PLANNING COMMITTEE **DATE: 29 July 2021**

Application Number	16/1134/OUT	**Agenda Item**	
Date Received	16 June 2016	**Officer**	Fiona Bradley
Target Date	EoT 29 October 2021		
Ward	Newnham		
Site	Land West of JJ Thomson Avenue, Cambridge, CB3 0FA		
Proposal	Outline planning permission with all matters reserved is sought for: - Up to 370,000 sq m of academic floor space (Class D1 space), commercial/research institute floor space (Class B1b and sui generis research uses) of which not more than 170,000 sq m will be commercial floor space (Class B1b). - Up to 2,500sqm of nursery floorspace (Class D1). - Up to 4,000sqm of retail/food and drink floorspace (Classes A1-A5). - Up to 4,100sqm and not less than 3,000sqm for assembly and leisure floor space; - Up to 5,700sqm of sui generis uses, including an energy centre and data centre; - Associated infrastructure, including roads (including adaptions to highway junctions on Madingley Road), pedestrian, cycle and vehicle routes, parking, drainage, open spaces, landscaping and earthworks; and demolition of existing buildings and breaking up of hard standing		
Applicant	Chancellor, Masters and Scholars of the University of Cambridge		

SUMMARY	The development accords with the Development Plan for the following reasons: 1) The principle of development accords with Cambridge Local Plan 2018 Policy 19, in providing a mix of academic and commercial uses within an allocated employment site. 2) The development will make an important contribution to jobs provision in Cambridge

	and the wider area, with a maximum potential Gross Value Added (GVA) of £864.8 million for the local and regional economy. 3) The necessary mitigation measures, including transport improvements, will be secured through the section 106 agreement and will be triggered as development comes forward on the site. 4) The development will create significant visual effects from longer views to the south, but balanced against wider benefits of the scheme, existing potential development of the site and the package of proposed mitigation, is considered on balance acceptable. 5) In terms of designated heritage assets, the assessment concludes there will be a moderate adverse effect on Schlumberger (Grade II* Listed building); White House (Grade II Listed Building) and the Conduit Head Road and West Cambridge Conservation Areas. There will be some major impacts for non-designated heritage assets. Overall, the scheme benefits outweigh the harm identified. 6) The proposed street interventions to the existing campus will ensure walking and cycling at the new campus will be adequate for the additional level of development. 7) The proposed development will reduce surface water runoff to the greenfield rate, improving the current situation by 10%. Mitigation and management and maintenance of the strategic drainage infrastructure will ensure there is no adverse risk from flooding. 8) The application demonstrates that a net gain in biodiversity can be achieved through the development.
RECOMMENDATION	APPROVAL subject to planning conditions and completion of a S106 legal agreement.

Contents

Appendices	
1	1999 Masterplan
2	Proposed Illustrative Masterplan
3	Development Control Forum minutes 14 January 2021
4	Map of visual receptors for the LVIA
5	Proposed Parameter Plans
6	Committed developments included within the Transport Assessment (residential and employment)
7	Cambridgeshire Quality Panel minutes 7 July 2017
8	Proposed Design Guidelines

A.0 BACKGROUND

Pre-existing development and the 1999 Masterplan

A.1 Development at the West Cambridge Site has been incremental since the 1950s with a first masterplan for the site developed in 1966. The most significant developments on the site were the school of Veterinary Sciences 1953-55 and the existing Cavendish II Laboratory constructed in the 1970's.

A.2 In 1999 an outline planning application for the site (planning reference 97/0961/OP) was granted permission for University academic departments (73,000 sq m), research institutes (24,000 sq m), commercial research (41,000 sq m), sports centre (10,120 sq m), shared amenities (including shops, food and drink and lecture theatre), 200 residential units, park and cycle facility and associated infrastructure. It was reviewed and updated in 2004.

A.3 The extant 1999 masterplan is referred to in the application documents as the '1997 masterplan' however, as it was approved in 1999 it is referred to in this report as the '1999 masterplan'. The 1999 masterplan development was built out under Design Guidelines which controlled building heights and plot ratios across the campus. There was an associated S106 Agreement which contained 15 clauses for transport mitigation; the planning use classes of permitted uses at the site and future public access to the sports centre. Triggers for the S106 were based on trip numbers and there was a framework for monitoring.

