



Shepherd Epstein Hunter + tf LAB

Lancaster University Urban Design Competition Remodelling 'The Spine'

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Foreword

The Story of the Spine (Spine chilling – happy ending)

History

The story of 'The Spine' at Lancaster University begins with the original planning of the campus in the 1960s. The concept was a central pedestrian walkway running north – south through the University connecting all the original development and allowing it to expand as a unified campus, with a heart untroubled by subsequent phases of construction. The width of the spine was carefully determined to ease circulation for the proposed number of students but also narrow enough to concentrate movement and promote familiarity, social awareness and a friendly atmosphere. The north and south spine meet at a large central square which is created as the heart of the campus, but which, for the visitor arriving from the outside, can be difficult to find. Although the conceptual model for the university was an Italian hill top town a need for shelter from the elements was also recognized and canopies along the walkway provided this. So the spine became an integral narrative in the development of the University linking together the colleges as well as the faculties.

Today

The story of 'the spine' continues but is weakened and although fondly remembered by staff and students is in danger of being forgotten. Over the years student numbers have risen substantially as the university has expanded beyond original expectations. The Spine still provides a human scale to a campus where the scale and range of new buildings could be overwhelming. Considering the size of the overall campus today, the spine is effective in fulfilling its original concept of bringing people together and providing a central pedestrianised and partially covered walkway between the major buildings. There are, however, many problems and as 'the building we do not talk about' it has been a little neglected. Materials are dated and drab, the canopies are low, block views of the sky and can be claustrophobic, and drainage is impeded. Original buildings that border the spine are monotonous and entrances are hard to find, so a journey from north to south offers few memorable features to aid navigation. Highlights are often provided by the views into little east-west passageways, some which lead to other squares and others to dead ends. The basis for a very good story is still there but needs to be re-invented, reinvigorated and brought up to date.

The Future

Like all good stories 'The Spine' needs a beginning and an end and a plot which informs the journey. The story also needs punctuation to aid comprehension and navigation. Narrative is also essential to create a memorable experience, including variety of pace, exciting twists and turns leading through dark passages (dramatically lit) into open squares. The aim in re-writing the story is to combine all of the above ingredients to ensure the spine fulfils its original purpose and continues to connect and bring the University population together.

To be continued...

Past



Present



Future



LAYOUT AVOIDS THE "9 TO 5" UNIVERSITY

LANCASTER CENTRES

FROM OUR ESTATES CORRESPONDENT

College buildings which will start life as study and social centres for non-resident students, but which can be converted later into full residential units at small expense, form the main feature of the development plan for the new University of Lancaster, announced yesterday.

The first aim, a statement pointed out, is to avoid a "9 to 5" university by encouraging students to use the university site for most of their waking hours, returning to lodgings for bed and breakfast only.

The plan, prepared for the Bailrigg site by Bridgwater, Shephard and Epstein, depends on a long, flexible and irregular spine made up of a colonnaded pedestrian

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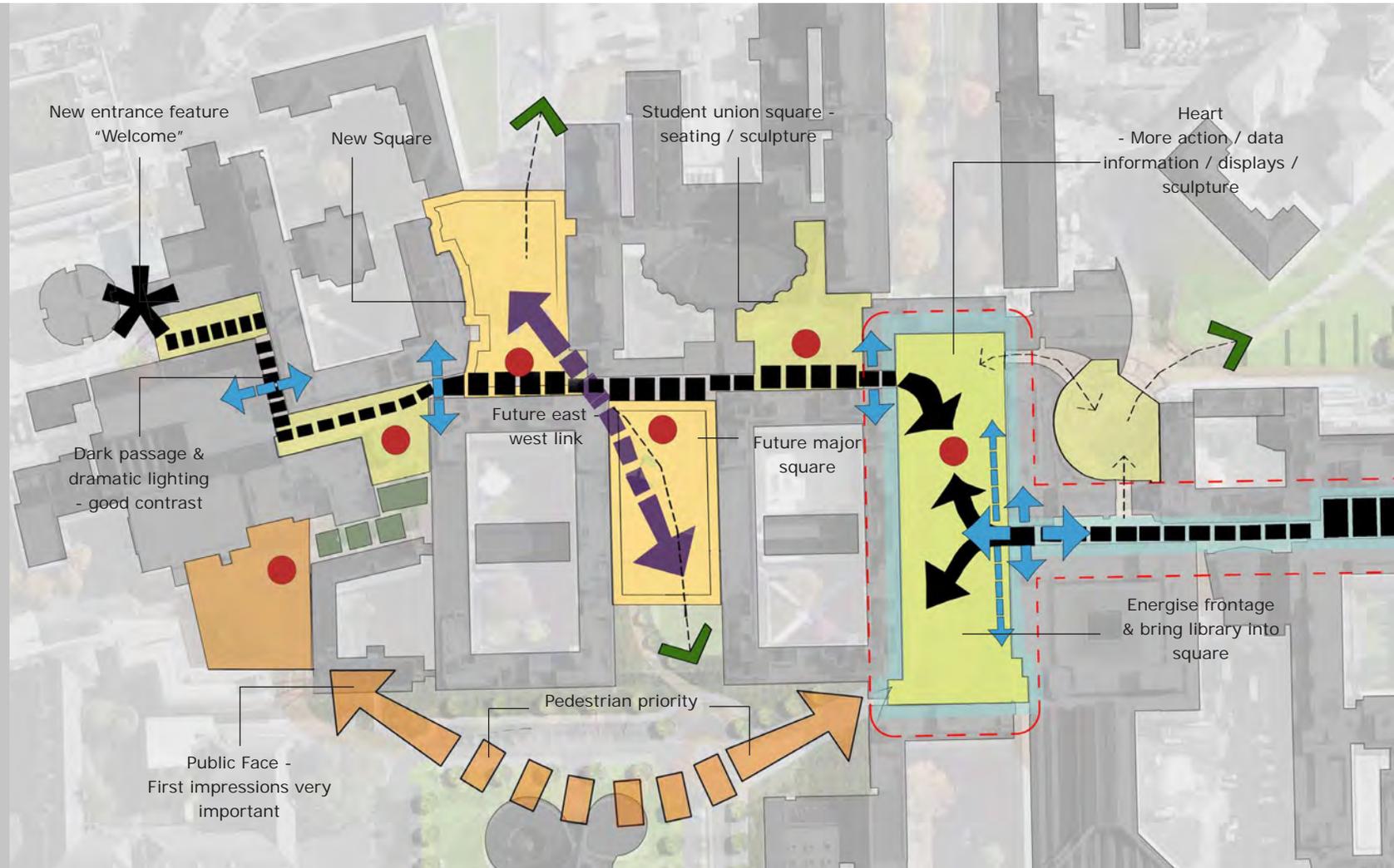
way running north and south, opening out here and there into squares. On either side of this, and providing by their location the squares and irregularities of the pedestrian way itself, are the main college buildings, presenting their public rooms, such as common rooms, shops, coffee bars, and others, to the pedestrian way. These, with the assembly halls, religious centre and other buildings will ensure that the spinal way is continuously flanked from end to end with public rooms of one sort or another which, lit up at night, will provide inviting places for the students. The spinal way will also permit students to walk under cover to all parts of the university.

