



WEST CAMBRIDGE

OUTLINE PLANNING APPLICATION

DESIGN GUIDELINES

for approval



UNIVERSITY OF
CAMBRIDGE

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AECOM Design & Planning

with:
AECOM Sustainability
AECOM Project Management
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Atkins

All of the drawings/diagrams in this document are provided for illustrative purposes only. This Design, Access and Landscape Statement is provided to support the planning application for the Proposed Development, and all details of access, appearance, landscaping, layout and scale are reserved within the parameters set out in the Parameter Plans & Statements and Environmental Statement.

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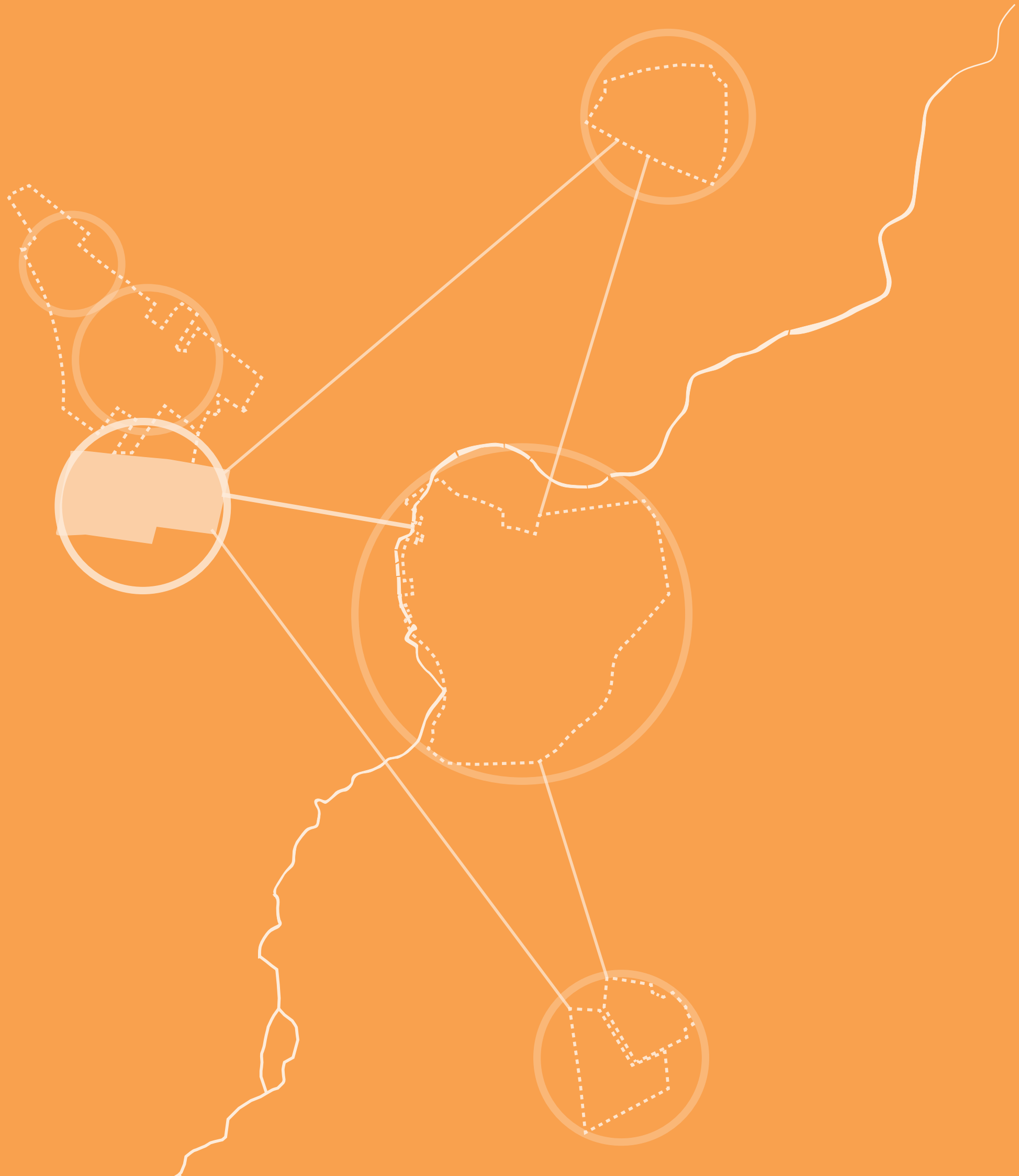
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INTRODUCTION

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0. INTRODUCTION

0.1. Purpose of the document

0.1.1 This Design Guidelines document has been prepared in support of an outline planning application submitted by the University of Cambridge for the comprehensive development of the West Cambridge site.

0.1.2 The Design Guidelines (along with the Parameter Plans) establish a set of design parameters and principles for development at the site, and will act as a basis for informing, guiding and assessing future detailed proposals for individual parts of the site.

0.1.3 Like the Parameter Plans, the Design Guidelines are submitted for approval by the local planning authority. The Design Guidelines supplement the Parameter Plans by providing a greater level of articulation of the design and access intent in relation to key facets of the development proposals. These are considered by the applicant to be particularly important in creating a high quality, attractive, distinctive and sustainable environment for all site users.

0.1.4 These Design Guidelines will be a material consideration when determining Reserved Matters applications for West Cambridge. Any variation to these Design Guidelines will only be possible with the agreement of the University of Cambridge and Cambridge City Council.

0.1.5 The Design Guidelines should be read in conjunction with the Design & Access Statement, where the Design and Access Statement describes and explains the key concepts and vision behind the proposed development.

The West Cambridge Outline Planning Application

Description of Development	Design and Access Statement	Design Guidelines	Other Planning documents
Including Parameter Plans	Including Design Principles and Illustrative Material		
<div>Parameter Plans:</div> <div><div>01 Development Building Zones</div><div>02 Land Use</div><div>03 Access and Movement</div><div>04 Landscape and Public Realm</div><div>05 Maximum Building Heights</div></div> <div>In addition:</div> <div><div>Application Boundary</div><div>Demolition Plan</div></div>	<div>Volume A:</div> <div><div>01 University need</div><div>02 University vision</div><div>03 Development context</div><div>04 Masterplan development process</div><div>05 Proposed development</div></div> <div>Volume B:</div> <div><div>01 Design principles</div><div>02 Illustrative masterplan</div><div>03 Transformation of key places</div></div>	<div>00 Introduction</div> <div><div>01 Site-wide Design Guidelines</div><div>02 Key places</div><div>03 Streets and Green Links</div><div>04 Site edges</div></div>	<div><div>01 Transport Assessment</div><div>02 Environmental Statement</div><div>03 Planning Statement</div><div>04 Sustainability Statement</div><div>05 Energy Statement</div><div>06 Statement of Community Involvement</div><div>07 Waste Management Plan</div><div>08 Utilities Statement</div><div>09 Construction Environmental Management Plan</div><div>10 Arboricultural Impact Assessment</div><div>11 Woodland Management Plan</div><div>12 Heritage Assessment</div></div>

- KEY
- NEW DEVELOPMENT
- EXISTING BUILDINGS RETAINED
- A

EAST FORUM SPACES
- B

EAST POND
- C

WEST FORUM SPACES
- D

WEST LAKE
- E

THE GREEN
- F

SOUTHERN ECOLOGICAL CORRIDOR
- G

SHARED FACILITIES BUILDINGS
- H

ENGINEERING DEPARTMENT
- I

CAVENDISH III LABORATORY
- J

ACADEMIC DEPARTMENT
- K

COMMERCIAL LED DEVELOPMENT
- L

SCHLUMBERGER BUILDING
- M

BRITISH ANTARCTIC SURVEY
- N

SPORTS CENTRE
- O

DATA CENTRE
- P

PARKING STRUCTURES
- Q

ENERGY CENTRE
- R

UKCRIC BUILDING



01. West Cambridge - Illustrative Masterplan 2017

0.2. Scope of the document

0.2.1 This document sets out the Design Guidelines for the West Cambridge site. The Design Guidelines will be used to ensure high quality design is delivered at West Cambridge. They are intended to:

- Capture the design responses appropriate to each key element at the application site, while allowing flexibility in the final design of the development;
- Provide a level of consistency so that the site as a whole is developed in a coherent manner consistent with the overall vision for the site;
- Communicate masterplan intentions to the various design teams which will bring forward development proposals over the life of the development; and
- Provide a balance between technical specificity and a concise description of what is required from detailed design proposals.

0.2.2 Additional work will be carried out, at the appropriate time, in regard to further guidelines for the setting of the listed Schlumberger Research building as indicated by the blue dashed line in Figure 02. This work will be compiled to form an addendum to this document.

1. Site-wide Design Guidelines

0.2.3 The document covers critical site-wide elements of the development, including:

- Public realm and landscape - relating to types and arrangement of open spaces across the site;
- Retention of existing trees;
- Access and movement - relating to the location and treatment of vehicular, pedestrian and cycle routes, servicing, car parking and cycle parking;
- Urban structure - relating to the location and treatment of building frontages, gateway features, and the approach to integration of existing buildings;
- Massing, roofscape and skyline - relating to height and massing of new buildings and principles related to treatment of roofscape and skyline;
- Land use and amenities.

0.2.4 In addition to the **Site-wide elements** the document continues to describe Guidelines for **Key elements**, which include:



2. Key Places

0.2.5 East and West Forums: shall be key focal points for the site. These are existing spaces, determined by the 1999 masterplan, but will be transformed by new development and a new role within the public realm network;

0.2.6 The Green: a new space and shall be a series of connected Gardens that visually and physically connect from east to west through the central part of the site;

0.2.7 Southern Ecological Corridor: The Southern Ecological Corridor shall be formed along the southern edge and will incorporate the existing trees, the canal and the existing strategic cycle route.

0.2.8 Guidelines for these spaces are provided in the Key Places Section 02.

3. Streets and Green Links

0.2.9 Transforming the nature of **Existing Streets** is essential to transforming the character of West Cambridge. These streets will be greened and will contribute to forming a new landscape framework and pedestrian and cycle network through the site. The existing primary streets are:

- High Cross;
- JJ Thomson Avenue;
- Charles Babbage Road; and
- Western Access / Ada Lovelace Road.

0.2.10 Guidelines for Streets are provided in Streets and Green Links Section 03.

0.2.11 Green Links are north-south movement and green elements which will bring the characters of the new NWCD landscape spaces in the north and the agricultural fields in the south through the site. They are an important part of the new landscape framework and pedestrian & cycle network.

0.2.12 The majority of the Green Links have origins in spaces and streets that already exist on site, and a few of these are existing spaces with a servicing role which will need to be maintained.

0.2.13 Guidelines for Green Links are provided in Streets and Green Links Section 03.

4. Site Edges

0.2.14 Control of the site edges is aimed at ensuring that the development relates well to the surrounding context, (particularly the nearby conservation areas) and mitigates and minimises visual impacts.

0.2.15 Guidelines for Site Edges are provided in Section 04 of this document.

0.3. How the Design Guidelines work

0.3.1 The Guidelines within this document are drawn from the Illustrative masterplan, which has been produced in support of the Outline Planning Application. This stands as a robust three-dimensional test of and response to: site conditions; the needs of the University; and ongoing consultation with key stakeholders.

0.3.2 The Document has four Sections: Site-wide Guidelines; Key Places; Streets and Green Links; and Site Edges.

0.3.3 All Sections must be read together and in particular the Guidelines for Key Places should be cross referenced with built form and massing Guidelines within the Streets and Green Links Section.

0.3.4 For each of these elements, the document sets out principles and more specific guidelines to inform the development of detailed design proposals. Two types of principles/guidelines are included:

- **Mandatory**, which must be complied with (denoted by the use of '*must*'). The Mandatory guidelines are denoted by the use of '**M**' graphic and by being enclosed in coloured boxes for ease of navigation through the document;
- **Non-mandatory but recommended**, setting out the preferred approach (denoted by the use of '*should*'). If there is any significant deviation from the preferred approach the alternative will need to demonstrate significant other benefits.

0.3.5 Reserved matters applications will be brought forward in accordance with the Design Guidelines as well as the Parameter Plans. Reserved matters applications will need to demonstrate, through their Design and Access Statement, how the Design Guidelines have been taken into account in the evolution of detailed design proposals, and how the proposals comply with the mandatory elements of the Guidelines. Deviation from the Guidelines, including the mandatory elements, may be acceptable with the agreement of the local planning authority.

Review process

0.3.6 It is intended that this document, subject to agreement with Cambridge City Council, will be reviewed at key stages in the development process to ensure that its Guidelines and content remain relevant and robust. This will ensure that this document remains responsive to changing conditions. For example a review of this document could happen towards the end of the Priority Projects/Phase 1 development process, when more will be known about the University's future requirements and need, as well as the forecast transport position.

Structure of the document

01 Site-wide Design Guidelines

Public realm and landscape
Existing trees to be retained
Access and movement
Urban structure
Massing, roofscape & skyline
Land use and amenities

Key issues:
Frontage types, length, multi-storey car parks
Massing, rooftop plant
Existing trees to be retained

02 Key places

A new public realm

West Forum
East Forum
The Green
Southern Ecological Corridor

Key issues:
Character
Surface Treatment
Planting (inc. existing)

03 Streets and green links

Transformation of existing streets

High Cross
JJ Thomson Avenue
Charles Babbage Road
Western Access/Ada Lovelace
Green Links
Cycle connectivity

Key issues:
Existing/proposed sections
Street frontage
Street character
Planting (inc. existing)

04 Site edges

Integration and response to context

Madingley Road
Coton Footpath/Southern edge
Clerk Maxwell Road
Woodland edge

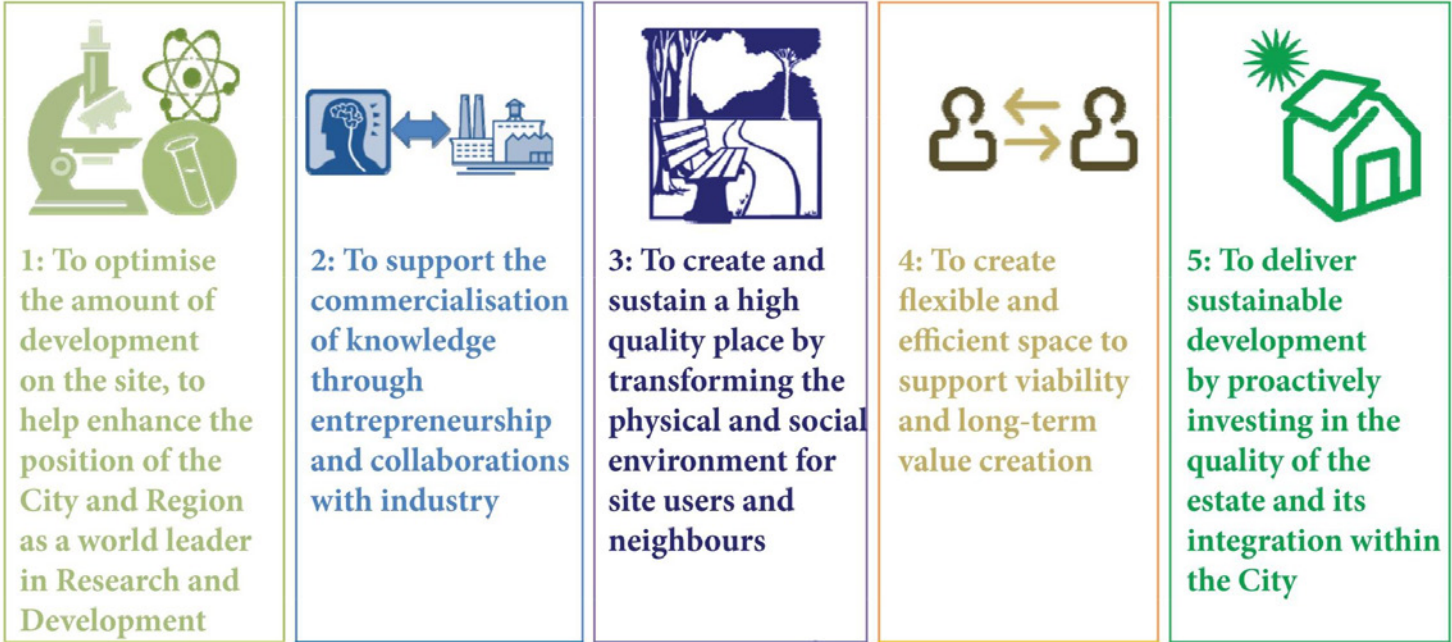
Key issues:
Frontage heights
Set backs

0.4. Vision for West Cambridge: A new trajectory

- 0.4.1 The University of Cambridge has identified West Cambridge as one of its key sites for growth, best placed for clustering of physical sciences and technology and collaboration with industry research.
- 0.4.2 The new development proposals aim to establish a new trajectory for development and gradual transformation of the West Cambridge site into a lively research campus, accessible and integrated with the City, and which can equally well accommodate users' interaction and demanding scientific processes. By facilitating research excellence and innovation, West Cambridge will help to retain and attract staff and enable future research growth, thus strengthening the University's international reputation.
- 0.4.3 Research and teaching will continue to be the primary uses, but these must be strongly supported by social amenities and commercial research workspaces to promote a new social life and knowledge exchange. In response to this, the proposed development has been shaped by the building and operating requirements of teaching, academic and commercial research as much as by requirements for social interaction. By favouring a moderate density of built form a greater population can support a new level and range of activity on the site.
- 0.4.4 The current piecemeal development on plots will be abandoned in favour of a character based approach where the site will be transformed by the introduction of a new, clear landscape and open space framework, incorporating existing spaces, landscape planting and streets.
- 0.4.5 At-grade car parks will be removed and parking relocated into multi storey structures located at the periphery of the site, enabling an increase in density but also an emphasis on cycle movement and pedestrian activity and comfort throughout the site.
- 0.4.6 The University has established five key objectives to deliver the vision and guide the Proposed Development:
- **Optimise the amount of development** on the site, supporting the City and Region as a world leader in learning, teaching, research and development;
 - **Support the commercialisation of knowledge** through entrepreneurship and collaboration with industry;
 - Create and **sustain a high quality place** by transforming the physical and social environment for site users and neighbours across the City;
 - Deliver **adaptable and efficient space** to support viability and long term value creation;
 - Deliver **sustainable development**, pro-actively investing in the quality of place and integration within the City.

- 0.4.7 The new proposal seeks to transform the site by recognising and building on a number of site-related opportunities, which will contribute wider benefits to the University and the City:
- Promote **sustainability** and improve the University's performance on a site unhindered by historic structures and dense urban form found in the city centre;
 - **Sustainable transport strategy**, as the key tool for the transformation of the site, aiming to reduce the reliance on cars and domination of at grade car parks by improving **public transport**, concentrating car parks along the edges and thus freeing public space for **pedestrians and cyclists**;
 - Provide a necessary space for a City-wide step change in **entrepreneurship and employment growth**;
 - Cluster the University's Physical Sciences and Technology disciplines, with their industry partners, which will establish West Cambridge as a place which lives and breathes **science and technology**, generating exciting technological achievements and innovation;
 - Opportunities for academic events as well as **popularisation and promotion of science**, through evening lectures, festivals and community projects;
 - **Public realm with adjacent shared facilities and amenities**, linking into a wider network of open spaces and pedestrian and cycle routes; and
 - **Community uses**, further capacity in addition to existing sport and nursery provision, helping to promote healthy and balanced lifestyle of site users and the wider community.

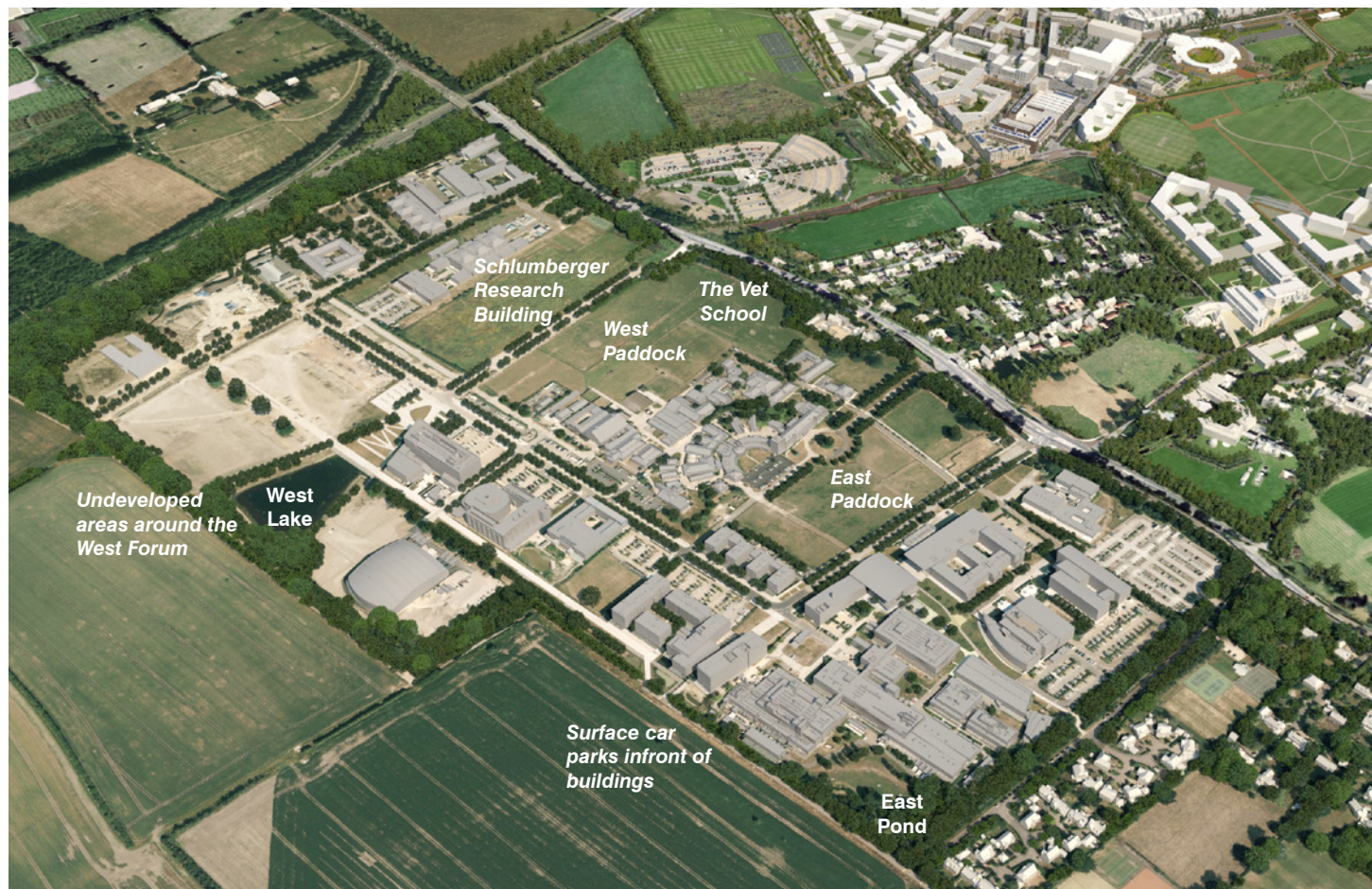
0.4.8 Development at West Cambridge will be incremental, with the initial stage 'Priority Projects' concentrating new academic development in the east, forming this new density and a renewed activity from the outset.



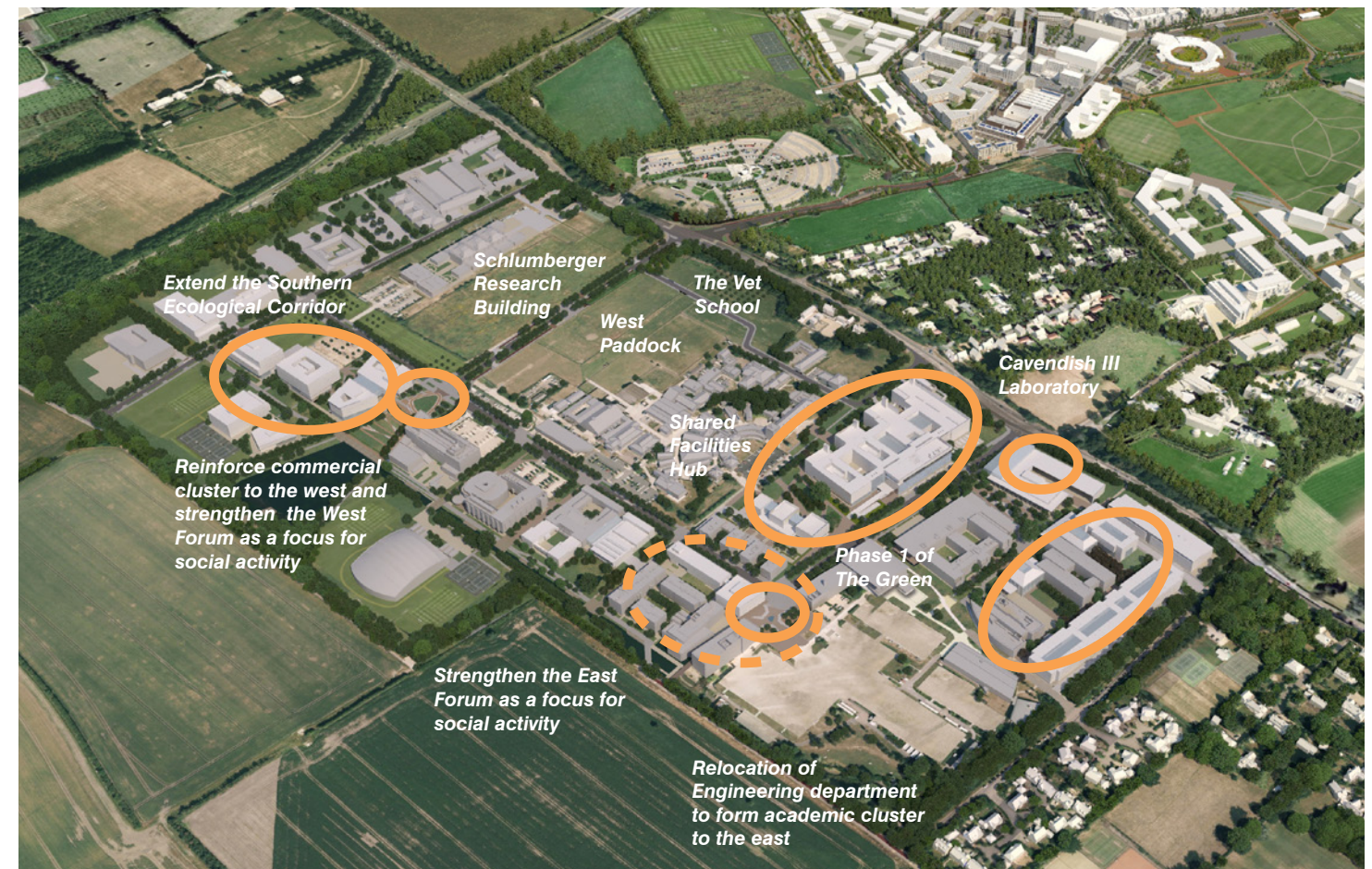
03. University Objectives



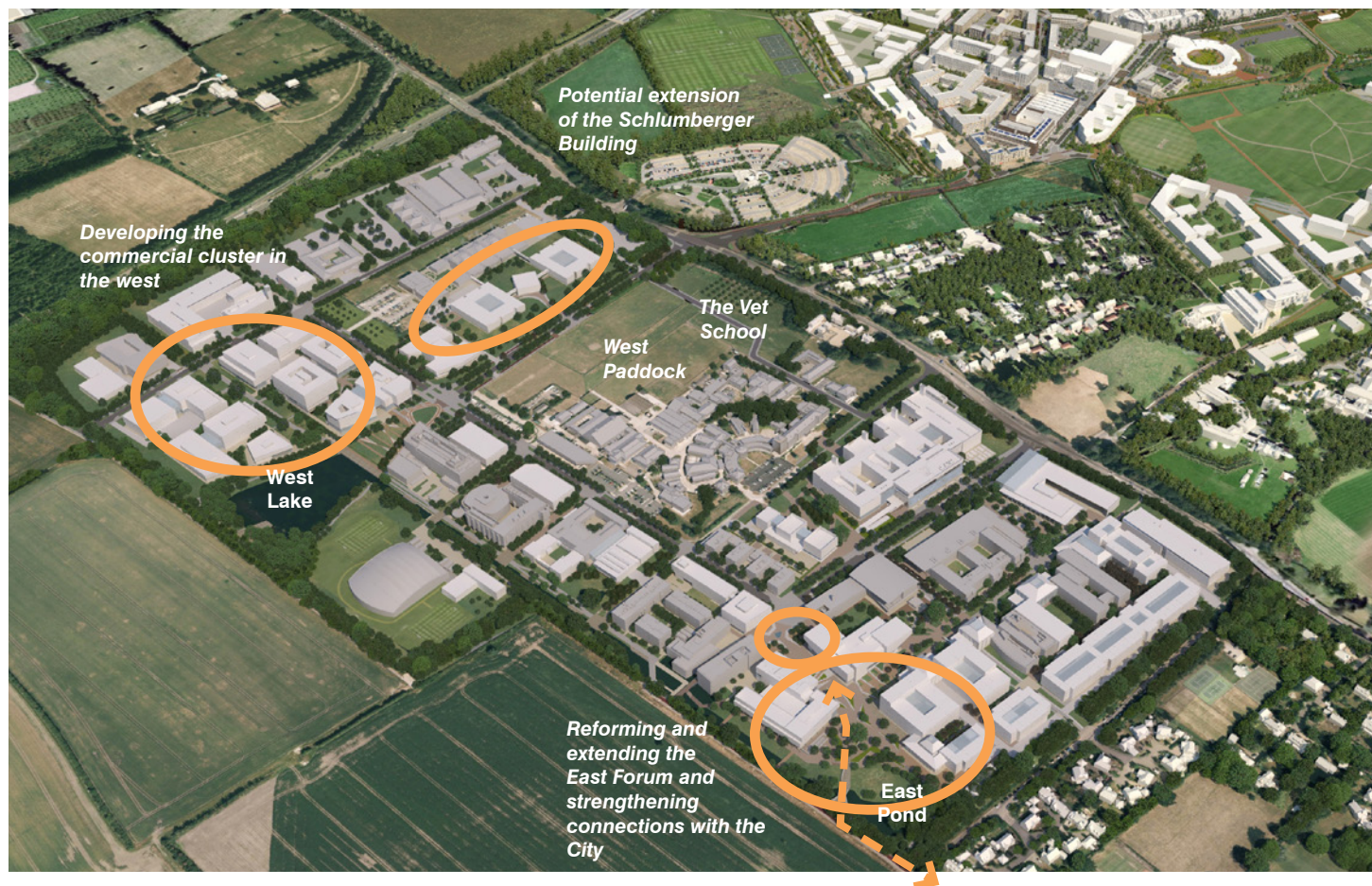
04. The West Cambridge site in the West of the city



West Cambridge Site - Existing condition



West Cambridge Site - Priority Projects



West Cambridge Site - Interim Condition



West Cambridge Site - Full Development

0.5. Vision for West Cambridge: Gradual transformation of place

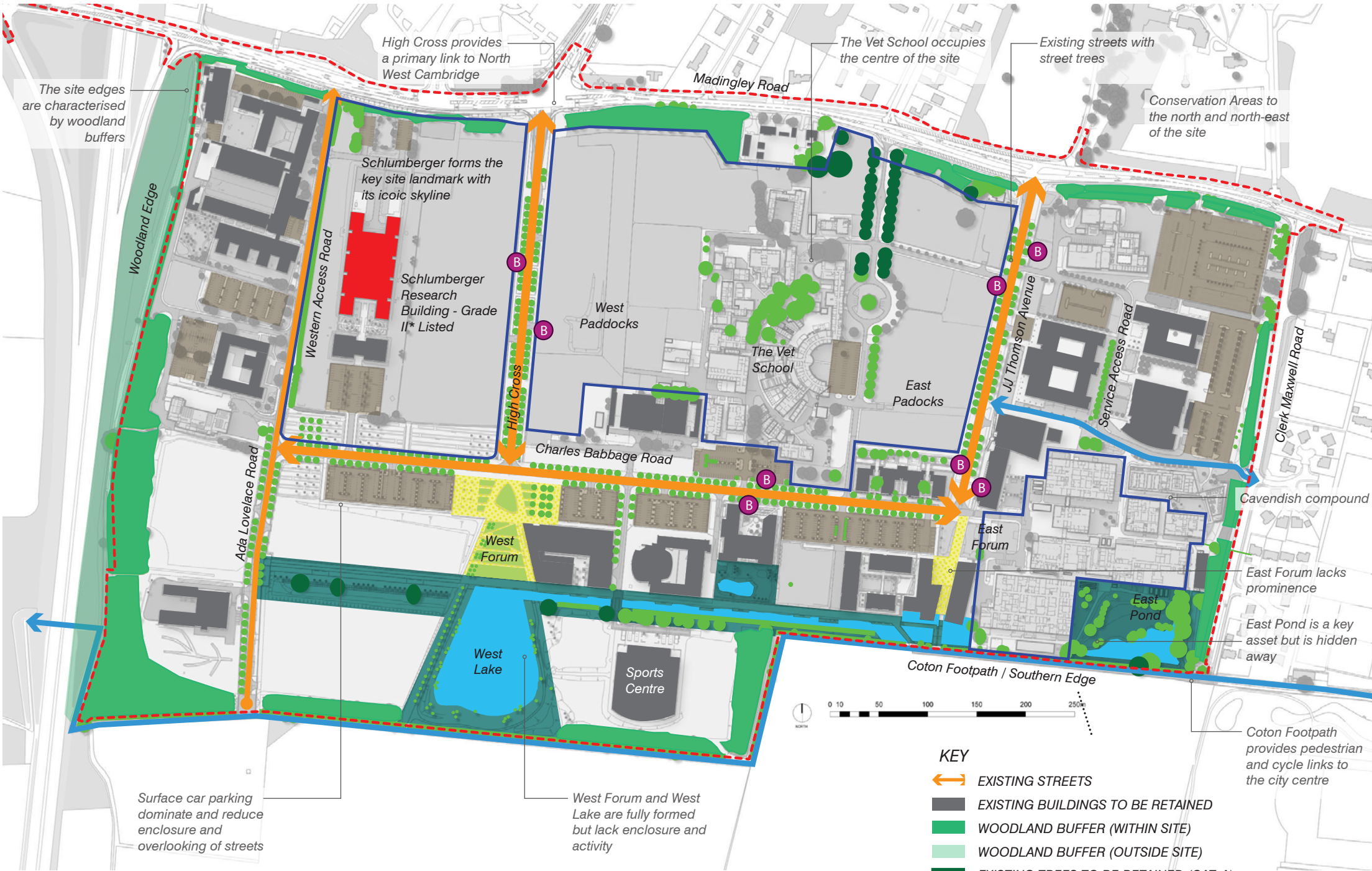
- 0.5.1 Key to forming a new University Science and Technology cluster at West Cambridge is the physical transformation of the site. The transformation will:
- provide a new and improved identity for the site that serves to enhance the University's national and international reputation;
 - firmly establish West Cambridge (with the neighbouring North West Cambridge Development) as a new place within the city of Cambridge;
 - create a new working environment that is attractive for University staff and students and is able to attract and retain commercial occupiers;
 - increase the density of the site to ensure a new, greater population of users. This population will be supported by additional social amenities, recreational space, public realm as well as supporting uses and working space;
 - transform the character of existing places and streets already within the site.

