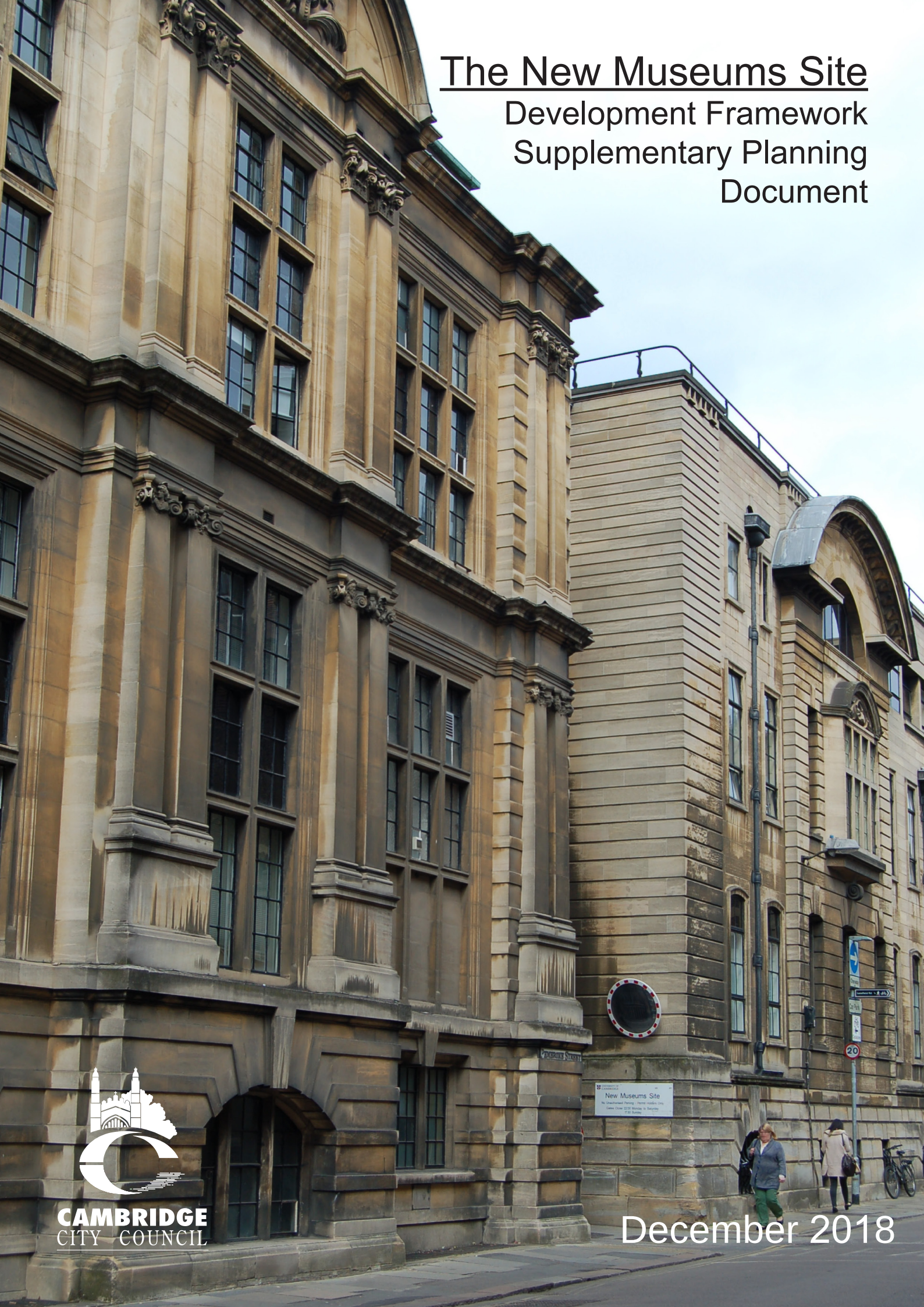
The New Museums Site

Development Framework Supplementary Planning Document



CAMBRIDGE CITY COUNCIL

December 2018

This publication has been produced by:
Cambridge City Council
PO Box 700
Cambridge
CB1 0JH
Tel: 01223 457000

This document can be downloaded from **www.cambridge.gov.uk**

Printed on recycled paper. Please recycle.

THE NEW MUSEUMS SITE
DEVELOPMENT FRAMEWORK
SUPPLEMENTARY PLANNING DOCUMENT

TABLE OF CONTENTS **Page**

Diagrams, Plans and Figures referenced in the text

1. INTRODUCTION

1.1 Background

1.1.1 The New Museums Site (NMS), as shown in Plan 1 below, occupies a prominent location in Cambridge and has an extraordinary history as the historic centre of science in the University of Cambridge. Yet to some it is a disappointing place which, though it presents an attractive face to some surrounding streets, suffers from its piecemeal development during the first half of the 20th century, when the physical sciences grew exponentially, and from the ambitions of the post war era to address the resulting problems through comprehensive redevelopment and the imposition of an inappropriate scale. Future development on the site therefore offers an opportunity to create an improved, more coherent place and especially to improve the public realm on the site.

1.2 The David Attenborough Building

1.2.1 Proposals for works to the David Attenborough Building, (previously known as the Arup Building), were brought forward before the preparation of this Supplementary Planning Document (SPD) as they were focussed on refurbishment and internal alterations to provide enhanced space and public access for the Zoology Museum and to provide accommodation for those organisations which are a part of the Cambridge Conservation Initiative[1]. The work does however include some elements which will contribute to the aspirations of this document, such as the central facilities management base, (goods in/out), and the improvement of the street scene along Corn Exchange Street. These works are underway at the time of the preparation of this document and are due for completion in late 2015/early 2016.

1.3 Aspirations

1.3.1 This document sets out the joint aspirations of the City Council and the University for future changes through which it is hoped that a meaningful urban place, which celebrates the past, present and future, can be made.

1.4 Key Issues

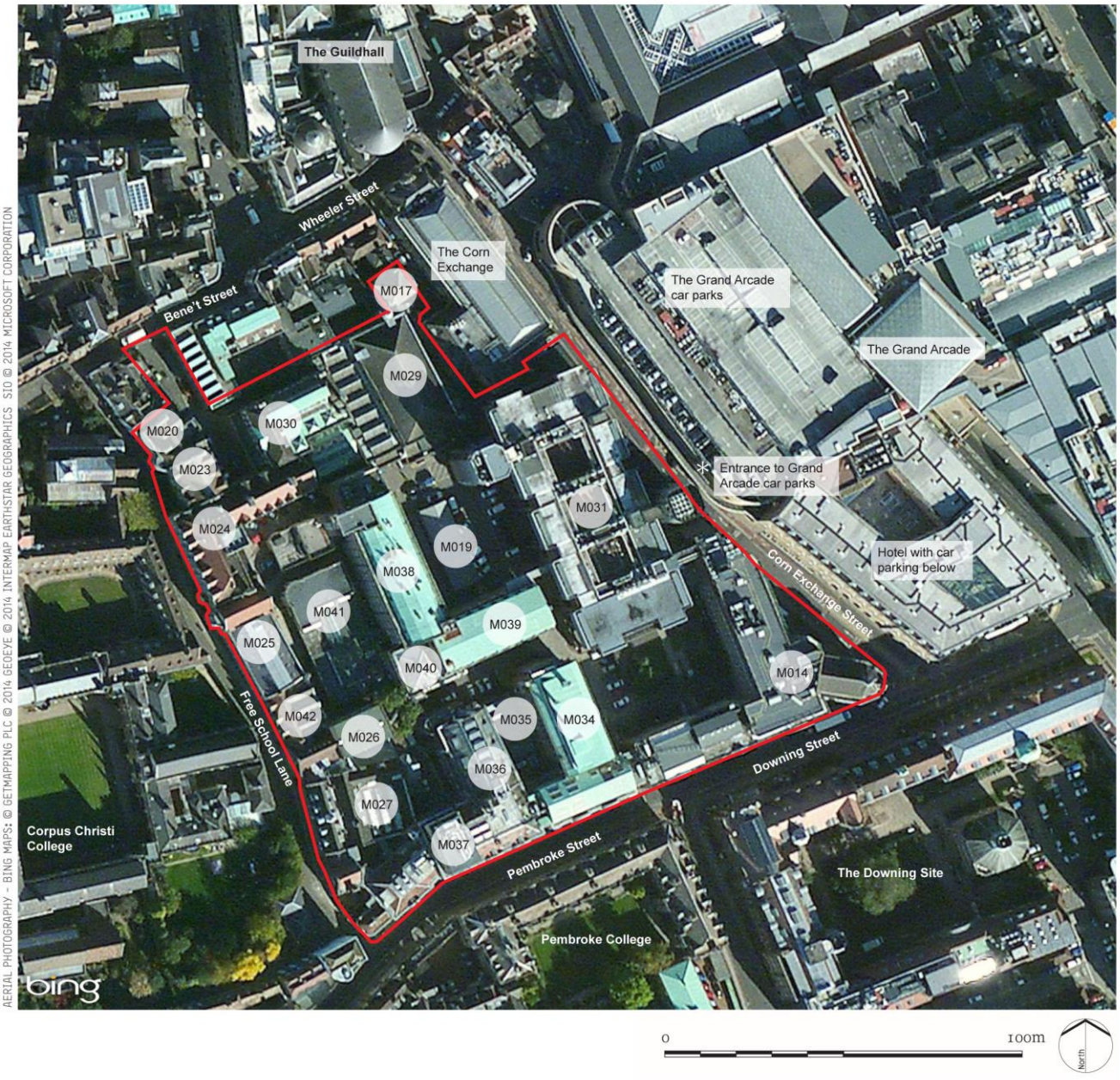
1.4.1 The key issues and opportunities on the site have been identified as follows:

a. Enhancement of the Historic Core Conservation Area and the careful management of existing built heritage assets on and around the site
b. Integration of the site into the wider city centre

[1] Planning application reference 13/0193/FUL

c. Improvement of the external spaces within the site and creation of an appropriate public realm with improved permeability and public access especially to University museums and the heritage of the site
d. Improvement of University facilities in support of its continuing academic success and its importance to the life of the city
e. Increased environmental sustainability including better energy use, increased ecology and biodiversity and settings supporting the health and wellbeing of the site users and visitors.
f. Reduced car parking and improved facilities for pedestrians and cyclists.

THE NEW MUSEUMS SITE
PLAN NO 1: THE SITE - EXISTING BUILDINGS



LEGEND

Site Extent

M014	Zoology Building	M027	Old Physical Chemistry Building	M038	Austin Building
M017	4 Parsons Court	M029	Examinations Hall	M039	Cockcroft Building
M019	Rolls Royce Laboratory	M030	Arts School	M040	Balfour Building
M020	3 Free School Lane	M031	David Attenborough Building	M041	Mond Building
M023	Old Cavendish Laboratory Rayleigh Wing	M034	Shell Building	M042	Social Anthropology Building
M024	Old Cavendish Laboratory East Wing	M035	Goldsmiths' Laboratory		
M025	Old Cavendish Laboratory	M036	Old Metallurgy Building		
M026	Phoenix Building	M037	Heycock Wing		

University Reference Numbers

1.5 Process of Preparation

1.5.1 Cambridge City Council and the University of Cambridge have worked in partnership on the preparation of the SPD to ensure that any future development safeguards the architectural, urban, historic, cultural and archaeological importance of the site while providing an opportunity for positive qualitative change.

The SPD Process

1.6 Purpose and Scope

1.6.1 An SPD can be prepared to support policies and objectives found in a local plan. This SPD provides clear guidance on the City Council and University's aspirations for the New Museums site. It is a framework which will help co-ordinate and guide future redevelopment of the site in line with the Council's Local Plan policies. In particular, this SPD has been prepared to support *Policy No. 43: University development* and site allocation U2 as set out in the

Cambridge Local Plan 2014: Proposed Submission (as amended[2]). The full policy as drafted is set out in Appendix 1 of this SPD. The SPD has been prepared in line with the requirements of the Town and County Planning (Local Planning) (England) Regulations 2012.

1.6.2 The document has been prepared jointly by both the University of Cambridge and Cambridge City Council to set out what is expected in relation to the future re-development of the site. The purpose of the SPD is threefold:

- To articulate a clear vision about the future of the New Museums Site
- To establish a framework to co-ordinate redevelopment within the site and the immediate public realm to the site and to help guide decisions (by the City Council, the university and others); and
- To identify key place-making principles through a series of themed development principles

1.7 Organisation of the SPD

1.7.1 The document is organised into two principal parts. The first seeks to describe and interpret the existing site from a variety of perspectives. The second describes the parameters within which future development should be brought forward. In each case the site is addressed both as an integral part of the wider city and as the major part of a defined urban block. Note that for the purposes of this document, the term “parameter” is only a general reference to a “framework” for change in respect of matters discussed in text and plan (access, entrances and public realm outside the site, proposed open space and the public realm, and built form). The term is not the same as that referred to in the Town and Country Planning (Development Management Procedure) (England) Order 2010, which applies to large scale proposals qualifying as “EIA” development.

1.8 Consultation

1.8.1 The SPD was subject of public consultation for a period of six weeks from the 13 July 2015 to the 7 September 2015.

1.9 Status of this document

1.9.1 Once adopted, the SPD will be a material consideration in the determination of relevant planning applications.

1.9.2 The draft SPD has been written to support the Cambridge Local Plan 2014: Proposed Submission. This SPD will be adopted at the same time as, or

[2] Through PM/5/004 – PM/5/007 within the *Addendum to the Cambridge Local Plan 2014 Proposed Submission Document (July 2013): Schedule of Proposed Changes Following Proposed Submission Consultation (February 2014)*

shortly after, the local plan is adopted. It will not be adopted before the local plan is adopted.

2 PLANNING CONTEXT

2.1 Cambridge Local Plan (2006) and the Cambridge Local Plan 2014: Proposed Submission

2.1.1 The NMS was first allocated in the Cambridge Local Plan 2006 as Site 7.08. It was allocated for "redevelopment/refurbishment for predominantly University uses, with some mixed use to enhance the attractiveness of the public realm." This allocation required the development of a planning brief. At the time of preparing this SPD, Policy 43 University Development and Appendix B: Proposals Schedule within the Cambridge Local Plan 2014: Proposed Submission identify the NMS as Site U2 for mixed-use redevelopment for university related uses. The Cambridge Local Plan 2014: Proposed Submission document is currently being examined by an independent Inspector.

2.1.2 Upon adoption, the SPD will represent a site development brief and provide greater certainty and detail to support the delivery of this allocation in the coming years.

2.2 Masterplan

2.2.1 A well prepared, clear and informed Masterplan for proposed and future development of the New Museums Site is vital in ensuring coordinated development. The University has prepared a site Masterplan which illustrates how the proposals set out in this SPD could be implemented, as set out in Plan 2 below.

2.2.2 As part of the preparation of the Masterplan, there was significant engagement between the University, City Council and Historic England, which helped add detail to the proposals set out in this document and provided a brief for the development of different areas on the site.

2.2.3 The Masterplan will not be formally adopted with the SPD, but the Masterplan proposals will be submitted with applications for each phase of development. The Masterplan has helped inform the parameters set out in this SPD and the illustrative master plan contained herein represents a more detailed illustration of these parameters. The Council will require each proposal for development to be compliant with this SPD.