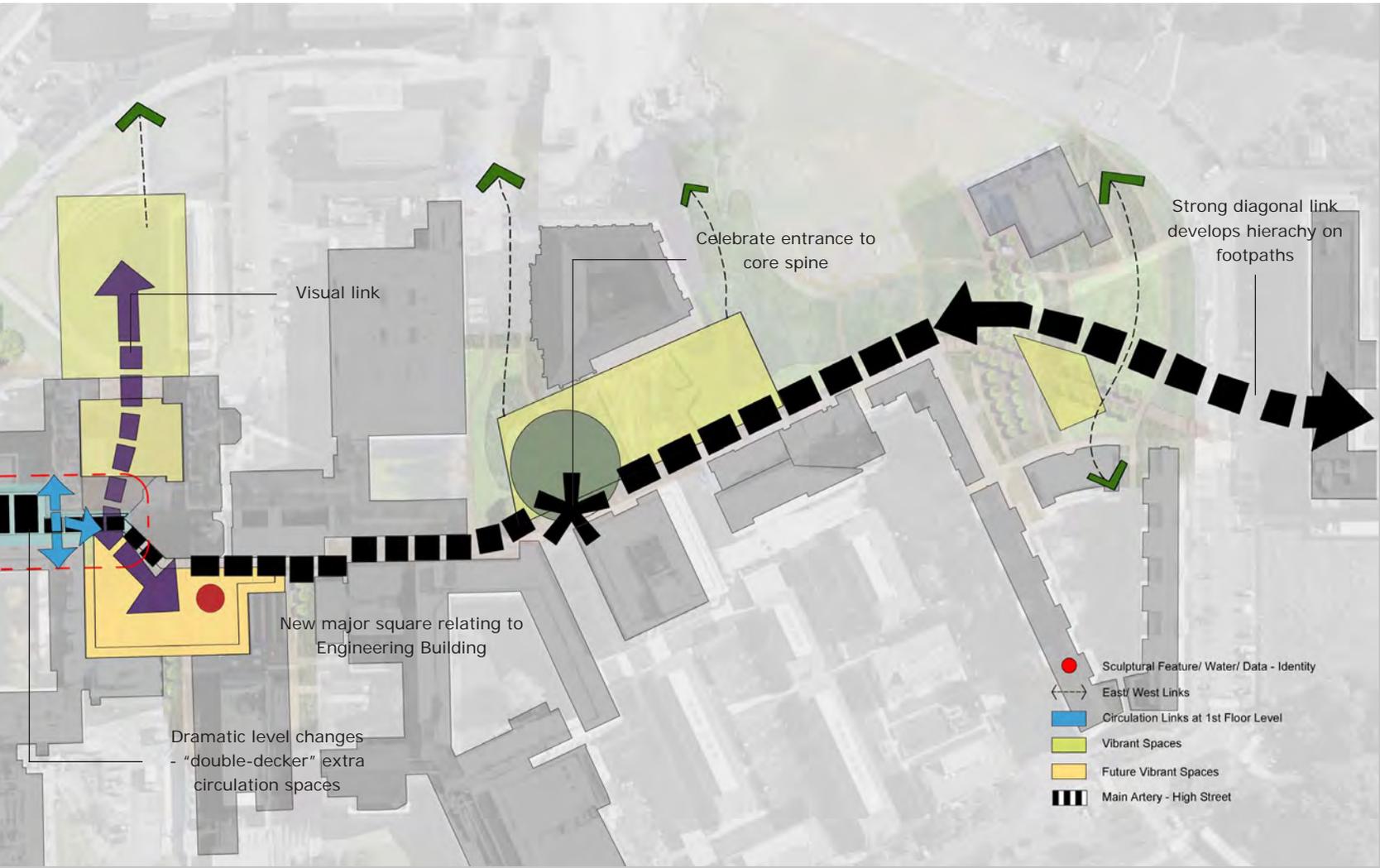
Financial Times 14th April 1964: the spine is evident as strong element of the campus even here

Chapter 1. The Vision

The Spine as....

- a revitalised **main artery**, the connective tissue – the high street
- a **unique feature** bringing recognition and identity to the university
- a sequence of **memorable spaces** encouraging meeting, refreshment, reflection that can be enjoyed throughout the year
- a map for direction and **way-finding**, with increased definition: each space having a beginning, an end, a name, a character, improved signage and articulation
- improved **accessibility**, more fluid circulation, maximizing use of levels, increasing capacity and integration
- the **communication** hub with posters, bill boards new technologies, Wi-Fi
- a **green spine** supporting rain water harvesting, wind collection, increased biodiversity, green roofs and energy generation





Chapter 2. Placemaking Strategy

The spine links a sequence of spaces, but what gives each space identity, how does it become a memorable place like no other?

A basic understanding of how the University functions both physically and as an organisation may be helpful to the placemaking strategy. We looked at how the spine structures the campus, and how it connects the experience of the University.

One of the distinguishing characteristics of the University is its social structure: the colleges provide an opportunity for local identity, as shown on the diagram on the right. Overlaid on this are (less distinct) localities relating to particular subjects, such as management or science. Both of these elements could contribute to the special character of a space and its sense of place.

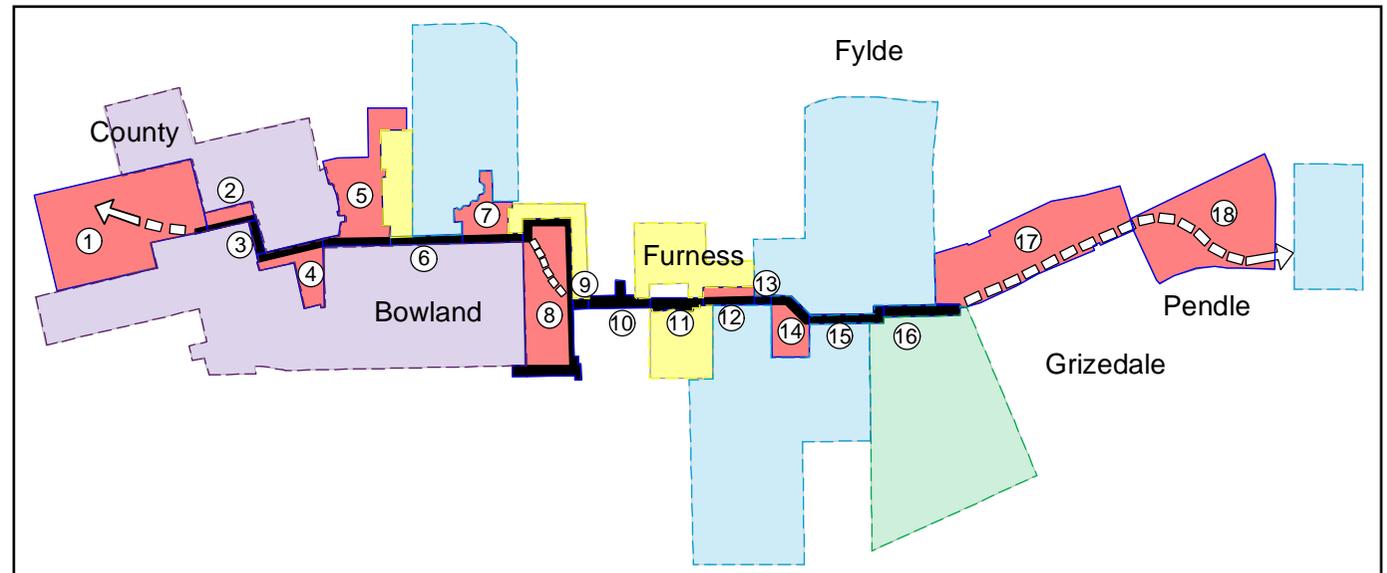
We analysed the spaces that make up the Spine and their typology. We perceived eighteen discrete spaces that can be broadly characterised as:

- big open spaces (3)
- urban rooms (8)
- corridors (6)
- the main square (1).

The more distinguishable each space is from its neighbour, the better.

Each of the spaces identified along the spine route has the potential to be more interesting, provide more varied and attractive areas for people to sit and socialise, or just reflect.

They can accommodate pop-up events, displays and performances. They can be used to express and display what is going on 'behind the scenes', within the various adjacent faculties.



Colleges, Faculties & Spaces

Faculties

- Faculty of Arts & Social Science (purple)
- Faculty of Health & Medicine (yellow)
- Faculty of Science & Technology (light blue)
- Management School (green)
- Spine Route Areas (red)

Creating opportunities for public display will help to encourage cross fertilisation between academic disciplines as well as help to inform the local community about the University.

We propose that each of the eighteen spaces will have at least one three-dimensional object that cannot be found quite like this anywhere else in the world. This could be a modern totem pole, art works by selected artists (perhaps through competition), a unique seat design, a clock, a sculpture, a floor bronze, a fountain. In this way it will be impossible to confuse one place with another.



Sculpture - fun, identity not to be found quite like this anywhere else



Colour improves navigation



Seating incorporated into the landscape.



