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SECTION ONE: CONTEXT
1.1 Introduction

This document sets out a development framework for the West part of the Science Central site within Newcastle Urban Core. The opportunity is to deliver a vibrant mixed use urban science quarter within the urban core.

Purpose

This document promotes comprehensive development of the Science Central Key Site as designated in the Core Strategy and Urban Core Plan for Gateshead and Newcastle, 2010-2030. It provides further detail that supports Policy C2, Science Central Key site.

This document updates the key drawings that set the parameters for future development in the 2012 Masterplan and a number of the supporting diagrams. It is to facilitate the vision of the masterplan being applied to stand alone applications coming forward within the masterplan area. It is envisaged a separate document will provide complementary information for the Science Central East area.

This document is to inform the brief for developments within the site from its inception, through planning to its management and maintenance.

Site Location

Strategically the site is within the Civic Sub Area of the Urban Core (highlighted in figure 1.1) in the adopted Core Strategy and Urban Core Plan for Gateshead and Newcastle (CSUCP).

The Civic Sub Area forms the northern edge of the Urban Core. The sub area is defined by the major institutions of Newcastle’s two Universities, the Royal Victoria Infirmary (RVI), the Civic Centre and Exhibition Park. The Science Central site forms the western extent of the sub area.

Science Central is defined as a key site (policy UC1, CSUCP) and is supported by Accelerated Development Zone Status. Its focus is on promoting further development in education and knowledge, research and growing research-focused businesses.

The framework area is located west of Gallowgate and St James Boulevard, north of Westgate Rd, East of Buckingham St/ Diana St and south of Pitt St. It is principally made up of former Brewery land, which closed in 2005.
1.2 Historical Development

Brewery Site, 1970

Brewery Site, 2007

1 Todds Nook tower block, Mansfield Place  
2 Brewery building, Wellington St/ Heber St  
3 St James' Park, Strawberry Place  
4 St Matthew's Church, Summerhill St
1.3 Policy Context

The Core Strategy and Urban Core Plan for Gateshead and Newcastle (CSUCP) was adopted in March 2015.

Urban Core policies relating to the site include:

Large Scale office development will be prioritised in a number of mixed use sites including Science Central- see policy UC 1

Pedestrian links and facilities will be promoted to ensure an attractive, safe and better linked Urban Core (see Policy UC 5). These include:-
- The primary pedestrian route between the site and Central Station
- The primary pedestrian route between Pilgrim St and Gallowgate, to be extended through the site
- The secondary pedestrian route to Newcastle University and the RVI

Development of the Science Central Site will connect the local strategic cycling Network- see Policy UC 6

Development on the site will improve and enhance the gateways at Westmorland Road (2) Westgate Road (3) and Barrack Road (4) to ensure a strong, distinctive sense of arrival - see policy UC 11

Important public views will be respected. These include across the Tyne Gorge, from St James’ Boulevard (and other defined major movement corridors/ routeways) and of designated heritage assets, other distinctive landmark buildings and structures- see policy UC 13

Development across the site will address gaps and improve linkages to the strategic Green Infrastructure network- see policy UC 15

Development will enhance the network of public open spaces in the Urban Core through creating new public spaces, incorporating high quality, durable and sustainable materials appropriate to the character of the site- see policy UC 16

As a Key Site Science Central will include public art in order to enhance the character and local distinctiveness- see policy UC 17
1.4 The Science Central Masterplan, 2012

The Science Central Masterplan
Approved through outline planning application reference 2011/0110/01/OUT

The Science Central Masterplan, approved April 2012 closely guided the first phase of the site.

The conditions of the planning approval including 9 key drawings set parameters for future development, guided by the vision and guidance contained in the Design and Access statement and Sustainability Statement.

This document updates the key drawings that set the parameters for future development and a number of the supporting diagrams, such as vehicle movement. Where strategies have been updated from the initial plan, such as those for Sustainable Urban Drainage and Energy, information on these has been included.

The Key drawings that set the parameters are:

- Location Plan (red line application boundary) A_100 Revision P1
- Existing ground levels A_101 Revision P1
- Proposed ground levels A_102 Revision P1
- Proposed plot extents A_103 Revision P1
- Proposed access and circulation A_104 Revision P2
- Proposed areas of open space and tree location A_105 Revision P1
- Distribution of uses A_106 Revision P1
- Maximum and minimum building heights A_107 Revision P1
- Proposed plot extents and proposed build zones A_108 Revision P1
- Proposed Phasing Strategy A_109 Revision P1
1.5. Phase 1 Development

The first phase of development was completed in Spring 2015. This included the Core, two new public squares and the interim landscaping of the site.
Six applications have been submitted since the outline application. These proposals varied significantly from the masterplan parameters and therefore could not take the form of reserved matters applications. This framework is embedding the masterplan principles for further free standing applications, starting from the updated context.

The Urban Sciences Building
2015/0248/01/DET
The university’s first permanent educational building of the site, approved 6th August 2015. The massing responded to emerging developments, the detail of the university brief and connecting the central atrium space to Science Square.

Verde, Pitt St
2014/0542/01/DET, 2014/0542/15/NMA
This 7-12 storey student development initially approved 9th July 2014 was seen as an improvement of the masterplan massing (pictured above). It comprises of 73 C4 units and 112 C3 units.

2 St James Boulevard
2014/1938/01/OUT
This outline student accommodation proposal was refused 4th April 2016 as it was concluded not to be comprehensive development of the plot.

The Labs Building
2016/0641/01/DET
This hybrid office/laboratory development was minded to grant subject to Section 106 agreement in July 2016. It addresses an adjustment of locations responding to the Partner’s masterplan review. It provides a clear presence on Draymans way.