2.2.4 The Masterplan will be updated by the University when necessary. This may include updates after completion of each phase of development.

THE NEW MUSEUMS SITE
PLAN NO 2: ILLUSTRATIVE MASTERPLAN

LEGEND

1	Downing Street	5	Bene't Street	A	First Courtyard
2	Corn Exchange Street	6	Grand Arcade	B	Second Courtyard
3	Peas Hill	7	Downing Site	C	Third Courtyard
4	Free School Lane				

2.3 University Estate Strategy

2.3.1 The mission of the University of Cambridge is to contribute to society through the pursuit of education, learning and research at the highest international levels of excellence. Its Estate Strategy (2012) supports this mission by setting out the strategy for the development of the estate and the creation of buildings and places that support world class teaching and research and efficient administration.

2.3.2 The main aims of the strategy are:

- To meet priority needs for new and or improved facilities
- To cluster associated University disciplines, in order to achieve academic benefits and administrative operating efficiencies
- To provide buildings and places with high levels of sustainability and design quality
- To deliver optimum space efficiency

2.3.3 The University Estate Strategy supports the development of the New Museums Site as the centre for social sciences, conservation biology and student support services within the University. The site is therefore the focus of a sequence of proposed institutional moves including the following.

To West Cambridge from the NMS:

- Dept. of Materials Science and Metallurgy;
- Dept. of Chemical Engineering and Biotechnology
- University Information Services including its Data Centre

To the NMS from other sites:

- Dept. of Geography (from the Downing Site)
- Dept. of Land Economy (from the Old Press Site)
- Student Services (from various city centre sites)

2.3.4 The University Estate Strategy is supported by a Capital Plan and a Capital Projects Process which focus resources into strategically important projects.

3. VISION AND OBJECTIVES

3.1 Vision

3.1.1 The Vision for the future development of the site is:

The New Museums Site will develop as a place for University of Cambridge related uses involving world class teaching, learning and research. The quality of place will improve through the construction of new university facilities, a reduction in development density in the site core, an associated improvement to environmental conditions, and the provision of high quality public realm within the site. Development will support the creation of an attractive, accessible, safe and sustainable environment in line with the following objectives.

3.2 Objectives

3.2.1 The Objectives for the development of the site are:

Objective 1: To capture the history and tradition of the Site

The NMS has an impressive academic heritage that includes ground-breaking research and discoveries. Development of the site will promote the understanding of the site's heritage whilst transforming it into an attractive and sustainable environment for working and learning, while making it adaptable for future requirements. The site will continue to contribute to the life of the city, as a focus for the University museums and collections and will create a 'window' into the life of the University and the site's history through enhancement of public access and the creation of enjoyable spaces.

Objective 2: To improve accessibility

Entrances to the site from surrounding city streets will be improved, inviting access and controlled public use of the site. This will benefit staff, students and visitors, and enable the site's museums and collections to be more easily accessed, and its cultural heritage to be explored.

Objective 3: To retain heritage and quality buildings that contribute to the site and its surroundings

Development of the site will selectively conserve heritage buildings, located principally in the perimeter of the site, comprising a majority of Listed Buildings and Buildings of Local Interest. The core of the site has been substantially changed over time, and contains buildings of generally lower significance. The site core therefore provides the greatest opportunities for change and for new open spaces, which will in turn improve the setting of Listed Buildings on the site's perimeter. Some core buildings are of significance and those of greatest significance will be retained.

Objective 4: To provide a new spatial structure with links to the city

A clear spatial structure for the site will be created, as a part of the historic city that supports University activity and provides a platform for academic life. This will include an attractive and legible environment that allows for all uses to come together with attractive open spaces that have a high amenity and sustainability value, as well as supporting the individual building uses. New flexible open spaces will be provided that allow for the movement of people and a setting for buildings.

Objective 5: To embrace sustainability

The City Council supports the preparation and implementation of a bespoke sustainability framework for the New Museums Site. This will relate to sets of sustainability principles grouped around the themes set out in Table 1 below:

Table 1.

Sustainability Theme	**Sustainability Principles**
Resource and Climate Change	Energy and Climate Change Water Materials Waste
People's Health, Social and Economic Wellbeing	Health and Wellbeing Collaboration and Inclusion Education and Knowledge Transfer Employment Opportunities
Land Use, Ecology and Local Impact	Biodiversity and Ecology Pollution and Local Environment Culture, Heritage and the City
Transport and Local Connectivity	Transport and Mobility

There are significant opportunities to create ecological habitats on the site on green/brown roofs, and to reduce the carbon footprint of the site through the provision of low carbon energy systems and renewable energy production.

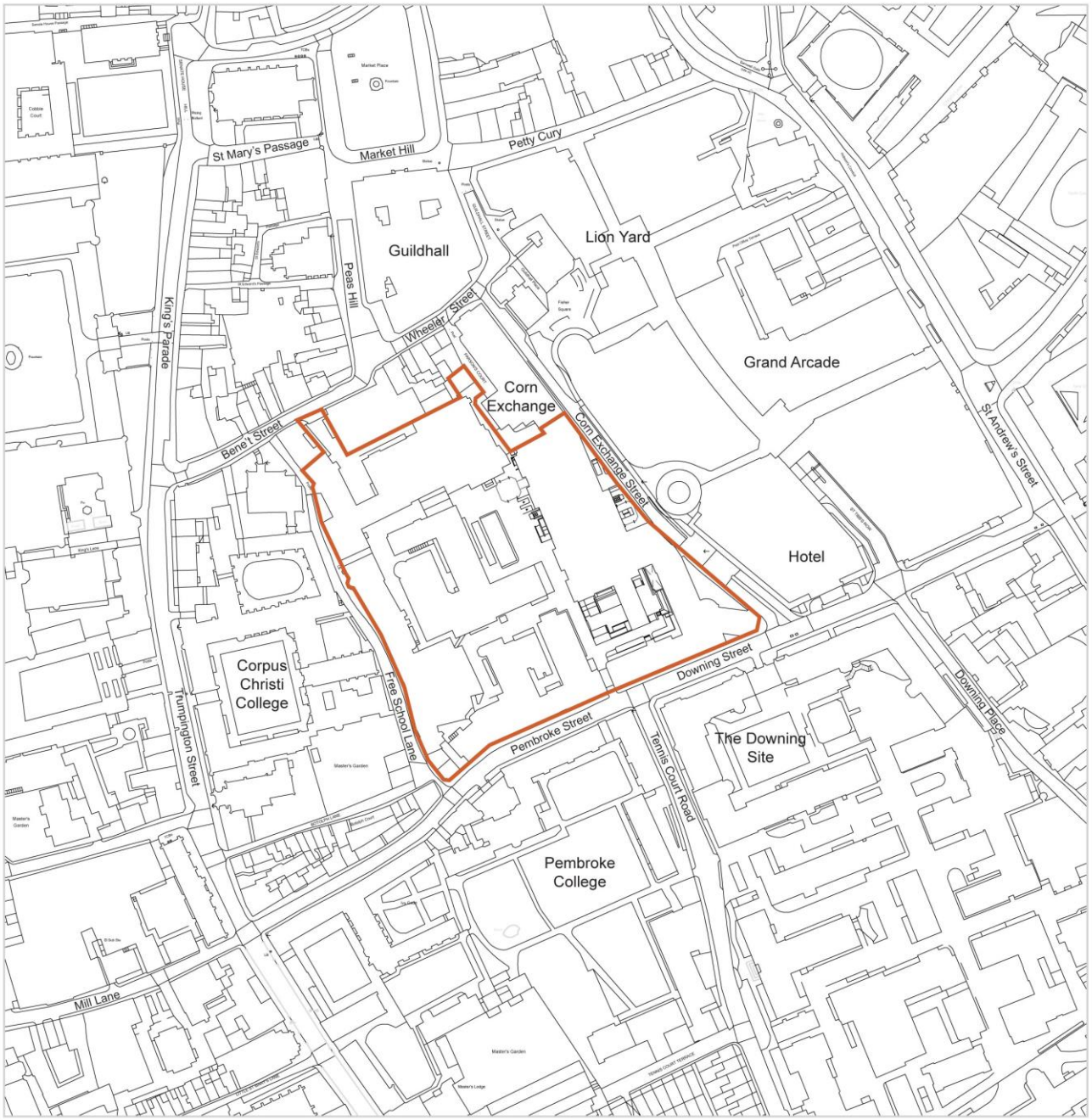
4. THE EXISTING SITE

4.1 Location

4.1.1 The NMS, which is one of the University's central and most prominent sites, occupies an historic location in the city centre with a unique and globally important heritage. It consists of the greater part of the urban block bounded by Pembroke Street, Downing Street, Corn Exchange Street, Wheeler Street, Bene't Street and Free School Lane. The buildings along the northern edge of the block fronting onto Wheeler Street and Bene't Street, including the Corn Exchange, are outside the site.

4.1.2 As illustrated in Plan 3 below, the site sits between the area of College development along Trumpington Street and the commercial core of the town along St. Andrews Street. Pembroke College and the University's Downing and Old Addenbrooke's sites are to the south; Corpus Christi College is to the west; the Corn Exchange and Grand Arcade shopping areas are to the east and the Guildhall and Market Square are to the north. As such the site has an important role in mediating between the scale of modern commercial development to the east and that of older college buildings to the west, and between the busy vehicular highway that is Pembroke/ Downing Street to the south and the more pedestrian orientated area around the Market Square to the north.

THE EXISTING SITE
PLAN NO 3: SITE LOCATION PLAN



4.2 Historical Development of the Area and its Significance

4.2.1 What is now the New Museums Site is at the heart of the medieval city of Cambridge. Its early known history is as the site of an Augustinian Friary. The Friary was founded in 129o but following the dissolution of the monasteries (1536-39) it was surrendered to the Crown. Late 16th century maps (Lyne 1574, Smith 1588 and Hammond 1592) show that significant elements of the Augustinian Friary were still evident at this time. The King's Ditch (thought to be a Saxon defence) runs across the south-eastern corner of the site. To the north of the site, the market place was the economic and social core of the town.

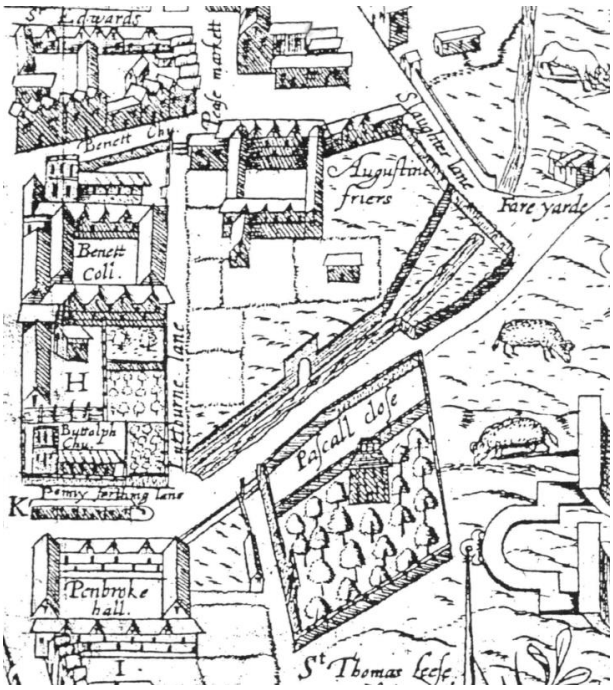


Figure 1 Lyne 1574

4.2.2 From the 17th century onwards, overcrowding in Cambridge meant that available land within the city was increasingly valuable and was gradually developed. The former Augustinian Friary land, although still significantly open, was encroached upon along its street frontages and in the 1620s, The Free School was constructed in the southwest corner of today's New Museums Site. The remaining elements of the former Friary buildings were subsumed into the range of courts and buildings fronting what is now Wheeler/Bene't Street. By the end of the 17th century, despite the increasing development on the site, much of the land was still open gardens, including the triangle of land south of the King's Ditch.

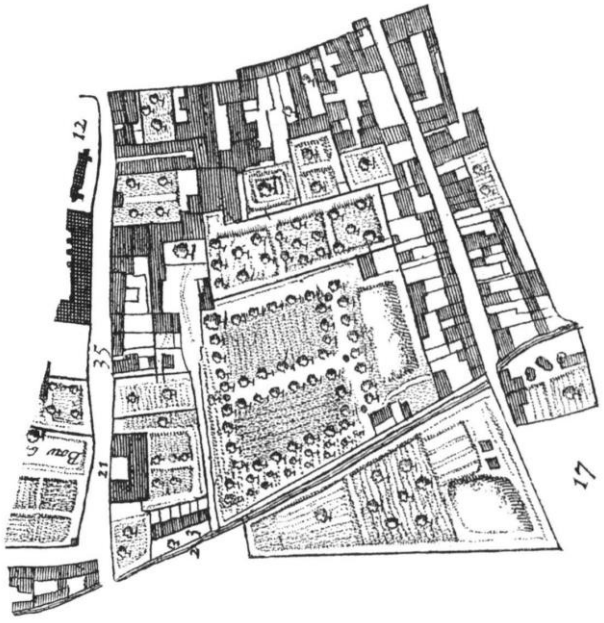


Figure 2 Loggan 1688

4.2.3 The 18th century marked the beginnings of an era of more substantial changes to the New Museums Site, with the development of a large mansion house (Mortlock's house and then bank) and associated outbuildings at the north end of the site. In 1760, the majority of the site was bought by Richard Walker, Vice-Master of Trinity College for the University to provide a Botanic Garden. This was established in 1762 and was accessed from a pair of gates on Pembroke Street and a small archway along Free School Lane. By the end of the 18th century, apart from the Botanic Garden, there was no longer any undeveloped land in any quantity within the central core of Cambridge except for The Leys (marshy land) on the south side of Pembroke Street.

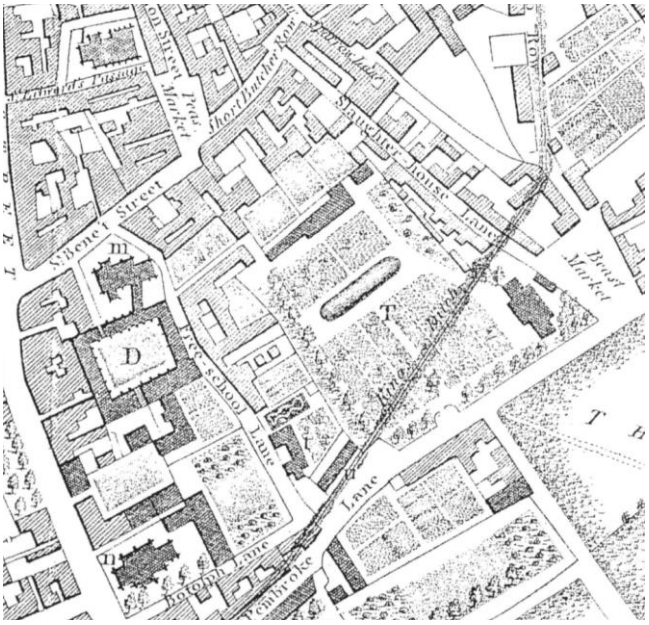


Figure 3 Custance 1798

4.2.4 The enclosure of Cambridge in the early years of the 19th century, changed the wider topography of the town, with rapid development occurring predominantly to the east initially and then to the south. Within the New Museums Site, however, little changed until 1832 when buildings by Charles Humfrey were constructed for the use of the Professor of Anatomy on the corner of Downing Street and St Andrew's Hill. The Leys, on the opposite side of Pembroke Street became the site of Downing College and construction began in 1821. 19th century maps no longer show the King's Ditch running through the site, with the line of the ditch only dotted on Baker's Map of 1830.

