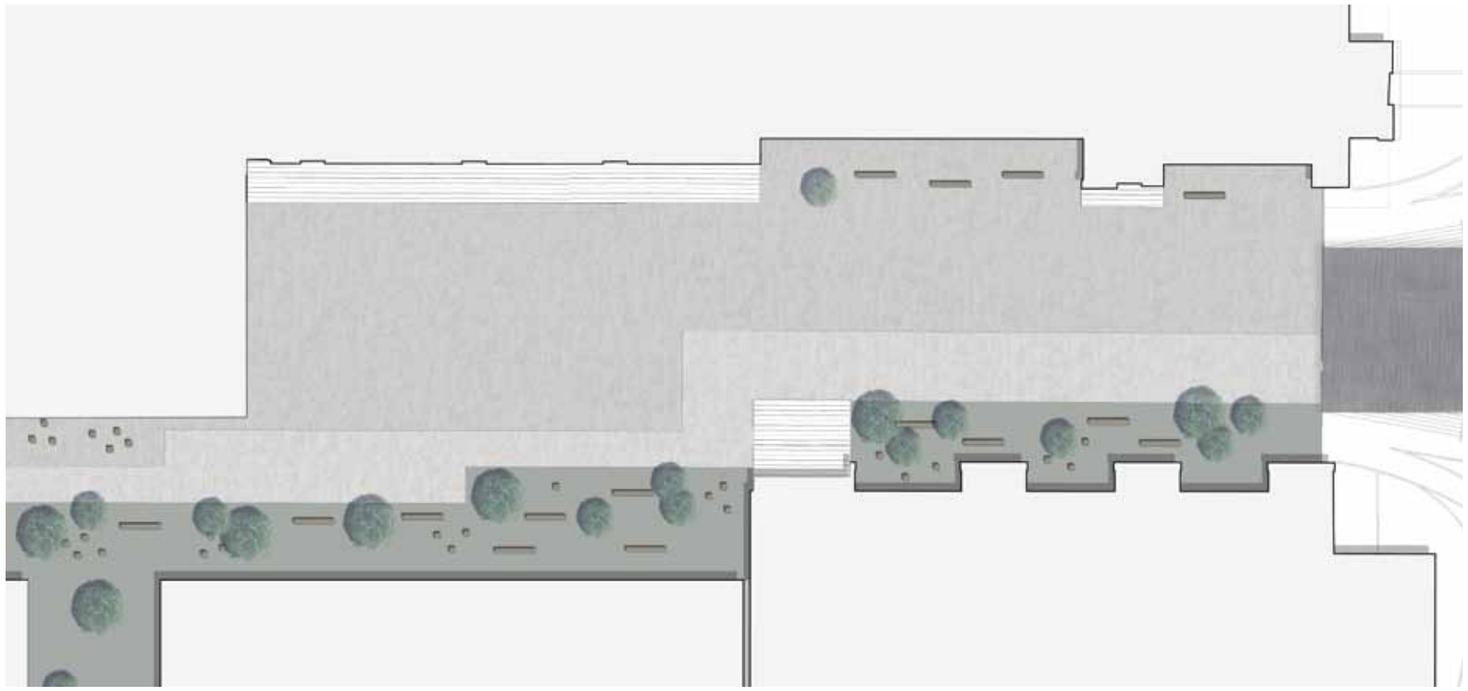
Reeds are established away from the culvert, which needs to be kept free of vegetation. A boardwalk leads across the reed area towards the main deck near the Engineering Hub. Marginal aquatic plants establish all along the edges throughout the year but are removed on an annual basis.

A dynamic and sustainable landscape needs a clear management plan, and the production of such a document must be a multi-disciplinary exercise that involves the university's management team.

16.10 Library Square

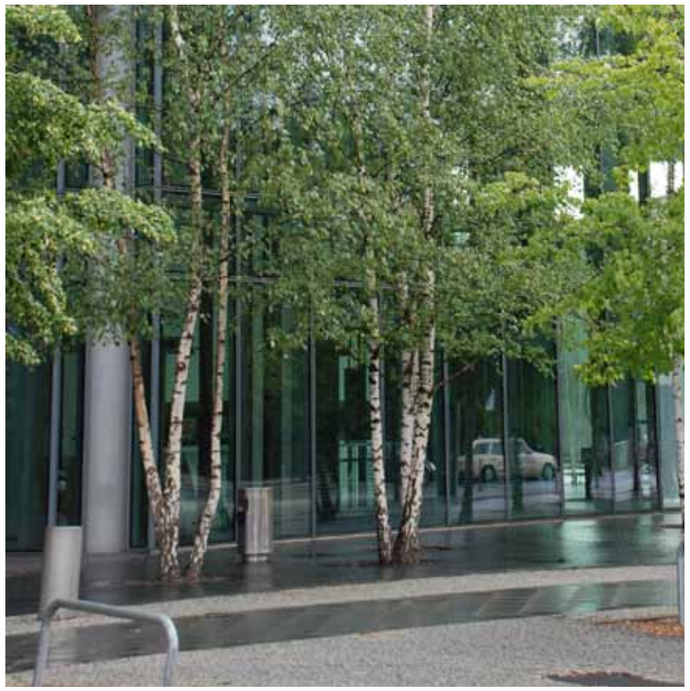
The Library Square forms one of the two eastern entrances to the campus. During events crowds are gathered here and at times the space is used for outdoor events and marquees are set up. Therefore, it needs to be open and its surface must be capable of supporting heavy vehicles.