The Key
2015/0211/01/DET
This temporary research facility approved 22nd April 2015 has environmental and structural monitoring and was deemed complementary to the overall plan. It is the first fabric structure to be used as a heated work space in the UK.
1.7 Masterplan Split

The 2012 Masterplan envisioned an innovative, vibrant urban quarter. This vision remains, and much of what was in the masterplan is relevant to developing the character of the site. Development should seek to achieve the ambitions of the Science Central Masterplan and where opportunities arise take advantage of new technology and innovation that will strengthens the spatial vision.

The east section responds to existing streets and is dominated by student led development. Key challenges include Heber Street, its connections and appropriate frontage along the Boulevard. Access is constrained by the Boulevard, making it unsuitable for a number of uses. A separate plan will be required to guide future development in the eastern part of the Key Site.

The west section forms new streets and public spaces, benefiting from a strong coordinated overview and reaffirming of the principles of the masterplan. The following pages contrast the current interim arrangement with future plans for the site.

The strategic site has been split into two areas. This document covers the western area.
1.8 The Emerging Student Cluster (Science Central East)

Recent development around St James Boulevard and Pitt St have a cohesion in character through their massing, materials and strong use of colour. The majority of the area was developed by a single developer, Downings. These large blocks accommodate nearly 2,300 students.

As much of the area was planned by the same delivery team the massing across the area is well coordinated as shown in the massing diagram to the right.

Any residential student development within the area will have to accord with the Maintaining Sustainable Communities SPD.
1.9 Amount (Quantum)

New development within the masterplan area will be expected to justify and reason their proposed quantum within the context of the 2012 Masterplan quantum and its Environmental Impact Assessment.

Complexity is added to this exercise as the 2012 Masterplan boundary incorporated an amount of land within the Science Central East area, some of which has been developed.
SECTION TWO: ANALYSIS
2.1 Connections (Routes and Views)

The site is on the edge of the City Centre and at the confluence of a number of important routes into the City. Current development on the site is visible from views within the Tyne Gorge.

**St James Boulevard- A189**
This is the main vehicular approach from London and the south via the A1 and through Gateshead

**Westgate Road- A186**
A busy bus corridor and the main approach from Carlisle via the A69. A secondary route from the A1

**Ponteland Rd/ Barrack Road- A189**
The main approach from Edinburgh and the North via the A167

**Tyne Gorge Views**
Developments within the site including the Core and the View feature on the city skyline from important routes and within the Tyne Gorge. As such Strategic views from within the Tyne Gorge should be considered in the development process despite the site being outside the area covered in the Tyne Gorge study.

1. View from the Redheugh Bridge (A189)
2. View from beside the Sage Gateshead (Performance Square)
2.2 Site Constraints

As expected from such as centrally located urban site there are constraints that will need to be taken into account in new developments.

The levels across the site are also challenging with over a 24 metre drop in ground levels across the site from Buckingham St to St James’ Boulevard. Oystershell Lane was conceived to provide an accessible pedestrian priority route across the site with a gradient of 1:21 or less.

Three conservation areas and a number of listed buildings border the site. There is one grade II listed building within the east development framework area, currently used as the People’s Kitchen.

Strategic Cycle Route 1 is being implemented along Elswick Road and will feed into the site.

Due to historic uses of the site enabling works were carried out to remove buried obstructions and hard standing. As a result the ground has been disturbed and reformed. There is a degree of settlement within the site.

In 2011 a borehole was drilled at the site to a depth of over 1000m.

The planning conditions of the 2012 Masterplan set a number of constraints on development within the site and for certain plots. This includes:

- Requirements for archaeological investigations, watching briefs, reports, publications and interpretation in relation to certain plots
- Removal of permitted development rights for the erection of walls, fences, gates and other means of enclosure within the application boundary
- Restrictions on the size of A1 uses
- Requirements for A3, A4 and A5 uses
- Requirements for parking areas to include oil interceptors

Further details of these can be found in the decision notice for planning permission reference 2011/0110/01/OUT.
2.3 Arrival

The site has important approaches for vehicles, cycles and pedestrians.

The rear of the site along Diana Street and Pitt St is used as short stay parking. Those accessing the site from this area would be more likely to live or work locally.

Some vehicles appear to use Diana St/ Buckingham St as a cut through. The wide street has a defensive feel in places from the 70's development and gap sites.

The Big Lamp junction with Westgate Rd is the main vehicular entry to the site in the 2012 Masterplan. Improvements were carried out to the Corporation St/ Westgate Rd junction as part of phase 1.

Elswick Rd is a strategic cycle corridor which is proposed to continue through the Science Central site. Segregated cycle routes are being constructed to the junction of Elswick Road with Westgate Rd in 2016-18.

The A189 (St James’ Boulevard-Gallowgate-Barrack Road) to the north and east of the site currently acts as a discouragement to pedestrians, acting as a barrier and cutting it off from the core of the city centre.

Investment in the Gallowgate/ Strawberry Place junction circa 2011 improved access for pedestrians. There is still space to improve this for cycles and further diminish this mental barrier.

The 2012 Masterplan proposed a super crossing at the Bath Lane/ St James’ Boulevard junction. This is the main walking route to the site from the Central Station. As an important approach to the site improvements to make this much more pedestrian friendly is still required.

As the site is on the outside bend of St James Boulevard it forms the central view for vehicle users for a good portion of the approach to the site.

Westgate Rd would form part of the entry to the site for those using the proposed multi-storey car park.
2.4 Approach 1- St James Boulevard

This is the major approach from the south from the A1/ A184 over the Redheugh bridge. The View (student accommodation) is currently a constant on the skyline for most of the journey.