Figure 4 Baker 1830

4.2.5 More major change came with the establishment of the Natural Science Tripos in the mid-19th century which highlighted the need for better accommodation for this rapidly expanding area of the University. This coincided with the realisation that the Botanic Garden was not fit for purpose and it was removed to its present site off Hills Road between 1846 and 1852 when the site was sold to the University for building 'new museums and Lecture Rooms' (Willis & Clark). A detailed report setting out the requirements was prepared in 1853 and in 1854 when the architect Anthony Salvin was authorised to prepare plans. However, the costs of the plans were not well received and, despite numerous changes over the years, indecision over the development of the site continued until 1863 when Salvin was finally given approval to begin construction of the central buildings on the site. These were followed by the Cavendish Laboratory (completed by 1873) and further buildings to the rear of Salvin's Museum of Botany and along Corn Exchange Street.

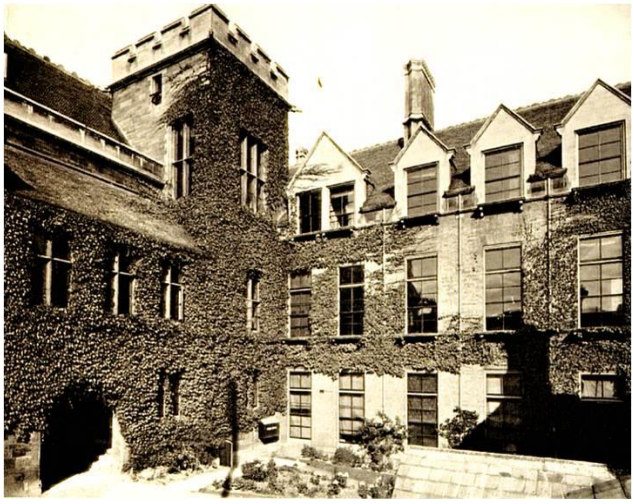


Figure 5 Old Cavendish

4.2.6 By 1883, the site was largely in the ownership of the University, with only the northern frontage facing the present day Bene't Street still privately owned. The Perse School became part of the site by 1890 and was remodelled to form engineering laboratories, while the Perse Almshouses were replaced in 1886-8 by chemical laboratories, lecture rooms and a porter's lodge. Despite this development, however, a good deal of the former Botanic Garden remained undeveloped.

4.2.7 The early years of the 20th century saw the enclosure of much of the Site's boundaries with buildings including the Zoology Building which replaced earlier buildings along Pembroke Street and Corn Exchange Street. A reasonable portion of the old Botanic Garden and its entrance gates on Pembroke Street still survived however. The Examination Halls were completed in 1909 and the adjoining Arts School, designed as lecture rooms and a departmental library, was completed in 1911.

4.2.8 Scientific advances in the 20th century required new and enhanced teaching spaces and buildings were quickly erected or altered on the New Museums Site in the first half of the 20th century. Considerable consolidation of the site occurred with development on an ad-hoc basis as necessity arose and/or funding became available.

4.2.9 The site was described as '*an incredible muddle inside*' by Nikolaus Pevsner writing in 1970. By this time, the need for comprehensive redevelopment of the site had already been established and in 1961, Denys Lasdun had published a master plan for the site, but this was not well-received by the City and County Councils largely due to the excessive height of some of the buildings. A long planning wrangle ensued before a much reduced scheme was approved in 1964 and the job passed to the newly formed Arup Associates. Only Stage 1 of the redevelopment was ever completed. This was to become known as the Arup Building and has recently been renamed the David Attenborough Building.

4.2.10 The erection of the Arup Building involved the demolition of almost all of the remaining Salvin buildings in the centre of the NMS. Such wholesale redevelopment was being replicated on the other side of Corn Exchange Street with the construction of the Lion Yard shopping centre and car park to which the Arup Building was originally intended to link. The historical features of the site are illustrated in Plan 4 below.

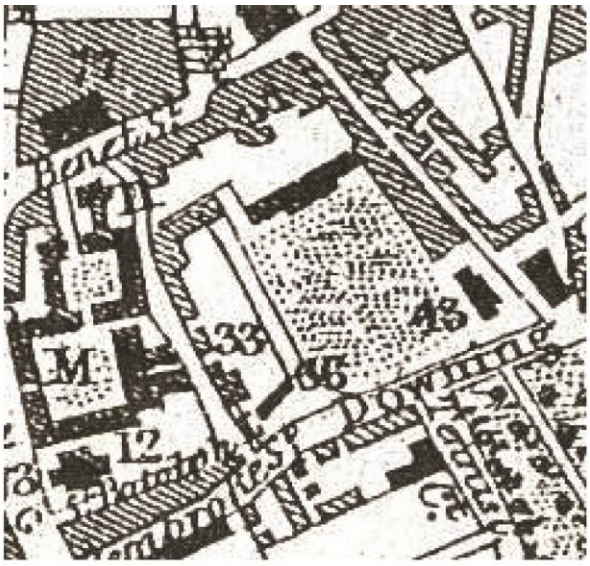


Figure 6 Lowry 1863

Figure 7 1888 OS Map

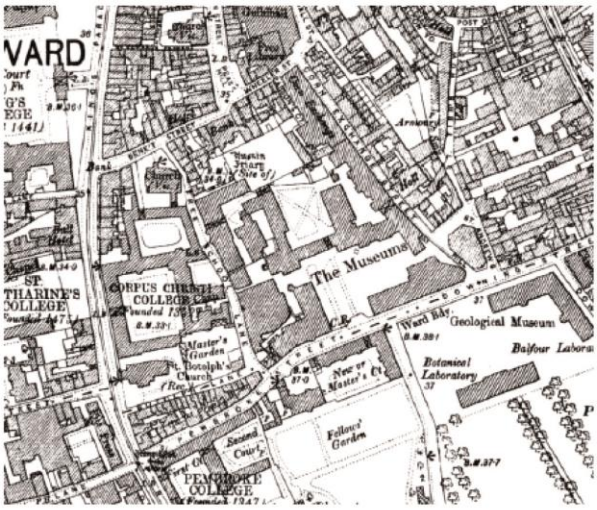


Figure 6 1903 OS Map

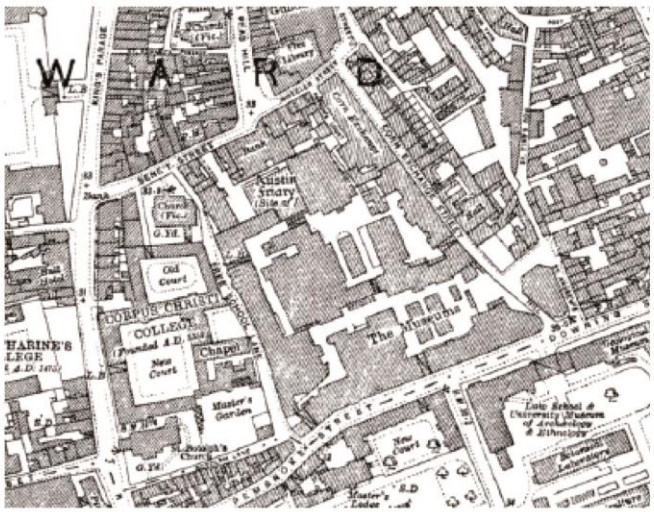


Figure 9 1927 OS Map

THE EXISTING SITE
PLAN NO. 4 HISTORICAL FEATURES

KEY

- C17
- C18
- C19
- Early C20 (Pre WWII)
- Late C20 (WWII & later)
- New Museums Site
- Approx. line of King's Ditch
- Probable area of main Augustinian Friary buildings
- Approx. position of Pond in Botanic Garden, possibly Monastic in origin

4.3 Existing Heritage Assets

a. Archaeology

4.3.1 The site lies in an area of varying archaeological potential. There is generally considered to be low potential for prehistory remains and low to moderate potential for Roman remains. The potential for medieval remains is however high as the site's boundaries encompass the precinct of the Augustinian Friary and the course of the King's Ditch runs across the southeast corner of the site.

4.3.2 Plan 5 shows the predictive model of the areas in which archaeology is most likely to survive on the NMS. This deposit model has been built using extrapolated data from nearby intensively investigated sites (e.g. the Grand Arcade) together with what little formal archaeological information on the site (e.g. the excavation work undertaken before World War I) exists. This has been combined with surface, ground and basement level heights to produce the predictive model which indicates the areas where there is potential of greatest impact upon any underlying archaeological remains.

4.3.3 Archaeological remains have previously been identified within the site during the excavations for the foundations of the Arts School and Examinations Rooms in 1908 at the northern end of the site. These investigations identified Friary structures and a cemetery. In 1991, work inside the Old Cavendish Laboratory building found substantial masonry remains belonging to the friary (Cambridge Archaeological Unit Report 037, CAB 91). The site also straddles the line of the King's Ditch which was identified in the neighbouring (to the west) Grand Arcade development and recorded as being 10-12 metres wide and 3.5 metres deep (Cambridge Archaeological Unit Report Number 800, ECB2379 and ECB2389).

4.3.4 The location of the site, within the historic core of Cambridge, encompassing the precinct of the Augustinian Friary (CHER Number 04731) and spanning the city's defences, is highly significant and any surviving archaeological remains in this area will be key to our understanding of the early development of the town. The development of this area offers the potential to considerably advance the understanding of the layout of the friary as the precise location and form of the friary remains unclear.

4.3.5 Any investigation of and, ultimately mitigation for, the archaeology will adhere to the principles outlined in national, local and industry guidelines which favour the preservation in situ of significant archaeological remains where they have been identified. Where preservation is not required, an appropriate level of recording of the archaeology will be completed prior to further work.

THE EXISTING SITE
PLAN NO. 5 ARCHAEOLOGICAL POTENTIAL

KEY

Projected Line of the Kings Ditch

Kings Ditch Buffer Zone

Potential Depth of Deposits

Value

High : 3.2

Low : -3.2

Potential for Surviving Deposits Relative to the Projected Height of Underlying Natural Geology

Meters

0 5 10 20 30 40

This diagram relies on extrapolated data for the height of underlying natural. It provides a general picture of the potential for archaeological deposits, but it cannot be used to indicate the likelihood of survival at any single point.

b. Listed Buildings

4.3.6 There are a number of Listed Buildings within and directly adjoining the site. These buildings are indicated on Plan 6. There is a statutory duty to have special regard to the desirability of preserving any Listed Building or its setting, or any features of special architectural or historic interest which it possesses (Sections 16 and 66 of the 1990 Act).

4.3.7 In summary, the Listed Buildings (all Grade II) within the site that need to be considered as part of any proposals are:

- Mond Building
- Zoology Building
- Old Physical Chemistry
- Cavendish Laboratory
- Arts School

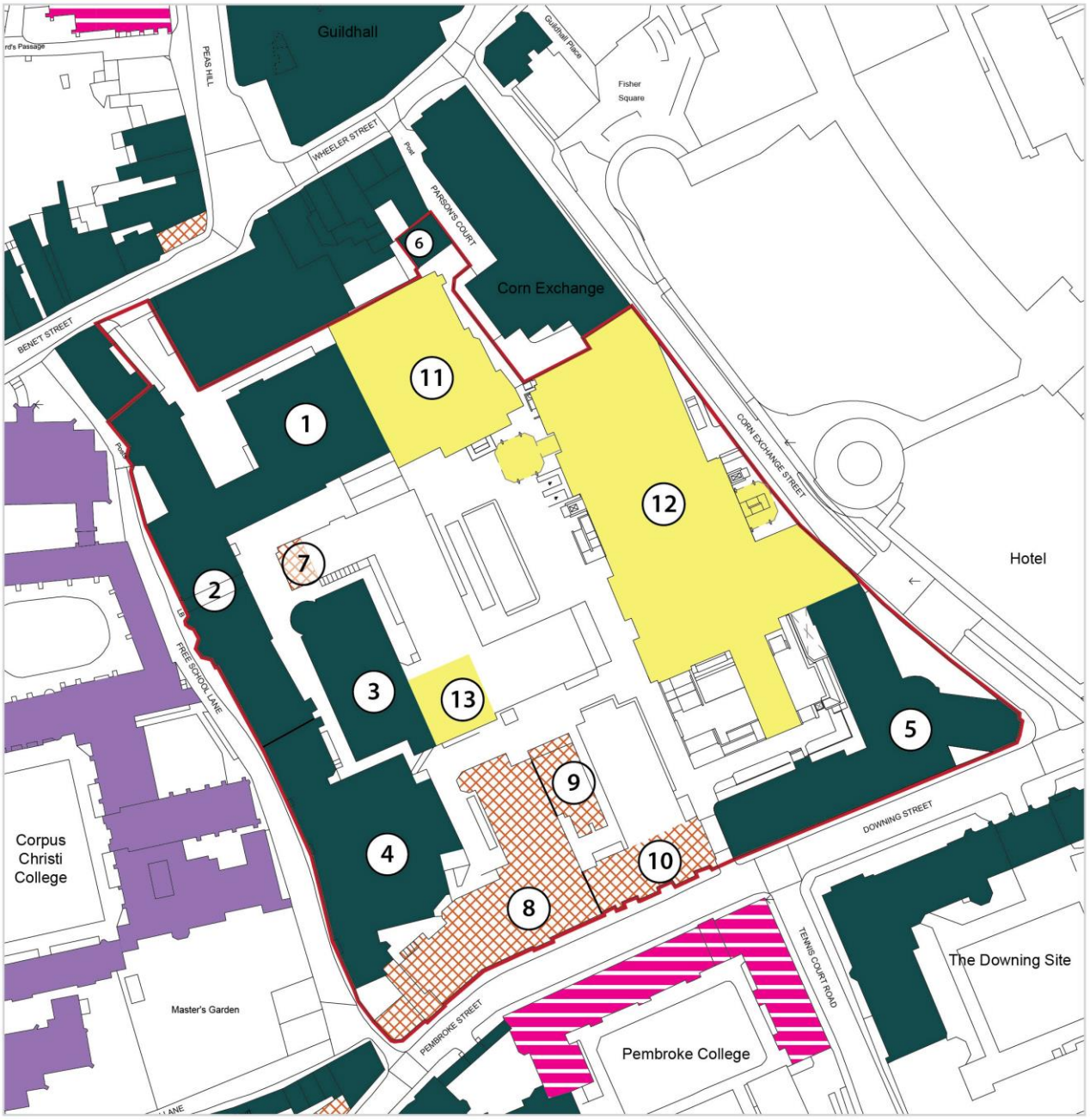
c. Conservation Area

4.3.8 The entire site lies within the Cambridge Historic Core Conservation Area which is itself part of the large Cambridge Conservation Area No.1. There is a statutory duty to preserve or enhance the character and appearance of the conservation area (conferred by Section 72 of the Planning [Listed Buildings and Conservation Areas] Act 1990).