0.5.2 The intention is for a gradual transformation over time as new academic and commercial occupiers move in. Streets and spaces will be upgraded in-line with new development coming forward, for example JJ Thomson Garden, parts of the Central Green Link and the upgrade of JJ Thomson Avenue will take place in parallel with the development of the new Cavendish III Laboratories.

0.5.3 However its is important that the site does not continue to grow in a piecemeal way, but to cluster growth (initially around the Forums) to ensure that concentrations of development and activity can be formed.

0.5.4 There are high quality existing elements within the site that lend West Cambridge a certain character and identity. The proposed development aims to ensure that these are retained and reinforced or supplemented. These elements are:

- The Grade II* Listed Schlumberger Research Building which is an iconic building within the site. The proposed development aims to reinforce the prominence of this building and ensure that it remains the primary landmark building for the site;
- The Canalside, West Lake and East Pond already form a series of key spaces within the site as well as space for the strategic pedestrian and cycle network. The proposed development aims to retain these spaces, reinforce their ecological role and ensure that the existing water bodies form part of the social amenity of the site while retaining their drainage role;



06. The West Cambridge site - Existing condition and key elements for transformation

- Woodland buffers at the boundary provide character to the site but also to the surrounding streets. The buffers perform the crucial role of screening the site from views from the south, west and east as well as in the north protecting the setting and character of Madingley Road and the two Conservation Areas to the north and east of the site;
- There are existing specimen trees in various locations throughout the site and much of the existing streets are furnished with street trees. The intention of the proposed development is to retain these trees and allow them to grow to maturity in the long term. In addition new tree planting throughout the site will ensure that the green character of the site can be retained and reinforced.

0.5.5 However, certain elements require improvement. Key elements considered for transformation are:

- The East and West Forums have already been established and the proposed development aims to safeguard their prominence as key places, integrate them into a wider pedestrian network and ensure greater definition and enclosure from new development;
- The existing streets are at present monotonous, car dominated and lacking in enclosure. In the same way as the Forums, these streets shall be integrated into a greater landscape and movement framework, and the aim of the proposed development is to ensure that these routes are transformed into walkable streets which incorporate new levels of pedestrian activity and cycle movement.

0.5.6 In addition, the proposed development seeks to promote legibility by creating a new landscape framework of different but connected routes and spaces - from urban streets, to boulevards, to Green Links and pedestrian lanes.

0.5.7 With this aim of the promotion of a new site-wide landscape framework, a new open space element will be formed - The Green. This new east-west space will address the present lack of connection and legibility across the site and will link the site from east to west. Most importantly this new space will provide new visual connections by establishing a new view corridor from the east of the site to the iconic roof-line of the Schlumberger Research building.

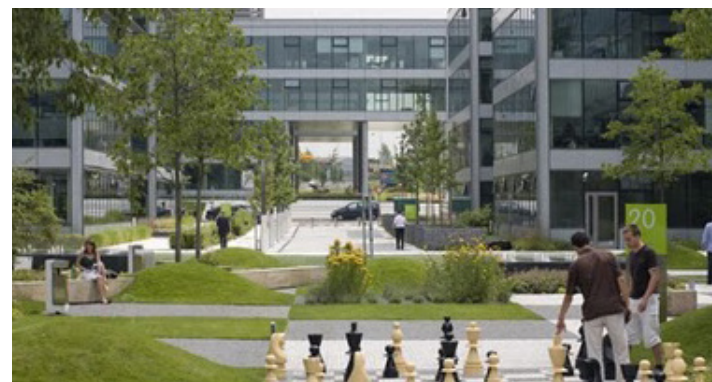
0.5.8 The proposed development establishes a new wider network that builds on the existing streets within the site, connects to the city via the Coton Footpath and forms links to the adjacent strategic network now being developed at the North West Cambridge Development, ensuring that the West Cambridge development becomes a strongly integrated part of the City.



Places for Meeting



A Pedestrian Place - Introducing Activity



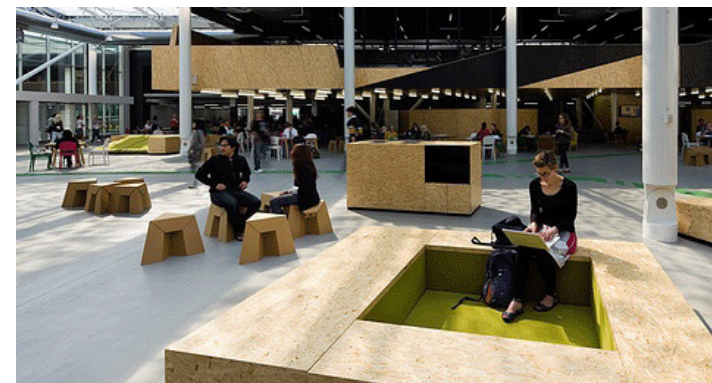
Places for Relaxing



Social Places



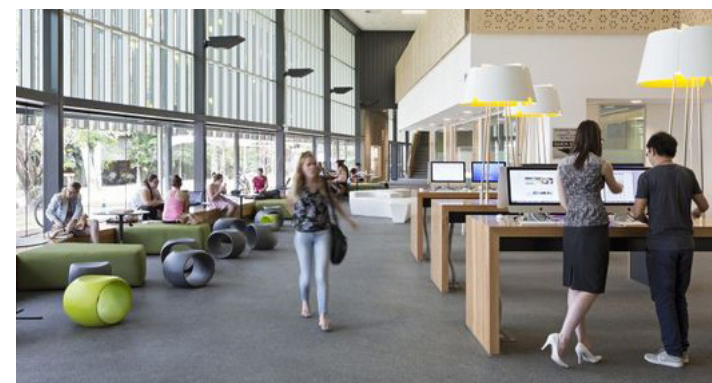
New Social Facilities



Encouraging Different Ways of Working



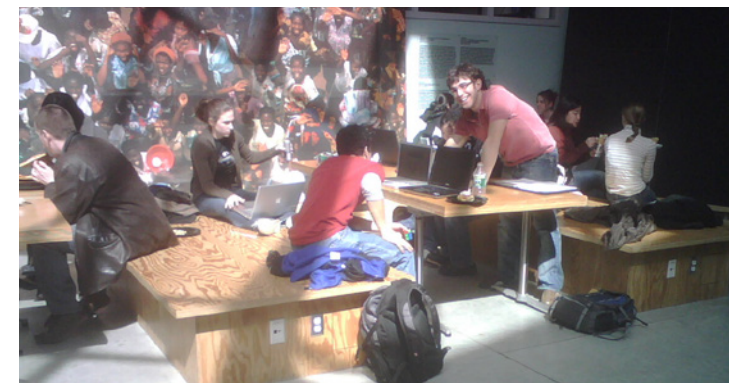
Places for Collaboration



Promoting Interaction



New Working Environments



Collaboration and chance encounters

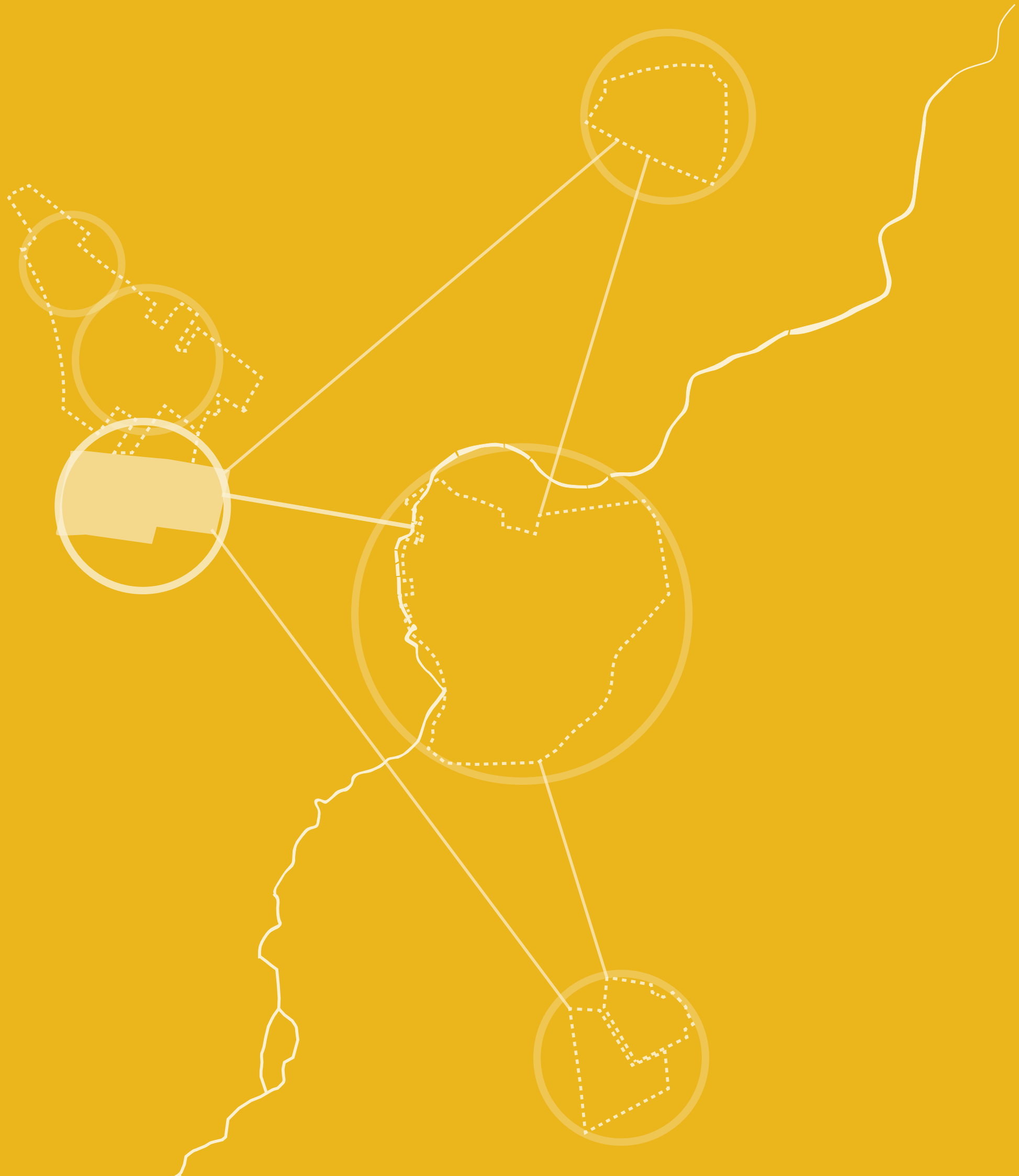


Student and Staff Experience



Events and Extra-curricular

07. The West Cambridge transformation - What Kind of Place?



SITE-WIDE DESIGN GUIDELINES

01

1. SITE-WIDE DESIGN GUIDELINES

1.1. Public realm and landscape

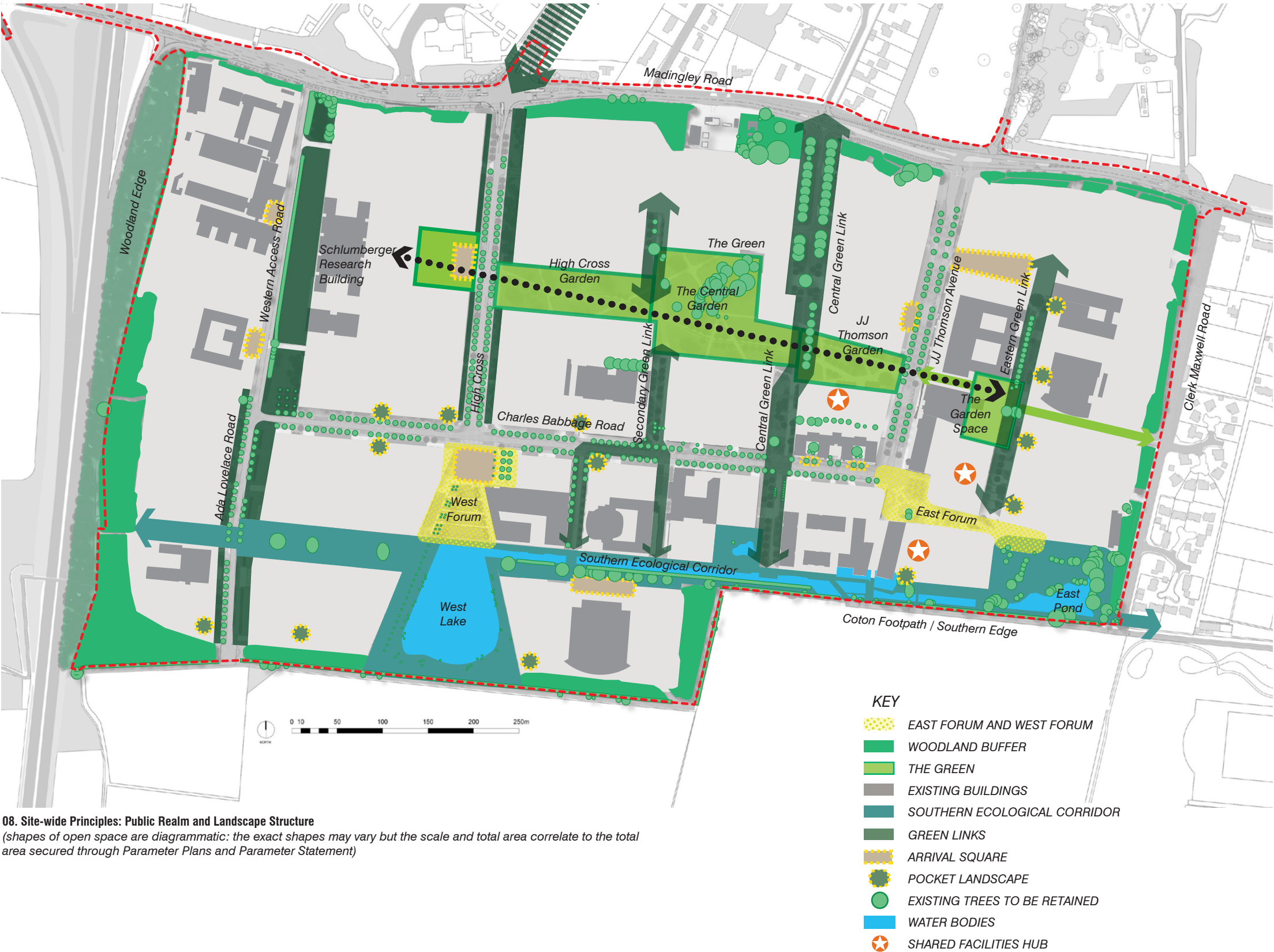
1.1.1 The proposed development aims to transform West Cambridge through establishing a new landscape structure that will weave the site together, east to west and north to south. This structure will incorporate existing spaces and landscapes, will retain and incorporate existing trees and woodland buffers, transform the existing streets, while also establishing a range of new spaces. The landscape structure re-establishes West Cambridge as a green, pedestrian orientated and highly active place in the city.

1.1.2 The diagram in Figure 08 shows the arrangement of the different types of public realm across the site.

1.1.3 The following are the Guidelines for the proposed public realm throughout the site:

- The primary east-west orientated public realm spaces that shall be provided within the site are as follows:
 - West Forum and East Forums shall be retained as the primary social public places within the site;
 - The existing Southern Ecological Corridor along the southern edge shall be retained and reinforced with additional planting to form a more diverse ecological habitat. This space shall also maintain the existing strategic east-west pedestrian/cycle route that runs through the space. The existing canal must be upgraded and must connect West Lake with the East Pond and form the backbone of the site-wide drainage strategy;
 - The Green open space shall be established. This space shall be formed as a series of connected 'Gardens' located between Clerk Maxwell Road in the east and High Cross in the west. These Gardens shall be arranged to allow a (straight) view line between JJ Thomson Avenue and the roof of the Listed Schlumberger Research building, and shall include a large, open, 'Central Garden' plus two 'gateway' gardens, one at High Cross and one at JJ Thomson Avenue. In addition, a 'Garden Space' between Clerk Maxwell Road and JJ Thomson Avenue shall be formed;
- A Garden space within the Schlumberger compound should also be formed and visually connected to the main sequence of Gardens, ensuring that the Schlumberger Research Building remains the key site landmark and the focal point of this space.

1.1.4 Further guidelines for the Key Spaces, are specified in Section 02 of this document.



1.1.5 In addition to the primary public realm spaces previously detailed, a network of Streets and Green Links - north-south landscaped connections formed partially from existing streets and partially from new spaces - will be established, as follows:

M

- The network of Streets and Green Links shall include:
 - The Eastern Green Link - a pedestrian only space connecting the Department of Engineering cluster south-wards to the East Forum spaces, and partially located between the existing Computer Laboratory and Roger Needham and CAPE buildings;
 - The Central Green Link - will be an upgraded and predominantly landscaped pedestrian and tertiary cycle link in the location of the existing former access road to the Vet School and the service lane for the Southern Residences. This link shall incorporate the existing group of high quality lime trees to the north. At the southern end, this link shall be widened to allow for additional landscaping;
 - Existing north-south streets shall be further greened through the use of development setbacks and landscaped areas formed alongside High Cross and Western Access/Ada Lovelace Road. This will ensure these existing streets are transformed in character and will contribute to the greening of the site;
 - The transformation of High Cross shall also provide an improved setting for the Listed Schlumberger Research building.

1.1.6 Additional Green Links should be formed, incorporating other existing tertiary streets located between the Southern Ecological Corridor and Charles Babbage Road. These existing streets should be greened and transformed to achieve better pedestrian comfort. Proposed development should allow the alignment of these existing streets to extend north-wards to the Green as illustrated on the diagram in Figure 08.

1.1.7 Further guidelines for the Streets and Green Links, including the minimum acceptable widths between buildings, are specified in Section 03 of this document.

1.1.8 Other types of spaces within the West Cambridge development will include Arrival Spaces. These will be located, in key locations, along existing streets and within key spaces. These spaces are intended to provide high quality 'address' and arrival for certain areas or key buildings within the site.

1.1.9 These Arrival Spaces shall include:

M

- Two site wide arrival points, shall be located at the East and West Forums;
- The sequence of Gardens within The Green should also visually include an arrival space/entrance to the Schlumberger Research building;
- Further arrival squares should be located to serve particular developments in other parts of the site, where required.

1.1.10 Lastly, smaller scale foreground and Pocket Landscapes should be formed in key locations by means of building set backs or other variations in building line. These spaces serve the purpose of providing adequate space for additional greenery and tree planting to the adjacent street, space or site edge.

1.1.11 Further guidelines for these Arrival Spaces and pocket landscapes are provided in Sections 02 and 03 of this document.

1.1.12 For the development of the site and the implementation of public realm, the intention is for a gradual transformation over time. Streets and spaces will be upgraded in-line with new development coming forward, for example JJ Thomson Garden, parts of the Central Green Link and the upgrade of JJ Thomson Avenue will take place in parallel with the development of the new Cavendish III Laboratories.

Artificial lighting - operational

1.1.13 Guidelines for artificial lighting within the West Cambridge site are as follows:

M

- Any new artificial lighting to buildings or spaces shall ensure that impacts of lighting on and off-site meet the Institute of Lighting Professionals - Guidance Notes for the Reduction of Obtrusive Light -GN01:2011 for the appropriate environmental zone;
- An artificial lighting scheme shall be submitted with each reserved matters application.

Public realm principles

1.1.14 The proposed development aims to provide a range of public spaces which are freely accessible by all site occupants and visitors. The following are guidelines for the design of the public realm:

M

- The design for the public realm shall:
 - Include hard and soft landscaped areas;
 - Include formal and less formal areas;
 - Consider safety and security;
 - Provide a range of publicly accessible areas and more private areas;
 - Allow good external daylight accessibility;
 - All external areas must be safely accessible by users of all abilities;
 - Consider the impacts of future climate change, providing for a comfortable environment in hotter summers.
- The design of public realm shall ensure that no potable water irrigation is required for landscape planting, apart from during a two year establishment period (this is particularly important for new tree planting). Planting which is either low irrigation, or which can use recycled water or rainwater shall be provided;
- The design of public realm shall take into account future climate change conditions. Preference shall be given to:
 - Planting which does not require irrigation after a two year establishment period; or
 - Drought resistant planting, to withstand warmer and drier summers.
- In appropriate locations, the public realm design shall include facilities and/or measures which allow site occupants to engage with biodiversity and ecology. These facilities may include signage and displays; educational measures a features; community gardens; rooftop gardens; and/or water features. Some of these features may be temporary and/or introduced in early phases as interim active uses;
- In addition to public open spaces, on plot open spaces should also be provided as part of individual plot developments, which will provide amenity to plot users but may have restricted access to public.

Sustainable drainage systems

1.1.15 A site-wide SuDS drainage strategy will be developed which integrates with existing infrastructure.

1.1.16 It is intended to incorporate rain gardens as part of the integrated street-scape drainage and landscape strategy, wherever this is possible given the existing trees and underground service constraints. Where SuDS can be provided, water will be integral to the landscape design and provide amenity and bio-diversity benefits.

1.1.17 The following are the Mandatory guidelines for the site wide SuDS approach:

M

- Site-wide SUDs infrastructure shall be incorporated in the external space in a manner which helps inform and educate occupants and visitors;
- Road side rain gardens shall be a minimum of 1.5m wide and 6m in length;
- Detailed designs for rain gardens shall be considered in the general locations shown in Section 03 of this document and shall be brought forward unless it is demonstrated that this is not technically possible or cost effective;
- Rain garden features shall be considered on a plot by plot basis for bio-retention and brought forward during detail design;
- Individual SuDS strategies for each reserved matters application shall be carried out for the benefit of water quality, biodiversity and the landscape provision. The strategies held within individual RMA's shall integrate with the site wide SuDS strategy;
- Engineered soils (gravel & sand layers) and enhanced vegetation shall be considered to improve treatment performance;
- Rain garden features shall be planted with a variety species appropriate for the conditions and the expected saturation level. Species shall be robust, drought tolerant, salt tolerant and preferably native grasses. Grasses with a soil-binding root structure shall be favoured along the bottom of the rain garden for their ability to aid in the filtration of pollutants and stabilize soils;
- Site wide infrastructure shall meet best practice guidance such as the Ciria SuDS Manual (C753).
- Rain garden features should offer a variety of creative design interpretations to suit different parts of the site.

1.2. Retention of existing trees

1.2.1 The design guidelines on this and the next page are to be read in conjunction with the Arboriculture Impact Assessment Report, 'West Cambridge Masterplan EIA Arboriculture Impact Assessment Report' and the 'West Cambridge Masterplan Woodland Management Plan' which are based on information captured in February 2015 by Atkins Senior Arboriculturist.

Tree assessment

1.2.2 Existing trees on the site were surveyed and recorded as individual specimens or groups with their root protection zones. Trees were assessed to reflect arboricultural, landscape and cultural values and assigned BS categories A, B or C, in accordance with BS5837: 2012;

1.2.3 **Mandatory Trees and Hedgerows** are illustrated on Figure 09 and are represented in solid colours assigned to BS categories: A-green; B-blue; & C-grey.

1.2.4 **Non-mandatory Trees and Hedgerows** are also illustrated on Figure 09 and are represented in outline colours assigned to BS categories: A-green; B-blue; C-grey; and U-red.

Buffers from tree stem to building edge

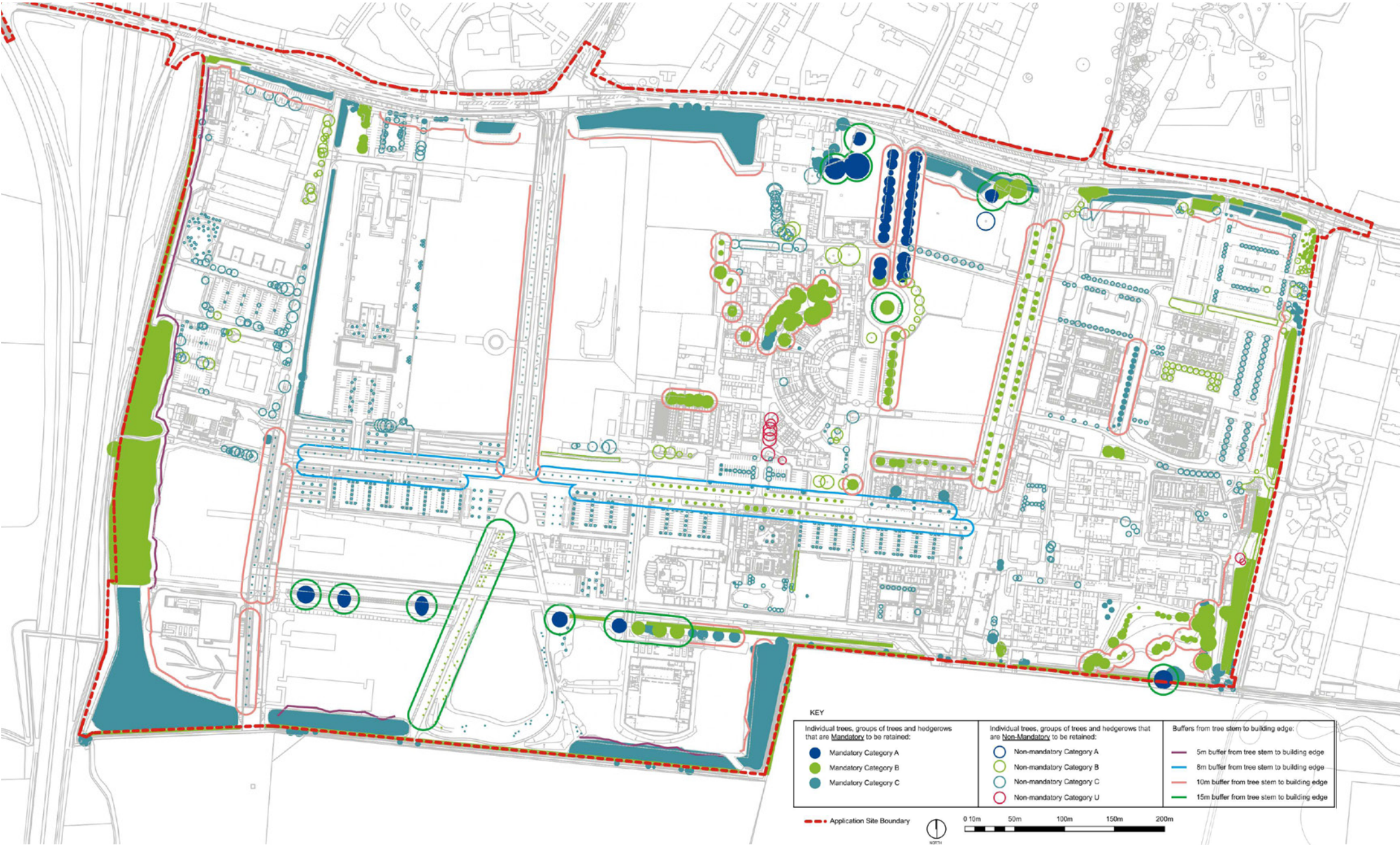
1.2.5 It is understood that in order for existing trees to grow to their potential, permanent buffers are required between the tree and any adjacent development. The extent of these buffers are specified in the 'West Cambridge Masterplan EIA Arboriculture Impact Assessment Report' and these buffers are measured from tree stem to building edge and are illustrated in Figure 09.

1.2.6 Within these buffers, elements such as: servicing routes and/or areas; at grade car parking; fencing; surface water drainage etc. shall be allowed through prior agreement with the LPA through the reserved matters applications.

1.2.7 Proposed buffers to existing trees are to be seen as a general working assumption, rather than definitively fixed. The precise extent of buffer will be fixed at reserved matters stage for the relevant development plot.

Woodland Edges

1.2.8 The Woodland Management Plan addresses the woodland edge conditions and sets out a management plan for these trees.



09.Existing Trees: Groups of Trees and Hedgerows to be Retained (with buffers)

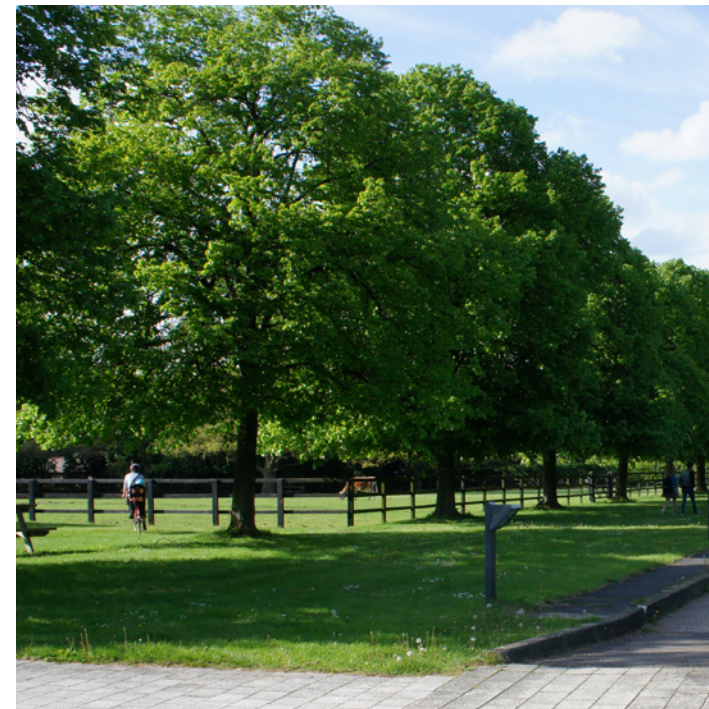
1.2.9 The following are the Mandatory principles for the retention of existing trees throughout the site:

M

- Mandatory Trees and Hedgerows shall be retained, their root protection area uncompromised and the appropriate buffer zone (as set out in the 'West Cambridge Masterplan EIA Arboriculture Impact Assessment Report') shall be provided to building edge;
- Woodland infill planting at the site edges shall be native trees and shrubs and shall be in accordance with the 'West Cambridge Masterplan Woodland Management Plan';
- Selective Removals: The design of new access points and service routes will require the selective removal of trees. Selective removal shall be carefully considered and designers shall demonstrate a sympathetic approach to the layout of any development for minimal tree removal. Any tree removals shall be assessed on an individual basis and addressed during reserved matters applications;
- Avenue trees to High Cross, Charles Babbage Road, JJ Thomson Avenue and Western Access/ Ada Lovelace are Mandatory to be retained but shall require selective removals to facilitate access to the plots or replace trees in ill health. Street tree removals shall be assessed on an individual basis and addressed during reserved matters applications and where trees are removed due to ill health planting conditions shall be improved before new planting is introduced;
- Where possible, Non-mandatory Trees should be retained within the existing and proposed public realm and the proposed development areas. New developments should consider a sympathetic approach to the layout of built form to retain and incorporate these trees.



10. Existing Trees: Norway Maple tree 028



11. Existing Trees: Lime tree group G057



12. Existing Trees: Weeping Willow tree group G037



13. Existing Trees: English Oak tree 066



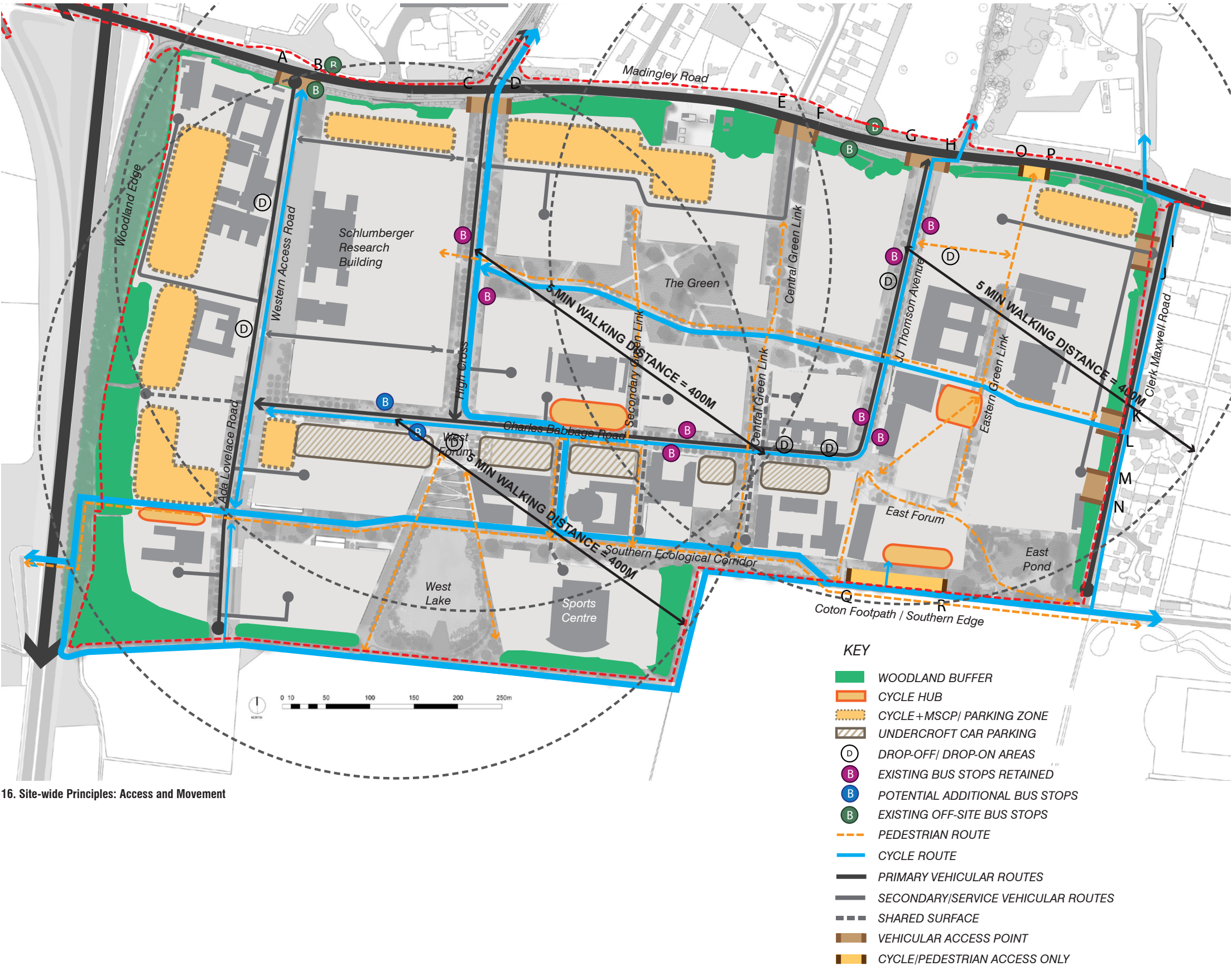
14. Existing Trees: English Oak trees 065, 064 & 063



15. Existing Trees: English Oak trees 024

1.3. Access and movement

- 1.3.1 The existing on-site primary street network consists of four existing streets: High Cross, JJ Thomson Avenue, Charles Babbage Road and Western Access/Ada Lovelace Road. In addition there are a series of existing tertiary streets, specifically located to the south of the site serving developments to the south of Charles Babbage Road, and to the east, serving existing development and car parking to the east of JJ Thomson Avenue.
- 1.3.2 The strategic cycle and pedestrian connection, the Coton Footpath, runs along the southern boundary and a new strategic network is now evolving within and around North West Cambridge in the north. An existing primary cycle route crosses the site from east to west through the Southern Ecological Corridor and there is a second primary cycle link from Clerk Maxwell Road to JJ Thomson Avenue within the centre of the site.
- 1.3.3 Existing vehicular access points are located on Madingley Road (at High Cross and JJ Thomson Avenue) and on Clerk Maxwell Road (access to the Park and Cycle).
- 1.3.4 Figure 16 on this page indicates the existing on-site bus stops which will be retained, existing off-site bus stops on Madingley Road and indicative locations for potential additional bus stops for existing bus routes or bus routes which may be considered in future. The on-site bus stops service the existing bus services which utilise the High Cross, Charles Babbage Road and JJ Thomson Avenue loop.
- 1.3.5 The shown arrangement of on and off-site bus stops ensures that walking catchments from the bus stops to be a maximum distance of 400m to any of the buildings and development areas within the site as shown in Figure 16.
- 1.3.6 The primary streets and many of the tertiary streets will be retained within the development and will be transformed in role and character. Additional streets/lanes and Green Links will be introduced to ensure that the existing street network can be enriched and then extended to encompass the whole site. The access, movement and car parking strategy will ensure that these streets form part of the wider landscape framework and contribute to the creation of a walkable, pedestrian orientated place.
- 1.3.7 Additional guidelines in regard to the existing streets are provided in the Streets and Green Links - Section 03.