1. As you cross the Redheugh bridge you begin to see the site on the skyline, as highlighted above.

2. The west part of the site is the focus of St James Boulevard from the Westmorland Rd to Westgate Rd section

3. The Boulevard dips towards the bottom of Westgate Rd

4. The bright gold of the core stands out amongst the open space of the boulevard

5. The hard cool colours along Barrack Road create a strong edge to meet with St James’ Stadium

6. The colours and massing of the student accommodation strike you as you turn into Pitt Street
2.4 Approach 2- Westgate Road

This is the main approach for vehicles parking in the site approaching from the south or along Westgate Rd

1. The turn from the Boulevard
2. Up Westgate Rd
3. Down Westgate Rd
4. Big lamp junction
5. First view of the site
6. The Garages and back of house areas along Corporation St contrast with the newness of the site
7. The fall along Corporation Street and openness of the site currently offers strong panoramic views of the Tyne Valley. The road is aligned with 55 Degrees North
8. The end of Corporation Street
2.4 Approach 3- from Strawberry Place

This is the main pedestrian approach through the civic sub area from the Newcastle University main campus and the RVI.

1. The View dominates Strawberry Place
2. Approach to Barrack Road
3. Heber Street
4. The top of Heber St opens up
5. Science Square
6. Oystershell Lane entering 'Knowledge Square'
7. Approaching ‘Local Square’ as Oystershell Lane approaches the Big Lamp junction
This is the main pedestrian approach from the south from Central Station, up Bath Lane and to the site.

1. Bath Lane
2. The Core and Urban Sciences
3. At the junction
4. Blue Star Square
5. Firebrick Avenue
6. Draymans Way
7. Knowledge Square

Everchanging (sculpture) acts as a landmark.

Student elevation has prominence on this view.
2.4 Approach 5- from Avalon Walk

This is the rear approach from the residential area from the north along Avalon Walk (former Snow Street)
2.5 Blue Star Square

The new square is a positive addition to the variety of public spaces within the Urban Core. It has a distinctive character and a strong relationship with the Core, the first building on the site.

**Strengths**
- Proximity to the city centre
- Well defined spaces and clever uses of levels to provide space to sit and interact
- Well maintained planters and grass
- Good orientation for receiving direct sunlight
- Inclusion of the breweries stone, bringing forward some of the history of the site.

**Weaknesses**
- Poor pedestrian and cycle connections to the city centre
- Openness to St James Boulevard with its noise, constant traffic and fumes.

**Opportunities**
- Adding active frontage to the other sides of the square to further animate the space over the course of the day and at weekends.
- Implementing the proposed super crossing across the Boulevard
- Inclusion of public art in the square
- Extending the pedestrian priority route from Central Station further into the site.

**Threats**
- Overshadowing of this space from neighbouring developments at key times it is currently used for events.
2.6 Science Square

This new square is another welcomed addition to the variety of spaces within the urban core. It 'big bang' concept creates a central point for the surrounding development.

**Strengths**

- manages to give a sense of enclosure from the arrangement of the benches despite limited buildings nearby
- proximity to the city centre
- sloping topography with views connecting to the city centre

**Weaknesses**

- Smoothing of the edge of some planters by skateboarders/ BMX
- damage to young trees and periods of low maintenance to plants
- lack of shade and shelter means it can be very windswept or hot in different weathers

These all result from the lack of surrounding buildings and should diminish or disappear as the area is built out

**Opportunities**

- Adding active frontage to the sides of the square to further animate and define the space over the course of the day
- enhancing its sense of identity through new development

**Threats**

- traffic and parking at the edge of the square
- further damage to the young trees preventing maturity
2.6 Analysis Summary

Phase 1 has set the tone for the development of the site. There are challenges with how development integrates with the surrounding streets and spaces to create a coherent science led quarter.

**Strengths**
- Proximity to the city centre
- Well connected to public transport
- Sloping topography with views connecting to the city centre
- Distinctive grouping of new development within Science Central East, creating a perceived character
- Use of high quality materials
- High quality design used to create distinctive spaces

**Weaknesses**
- Defensive neighbouring development from the brewery period
- Sloping topography with challenging levels
- Poor pedestrian and cycle connections to the city centre

**Opportunities**
- New green links between Leazes Park and Summerhill Square to support wildlife links and pleasant walks
- Re-linking the surrounding urban grain through the site
- Implementing super crossings to improve pedestrian connections
- Enhancing cycle linkages to the wider network

**Threats**
- Traffic and parking at the edge of the site
- Cars using the site as a rat run
SECTION THREE: WEST PRINCIPLES
3.1 Vision- An Urban Science Quarter

Science Central is a new urban quarter in the centre of Newcastle which will be an exemplar of sustainable urban development. The Masterplan serves as the guardian of the site vision, providing clear requirements for guidance for the design of building an public realm.

It will attract leading edge scientific and technology organizations to a mixed new community encompassing a variety of R&D, educational, business and residential uses.

Science Central will be a research space in itself. The scientific and technological focus is urban sustainability. This addresses all aspects of civic infrastructure such as digital, energy, transport, water, waste and enhancing the city’s resilience to change and extreme events.

The site is envisaged as a high quality development, guided by the following spatial principles:

• It will be developed as a coherent urban quarter and recognisable as a distinct part of the city.

• The development will be sensitive to and enhance the surrounding communities and activities, employing construction processes that prioritise consideration for local communities.

• Science Central has a high level of pedestrian permeability and will continue to develop its attractive and welcoming public spaces.

• The Science Central site does not include vehicular throughways. Vehicle access will be based on the principle of “To, not through”

• The public realm implements the principle that people with disability should have equal dignity in access arrangements to people without disabilities.

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**Primary Objectives**

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<th>Community</th>
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<td>Establish Science Central as a site-wide test bed for exemplary sustainable urban development</td>
<td>To support knowledge based businesses including those with an innovation focus or with synergies to academic research</td>
<td>Support and encourage the strategic economic objectives of the partners</td>
<td>Establish a distinctive and coherent public realm of an appropriate quality</td>
<td>Support the delivery of site infrastructure that underpins the economic and sustainability objectives</td>
<td>Homes and facilities to establish a strong urban community</td>
<td>An urban quarter which integrates with the wider city</td>
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3.2 Science Central West - What’s changed?