A.4 To date all of the mitigation for motor vehicle capacity along Madingley Road have been implemented. Some of the cycle infrastructure has not been delivered, notably the previously proposed new link to the south of the site, linking Clerk Maxwell Road with Range Road, known as the 'Rifle Range' link. Some of the shared space lecture facilities have also not been delivered as originally anticipated. The Winter Gardens and Colonnade feature were also not delivered as originally anticipated. A retail unit was originally intended on the ground floor of Philippa Fawcett Court (south residences) in the south east corner of the site. It remained vacant for several years and is currently used to accommodate the University Chaplaincy.

A.5 The extant 1999 masterplan was not comprehensive in that it did not include the Veterinary School in the centre of the site or the existing Cavendish II complex. These sites account for approximately one third of the overall 66 Ha site area.

A.6 The extant 1999 masterplan included a phasing plan which set out a broad strategy based on the principle of establishing the perimeter structural landscaping and ecological enhancement in the early stages of the development. In addition, the provision of infrastructure according to need and the implementation of public areas and other infrastructure associated with the development of individual plots. The strategy was not prescriptive as to the sequence of development allowing flexibility for solutions as development proceeded with individual plots. The 1999 masterplan acknowledged and was approved in the context that development would take place over a 25 year period and would be determined by the University's success in attracting investment funds.

A.7 The extant 1999 Design Guidelines contained a number of specific triggers, requiring the perimeter landscaping by 5,000 sq m of development; the laying of east forum (by 2,000 sq m of development); advance landscaping works in the academic core area (by 5,000 sq m of development); colonnade, canal and swale (to be carried out for all plots to the south by 30,000 sq m); West Square (by 5,000 sq m of development), with triggers for delivery of the residential accommodation.

A.8 To date, the West Cambridge Site has been partially built out under the framework of the extant masterplan from 1999. Around 100,000 sq m remains to be constructed under the 1999 masterplan, the majority of which is the

commercial research element. Most of the western side of the West Cambridge site, the commercial area, comprises vacant plots.

A.9 The principal roads through the site have been implemented along with numerous key buildings including Physics of Medicine, the Cavendish Laboratory's Maxwell Centre, a new academic research building for Materials Science and Metallurgy and new academic research buildings for the University's Electrical Engineering Division. In addition, the East and West Forums and lake area have been developed, which are the main areas of public realm on the campus. (See Appendix 1 – 1999 masterplan as implemented).

A.10 There are currently around 3,800 full time equivalent employees at the West Cambridge Site. This includes both academic and commercial occupiers.

A.11 This current outline planning application (OPA) for a new masterplan for the West Cambridge Site was submitted in June 2016. (See Appendix 2 - illustrative masterplan). A single package of amended information in a Supplementary Planning Submission was submitted in October 2017. A final Supplementary Planning Submission was submitted in October 2020.

1.0 SITE DESCRIPTION / AREA CONTEXT

Context and adjacent uses

1.1 The existing West Cambridge Site is a major academic and commercial development undertaken by the University of Cambridge. The wider campus covers 66 Hectares situated between Madingley Road to the north and the M11 to the west. The West Cambridge Site is identified as a site of major change for employment within policy 19 of the Cambridge Local Plan 2018. It is an established academic site, part of the natural expansion of academic and college sites that occupy the western City centre.

1.2 At the northern boundary of the site is a substantial tree belt, approximately 5m deep, of mixed species. Beyond this is Madingley Road, one of the main radial routes linking the M11 with Cambridge City centre. On the northern side of Madingley Road are the nearest residential properties including Conduit Head Road and Lansdowne Road. Surrounding the site to the northwest is the Madingley Road Park and Ride facility and the relatively recently constructed new neighbourhood at Eddington (phase one). Eddington is a University of Cambridge promoted development which was approved under an outline application (11/1114/OUT) and which secures approval for key worker and private housing (3,000 homes); student accommodation (2,000 bed spaces) and 100,000 sqm of academic and commercial research work space. In addition, there is a cluster of other academic uses along Madingley Rise, including The Institute of Astronomy.

1.3 To the eastern site boundary is a continuation of the tree belt which is set on a raised bund adjacent to Clerk Maxwell Road (CMR) running north-south. CMR has on street car parking for around 90 cars and there are currently no car parking restrictions. Beyond, to the east, are the residential developments of

Perry Court and The Lawns, with sports fields beyond. North of The Lawns, planning permission was granted in October 2020 for 35 houses to be built on the former Cocks and Hens Tennis Club land on CMR (application ref: 19/1734/FUL).