1.3.8 The key access and movement guidelines that apply site-wide are as follows:

Vehicular movement



Creating a low speed environment



Cycle movement and parking



Servicing



- Two new vehicular access points shall be provided from Madingley Road. Apart from the two listed below, no other new vehicular access points shall be formed along Madingley Road:
 - In later stages of the development, a new junction at the Western Access Road shall provide a new access point into the site;
 - A new secondary access shall be introduced at the historic Vet School approach road (to the west of JJ Thomson Avenue);
- In addition, secondary access points shall be provided to the east of the site along Clerk Maxwell Road. These shall provide access and egress to a limited number of plots west of Clerk Maxwell Road (I-J, K-L and M-N in Figure 16). It is anticipated that only two access points along Clerk Maxwell Road will be required;
- Access point K-L, if required, shall be exit only, as shown on Parameter Plan 3. At this stage planning consent is sought for this egress to provide flexibility around the access and servicing of the plots to the north. Reserved Matters applications will demonstrate whether or not K-L is required for vehicular egress.
- Access/egress point M-N will be implemented in association with the redevelopment of the existing Cavendish site. Once operational, egress point K-L (if operational) will cease to be operational;
- The four primary existing streets shall be transformed so that they comfortably accommodate motor vehicle and bus movement, as well as cycles and pedestrians;
- Raised tables shall not be used within the site-wide street network. This is to maintain a vibration free environment for sensitive equipment and experiments within laboratories;
- The existing primary bus stops shall be retained in the locations shown and shall be incorporated into the proposed landscape design of the street.

- Traffic calming measures to reduce the dominance of motor vehicles and help slow traffic to a target speed of 20mph shall be introduced along existing and proposed streets;
- Traffic calming measures may include elements such as: change of surface material at crossing points; on-street parking; vertical elements and median strips to reduce the appearance of street width; and varied planting;
- Pedestrian and cycle crossing points shall be incorporated at key locations along the existing primary streets. These shall be located to ensure strong connections across the site for cyclists and pedestrians, but also to slow traffic speeds along the existing streets. The locations for crossing points are shown in the Streets and Green Links Section 03.

- Cycle routes shall be provided within the key streets as shown in Figure 16, either off-street, on shared footways or on street within a low-speed environment. See Section 03 for more detail;
- A new pedestrian & cycle route shall be located within The Green, between JJ Thomson Avenue and High Cross, and shall be a continuation of the existing cycle route that crosses the site from Clerk Maxwell Road to JJ Thomson Avenue;
- The existing primary strategic pedestrian & cycle route shall be retained within the Southern Ecological Corridor, and shall be extended to the western site boundary to connect to the Coton Footpath and the M11 footbridge;
- Cycle hubs accommodating large numbers of cycle parks shall be located adjacent to primary cycle routes. These facilities shall be located within built form to ensure limited visual impact on the adjacent public spaces;
- Large areas of cycle parking shall not be located in the key spaces. These shall be provided in the zones shown in Figure 16, and also: within the ground/ lower floors of any multi-storey parking structure; consolidated within covered and secure major cycle parking hubs, or in secondary open spaces within the development;
- Only very limited areas of cycle parking for visitors shall be provided within the key spaces. These shall only be located adjacent to shared facilities or building entrances;
- Cycle parking provision shall comply with Cambridge City Cycle Parking Standards. Cycle racks and stands shall conform to the design and dimensions set out in Cambridge City Cycle Parking Standards.

- Servicing and service yards, shall not be visible from the key spaces and primary streets. Service yards shall be screened by new development or the woodland buffer at the site edges.

Car parking



- Any multi storey car parking structures shall be located in the zones indicated on the diagram: along the northern, western and eastern site edges - but not along the southern development edge;
- Lower ground or basement parking shall be located along Charles Babbage Road;
- Car parking areas in basement or semi-basement and their access points shall not be visible from and shall be located away from the primary streets;
- Clear pedestrian routes to all major car parking areas and structures shall be provided. Pedestrian access shall be carefully considered to ensure that users can access parking easily and safely;
- Surface car parking shall be permitted along the woodland buffer edge to the west of the site;
- Surface car parking within public realm shall be kept to a minimum (disabled parking only) and shall be integrated well into the public realm design;
- On street parking on primary streets shall be used for disabled only and no more than 4 parallel parking bays are allowed in a row.

1.4. Urban structure

1.4.1 The proposed development aims to transform West Cambridge through promoting a new density of development. A greater population density can then support a range of research activities, as well as a wider variety of social amenities and active uses. These amenities will be focused in the key spaces and streets and built form will define these spaces, and form a clear spatial hierarchy and range of different spaces types.

1.4.2 To enable this spatial hierarchy to be formed, an associated hierarchy of frontages has been developed and the frontage types are described in the following pages. Existing buildings will be incorporated and contribute to this new urban structure (if they are to be re-modelled in the future).

1.4.3 In addition to a new frontage hierarchy, a series of site gateways and potential locations for building accents have been defined.

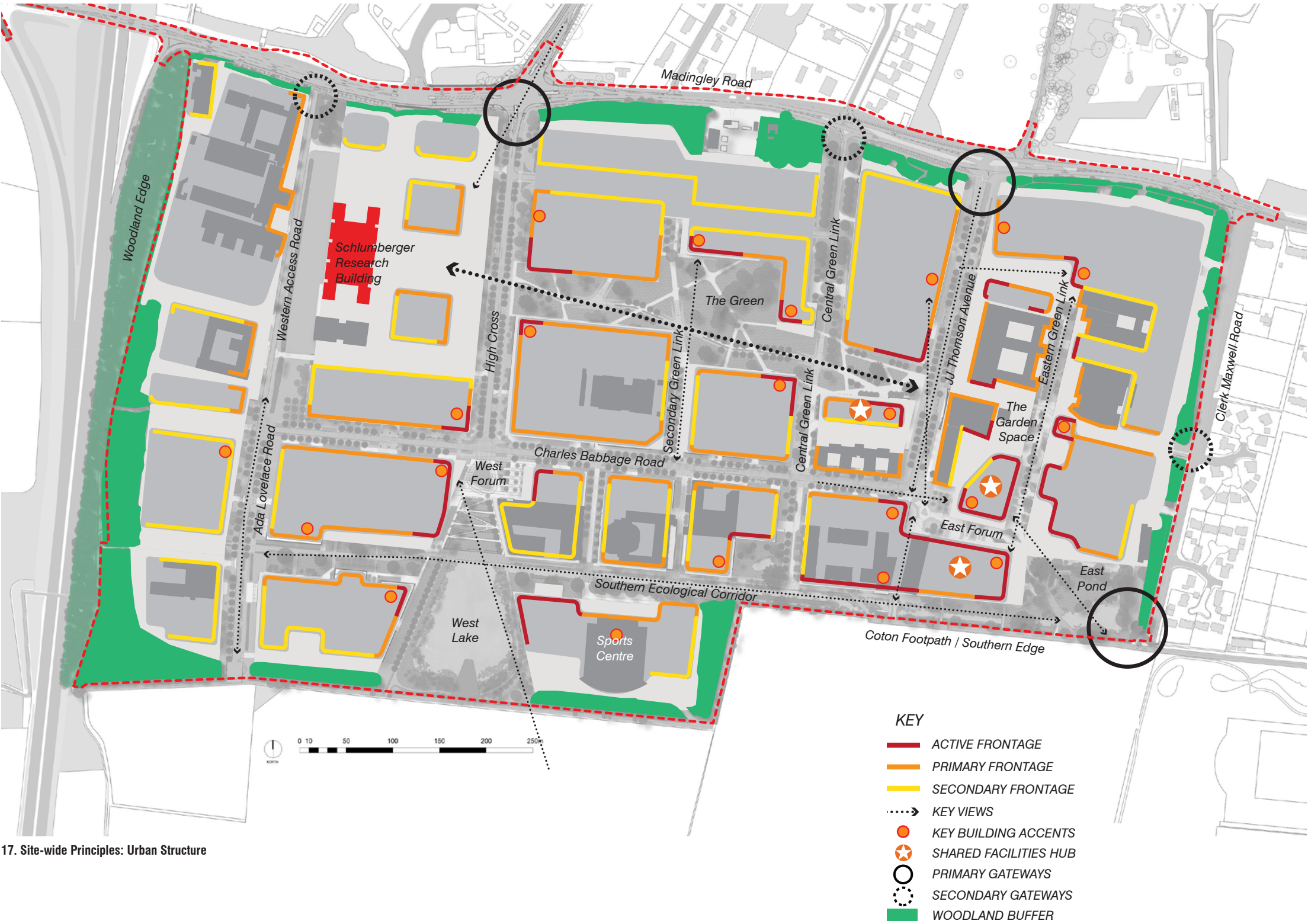
1.4.4 The Listed Schlumberger Research building will remain the primary site landmark and development and development frontage will ensure that this building remains a key visual focus for the site.

1.4.5 The diagram in Figure 17 shows the arrangement of the different types of frontage (for existing buildings and new development), the site gateways and potential locations for building accents across the site.

Incorporating existing buildings

1.4.6 Key principles for incorporating existing buildings are as follows:

- New development shall provide an appropriate setback from existing buildings to facilitate daylight/sunlight (consistent with BRE standards) and ventilation into existing internal and external spaces;
- Proposed development shall allow for good levels of daylight to all external building facades (new and existing buildings), allowing a view of the sky from all occupied areas;
- Where space use allows and where inlets can be at least 10m from sources of external pollution (car parking, roads, plant exhausts, etc), design shall seek that all occupied areas have access to natural ventilation;
- If existing buildings are to be remodelled at any point in the future, they should be re-configured in accordance with the principles set out within this document. Where existing buildings are to be re-modelled, the relevant reserved matters application will set out the interventions to be carried out.



Site gateways, landmarks and building accents

1.4.7 The main site access points as existing do not present West Cambridge as a place of quality or describe the activities that are/will be present. It is the intention that any proposed buildings and landscape in these vicinities, working together, will improve the visual quality of these gateway/entrance locations.

1.4.8 Key principles for gateways and building accents are as follows:

- The Listed Schlumberger Research building shall remain the primary landmark for the site. New development and spaces shall work together to define a new and appropriate setting for this building;
- High quality development and landscape shall work together to re-define the primary access gateways on Madingley Road at JJ Thomson Avenue and High Cross;
- High quality development and landscape shall form a new primary access gateway (pedestrian and cycle only) to the south of the site at East Pond, connecting to the Coton Footpath;
- Any building accents shall be consistent with the approved maximum building heights as set out in Parameter Plan 05;
- Other secondary gateway locations should be located along Madingley Road and Clerk Maxwell Road;
- The gateways should describe different characters to aid legibility and to relate to the key street or space within the site they are associated with. The gateway at JJ Thomson Avenue should have a character which will form a balance between building and landscape elements, while the gateway at High Cross should be broader and more landscape dominated;
- Building accents should be located so that they visually connect with and are associated with the key spaces as set out within this document;
- Where buildings terminate key views (as set out in the Figure 17), built form should provide additional interest/accents. Height may be increased at these points to create variety in skyline and massing, but shall remain in accordance with Parameter Plan 05.

Frontage types

Primary frontages

1.4.10 These frontages are highly visible, and are located to provide strong definition, enclosure and overlooking to the key spaces and primary streets, namely: East and West Forums, The Green, the Southern Ecological Corridor, JJ Thompson Avenue, High Cross, Charles Babbage Road, Western Access Road and the Eastern Green Link.

1.4.11 These frontage types will not contain active uses, but will accommodate major and minor building entrances and lobbies.

1.4.12 Key principles for Primary Frontages are as follows:

- Primary frontages shall be of high quality design and be well articulated with fenestration, other façade elements and/or use of materials;
- Car parking access shall not be located along these frontages at ground level;
- Any car parking located within the ground or lower ground floors of these frontages shall be well integrated into the frontage design and shall not reduce overlooking of the adjacent street or public space;
- Provision for servicing of buildings shall not be located in primary frontage locations;
- Primary frontages shall incorporate building entrances to new and existing development and/or fenestration, providing a degree of overlooking to public space.



18. Primary Frontages

Active frontages

1.4.13 These are primary frontages that also feature and give prominence to the activity held within the related building and provide greater animation to the adjacent public realm. Active uses proposed within the development will range from major canteens, cafés and shops to be located on ground floors only; to academic break out space, major circulation spaces, study spaces and meeting rooms which could also be located on upper levels.

1.4.14 Major entrances and lobbies to buildings are also defined as components of active frontages (since they provide a high degree of activity in the public realm).

1.4.15 The development will cluster active frontages at the key spaces: the East and West Forums, the East Pond gateway space, and at highly visible locations along The Green and the Southern Ecological Corridor frontages.

1.4.16 Key principles for ground floor and upper floor Active Frontages are as follows:

- Ground floor active frontage shall ensure high levels of physical connection and visual transparency between internal spaces and adjacent external public realm;
- Ground floor active frontages shall provide a high degree of overlooking to adjacent public realm;
- Car parking and car parking access shall not be located along these frontages at ground level; and car parking shall not be visible within the ground floors of these frontages;
- Service areas and plant shall not be located at active frontage locations (both ground and upper floors);



19. Active frontages



20. Active Frontages: entrances to buildings

- Activity from within the ground floor active frontage should spill-out into adjacent public realm; for example cafe tables and chairs, outdoor teaching space, etc;
- Activity on upper floors should also feature as part of an active frontage, and this type of active frontage should relate to any academic social spaces set above ground floor;
- The inclusion of upper level active frontages can bring additional animation and overlooking to key spaces and provide further variation to frontages. These elements should be celebrated within the frontage design and should contribute an additional sense of activity within the adjacent public space;
- This upper level activity should be considered primarily on frontages overlooking The Green (providing views back to the city centre skyline) and on the Southern Edge (providing south facing views over open countryside) as well as other active frontage locations (see Figure 17).

Secondary frontages

1.4.17 These frontages are located where good enclosure and definition of spaces is required. These are less visible frontages which overlook and enclose secondary spaces and streets such as: Ada Lovelace Road, tertiary streets and Green Links.

1.4.18 Key principles for Secondary Frontages are as follows:

- These frontage types should have a lesser quality of design articulation than primary frontages, but should still provide a level of interest and articulation;
- These frontage types should provide enclosure to secondary or ancillary spaces.



21. Secondary Frontages

Facade treatment

1.4.19 Key guidelines for the material treatment of facades are as follows:

- Transparent façades shall be used for active frontages and for publicly accessible parts of the proposed buildings;
- Colour choice of façade materials shall be carefully considered, as very light or reflective facade treatments can have greater impact on the surrounding landscape and views to the development;
- Highly visible façades, located at sensitive edges and/or facing key spaces shall be treated using high quality materials and detailing;
- Some research buildings will have greater requirements for servicing areas and/or sensitive technical areas which will result in some blank façades. These blank façades shall provide variation and interest through use of setbacks, varied roofline and use of materials and planting;
- Treatment of façades shall be sensitive in scale and the use of materials;
- Materials for less visible façades shall be robust and designed to age well.



22. Longer frontages - use of setbacks and roof line variation

Frontage lengths

1.4.20 It is anticipated that the type of uses that will make up the West Cambridge development, will require relatively large format floor plates. In addition, the development strategy rests on the creation of large multi-storey car parking structures. Both these types of buildings and structures may give rise to long, unbroken frontages.

1.4.21 To mitigate this and ensure that longer frontages can still contribute to creating character and variation, a set of principles are set out which provide possible design strategies to minimise long, unbroken frontages. This page and the following (Figures 24 and 25) provide a description of these strategies which include:

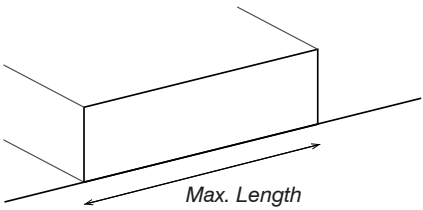
- variation in build-to line, height or roofscape;
- a variety of architectural treatment related to architectural elements and/or materials;
- gaps, setbacks and variation in building line (further requirements are provided in the following Sections);
- Landscaped gaps and setbacks, incorporating trees.

1.4.22 The key principles for the treatment of long frontages are set out below:

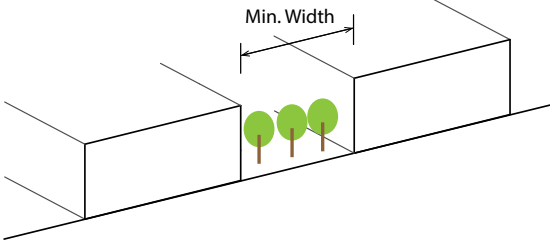
- The maximum length of an uninterrupted building frontage and/or roof line shall not exceed 50m;
- The frontages longer than 50m shall employ at least one of the strategies described on in Figure 24 and above for breaking the long frontages. The choice of one or more of the strategies will depend on the location on the site: some strategies will be better suited for the site edges (for example using planting adjacent to woodland buffers) others will be required along streets or key spaces (for example varying roof lines and building lines).



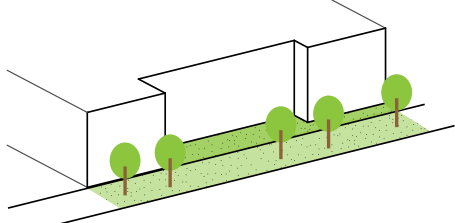
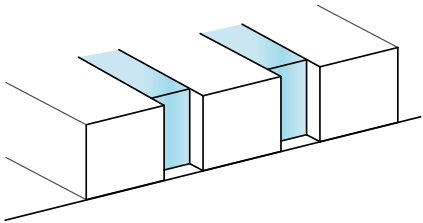
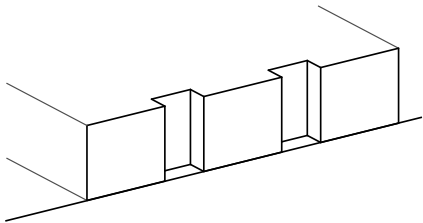
23. Longer frontages - use of setbacks and incorporating landscape



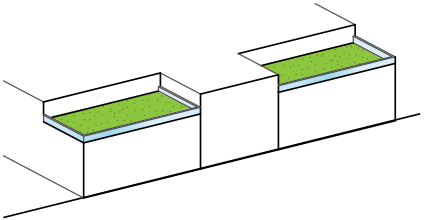
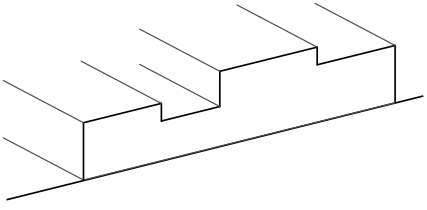
Maximum length of uninterrupted building frontages and/or rooflines shall be limited to 50m.



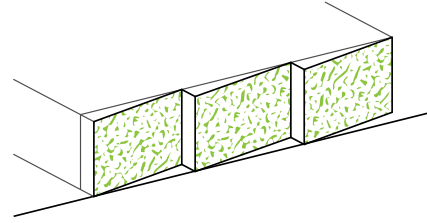
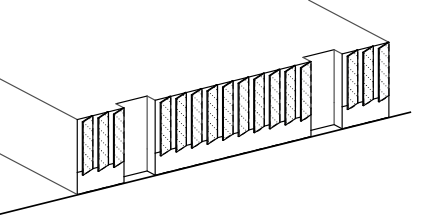
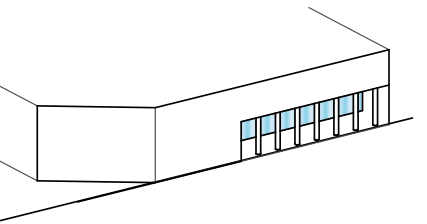
In a number of places, landscaped gaps and links are protected by parameter plans and/or design guidelines and their minimum width is defined. In addition to these gaps, where possible, landscaped frontage breaks should be introduced to break long frontages and provide additional greenery to the site.



Variation in plan: by introducing indents, glazed gaps, partial building set backs (variation in building line), setbacks with foreground landscaping and trees etc.



Variation in rooflines: by variation in height or by partial setback of upper floors or arrangement of cores. Setbacks and lower parts of roofs may be usable terraces and edge planting or green/brown roofs may be considered. The partial upper floor setbacks shall be minimum 1m deep. This document provides dimensions for setbacks in the specific locations where they are required.



Variation in facade elements and treatments: introduction of colonnades or overhangs, chamfers or treatment with different materials etc. Use of planting: foreground planting and climbers on trellises, which could be particularly useful in cases of blank façades

Multi-storey car parking structures (MSCPS)

1.4.23 As part of the West Cambridge movement strategy a number of multi storey car parking structures are proposed. These will be located at the edges of the site to minimise traffic movements within the site, ensuring that a pedestrian and cycle orientated environment can be created and maintained within the heart of the site. Some of these structures will be located close to residential areas and Conservation Areas on Madingley Road, and so the treatment of these structures becomes important to ensure that visual impacts are minimised on the surrounding areas.

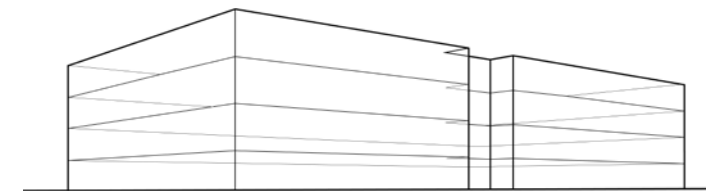
1.4.24 Guidelines for the treatment of large volume MSCPS are as follows:

- Car parking structures shall conform to maximum height parameters and any additional height or frontage guidelines contained within this document that are applied to their location;
- Lengths of unbroken frontages on MSCPS shall be limited to 50m;
- Frontage lengths longer than 50m shall be broken by introducing one or more of the strategies and/or other measures described in the following text and in Figure 25, which achieve the effect of introducing variety and breaking down the frontage length.

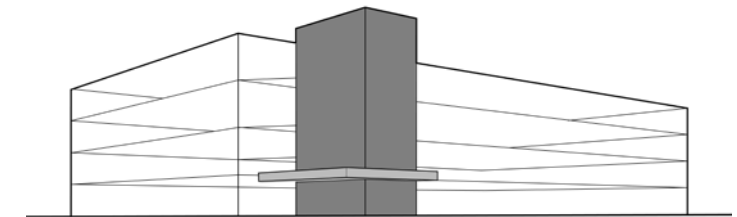
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1.4.25 In order to achieve further articulation of these buildings and frontages, the following strategies should be applied. These can be applied individually or one or more strategies can be employed along a frontage. The appropriate strategies include:

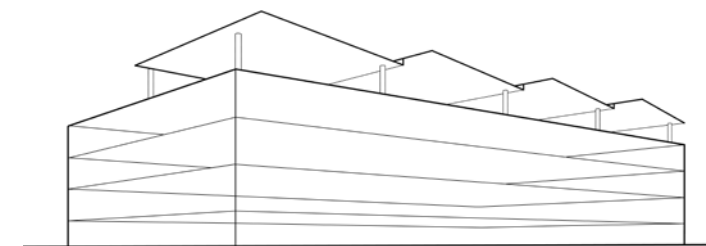
- Massing should be varied by using indents and setbacks;
- Larger volumes of MSCPS should be broken by conjoining smaller volumes of parking and/or by varying their heights; by introducing simple floor plate variations between different floors; by detaching or treating cores separately, etc.;
- Any pedestrian access points should be celebrated and made visible and vertical cores should be formally separated;
- Variation in roof line should be introduced by accentuating cores, introducing oblique roof lines, varying roof elements or dimensions of facade elements, etc.;
- At the site edges vegetation should be used, for example: by planting trees along frontages; partially raising adjacent terrain and planting on it, etc. Care should be taken to ensure that planting is placed in locations in that will receive adequate sunlight for growth;
- Facade materials should be varied: either vertically or horizontally;
- Using transparent facade materials, especially on ground and top levels;
- Where appropriate, interest should be introduced through integrating or wrapping MSCPS with other uses (such as cycle parking, storage facilities etc.) on ground floors. This would be important particularly in zones with higher visibility and footfall.



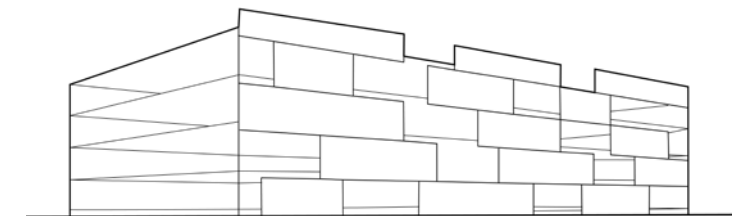
Variation in building line - breaking long car park frontage with a 'notch'



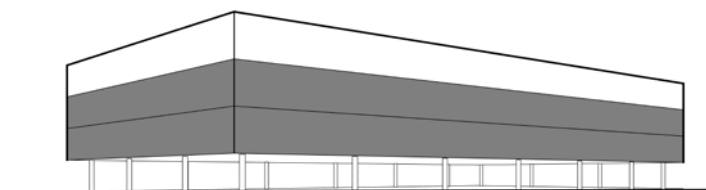
Variation in building line - celebrating cores and access points



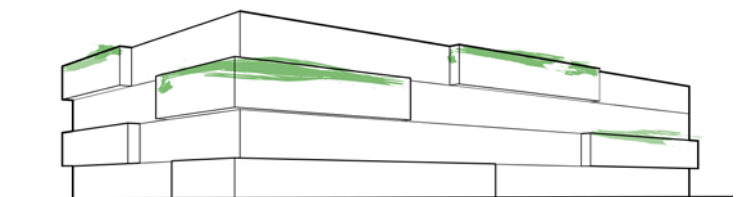
Variation in massing and roof line - through set backs or creating rhythm and breaking the eaves line



Variation in massing and roofline - breaking the eaves line



Materials - forming a base, middle and top



Materials - projections may be used to break up frontage and add planting

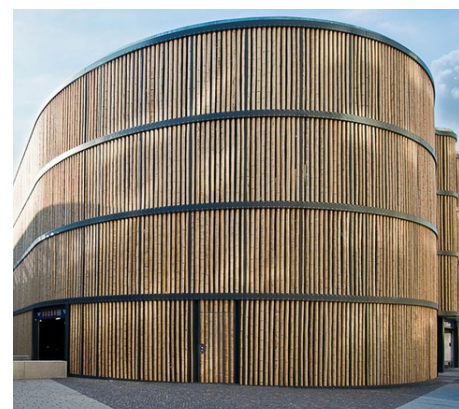
25. Car parking structures - consideration must be given to limiting frontage length and variation in massing and roofline and uses of materials



26. Parking structure in La Coruna:



27. Climbing plants on simple screen structure



28. Use of natural materials



29. Celebrating entrances and cores



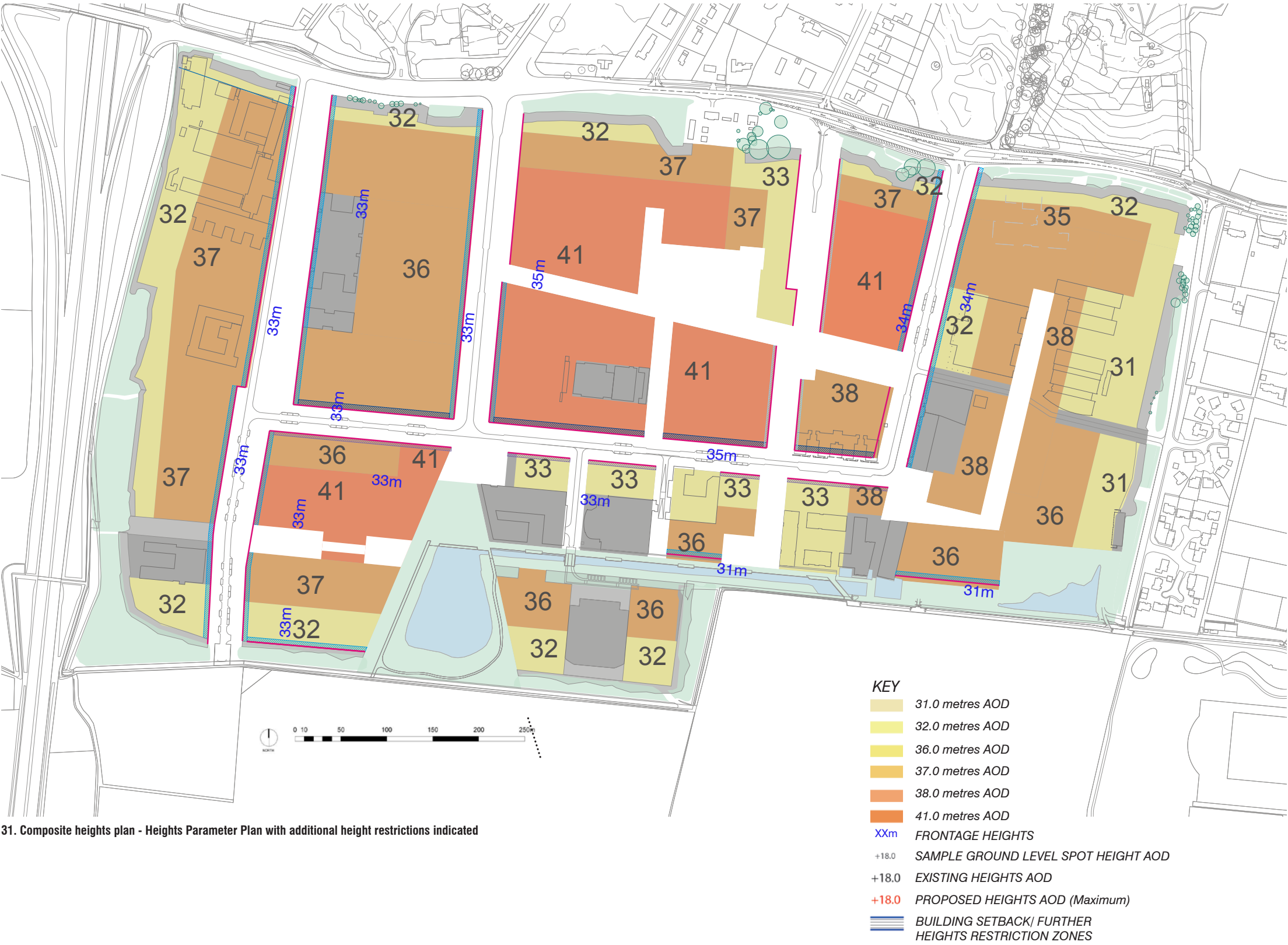
30. Variation in massing and material

Vertical variation in materials and variation in massing by treating the core separately

1.5. Massing, roofscape and skyline

- 1.5.1 The new development will transform the West Cambridge site by introducing a new urbanity and greater density of development. Managing this new density to provide interest, variation in roof line, as well as form new roof-scape in a purposeful and legible way, is a key driver for both the planning Parameters and the Guidelines held within this document.
- 1.5.2 Both the Guidelines and Parameter Plans serve to manage the proposed development at the edges of the site to ensure reduced visual impact for residential and Conservation areas adjacent to the site and landscapes further afield.
- 1.5.3 The heights are generally taller towards the centre of the site around The Green. Guidelines within this document ensure that this space receives good daylight and sunlight penetration.
- 1.5.4 Although heights are generally taller in the centre of the site, around the Listed Schlumberger Research building heights have been kept lower to ensure that this iconic building remains the key site landmark within the site.
- 1.5.5 Parameter Plan 05 sets out the maximum height envelopes, and ensures that lower development is located at the site edges and higher development tends to be located within the central part of the site.
- 1.5.6 Figure 31 on this page reproduces Parameter Plan 05, but also indicates the areas where there are additional height restrictions.
- 1.5.7 The guidelines within other sections of this document provide the detail of these additional height restrictions. The additional restrictions vary according to location within the development. For example, some restrictions ensure that development heights are held below the height of the woodland buffers at the site edges, others protect the character and good functioning key spaces, ensuring good daylighting and sun penetration for outdoor uses, while others ensure that appropriate enclosure and definition is applied to the existing streets.
- 1.5.8 The following applies site-wide:

- The additional height restrictions described within later sections of this document shall be adhered to, and are found in the following sections of the document:
 - Key spaces – see Section 02;
 - Streets and Green Links – see Section 03;
 - Site edges – see Section 04.