The following pages detail the updates from the detail of the 2012 Masterplan. In summary:

- The movement strategy has been updated. Pedestrians have a greater priority along Drayman Way creating a pedestrian priority link from St James Boulevard to Knowledge Square. Active frontages are strongly encouraged along the route.

- Knowledge square has been enlarged as the green heart of the site with more buildings fronting onto it, increasing the variety to the edge of the space.

- The Big Lamp entrance to the site, named Local Square within the 2012 masterplan, has been updated. The new arrangement should emphasise the pedestrian link of Oystershell Lane.
This update to the regulating plans and supporting diagrams is based on revised plot boundaries. This plan shows the differences between the 2012 Masterplan and this document.

Within plots perimeter development is still strongly encouraged where building typology suits. The aim is to support vibrant public squares and well defined streets, contributing to the character and quality of the masterplan area. It is also to create amenity space within the plot for the benefit of building users.

Example of perimeter development
3.4 Fixed and Flexible Infrastructure zone (update to drawing A_103 P1)

The proposed plot extents were fixed within the 2012 Masterplan:
- to ensure walkable urban blocks,
- to facilitate utilities; and
- to re-connect the local network of streets.

Part of this zone has been fixed by the completed and committed development.

It is recognised a number of awkwardly shaped plots are formed from the irregular boundary of the site and the alignments of Oystershell Lane and Corporation Street. Where routes have not been fixed by the completed and committed development alternative proposals will be considered on their merits.

Any proposed alternatives should comply with the strategic aims of the no build zone and show that the changes improve the character and quality of the area and the way it functions. Any significant changes from what is shown in this plan would trigger an update to guiding documentation for the site development.

Key

- **Red**: No build zone
- **Green**: Flexibility to the no build zone considered on merits of proposal
3.5 Infrastructure Approach

Applications within the masterplan area are expected to show how they fit with the wider plan and are contributing to the shared infrastructure networks across the site.

For the purposes of this guidance, infrastructure is defined as:

- Drainage (Foul, Surface Water and Sustainable Urban Drainage Systems- SuDS)
- Public Realm including highways, hard and soft landscaping, green infrastructure, footpaths and car parking
- Utilities (including electricity, water, gas, telecoms and district energy)

The following pages go into further detail with regard to sustainable urban drainage and public realm.

Arrows indicate direction of fall across the site:

- Vehicular route
  - Existing
  - Future

- Pedestrian priority route
  - Existing
  - Future
3.6 Proposed Site Levels (update to drawing A_102 P1)

Proposals are required to work within the set parameters of levels for the site. These incorporate routes of 1:20 or less where possible to maximise accessibility around the site despite the steep level changes.

These levels are similar to the 2012 Masterplan levels but clarify where levels are fixed.
3.7 Water Management

Increased risk of flooding is seen as a potential issue of climate change and an important urban issue for the site to consider.

A comprehensive site wide SuDS strategy has been developed to guide future development based on output from the Newcastle University CityCat model. In summary the strategy:

- retains existing public realm, considering the possibility of retrofitting SuDS in the future
- incorporates all future development plots in the site
- plans for on plot attenuation/ outflow metrics on individual plots
- connects with the wider city water networks

Individual development plots are encouraged to:

- Include green and brown roofs (as detailed in 2012 Masterplan)
- Include blue roofs- like a green roof, but specifically for water storage
- Collect and re-use rainwater (as detailed in 2012 Masterplan)
- Store water on plot below ground
- Use permeable paving
- Include surface water features

Best practice should be followed for the site, as outlined in best practice guidance such as the CIRIA SuDS Manual (CIRIA C753) . Run off should be managed as close to the source (where rain falls) as possible.

It is envisaged that the site will provide educational opportunities on issues of flooding and sustainable management of water to the city by the way it handles water in individual buildings and in the public realm. This could be in a variety of ways, such as through events, installations or public art.
3.8 District Energy

Core Strategy Policy C2 1(iii) Science Central Key site requires development within the Science Central area to ensure it provides "highly sustainable buildings which meet the latest design standards and energy solutions which support delivery of a district heating network".

Development will be expected to demonstrate how it will be connected to the Energy Centre on the Science Central site within its sustainability strategy.

The Energy Strategy at Science Central is based on a central Energy Centre that generates low or zero carbon heat and power and the distribution of heat around the site. The assumption for the technology solution for energy generation (primarily combined heat and power, CHP) is based on a number of feasibility studies and experience of what is practicable and commercially viable for the development of schemes of this nature and scale in the UK.

The Science Central Low Carbon Energy Centre is designed to provide the development with heat, cooling and power to all buildings on site in a way that is phased alongside the proposed revised masterplan. The Energy Centre will be equipped with the necessary equipment to centrally generate all heat and cooling to the buildings and a proportion of the electrical demand.

The connection of buildings and provision of energy to individual buildings/customers is being designed to be provide a range of benefits to developers and end users in terms of connection costs and tariffs both in terms of affordability, reduction in carbon emissions and other benefits. The Energy Centre will connect to the gas and electricity grids and will provide the main utility connection points to the site.
3.9 Existing Movement and Parking

The first phase of development introduced new routes within the site. The end of Corporation Street was stopped up. Firebrick Avenue provides a new link from Corporation Street to Bath Lane.

On street disabled parking and cycle parking has been provided within the public realm.
New street names are proposed for the planned streets and squares since the 2012 masterplan. They have been chosen to celebrate the proposed and past uses of the site.