1.4 The southern side of the site is separated from the Cambridge Green Belt open fields by the Southern Ecological Corridor. This consists of the east-west footpath/cycleway (within the campus), the West Cambridge Canal, a swale drainage attenuation feature and a tree and hedgerow belt (City Wildlife Site). The Canal is part of the site wide drainage system connecting to the Western Lake and comprises marginal planting. A long-distance recreational route, the Harcamlow Way, (which is a Public Right of Way, public footpath no. 39/31), passes along the southern boundary of the site.

1.5 To the west of the site, there is a more substantial woodland belt approximately 20m in depth, through which runs a Public Right of Way (Bridleway no. 39/30) which extends south beyond the site (this is City Wildlife Site). The Right of Way connects Madingley Road in the north to the Harcamlow Way in the south, beyond to the west is the M11 motorway. Beyond the M11 is a series of agricultural and grazing fields bound by hedgerows and trees which form the Coton Countryside Reserve, adjacent to the village of Coton. There are a number of Grade II Listed Buildings within the village of Coton. To the south of Coton is a relatively larger field pattern which is more open in character.

1.6 None of the trees around the site edges or within the main campus are subject to Tree Protection Orders (TPOs).

1.7 The site is situated within the impact zone of Madingley Wood Site of Special Scientific Interest (SSSI). Madingley Wood is a small area of ash-maple ancient woodland and is located approximately 1.8km north west of the site.

1.8 The site is within the impact zone of two geological SSSI. Approximately 2.5km north of the site is the Histon Road SSSI and the Travellers Rest Pit geological site within Eddington around 500m to the north.

1.9 The West Cambridge Site falls outside of the City Controlled Parking Zones (CPZ). The closest residential streets in the CPZ are West Road and Sidgwick Avenue (pay and display spaces on street) and Selwyn Gardens off Grange Road (part of West Cambridge CPZ zone). There are double yellow line car parking controls within the West Cambridge Site itself and car parking is managed by the university. The surrounding residential streets, such as Lansdowne Road and CMR are not within the CPZ. The new neighbourhood at Eddington is subject to car parking controls preventing on street car parking outside of designated areas.

1.10 The site is outside of the Air Quality Management Area (AQMA).

1.11 The application red line extends to the west along the A1303 to include Madingley Road where it intersects with the M11 motorway.

Existing internal campus environment

1.12 The site is served by two main accesses, JJ Thomson Avenue and High Cross, both of which are wide, open tree-lined streets constructed as part of the 1999 masterplan. JJ Thomson Avenue is the principal eastern access, 7.3m in width, with a shared 3m footpath/cycleway lined by mature lime trees either side of the street. Further east are buildings related to the department of Engineering and University Computer Laboratory.

1.13 High Cross is the principal western access and is 7.3m in width with 3m shared footpath/cycleways on each side of the street. Oak trees are set along the boulevard, but they have not been particularly successful and are in poor health. The plots on either side of High Cross remain vacant.

1.14 To the south of the site is the University nursery and North Residences, comprising four storey buildings. Beyond, is the Broers Building which incorporates the University Entrepreneurship Centre, the West Café. Linking JJ Thomson Avenue and High Cross is Charles Babbage Road, 6.5m in width with segregated cycleways and a footpath, subtly delineated with tree planting. The eastern end of the street has a different road surface, with herringbone paviours outside the University Residence and East Forum.

1.15 To the east of JJ Thomson Avenue are academic buildings mostly for the engineering and physical sciences. At the northern end is the existing Whittle Laboratory, adjacent to the east is the university Park and Cycle facility. This is currently accessed off CMR and provides 290 car parking spaces. The southern end of the eastern section of the campus is occupied by the Cavendish II Laboratory, proposed for demolition (see demolition section below). To the west of JJ Thompson Avenue are the Cavendish III and Shared Facilities Hub buildings currently under construction.

1.16 To the west beyond is the University Veterinary School complex, other undeveloped plots and the Schlumberger Gould Research Centre, a Grade II* Listed Building. The Western Access Road (WAR) serves the existing commercial occupiers to the far west of the site, including the British Antarctic Survey and AVEVA Cambridge. The WAR is not currently linked for motor vehicles to Madingley Road. There is pedestrian cycle access only.

1.17 There is a fall in levels across the site towards the south to the existing lake towards the southern ecological corridor.