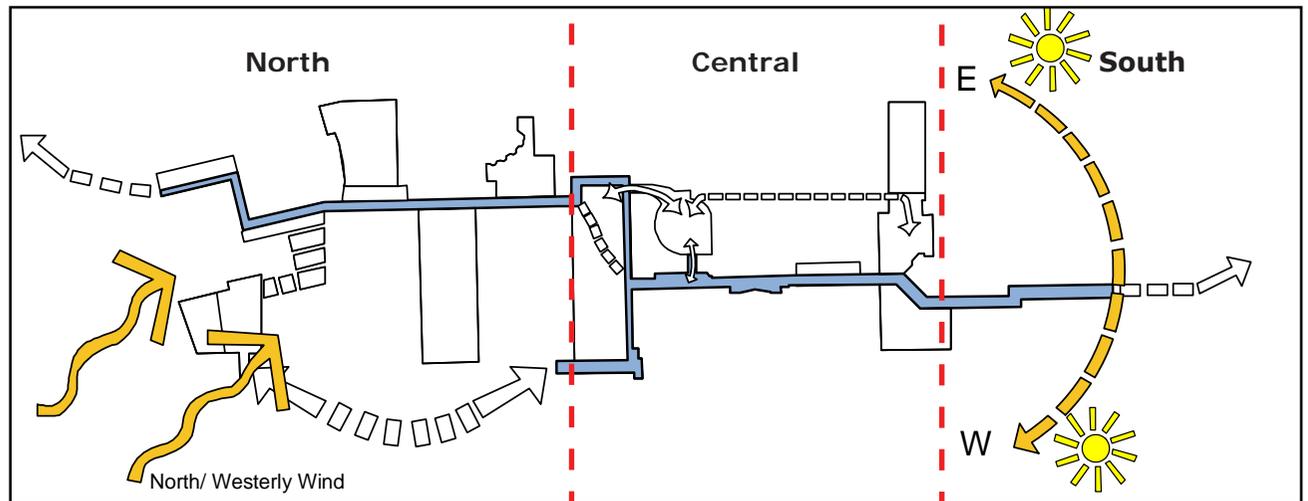
Courtyard- strong sense of place

Chapter 3. Principles and Analysis

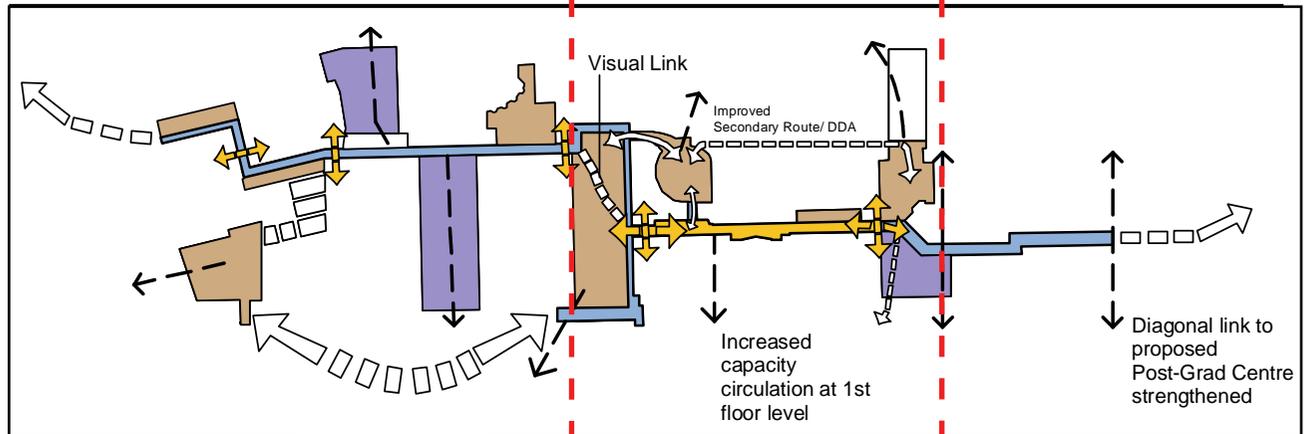
The design of the spine should be guided by a set of principles against which component schemes can be tested, and which will ensure coherence and family resemblance without killing off diversity and interest, here is our starter for ten:

1. **No event (meaning type of space, or place) should be more than about 35 metres long (apart from the 'big open' spaces)**
2. **There can be uncovered spaces but not for more than 20 metres (the twenty –metre dash)**
3. **All existing canopies will be removed or replaced with some thing better, lighter and brighter**
4. **There must be a variety of uplifting and interesting special experiences as you move through the spine to reinforce the identity and individuality of each space**
5. **Contrast is good**
6. **Wayfinding should be based on selection of paving materials/ patterns, definition of entrances, signage, lighting, views through and out, and local landmarks**
7. **The capacity of the Spine should be increased and circulation improved by introducing upper levels, thus providing new places with great views over the university life below**
8. **The Spine should benefit from the use of good materials and high levels of maintenance with appropriate budgets**
9. **The design and continual development of the Spine should be informed by stakeholder engagement and attention to changing customer behaviour**
10. **Retail and social activities, as a general rule, should be concentrated on the Spine and treated as a scarce resource to be located and nurtured with care.**

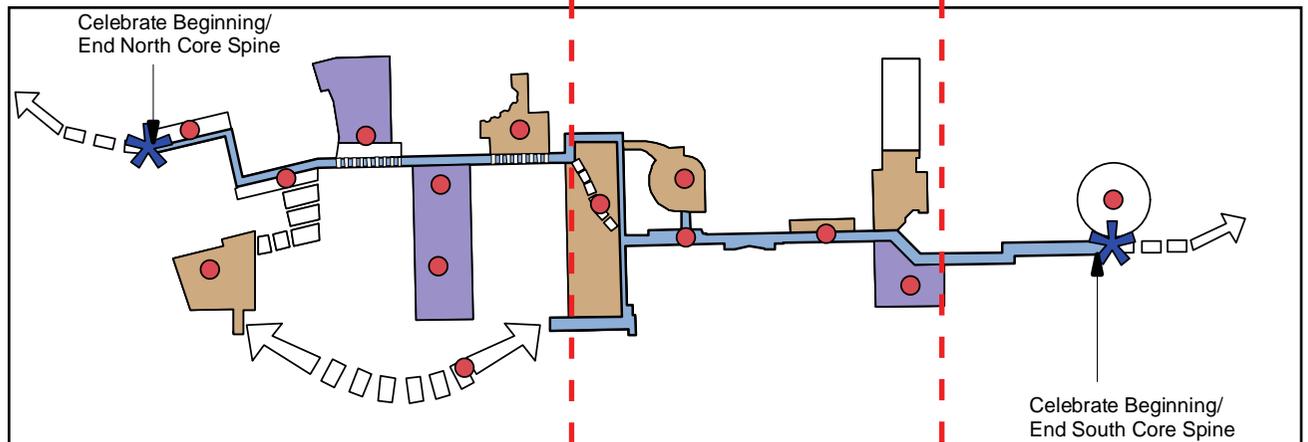
- ←→ Major East/ West Routes
- Yellow line Circulation Links at 1st Floor Level
- Purple rectangle Proposed/ Future Spaces
- Brown rectangle Existing Spaces
- Blue rectangle Covered Walkway to be Upgraded
- Red circle Potential Focal Points
- Blue asterisk Beginning/ End of Core Route



Climate



Circulation



Focal Points

Chapter 4. The Street/ Outdoor Life

A walk around the periphery of the Campus reveals how big the university is and, by contrast, how refreshing it is to walk along the traffic-free environment of The Spine. The Spine is a very small part of the ground area of the campus yet (as with all good High Streets) has a disproportionate importance and concentration of activities.