- **Blue Star**: A reference to the famous Newcastle Brown Ale blue star. There has been brewing on this site for centuries. An important historical reference to our heritage.
- **Colliery**: A reference to the mining that took place on the site – both historically and in preparation for Science Central. Colliery Lane was a past road name on the site.
- **Drayman**: A reference to brewery delivery men who would have worked on this site for generations.
- **Firebrick**: Old maps and references suggest firebrick production on site.
- **Lewis Fry-Richardson**: Born in Newcastle (1881-1858). Father had a tannery on the actual site. Mathematician and inventor of weather forecasting. His pioneering discoveries in fluid dynamics laid the foundations for the chaos theory and the study of dynamic systems, including cities.
- **Hedley**: Hedley Street is an old / lost street name. William Hedley was born in Newburn, near Newcastle upon Tyne - one of the leading industrial engineers of the early 19th century - instrumental in several major innovations in early railway development, particularly in the production of the world’s oldest surviving steam locomotive, “Puffing Billy” which first ran in 1813 (i.e. now is its centenary) and now preserved at the Science Museum in London.
- **John Henry Holmes**: Invented the first break light switch with snap off action in 1883. He founded his engineering business in Portland Road, Shieldfield.
- **Oakes**: Oakes Place is an old / lost street name.
- **Oystershell**: A lost street - now lies underneath the old brewery. References found to “Oystershell Hall”, a house rendered in oystershells reflecting the light that was located under plot 9.
- **Science Square**: Obvious selection, relating to the ‘Science Central’ quarter
- **Snow**: Snow Street is an old / lost street name. It also doubles with John Snow (1813-1858) who came from York and is connected to Newcastle via a medical apprenticeship in Newcastle. Snow made the connection between dirty water and cholera; mapped a London cholera outbreak to a diseased water pump.
- **Swan**: Swan Street is an old / lost street name on the site. It was now where the church on the corner of Diana St / Stanhope Street now stands. Sir Joseph Swan (1828-1914) also invented the light bulb and the cellular lead plate for rechargeable batteries.
Policy UC5 from the CSUCP states that “sustainable modes of travel will be promoted by giving priority where appropriate to pedestrian links and facilities to ensure an attractive, safe and better linked area.”

To support the Future Primary Pedestrian Route across the site, plots bordering main routes and public squares should provide active frontage to these spaces. Retail and food frontages will also be encouraged in these areas.

Primary Pedestrian Routes seek to have a minimum footway width of 3 metres where possible.
3.12 Cycling Routes and Parking

Policy UC6 from the CSUCP requires development at Science Central to connect to the surrounding cycle network. Newcastle’s Strategic Cycle Route 1 feeds into the site from the Big Lamp junction at Westgate Rd/ Elswick Road. Cyclists be heading to a range of destinations across the urban core. It is envisaged demand will be to travel along both of the main diagonals across the site, Oystershell Lane and Corporation Street.

Both routes are sloping and will require careful detailed design to encourage sharing with care. This is particularly an issue along Oystershell Lane, the main pedestrian priority route and a defined Future Primary Pedestrian Route in Policy UC5 of the CSUCP.

Proposals should provide cycle parking in appropriate places within the public realm and secure cycle parking on plot and within buildings. The public realm should be designed to accommodate cycling and encouraging cycling with care.

- Cycle friendly route
- Strategic cycle route 1
- Existing/ indicative on street cycle parking
3.13 Car Parking Strategy

To facilitate the minimum visible vehicle parking on the site a multi-storey car park (MSCP) was included in the 2012 Masterplan. The principle was to locate parking at the edge of the site to reduce traffic movement in other areas. A MSCP that is accessed from Corporation St remains part of the parking strategy.

The 2012 Masterplan included a maximum of 984 spaces for 74000m² development derived from the “most likely” or illustrative scheme, matched with the NCC parking standards at that time. This included 481 spaces within a MSCP serving non-residential uses within the site (excluding retail). Residential parking was to be located predominantly on plot in garages, drives or half-basements taking advantage of the site topography.

Phase 1 included a temporary car park which has been fully allocated to the Core and the Labs buildings. In time it is expected this parking will be relocated to an on-site MSCP. The number of spaces used by the Core was capped despite being extra capacity within the temporary car park. A similar approach may be taken with any proposed MSCP.

All new non-residential applications will need to submit a MSCP statement with parking requirements within agreed council parking standards for the development to be agreed with the Local Authority.

On site parking outside of the MSCP will be kept to a minimum and focused on meeting accessibility needs.
3.14 Visible parking (on street and on plot)

Science Central is a place for pedestrians first, not cars, therefore a minimum of on street and on plot parking is to be provided.

On-street parking for non-domestic buildings will be limited to:-
- disabled badge holders,
- electric vehicle charging points,
- car club; and
- ‘drop-off’ only.

Inclusive access should be provided for proposals within the site with consideration taken of the site levels.
3.15 Vehicle Access and Servicing (update to drawing A_104 P2)

The site will not be a vehicle thoroughfare, but will need to accommodate vehicles to provide equal dignity in access for those with restricted mobility, for servicing and for limited vehicle access.

The key change to the vehicular access strategy from the 2012 masterplan is to introduce a loop through plot 9, allowing vehicles to reach each plot in a forward gear whilst removing traffic from a number of routes.

- All routes will still need to accommodate emergency vehicle access.
- Further work may limit access through the site whilst maintaining local access requirements.
- Service access largely reflects the vehicular access strategy, with commercial plots serviced from a single service point and independent residential units serviced to the roadside.
- An estate surface is defined as a flush surface with segregated pedestrian area separated via street furniture (for example, Kings Road within Newcastle University).

Proposals need to comprehensively design in servicing and large vehicle movements to ensure that the practicalities of servicing can be carried out safely. This means vehicles being able to service and manoeuvre in a forward gear, with turning facilities provided where necessary and reversing kept to an absolute minimum, if at all.
Green blue infrastructure is an important part of the Science Central vision. It is in no one's interest to have constant damage from servicing vehicles. The proposed routes have been tracked to show that the illustrative public realm works can be implemented without creating conflict with planting and street furniture.

Proposals within the masterplan area will be required to show their planned accessing and servicing arrangements work within the context of the wider plan and pay attention to robust and practical detailing of the external works.