Heritage assets

1.18 There is one Listed Building within the campus itself, the Grade II* Schlumberger Gould Research Centre. The building was designated a Listed Building in February 2017, after the original submission of the OPA in 2016. It is a tented structure designed by Michael Hopkins within the masterplan site at the western edge.

1.19 The other buildings within the site are not statutory protected and do not feature on the Council's register of buildings of local interest. The main block of the Veterinary School is of some limited heritage significance.

1.20 There are two Conservation Areas to the north and east of the site. Conduit Head Conservation Area is located to the north of the site (approximately 30 m) separated by Madingley Road. There are five Listed Buildings within the Conservation Area including the Grade II Listed White House; Salix and Spring House. Willow House and Shawms are also within the Conservation Area and are Grade II* Listed.

1.21 To the east is the West Cambridge Conservation Area, noted for its spacious residential streets lined with mainly detached 19th and 20th century houses. A variety of college and University buildings are also located within the Conservation Area.

Existing water drainage regime

1.22 Within the site there is a west to east ridge which falls in elevation from 19.70m above ordnance datum (AOD) to 14.70m AOD, through the upper third of the site. This splits the site into two catchments for surface water, with approximately one third of the site draining towards the Washpit Brook to the north of the site along the southern side of Eddington. A 225mm diameter surface water sewer is located north west of the development and south of Madingley Road. Two thirds of the catchment runs south and the remainder draining south east towards Coton Ditch. Towards the north east side of the development boundary a 300mm diameter surface water main runs through the site curtilage. This adjoins a 450mm sewer which drains by gravity along Wilberforce Road and outfalls to Coton Ditch watercourse.

1.23 The two most prominent drainage features within the site are the lake at West Forum (the Western Lake) and the South Eastern Pond which is adjacent to the Coton Footpath and known as 'Paynes Pond'. The interlinking ditch is known as the Canal.

1.24 The site falls within Flood Risk zone 1. The site falls within the 'Bin Brook Wet Spot' an area considered to be at risk of surface water flooding.

Existing Utilities

1.25 The site is already served with electric, gas, potable water, sewerage and telecommunications utilities laid as part of the extant 1999 masterplan. It is intended that a significant proportion of the existing utility infrastructure will be unaffected by delivery of the masterplan. In terms of key infrastructure, there is a 273mm diameter gas main crossing the site from north to south to the east of the western access road, which is within the consultation distance of the HSE as a major pipeline.

1.26 The existing Cavendish II laboratory lies within an Explosives Safeguarding Zone.

Building Demolition

1.27 The phased development of the site will require demolition of some existing buildings on the site. The main areas proposed for demolition are the whole Cavendish II Laboratory complex in the south east corner of the site. These are aging modular buildings constructed in the 1970's, which have exceeded their operational life.

1.28 The veterinary school complex in the centre of the site is also identified for demolition, in addition to the existing Whittle Laboratory and University stores building at the western edge of the campus.

1.29 Merton Hall Farmhouse (MHF) is also identified for demolition and this has been approved and carried out as part of approval for the new Cavendish III Laboratory in 2018.

Current car parking provision

1.30 The site currently accommodates 1,571 car parking spaces. Of these spaces 407 are private spaces for commercial occupiers (e.g. Schlumberger Gould Research Centre) which are both controlled and uncontrolled. 1,164 spaces are University pooled car parking which are controlled by barrier and permit scheme. The existing car parks are situated across the site at ground level. In addition, in the north east corner of the site is the University Park and Cycle facility which accommodate a further 290 car parking spaces.

1.31 A campus wide travel plan was introduced to West Cambridge in 2016. This included a permit system for the pooled academic car parks across the site.

<u>Recent consented developments</u>

1.32 Since submission of the outline planning application in June 2016 there have been four approvals for new developments on the campus. These are the Civil Engineering Building (CEB), the Cavendish III laboratory, the Shared Facilities Hub (SFH) and the extension of the Whittle Laboratory building. The Cavendish III and SFH projects are currently under construction. These sites all lie within the red line boundary of this outline planning application and the approved developments will be netted off the overall floorspace for which the outline planning application (OPA) seeks permission via an appropriate condition(s). For the avoidance of doubt, these four approved priority projects will not be in addition to the overall floor space sought.

<u>Strategic context – Greater Cambridge Partnership (CCP)</u>

1.33 The Greater Cambridge City Deal was promoted by Central Government, the local councils, businesses and the University of Cambridge, and aims to secure hundreds of millions of pounds of investment in the transport infrastructure, housing and skills needed to see future economic growth.