When crossing the river a long vista towards the western campus edge opens (see Section 16.2, central image). The view will be accentuated by the edge of the Engineering Hub, which narrows the line of vision. Trees are planted in the aggregate surface and restricted to the southern edge of the space to keep the view and the square open. The image on the right, illustrates how close trees can be planted to buildings.



Surfaces are consistent with the principle of the Broadwalk, a spinal route paved in granite units set in contrast with compacted aggregate. The change in texture will structure the space. Because of the vehicular requirements in this area the path cuts through granite setts, which provide a textured but comfortable walking surface, as shown in the top image on the right.

Long backless benches are set against the buildings leaving the central area free, whilst providing places to sit and observe the busy thoroughfare.



17 SUSTAINABILITY

17.1 Introduction

Sustainability links together environmental, economic and social issues in a complex relationship which has to be balanced. In the construction and planning industry it has more recently become a catchword, with many differing and interrelated definitions involving building performance and effect on the environment.

It is difficult at the masterplan stage of a project to give specific commitments to energy usage and wider issues of sustainability. To some extent this is due to changing legislation and carbon reduction targets, and changing technologies which may make specific measures obsolete by the time of development. There are several targets and pieces of legislation that we can be confident will be required in the next ten years.

HEFCE carbon reduction targets.
This commits the higher education sector in England to making 43% cuts in carbon dioxide emissions against 2005 levels by 2020. HEFCE have also set intermediate targets for reductions in 2012 and 2017, and have linked success in meeting these targets with future capital funding.

Carbon Reduction Commitment Energy Efficiency Scheme.
Due to its level of electricity consumption the University is obligated to take part in the Carbon Reduction Commitment Energy Efficiency Scheme. This means that a permit has to be purchased for every tonne of carbon dioxide emitted from fuel and electricity usage. The permit buying stage of the scheme gets underway in April 2011 and for the first years of the scheme the price will be fixed at £12 per tonne.
After the first few years of the CRC the permit price will be based on a market price for carbon, so prices could rise significantly. The annual cost of the CRC at £12 per tonne will be in the region of £120,000, therefore there is a large financial incentive to reduce carbon emissions.

The Master Plan has a significant contribution to helping the University to perform well in the HEFCE targets and minimise the costs of the CRC. New buildings that minimise energy usage will be vital in meeting the targets.

When designs for individual buildings are brought forward they should compliment a site wide energy strategy. Consideration will need to be given to how the designs of individual buildings, including the selection and use of materials, impact on the immediate environment of each specific site, during the design and construction phases and in the life of the development thereafter.

Areas where it is possible to be specific within Masterplan 1 are as follows;

17.2 Water

The key issues for water consumption at the University are around achieving lower levels of usage. This involves having low use fittings in toilets and hand basins. Having sensor flush urinals is also important.

The Brayford Campus is in a flood zone and the area has flooded in the post-war period. Therefore, future developments need to use the principles of sustainable urban drainage. Road and footpath areas in the new development zones should reduce runoff and allow the water to enter the soil – permeable surfaces are key.

17.3 Energy conservation

The buildings planned for the Master Plan should have energy conservation as a core founding principle

A central energy centre is being investigated by the University, and is shown in the masterplan located in the south-west quadrant. If this is not possible, there may be scope to provide an energy centre as part of one of the new buildings on campus. Local generation of power would enable the waste and heat from electricity production to be recycled and used elsewhere in the masterplan, leading to an increased efficiency and a reduction in the overall carbon footprint of the campus.

Where appropriate the University will set minimum performance standards for future buildings of BREEAM 'Excellent'. Whilst buildings have not yet been designed, they will in the future be designed to maximise the benefit from passive solar shading on the east, south and west facades. High performance insulating glass will be encouraged, reducing heat loss through façades. Plant should be selected offering the best in class performance in terms of low energy consumption and flexibility for operational economy.