4.3.9 The Conservation Area is a designated heritage asset, along with the Listed Buildings, and the contribution that the site makes to the character and appearance of this heritage asset must therefore be considered. Detailed assessment of the streets that the New Museums Site forms part of is provided in the Cambridge Historic Core Conservation Area Appraisal that forms part of the background evidence to this SPD.

https://www.cambridge.gov.uk/historic-core-appraisal

THE EXISTING SITE
PLAN NO. 6 HERITAGE ASSETS



KEY

- Grade I Listed
- Grade II* Listed
- Grade II Listed
- Building of Local Interest
- Other buildings of heritage interest
- New Museums Site

1. Arts School
2. Cavendish Laboratory
3. Mond Building
4. Old Physical Chemistry
5. Zoology Building
6. 4 Parson's Court
7. Mond Building Annexe
8. Old Chemical Laboratories
9. Goldsmith's Laboratory
10. 1907 Building
11. Examinations Halls
12. David Attenborough Building
13. Balfour Building

0 50

d. Buildings of Local Interest

4.3.10 The site and surroundings also contain a number of Buildings of Local Interest (BLIs) which are 'non-designated heritage assets' as defined in the National Planning Policy Framework. Works to such buildings are controlled by a specific Local Plan policy (Policy 62: Local heritage assets) in addition to national planning policy. These buildings are indicated on Plan 6.

4.3.11 The non-designated heritage assets (Buildings of Local Interest, otherwise known as "BLI's") within the site that need to be considered as part of any proposals are:

- Mond Building Annexe
- Old Chemical Laboratories and Porter's Lodge
- Chemical Laboratories extension (1907 building, the frontage of the Shell Building)
- Goldsmith's Laboratory

e. Other buildings of heritage interest

4.3.12 In addition to the designated and non-designated heritage assets, some other buildings on the site have been identified as having some heritage interest. They have no individual heritage designation, but are buildings within the conservation area:

- David Attenborough (Arup) Building
- Balfour Building
- Examination Halls

f. Significance

4.3.13 Building functions and uses within the wider area have changed considerably over the centuries. The site's significance is now based on its function for University teaching (primarily originally sciences) and as a key block in the historic core of the city. The cultural significance of the site in terms of its scientific history and its previous uses as the University's original Botanic Garden, the site of the original Perse School and as an Augustinian Friary is however lesser-known. Allied to this, is the archaeological significance of the site which may contain surviving remains of earlier phases of development including the locally important King's Ditch and Augustinian Friary.

4.3.14 The site contains a variety of building types, although they are all unified by their University use. They vary between adaptations of existing buildings, such as No.4 Parsons Court and Old Physical Chemistry, and purpose-built University buildings, although these too have all been subject to substantial remodelling to suit changing University needs.

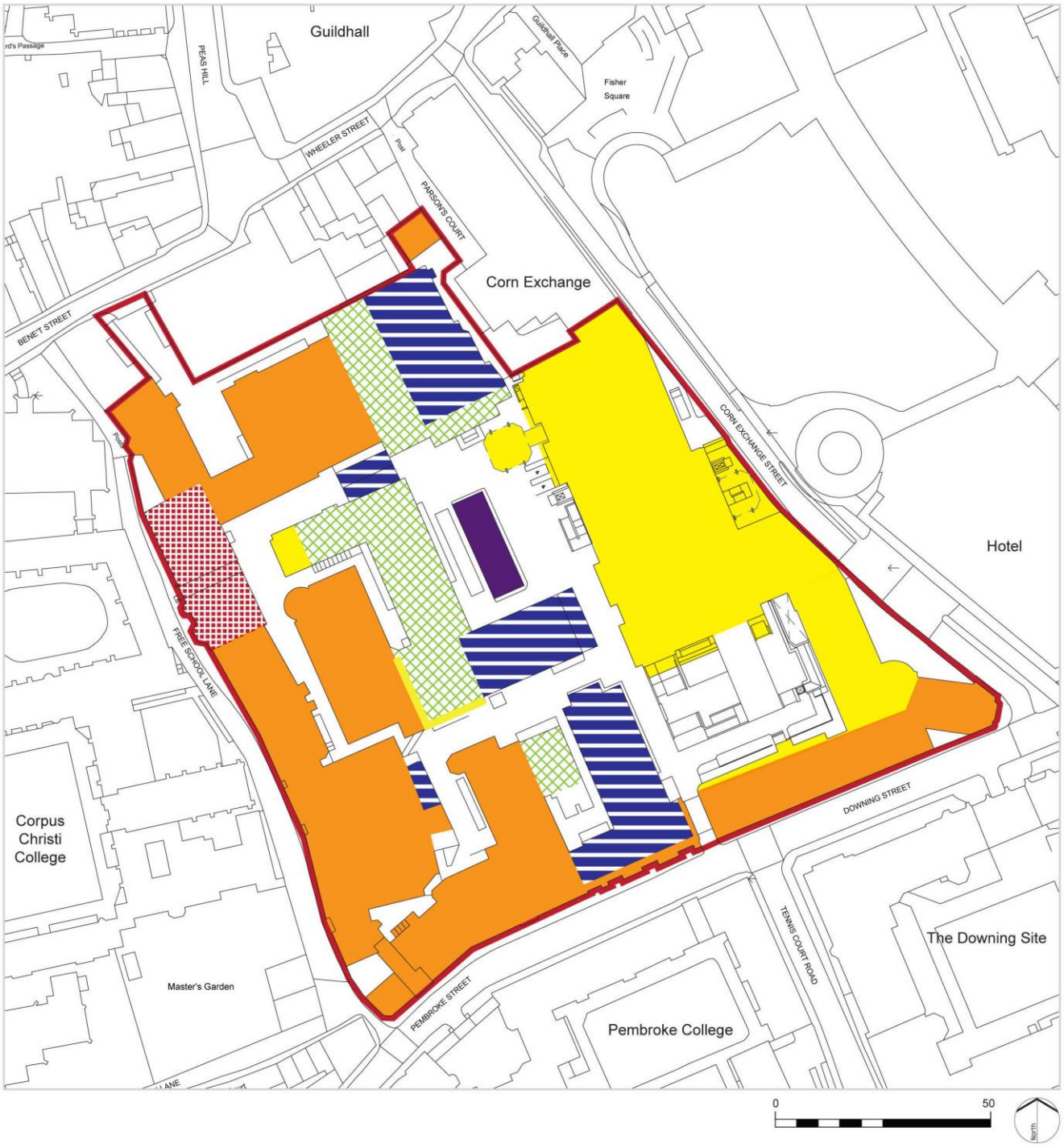
4.3.15 A detailed assessment[3] of the site including each building has been completed. The level of architectural, historical and townscape significance attributed to each building is illustrated on Plan 7. Significance will normally be measured as follows:

- *Very High*: Usually reserved for designated heritage assets of the highest importance, i.e. Grade I and II* Listed Buildings and Historic Parks and Gardens and Scheduled Monuments.
- *High*: Grade II Listed Buildings
- *Significant*: Non-designated heritage assets (e.g. BLIs) or Buildings of considerable townscape interest and/or intrinsic architectural or historic interest
- *Moderate*: Buildings of some townscape interest and/or architectural or historic interest, but which have no formal heritage status
- *Low*: Buildings which are neutral in townscape terms and/or have little architectural or historic interest
- *None*: Buildings of no or insignificant townscape or heritage interest.

4.3.16 N.B. A building may move up a significance category if it is of considerable townscape importance and integral to the character and appearance of the conservation area. Similarly, a building may move down a category if it has been assessed, following investigation/research, to have lesser heritage interest than its status may imply.

[3] The New Museums Site Historic Environment Analysis (Beacon Planning Ltd. 2015)

THE EXISTING SITE
PLAN NO. 7 HERITAGE SIGNIFICANCE



KEY

	Very High		Moderate		New Museums Site
	High		Low		
	Significant		None		

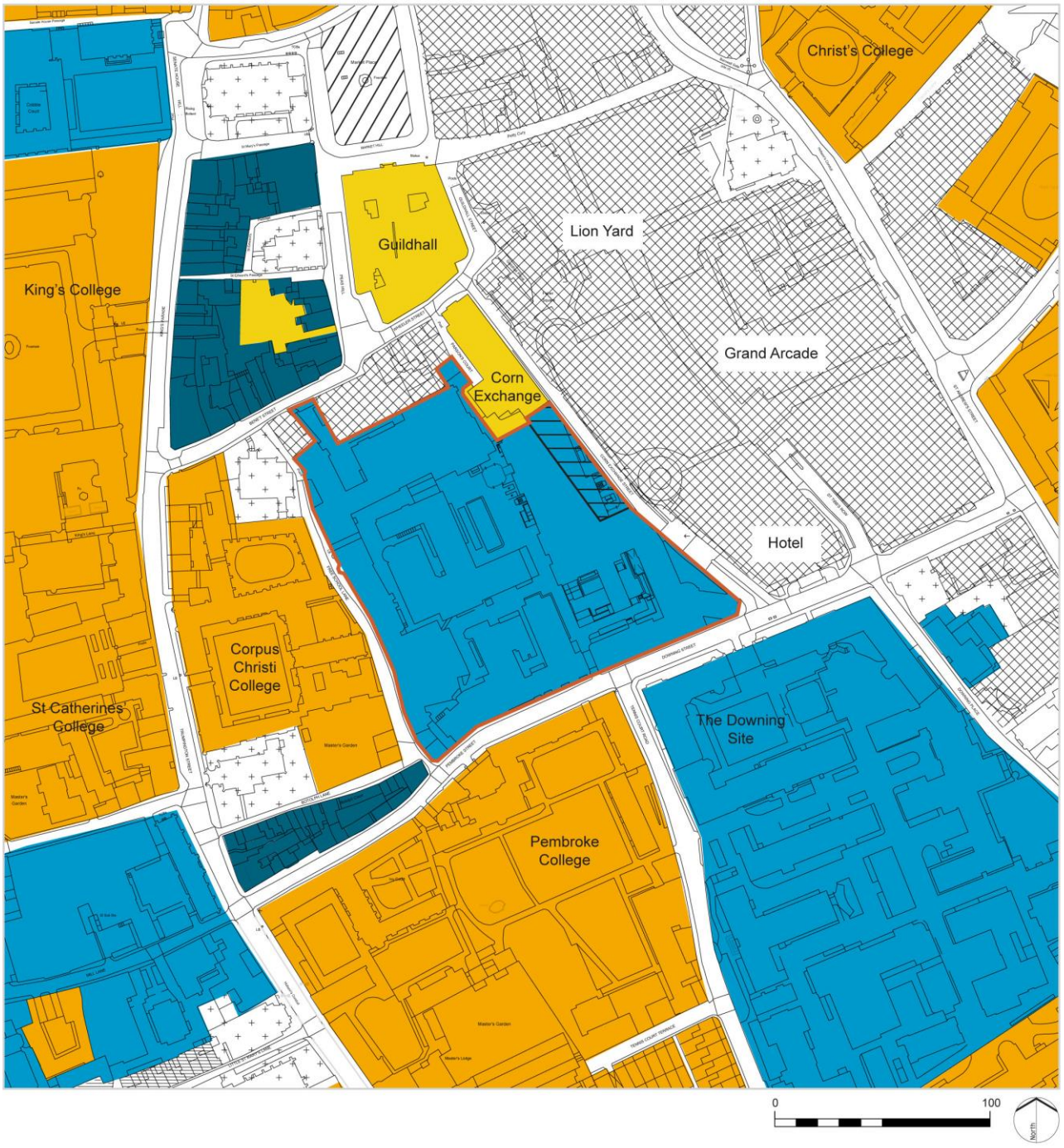
4.4 Land Ownership and Use

4.4.1 The whole of the site is either owned by the University of Cambridge or held by it on long leases, as shown on Plan 8. There are approximately fifteen different University institutions on the site including the Dept. of Zoology, the Dept. of the History and Philosophy of Science, the Dept. of Sociology and the Divisions of Biological and Social Anthropology within the Dept. of Archaeology and Anthropology. There are also a variety of support functions such as central library facilities and a number of large lecture theatres including the 450 seat Babbage Lecture Theatre; one of the largest in the University.

4.4.2 All of this is used almost exclusively for teaching and research. Two of the University's museums, the Museum of Zoology and the Whipple Museum of Science, which are used for teaching and research but also encourage non specialist visitors, are located on the site. The University's Sedgwick Museum of Earth Sciences and the Museum of Archaeology and Anthropology are located close by on the south side of Downing Street. In addition, the University will be providing accommodation for the Cambridge Conservation Initiative in which a number of non-university conservation organisations will be tenants from 2016.

4.4.3 The site is surrounded by a wide variety of land uses as is typical of Cambridge city centre, with Colleges, shops, restaurants, businesses and civic and cultural amenities all within a short distance.

THE EXISTING SITE
PLAN NO 8: LAND OWNERSHIP & USE



LEGEND

- Site Boundary
- University Ownership
- Held by the University on a long lease
- College Ownership
- College Owned (but including other commercial uses)
- Civic Building
- Churches
- Commercial & Retail
- Residential
- Market Square

4.5 Transport Connections

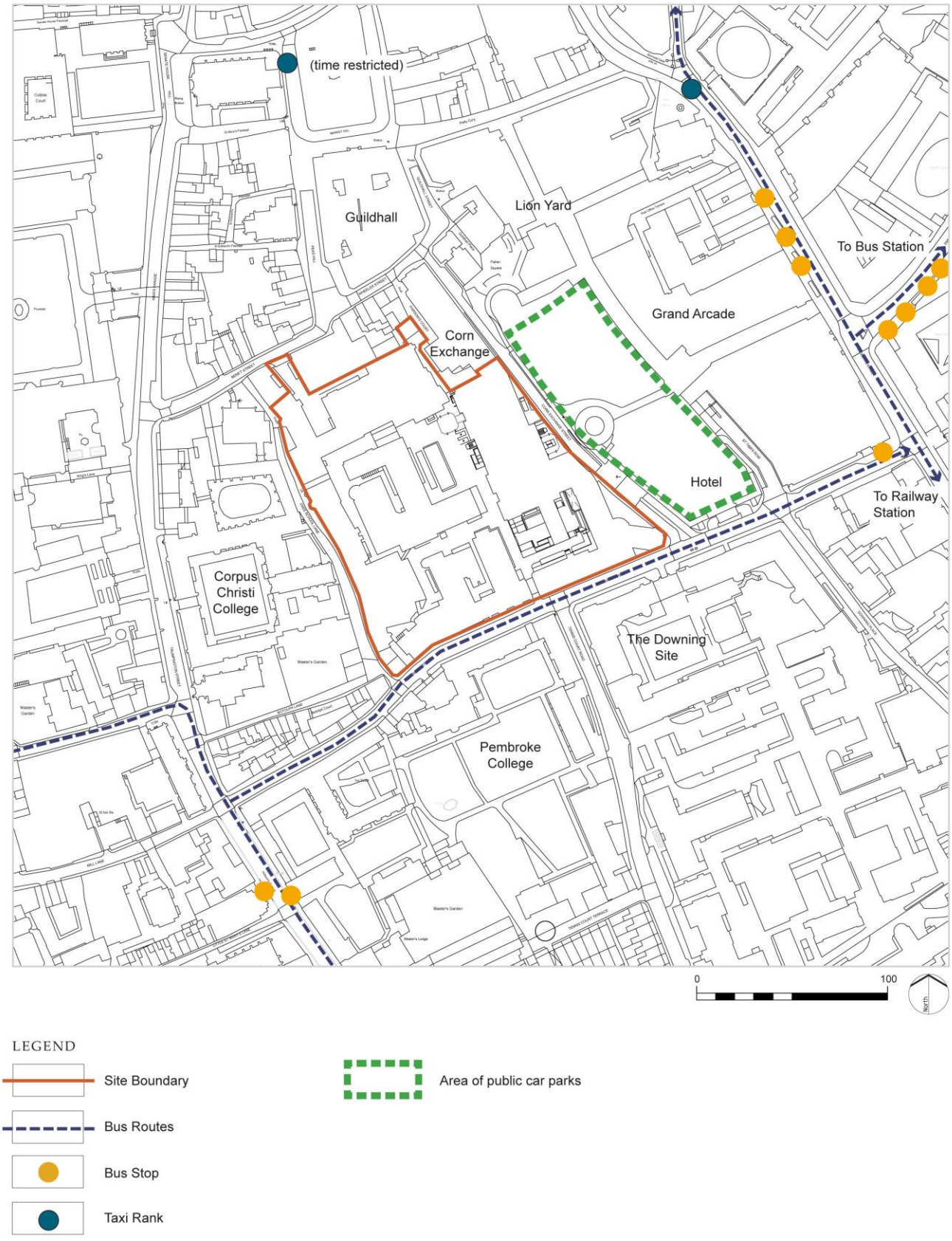
4.5.1 The site is well connected to the wider city beyond the immediate city centre in terms of public transport, as shown on Plan 9. The Trumpington Park and Ride bus stops on Downing Street itself, the Uni 4 passes the end of Pembroke Street along Trumpington Street to the other main University sites and the main bus station is only a few hundred yards away. A taxi rank is also nearby on St Andrews Street and the railway station is approximately 1 mile away with links to London, Stansted Airport and other major transport hubs.