Roofscape and skyline

1.5.9 A key aim of the development is to create a varied roofscape and new skyline for the site.

1.5.10 Key guidelines for creation of a new site-wide roofscape and skyline are as follows:

- Development shall be located and formed in ways that ensure that the key public spaces are not excessively over-shadowed, and good daylighting and sun penetration is allowed to key active/spill out external spaces (consistent with BRE standards);
- The development of continuous roof lines of consistent height along the key spaces, streets and Green Links shall be avoided and preference shall be given to compositions with varying roof lines and accents;
- Where buildings terminate key views, built form should respond with building accents. Height may be increased at these building accent locations, consistent with the approved building height parameters;
- The use of rooftop public or communal spaces or outdoor terraces should be considered to help vary the skyline and provide views from development across to the city centre skyline and to open countryside to the south.

1.5.11 Further guidelines for building accents are provided in Section 01 - site-wide Urban structure, of this document.



32. Rooftop Plant - minimal - impacts can be minimised by setting back from frontage line

Treatment of plant

1.5.12 Research laboratories with controlled environments, which are expected to constitute a significant proportion of buildings at West Cambridge, are likely to require large areas of plant and servicing.

1.5.13 Based on the existing buildings on the site and examples from elsewhere, the plant requirements are expected to be either: minimal (for buildings with predominantly office type space); medium (for buildings with some serviced laboratories); or large (for buildings with a significant portion of serviced and/or some highly serviced laboratories). The different types of requirements will require different approaches in design. The buildings already existing on site provide examples of possible treatments:

- Minimal rooftop plant - e.g. William Gates Building;
- Minimal amount of side plant - plant as a separate structure (e.g. Maxwell Centre);
- Medium amount of rooftop plant – up to an additional storey of development (up to +5m) with a setback e.g. Electrical Engineering Building;
- Large amount of rooftop plant – plant required to occupy entire roof with up to 2 additional storeys of development (up to +7m) e.g. Chemical Engineering and Biotechnology or Material Sciences and Metallurgy buildings;
- Medium or large amount of side plant - plant occupying significant parts of facade on all or most levels (not just the top level), e.g. Cavendish III proposals;
- Flues e.g. Physics of Medicine, Chemical Engineering and Biotechnology.



33. Rooftop Plant - medium plant integrated within the elevation of the building

1.5.14 The following sets out the principles for all of the types of plant listed above. Further location specific guidelines in terms of height restrictions and frontage set backs are provided in other sections of this document.

- Rooftop plant areas shall be within the height parameters set in the Parameter Plan 05;
- The impact of plant (and rooftop plant in particular) on building design and on open spaces shall be carefully considered from the concept stage of design;
- Wherever possible, plant shall be placed on roofs in locations where it will not be visible from the public realm;
- Any plant required to be provided as a separate structure shall not be located next to or within the Key spaces;
- Screening or parapets around plant locations shall be employed to reduce visibility of plant locations and reduce clutter;
- Long distance views shall be considered in the location of plant;
- Plant should be considered as a way to add variation and interest in the roofscape.



34. Rooftop Plant - screening of a large amount of rooftop plant space

1.5.15 For Medium and Large amounts of plant and flues, the following guidelines will be applied:

- This kind of plant shall be considered as part of architectural concepts and building massing as an additional storey of the building. The roof plant will unavoidably be visible from public realm and so shall be treated with appropriate materials;
- Visual impact of large plant areas shall be reduced by breaking their volume and providing variation in rooflines;
- Any parts of building facade related to plant shall not be inferior to the rest of facade in materials and treatment;
- If larger flues are required, they shall be treated as part of the architectural concept design and placed in locations that don't overwhelm key open spaces.

Flues

- Flues may exceed the set heights by 8m. In cases where technical (including the environmental) reasons require flue heights to exceed the set heights by more than 8m, the building height should be adjusted to allow the flues to comply to the height restriction set in the Parameter Plan 05;
- Where possible, flues should be screened and set back from main elevations to reduce their impact on public realm;
- Flues should be used to add variation and interest in roofscape.



35. Rooftop Plant - flues can be above the Maximum Building Heights set in Parameter Plan 05

1.6. Land use and amenities

1.5.16 A key aim of the proposed development is to promote collaboration through co-location, adjacencies and sharing of facilities. The development proposal has considered the opportunities for collaboration and facilities will be included which provide both efficiency of use, and work and leisure opportunities for the university and commercial occupants.

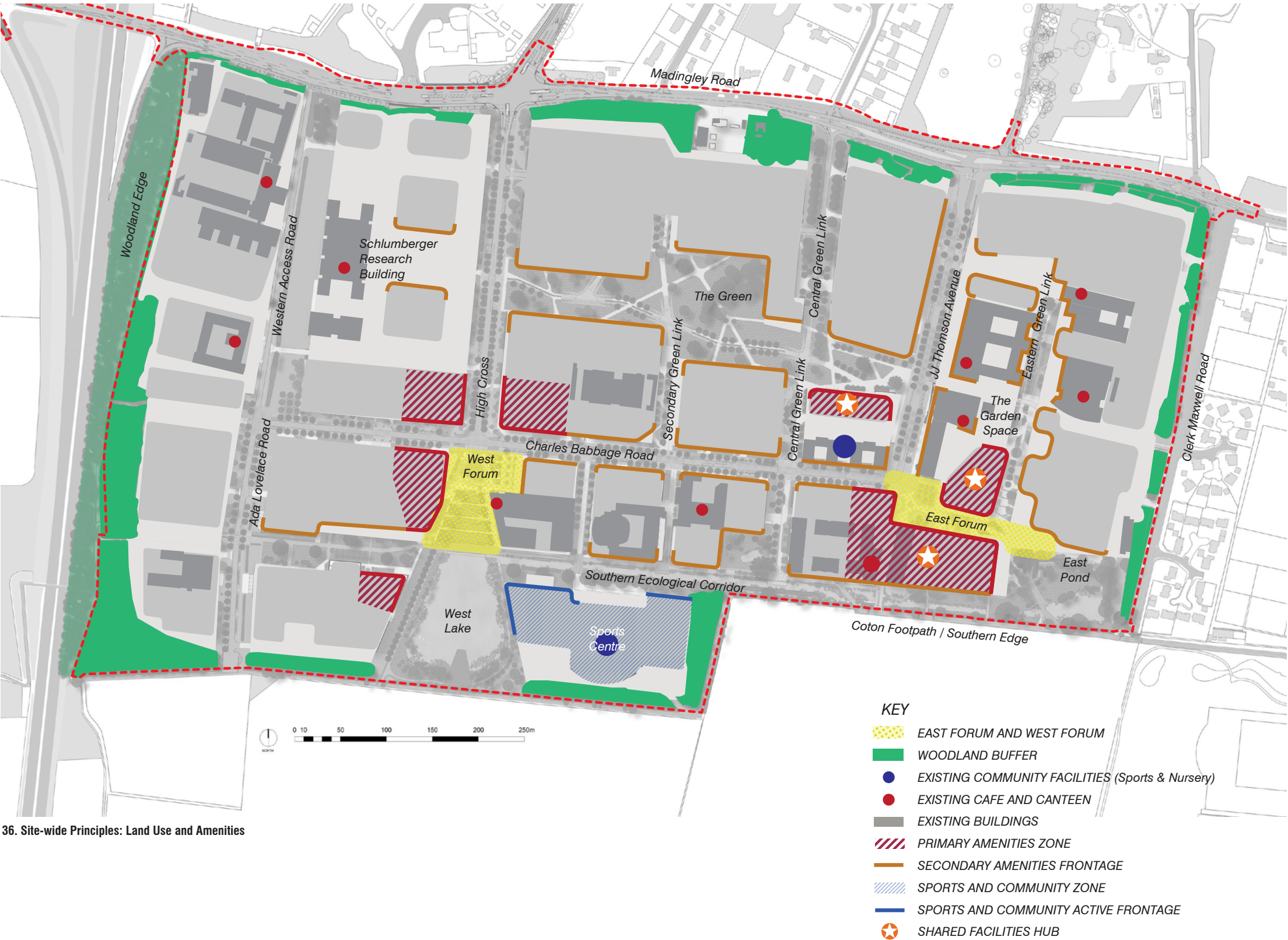
1.5.17 The majority of uses on the site are either academic or commercial and these are blended across the site. This academic and commercial allocation will also include social amenities, some in the form of major Shared Facilities hubs. In addition, there is a provision for other catering and retail facilities, which are categorised as Land Use Class A1-A5.

1.5.18 There are two types of amenity zones identified on the plan in Figure 36: Primary and Secondary amenity zones.

Primary amenities zones

1.5.19 Key guidelines for the Primary amenities zones are as follows:

- Primary amenities zones are locations where amenities with site-wide reach and importance shall be located. These include: large catering facilities; cafes and retail; clusters of meeting and teaching spaces; study/library spaces and other similar spaces. Some of the academic amenities can be located on upper floors, but any large catering facilities, retail or cafes shall only be located on ground floors. This is to ensure that ground floors animate the key areas of public realm;
- Primary amenities zones shall primarily be located in the East and West Forums;
- Major academic social amenities shall be located outside of the 'security line' of the building within which they are located, so they can be accessible not only to building users, but also to a wider group of users and visitors;
- Additional primary amenities shall be located in extensions of the East and West Forums. This includes amenity zones on interfaces of The Green with JJ Thomson Avenue and West Forum with the Southern Ecological Corridor;
- If the required provision of primary amenities exceeds spatial capacities at the primary amenity zones, they should also be located along secondary amenity frontages. If this is the case, these spaces should be visible and accessible to wider site users.



36. Site-wide Principles: Land Use and Amenities

Secondary amenities frontages

1.5.20 Key guidelines for Secondary amenities zones are as follows:

- Amenities shall appear at minimum sporadically (i.e. they are not required to occupy the entire marked length of frontage as indicated in Figure 36). This is to ensure some activation and overlooking of primary streets and spaces outside of the Forum spaces;
 - Uses that shall occupy Secondary amenities zones shall be major building entrances, entrances with extended social use, academic social spaces such as meeting and teaching spaces; study/library spaces and other similar spaces. In addition, smaller scale spaces such as coffee points/small cafés, gathering spaces shall be located along these frontages;
 - Secondary amenity frontages shall be located along The Green, JJ Thomson Avenue and Charles Babbage Road, Southern Ecological Corridor and the Eastern Green Link;
- There should be a provision of sports and community use around the existing Sports Centre. This is also the preferred location for a potential additional nursery;
 - if any existing building is to be reconfigured in the future - consideration should be given to the introduction of active uses at ground floors overlooking the key spaces such as JJ Thomson Avenue, the Eastern Green Link and the Southern Ecological Corridor.

Shared Facilities hubs

1.5.21 Guidelines in relation to the Shared facilities hubs and any community activity hubs are as follows:

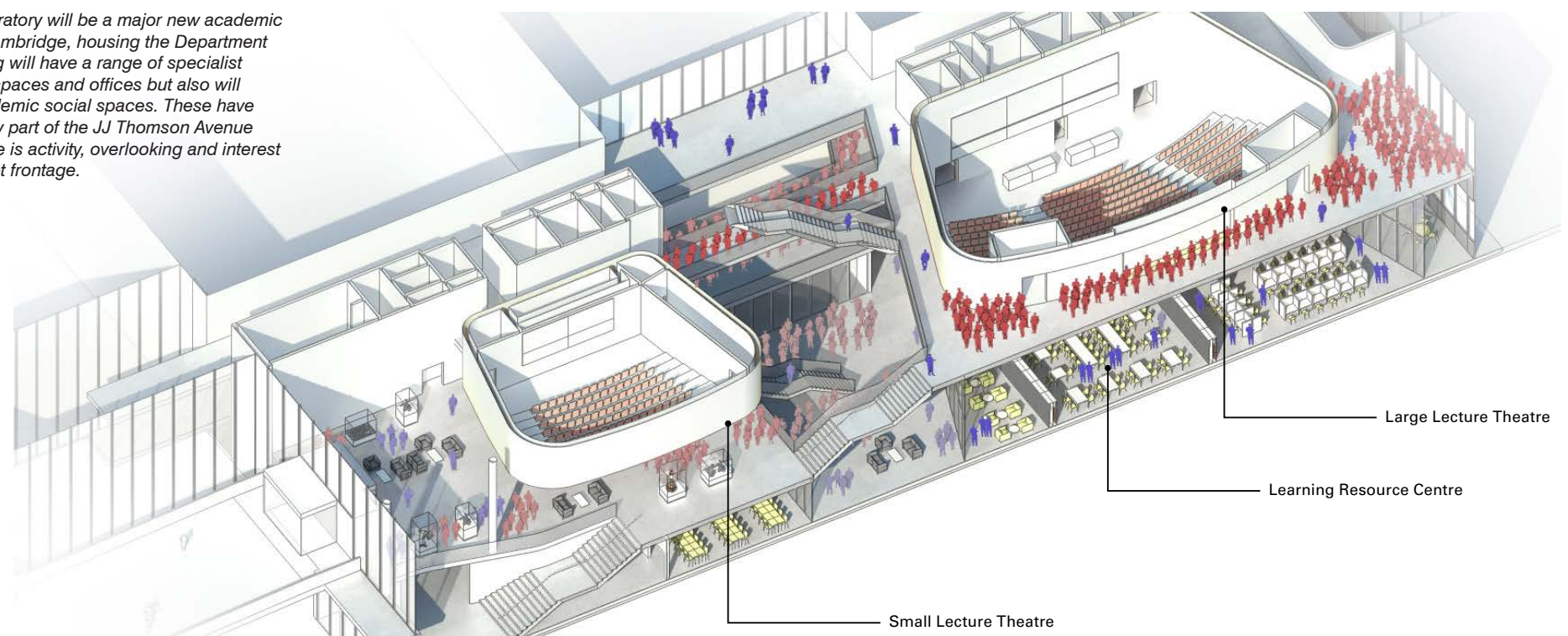
- Shared facilities should include:
 - Shared teaching facilities for University purposes;
 - Shared services for University purposes;
 - Catering facilities open to University, visitors, and commercial occupants;
 - General formal and academic less formal meeting facilities open to University, visitors, and commercial occupants;
- These hubs should be accessible by a range of site users, visitors, and the general public. They should provide a range of facilities, and act as a focal point for local events, promotions and day-to-day activities.

The JJ Thomson Garden Shared Facilities hub will provide new shared social and academic facilities. These will be accessible to all site users and include: a major canteen, cafe, meeting rooms and study spaces. The building provides ground floor active uses to JJ Thomson Garden and JJ Thomson Avenue as well as locates other social and active spaces on upper floors overlooking and further animating The Green. The building's frontage has a high degree of transparency on ground floor especially but is designed so that the range of active/social uses will be visible throughout the levels of the building.

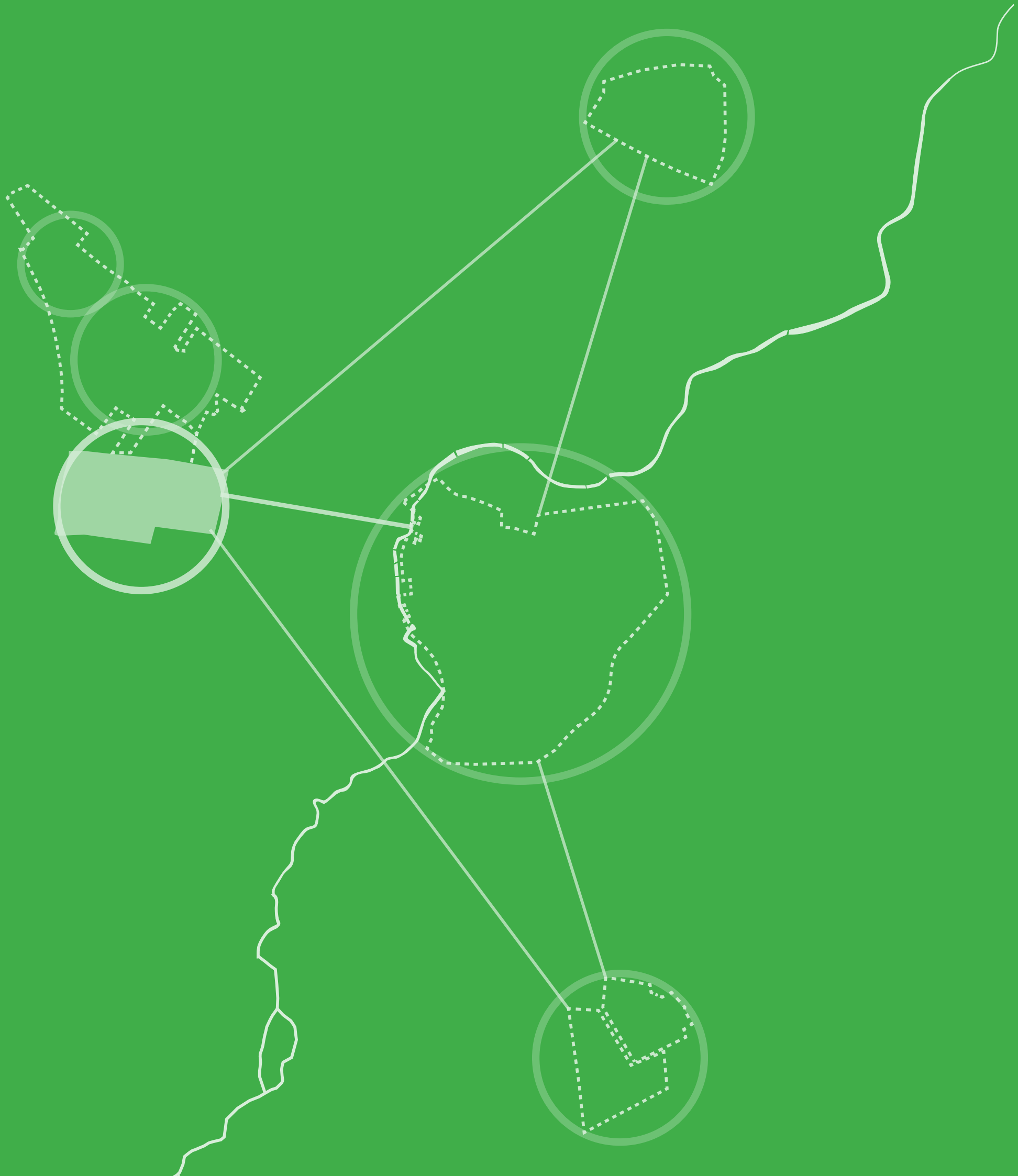


37. Emerging proposals for the Shared Facilities Hub at JJ Thomson Gardens

The Cavendish III Laboratory will be a major new academic building within West Cambridge, housing the Department of Physics. The building will have a range of specialist laboratories, teaching spaces and offices but also will require a range of academic social spaces. These have been located to occupy part of the JJ Thomson Avenue frontage to ensure there is activity, overlooking and interest along this Primary street frontage.



38. Academic activity on upper floors - emerging Cavendish III Laboratory proposed active frontage to JJ Thomson Avenue



KEY PLACES

02

2. KEY PLACES

2.1. Introduction

2.1.1 The proposed development is structured around four **Key Places** which will play a vital role in defining the character of the site. These are: **West Forum, East Forum, The Green** and the **Southern Ecological Corridor**.

2.1.2 The intention is for a gradual transformation over time as new academic and commercial occupiers move in. Streets and spaces will be upgraded in-line with new development coming forward, for example JJ Thomson Garden, parts of the Central Green Link and the upgrade of JJ Thomson Avenue will take place in parallel with the development of the new Cavendish III Laboratories.

2.1.3 In this section, guidelines are provided for each of these Key Places.

2.1.4 These guidelines refer to:

- Public realm and landscape, including their character and structure, and principles for landscape design;
- Urban structure; and
- Access and movement.

2.1.5 The guidelines are supported by indicative visualisations based on the illustrative masterplan, explaining key concepts and illustrating some of the guidelines.

2.1.6 The following guidelines apply to all key places:

- Buildings fronting onto key places shall be designed to provide interesting and articulated façades, with entrances, shared spaces and visual connections between outdoor and indoor spaces through extensive fenestration at ground floor, including use of glazed façades. Extensive blank walls to these frontages shall be avoided.



39. West Cambridge Key Places: West Forum, East Forum, The Green and the Southern Ecological Corridor



40. West Cambridge Illustrative Masterplan - view of the East Forum

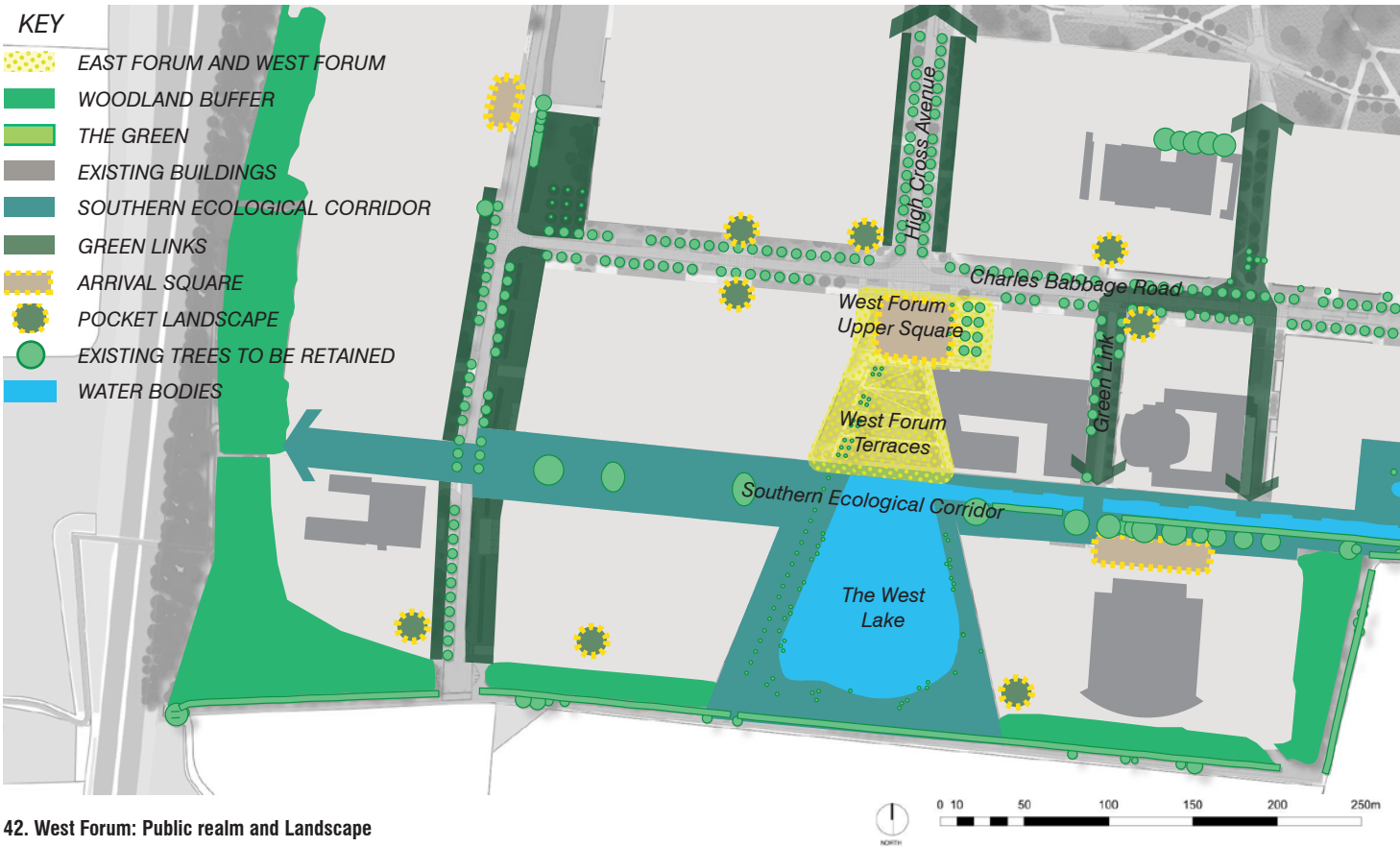
2.2. West Forum

Public realm and landscape

2.1.7 The West Forum has been designated as an important social hub for the West Cambridge site. It is located at the end of High Cross and at its junction with Charles Babbage Road. From here it connects across the levels of the site to the Southern Ecological Corridor and West Lake.

2.1.8 Key guidelines for the West Forum spaces are as follows:

- The West Forum shall be composed of the West Forum Upper Square, a paved 'urban' space and the West Forum Terraces, a series of green terraces connecting to the Southern Ecological Corridor and West Lake;
- The development around West Forum Upper Square shall be of relatively higher density and development shall transition towards lower density and lower heights at the southern edge of the site.



42. West Forum: Public realm and Landscape

Access and movement

- The West Forum spaces shall be pedestrian only spaces. Movement of motor vehicles and cyclists is rationalised and confined to primary and secondary streets and routes, as shown in Figure 42.

Cycle movement and parking

2.1.9 Key guidelines for cycle movement and parking are as follows. The hierarchy of routes as shown in Figure 42 is mandatory but the alignment may vary:

- The strategic pedestrian and cycle route shall be maintained through the Southern Ecological Corridor. Another dedicated cycle route shall be located along High Cross;
- Cycle parking hubs shall be located to the west of Ada Lovelace Road. These shall be accessed directly from the strategic pedestrian and cycle route;
- Large areas of cycle parking shall not be located within the West Forum spaces or the Southern Ecological Corridor;
- Cycle parking should also be located with other car parking structures along Charles Babbage Road.

Movement of motor vehicles

2.1.10 Key guidelines for movement of motor vehicles are as follows:

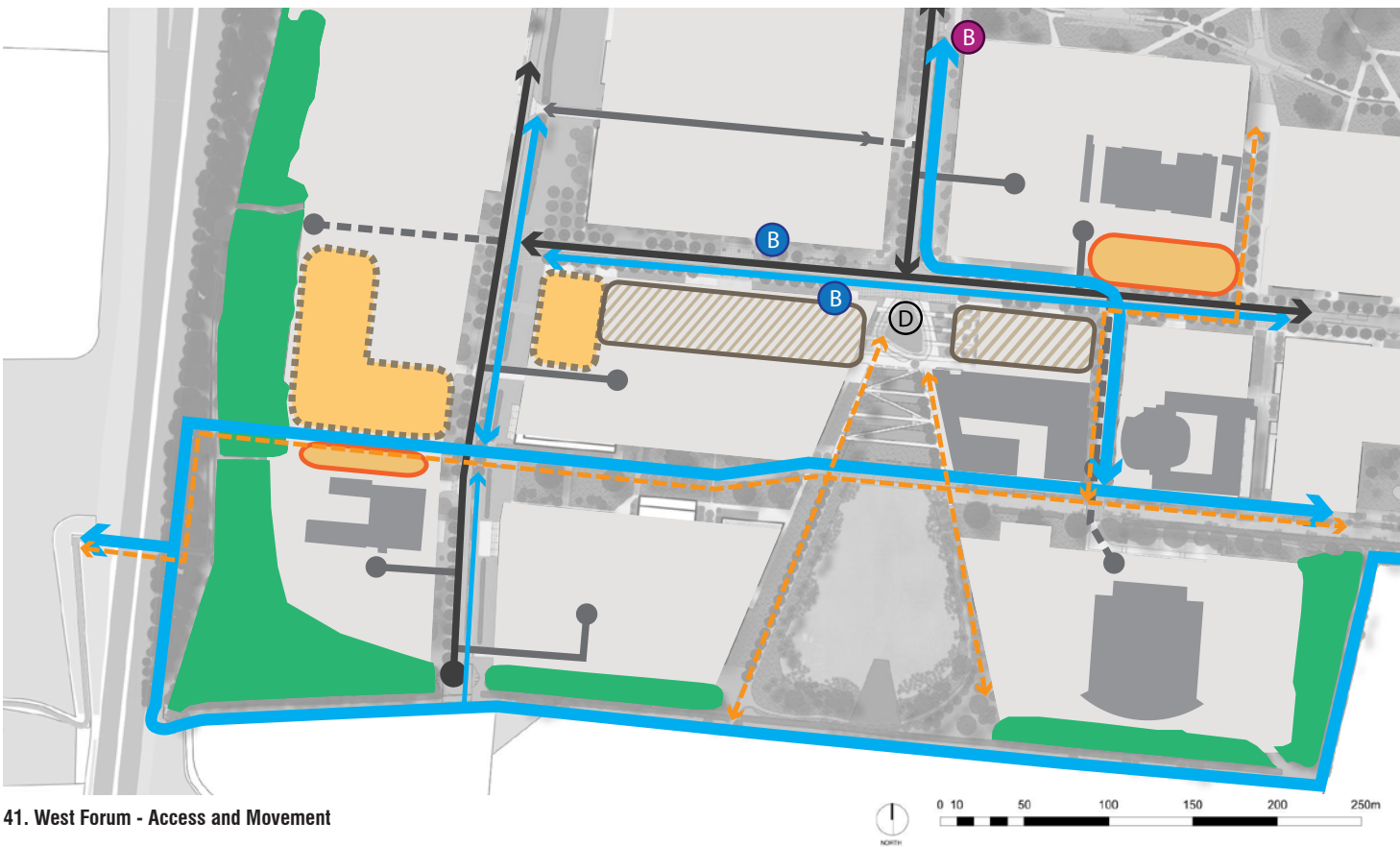
- Servicing shall be primarily from Ada Lovelace Road;
- There shall be no vehicular access along the eastern frontage overlooking the West Forum spaces and West Lake;
- The West Forum shall accommodate the primary arrival and drop-on/drop-off location for the west of the site;
- If required, additional servicing should occur from Charles Babbage Road only.

Car parking

2.1.11 Guidelines for car parking are as follows:

- Car parking structures shall be located away from the West Forum spaces, and primarily to the west of Ada Lovelace Road, and linked by clear pedestrian routes;

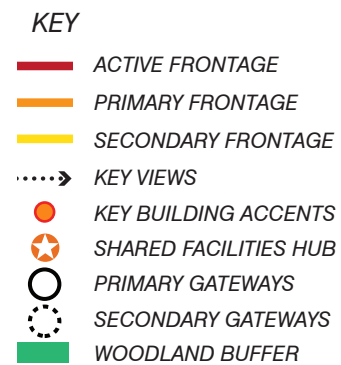
- Any additional car parking should be accommodated along Charles Babbage Road, using the topography of this part of the site to accommodate the car parking below street level, in a semi basement.



41. West Forum - Access and Movement

Urban structure

2.2.1 The proposed urban structure aims to intensify the use of and increase the enclosure of the West Forum. Frontage types and built form is organised to provide visual accents and activity to this key place.



44. West Forum - Urban Structure

Building accents and gateways

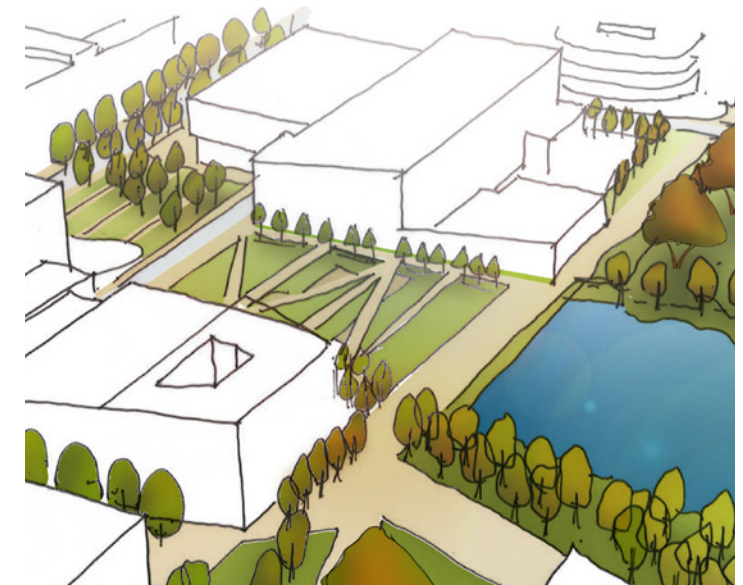
2.2.2 Key guidelines for building accents and gateways are as follows:

- All development heights shall conform to approved maximum height parameters;
- A building accent shall be located on one corner at the junction of High Cross and Charles Babbage Road. This accent shall have a strong visual connection with the West Forum Upper Square. This location serves to mark the West Forum spaces within the development;
- Development shall form a primary/active frontage to the West Forum spaces. This frontage will be viewed from across the West Lake and consideration should be given to use of materials, building line and skyline to ensure that a coherent urban element is formed;
- Other building accents should be located to mark corners, terminate views and relate to key spaces, such as where the Southern Ecological Corridor meets the West Forum/West Lake space.

Frontage types

2.2.3 The diagram in Figure 44 shows the location for the three types of proposed frontage:

- **Active Frontages:** new development shall form new active frontage to the West Lake, the West Terraces and the West Forum Upper Square spaces. These frontages may comprise ground floor active uses, building entrances and lobbies. These uses shall have the opportunity to spill out into the adjacent public realm;
- **Primary Frontages:** shall extend along the Southern Ecological Corridor, West Lake, Charles Babbage Road and High Cross;
- Development along the Southern Edge shall respond to long distance views. Long frontages here shall be broken/varied and additional tree planting and landscape shall be introduced to provide a softer, woodland edge;
- **Secondary frontages:** more informal frontages shall be located along adjacent Green Links and Ada Lovelace Road.



43. West Forum - West Forum Terraces



45. West Forum - Active frontage, views and building accents

West Forum - Landscape principles

2.2.4 Guidelines for the West Forum spaces are as follows:

- The West Forum Upper Square and West Terraces shall retain their existing characters, but any interventions shall ensure that the spaces feel part of a visually integrated series of spaces;
- The spaces constituting West Forum shall have a strong visual relationship with the proposed built form around the edges of the space;
- Integration of landscape shall be achieved through a common approach to any new planting or public art and any new street furniture and lighting.

West Forum Upper Square

2.2.5 Guidelines for the West Forum Upper Square are as follows:

- The West Forum Upper Square shall be reconfigured in order to provide a vehicular central drop-on/drop-off. This facility shall be designed so that it promotes pedestrian movement and minimises conflicts between pedestrians and vehicles;
- The design of the Upper Square shall ensure clear visibility of the West Lake and wider countryside to the south;
- The existing planting shall be retained and be integrated in the new layout.