Success in transforming the Spine and avoiding the '9-5 University' will depend to some extent on rejuvenating the existing public spaces along the route as well as identifying the potential for new, exciting and dramatic spaces and improving circulation. We aim to achieve this by careful consideration of the main Spine components as follows:

The Public Face

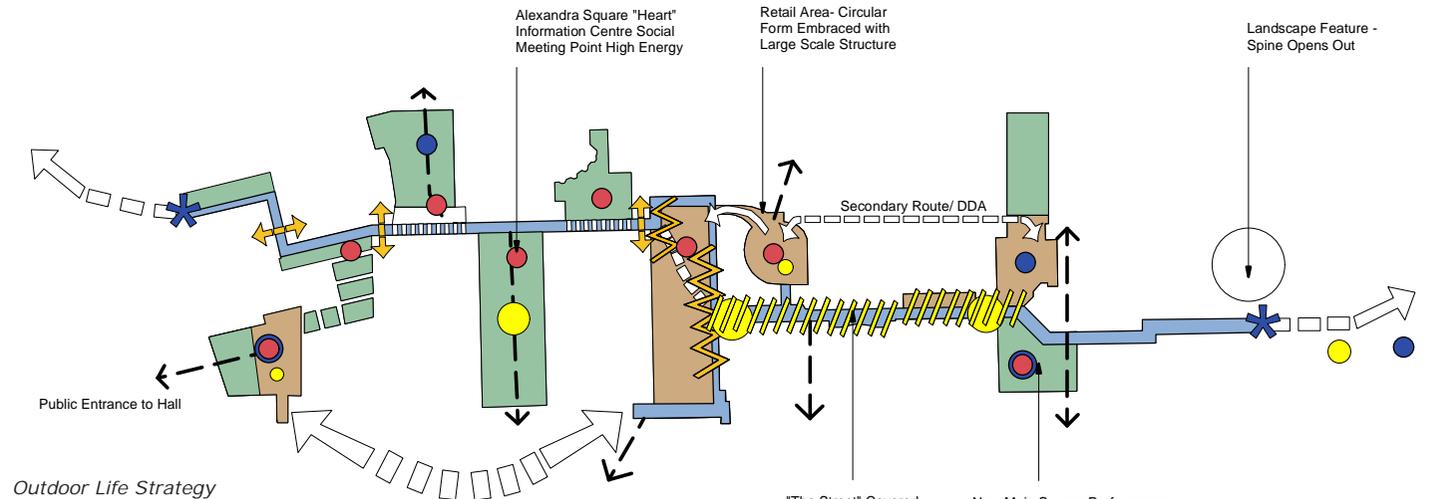
The chaplaincy offers a recognizable and unique focal feature at the main public access point to both the Great Hall/Lica and the main reception area located to the west of Alexandra Square. Our proposals consider opening up views to the iconic building by selective removal of existing trees and their replacement with a more formal pattern of columnar varieties. We propose that traffic circulation and priority parking around the entrance should be reconfigured and shared surfaces utilised to emphasise pedestrian priority.

A New Dimension

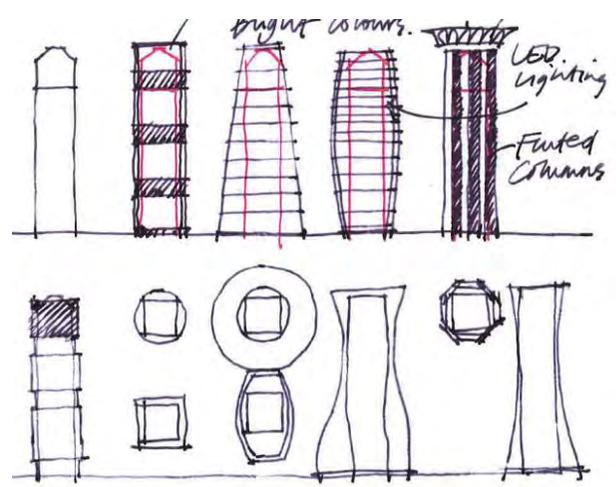
Our proposals explore the introduction of covered links and new spaces at first floor level to integrate the University faculties, increase natural surveillance and visual interest and increase circulation capacity by adding light, open and bright spaces to the Spine route.

A Sheltered Route

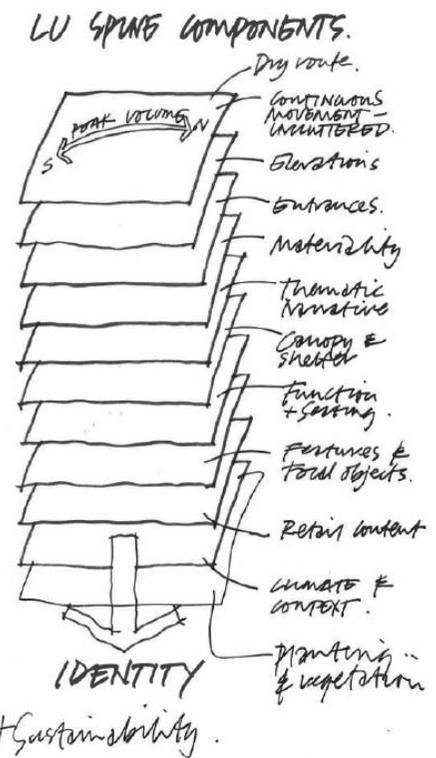
There can be many different ways of providing shelter including raising and varying the canopy height, and adding whole glazed roofs over some spaces. The architecture of the existing supports where retained can be treated to add identity to particular spaces, and the columns and structure of the new roofs and canopies should be interesting objects in their own right. Some canopies can become green roofs, improving the view of those overlooking them.



- Green Spine - Climbers & Planting Areas Added
- Proposed/ Future Spaces
- Existing Spaces
- Covered Walkway to be Upgraded
- Potential Focal Points
- Activity Areas - Table Tennis, BBQ
- Pop-up/ Performance Spaces



Varying Canopy Height & Style



Design Components

Retail Strategy

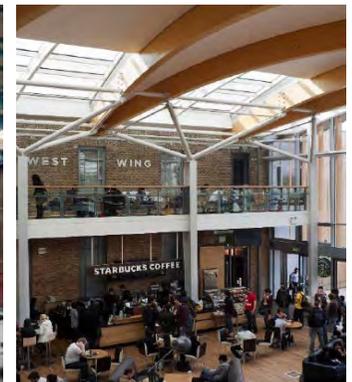
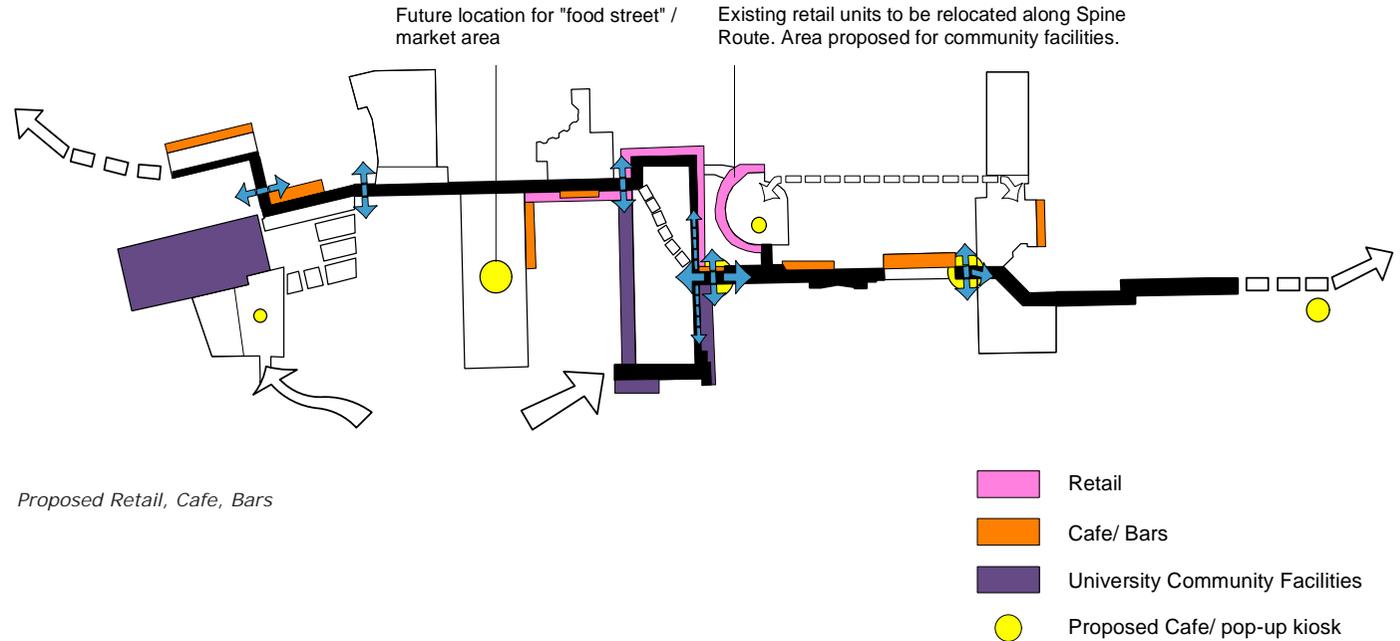
Existing retail and university services, library, learning zone are concentrated around Alexandra Square. A recent policy has been to introduce more public rooms along the spine and this should be encouraged in the future to maximise activity along the route, enhanced by increasing their visibility, canopy and frontage treatment as well as a cohesive signage strategy. Retail facilities need high levels of footfall in order to thrive and offer an experience of quality, as a general rule they therefore should be placed along the spine. The existing retail around the circus should perhaps be reconsidered and relocated: does it encourage the secondary route at the expense of the Spine?