Notes
1. As the highway design is developed the vehicle manoeuvres will need to be reviewed against highway layout including street furniture.
3.17 Public Squares and Spaces

Successful squares depend on the form, spaces and uses around them as much as the spaces within.

**Blue Star Square**
This square should benefit from:
- considerate development on plot 1
- improved links to the city centre through the super crossing
- considerate development on Plot 18b as part of the Science Central East masterplan

**Science Square**
Plots 9a and 10 will
- provide active frontage to the square
- create an appropriate sense of enclosure and consider how proposals will influence the microclimate of the square

**Firebrick Square and Draymans Way Square**
A second square linked to Blue Star Square and a doorstep square along Draymans Way has been added to the plan. These support the pedestrian priority of Draymans way and the Primary Pedestrian Route to Central Station. Active frontages are strongly encouraged in these spaces.

**‘Knowledge’ Square**
‘Knowledge’ Square has been expanded through pulling back development on the north, south and west. Plot 14 now only boarders the north edge and plot 17 has been brought forward to the western edge. More plots now front onto ‘Knowledge’ square and frontages and uses that support the activity of the square are encouraged.

**Local Square**
Local Square is an important arrival view for vehicles and space for pedestrians and cyclists. The masterplan update provides further space around ‘Local Square’ which has potential to link with the surrounding area at the Big Lamp junction at Westgate Rd. Plot 7b has potential to read as a pavilion within the space.
The masterplan aims to provide attractive, effective and sustainable development taking full account of climate change and environmental sustainability to deliver an exemplary public realm. Proposals should provide effective green connections within the site, including between the various squares, as well as connections with the broader green infrastructure beyond the site boundaries.

Planting should include generous provision of suitable tree cover, placing trees within planting beds or other soft landscape areas wherever possible. It should also include attractive, robust, reliable and low maintenance general landscape planting, reflecting the increased prominence of planting, often integrated with SUDS features, within the updated masterplan.

Street furniture and hard landscape features should form part of a fully integrated design, taking account of the masterplan principles in terms of use, layout, materiality and the materials hierarchy, and create robust and proactive responses to the needs of pedestrian, cycle and vehicle access as appropriate.

Brown, green and/or blue roofs should be provided for all non-domestic buildings, and are encouraged on domestic buildings. Green façades would be encouraged, with a target of 1 in 4 of all non-domestic buildings, along with good provision for amenity and food growing particularly within the domestic garden areas.
3.19 Hierarchy of Landscape Finishes

This plan sits alongside the potential adoptions plan for discussion purposes.

Whilst specification levels and details are subject to discussion the public realm will be expected to read as a coherent design for place making reasons.

Proposals should take design cues from the successful elements of the existing public realm.
3.20 Adoption and Management

Proposals will be expected to show which areas of the public realm will be adopted and how other public realm areas will be managed, using the established blue, green and yellow colour coding.
3.21 Maximum and Minimum Heights (update to drawing A_107 P1)

This plan sets out an envelope of development.

New applications should show proposals in comparison to these parameters and AOD heights of existing buildings.

As per the 2012 masterplan

- development will be an appropriate scale and height to be an integral part of Newcastle.
- Building heights will relate to the existing and emerging context
- Variations in street widths and building heights will be used in relation to phases.
As per the 2012 Masterplan the principle of perimeter development is encouraged within plots as:

- The streets and spaces will have good enclosure.
- The inside of plots will provide semi-private and private space.

Not following this principle of the masterplan will be taken on a case by case basis on its merits.

The setting out of the 2012 Masterplan sought to balance the need for sunlight and daylight with the need to create urban density and enclosure. This resulted in a variety of different sizes and scale of streets and spaces.

This update does not include explicit updates to the proposed build zones (drawing reference A_108) or controls to length of permitted facade and gaps between buildings (contained in drawing reference A_106). The principles of the former are summarised here and should be considered when developing proposals within the masterplan area.

Proposals should continue to balance the need for urban density and enclosure with shaping the local microclimate.

### Strong Street Edges and Microclimate

#### Office led development
- (hatched area) 1.5m tolerance zone for provision of set-backs, defensible space etc. in which external building façade must be located
- Floor plates no greater than 15m deep

#### Commercial led development
- (hatched area) 1.5m tolerance zone for provision of set-backs, defensible space etc. in which external building façade must be located
- Floor plates no greater than 20m deep

#### Assembly and Leisure led development
- (hatched area) 1.5-2.5m tolerance zone for provision of set-backs, defensible space etc. in which external building façade must be located

#### Housing led development
- (hatched area) 2.5m zone within plot along street edges for defensible space. No build permitted.
- (hatched area) 3.5m tolerance zone for provision of set-backs, defensible space etc. in which external building façade must be located
- Floor plates no greater than 15m deep

Summary of proposed build zones within the plot extents.

For further information see 2012 Masterplan

Wind diagram from 2011 Masterplan
3.23 Wayfinding and Public art

Wayfinding
Development will enhance wayfinding across the site through taking advantage of framed and peep views from existing and proposed streets. The location of access points, activity on frontages and design features should be considered in this.

Newcastle value’s its walkable urban core and has a city wayfinding system to support business, leisure and tourism visitors to the city.

- The city’s wayfinding system has been extended into the site with the Science Central branding.
- Further wayfinding signs integrated into new public realm
- maps should be updated with new development

Waymarkers and Public Art
Core Strategy Policy UC17 commits Science Central to including public art.

Features within the public realm help build the identity of the place and tell the story of the site.

Innovative features and artworks that fit with the themes of the site will be encouraged.

Where suitable, artworks will be integrated into the public realm to celebrate the site and tell the story of its innovations and experiments.
3.24 Phasing (update to drawing A_109 P1)

A flexible phasing strategy is proposed that will bring forward necessary infrastructure in a timely manner.

The phasing of white plots is unconfirmed.
3.25 Planning Submission Requirements

Once approved the Science Central West Development Framework will form part of the Council's adopted planning guidance and will be a material consideration for all applications in the area. The Development Framework promotes comprehensive development across the Science Central area and applicants wishing to submit a planning application for development within the area will need to develop a scheme in sufficient detail to enable a full planning application to be submitted.