4.5.2 Downing Street and Pembroke Street are a part of the main one way traffic route through the town centre and provide access to Corn Exchange Street from which the city centre car parks are reached. As such they are busy roads and queues frequently form along these roads along the southern edge of the site. A pelican crossing links the site to the University's Downing Site to the south east but the quality of the environment for pedestrians - with narrow pavements of inadequate width to accommodate the numbers of users, especially at busy times, and those with particular needs - could be improved.

4.5.3 Large vehicles, including articulated lorries, use the route along Pembroke Street, Downing Street and Corn Exchange Street to service the Corn Exchange and the Arts Theatre as well as commercial premises along Wheeler Street and Benet Street.

4.5.4 There are contraflow cycle lanes on all the surrounding streets. Cycle hoops are located on Free School Lane.

THE EXISTING SITE
PLAN NO 9: PUBLIC TRANSPORT



4.6 Access into the Site

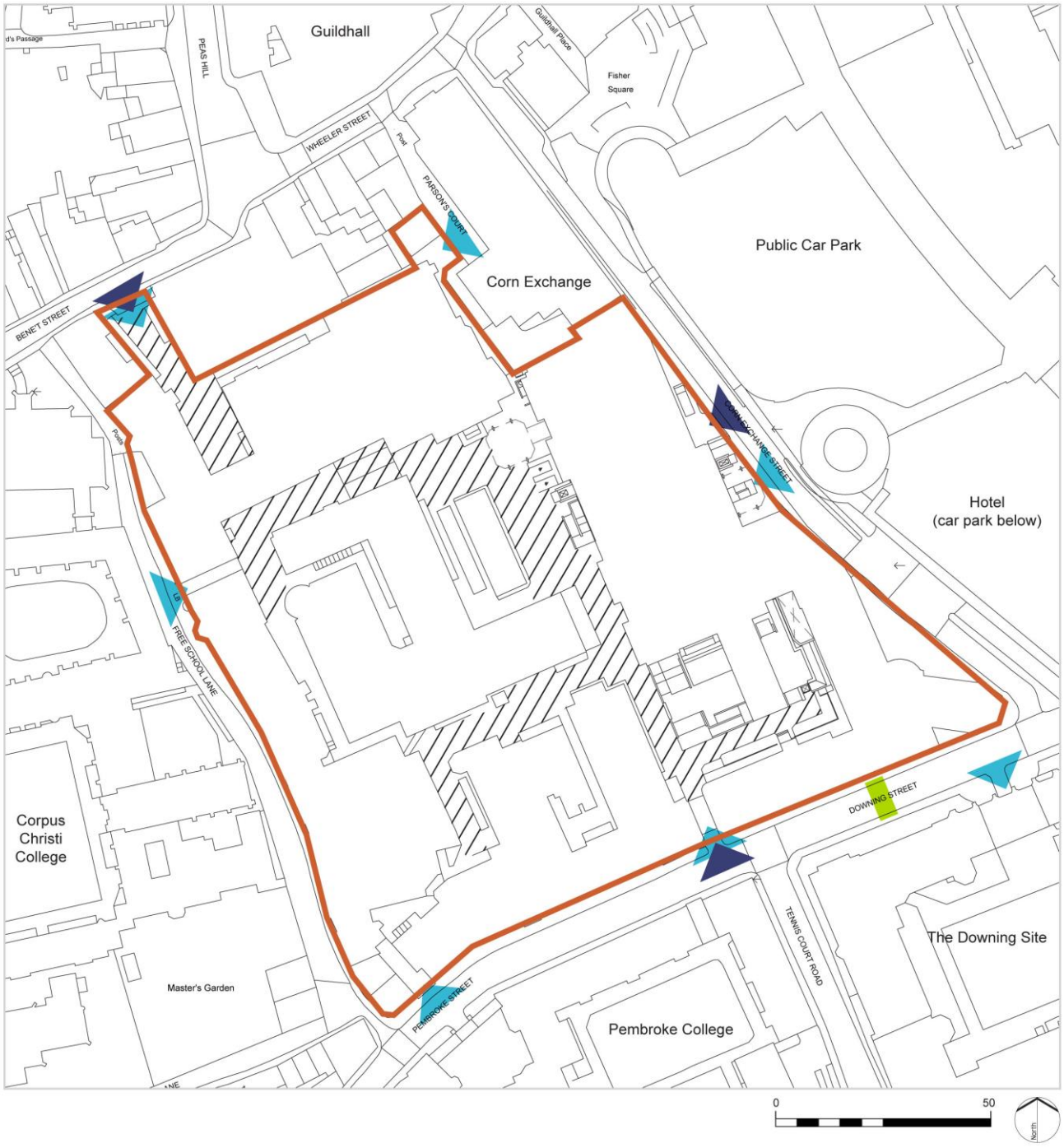
4.6.1 Access into the site is currently very poor, as highlighted by Plan 10. The main entrance is through the arch in the Zoology Building on Pembroke Street, almost opposite Tennis Court Road. This provides the only vehicular access to the interior of the urban block and there are significant problems caused by the needs of different users. This is a particular problem in term time when there are large numbers of undergraduate students accessing the large lecture theatres on the site.

4.6.2 Other places for pedestrian access to the site for the public are via the entrances in the Old Cavendish Laboratory at the northern end of Free School Lane, the Heycock Wing at the south west corner of the site on Pembroke Street, and via an alley adjacent to the Corn Exchange.

4.6.3 A service yard with car parking spaces is accessed from the north via Bene't Street. Members of the University can access the NMS through the Arts School building, the entrance to which is via this yard.

4.6.4 There is a layby for the delivery of goods on Corn Exchange on the east side of the David Attenborough Building.

THE EXISTING SITE
PLAN NO 10: EXISTING ACCESS INTO THE SITE



LEGEND

- Site Boundary
- Areas to which motor vehicles currently have access
- Pedestrian Access
- Pedestrian Crossing
- Current Vehicle Access

4.7 Quality of the External Spaces and Movement within the Site

4.7.1 Plan 11 shows the location of external spaces on the site. Most of the external space on the ground level of the site is given over to parking for motor vehicles though cycle parking stands have been introduced to some of these spaces as part of the University's plan to generally reduce car parking and increase cycle parking provision. None of this space can be described as a public realm though it is publicly accessible. The David Attenborough Building was designed, as was typical at the time, with a raised public podium to separate the public- pedestrian realm from the service areas on the ground level. This was not successful due to the lack of connectivity and continuity with the wider city and to the lack of facilities on the podium.

4.7.2 Circulation within the site is chaotic due to the piecemeal development, the ad hoc nature of the external spaces and the prominence given to motor vehicles. Wayfinding is very difficult and public access to the Museums is confusing. Current work to the David Attenborough Building is improving this through the construction of a new stair up to the podium and a new external stairs from Corn Exchange Street.

4.7.3 Access and movement around the site is particularly poor for those with limited mobility due to the presence of motor vehicles though the site is fundamentally level. Again, improvements are being made through the works to the David Attenborough Building.

THE EXISTING SITE
PLAN NO 11: EXISTING EXTERNAL SPACES

4.8 Landscape Features and Ecology

4.8.1 As can be seen from Plan 12, there are no significant landscape features on the site other than a small area of garden at the northern end of Free School Lane outside the Old Cavendish Laboratory. Within the interior of the block there is a self-seeded tree at the southern end of the Mond Building and some planting, including a Birch tree, in a raised bed adjacent to the Old Physical Chemistry Building. None of this has high ecological value. The work to the David Attenborough Building includes a green roof designed to encourage biodiversity on the site and an area of planting with a tree on the raised podium outside the new entrance foyer to the Museum of Zoology, and on Corn Exchange Street. Bird boxes, bat boxes and 'insect hotels' are also included in these works.

4.9 Townscape

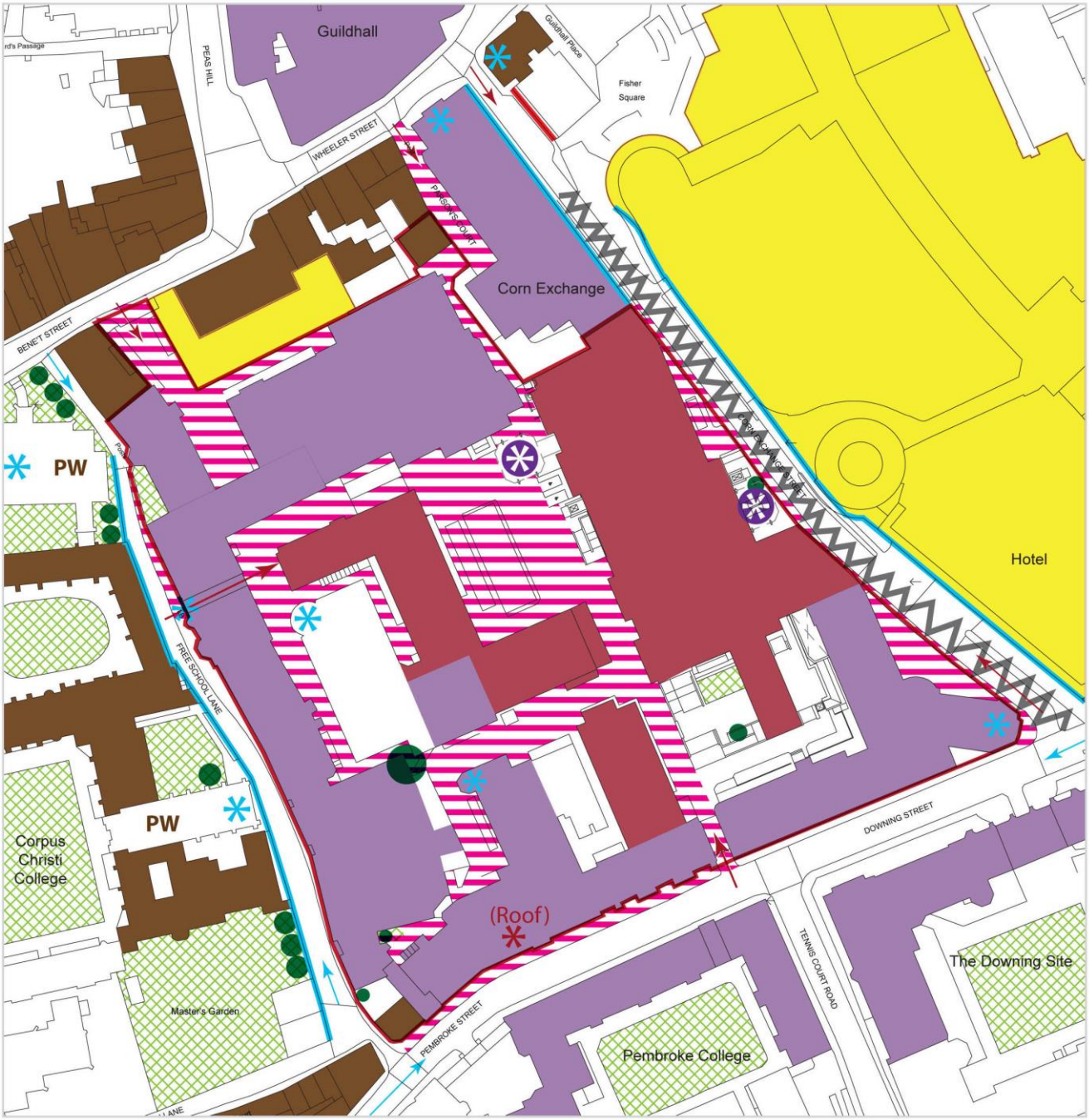
4.9.1 The quality of the public realm within the site, as illustrated in Plan 12, has been identified as a key issue throughout the latter half of the 20th century to the present day. The problem is the piecemeal way in which the interior of the site developed with buildings erected as needs and budgets were identified rather than to conform to any particular plan.

4.9.2 Some of the buildings within the site are rather utilitarian, whilst others have positive features, but in many respects, the problem is how the buildings relate to each other. The quality of the spaces is extremely poor with many buildings extended or modified to the rear to accommodate all the necessary plant, flues, ducting and fire escapes, leaving little intervening space.

4.9.3 The space which does remain is dominated by car parking and utilitarian tarmacadam surface treatments to allow vehicular access, at the expense of pedestrians and cyclists. Soft landscaping within the site is limited to the small raised courtyards outside the Zoology Museum, the tree adjacent to the Balfour Building, some shrubs in the south west corner of the site and the area of planting on Free School Lane outside the Raleigh Wing. The settings of the heritage assets and the interior of the site's contribution to the conservation area is therefore extremely poor.

4.9.4 The exterior of the site, the south and west-facing street frontages, however contribute hugely to the townscape character of Free School Lane and Pembroke/Downing Street. The buildings of the site are an integral part of the townscape of these streets, complementing the buildings of the Downing Site and Pembroke and Corpus Christi Colleges. This is slightly marred by the large box addition to the roof of the former Chemical Laboratories. In common with the interior of the site, soft landscaping is limited, and there is only a small patch of shrubs outside the Rayleigh Wing, reputedly the last remnant of the original Botanic Garden.

THE EXISTING SITE
PLAN NO. 12 TOWNSCAPE QUALITY



KEY

- New Museums Site
- Negative floorscape
- Domestically scaled traditional buildings (2-3.5 stories approx.)
- C20 University buildings
- C20 Large scale commercial development
- Traditional institutional scale buildings
- Green space
- Positive local feature
- Negative local feature
- Negative view
- Positive view
- Negative frontage
- Positive frontage
- Barrier to movement
- City Landmark building
- Tree
- PW Place of worship

4.9.5 The site's contribution to the north, to Bene't Street and Wheeler Street (including Parson's Court) is far more limited as the site has no direct frontage onto these routes except for No.4 Parson's Court. Only poor quality glimpsed views are possible of the site's buildings from these streets.