1.34 The delivery of the City Deal has been separated across 3 tranches. 'Tranche 1' will deliver transport improvements in the five years from April 2015 and aims to be completed by 2020. 'Tranche 2' and 'Tranche 3' focus more on providing mitigation measures and long-term initiatives which will result from the increased pressure on the transport network. These are expected to be delivered after 2025.

1.35 The site is located on the route of the proposed Cambridge to Cambourne (C2C) strategic bus route, which is tranche 1 GCP project. The Cambourne to Cambridge Public Transport Route is a priority project for the Greater Cambridge Partnership (GCP) and a first phase of Cambridgeshire and Peterborough Combined Authority's plans for a Cambridgeshire Autonomous Metro (CAM). A new reliable, public transport route will ease congestion, create sustainable travel choices, connect communities and support growth. The University is not promoting the C2C scheme through this application, but the scheme is compatible with it.

1.36 The GCP are currently designing a scheme for cycle improvements, involving segregated cycle lanes along Madingley Road. This is tranche 1 scheme.

1.37 The Greater Cambridge Greenways project, is an early stage tranche 2 consultation. It includes provision for 'Comberton Greenway', a hard surface, all weather route of at least 2m, which would join the Coton footpath to the south of the West Cambridge Site. It is at a very early scoping and consultation stage.

2.0 DESCRIPTION OF THE PROPOSAL

2.1 The OPA seeks permission for a new masterplan development for the West Cambridge Campus. The OPA application site red line area is 69.4ha. All matters will be reserved for all built development within the site, which includes academic and commercial floor space, community facilities, open space, pedestrian and cycle routes and drainage.

Development Specification

2.2 The description of development was amended in the 2017 Supplementary Planning Application and the development comprises of:

- Up to 370,000 sq m of academic floor space (Class D1 space), commercial/research institute floor space (Class B1b and sui generis research uses) of which not more than 170,000 sq m will be commercial floor space (Class B1b).
- Up to 2,500sqm of nursery floorspace (Class D1).
- Up to 4,000sqm of retail/food and drink floorspace (Classes A1-A5).
- Up to 4,100sqm and not less than 3,000sqm for assembly and leisure floor space;
- Up to 5,700sqm of sui generis uses, including an energy centre and data centre;
- associated infrastructure, including roads (including adaptions to highway junctions on Madingley Road), pedestrian, cycle and vehicle routes, parking,

drainage, open spaces, landscaping and earthworks; and demolition of existing buildings and breaking up of hard standing.

2.3 The OPA sets out the long-term vision and strategy for the comprehensive development of the site. The proposed development is defined principally by the five Parameter Plans (see Appendix 5) and the Design Guidelines (see Appendix 8), which have also been submitted for approval. The parameter plans set the maximum and minimum extents for different elements of the development, the distribution of uses and key access principles. The Design Guidelines are a detailed set of design criteria which will guide future reserved matters planning applications in future and to ensure that the specified environmental mitigation is incorporated into the design.

2.4 The proposed densified West Cambridge development would have a total floorspace of 500,280 sq m (by 2031). This is broken down into 257,900sqm academic and 210,386 sqm commercial floorspace. Phase 1 (2021), which includes the application proposal, would provide 284,310 sq m, composed of 167,159 sq m of academic floorspace and 92,386 sq m of commercial floorspace. Phase one includes the consent schemes for the CEB, the Cavendish III laboratory, the SFH and the extension of the Whittle Laboratory building.

2.5 The OPA seeks to establish the principle of development, including a proposed mix of land uses and their broad distribution and density of development. The design of the access points is also submitted for approval.

2.6 Within the site the development is divided across four building zones as set out in parameter plan 01. Across all four building zones the proposed total floorspace is 383,300 sq m. The proposed densified West Cambridge would have a total floor space of 500,280 sq m (by 2031). Phase 1 (2021) would provide 284,310 sq m, composed of 167,159 sq m of academic floor space and 92,386 sq m of commercial floor space.