Development plots are set out in the Development Framework and applications will need to demonstrate that the principles in this guidance have been complied with, showing how a comprehensive approach has been taken within the area as defined in the guidance.

If a departure from the principles in the guidance is proposed, this will need to be justified. There will need to be a clear demonstration of how the proposal has been fully considered so that the Council can understand how phased development can come forward together with wider infrastructure requirements such as open space, public realm, pedestrian routes, connections, servicing and car parking.

Contributions towards key infrastructure improvements in the area will be required. The Community Infrastructure Levy Draft Regulation 123 list sets out the proposed CIL funded infrastructure projects and developer contributions will also be sought through Section 106 planning obligations for site specific requirements. Any Section 106 agreement may also cover additional requirements, such as local training and employment and travel planning.

Any planning application submission must include written and illustrative supporting information which will provide the evidential base and underlying planning policy justification for the chosen uses and proposed built form of development.

Design and Access Statement

Applicants will need to prepare a Design and Access Statement to accompany an application for planning permission.

The Design and Access Statement will provide a framework for applicants to explain how the proposed development has responded to the Development Framework and is a suitable response to the site and its setting, and demonstrate that it can be adequately accessed by prospective users.

The level of detail in a Design and Access Statement should be proportionate to the complexity of the application. Listed below is a summary of the suggested structure for the supporting information:

- **Background information** - This section could include the client brief for the development site, where it exists and should include the design approach to address building, space and access design.

- **Site Details** - Current site ownership boundaries, ownership of adjacent sites where known and areas of public realm and adopted highway within and adjacent to the application site. A location plan should be provided to indicate the proposed development within the wider geographical context. The application ‘red line’ boundary should be agreed with the Local Planning Authority to ensure that the necessary public realm and highways are delivered with the scheme to service the development and secure a cohesive and comprehensive development across the Science Central site as a whole. A history of site should also be provided.

- **Site Analysis** - Site topography/levels, accessibility issues, orientation, contextual analysis including key views, as relevant, photographic survey of site, constraints and opportunities and any supporting concept drawings. Any conditions attached to the Outline planning consent (ref no 2011/0110/01/OUT), where applicable to the specific plot or site wide, that need to be addressed with the formal submission.

- **Design Principles** - A written statement or series of sketches setting out how the proposal has responded to the site and the design guidance set out in this Development Framework, for example, building heights (AOD levels required), massing, footprint on the site, concept for external materials, access, servicing, hard and soft landscaping concepts, sustainability framework.

- **Implementation** - A full description of how the development will be delivered, including, where applicable, those public realm and highway areas to support the development of the Science Central site.

- **Phasing** - Details of approach to phasing including anticipated timescales for delivery of the whole plot and any associated public realm and highways, will be required. Applicants will need to demonstrate how cohesive and comprehensive development can be achieved and avoid prejudicing future development of the area.


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Design/Visual Amenity

Development proposals will need to demonstrate how they have responded to context, including topography, built form (scale/massing), visual impact and potential effect on the skyline.

Given the site’s complex topography, **proposed site levels** will be required in relation to those existing/fixed site levels to demonstrate that development can integrate appropriately into its immediate context.

Architectural Quality - Including its scale (AOD levels) in context with its surroundings, form and massing, silhouette, facing materials, any integral public art and sustainability elements. Design and materials should be chosen for their sense of identity and sustainability credentials to provide a rich and varied, high quality appearance. Green walls and roofs are encouraged as a key material throughout Science Central.

A Public Art Strategy has been approved for the whole of the Science Central site, through the Outline consent, detailing the approach to public art within the development. Any proposed public art installations shall demonstrate how they accord with this strategy, which seeks to integrate artworks into the public realm and build on the identity and/or history of the site.

Contribution to Public Spaces and Facilities - Both internal and external spaces and facilities within the area, including the provision of active frontages/uses at ground floor level, where identified within the Development Framework. The development should interact and contribute positively to its surroundings at street level, it should contribute to diversity, vitality, social engagement and the ‘sense of place’. The scheme should deliver, where applicable, high quality highway and public realm treatments and finishes promoting environmental sustainability. Public realm should be designed to engage users and visitors to the site, incorporating hard and soft landscaping and the Science Central suite of street furniture, in accordance with the principles set out within the Development Framework to create a cohesive and comprehensive development across the whole of the site.

Maintenance and Management – details will be required of the maintenance and management arrangements for those areas of public realm and highway areas to be adopted, including integral SUDS elements. Those areas to be retained by the Science Central LLP shall be included within the approved Estate Environmental Management Plan for Science Central for maintenance and management purposes.

Environmental Considerations - Its effect on microclimate, overshadowing, night time appearance, servicing and vehicle movements as well as the environment for those in the vicinity of the building.

Any scheme should also include a **sustainability strategy** which seeks to secure a highly sustainable building on the site and demonstrates how the development will connect to the Energy Centre within the Science Central site.

Permeability - The contribution made to the permeability of a site and the wider area, opportunities for improved links on foot and, where appropriate, opening or closing of views to improve legibility of townscape.

Function and Fitness for Purpose - The provision of a high quality environment for those who use the building(s).

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Highways and Transportation

A Transport Statement (TS) will be required which may, where appropriate, be incorporated within the Design and Access Statement. The TS should include, for example, pedestrian and cycle routes to and from the site, relationship to transport infrastructure, particularly public transport provision, car and cycle parking facilities and management arrangements, refuse storage provision, servicing and accessibility arrangements, highway works and those highways proposed for adoption. Each development will be required demonstrate accordance with the approved Framework Travel Plan as part of the Outline consent for the wider Science Central site.