West Forum Terraces

2.2.6 Guidelines for the West Forum Terraces are as follows:

- The existing structure and ramp configuration shall be retained;
- New hedges and grasses planting shall be incorporated throughout the slope/terraces and contribute to forming/defining new, sheltered seating areas;
- Additional steps should be built into the terraces and designed to allow for seating and gathering.

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Surface/paving treatment

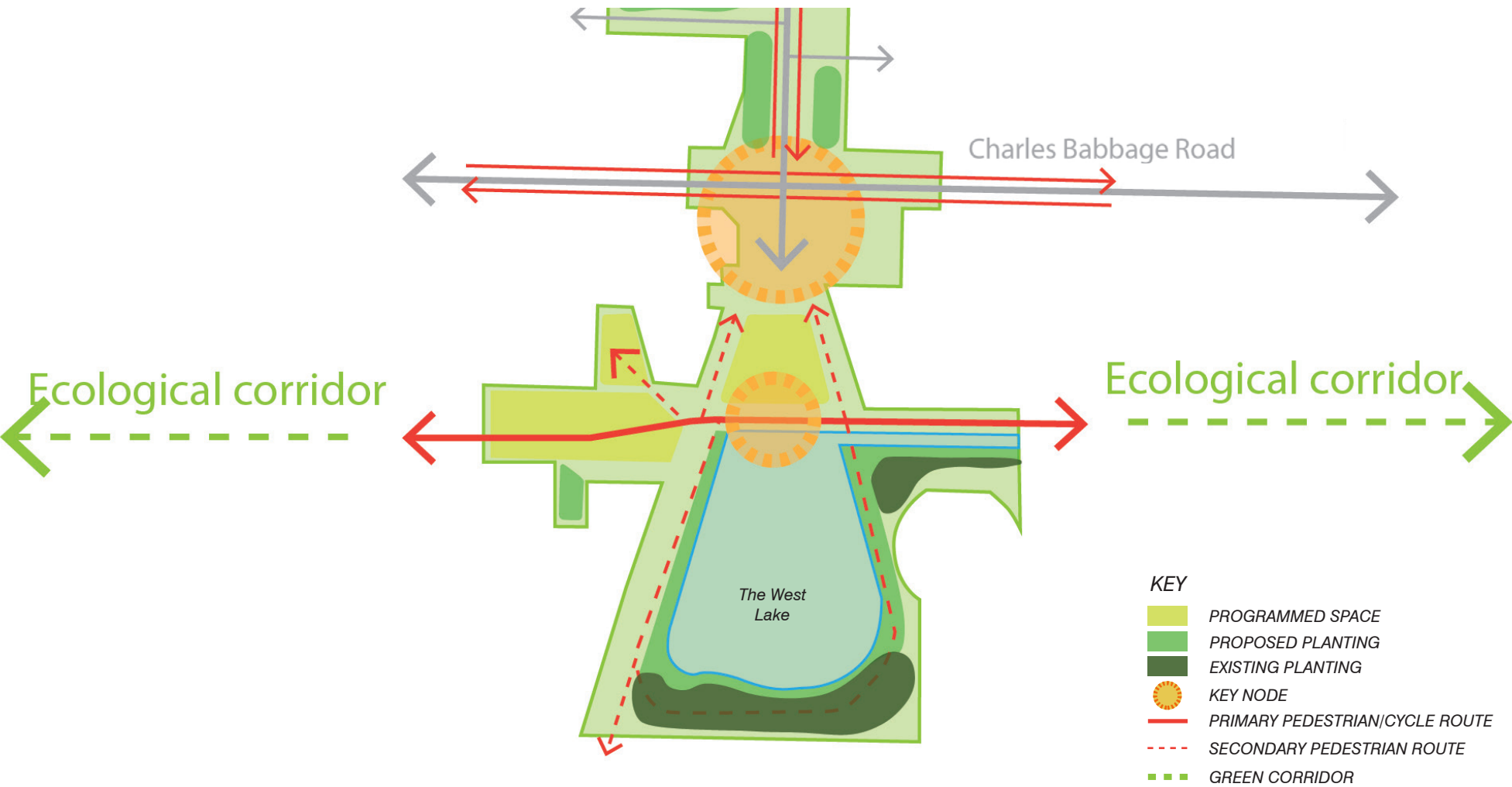
2.2.7 Guidelines for surface/paving treatment are as follows:

- The West Forum Upper Square will continue to be the more urban space and so shall retain a high percentage of paved area. The West Forum Terraces shall remain with the lesser amount of paved area with the exception of its pedestrian routes/ramps and formal seating areas;
- There shall be unhindered paved areas along key pedestrian and cycle routes to allow ease of access and movement.

Bicycle stands and circulation

2.2.8 Key guidelines for bicycle stands and circulation are as follows:

- Cycle movement shall be discouraged within the West Forum Upper Square and through the West Forum Terraces;
- Cycle parking shall be kept to a minimum within the key spaces, with only a few spaces at building entrances if required. Major areas of cycle parking shall be located within development and parking structures.



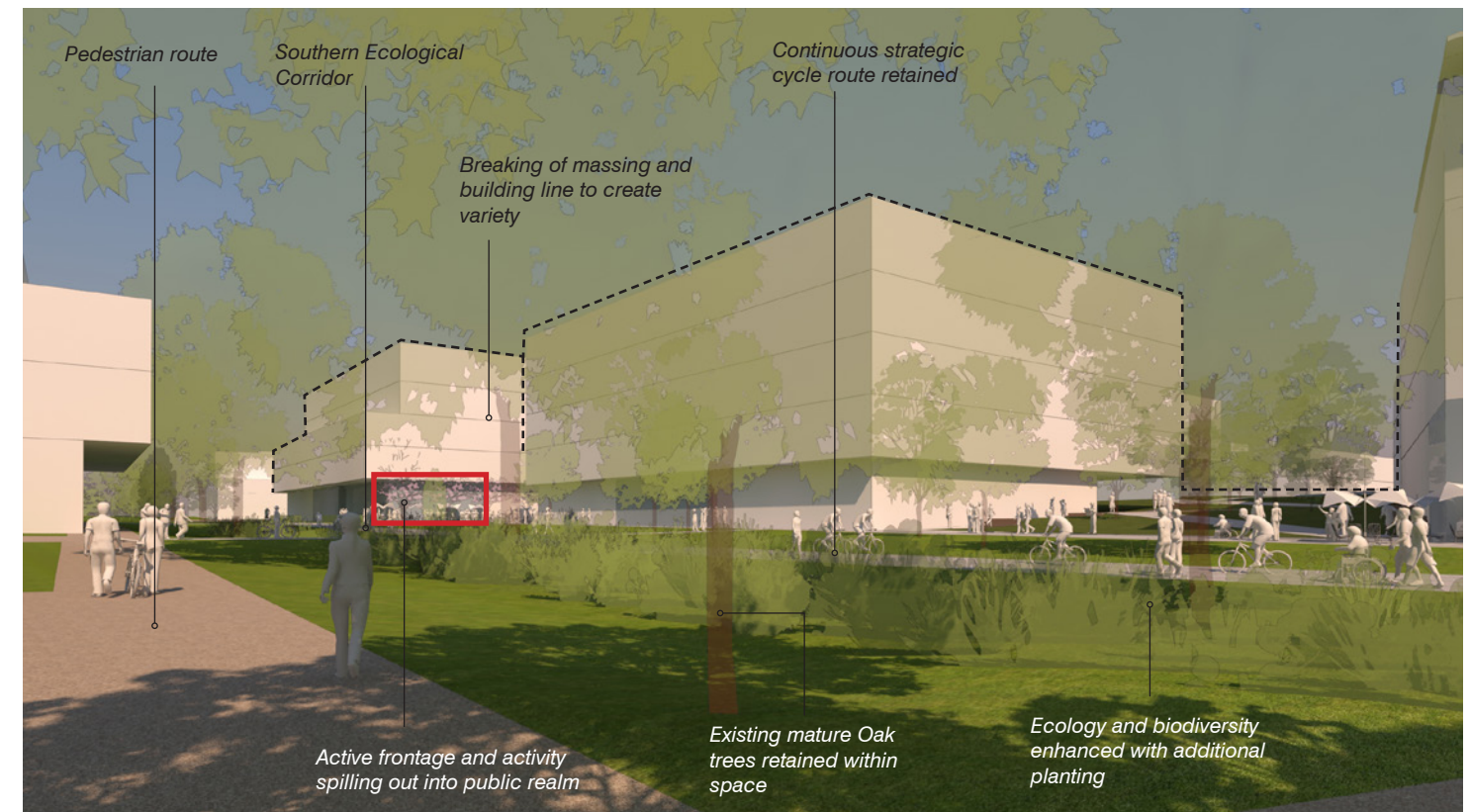
46. West Forum: Public space structure, activity, uses and character.

Planting

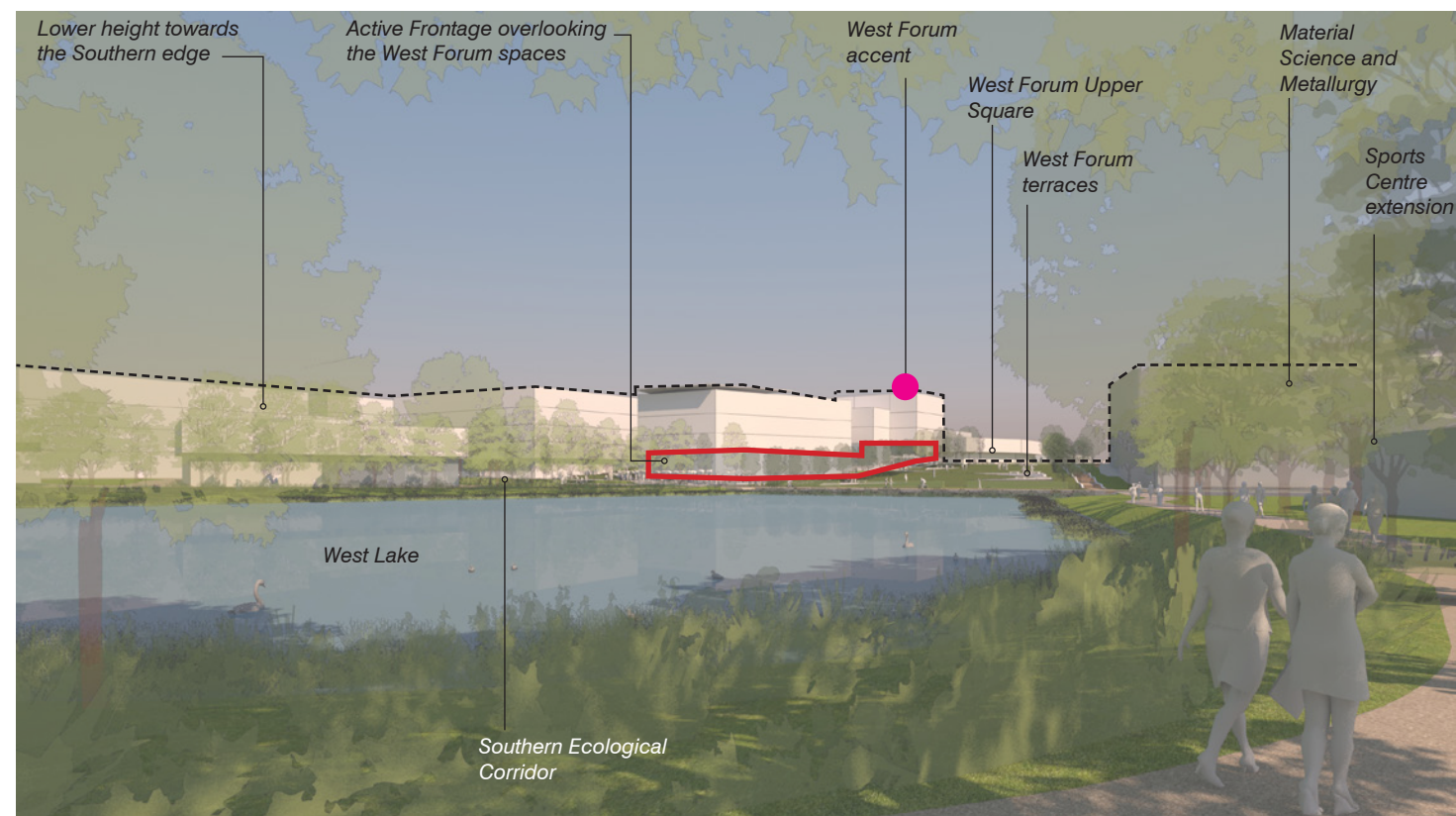
2.2.9 Guidelines for planting at West Forum are as follows:

- The arrangement of planting in Upper Square shall reflect the formal arrangement of planting along High Cross;
- Planting shall reinforce the visual connection from the upper areas to the wider landscape and the Southern Ecological Corridor;
- Existing trees and planting within the West Lake, West Forum Terraces and Upper Square shall be retained and incorporated into any new public realm design;
- Planting and landscape should be relatively ordered along the West Forum Upper Square (tree grids) as well as the West Forum Terraces (existing trees kept) and more informal along Southern Ecological Corridor and West Lake.

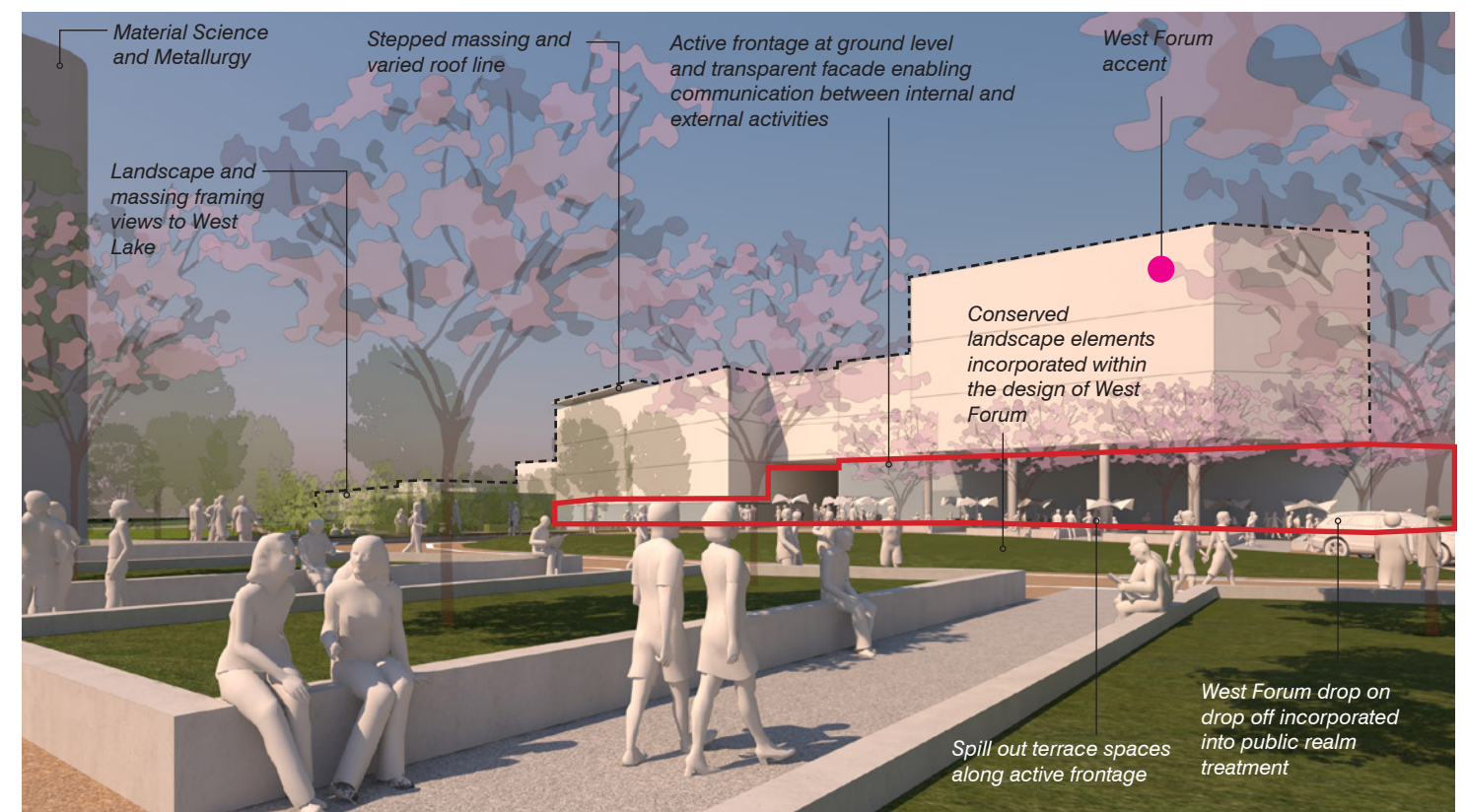
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47. West Forum - Southern Ecological Corridor with the view through the West Green Link on the right



48. West Forum - West Lake - Skyline and active frontages



49. West Forum - Upper Square

2.3. East Forum

Public realm and landscape

2.2.10 The East Forum is conceived as a primary social hub for the West Cambridge site. The East Forum is located at the end of JJ Thomson Avenue and at its junction with Charles Babbage Road, from where it connects down to the East Pond and the Southern Ecological Corridor.

2.2.11 The key guidelines for the East Forum spaces are as follows:

- The East Forum shall be composed of the East Forum Upper and Lower Squares, and the East Forum Steps which connect the squares. The Lower Square connects to the reinvigorated East Pond space;
- Designs of the East Forum spaces shall encourage pedestrian activity, with activity within the spaces coordinating with active frontages and uses within new development;
- The design of the spaces shall describe their differing role, yet ensure that the spaces feel part of a visually integrated series of spaces;
- The East Forum spaces and the East Pond shall be pedestrian only and highly restricted for vehicular movement.

Access and movement

Cycle movement and parking

2.2.12 Key guidelines for cycle movement and parking are as follows. The hierarchy of routes as shown in Figure 51 is mandatory but the alignment may vary:

- The East Forum spaces shall be pedestrian only spaces, with cycle movement discouraged;
- Cycle routes shall be located around the edges of the East Forum area, as shown in Figure 51;
- The strategic pedestrian and cycle route shall be maintained through the Southern Ecological Corridor;
- Other cycle routes shall be provided on both sides of JJ Thomson Avenue;
- The pedestrian and cycle access point on Madingley Road (to the north) shall be maintained;
- Areas of cycle parking shall be provided in the zones shown in Figure 51 within primary cycle parking hubs. These hubs shall be consolidated within covered parking structures, incorporated into built form on ground or lower ground floors or in secondary open spaces within the development.

Movement of motor vehicles

2.2.13 Key guidelines for the movement of motor vehicles are as follows:

- The East Forum shall be pedestrian only spaces and movements of motor vehicles shall be confined principally to JJ Thomson Avenue and Charles Babbage Road;
- Through-routes for motor vehicles between Clerk Maxwell Road and JJ Thomson Avenue shall be avoided;
- Principal drop-on/drop off facilities shall be located only on JJ Thomson Avenue and Charles Babbage Road.
- An new service access point along Clerk Maxwell Road should be provided if required, in accordance with the Access Parameter Plan

Servicing

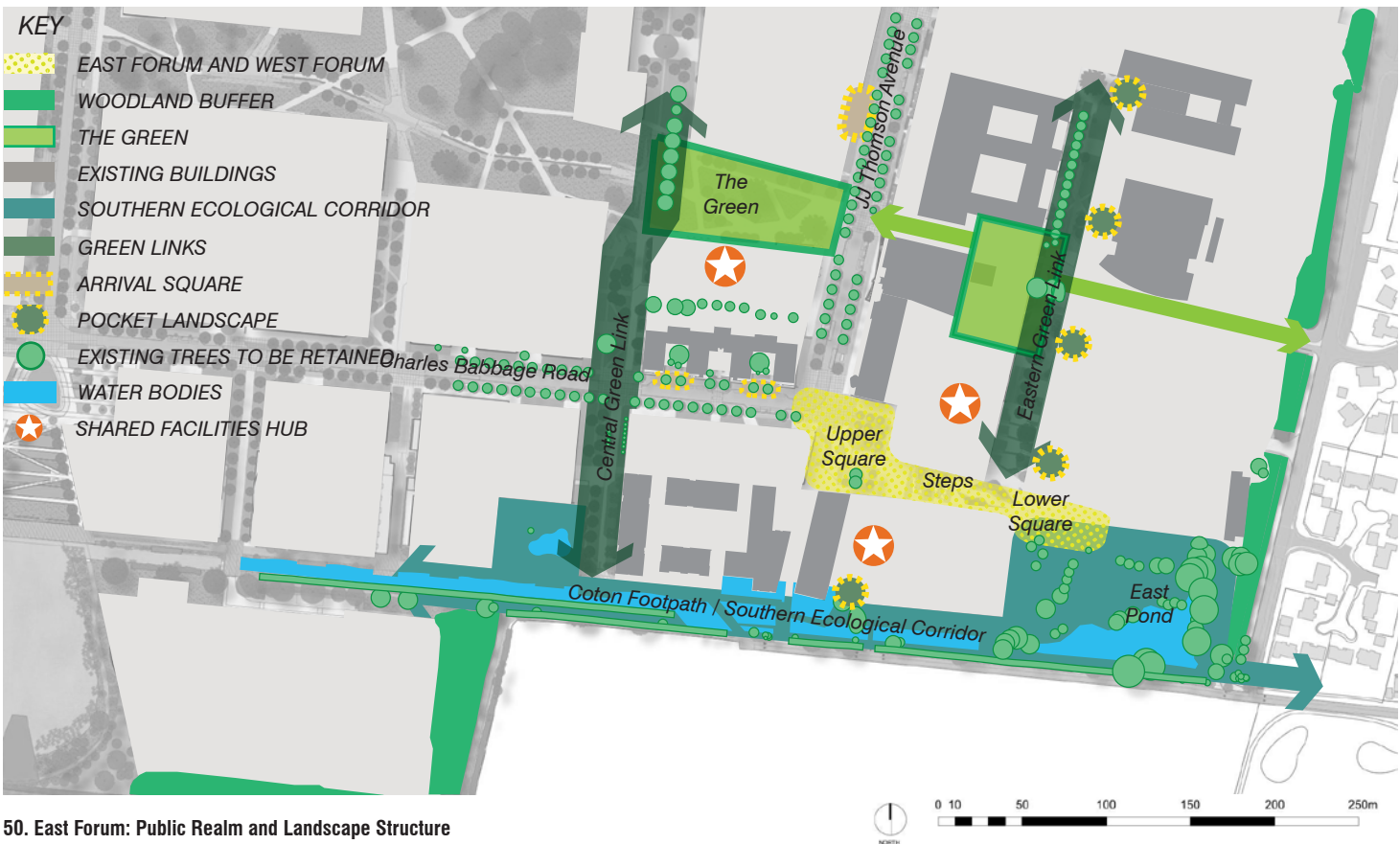
2.2.14 Key guidelines for servicing are as follows:

- Service yards, and movement shall not be visible from the East Forum spaces;
- Service access routes shall be designed so as to not reduce pedestrian and cycle priority through the Eastern Green Link;
- During early phases of development, limited and temporary servicing should be allowed along the east-west pedestrian and cycle link to serve existing buildings and service structures, if required.

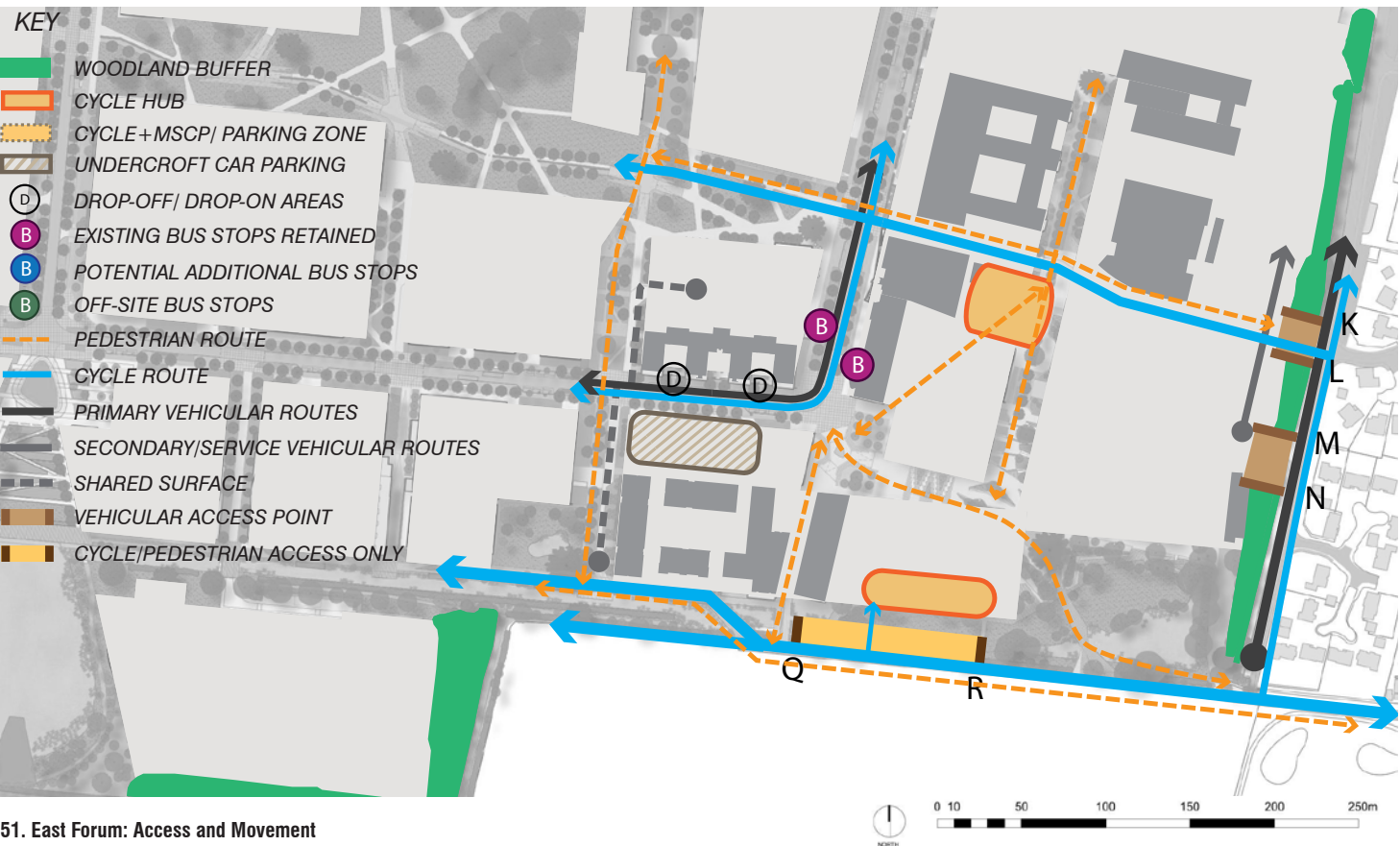
Car parking

2.2.15 Key guidelines for car parking are as follows:

- Multi-storey car parking structures shall not be located in this area;
- Car parking in basement/semi-basement shall be allowed in lower ground floors along Charles Babbage Road. These shall be well integrated into the building frontages and not compromise overlooking of this street.



50. East Forum: Public Realm and Landscape Structure



51. East Forum: Access and Movement

Urban structure

2.3.1 The proposed urban structure of the East Forum area aims to establish a new arrangement of open spaces, introduce new key pedestrian links and intensify the use of and activity within the area. Several public spaces (new and existing) will converge in this area and new development frontage and building accents will guide the movement between these open spaces.

2.3.2 Significant existing buildings are expected to be retained, including Physics of Medicine and the Maxwell Centre, Hauser Forum and Broers Building, plus the Southern Residences and Northern Residences, which contain University housing and a day-care nursery on ground floor.

2.3.3 The East Forum area will form a new gateway experience for those arriving at West Cambridge by the Coton Footpath.

2.3.4 Figure 53 on this page describes the urban structure and arrangement of development frontage, building accents and gateways relating to this area.

Building accents and gateways

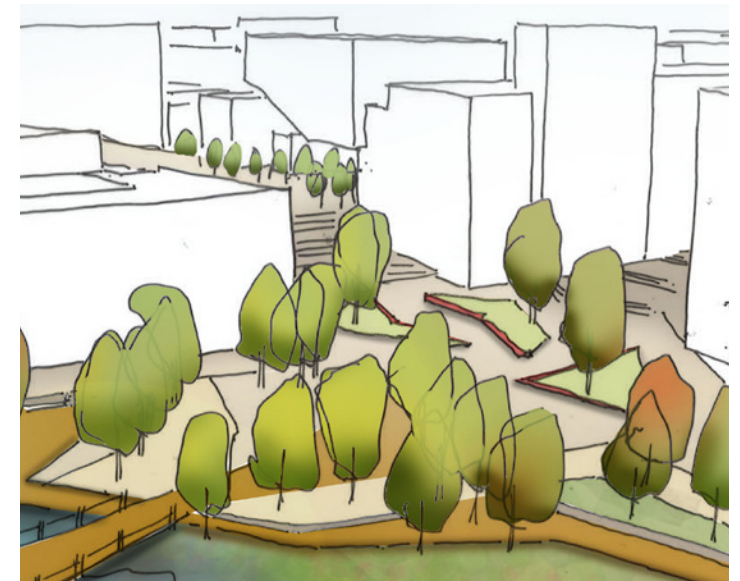
2.3.5 Key guidelines for building accents and gateways are as follows:

- All development heights shall conform to approved maximum height parameters;
- Development shall form a new gateway experience, for those arriving along the Coton Footpath, at East Pond, and form a high quality southern frontage to this space;
- Building accents should be located in three locations: at the Upper Square (to mark the space and terminate views from JJ Thomson Avenue); at the East Steps, to mark the termination of the Eastern Green Link; and on the corner of JJ Thomson Avenue and The Green. This last location responds to views from the East Forum Upper Square, ensuring that the two spaces communicate and are strongly visually connected. Height may be increased at these points to create variety in skyline and massing, consistent with the approved building height parameters.

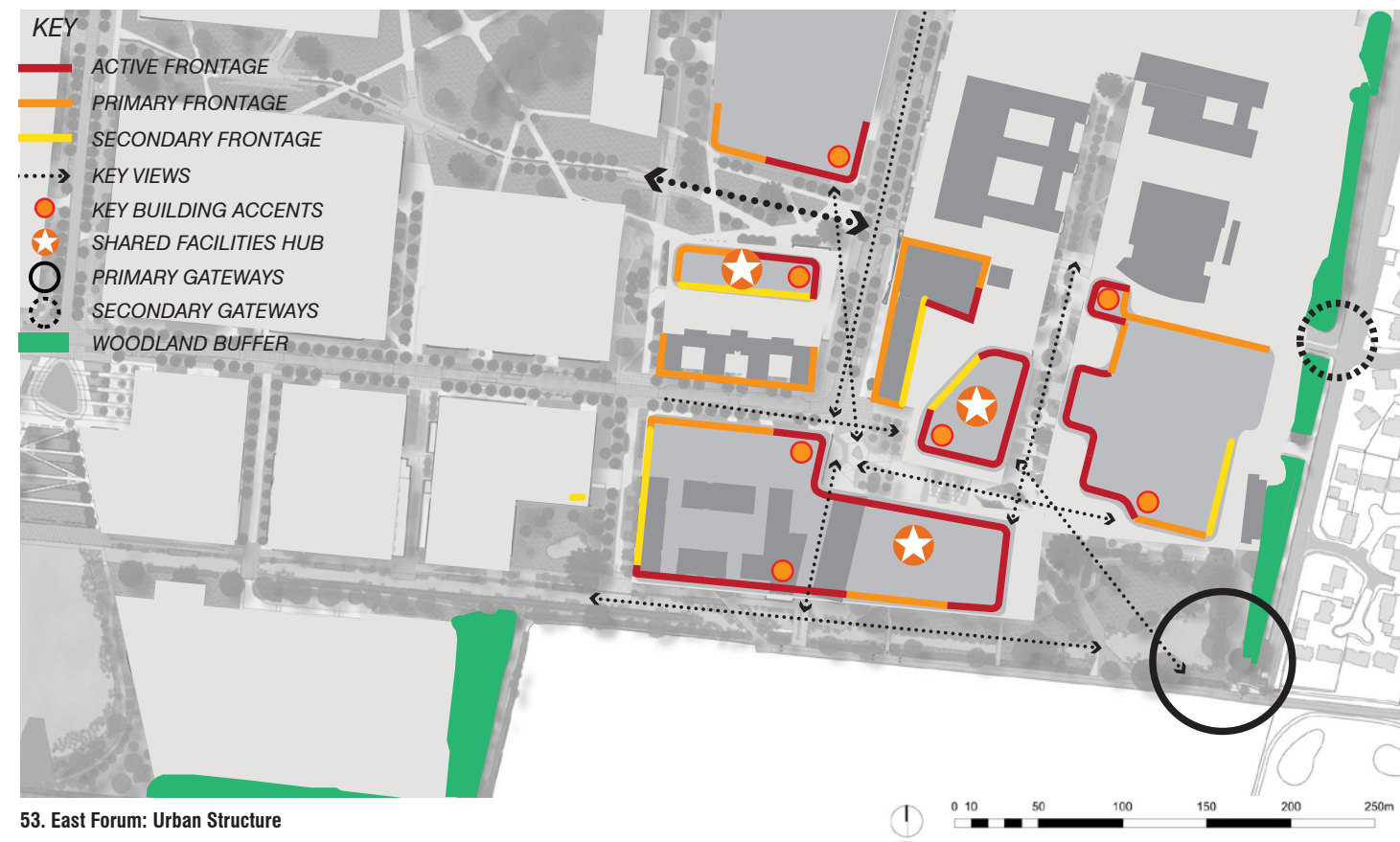
Frontage types

2.3.6 Figure 53 shows the location for the three types of proposed frontage: active, primary and secondary frontages: Active, primary and secondary frontage types are organised to encourage high levels of activity within the East Forum space:

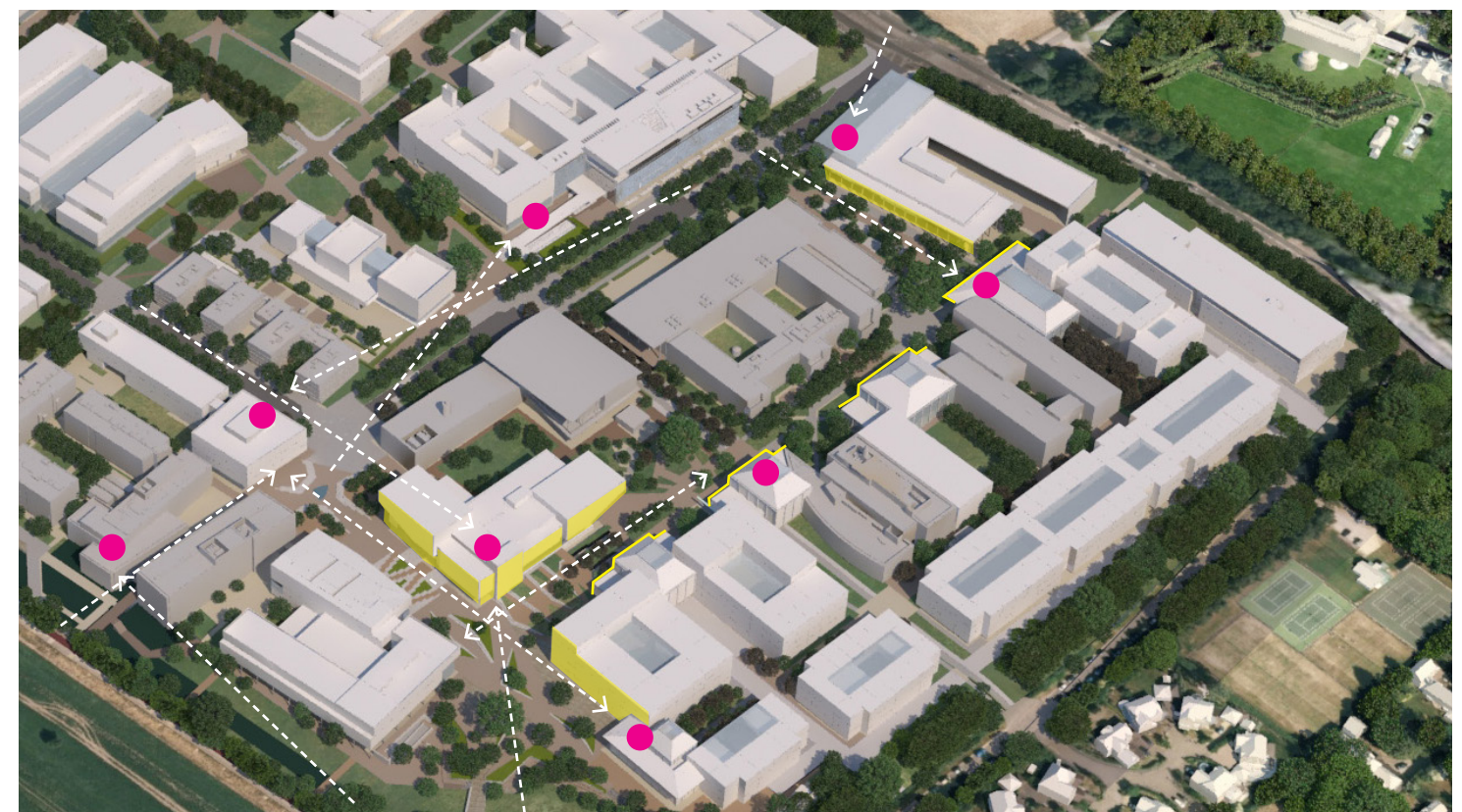
- **Active Frontages:** shall be located along the East Forum spaces, on the The Green and within the Eastern Green Link. This is to ensure a high level of activity, footfall and overlooking within these spaces;
- **Primary Frontages:** shall be located to address other key spaces and streets, including JJ Thomson Avenue and Charles Babbage Road;
- **Secondary frontages:** should be located to address internal courts and secondary spaces within the development.