Cafes and Bars

Our proposals introduce a new level of refreshment area along the first storey spaces above the central spine. These will be bright and light airy spaces with views over adjacent squares for cafes and pop-up kiosks. Existing bars and cafes should be reviewed - are they in the right place?. Their settings will benefit from improved signage, daylight from raised canopies, improved electric lighting, materials and seating.

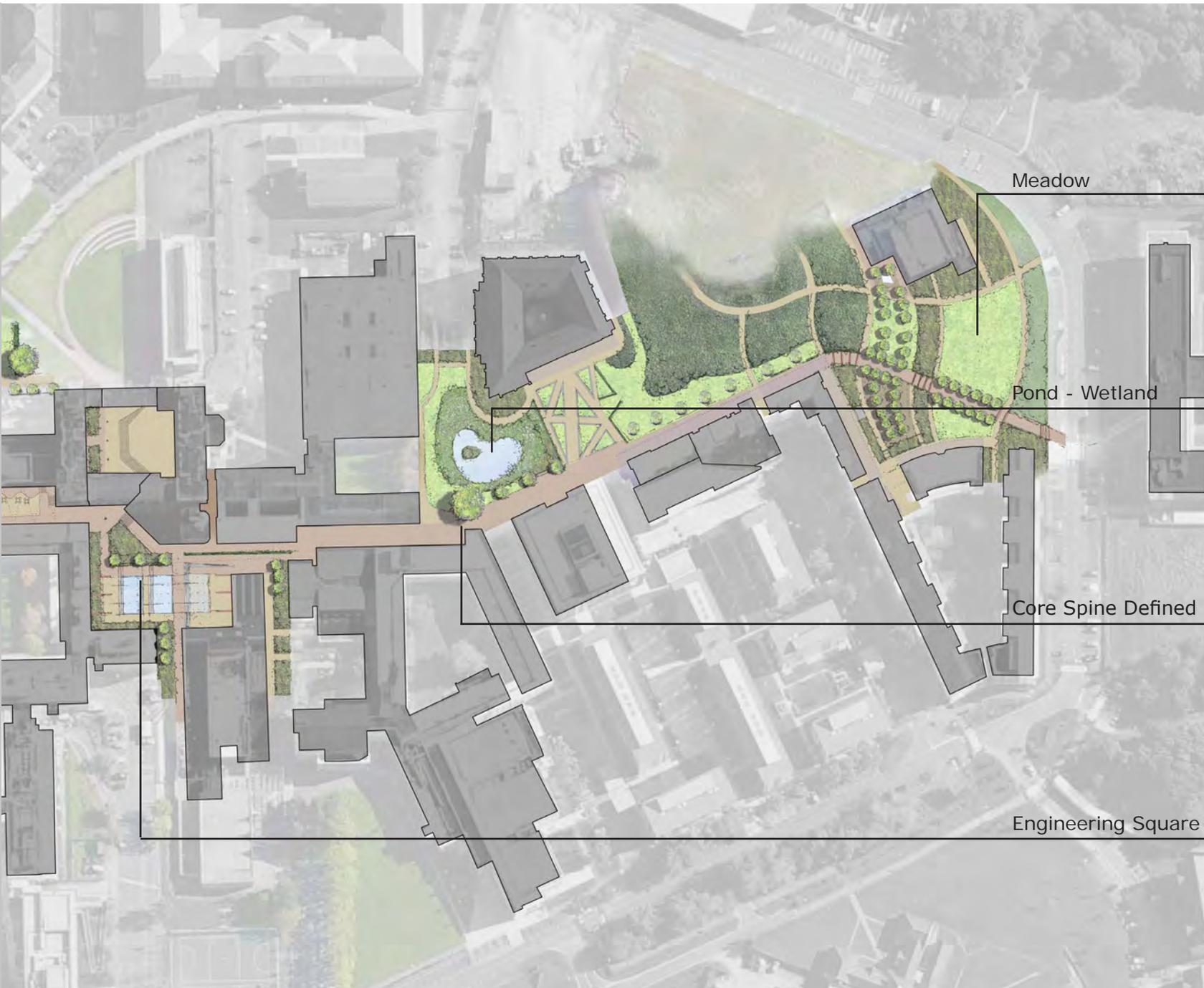
Curating the Outdoor Space

The Spine offers a platform for a series of pop up events, informal stages and public works of art that could be coordinated and curated by the University to provide a constantly changing series of events and exhibitions. Our proposals include creating flexible/ temporary and permanent stages at various locations along the Spine to display the activities of academic faculties and colleges as well as local artists and community organisations. These activities need the support of experienced and skilful organisers and a budget.



Chapter 5. The Masterplan





Meadow



Pond - Wetland



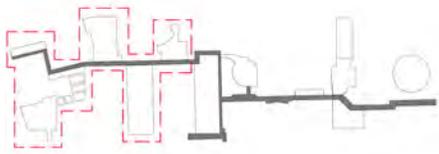
Core Spine Defined



Engineering Square



Chapter 6. Masterplan - North Spine



Entrance square to Great Hall enhanced by seating, green wall & directional paving. Feature bench around existing Cherry. New Canopy over entrance.



New square, meeting place seating on steps and upper level. Activity area with permanent table tennis & water feature.



Terraced seating steps & grass opposite Student Union with steps, ramp to adjacent building. Sculptural seating as focal point.



Small square articulated with entrance feature, paving pattern to lead onto core spine route, seating, sculpture and green wall planting



Outdoor performance area created under existing trees with permanent piano and guitar pods. Entrance to Great Hall enhanced with canopy feature & directional paving.

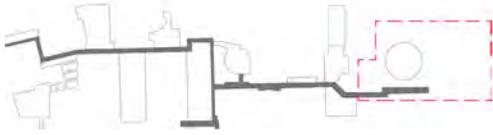


Future new space, east/west link. Potential for outdoor food market, new cafe seating and planting to create significant new square on North Spine



Entrance to reception reinforced with formalised drop off points, large water feature & lighting. Traffic circulation reconfigured.

Chapter 7. Masterplan - South Spine



Woodland maintained to maximise biodiversity with links to play area and South East campus



Sculptural features in meadow with wild flowers & formal grasses in contrasting bands



Square adjacent to residential units structured with hedges, trees & seating/ table tennis



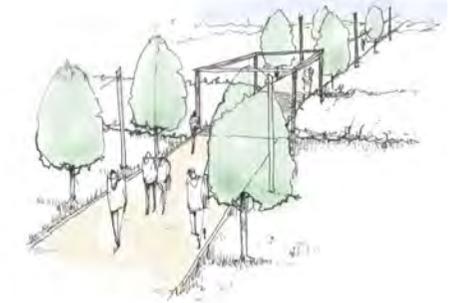
Entrance to core Spine celebrated



Covered Barbecue



Landscape pond area

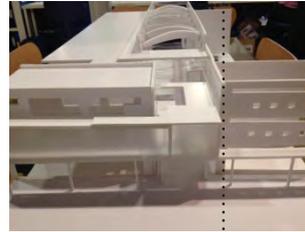


Strong diagonal path linking to Post Graduate residential area lined with trees and lighting to strengthen link.