Whilst the majority of car parking on the site is proposed to be provided in a multi storey car park facility, any building providing an element of on-site parking, where appropriate, shall provide a Parking Management Plan which shall provide, for example, precise details of the number and location of spaces, including accessible, EV, car club and drop off spaces and the means of access, control and management of these spaces. The Parking Management Plan shall be consistent with the requirements set out within the approved Framework Travel Plan.

Any non-residential scheme shall provide a Multi Storey Car Park Statement with parking requirements within agreed Council parking standards for the development.

A servicing strategy will also be required demonstrating compliance with the principles in the development framework. All detailed design of landscaping schemes should ensure that their proposals can sufficiently accommodate large vehicle movements to ensure that the practicalities of servicing can be carried out safely.

Highway works relating to this development will normally be adopted by Agreement under Section 38 or Section 278 of the Highways Act, 1980. This requires the Developer to enter into a Legal Agreement with the Highway Authority. The developer will have to:

• Prove Title to the land that will, within the Agreement, be dedicated as Public Highway.
• submit a plan showing areas to be conveyed to individual properties (Minimum 1:500 scale).
• submit a plan showing proposed off-site highway works (Section 278 works). (Minimum 1:500 scale).

Any scheme which requires a Section 278 Agreement will require an independent Stage 1 Safety Audit in accordance with HD 19/03.

A Stage 1 Safety Audit should be submitted with the planning application. Where relevant, Safety Audits should include an assessment of the likely level of risk. Subsequent Stage 2, 3 and 4 may also be necessary.

Surface Water Management

Newcastle City Council as the Lead Local Flood Authority are a statutory consultee in relation to surface water management on all major planning applications and any development that may affect flooding, a watercourse or waterbody. All developments which have the potential to impact upon surface water runoff, groundwater and watercourses are advised to seek pre-application advice.

The developer will have to provide evidence of the right or consent to discharge surface water from the proposed highway to an existing public sewer, proposed public sewer or watercourse. The developer will have to incorporate the use of SUDs within the design, in accordance with the comprehensive site wide strategy, with further details of maintenance and their associated costs.

The developer will have to provide details of all easements that may be necessary for the development within the areas to be adopted as highway.

Developers should be aware of National and Local guidance and the process and service they can expect from the LLFA in dealing with their application.

Training and Employment

The development of the Science Central site has the opportunity to benefit Newcastle city residents through job creation and skills training to ensure that surrounding communities, particularly those unemployed and living in disadvantaged areas are able to share in the economic prosperity of the locality. A Framework Training and Employment Management Plan (TEMP) has been approved for the wider Science Central site through the Outline consent and requires each development, as it comes forward, to demonstrate accordance with this Development Framework. A Development TEMP will therefore be required as part of any formal planning submission to include construction and end use opportunities.
SECTION FOUR: SUPPORTING INFORMATION
4.1 Glossary

2012 Masterplan
As defined by approved planning permission 2011/0110/01/OUT and subsequent submissions.

Active Frontage
A building front that creates positive activity on the edge of the street. This includes ground floor entrances, uses and windows that generate activity and improve the safety of the street. Further details on what this means for Science Central can be found in the Access section of the 2012 Masterplan (p148-156).

Arrival Point
Where there is a change in mode of transport, for example changing from rail to foot. Arrival Points are an essential component of creating a good urban environment.

Blue roof
A roof design that is explicitly intended to store water, typically rainfall for reuse.

Brown roof
A roof design that shares many of the benefits and construction methods of a green roof but when designed the overriding aim is to encourage biodiversity.

Estate Surface
A flush surface with segregated pedestrian area separated via street furniture (for example, Kings Road within Newcastle University).

Gateways
Gateways are the points where changes in the environment create a sense of moving from one distinct area to another. They are transition areas where there is a clear change of use and function. There are various indications that the traveller is moving through a gateway including a change in scale, the character of the built form, a change in traffic speed as well as of the environment itself. Gateways are an essential component of creating a legible urban environment.

Green roof
A roof of a building that is partially or completely covered with vegetation and a growing medium, planted over a waterproofing membrane. Used to reduce runoff, enhance roof insulation, improve visual appearance, reduce the urban heat island effect, provide green space within the urban environment and encourage biodiversity.

Green surface water features
for example, swales

Green infrastructure Network
A network of high quality green and blue spaces and other environmental features.

Inclusive Design
Designing the built environment, including buildings and their surrounding spaces, to ensure that they can be accessed and used by everyone.

Infrastructure
A collective term for services such as roads and railways, underground utilities such as electricity, sewerage and water, children’s services, health facilities and recycling, refuse facilities.

For the purposes of this guidance, infrastructure is defined as:

- Drainage (Foul, Surface Water and Sustainable Urban Drainage Systems- SuDS)
- Public Realm including highways, hard and soft landscaping, green infrastructure, footpaths and car parking
- Utilities (including electricity, water, gas, telecoms and district energy)

Key Site
Major development sites within the Urban Core which are central to delivering the Plan’s vision and strategy. They are the focus for investment and their development will be a catalyst for regeneration.

Landmark buildings and structures
A building or structure that stands out from its background by virtue of its height, size or due to its unique form or style. Landmarks can aid navigation and orientation.

Legible
Clear and comprehensible, easily read and navigated.

Living Roofs
A roof of a building that is partially or completely covered with vegetation and a growing medium, planted over a waterproofing membrane. They include blue, green and brown roofs.

Masterplan
A framework bringing together the complex factors of the built environment (such as movement, infrastructure and form) to guide development within a location.

Science Central Masterplan (the Masterplan)
The vision set by the 2012 Masterplan varied by the updates within this document.

Strategic Cycle Network
Strategic Cycle Routes are the main cycle links across the Local Plan area, which together form the Strategic Cycle Network.

Public Realm
Those parts of an area (whether publicly or privately owned) available, for everyone to use. This includes streets, squares and parks.

Regulating plan
A plan that sets controls for future development for the site.
4.2 Development Plot Coordinates