52. East Forum - East Forum Steps



53. East Forum: Urban Structure



54. East Forum - Active frontage, views and building accents

East Forum - Landscape principles

East Forum Upper Square

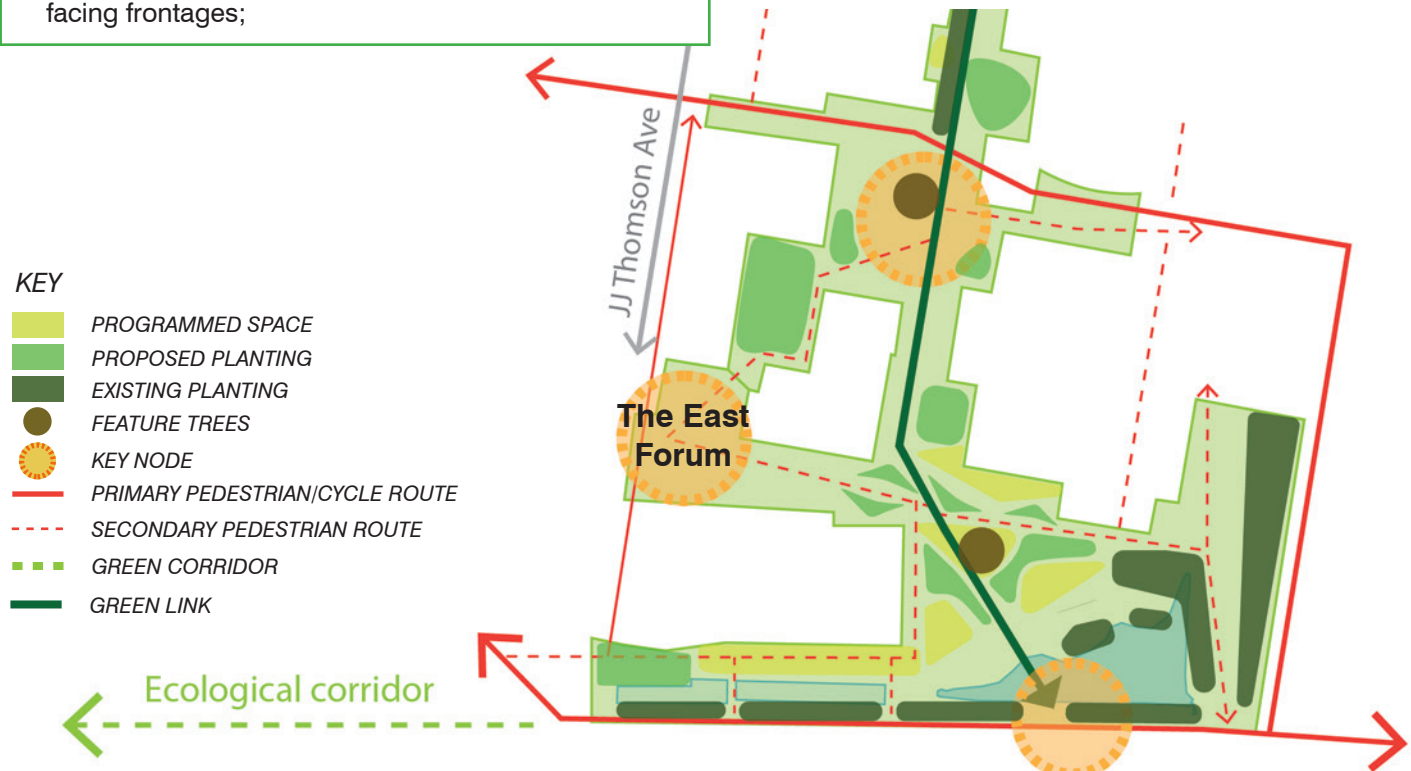
2.3.7 Guidelines for the East Forum Upper Square are as follows:

- The Upper Square shall be the most active space within the East Forum and shall be designed so as not to hinder pedestrian movement and shall allow clear visibility of destinations and routes;
- The East Forum Upper Square shall provide spaces for active uses to spill out into the public realm;
- High quality surfaces should be used to indicate that this is a key focal point within the site.

East Forum Lower Square

2.3.8 Guidelines for the East Forum Lower Square are as follows:

- The Lower Square is a crucial node where several key pedestrian routes converge. The space shall be carefully designed to minimise conflicts;
- The design shall allow for places where active uses can spill out of buildings, particularly along south facing frontages;



55. East Forum: Public space structure, activity, uses and character.

East Forum Steps

2.3.9 Guidelines for the East Forum Steps are as follows:

- This space connecting the Lower Square and Upper Square shall facilitate movement between these spaces, but also provide for informal congregation. The steps & ramps shall allow for informal seating and gathering and for activity to spill out from shared facilities and active buildings;
- An accessible route shall be provided and ramps shall be incorporated within the design of the steps for disabled access;
- Landscape planting should be incorporated through the steps at different levels.

Surface/paving treatment

2.3.10 Guidelines for surface/paving treatment are as follows:

- The percentage of paved area shall gradually increase from East Pond, which should have the least amount, to East Forum Upper Square which should have the most paved area;
- There shall be unhindered paved areas along key pedestrian and cycle routes to allow ease of access;
- The East Forum Upper Square and East Forum Lower Square being spaces where routes converge, shall have design that assists orientation and way-finding.

Bicycle stands and circulation

2.3.11 Guidelines for bicycle circulation are as follows:

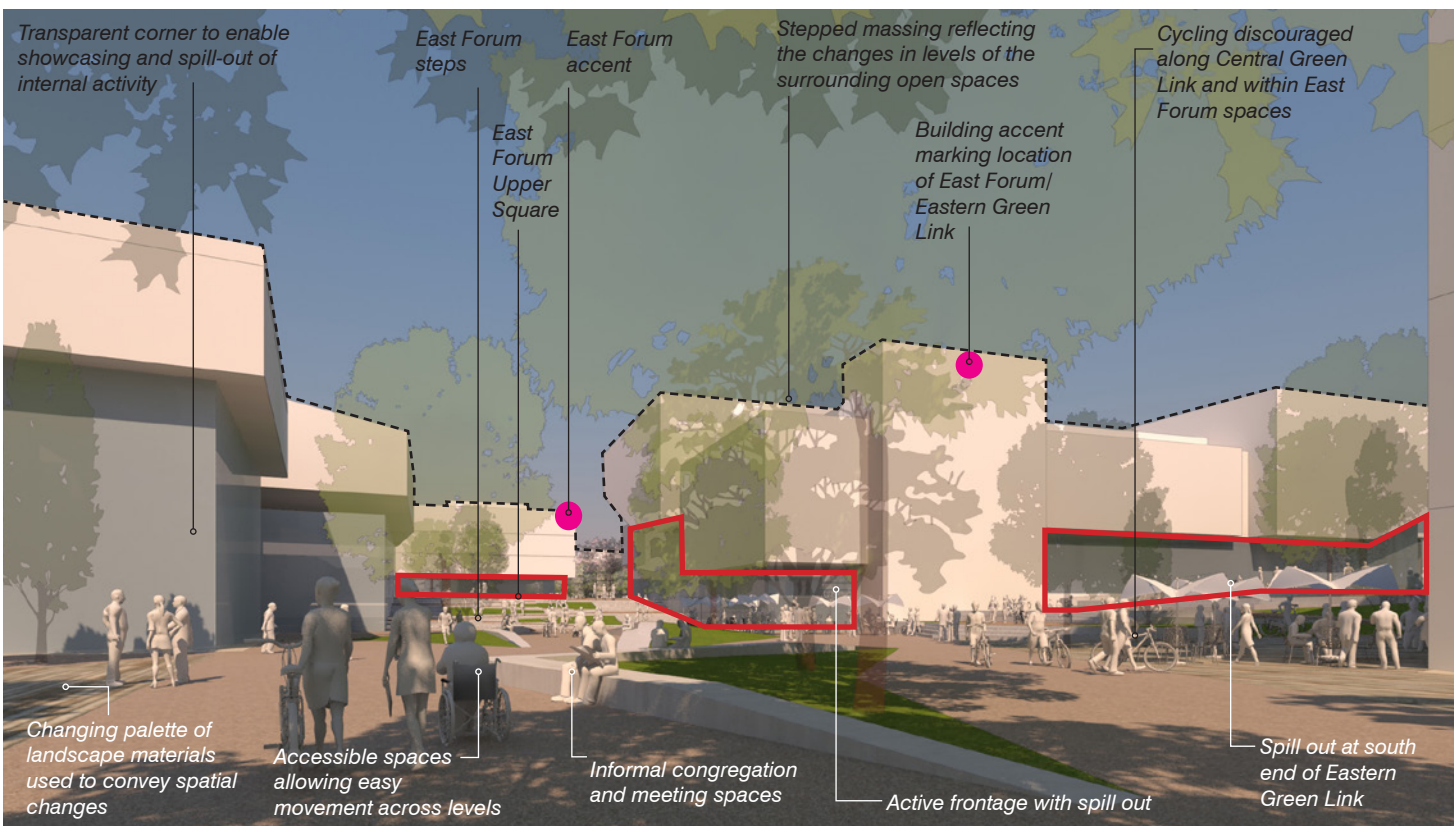
- Cycle movement shall be discouraged within the East Forum spaces, except along the southern and eastern edges of the East Pond;

- Cycle parking shall be kept to a minimum within spaces (a cycle hub shall be located within adjacent buildings).

Planting

2.3.12 Guidelines for planting are as follows:

- Existing mature planting and hedgerows within the East Pond area and along the Southern edge shall be maintained with the appropriate tree buffer zone. New tree planting shall be accommodated within the East Pond space (to the north of the pond) to ensure that new development is set within landscape;
- A clear visibility of shared facilities and building entrances is important and care shall be taken to co-ordinate new tree planting in conjunction to entrance lobbies;
- Landscape design should gradually change from being informal/natural along East Pond to more ordered (tree grids) close to East Forum Upper Square.



56. East Forum Lower Square

2.4. The Green

Public realm and landscape

2.4.1 The Green has an important role in the site-wide landscape network. It is substantial new green space for the site, occupying its centre and orientated east to west between JJ Thomson Avenue and High Cross.

2.4.2 The space allows new views to be opened up between the eastern and western part of West Cambridge, allowing a key view corridor to be formed to the Listed Schlumberger Research Building, from the eastern part of the site and so promoting greater legibility. This alignment also has the potential to visually connect the site to the Kings College Chapel within the city centre.

2.4.3 The creation of this new public open space will provide the Listed Schlumberger building with a new setting and vantage point.

2.4.4 The key public realm guidelines for The Green open space are as follows:

M

- The Green shall consist of several connected Gardens which will be delivered in phases. The layout and design of the whole space shall distinguish each Garden, whilst forming a coherent series of connected spaces;
 - The Green shall form a key view corridor from JJ Thomson Avenue to the Schlumberger Research Building roof structure;
 - The Green shall contain a key pedestrian and cycle route through the site;
 - Groups of existing mature trees shall be retained and incorporated into the design of the new space;
 - In addition, a 'Garden Space' between Clerk Maxwell Road and JJ Thomson Avenue shall be formed as part of this chain of Gardens;
-
- A Garden space within the Schlumberger compound should also be formed and visually connected to the main sequence of Gardens, ensuring that the Schlumberger Research Building remains the key site landmark and the focal point of this space;
 - The view corridor to Schlumberger also provides the opportunity to provide views to Kings College Chapel, especially from high level. Consideration should be given to higher level spaces within the surrounding proposed development that can celebrate/capture this view;
 - Integration of landscape should be achieved through a common approach to planting, lighting, street furniture and surface materials.



57. The Green: Public Realm and Landscape Structure



58. The Green: Central Garden sketch

- KEY
- EAST FORUM AND WEST FORUM
 - WOODLAND BUFFER
 - THE GREEN
 - EXISTING BUILDINGS
 - SOUTHERN ECOLOGICAL CORRIDOR
 - GREEN LINKS
 - ARRIVAL SQUARE
 - POCKET LANDSCAPE
 - EXISTING TREES TO BE RETAINED
 - WATER BODIES
 -➔ VIEW CORRIDOR - SCHLUMBERGER to KINGS CHAPEL
 - ★ SHARED FACILITIES HUB

Access and movement

Cycle movement and parking

2.4.5 Key guidelines for cycle movement and parking are as follows. The network of routes as shown in Figure 59 is mandatory but the alignment may vary:

- A continuous cycle/pedestrian route shall be provided between Clerk Maxwell Road and High Cross. This route forms part of the continuous east-west pedestrian/cycle connection through The Green;
- Areas of cycle parking shall be provided in the zones shown on the diagram opposite and also: within the ground/lower floors of any multi-storey parking structure; consolidated within covered cycle parking structures or hubs or in secondary open spaces such as within the adjacent Green Links.

Movement of motor vehicles

2.4.6 Principles for movement of motor vehicles are as follows:

- In order to prioritise pedestrians and create a pedestrian friendly environment, movements of motor vehicles shall be restricted within The Green open space;
- There shall be no movement of motor vehicles across or through The Green other than emergency vehicles;
- Movements of motor vehicles shall be confined to Charles Babbage Road, High Cross and JJ Thomson Avenue and to the north side of The Green;
- Some movement of motor vehicles shall be allowed along the Green Links to the north and south of the space, to service proposed development;
- A new access lane north of The Green shall provide service access and access to car parking from High Cross;
- Principal pick-up/drop-off should be located on High Cross, if required. Secondary locations for drop-off should be along the northern access lane and within the adjacent Green Links;
- A new access lane south of the Schlumberger Research building should be created, if required.



59. The Green: Access and Movement

Car parking

2.4.7 Principles for parking are as follows:

- Car parking structures shall only be located in the zones indicated on the diagram above;
- Pedestrian routes to any car parking structure shall be provided and be carefully considered to ensure that users can access this structure easily and safely.

KEY	
	WOODLAND BUFFER
	CYCLE HUB
	CYCLE+MSCP/ PARKING ZONE
	UNDERCROFT CAR PARKING
	DROP-OFF/ DROP-ON AREAS
	EXISTING BUS STOPS RETAINED
	POTENTIAL ADDITIONAL BUS STOPS
	OFF-SITE BUS STOPS
	PEDESTRIAN ROUTE
	CYCLE ROUTE
	PRIMARY VEHICULAR ROUTES
	SECONDARY/SERVICE VEHICULAR ROUTES
	SHARED SURFACE
	VEHICULAR ACCESS POINT
	CYCLE/PEDESTRIAN ACCESS ONLY

Urban structure

2.4.8 Due to location and configuration of The Green, the surrounding development will be highly visible and plays an important role in defining and invigorating this new public realm. Frontage types and built form will be arranged to encourage activity within The Green.

2.4.9 The development located around The Green will form the view corridor to the Schlumberger Research building and ensure that it is maintain it as a key site landmark. See Parameter Plan 04.

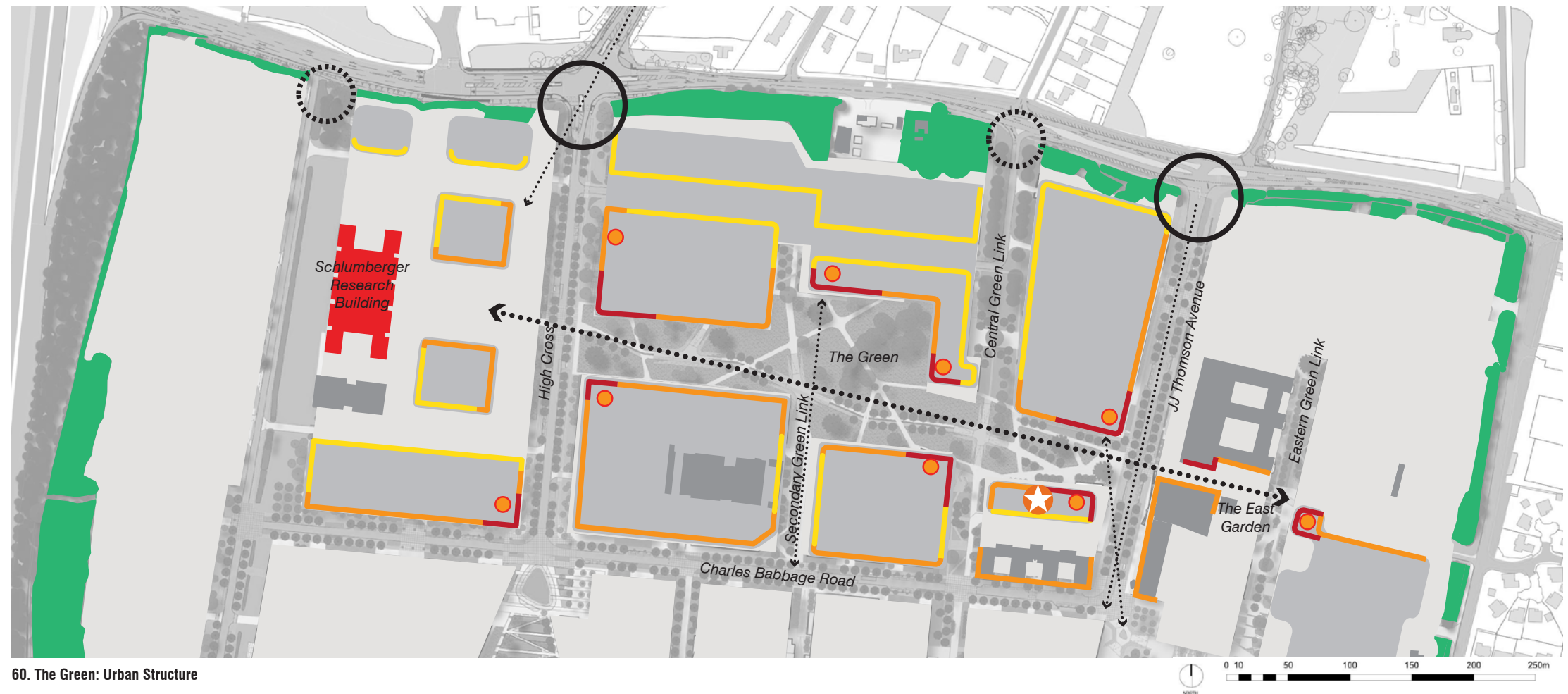
2.4.10 Building zones to the north side of The Green will also form new frontage to JJ Thomson Avenue and High Cross, contributing to their transformation in character and forming new gateways along Madingley Road.

2.4.11 Figure 60 describes the urban structure framework and the arrangement of development frontage, landmarks, building accents and key gateways within this character area.

Building accents and gateways

2.4.12 Principles for building accents and gateways are as follows:

- Any taller elements (building accents) shall be located on the northern frontage of The Green and massing to the south side of The Green shall be lower to ensure that this primary green space has good daylighting and sun exposure;
- The building accent locations should also relate to ground floor active uses and other social spaces and should also terminate views from the north-south Green Links;
- Building accents should be located to terminate key views across the space, to aid legibility and draw movement through the space, and to relate to more active places within the space;
- Development should be set back to form a new gateway experience at the entrance to the West Cambridge site at High Cross;
- Development should form a gateway experience at the entrance to the West Cambridge site at JJ Thomson Avenue.



60. The Green: Urban Structure

Frontage Types

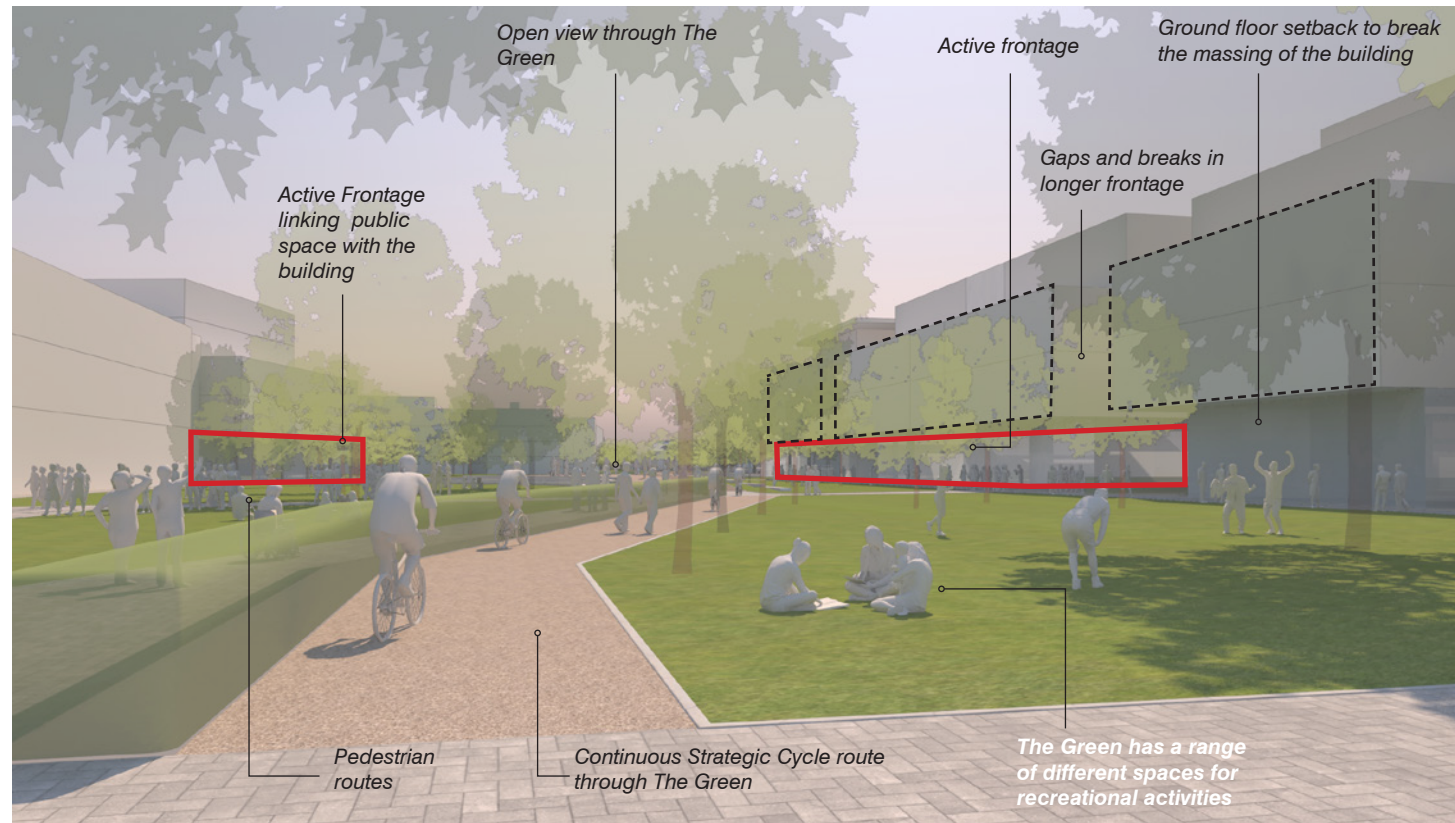
2.4.13 Figure 60 also shows the locations for the three types of proposed frontage: active, primary and secondary frontages:

- **Active Frontages:** shall be primarily located at key locations along the north and south frontages of The Green, and in the new development facing The East Garden. These shall have ground floor active uses, or building entrances to activate these locations and help create the desired social activity within the space. These uses should have the opportunity to spill out into the public realm and parkland adjacent to the buildings;
- **Primary Frontages:** shall be located along both frontage of The Green as well as along Charles Babbage Road, JJ Thomson Avenue and High Cross. These frontages shall ensure a coherent frontage and strong enclosure and overlooking to these spaces;

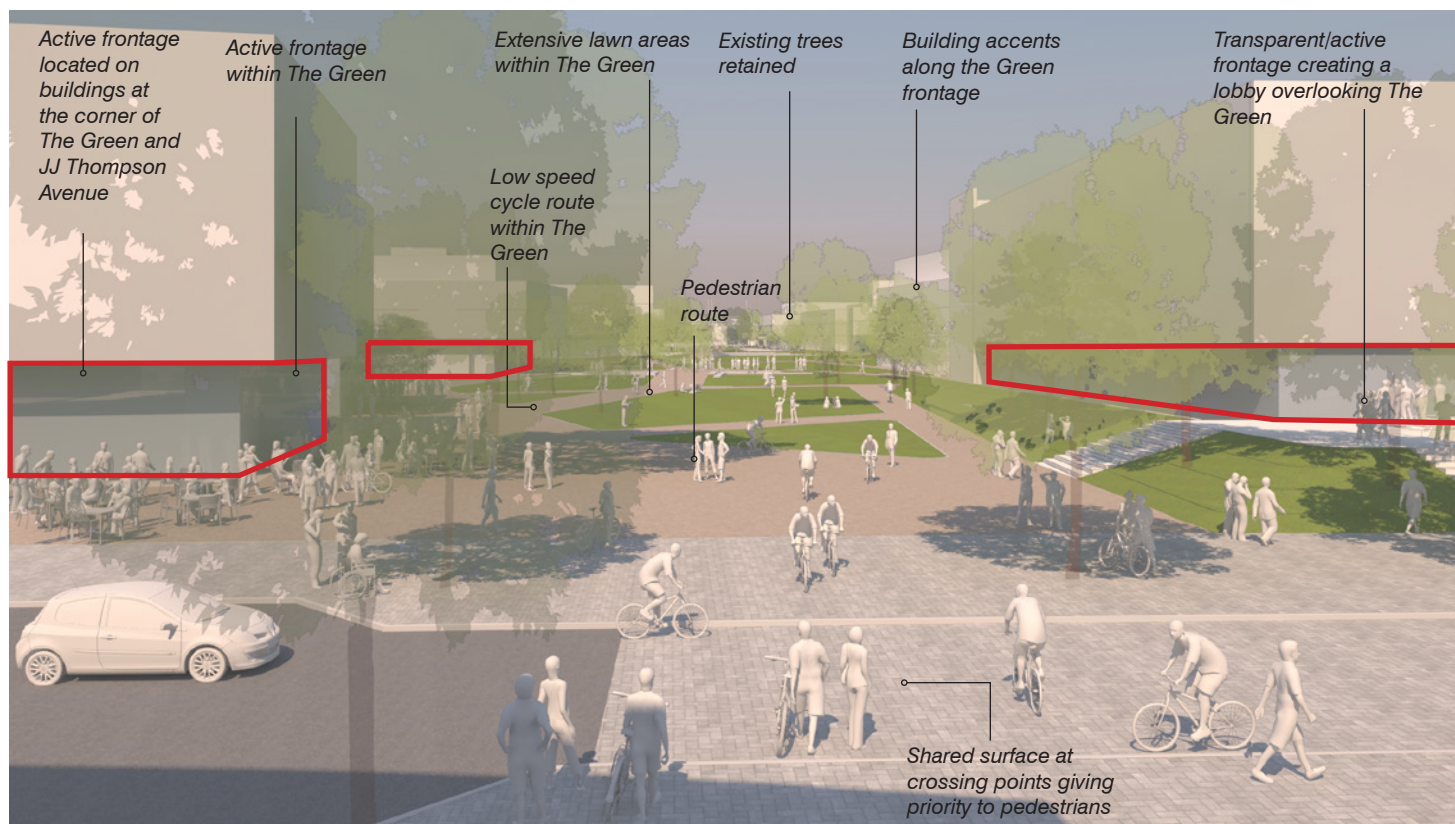
- **Secondary frontages:** more informal frontages should be located along the Green Links and other lanes and courtyard spaces. These frontages shall provide a degree of overlooking to the spaces. There is more flexibility in terms of locating service access along this frontage;
- At active frontage locations consideration should be given to introducing high level academic social or active spaces and/or roof terraces, where they could provide key views back to the city skyline.

KEY

- ACTIVE FRONTAGE
- PRIMARY FRONTAGE
- SECONDARY FRONTAGE
- KEY VIEWS
- KEY BUILDING ACCENTS
- ★ SHARED FACILITIES HUB
- PRIMARY GATEWAYS
- SECONDARY GATEWAYS
- WOODLAND BUFFER



62. The Green - view from High Cross



63. The Green: View from JJ Thomson Avenue



61. The Green - Massing and Landmarks

Landscape principles

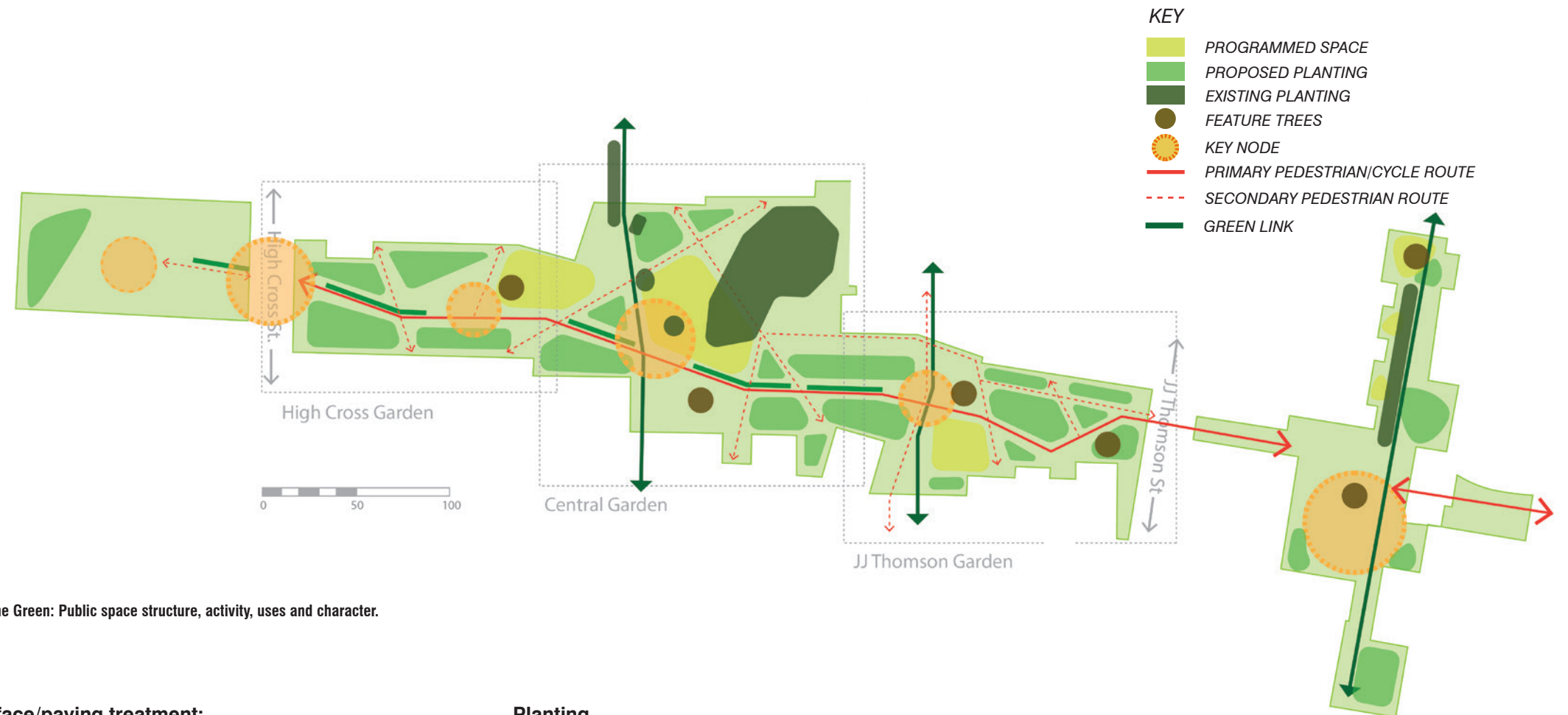
2.4.14 Guidelines for The Green open space are as follows:

- Each of the Gardens associated with The Green shall

incorporate and acknowledge their different role and character, yet form its part in a coherent series of connected spaces. The layout and the development edge of The Green will be defined through further design, respecting the planning parameters and preserving the existing trees;

- The Green shall be a predominantly green space and shall be landscaped in a way that creates a feel of a natural setting;
- The landscape design of the space shall maintain the view corridor between the Schlumberger Research building in the west to JJ Thomson Avenue in the east;
- Design shall accommodate a strategic pedestrian path and cycle route, which connects through the space between JJ Thomson Avenue and High Cross and is a continuation of the existing east-west cycle route to Clerk Maxwell Road;
- The Green, being a space where multiple routes converge, shall be carefully designed to ensure that routes and desire lines are maintained and conflicts between cyclists and pedestrians are minimised;
- A landscaped East Garden space shall also be provided at the intersection of the existing east-west pedestrian and cycle route and the Eastern Green Link (to the east of JJ Thomson Avenue;

- The design within the East Garden space should be consistent with the design and materials for the rest of The Green to the west;
- The landscape design should consider the introduction of a range of uses that are relevant to the adjacent buildings – outdoor spaces such as teaching breakout spaces, quiet gardens and informal activity spaces.