4.9.6 The site's contribution to the east, to Corn Exchange Street, is entirely generated by the monumentality of the David Attenborough Building which contributes to the 'service route' character of this street.

4.10 Roofscape

4.10.1 At roof level, aside from the towers of the David Attenborough Building, the site does not feature strongly in the city's skyline, and there are limited points outside the site from where it is seen at a raised level.

4.10.2 In street views, the traditional, largely Victorian/Edwardian properties of Free School Lane and Pembroke/ Downing Streets with their variety of pitched roof forms contributes positively to the character of these streets. The notable exception is the large later 'box' addition on top of the Old Metallurgy Building, which hides the attractive ventilation shaft of this building.

4.10.3 Along Pembroke/Downing Streets, the variety of pediments that break the strong parapet line is a particular feature of the built form on this route, and echoes that of the Pembroke College buildings on the opposite side of the road. The stepped gables of the remodelled Perse School and the cupola of the old hall within this complex are attractive features of Free School Lane's roofscape, complemented by the use of half-dormers on the Old Cavendish Laboratory.

4.10.4 Views across the site from raised points nearby, including Great St Mary's Church tower and the Grand Arcade multi-storey car park, show the variety of roof forms within the site. Chimneys, skylights, attic windows and a mixture of gabled/hipped roofs are prevalent amongst the traditional properties, whilst the later 20th century buildings have either flat roofs or mansard roofs and a large number of flues or other paraphernalia. However, dominating the eastern part of the site is the considerable mass of the David Attenborough Building.

4.10.5 In common with much of the historic core, the prevailing feature of the site's roofscape is its variation, a consequence of 150 years of continual development. It diverges between single storey to eleven storeys and traditional pitched roof forms and materials to flat roofs; all across one city block of approximately 1.5ha.

4.11 Infrastructure

4.11.1 The infrastructure on the site and the servicing of individual buildings on the site has developed in a piecemeal fashion over time. The systems are therefore complex, confused and inefficient and as a result very difficult to maintain and adapt.

4.11.2 Energy use is high due to the nature of the various buildings on the site.

4.11.3 There is no attenuation of storm water drainage.

5.0 PARAMETERS FOR CHANGE

5.0.1 This section of the SPD identifies the constraints and opportunities that will shape how future development of the NMS will take place.

5.0.2 A total of four key "parameters" are set out here. They include connectivity and movement; open space and the public realm; built form; and sustainability. Proposals on the NMS site should be in broad compliance with the parameters as set out herein.

5.1 Connectivity and Movement

a. <u>The Urban Block</u>

5.1.1. The NMS is the larger part of an existing urban block which has been formed through the long historical development of the city. The block makes an essential contribution to the Central Conservation Area through its definition of urban structure and through the architectural quality and variety of the frontages of the buildings around the perimeter, particularly along Downing Street and Free School Lane. Its fundamental form and identity should remain unchanged.

5.1.2 However, the block fails to contribute to the wider context in two crucial respects. Firstly its perimeter is very closed and does not engage with the surrounding streets; and secondly, the interior of the site provides no clear routes or open spaces of any quality to contribute to the grain and continuity of the wider public realm.

b. Urban Connectivity

5.1.3 Opportunities should be explored to improve the quality of the public realm outside the boundaries of the site and to better the relationship of the NMS to the wider city centre more generally and to the University's other city centre sites more specifically. This will require consideration of improvements to the surrounding streets as part of the public realm and as part of the city centre traffic management plans. Cambridgeshire County Council, on behalf of the City Council and other stakeholders, entered into the City Deal with central government in 2014 to help deliver economic benefits through improvements to transport infrastructure in and around the city. Along with improvements to the public realm which can be made by the University of Cambridge, the City Deal offers a potential opportunity to improve wider accessibility of the city centre to the benefit of the NMS site.

5.1.4 A recent study known as the Cambridge City Centre Access Study – DRAFT (January 2015) prepared by Beacon Planning and led by the City Council also recommended areas for improvement within and around the city centre. Recommendations from this study will be considered further in respect of how improvements in the surrounding public realm can provide mutual benefit to the NMS and the public using surrounding streets. The report and relevant council meeting minutes (Community Services Scrutiny Committee, 19 March 2015) related to this study may be found at:

http://democracy.cambridge.gov.uk/ieListDocuments.aspx?CId=176&MId=2574&Ver=4

5.1.5 Corn Exchange Street is the vehicle entrance and exit to the main city centre car park which is part of the Grand Arcade. If it were possible, this location would benefit from increased areas of pavement in order to improve the safety of pedestrians, (such as those being implemented at the time of writing as part of the works to the David Attenborough Building), but it is unrealistic to imagine it becoming a principal place of arrival for pedestrians or for it to be more than the service road it has become.

5.1.6 Free School Lane on the other hand is a unique and high quality part of the Central Conservation Area. It provides a pleasant and enjoyable place in which to experience many Listed Buildings and the scale of a medieval street with views of St Benet's Church and King's College Chapel beyond. The entrance to the Whipple Museum however, though charming in its scale, is unsatisfactory in terms of access. Opportunities to address this issue and to make the Museum more visible should be explored.

5.1.7 Wheeler Street, to the north, is a busy and energetic part of the city full of character with a number of retail units, public houses and St. Benet's Church. The NMS faces onto the street with a nondescript yard currently used as a car

park and service area. This should be improved so that the University's presence in the city is made more visible and the street scene improved, in this case especially from Bene't Street.

5.1.8 Pembroke Street and Downing Street form a complex place which is an important part of the city centre, with many buildings of high quality and its own particular spatial and architectural character. Four of the University's internationally important museums are located along the street, as well as one of the largest hotels in the city, and it forms a key link between the mostly University and College focussed area along Trumpington Street and the commercial area along St Andrews and Regent Streets.

5.1.9 Pembroke and Downing Streets are, however, dominated by vehicular traffic flows resulting from the current city centre traffic system, with particularly congested junctions at the intersections with Trumpington Street and with Tennis Court Road.

5.1.10 A future, wider re- consideration of city centre traffic movement might address the various issues posed by this problem but, in the specific context of the NMS, it is the area defined by the existing entrance loggia to the Downing Site to the north and east, and the junction with Free School Lane to the south and west, that is crucial.

5.1.11 The adoption of a less conventional approach to the design of the highway in this area and the prioritisation of pedestrians would not only facilitate better and safer movement between the sites for the large numbers of members of the University who travel between them, but would also better connect the Museums and create opportunities for them, and the University generally to engage in the wider public realm. Such a space would need very careful design to make drivers aware of the changed priorities and their responsibilities. The design of the paving, the introduction of trees and a system of controlling traffic queuing for the car park during busy periods could all potentially play a part in this.

5.1.12 There is a potential opportunity to introduce small specialist retail outlets at ground level along Pembroke Street which would help activate this street scene. The appropriateness of any outlets would, however, need to be tested at a detailed level, in particular in respect of appropriateness of fit with the heritage assets and accessibility in this part of the site.

c. <u>Site permeability</u>

5.1.13 An increase in the permeability of the site for pedestrians is critical and must be delivered as part of the redevelopment of the site. This can only be achieved through the creation of new entrances, and, as identified on Plan 13 specific opportunities which exist are as follows:

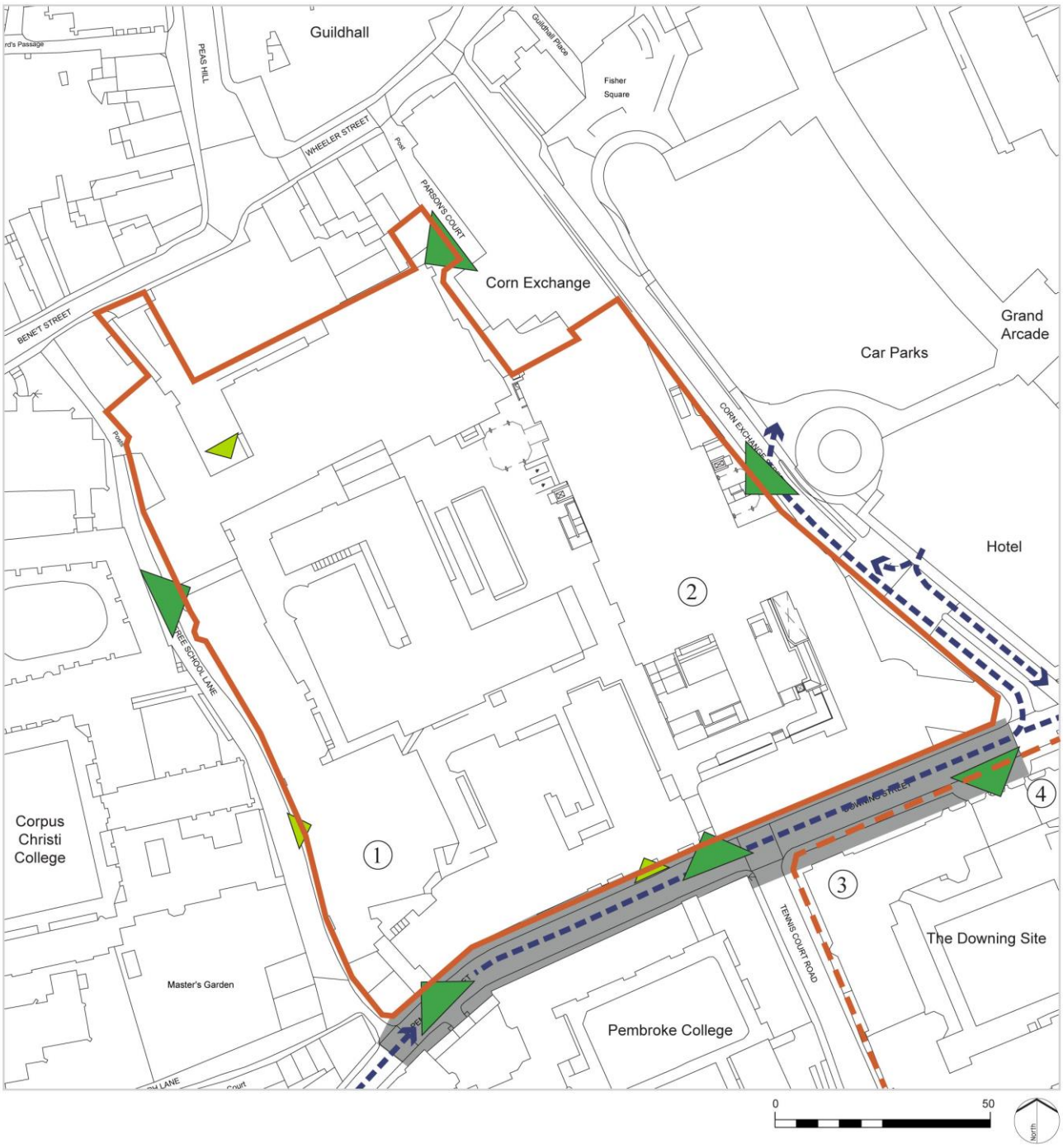
- Pembroke Street. Pembroke Street is the main and busiest public street relating to the NMS and as such a primary public entrance, or 'front door', to the site is required. The street frontage is an important part of the central conservation area but sensitive and creative architectural design could engage with the existing buildings to make this frontage more permeable at ground level.
- Off Bene't Street through the yard onto which the Arts School faces. (Bene't Street Yard). This existing yard is currently used as a car park and the view into it from Bene't Street is terminated by the almost blank and very plain back wall of the Cavendish Laboratory. Though this is a Listed Building, existing window openings could be sensitively adapted and possibly enlarged to provide a new entrance with a view into the site in association with general environmental improvements to the yard and the way it engages with the street.
- Free School Lane. The current public entrance to the Whipple Museum is unsatisfactory for both members of the public and the Department of the History and Philosophy of Science in which it is located. Access for disabled and those visiting as groups is via a lift which is located at the rear of the building accessed from within the site itself. If done with sensitivity to the existing buildings in this location, an opportunity exists in the notional gap between the geometries of the Old Physical Chemistry Building and the Phoenix Building to create a new entrance leading into a new foyer. This would separate the public and department entrances and improve disabled access while at the same time forming a new entrance to the site as a whole.

There are limited opportunities for improvement to the existing access way to the site via Parson's Court at the northern end of the site due to its use as a spill out space for the technical and ancillary areas of the Corn Exchange, though this route will be maintained.

d. <u>Vehicular Access</u>

5.1.14 Access to the site by motor vehicles shall be limited to the minimum requirements to meet those needs which cannot be met in any other way. Access control mechanisms will ensure that motor vehicles do not casually enter the site without prior permission. Movement within the site will be limited to have a minimum impact on the layout and quality of the public spaces with parking constrained to those areas adjacent to the vehicular access points. The proposed arrangement of managing motor vehicles is shown on Plan 14.

DEVELOPMENT FRAMEWORK
PLAN NO 13: ACCESS, ENTRANCES & PUBLIC REALM OUTSIDE THE SITE BOUNDARY



LEGEND

- New Museums Site Boundary
- New Museums Site Boundary
- Existing site entrance
- Approximate location for new site entrances
- Area of public realm improvements
- Primary traffic route

University Museums

1. Whipple Museum
2. Zoology Museum
3. Museum of Archaeology & Anthropology
4. Sedgwick Museum of Earth Sciences

e. Service Vehicles

5.1.15 Service vehicles will as a matter of course be directed to the layby and goods in/out facility on the lower ground floor of the David Attenborough Building on Corn Exchange Street. Specialist service vehicles will be permitted to enter the site when necessary by prior arrangement.