2.7 The proposed floorspace is set out in table 1.0 below:

Table 1.0: Proposed floorspace

Land use	**Academic research (sq m)**	**Nursery**	**Commercial research / research institutes (sq m)**	**Shop, Café, Restaurant, public house (sq m)**	**Assembly and leisure (sports) (sq m)**	**Ancillary Infrastructure (data and energy centre) (sq m)**	**Total**
Use Class (pre-2020 as submitted)	D1	D1	B1b/sui generis	A1-A5	D2	Sui generis	
Development zone 1	Up to 77,000	Up to 1,500	Up to 21,900	Up to 1,000	0	0	Up to 77,000
Development zone 2	Up to 38,600	Up to 1,500	Up to 38,600	Up to 500	Up to 4,100	0	Up to 44,500
Development zone 3	Up to 178,400	Up to 1,500	Up to 51,700	Up to 1,500	0	Up to 2,000	Up 182,100

Development zone 4	Up to 104,000	Up to 1,500	Up to 104,000	Up to 1,500	0	Up to 2,000	Up to 110,500
Total proposed floorspace	Up to 370,000	Up to 2,500	Up to 170,000	Up to 4,000	Up to 4,100	Up to 2,000	Up to 383,300

2.8 Outline planning permission is sought for a minimum of 6.9 hectares of new public open space over and above open space already delivered on the existing site. The principal new open space, 'The Green', will be in the centre of the site, the first phase of which (JJ Thomson Gardens) is being delivered as part of the Cavendish III project.

2.9 Access onto the site will continue to be from the north off Madingley Road, from High Cross and JJ Thomson Avenue, with some limited servicing access from CMR to the east.

Energy Centre

2.10 The development includes provision for a centralised energy centre at the far western end of the site, close to the existing data centre, (although the energy strategy has a hierarchical approach if this proves unviable). The energy centre, if delivered, would initially have three Combined Heat and Power (CHP) units installed with up to 3 x 10MV boilers and 1 x5MW boilers.

Framework Travel Plan (FTP)

2.11 The FTP provides the over-arching traffic demand management strategy. Individual Travel Plans for each building will conform with and support the over-arching Travel Plan as site is built out. This contains targets for the mode share of journeys to the site for private vehicles, walking, cycling and public transport.

Car parking

2.12 The application proposes a maximum three-fold increase in car parking spaces from 1,519 as existing on site to 4,359 following final completion of the development, which is proposed to be 2031. The first phase of development seeks consent for a maximum of 2,565 spaces. The proposed car parking is summarised in table 2.0 below:

Table 2.0: Proposed car parking

Car parking	**spaces**
Current provision	1,519
First phase of development 2021	2,570
Full development 2031	4,390
Extant 1999 permission allowed for	3,150

Design Guidelines

2.13 The application is accompanied by a Design Guidelines document (see Appendix 8). This is a framework for assessing future reserved matters applications which come forward at West Cambridge. It sets out mandatory and advisory design criteria grouped by 'key places' across the campus. The Design Guidelines also specify measures which are 'built in' environmental mitigation, such as measures to control bulk and plant additions; specifications for new planting and mandatory buffer zones for existing planting and measures to maximise biodiversity.

Woodland Management Plan

2.14 The development, as amended, is accompanied by a Woodland Management Plan which sits alongside the Design Guidelines. It provides a framework for management measures to promote the woodland buffers on the boundaries of the site. The strategy is to promote screening to limit visibility into the site from near views (e.g. along Madingley Road) and to provide five legacy trees in areas where there are long distance views, such as along the southern boundary.

Car Park Delivery Framework

2.15 The TA includes a Car Parking Delivery Framework which sets out the strategy for assessing future car parking need at the site for future reserved matters planning applications.

2.16 It is proposed to consolidate car parking over time in series of multi storey car parks (MSCP) across the northern and western edges of the site, the need for which and the precise number of car parking spaces will be assessed at each key phase.

Proposed on campus street improvements

2.17 The OPA proposes to maintain, enhance and provide new pedestrian and cycle access routes between the site and the surrounding area, which comprise a new segregated bidirectional cycle route running north – south along JJ Thomson Avenue; segregated cycleways on High Cross and principles for repurposed on pavement segregated cycleways along Charles Babbage Road. These are set out in the Design Guidelines. The on-campus street improvements will be provided on a phased basis, some of which are triggered by planning conditions and are set out in the application Design Guide and Transport Assessment.

Proposed site access

2.18 The key phase one development will utilise the existing junctions at High Cross, JJ Thomson Avenue and CMR. A new, limited access (left turn out only) will

also be created at the junction formerly serving the Veterinary School (currently closed), which has already been approved as part of the Cavendish III development (17/1799/FUL).