Chapter 8. The Central Spine - Alexandra Square to Engineering Square

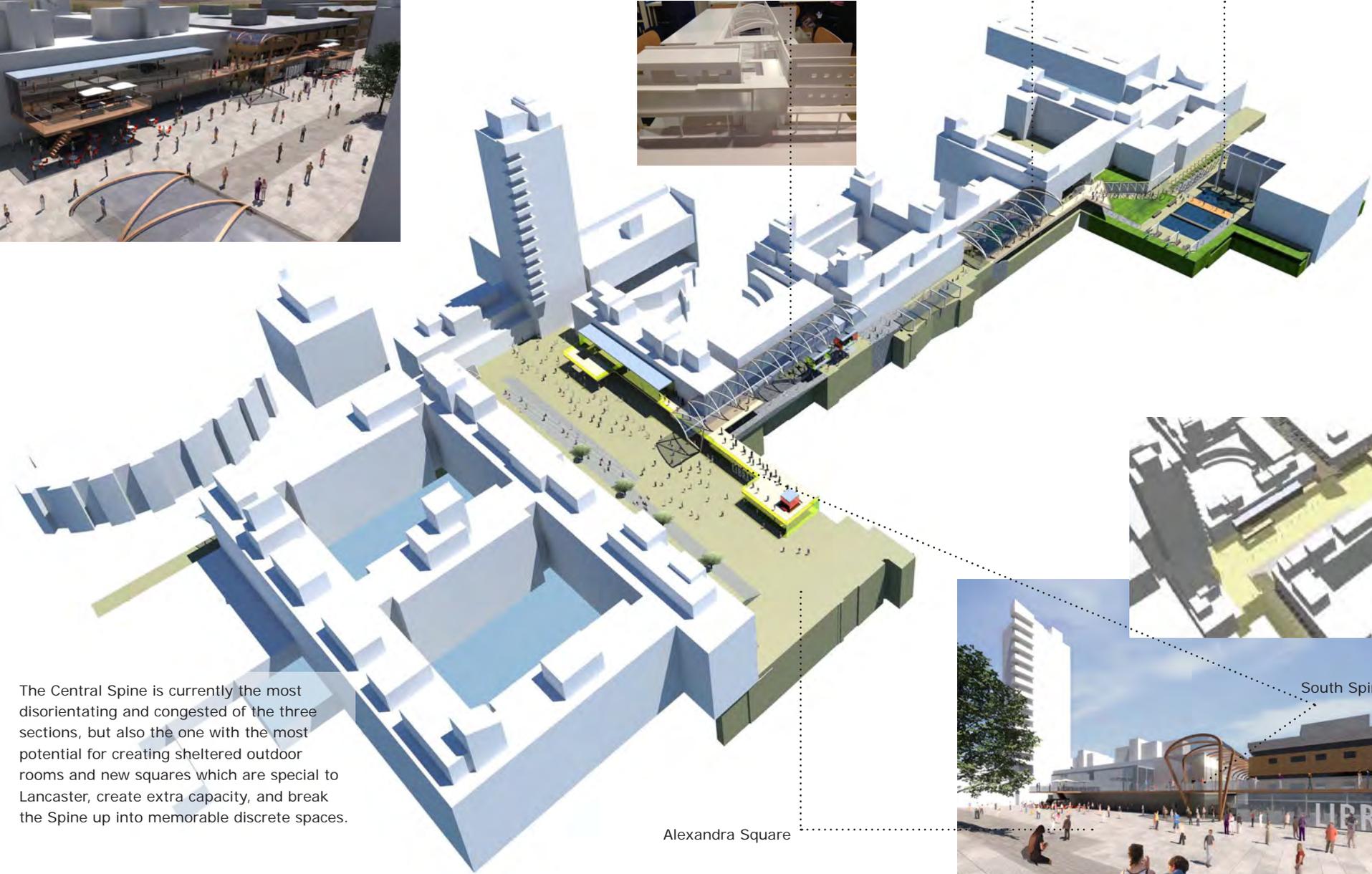


New Library Passage



New Furness Square

New Engineering Square



The Central Spine is currently the most disorientating and congested of the three sections, but also the one with the most potential for creating sheltered outdoor rooms and new squares which are special to Lancaster, create extra capacity, and break the Spine up into memorable discrete spaces.

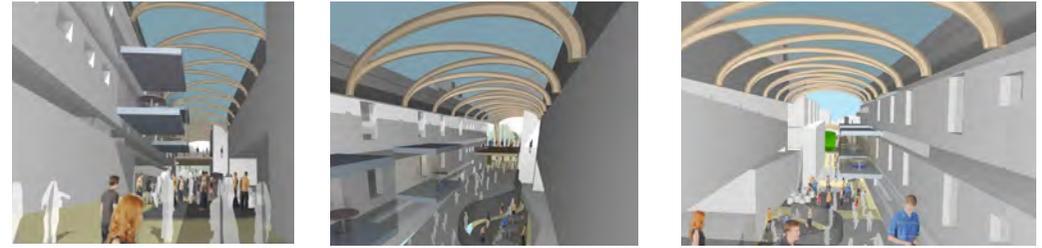
Alexandra Square



South Spine Portal



A new first floor level leading off Alexandra Square lets you know where the Central and South Spines start (currently hidden behind trees) - the portal - and provides new places to work, socialise, wait, chat, reflect - with great views over the university life below. A great place to stop for a quick (good quality) coffee?



Two new roofs with extra floor levels below them are proposed on the central spine: here at New Library Passage (provisional name - to be consulted on later) and further south on New Furness Square (ditto). The new first floor levels create extra capacity for movement and reduce bottle-necking, but also provide new places to pause, meet, think, make new acquaintances.

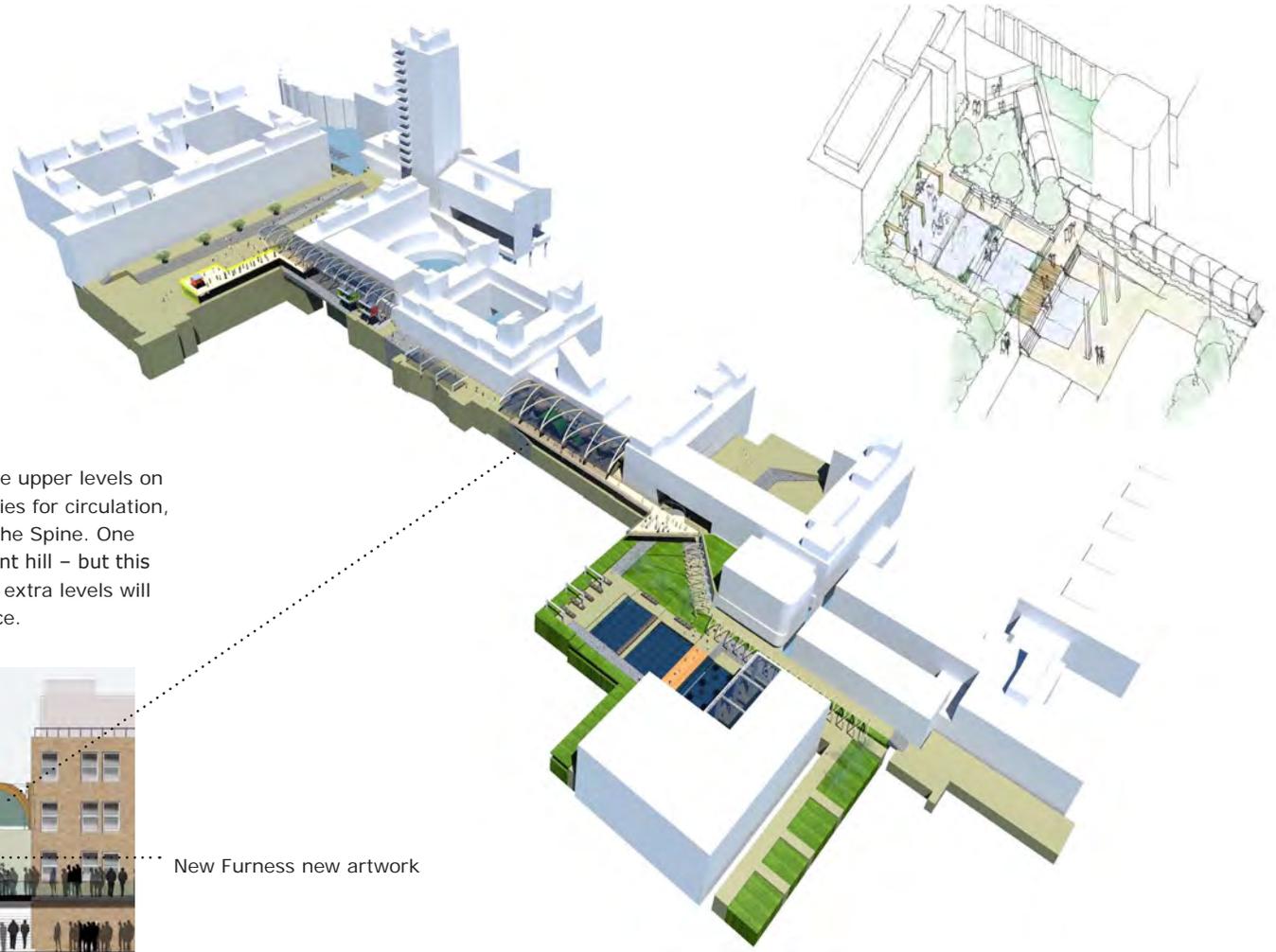
The roofs will also generate electricity (and provide shade) with photo-voltaic cells, and provide water (run-off will be collected and attenuated) for grey water recycling, irrigation and to feed the new pools and fountains we propose at Engineering Square, further south.