5.1.16 Waste from the various University institutions on the site will be stored in a central location from where it can be removed by specialist vehicles accessing the site via the Pembroke Street arch.

f. Parking for the disabled

5.1.16 Disabled parking spaces will be provided in both Bene't Street Yard and at the entrance to the site from Pembroke Street.

g. Emergency Vehicles

5.1.17 Access to the site for emergency vehicles will continue to be limited by the size of the existing entrance through the archway leading from Pembroke Street. The movement of a fire tender able to enter the site through the existing arch around the site will be facilitated to allow fire-fighting. Dry horizontal 'risers' will be provided where it is not possible to provide tender access.

h. Shared Use Cars

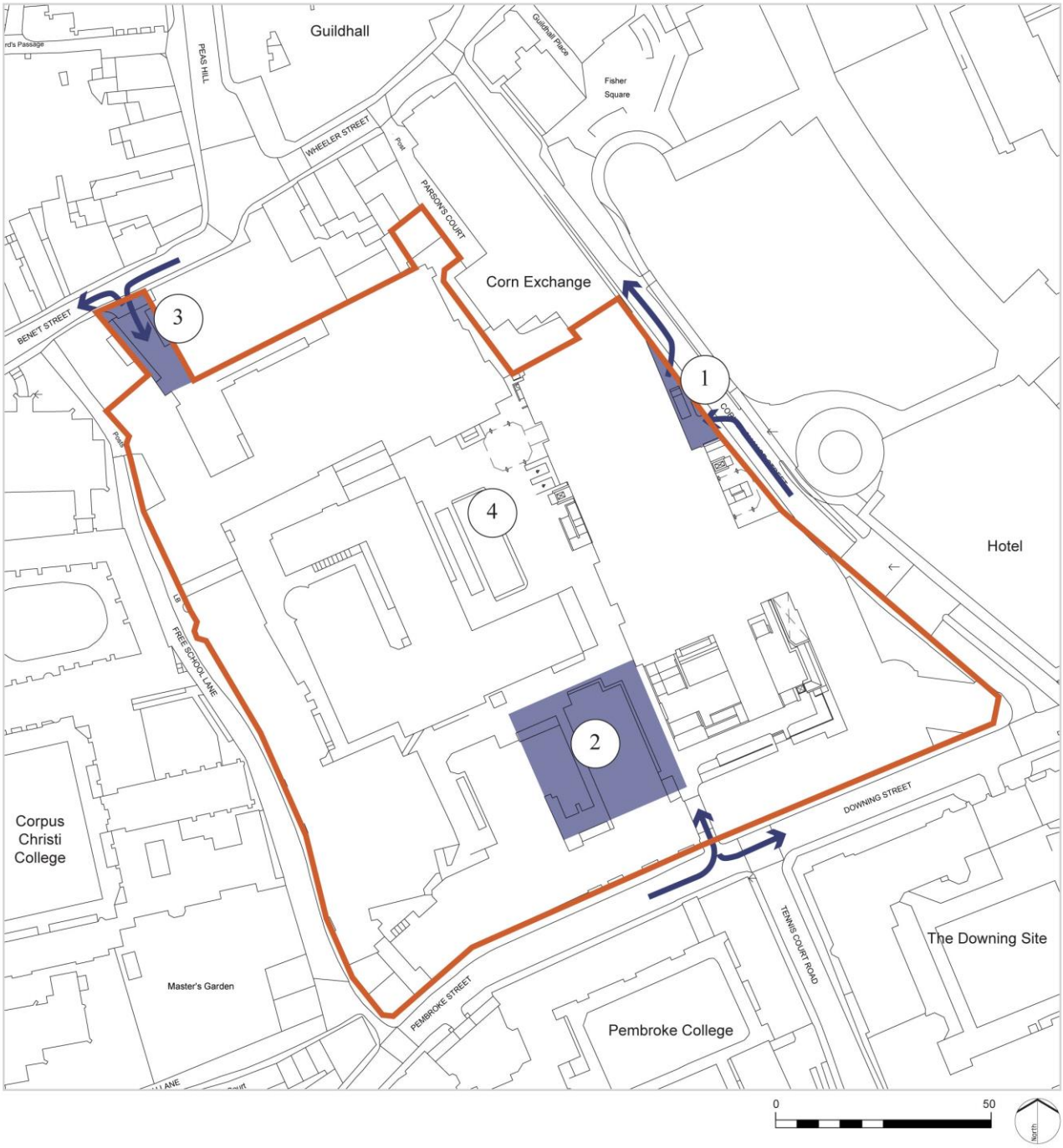
5.1.18 A small number of parking spaces for University vehicles provided for the use of staff on essential business and available via a central booking system will be provided near the main vehicle entrance from Pembroke Street.

i. Bicycles

5.1.19 Access and parking facilities for bicycles will be improved. Parking facilities will be provided in a manner such that they do not dominate and overpower the open spaces. Underground parking will be provided where possible either in existing basements or through the use of proprietary systems with clusters near the main entrances. Imaginative and creative solutions to this issue will be encouraged.

5.1.20 Ancillary facilities such as showers, lockers and basic maintenance facilities (compressed air) should be provided at key points and where possible in new development.

DEVELOPMENT FRAMEWORK
PLAN NO 14: MANAGEMENT OF MOTOR VEHICLES



LEGEND

- Site Boundary
- Areas of the NMS with access by motor vehicle
- Direction of travel
- 1 Service Layby
- 2 Disabled parking, specialist service and waste vehicles
- 3 Disabled parking
- 4 Emergency vehicles only

5.2 Open Space and the Public Realm

a. Public Realm within the site

5.2.1 The creation of high quality open spaces within the site is also a priority. These spaces should provide the clarity, cohesion, continuity and spatial identity for the site which it is currently lacking. They should also provide more appropriate settings for new buildings and the Listed Buildings on the site and make the heritage of the site more accessible and visible.

5.2.2 Opportunities exist for three new main primary open spaces (referred to as A, B and C respectively on Plan 2: Illustrative Masterplan and as shown on Plan 15 below):

- An entrance court on the site of the existing Shell Building. This would be the main reception space to the site accessed from Pembroke Street. It should be a place of welcome and orientation and should be able to cope with the numbers of people and groups of people visiting the site and the Museums on it. The foyer to the Museum of Zoology and the café on the podium of the David Attenborough Building (under construction at the time of writing), as well as the foyer of the Whipple Museum, should address and be accessed from this space. The space should also have a scale appropriate to this part of the site as determined by the monumental character of the David Attenborough Building and the frontages of the buildings facing onto Downing Street and Pembroke Street.
- A central court in the existing area between the David Attenborough Building, Cockcroft, Austin and Examinations Hall buildings .This should be the heart of University life on the site and form an open air 'foyer' to the Babbage Lecture Theatre, which is one of the two large University lecture theatres in the city centre, and the Examinations Halls. The space should also be used to create terraces or steps that could mediate between the ground level and the raised podium of the David Attenborough Building, and mitigate its unwelcoming face at ground level.
- A third court. A welcoming open space, reached and visible through the existing archway from Free School Lane and a possible new entrance from Bene't Street, could be created to form a new and appropriate setting for the entrance drum to the Mond Building. The character of this space should reflect the smaller scale of the buildings and urban grain in this part of the city.

5.2.3 The site is the property of the University and as such access to the site, including the open spaces, will be controlled for reasons of security and safety. In general however, they will be open to the public and will form a part of the public realm of the city. Even spaces such as the Babbage Lecture Theatre, which will generally be private spaces for University teaching, will

on occasion become a part of this public realm at certain times when, for example, they become venues for public lectures; a function that will be encouraged and facilitated by the redevelopment.

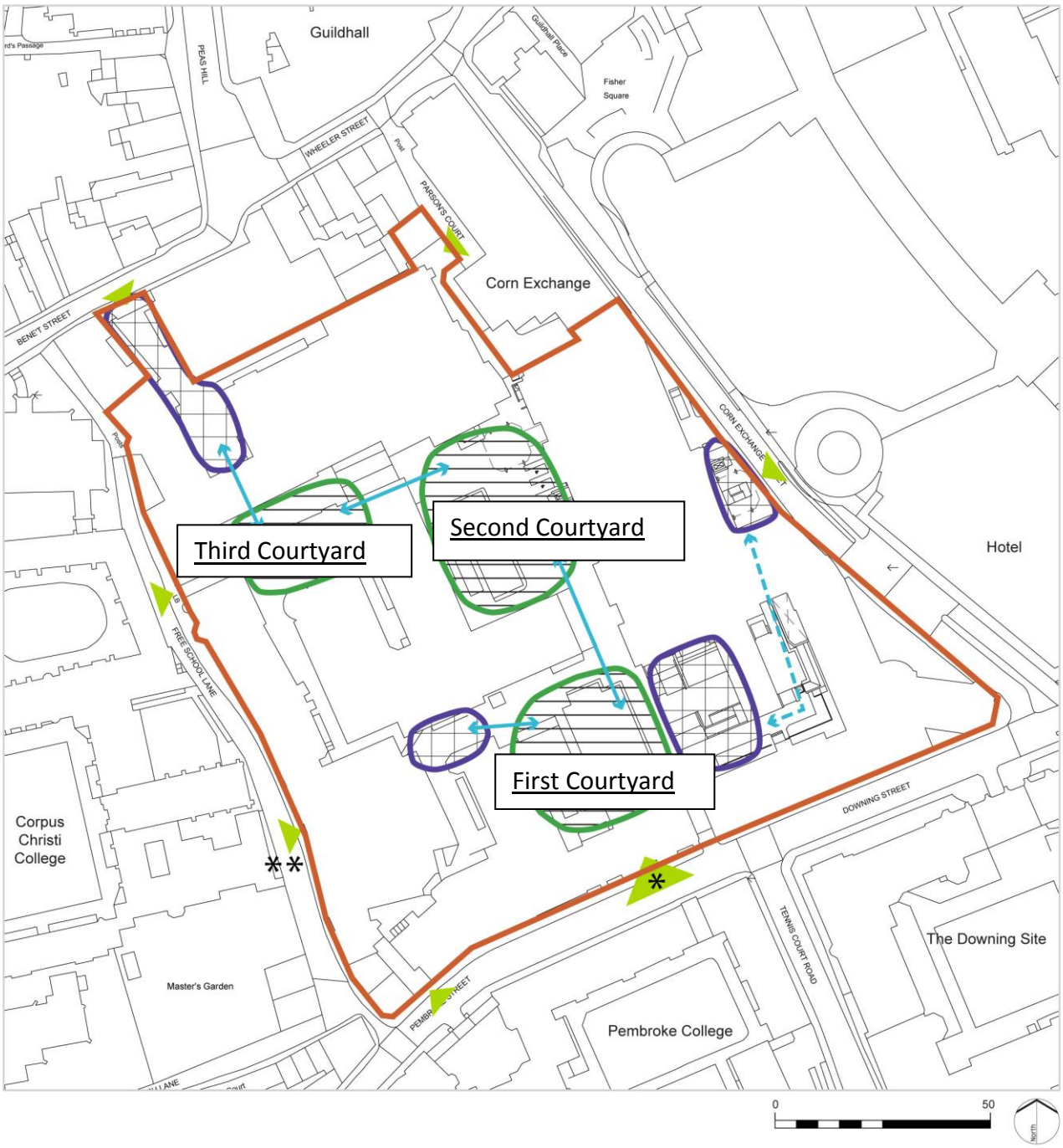
5.2.4 Both open and enclosed secondary and tertiary spaces, of a smaller scale and less public nature, should also be created as a continuation of the public realm, thereby spatially linking institutions within the University and providing variety to the grain and scale of the townscape.

5.2.5 The design of open spaces should be developed to relate and give structure to existing facilities and buildings. Consistent specification of paving materials, signage, furniture and fittings and the detailed design of build elements such as steps, ramps, raised planters and tree pits should allow for a coherent approach to open spaces across the site.

5.2.6 The new open spaces should be planted with trees in such a way that they contribute to the spatial structure of the place. The areas underground should be used for storm water attenuation and surface water features relating to this, which would make an important contribution to the quality of the environment, should be incorporated where possible.

5.2.7 External lighting should be discrete to avoid light pollution and optimise energy use but should nevertheless fulfil its functions in creating a safe and legible environment through the illumination of key features such as entrances, art work, primary pedestrian routes and vistas.

DEVELOPMENT FRAMEWORK
PLAN NO 15: PROPOSED OPEN SPACE & THE PUBLIC REALM



LEGEND

- Site Boundary
- New areas of open spaces
- Pedestrian routes between open spaces
- Existing area of main open space upgraded
- Public entrance to the site
- Main public entrance to the site
- ** Public entrance to the site - via Whipple Museum foyer

b. Public Art

5.2.8 Public art should be delivered across the site in a holistic and coherent way and a strategy to deliver this will be submitted with the first major proposal for redevelopment.

5.2.9 Public art should engage with the site's heritage and its continuing importance to public life and knowledge.

5.2.10 Public art should contribute to other important issues addressed in this SPD such as the quality and cohesion of the public realm, the creation of comprehensible and high quality external spaces, public engagement and interpretation of heritage.

c. Heritage

5.2.11 The site has an extraordinarily rich history but this is largely invisible or inaccessible except for the presence a number of wall plaques. The heritage embedded within the site, including its archaeology; use as a botanic garden; contributions to the history of science and the architecture of special interest, will be made more accessible by the creation of a significant public realm, as described in previous sections, and through public art and information systems including technologies such as smart phones and Wi-Fi. The history of the University as well as the current and future contributions being made by those working on the site will also be made more accessible in this way.

5.3 Built Form

a. Existing Buildings

5.3.1 The existing buildings on the site have suffered from the need to adapt them to modern functional requirements for laboratories and other specialist uses over a long period of time. The University's initiatives in relocating the science orientated departments that have a need for such facilities to West Cambridge and for re-using the buildings as accommodation for the Humanities and Social Sciences, which are largely desk based activities, provides an opportunity to remedy the situation.

5.3.2 The plethora of plant mounted on the rear elevations of the buildings, for example, should be addressed as should inappropriate roof top additions and the current situation in which buildings around the perimeter of the site now turn their backs to their surroundings as a result of functional needs within, with many blacked out windows. Creative adaptation and restoration of the interiors of these buildings would improve their contributions to the public realm outside and is to be encouraged. Opportunities to improve the

relationship of the brick plinth of the David Attenborough Building to its surroundings should be explored.

b. New Buildings

5.3.3 Existing buildings will continue to determine the overall visual character of the site but the creation of new open spaces and the introduction of new facilities within new buildings within the site will require the demolition of some structures and, in turn, the re-provision of useable space elsewhere on the site.

5.3.4 Opportunities also exist for new buildings to replace existing buildings of a lesser quality. These are primarily in the centre of the site where much ad hoc development took place in the mid-twentieth century to meet the urgent space needs of the Dept. of Physics and where the contribution of the townscape to the Historic Core Conservation Area is negligible or non-existent.

5.3.5 New buildings should be considered firstly in relation to the structure of the external spaces and the need to provide natural light and sunshine into the interior of the site. The height of buildings in this respect is of key importance and proposals for new buildings will need to demonstrate their impact on the quality of the external spaces through daylight and sun path modelling. New buildings must also be of a height appropriate to the historic context of the site and not "compete" with existing buildings and the site in its immediate and wider townscape.