64. The Green: Public space structure, activity, uses and character.

Surface/paving treatment:

2.4.15 Principles for surface/paving treatment are as follows:

- The Green shall be a predominantly green, recreational

open space. The portion of soft surface shall be minimum 70%. The paved area shall be restricted to pedestrian and cycle routes and spill out spaces from active uses along the frontages;

- Small paved areas should be provided along active building frontages to encourage activity to spill out and in places where ease of access and movement is required;
- In the JJ Thomson Garden & East Garden, the proportion of paving should be higher than 30% so as to accommodate pedestrian flows.

Bicycle Stands and Circulation

2.4.16 Principles for bicycle stands and circulation are as follows:

- Cycle parking shall be kept to a minimum within the space (cycle parking shall be located within or between buildings or on the adjacent Green Links);

Planting

2.4.17 Principles for planting are as follows:

- Existing mature trees which are to be retained shall be incorporated in the new landscape design, and tree root zones protected;
- Large feature tree planting shall be provided at a minimum of 5 key locations, such as at the gateways to The Green or key nodes within the space. Where large trees are planted they shall be given the proper environmental conditions and space to grow to maturity;
- Newly planted trees shall not hinder key views through the space and shall allow clear visibility of shared facilities and building entrances;
- Any area between building frontage and edge of open space shall be landscaped in a way similar to The Green, without visible barriers such as fences;
- In cases where buildings are set back from the edge of the open space, and if hedges are planted, they shall be located next to the building rather than marking the plot boundary / edge of the open space;

- New tree planting should be added to reinforce movement corridors, vistas and focal points;
- Planting should be relatively ordered along the strategic pedestrian and cycle route. Selective avenues of trees and hedge planting should be incorporated along the strategic route to assist in orientation and wayfinding;
- Planting and landscape should be informal in character alongside the proposed development, where trees and hedges planted in front of building frontages may partially cover them.

2.4.18 In addition to the area and location shown in the Parameter Plan 04, the Parameter Statement also secures additional minimum requirements that must be achieved within the specified flexibility zones.

2.4.19 The additional minimum requirements for The Green open space must be:

- A view corridor with minimum 20m width between JJ Thomson Avenue and High Cross;
- Width at any cross section must be a minimum 40m.

2.4.20 The overall size of The Green between JJ Thomson Avenue and High Cross is secured at 2.9 ha by the Planning Statement (Open Space). This overall area must consist of three distinct gardens (from east to west): JJ Thomson Garden, West Green and High Cross Garden. Additional guidelines specified for minimal dimensions of these spaces follow below.

2.4.21 For JJ Thomson Garden (Section 1-1, Figure 66):

- Location of the northern maximum build to line and the area of minimum width 40m is defined;
- The total area of this Garden must be minimum 0.5 ha, (resulting in average width of 47.5m).

2.4.22 For the Central Garden (Section 2-2, Figure 67):

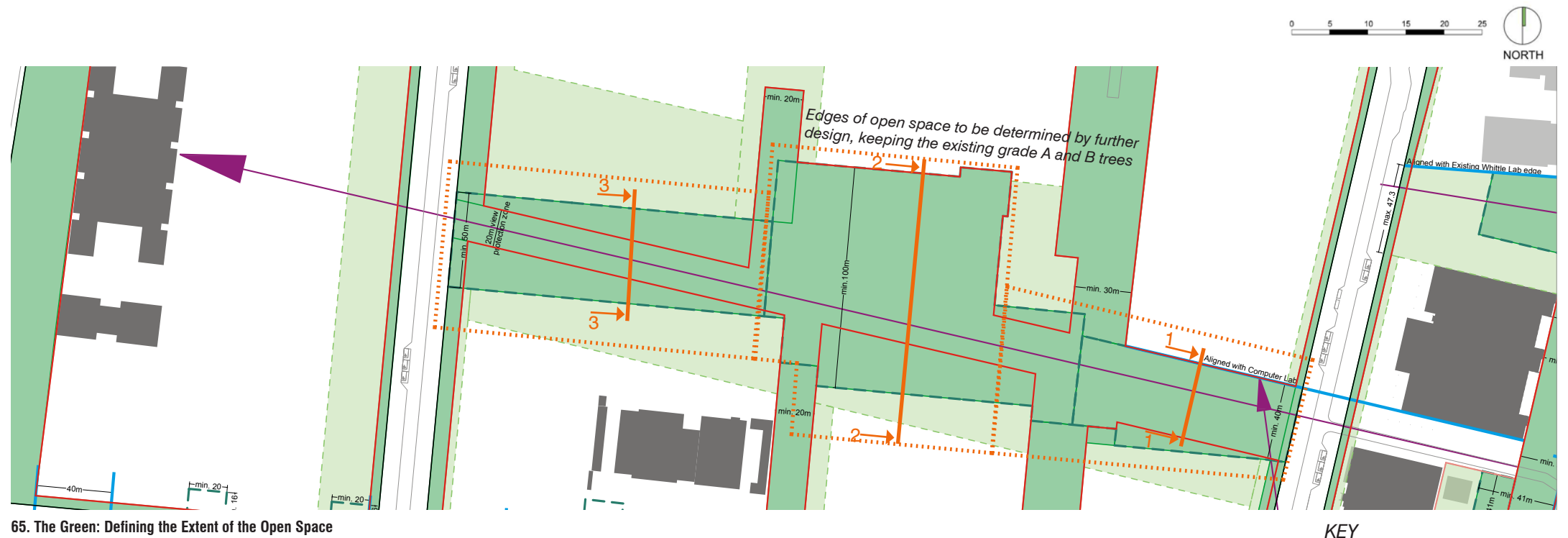
- Minimum width of 100m must be achieved over length of 100m (i.e. an area of minimum 100mx100m must be provided);
- The total area of this Garden must be minimum 1.6 ha (resulting in average width of 100m).

2.4.23 For the High Cross Garden (Section 3-3, Fig. 69):

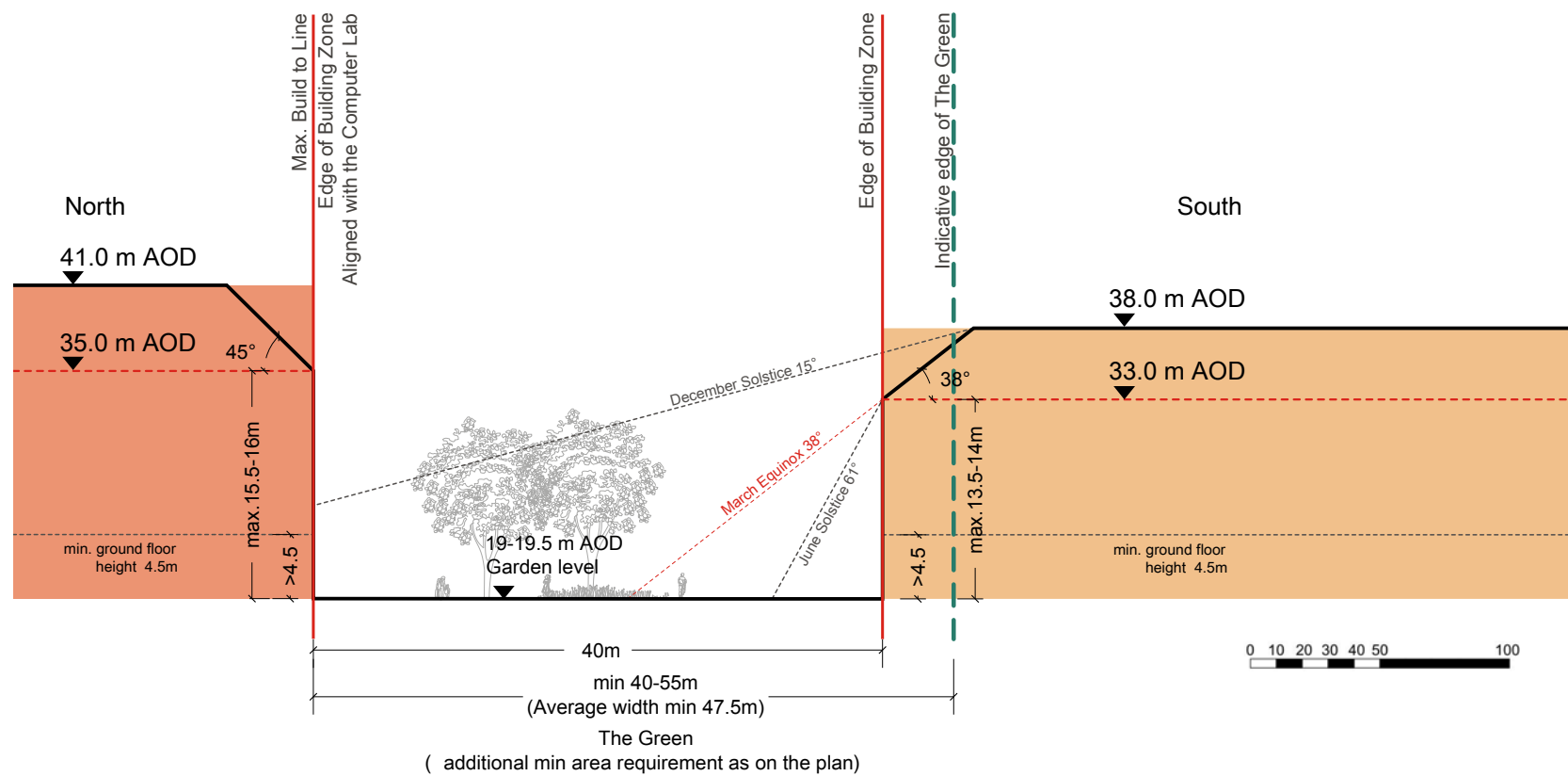
- The total area of this Garden must be minimum 0.8ha, (resulting in average width 50m).

2.4.24 In addition to the minimum size defined in the Parameter Statement The Green also must provide:

- a minimum of two open lawn areas - each lawn area must be a minimum of 1,500m² and each must include an area with minimum dimensions of 25x30m; and
- an area for informal recreation with minimum dimensions of 15x30m.
- The open lawn areas and informal recreation areas must not be located in areas without any sun on 21st March.



65. The Green: Defining the Extent of the Open Space



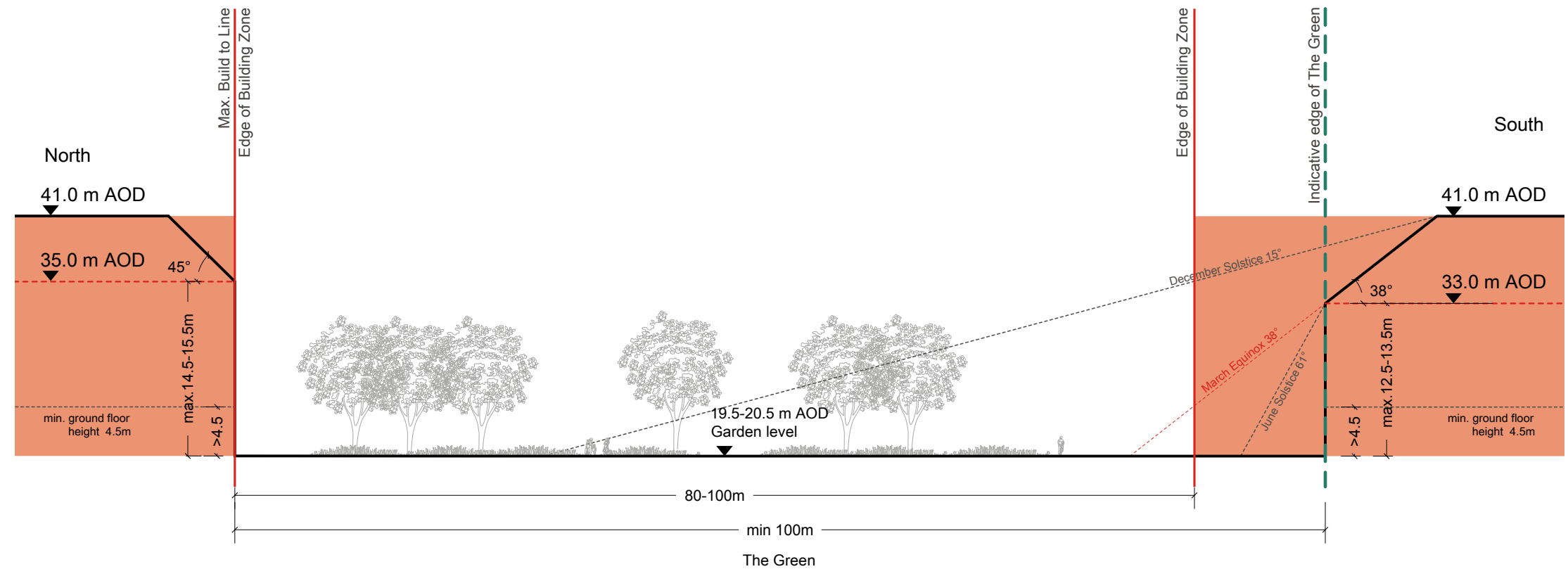
66. The Green: At JJ Thomson Avenue Garden / Section 1-1 (Parameter Heights 38m and 41m AODAt)

The Green: Additional height considerations

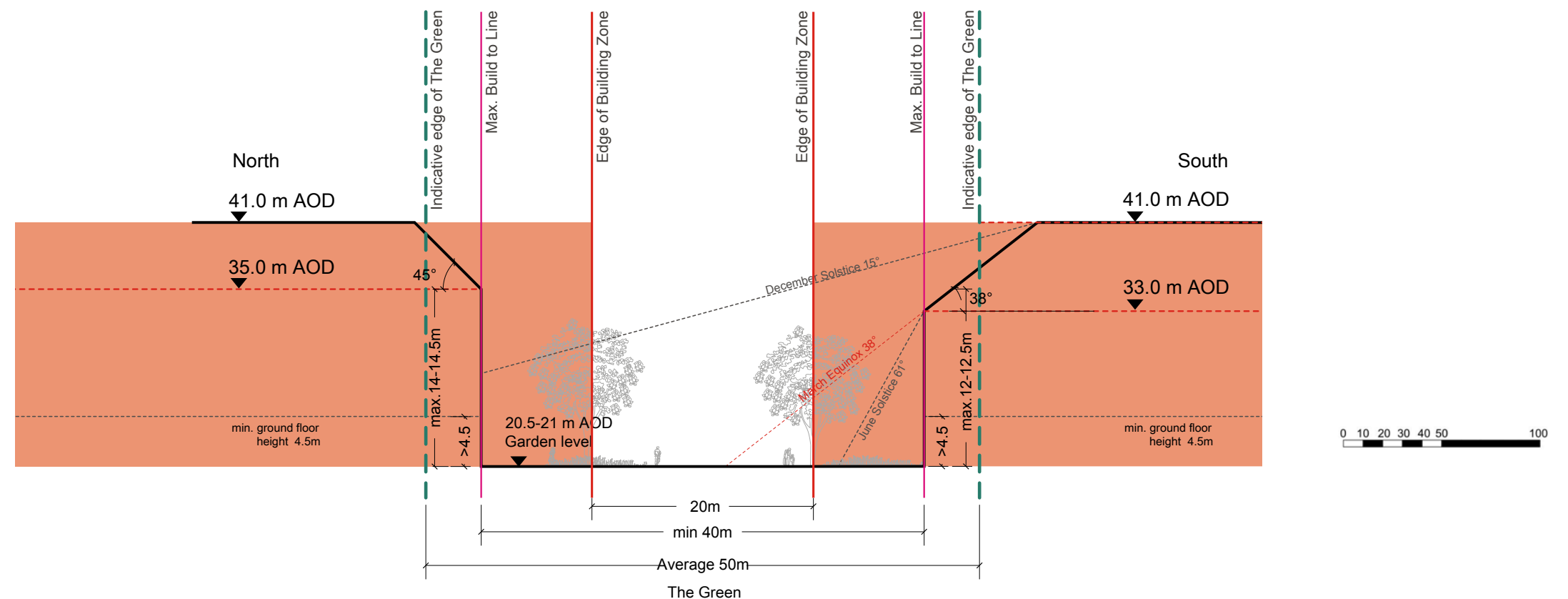
2.4.25 Additional height restrictions apply to the northern and southern frontages of The Green open space. The aim of these restrictions is to form a well scaled frontage to the space and allow for variation and interest. See Figures 66-68.

2.4.26 The following apply to development to the northern and southern frontages of The Green:

- Building heights and the layout of open space must be such that for each of the three Gardens within the space, the area without any sun exposure on 21st March does not exceed 1/4 (25%) of the overall area of that Garden;
- The development frontage must not exceed the set height of 33m AOD on the southern side and 35m AOD on the northern side of The Green, regardless of the width of the space at that point. Above those heights, the buildings must stay within the envelopes which arise from the set maximum frontage heights to the heights set in parameter plans with angles of 45° (North) or 38° (South);
- Particular consideration must be made so that rooftop plant spaces do not dominate the views from within The Green: plant spaces must be set back or screened, or treated as part of the facade or otherwise carefully treated;
- Any set back areas between proposed building frontages and the edge of The Green must not be used for service or any back of house purposes;
- Any area between building frontage and edge of The Green should be used for entrances or extended activities such as seating or seating with tables.



67. The Green: At the Central Garden / Section 2-2 (Parameter Heights 41m AOD)



68. The Green: At High Cross Garden / Section 3-3 (Parameter Heights 41m AOD) (additional min area requirement as on the plan)

2.5. Southern Ecological Corridor

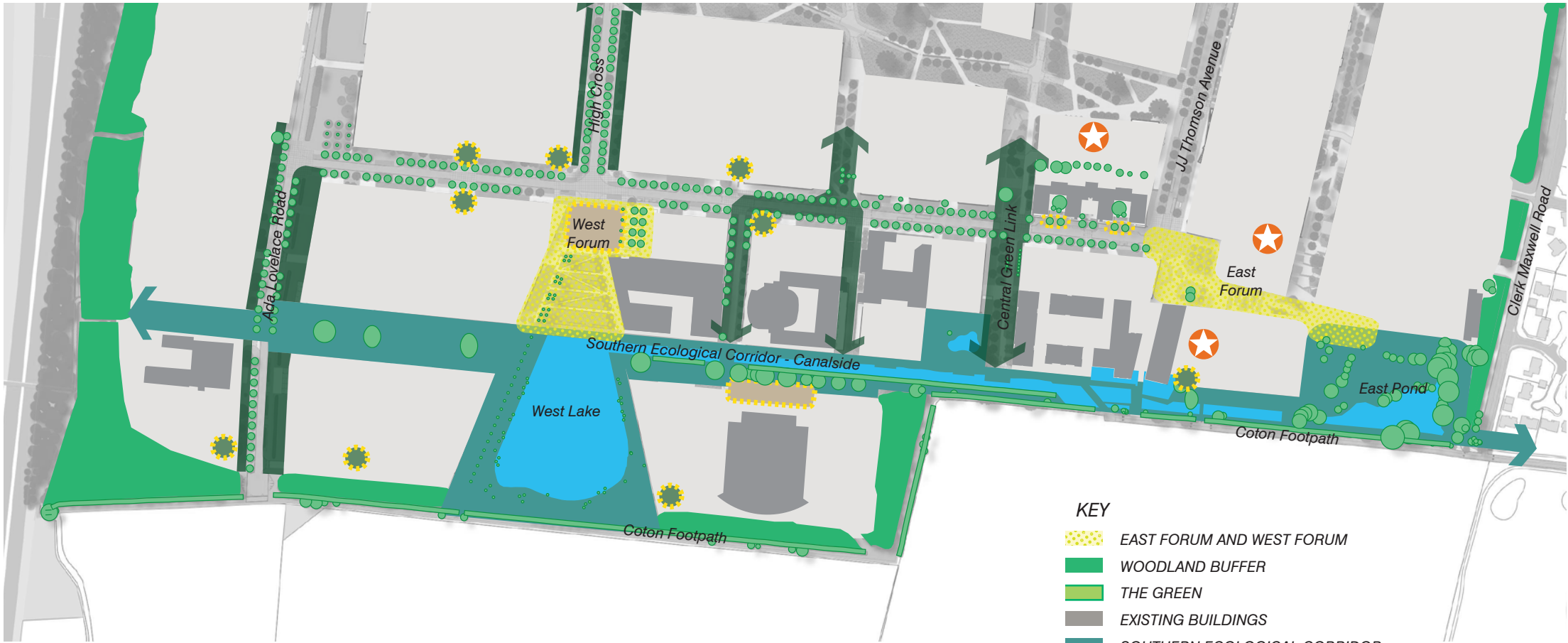
Public realm and landscape

2.5.1 The Southern Ecological Corridor is an important east-west element in the overall landscape network. It is formed mainly from existing, established spaces and landscapes and incorporates a strategic east-west pedestrian and cycle route.

2.5.2 The key public realm guidelines for the Southern Ecological Corridor are as follows:

- The Southern Ecological Corridor shall be a predominantly green space and shall be appropriately landscaped to enrich its natural setting;
- Any new landscape design shall distinguish places with individual character along the Corridor whilst forming a coherent overall space;
- Large feature tree planting shall be provided at a minimum of 5 key locations along the Southern edge. Where these trees are planted they shall be given the proper environmental conditions and space to grow to maturity and shall be provided with a 15m buffer, in accordance with the Woodland Management Plan;
- Any new planting along the Southern Ecological Corridor shall be indigenous;
- The existing West Lake, canal and East Pond are part of the overall drainage strategy. Any re-profiling of the edges should aim to enhance bio-diversity value;
- The existing water bodies shall be re-profiled in line with the site-wide drainage strategy. The planting strategy shall aim to increase bio-diversity and include a range of appropriate habitats;
- Existing mature trees and hedgerows within the space shall be retained as per Section 1.2 of the Site-wide guidelines;
- The space shall be a highly permeable space, with a key connection through and connections crossing the space. The space shall be carefully designed to minimise conflicts;
- The existing north-south tertiary streets to the north shall be transformed through additional landscaping into Green Links and allow greater pedestrian connection to the Southern Ecological Corridor;
- Supplemental new planting to the Southern edge must be provided to ensure a soft edge to the site and a transition to open countryside. Long views from the West Forum and Green Links to the southern countryside should be carefully crafted.

M



69. Southern Ecological Corridor: Open Space Structure



70. Southern Ecological Corridor: converges with the West Forum at West Lake

KEY

- EAST FORUM AND WEST FORUM
- WOODLAND BUFFER
- THE GREEN
- EXISTING BUILDINGS
- SOUTHERN ECOLOGICAL CORRIDOR
- GREEN LINKS
- ARRIVAL SQUARE
- POCKET LANDSCAPE
- EXISTING TREES TO BE RETAINED
- WATER BODIES
- ★ SHARED FACILITIES HUB

Access and movement

Cycle movement and parking

2.5.3 Key guidelines for cycle movement and parking are as follows. The hierarchy of routes as shown in Figure 71 is mandatory but the alignment may vary:

M

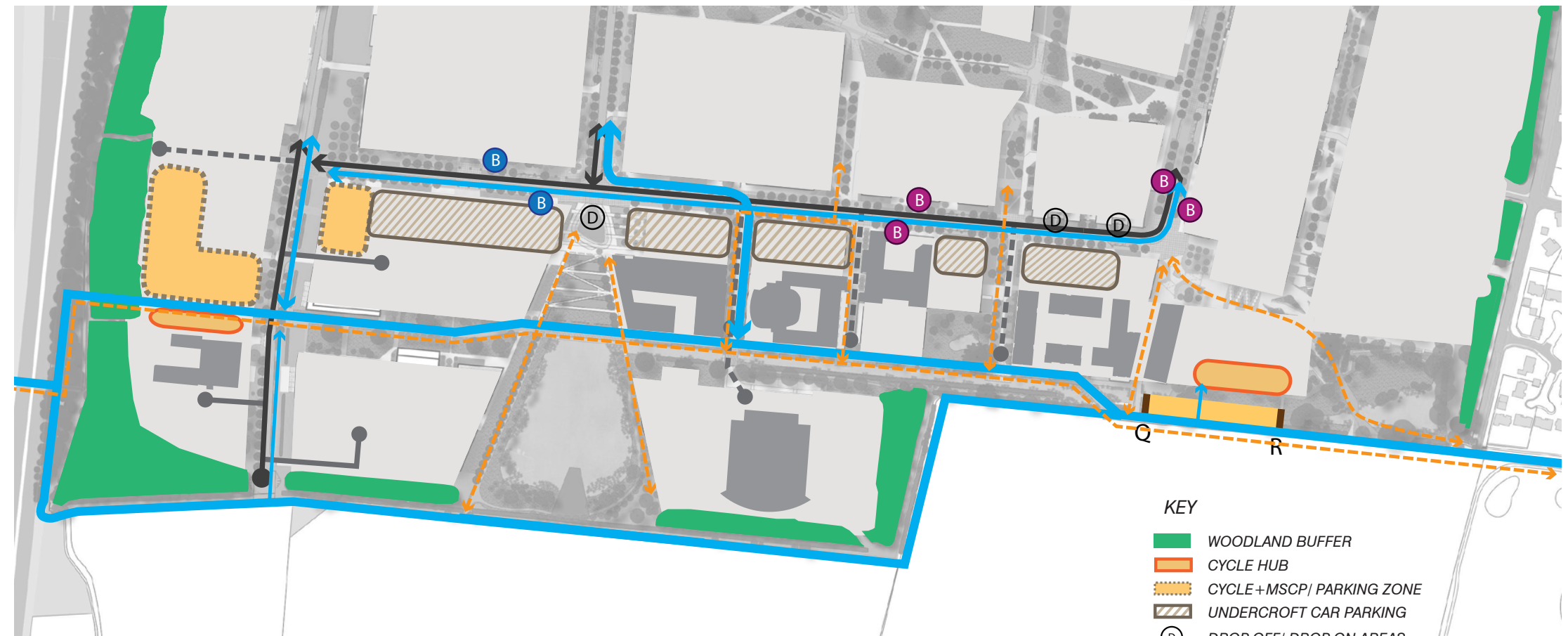
- The primary strategic pedestrian and cycle route shall be retained within the Southern Ecological Corridor, and shall continue westwards to the western boundary of the site where it shall connect to the existing Coton Footpath and the pedestrian/cycle bridge over the M11.
- A cycle hub, accommodating large numbers of cycle parking spaces shall be located to the east of the Corridor and shall be accessed directly from the Coton Footpath. This facility shall be located within built form to ensure limited visual impact on the key adjacent public space;
- Large areas of cycle parking shall not be located in the open spaces of the Southern Ecological Corridor;
- Only limited/smaller areas of cycle parking for visitors should be provided within the key open spaces. These should be located close to shared facilities and/or building entrances;
- Other cycle parking areas should be provided along other key cycle routes, such as along Charles Babbage Road;
- Green Links should accommodate cycle movement as well as some smaller areas of cycle parking without conflict with pedestrian.

Movement of motor vehicles

2.5.4 Principles for movement of motor vehicles are as follows:

M

- There shall be no movements of motor vehicles along or across the Southern Ecological Corridor, with the exception that motor vehicle access shall be provided to the Sports Centre and the proposed nursery, if located adjacent to it. This crossing of the Southern Ecological corridor shall be designed so that pedestrian and cycle movements retain priority;
- Primary drop-off points shall be provided in the West Forum and East Forum areas. Additional drop off shall be accommodated along Charles Babbage Road.



71. Southern Ecological Corridor: Access and Movement

Servicing

2.5.5 Principles for servicing are as follows:

M

- Servicing access shall be from along the Green Links, accessed from Charles Babbage Road;
- Service access routes shall be designed so as to not reduce pedestrian and cycle priority through these spaces.

Car parking

2.5.6 Principles for car parking are as follows:

M

- Car parking shall be restricted to lower ground floors along Charles Babbage Road. These areas shall be well integrated into the building frontages and not compromise the overlooking of this street;
- Surface car parking shall be kept to a minimum and only within Green Links and Charles Babbage Road (disabled parking and limited visitor parking only) and shall be integrated will into the public realm design.

- KEY
- WOODLAND BUFFER
 - CYCLE HUB
 - CYCLE + MSCP/ PARKING ZONE
 - UNDERCROFT CAR PARKING
 - DROP-OFF/ DROP-ON AREAS
 - EXISTING BUS STOPS RETAINED
 - POTENTIAL ADDITIONAL BUS STOPS
 - OFF-SITE BUS STOPS
 - PEDESTRIAN ROUTE
 - CYCLE ROUTE
 - PRIMARY VEHICULAR ROUTES
 - SECONDARY/SERVICE VEHICULAR ROUTES
 - SHARED SURFACE
 - VEHICULAR ACCESS POINT
 - CYCLE/PEDESTRIAN ACCESS ONLY

Urban structure

2.5.7 The proposed urban structure around the Southern Ecological Corridor aims to provide a better defined frontage and increase overlooking to this space.

2.5.8 This open space overlaps with East Forum and West Forum spaces and provides a strategic connecting route and visual element along the southern edge.

2.5.9 This area is highly visible both from within the site as well as from long views across the agricultural fields in the south. New development will form frontage in response to these views.

2.5.10 Figure 72 on this page describes the urban structure framework and the arrangement of development frontage, building accents and any key gateways relating to this area.

2.5.11 Key principles for urban structure are as follows:

- Development along the southern edge shall be set behind the existing woodland buffer. Additional landscape and tree planting shall be used to provide a softer, greener development edge;
- For the area west of the West Lake, the Open Space Parameter Plan specifies the mandatory area which ensures the existing Grade A trees are protected. In addition to this area, within the flexibility zone additional area shall be provided so the total area is minimum 0.7 ha, resulting in average width of 41 m.
- Along the Southern Ecological Corridor, significant existing buildings are expected to be retained, including the Sports Centre, Materials Science and Metallurgy, Hauser Forum and Broers building and others. The new development should provide some variation to the building lines set by these existing buildings.

Building Accents and Gateways

2.5.12 Principles for building accents and gateways are as follows:

- Unobstructed views along the Southern Ecological Corridor shall be maintained to aid legibility;
- At the East Pond development frontages shall combine with development within the East Forum area to form a new southern gateway from the Coton Footpath;
- Any new building accents (taller elements) shall be located at East and West Forum spaces, where they will capture the views from the Ecological Corridor. The guidelines for these landmarks are provided in East and west Forum sections;
- Additional accent buildings should be located to terminate views and relate to key spaces, such as where the Southern Ecological Corridor meets the West Forum/ West Lake, or at the intersection of Southern Ecological Corridor and Ada Lovelace Road.

Frontage types

2.5.13 The diagram in Figure 72 locates the three types of frontage: active, primary and secondary frontages:

- **Active Frontages:** These frontage types shall be located to encourage high levels of activity within the East Forum spaces, including at the East Pond, at West Forum, including key points adjacent to the West Lake;
- **Primary Frontages:** shall be located along the Southern Ecological Corridor;
- **Secondary frontages:** shall primarily form the Green Links and frontages screened by planting along site edges. These provide more informal frontage to these spaces;
- Active ground floor frontages should also be located along the Southern Ecological Corridor to take advantage of the southern aspect;
- At these active frontage locations consideration should be given to introducing high level active spaces.