If the idea of another (upper) level of circulation is adopted, the University can think, over time, about how the existing adjacent accommodation might be adjusted to create extra links on to the spine. This increased connectivity will help enliven the Spine and aid accessibility, with more lifts and stairs available in buildings for easy access.

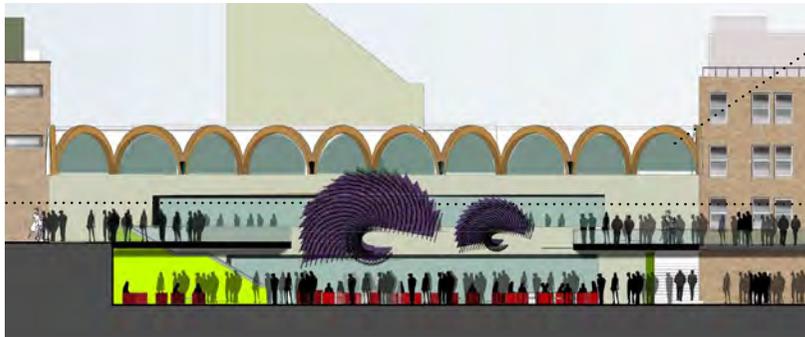
New Library Passage: the Library, despite being arguably the most academically important building on the campus, the academic heart of the University, has a regrettably low profile on the main artery of the University. The Library hopefully will open up more to the Spine at its north east corner, and we propose this and opposite buildings should have projecting glass boxes cantilevered over the Spine.

The potential wind-tunnel effect will be considered in depth at detailed design stage, and glazed end walls provided and attenuated as required. A possible opportunity for more wind-power generation, at least as an interesting thing, even if not a major contributor of energy?





New Furness Square: a wider space than New Library Passage, the upper levels on both sides ,with bridge across in the centre, give more opportunities for circulation, pause, working outside (albeit under a roof) and views of life on the Spine. One of the interesting things about the Spine is that it is on a significant hill – but this isn't immediately obvious as you walk up and down. We hope the extra levels will emphasise the topography and bring out this special sense of place.



New Furness new artwork

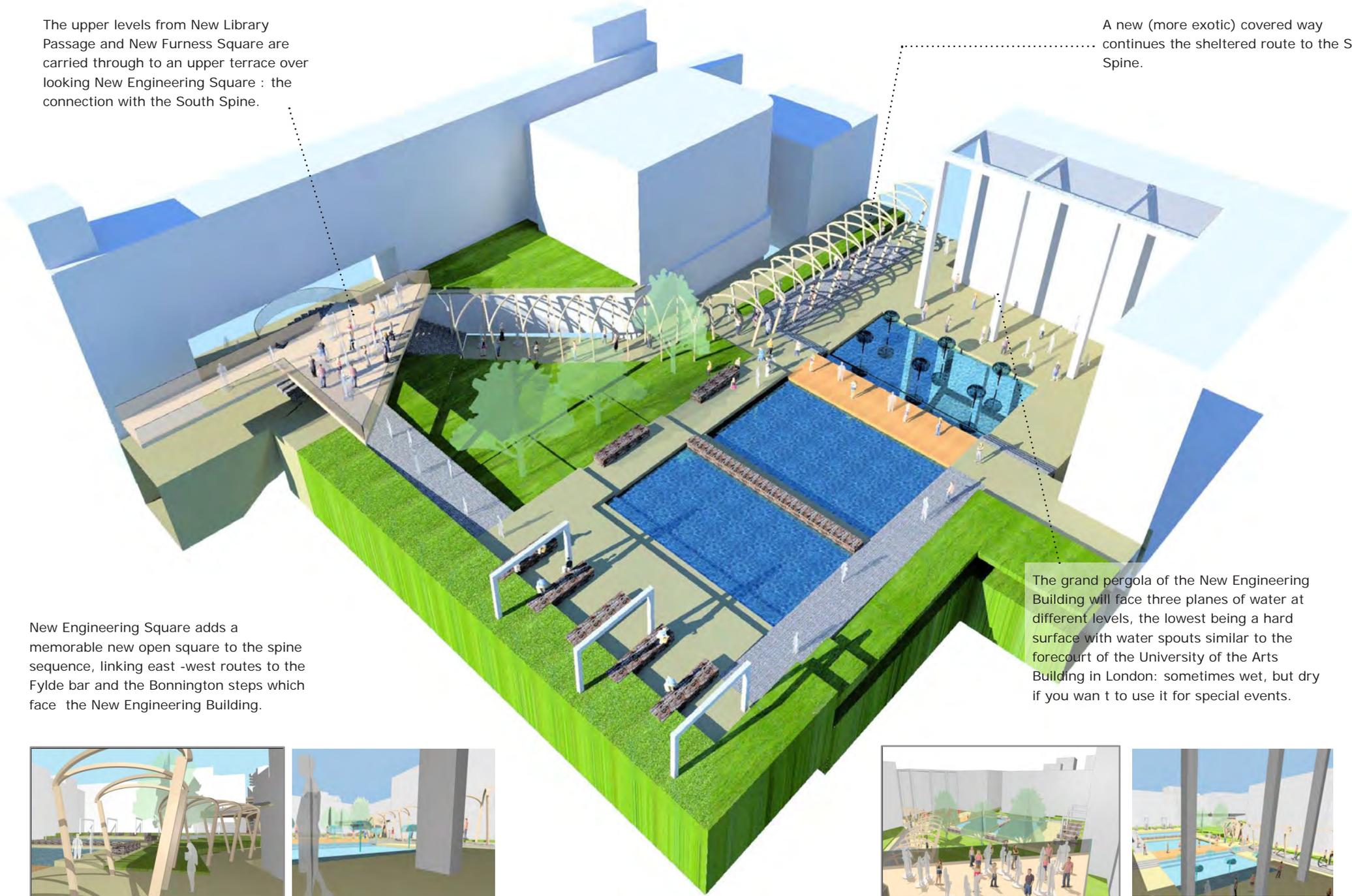


The upper levels from New Library Passage and New Furness Square are carried through to an upper terrace over looking New Engineering Square : the connection with the South Spine.

A new (more exotic) covered way continues the sheltered route to the South Spine.

New Engineering Square adds a memorable new open square to the spine sequence, linking east -west routes to the Fylde bar and the Bonnington steps which face the New Engineering Building.

The grand pergola of the New Engineering Building will face three planes of water at different levels, the lowest being a hard surface with water spouts similar to the forecourt of the University of the Arts Building in London: sometimes wet, but dry if you want to use it for special events.



Chapter 9. Hard Materials Strategy

Preparing a Palette

Hard landscaping, especially for the areas around the Spine and major spaces must be considered as a fundamental part of the design and will be essential in bringing the journey along the spine together in a cohesive way. Selection of materials will be based initially on detailed appraisal of the existing hard materials which will inform the selection of future materials. We consider this is important to describe simply at this stage, we would research and consult before finalizing the palette.