17.4 Biodiversity

The landscape strategy, when taken into detailed design stages, should look to link with the Local Biodiversity Action Plan for Lincolnshire. The strategy should look to encourage the key species identified within the LBAP.

The existing environment of the campus will be reinforced and enhanced by the new elements of landscape delivered by the masterplan. This includes new trees and planting forming corridors to enable wildlife to inhabit the site area. The campus benefits from the unbroken green edge provided by the railway; This often acts as a 'wildlife corridor' allowing migration of species from less urban areas.

Where practical, roofs should be designed to incorporate terraces or hard and soft landscape beneficial to the users, and to incorporate areas of sedum to promote biodiversity. Trees and plants within the public realm will be selected to compliment the environment and encourage biodiversity.

17.5 Transportation

The location of the site benefits from reasonable public transport links, with the railway station and bus station within walking distance. It is thought that improved pedestrian links will increase the perception that these modes are usable. It is also the University's intention to encourage non-car modes of transport to the campus (cycle, bus, train etc). For this reason, car use will be controlled within the masterplan by allowing only a limited number of well managed car parking spaces across the site.

Cycling to and within the campus will be encouraged, with a number of cycle routes identified throughout the site. Secure cycle parking provision will be located in key positions and facilities offered within buildings.

17.6 Renewable energy

The Master Plan, as a principle, does not exclude the use of renewable energy either in the landscape design or the future design of buildings. Even if renewables are not fitted at the time of construction the building design should allow technologies such as solar power to be retro-fitted at a later date. It is highly likely that solar photovoltaic systems will become economic within the lifetimes of the buildings planned in the masterplan.

18 INCLUSIVE DESIGN

18.1 Introduction

The needs of disabled people will continue to be integrated into the development of the campus, from the design, layout, physical condition and the inter-relationship of uses. Access arrangements will be clear for disabled people travelling to and from the building, by any mode.

Legislative and informative documentation relevant to inclusive design at this stage includes:

18.2 Legislation and information

Disability Discrimination Acts 1995 and 2005

The Disability Discrimination Act (DDA) 1995 aims to end the discrimination that many disabled people face. This Act has been significantly extended, including by the Disability Discrimination Act 2005. It now gives disabled people rights in the areas of:

- employment
- education
- access to goods, facilities and services, including larger private clubs and land-based transport services
- buying or renting land or property, including making it easier for disabled people to rent property and for tenants to make disability-related adaptations
- functions of public bodies, for example issuing of licences

The Act requires public bodies to promote equality of opportunity for disabled people. It also allows the government to set minimum standards so that disabled people can use public transport easily.

Planning and Access for Disabled People (2003)

This document was published by the office of the Deputy Prime Minister to provide guidance in the delivery of inclusive environments through the Town and Country Planning system.

Building Regulations Part M (2004)

A central aspiration for this development is to meet and where possible exceed Part M (2004) standards. Although conferring itself to planning issues this Access Statement is in line with the Building Regulations.

BS 8300 (2009)

Design of Buildings and their approaches to meet the needs of disabled people – Code of Practice.
This document provides detailed guidance on good practice in the design of buildings and their approaches so that they are convenient to use by disabled people.
The recommendations relate not only to the elements of construction and accommodation which are common to different types of buildings, but also to those that are specific to individual building types.

18.3 Parameters for accessibility

The masterplan has been designed according to the following parameters in respect of site access:

- The campus structure will provide a pedestrian friendly environment, with all routes being accessible wherever possible. As the campus is open to the public, this will benefit all users, including wheelchair users and other disabled people, families with children, people who are frail or elderly, or those with impaired senses.
- Gradients will be minimised and step free routes provided wherever possible. Where gradients are necessary, they will be as gentle as possible and no steeper than 1:20.
- Seats and level resting places will be provided as part of the overall landscape strategy.
- Sloping surfaces with gradients of 1:20 to 1:60 will have level resting places and or seats for every 500mm of vertical rise.
- Entrances to buildings will be step free and suitable for disabled people.
- Dedicated disabled car parking spaces will be provided close to public circulation routes and key buildings.
- Sufficient links to the public transport system will be provided.
- Lighting, colour, signage and tactile surfaces will be employed to assist people when moving around the area.
- Street furniture, paving and landscape features will enhance the circulation routes, without creating barriers or hazards for disabled people.

Allies and Morrison
Architects

85 Southwark Street
London SE1 0HX
telephone 020 7921 0100
facsimile 020 7921 0101
web alliesandmorrison.co.uk