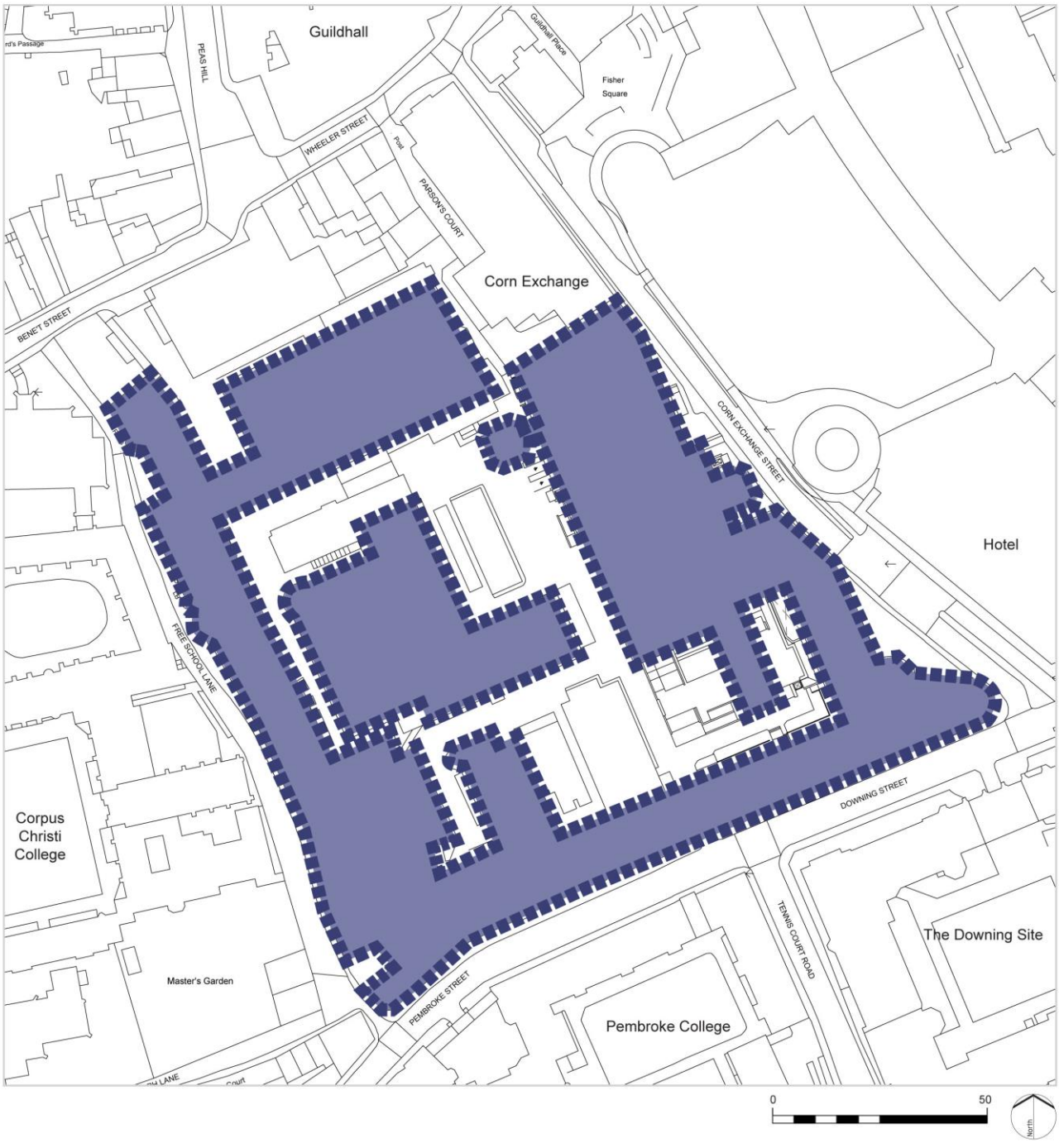
5.3.6 Entrances should be orientated towards the public spaces and ground floors should contribute to the activity and life of the public realm where appropriate.

5.3.7 Roofs should be designed to add to the grain and variety of the city roofscape and roof top plant should be avoided if possible. Any new roof plant should be positioned discreetly on roof tops and screened appropriately.

5.3.8 New buildings on the site should be designed to a high standard and to address contextual issues including scale, size, the use of materials and the way in which openings in facades are formed.

5.3.9 The proposed built form is annotated with the existing and proposed building footprints on Plan 16.

DEVELOPMENT FRAMEWORK
PLAN NO 16: PROPOSED BUILT FORM



LEGEND

Approximate outline of built form

Note 1: Includes existing and future building frontages
Note 2: Building alignment/ outline is indicative only

5.4 Sustainability

a. Sustainability

5.4.1 Creating a sustainable place within the city should be a priority underpinning all initiatives to redevelop the site and a holistic and site wide approach, addressing environmental, social and economic issues is required. These should include;

i. Health and well-being of occupants and visitors
ii. Energy efficiency of new buildings
iii. Design for climate change
iv. Water use
v. Flood mitigation
vi. Use of materials and resources
vii. Waste
viii. Employment opportunities
ix. Pollution
x. Transport and mobility
xi. Conservation of heritage assets in a manner appropriate to their significance

5.4.2 Specific initiatives to be included are

i. A Combined Heat and Power network driven from a site wide energy centre
ii. A site wide storm drainage scheme to attenuate storm water run-off from the site is to be implemented using green roofs and storage of water below open spaces
iii. Reuse of existing structures and materials arising from the works itself
iv. Specification of materials with a view to social and environmental impacts
v. Initiatives and infrastructure in support of sustainable modes of travel
vi. Technologies, especially photovoltaics to generate renewable energy where appropriate on new roofs
vii. Improved infrastructure reducing risks of pollution and noise
viii. Design of new buildings using passive environmental control principles, natural ventilation and natural daylighting
ix. Improved air quality and decrease in noise pollution through the management of vehicles and plant
x. Conservation of heritage assets in a manner appropriate to their significance

5.4.3 Though standard industry-wide assessment methods should be used where appropriate (such as in the construction of new buildings for example), a less rigid approach should be considered with regard to existing buildings and the site as a whole. Specific issues should be addressed and benefits sought though the setting of real and challenging targets and through the monitoring

of achievements against those targets rather than through the application of prescribed criteria, which might not be relevant in this unique location. Other sections of this document are also relevant to the wide agenda of sustainability.

b. Ecology

5.4.4 There are many opportunities for the ecology and biodiversity of the site which currently has very low ecological value. Initiatives should be developed in the context of wider plans for improvements to the ecology and biodiversity of the city centre and to locations situated within Cambridgeshire. Such initiatives would be particularly appropriate given the site's history as the University Botanic Garden.

These should include the provision of;

i. Trees and planting throughout the site where appropriate
ii. Water resources at both ground and higher levels (in association with SUDS and landscape features where possible)
iii. Nesting opportunities for a variety of bird and bat species
iv. Habitats for insects

5.4.5 New and existing flat roofs provide a specific opportunity to improve the ecology of the site and to contribute to the general increase in the biodiversity of the city centre. The creation of calcareous grasslands, which are a feature of the region, should be considered together with neutral grassland environments. A variety of substrates and microclimates have a part to play and both green and brown roofs, which support much needed habitats for invertebrates, are desirable. The installation of photovoltaics on roofs should not prohibit the creation of planted roofs as the shade will add variety to the environmental conditions.

5.4.6 Opportunities for the creation of green walls comprising climbing plants should be explored in north and east facing walls to provide nectar sources for invertebrates and cover and night roosting sites for birds.

5.4.7 Initiatives that link the provision of ecological enhancements with the public art strategy should be explored.

c. Infrastructure

5.4.8 Infrastructure on the site should be improved where possible through rationalisation and consolidation of services in order to ensure fitness for purpose and minimisation of disruption in the future.

5.5 Phasing and Implementation

5.5.1 The New Museums Site is home to a number of University departments and Museums, and learning and teaching spaces, and most of the site will remain in operational use as development comes forward. It is likely that change will be delivered over a number of years and phases. The Masterplan identifies discrete areas on the site where development is likely to come forward at the same time.

5.5.2 The phasing of development of these areas will need to be determined with detailed reference to the specific nature of the existing conditions, the proposals for change and the need to maintain a reasonable environment for those continuing to travel, live and work in the vicinity.

5.5.3 It is essential that each phase is approached as part of the larger redevelopment of the site and that design is focused on the quality and coherence of the site as a whole.

6. PLANNING OBLIGATION

6.1 As part of improving the immediate public realm around the site, the University should provide a contribution to the upgrading to those parts of Downing Street near the revised entrance to the site. Such improvements are necessary also to help improve the site relationship with the entrance opposite to the Biocentrum site, also known as the Downing Site, also a University facility. Agreement will be necessary with Cambridgeshire County Council on the design and implementation of such measures.

APPENDIX A - GLOSSARY OF TERMS

Active frontages
An active frontage is one which allows some kind of movement or visual relationship between the person outside and the activity inside. At a minimal level, this interaction might be one of simple observation such as a window display or people working. At a higher level of interaction, the pedestrian could be encouraged to enter the unit to buy something or participate in an activity. The most interactive frontages are usually those of cafés, bars or shops, which spill out onto the street.

Accessibility
The ease with which a building, place of facility can be reached by people and/or goods and services. Accessibility can be shown on a plan or described in terms of pedestrian and vehicle movements, walking distance from public transport, travel time or population distribution.

Articulation
The expression of the vertical or horizontal subdivision of a building facade into perceivable elements by the treatment of its architectural features.

Barrier
An obstacle to movement.

Biodiversity
Encompasses all aspects of biological diversity, especially including species richness, ecosystem complexity and genetic variation.

Biodiversity Action Plan (BAP)
A plan that sets objectives and measurable targets for the conservation of biodiversity.

Block/Urban Block
The area bounded by a set of streets and undivided by any other significant street.

Building element
A feature (such as a door or window) that contributes to the overall design of a building.

Building line
The line formed by the frontages of buildings along a street.

Built form
Buildings and their structures.

Bulk
The combined effect of the arrangement, volume and shape of a building or group of buildings. Also called massing.

Buildings of Local Interest
Buildings of Local Interest are not subject to statutory protection, but are recognised as being of importance to the locality or the City's historical and architectural development.

Cambridge Local Plan 2006
The Cambridge Local Plan 2006 sets out policies and proposals for future development and land use to 2016; the Plan will be a material consideration when determining planning applications.

City Centre
Historic Core and Fitzroy/Burleigh Street shopping areas in Cambridge. These areas provide a range of facilities and services, which fulfil a function as a focus for both the community and for public transport. See also Cambridge Proposals Map (February 2008).

Conservation Areas
Areas identified, which have special architectural or historic interest, worthy of protection and enhancement.

Desire Line
An imaginary line linking facilities or places which people would find it convenient to travel between easily.

Enclosure
The use of buildings to create a sense of defined space.

Eyes on the street
People whose presence in adjacent buildings or on the street make it feel safer.

Facade
The principal face of a building.

Fenestration
The arrangement of windows on a facade.

Fine grain
The quality of an area's layout of building blocks and plots having small and frequent subdivisions.

Form
The layout (structure and urban grain), density, scale (height and massing) and appearance (materials and details).

Habitats Regulation Assessment
An assessment of the potential effects of a proposed plan in combination with other plans or projects on one or more European sites, Special Areas of Conservation, Special Protection Areas and RAMSAR sites). Required by the Habitats Directive 92/43/EEC, this assessment

must be carried out for all local development documents, including SPDs, and approved by Natural England prior to the adoption of the document in question.

Legibility
The degree to which a place can be easily understood by its users and the clarity of the image it presents to the wider world.

Listed Building
A building or structure of special architectural or historic interest and included in a list, approved by the Secretary of State. The owner must get Listed Building Consent to carry out alterations that would affect its character or its setting.

Local Biodiversity Action Plan (LBAP)
The Action Plan works on the basis of partnership to identify local priorities and to determine the contribution they can make to the delivery of the national Species and Habitat Action Plan targets. The Local Biodiversity Action Plan has been prepared by Biodiversity Cambridgeshire (contact via Cambridgeshire County Council) 1999.

Local Plan
Abbreviation used to describe the statutory plan adopted by the City Council. It is a material consideration in determining planning applications, which should be in accordance with them as part of the Development Plan.

Major Development
Defined as:
Residential development: the erection of 10 or more dwellings or, if this is not known, where the site is 0.5 hectares or more; or other development: where the floor area to be created is 1,000m2 or more, or the site area is 1 hectare or more.

Massing
The combined effect of the arrangement, volume and shape of a building or group of elements. This is also called bulk.

Mitigation
The purpose of mitigation is to avoid, reduce and where possible remedy or offset any significant negative (adverse) effects on the environment etc. arising from the proposed development.

Movement
People and vehicles going to and passing through buildings, places and spaces.

Natural surveillance
The discouragement to wrong-doing by the presence of passers-by or the ability of people to see out of windows. Also known as passive surveillance.

Open Space
Includes all open space of public value. There is a broad range of spaces that may be of public value - not just land but also areas of water such as rivers and lakes - and includes,

parks and gardens; natural and semi-natural urban greenspaces; green corridors; outdoor sports facilities; amenity greenspace; teenager's and children's play areas; allotments and community gardens; cemeteries and churchyards; accessible countryside in urban fringe areas and civic spaces.

Parking Standards
Document setting out maximum permissible levels of car parking for various use-classes, along with minimum levels of cycle parking.

Permeability
Permeability describes the degree to which urban forms, buildings, places and spaces permit or restrict the movement of people or vehicles in different directions. Permeability is generally considered a positive attribute of urban design, as it permits ease of movement by different transport methods and avoids severing neighbourhoods. Areas which lack permeability, e.g. those severed by arterial roads or the layout of streets in cul-de-sac form, are considered to discourage effective movement on foot and encourage longer journeys by car.

Planning Condition
Requirement attached to a planning permission. It may control how the development is carried out, or the way it is used in the future. It may require further information to be provided to the Local Planning Authority before or during the construction.

Planning Obligation
A binding legal agreement requiring a developer or landowner to provide or contribute towards facilities, infrastructure or other measures, in order for planning permission to be granted. Planning Obligations are normally secured under Section 106 of the Town & Country Planning Act 1990.

Public Art
Publicly sited works of art, which make an important contribution to the character and visual quality of the area and are accessible to the public. Details as per adopted Public Art SPD and any successor document.

Public Realm
The parts of a village, town or city (whether publicly or privately owned) that are available, without charge for everyone to use or see, including streets, squares and parks.

Renewable Energy
Renewable energy covers those energy flows that occur naturally and repeatedly in the environment – from the wind, the fall of water, the movement of the oceans, from the sun and from biomass.

Section 106
See Planning Obligation.

Shared Space
A street or place accessible to both pedestrians and vehicles that is designed to enable pedestrians to move freely by reducing traffic management features that tend to encourage users of vehicles to assume priority.

Spill out space
Space used in association with an adjacent building (tables and chairs on the pavement outside a cafe, for example).

Supplementary Planning Guidance (SPG) /Supplementary Planning Document (SPD)
SPDs add detail to policies laid out in development plan documents, or a saved policy in an existing development plan. These may take the form of design guides, area development briefs, a master plan or issue-based documents. These documents can use illustrations, text and practical examples to expand on how the authority's policies can be taken forward.

Local authorities must involve the community in the preparation of SPDs. They are also subject to a Sustainability Appraisal to ensure economic, environmental and social effects of the plan are in line with sustainable development targets.

The SPD may be taken into account as a material consideration in making planning decisions such as determining planning applications.

Sustainability Appraisal (SA)
An appraisal against sustainability criteria of proposals.

Sustainable Development
Sustainable Development is a very broad term that encompasses many different aspects and issues from the global to local levels. Overall sustainable development can be described as 'Development, which meets the needs of the present without compromising the ability for the future generations to meet their own needs' (after the 1987 Report of the World Commission on Environment and Development – the Brundtland Commission).

Sustainable Drainage Strategy (SuDS)
Development normally reduces the amount of water that can infiltrate into the ground and increases surface water run-off due to the amount of hard surfacing used. Sustainable drainage systems control surface water run off by mimicking natural drainage process through the use of surface water storage areas, flow limiting devices and the use of infiltration areas or soakaways etc.

Transport Assessment (TA)
The Assessment [or Consideration] of the potential transport impacts of a proposed development, with an agreed plan to reduce or mitigate any adverse consequences and where appropriate establish how more sustainable modes of travel can be increased.

Travel Plan
Package of measures tailored to a particular site, aimed at promoting more sustainable travel choices (such as walking, cycling, public transport) and reducing car use. It may

include initiatives such as car sharing schemes, provision of cycle facilities, improved bus services, and restricting or charging for car parking.

Urban Grain
The pattern of the arrangement and size of buildings and their pots in a settlement; and the degree to which an area's pattern of street blocks and street junctions is respectively small and frequent, or large and infrequent.

Use Class
The Town and Country Planning (Use Classes) Order 1987 (as amended) established Use Classes, which is a system for classifying uses of land.