The Floor

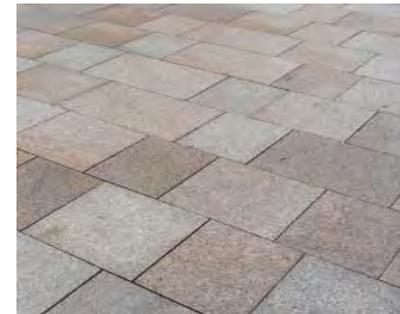
- Preparing a palette of materials for specific areas, eg. the core spine length, secondary squares and the east west pathway links which will allow future phases to be planned using the same hierarchy of materials.
- Create a distinctive “carpet” for the core spine route using different sizes of unit paving to mark the main route and margins and create a cohesive journey along the length
- Paving to be selected from locally sourced and preferably natural materials and incorporate a combination of unit sizes to delineate spaces, create bold sweeping patterns and lead the user through the spine while denoting areas to dwell.
- Colours will be warm to complement the brick of the original spine buildings.
- Methods of disposing of surface water and treatment of entrance thresholds also require careful attention to achieve simple and effective solutions

Seating

- Seating and site furniture, incorporated into changes of level, steps and raised planting along the spine route
- Create a range of experiences from small intimate corners to active energised squares

The Walls

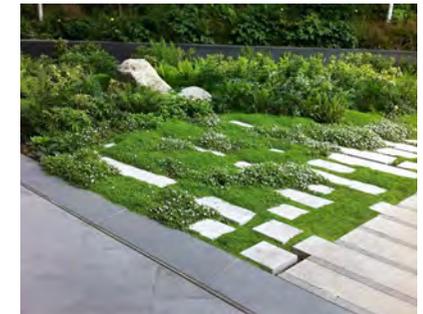
- Opportunities for sharing and disseminating information.
- Lighten enclosed and dark spaces and opportunities for greening and adding more textures and colour



Chapter 10. Soft Materials Strategy

The University is surrounded by magnificent rural countryside and potential exists to “green” the Spine adding seasonal interest, increased bio diversity and visual interest along the route. Plant strategy will include:-

- **Green Walls and Columns** – planting climbers to walls and columns/new structures to bring greenery into centre of campus
- **Native Species** - predominantly native species and cultivars with ornamental species highlighting particular focal points
- **Street Trees** - formal, naturally strong and compact forms for paved areas such as Hornbeam and compact Limes
- **Ornamental Trees** – set within planted areas, such as Cherry and Mountain Ash
- **Shrubs and Ground Cover** – a range of plant species to provide seasonal variety and all year round effects, incorporating both evergreen and deciduous species.
- **Planting design** – includes features such as hedges and plants with strong structural form, and species suitable for mass planting to create effects complementing the scale and style of architecture.
- **Seasonal Flowers and Bulbs** – continued use of this feature to create strong seasonal effects with bold colour schemes in mass planting around entrances
- **Irrigation** - selecting drought resistant plant species to minimize irrigation requirements. Irrigation only in key areas from rain harvesting.
- **Maintenance** - planting design aiming to minimize maintenance requirements and consider ease of long term management.



Chapter 11. Light and Water

Both light and water are essential elements in the story of the Spine: from the quality of daylight (or lack of it under the canopies) to the impact of wind and rain in the middle of winter.

Both will play a critical role in re-energising the Spine: creating a sense of movement, providing tranquillity and fun in some areas, and giving good daylight levels without exposure to rainfall.

Light

The original lighting concept comprised exposed fluorescent battens which were very new at the time and traces are still visible. Slots at the edges of the walkway roofs allowed light to wash the wall. Roof woodwork and brick were probably lighter than they are now and so, in effect, daylight levels have decreased. Our proposals include differentiating the Spine from the rest of the campus through quality and colour of light. The spine path and wall material colours will make a significant difference to light reflection and will be chosen to strike the right balance between lux levels and the other objectives of this project. Contrast is something we wish to encourage - the occasional dark (but safely lit) passage leading into a brightly lit square is the kind of thing that makes memorable cities interesting.

Light and energy

We will maximise the use of daylight to minimise dependence on electricity: new roofs and canopies will be glazed or have rooflights inserted, with good access for easy maintenance to ensure the glass can be kept clean. All lighting will be LED-based, giving the best possible energy consumption and very long service life – at least 15 years. Luminaires will be selected to allow the replacement of engines if necessary. Lighting will be controlled by automatic daylight sensing which will dim and extinguish lights to maintain required lighting levels without wasting energy. Presence detection could be incorporated so that at low traffic times some lighting could be dimmed while still providing sufficient light for security. It would then brighten when presence was detected and dim again on absence.

Water

The existing water areas around the campus are a positive asset: they made us feel better after a long walk around the campus. More pools and fountains along the Spine will add interest, relief and give identity to their locations. Water elements are proposed to create dramatic effects in the confined areas of the Spine and at varying scales: from large cascading ponds in the New Engineering Square, vertical wall water falls, channels /rills through the new squares in the North Spine and drinking fountains in smaller narrower passages.



Chapter 12. Signage and Technology

The spine was originally conceived in a world without the internet, computers, mobile 'phones, laptops, tablets, wireless and global communication. People need to meet, talk and be part of a community as much as they ever did, but now they have a whole other layer of communication which the Spine needs to be aware of and exploit. By creating more sheltered places where people can pause out of the main flow of people, there is more space for social study, group working, checking information, understanding what's going on around you and where you are in relation to the whole campus.

The spine acts as the main street of a small city, and needs to be able to compete with city centres that students will already know well, in order to have the attraction of a lively place worth coming to and staying on. Electronic display, place names and artworks using digital information can all enliven the Spine experience and enhance communication across the campus.

A Productive and Sustainable Spine

The new roofs we are proposing provide a further opportunity for energy generation through photo-voltaic cells mounted on the roof surface and / or the glazed areas (which would also help to provide shade). The roofs and canopies could also collect rainwater and recycle it, either for use in buildings as grey water for toilets or to feed the pools and fountains which we propose,

The new 'outdoor rooms' we have suggested (Library Passage and Furness Square) are sheltered outdoor spaces, or winter gardens – it is not intended that they would be heated. In winter, however, they could become pleasantly comfortable through solar gain, whereas in summer they may need to lose heat. We envisage passive stack ventilation could be used to control their internal environment, and wind chimneys could be incorporated which are sculptural elements in their own right, conversation pieces expressing their engineering function.

There are also opportunities to continue and develop the Students' Union's initiatives for cultivation and sustainable food.



Chapter 13. Delivery

The team who will develop the design and deliver the scheme is made up of the people who have met the university client team and competition assessor over the last two months at the Open Day and Interim Workshop, and have worked together to prepare these ideas:

Steven Pidwill: architect, director and chairman at Shephard Epstein Hunter. Experience includes universities, listed buildings, schools, libraries, and housing. He is APM-qualified as a project manager and has led our teams on masterplanning, urban design and transformation at the University of Leicester, the University of East Anglia, King's College London, City University London and the Houses of Parliament.

Charles Dokk-Olsen: architect and Director at Shephard Epstein Hunter. His relevant experience includes university projects at the University of Leicester including proposals to transform the spaces between buildings at the centre of the campus, and the concept design for the Percy Gee Building, the Management Training Centre, and transformations of the Bennett Building, Stamford Court Conference Centre and the Council Chamber.

Alison Hainey, from tf LAB, landscape architect. has worked with leading companies in the UK, USA and Hong Kong, and has practised successfully in her own right alongside her work as an artist, on projects from private gardens to large public landscapes.

Lionel Fanshawe, from tf LAB: has over thirty years' experience across all areas of the landscape architectural profession and has designed and managed projects in twenty seven countries across six continents.

Jamie Liversedge, from tf LAB: leads the BA Landscape Architecture course at the School of Architecture and Construction at Greenwich University, as well as being a practising landscape architect with an emphasis on art-based initiatives.

Steven Dawson, from tf LAB: specialises in managing complex projects through the planning process and on site, is based in the North West, and has designed and delivered major public parks and complex public realm works over the past thirty years.

Nick Walker: Partner of Michael Popper Associates, Environmental Engineers – SEH has worked with MPA for more than ten years on relevant projects and MPA has valuable experience in imaginative public realm schemes such as the Millennium Place Coventry Phoenix Project and Southwark Gateway with Eric Parry.

Doug Alcock is a structural engineer and Director of Scott White and Hookins: SEH has worked with SW&H on a range of relevant projects on occupied university sites including the award-winning Percy Gee Building at the University of Leicester.



Above: examples of our team's experience: University of Leicester Development Framework Plan; Petershill, City of London; Leicester Central Area; Percy Gee Building and new square with underground cycle park Leicester, Crucible Theatre Sheffield, University of Portsmouth Public Realm

How we will work with you: all projects led by Shephard Epstein Hunter + tf LAB are based on creating sound relationships through effective and enjoyable stakeholder engagement. We put forward our proposals here as the basis of an exciting project to be refined and developed working closely in partnership with the University.



Steven, Alison, Lionel, Charles, Jamie



Shepherd Epstein Hunter + tf LAB

Lancaster University Urban Design Competition Remodelling 'The Spine'