KEY

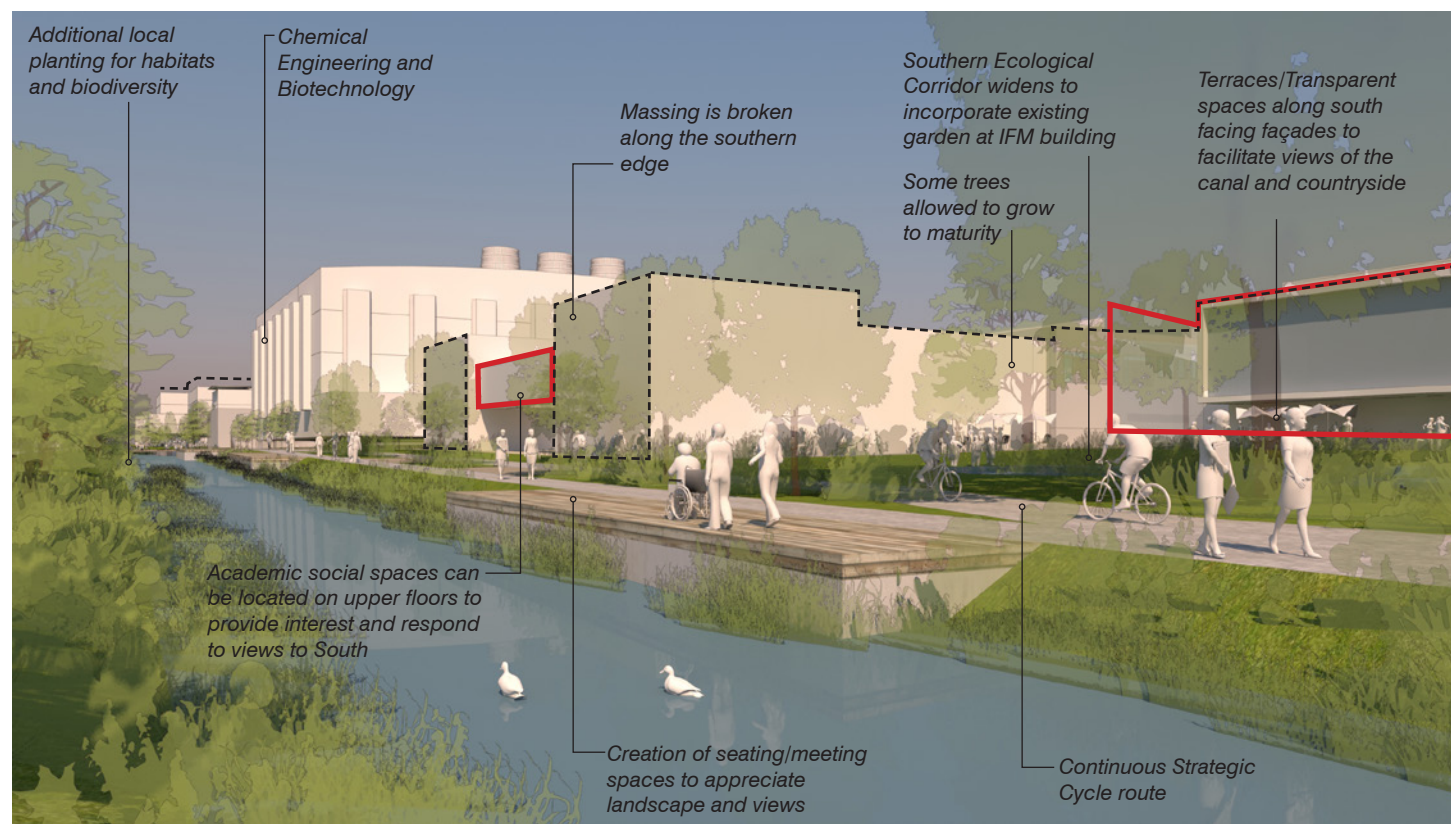
- ACTIVE FRONTAGE
- PRIMARY FRONTAGE
- SECONDARY FRONTAGE
- KEY VIEWS
- KEY BUILDING ACCENTS
- SHARED FACILITIES HUB
- PRIMARY GATEWAYS
- SECONDARY GATEWAYS
- WOODLAND BUFFER



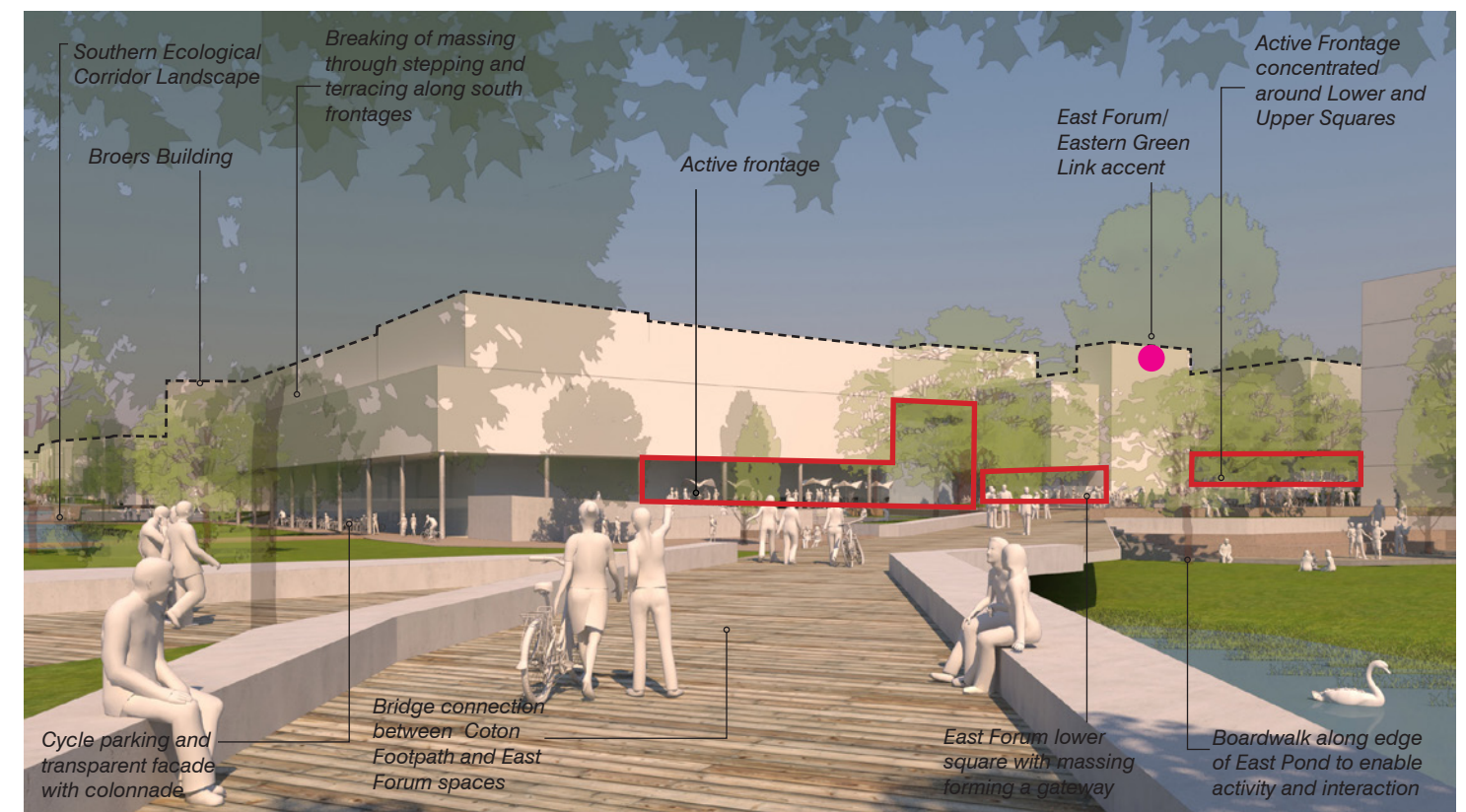
72. Southern Ecological Corridor: Urban Structure



73. Key Views



74. The Southern Ecological Corridor: Canal Frontage



75. Southern Ecological Corridor - East Pond and Southern Gateway

Landscape principles

Canalside

2.5.14 The Canalside is an existing section of the Southern Ecological Corridor. Guidelines for the Canalside area are as follows:

- New/additional seating and gathering spaces shall be designed into the Canalside area;
- The strategic pedestrian path and cycle route shall be retained within the Southern Ecological Corridor.

West Lake and East Pond

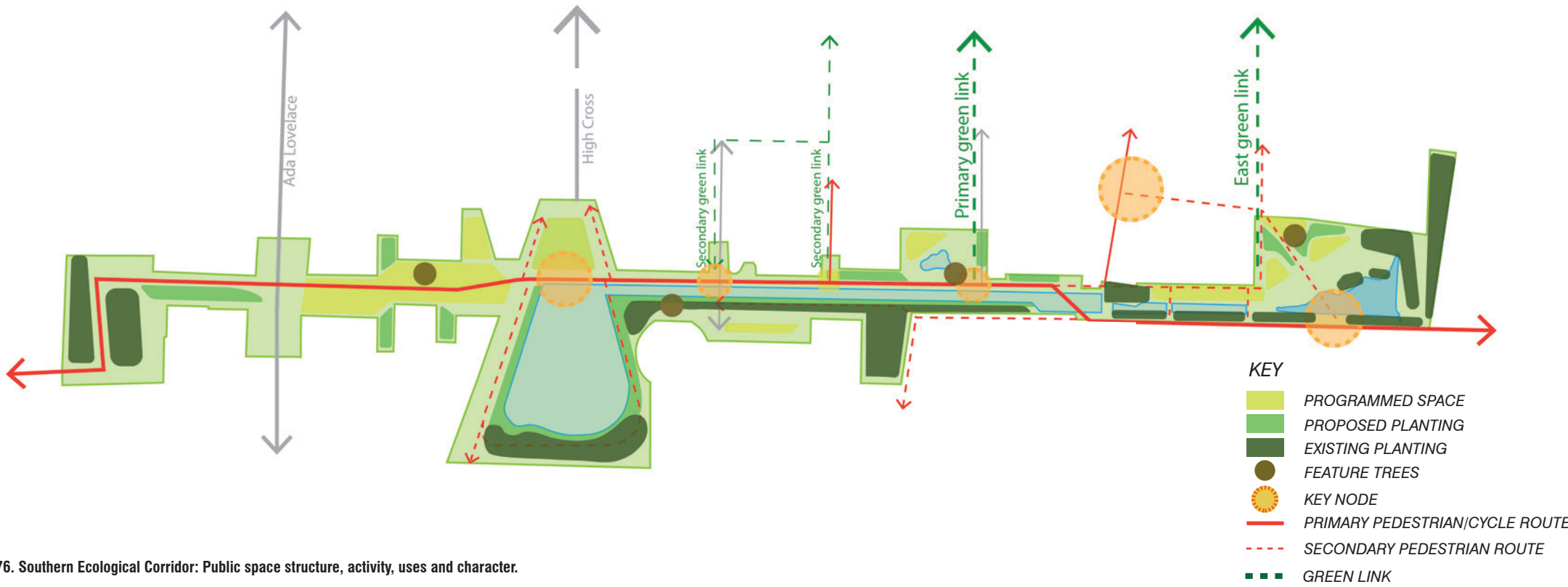
2.5.15 West Lake and East Pond are existing spaces now to be incorporated into the Southern Ecological Corridor. Guidelines for the West Lake and East Pond spaces are as follows:

- The West Lake & East Pond shall remain predominantly green spaces and shall be appropriately landscaped to enrich the natural setting;
- These spaces shall be active spaces - the design of the spaces shall provide places to dwell, south facing terraces and informal lawns;
- The East Pond shall become a new southern gateway into the site. The space shall be visible from Coton Footpath and a new pedestrian-only route shall be provided between the Coton Footpath and the East Forum spaces. A route over the pond may be considered but cycle movements shall be discouraged along this route;
- The existing pedestrian path shall be retained around the West Lake to bring people closer to the water and promote recreational activity.

Green Links

2.5.16 Principles for the Green Links are as follows:

- Existing tertiary streets shall be transformed to form Green Links - pedestrian orientated spaces that incorporate pedestrian routes, cycle parking, hard and soft landscape and servicing for buildings along their length;
- Wherever the Green Links have to accommodate shared pedestrian and service access, care shall be taken to facilitate ease of access with least conflict to pedestrians.



76. Southern Ecological Corridor: Public space structure, activity, uses and character.

Surface/paving treatment

2.5.17 Guidelines for surface/paving treatment are as follows:

- The extent of paved areas shall be restricted to key pedestrian and cycle routes and seating areas or gathering spaces.

Bicycle Stands and Circulation

2.5.18 Principles for bicycle stands and circulation are as follows:

- Cycle parking shall be kept to a minimum within the key gathering spaces;
- Cycle parking should be located within or between buildings or on the adjacent Green Links.

Planting

2.5.19 Principles for planting are as follows:

- Existing trees and hedgerows shall be maintained as per Section 1.2 of the site-wide guidelines;
- Any new planting along the Southern Ecological Corridor shall be indigenous;
- Large feature tree planting shall be provided at a minimum of 5 key locations. Where these trees are planted they shall be given the proper environmental conditions and space to grow to maturity and shall be provided with a 15m buffer, in accordance with the Woodland Management Plan;
- To the water body edges, marginal planting shall be provided to create a natural look, increase biodiversity and provide a range of appropriate habitats. This planting shall be appropriate to the soil and environmental conditions at the water edges;
- Any area between building frontage and edge of open space, should be landscaped in a way similar to the public realm, without visible barriers such as fences. If hedges are planted, they should be located next to the building rather than marking the boundary;

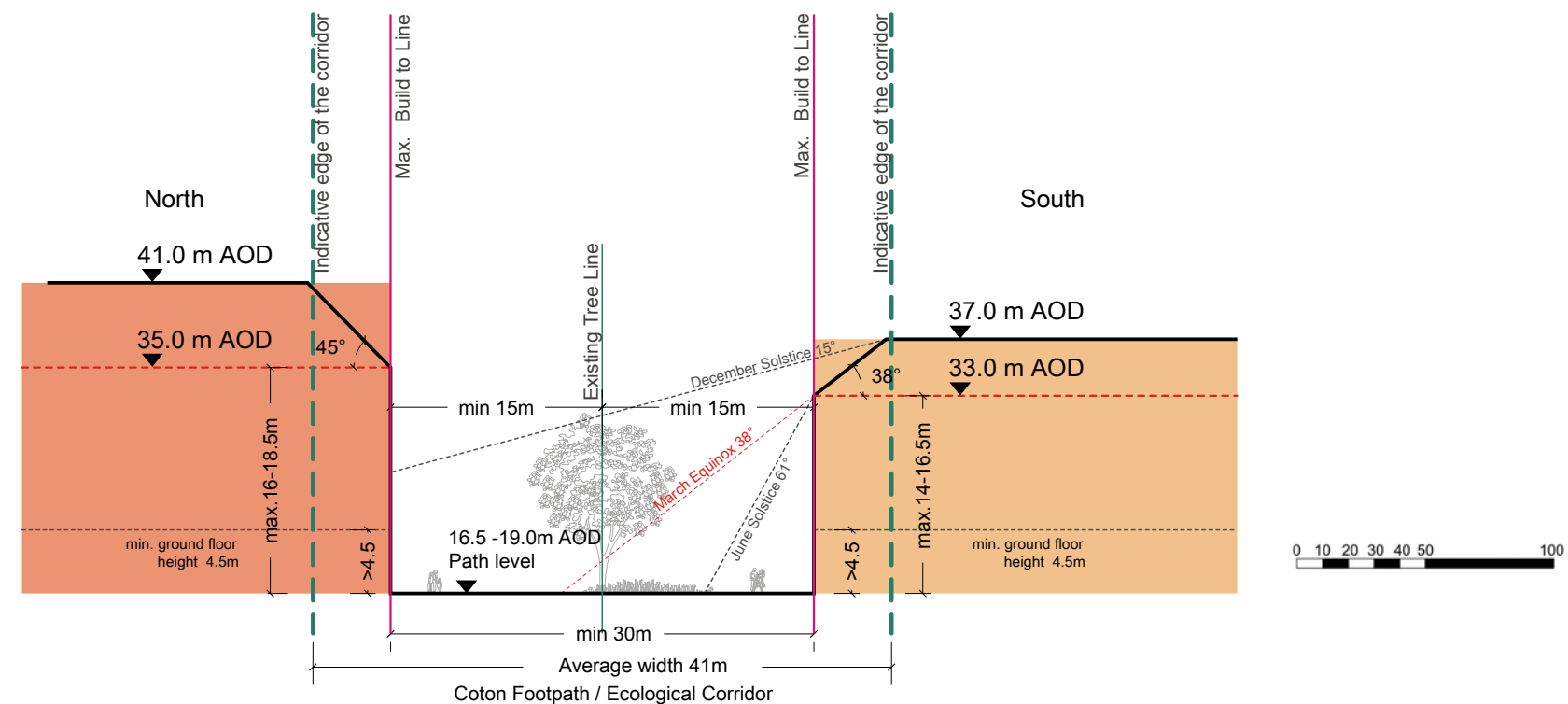
- Clearing of under-storey vegetation should be considered to open views from the development and assist in way-finding, in particular at the new southern gateway at the East Pond.

Additional height considerations

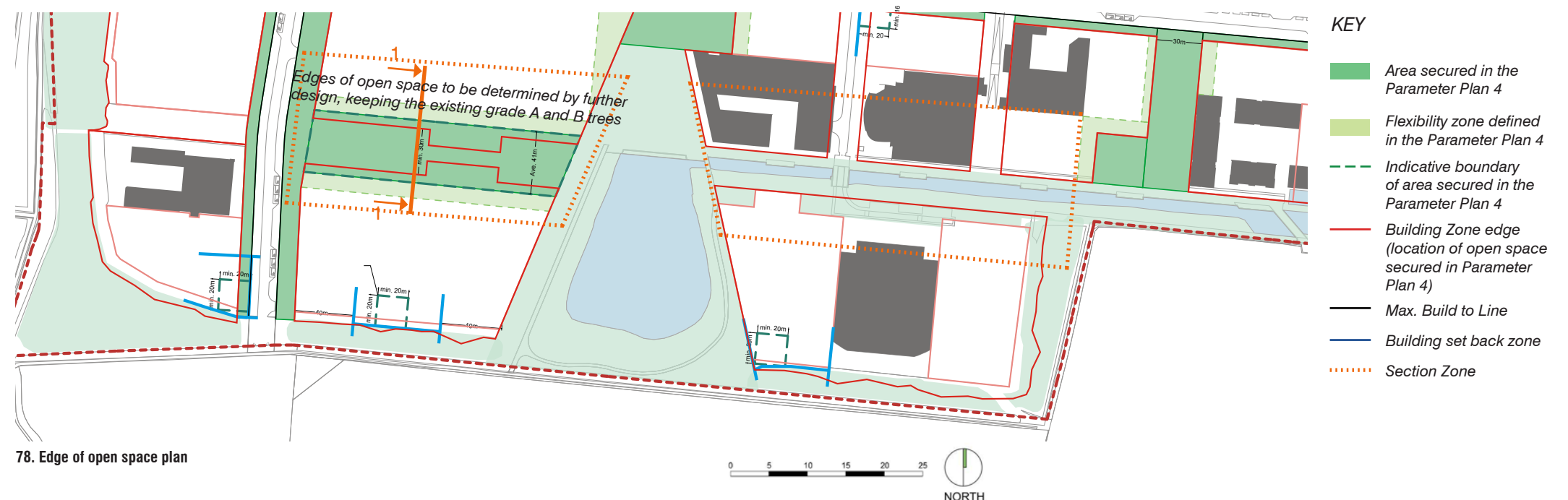
2.5.20 Additional height restrictions apply to the northern and southern frontages of the Southern Ecological Corridor. The aim of these restrictions is to form a coherent frontage to the space but allow for variation and interest in response to long distance views from the south. In addition it is important to ensure that development does not overshadow key spaces and routes within the space.

2.5.21 Key additional height considerations for the Southern Ecological Corridor are as follows:

- The width between buildings at any given cross section shall be minimum 30m;
- The area of open space within the Corridor to the west of the West Lake shall be minimum 0.7ha (as secured in the Parameter Plan 04), resulting in minimum average width of 41m). This ensures that the existing Grade A trees are protected and retained within the space;
- Development frontage shall not exceed the set height of 33m AOD on the southern side and 35m AOD on the northern side of the space. Above those heights, the buildings shall stay within envelopes which rise from the set maximum frontage heights to the heights set in parameter plans with angles of 45° (North) or 38° (South), as shown in Figure 77;
- Particular consideration shall be made so that rooftop plant spaces do not dominate the views from within the Southern Ecological Corridor: plant shall be set back, screened, treated as part of the facade or otherwise carefully treated to minimise visual impact;
- Any setback area between building frontage and edge of open space, should be used for entrances or extended activities such as seating or seating with tables. These zones should not be used for service / any back of house purposes;
- Buildings may be built to the edge of the open space or be partially set back.



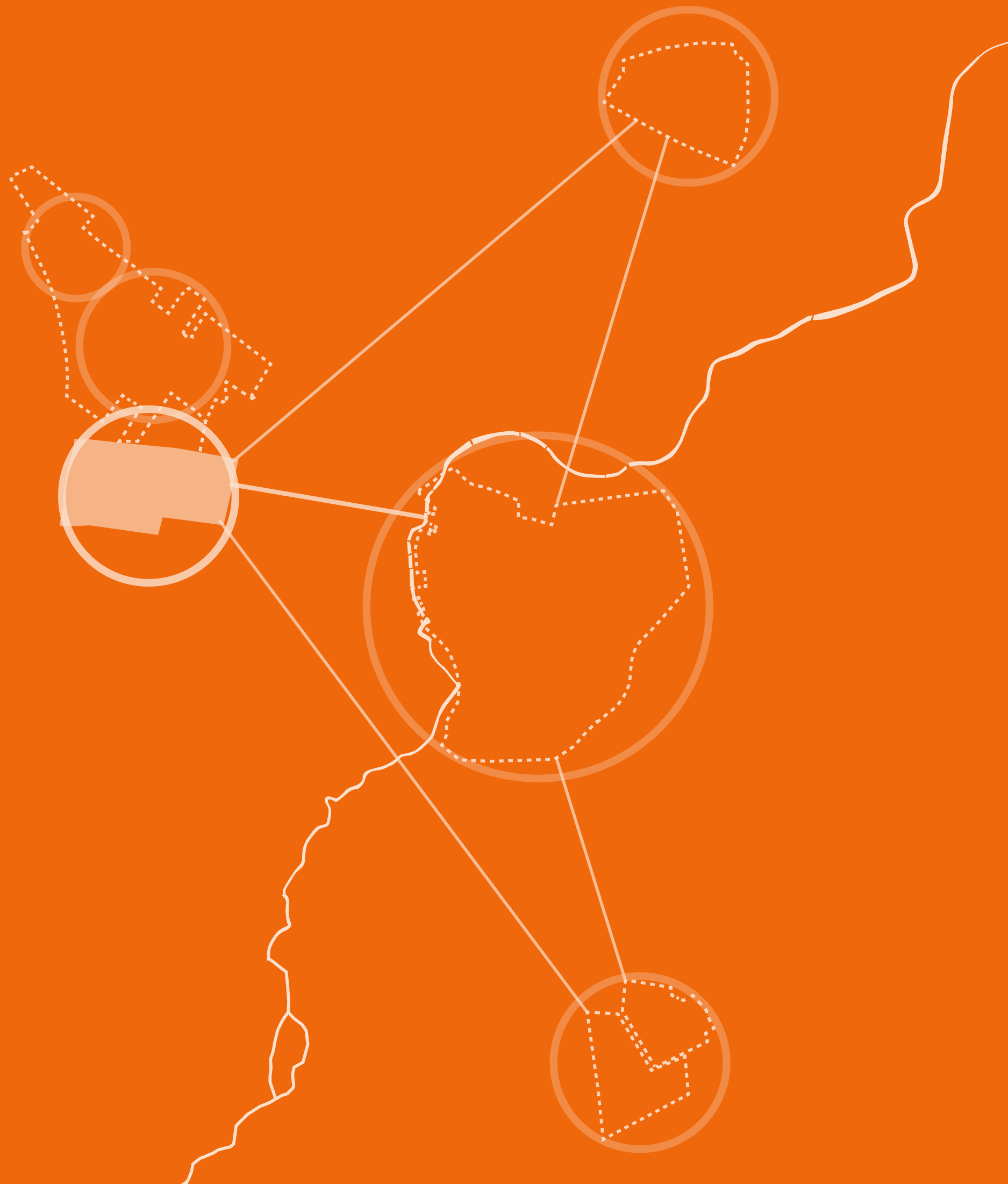
77. Southern Ecological Corridor West Section 1-1 (Parameter Heights 37m and 41m AOD)



78. Edge of open space plan

KEY

- Area secured in the Parameter Plan 4
- Flexibility zone defined in the Parameter Plan 4
- Indicative boundary of area secured in the Parameter Plan 4
- Building Zone edge (location of open space secured in Parameter Plan 4)
- Max. Build to Line
- Building set back zone
- Section Zone



STREETS AND GREEN LINKS

03

3. STREETS AND GREEN LINKS

3.1. Introduction

3.1.1 The primary street structure within the site was established by the 1999 masterplan. There are four key streets, shown in Figure 79: High Cross, JJ Thomson Avenue, Charles Babbage Road, and Western Access/Ada Lovelace Road. The first three of the streets form the main access and circulation loop formed by the 1999 masterplan, and have been completed relatively recently. Their roadways, kerbs and foot paths are in good condition and street trees have been planted along their length.

3.1.2 The proposed development retains all four of the existing streets, and proposes changes in the character of these streets, both in relation to the adjacent built form, as well as their public realm and landscape treatment.

3.1.3 It is intended that these transformations will take place gradually with implementation over time as development comes forward.

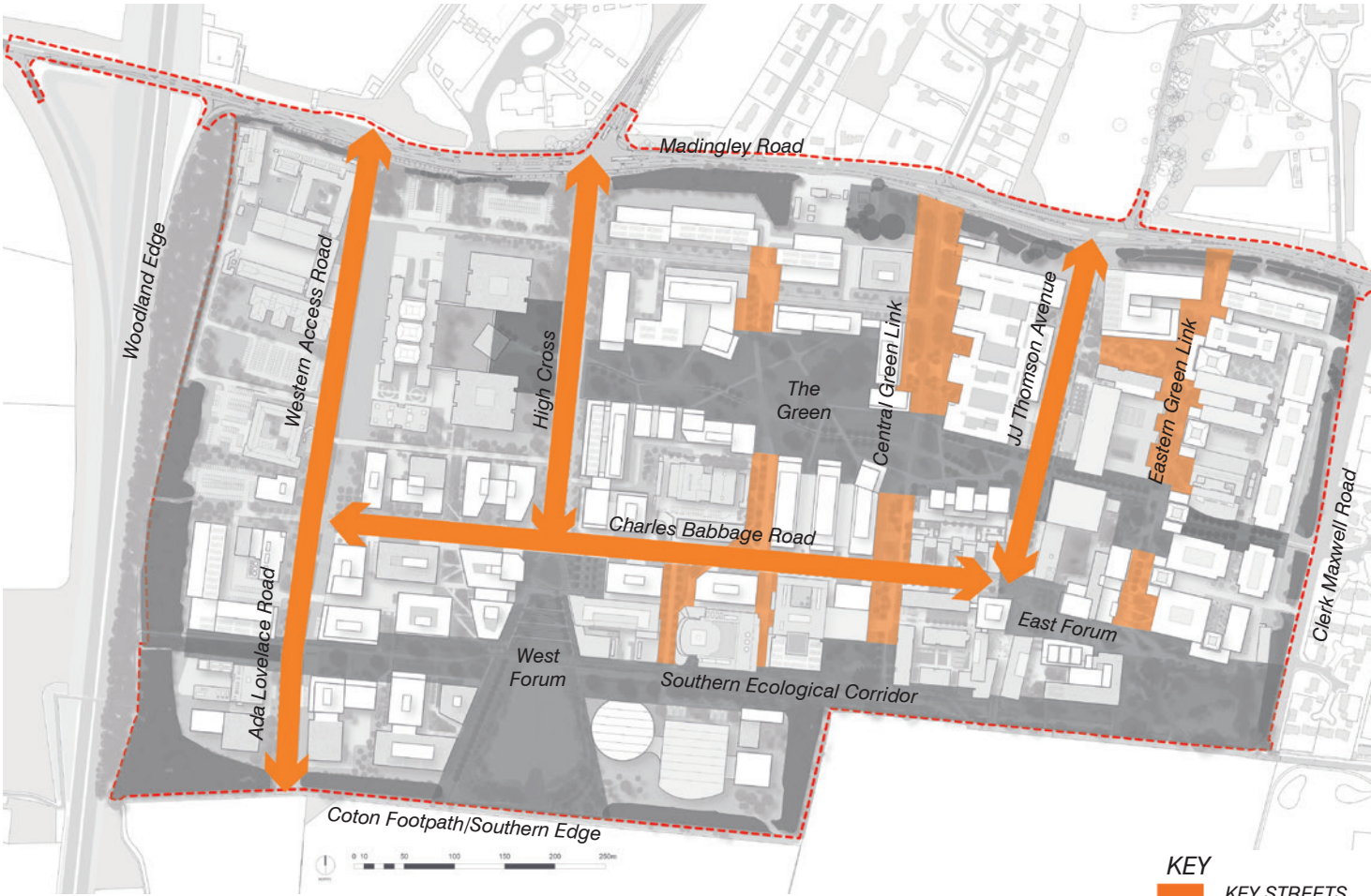
3.1.4 In addition to the four key streets, guidelines for two Green Links are provided: the Eastern Green Link and the Central Green Link.

3.1.5 The following guidelines apply to the four primary streets:

- The three north-south running streets and the Central Green Link shall have building to building width of minimum 30m;
- The primary streets shall accommodate the movement of motor vehicles, cycles and pedestrians;
- All of the primary streets apart from the Western Access/Ada Lovelace Road shall accommodate bus movement;
- Traffic calming measures to reduce the dominance of motor vehicles and help slow traffic to a target speed of 20mph shall be introduced along existing streets;
- Traffic calming measures, to reduce the dominance of vehicles, to slow traffic and create a shared use space with pedestrian priority, shall be provided. These

measures may include elements such as: change of surface material at crossing points; on-street parking; vertical elements and central street markings to reduce the appearance of street width; and varied planting;

- Raised tables shall not be used within the West Cambridge site. This is to maintain a vibration free environment for sensitive equipment and experiments within laboratories;
- Built form along key streets shall incorporate variable and interesting roof-lines;
- Service access and service yards shall not front the primary streets and shall be contained within buildings or enclosed by development;
- The visual impact of car parking in basement or semi-basement areas shall be minimised and access should be located away from the primary streets;
- The existing trees identified for retention (Section 1.2) shall be incorporated into the new street design, and buffers/set backs to maximum build-to line provided, as specified in the 'West Cambridge Masterplan EIA Arboricultural Impact Assessment Report';
- On-street parking shall be used for disabled parking only and no more than four parallel parking bays shall be allowed in a row;
- Proposed planting to the street verges shall comprise a mix of tree species, shrubs, grasses, ground cover and lawn to create a varied and pedestrian scale street-scape;
- The existing underground utilities shall be incorporated. These vary from one side to the other, therefore different planting treatments shall be applied in different locations along the streets in response, as shown indicatively in the Appendix 5.2;



79. West Cambridge - Streets and Links

- Gaps and partial setbacks should be used to break longer frontage lengths, in accordance with Section 1.4;
- Rooftop plant should be set back or effectively screened to ensure that its visual impact on the streets is minimised;
- New streetscape planting should provide typical planting depth of subsoil & topsoil as follows:

Trees:	900mm
Shrubs:	600mm
Grasses:	400mm
Ground-covers:	400mm
Lawn:	200mm



80. High Cross - existing photo looking south from Madingley Road junction



81. JJ Thomson Avenue - existing photo looking south



82. Charles Babbage Road - existing photo looking east from High Cross



83. Western Access Road - existing photo looking south

3.2. High Cross

Street transformation

3.1.6 High Cross is one of the existing streets established through the 1999 masterplan. The proposed development retains this street as an important part of the site's urban structure and enhances its role and character.

3.1.7 This street is the main entrance and approach road into the site for public transport and motor vehicles as well as for many pedestrians and cyclists. It forms a key pedestrian and cycle link to the North West Cambridge Development and its new Local Centre in the north.

3.1.8 The street corridor visually continues the chain of green landscapes that run north-south through the North West Cambridge Development, into the West Cambridge site, and to the West Forum and West Lake - it is important that this street is maintained as a wide, generously landscaped street.

Character

3.1.9 Guidelines for the transformation of character of High Cross are as follows:

- Buildings shall be setback from the street to allow for a wider, generously landscaped street corridor;
- On the west side of the street the Listed Schlumberger Research building shall remain visible as a key site landmark;
- The profile of the street shall be changed to allow for some on-street disabled parking, pedestrian footpaths and separate cycle routes.

Surface/paving treatment

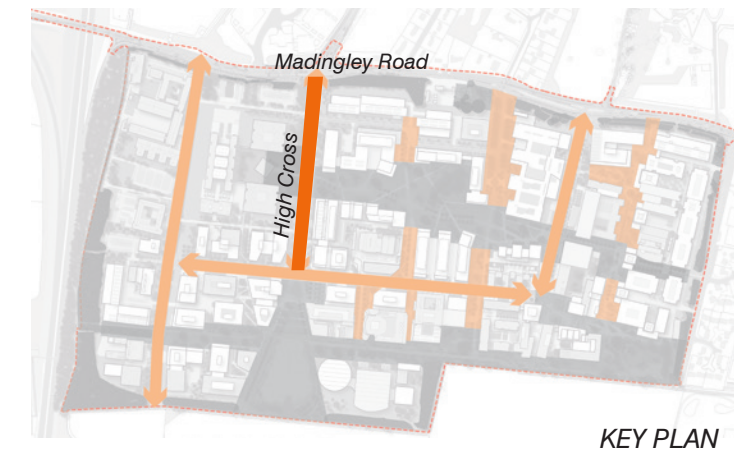
3.1.10 Guidelines for the surface/pavement treatment of High Cross are as follows:

- Cycle movement shall be accommodated on or off street and a dedicated cycle route or a shared foot & cycle path shall be formed to both sides of the street;
- Pedestrian and cycle crossing points shall be incorporated at key locations, such as: at The Green and at the West Forum. The road surface shall change to denote the crossing point and help to slow traffic;
- Central street markings should be considered as part of the traffic calming measures along this street, serving to visually reduce the width of the street;
- An Arrival space should be created along the street for any expanded Schlumberger Research building. This Arrival space should be carefully integrated into the design of the street. Use of similar materials or a careful transition of materials should be considered.

Landscape and planting

3.1.11 Guidelines for the landscape and planting for High Cross are as follows:

- Street trees to High Cross are Non-mandatory to be retained (see Section 1.2), as they are young, category C trees in a poor state. Replacement with an appropriate street tree shall be considered. Refer to the 'High Cross Oak Tree Investigation Report', October 2016 for tree species recommendations (see Appendix 5.3);
- In the setback zones, trees shall be planted to soften the existing lines of parallel trees and partially obscure building frontages. Space shall be provided for some trees to grow to maturity;
- Large feature tree planting shall be incorporated at key locations, such as: the gateway to Madingley Road and the interface with The Green. Large tree species must be given the proper environmental conditions and space to grow to maturity;
- Where building setbacks and gaps occur the landscape design within these shall reflect the street design so that no visible boundaries can be seen;
- Rain Gardens shall be provided to collect water runoff from the carriageway. The location of these shall consider the existing street trees and underground utilities, and be planted with a variety of species that are appropriate for the Rain Garden and the roadside environment;
- Rain Gardens shall be a minimum of 1.5m wide and 6m in length. Refer to Appendix 5.2 for plans & sections of underground utilities;
- At the gateway with Madingley Road, additional trees should be planted within the spaces created by building setbacks, to create a gateway with a landscaped and green character.



84.High Cross looking towards the Schlumberger Research Building



85.High Cross looking south