2.19 The vehicle access enhancements for the later phases of development are a new traffic signal controlled, restricted movement (right in / left out), access junction onto Madingley Road at the western end of the site, at the northern end of the WAR which is currently closed to motor vehicles (pedestrian and cycle access only).

Development Phasing

2.20 The OPA is not accompanied by a phasing plan therefore this is a requirement of **condition 9: Phasing**. The sequence of delivery of development is to be provided through the submission of an Initial Site Wide Phasing Plan and updated annually by way on an Update Site Wide Phasing Plan.

2.21 For the purposes of the Environmental Statement (ES) it has been assumed that the first phase of development consists of a number of priority projects across the site. The first phase of development is set out below:

Table 3: Key Phase 1 development schedule

Land Use	**Ground floor Area (Sq m)**
Academic research	Existing 168,259 **Proposed additional 66,000**
Commercial research and research institute	Total with existing 92,386 **Proposed additional 52,000**
Nursery	Existing 1,900
Shop, café, restaurant and pub	Existing 350
Assembly and leisure	Existing 6,060
Residential	Existing 10,680
Ancillary infrastructure (data centre, energy centre)	Total with existing 7,675 **Proposed additional 3,160**
Total, with existing development (including demolition of 44,350 sq m for the Cavendish II complex).	287,310

2.22 Key phase 1 will have planning capacity for 143,000 m2 academic and commercial research space, some which has already been developed for the

Civil Engineering Building (4,376m2, 16/1811/FUL) and some of which is under construction for the Shared Facilities Hub (4,907m2, 17/1896/FUL) and Ray Dolby Centre (37,160m2, 17/1799/FUL). In addition, full planning permission has recently been approved for the refurbishment and extension of the Whittle Laboratory (3,102m2, 19/1763/FUL). This leaves a residual planning capacity in Key Phase 1 of 93,455m2, which may take 7-10 years to build out' The figure of 143,000sqm derives from the total existing and proposed KP1 area (287,310 m2) minus the development already on the site pre-2016 (147,054 m2), and adding back some demolition earmarked for KP1 (2,540 m2). For clarity, this is shown as 287,310 – 147,054 + 2,540 = 142,796 (rounded up to 143,000).

Environmental Impact Assessment (EIA)

2.23 The application is accompanied by an Environmental Statement (ES) which has been prepared in accordance with The Town and Country Planning (Environmental Impact Assessment) Regulations 2011 (as amended). The OPA has not been prepared in accordance with the current 2017 regulations because of the time at which the Council issued its Scoping Opinion. The EIA Regulations require the ES to identify the 'likely significant environmental effects' of a development. The Government's Planning Policy Guidance highlights that the ES should focus on the 'main' or 'significant' environmental effects only and that the ES should be proportionate.

Scoping Opinion

2.24 An applicant who wishes to make an application for EIA development may request a Scoping Opinion from the local planning authority in accordance with Regulation 15 of the EIA Regulations. A Scoping Opinion sets out the local planning authority's opinion on the information that needs to be provided in the ES. A request for a Scoping Opinion was received on 2 April 2015 and a formal Scoping Opinion was issued by the Council on 6 May 2015.

Methodology

2.25 The ES considers the likely significant effects of the proposed development during construction and once it is complete and operational. It has been assumed that the construction phase would extend over approximately eleven years, although it is likely to extend beyond given current build out rates on the site. The principal assessment year for the EIA is based on completion of the whole proposed development and is assumed as 2031.

2.26 The OPA provides sufficient information to enable the main and likely significant environmental impacts of the development to be adequately assessed.

2.27 The ES contains the following assessments within its scope together with an Addendum (October 2020) which complements the 2016 and 2017 documents:

- ES Topic

- Ecology

- Historic Environment
- Landscape and Visual
- Socio-economics
- Traffic and Transport
- Air Quality
- Noise and Vibration
- Water Environment
- Ground Conditions
- Cumulative effects
- Schedule of Mitigation

2.28 As amended, the OPA, including the ES, comprises the following:

Application documents

Document	**Issue**
Application Form and ownership certificates	June 2016
Parameter Plans and Parameter Statements	September 2020
Design Guidelines	October 2020
Planning Statement and Addendum	October 2020
Revised Design and Access Statement	September 2020
Environmental Statement Addendum Volume 1 – Revised Non-Technical Summary	October 2020
Environmental Statement Addendum Volume 2 – Main Report	October 2020
Environmental Statement Addendum Volume 3 – Technical Appendices	October 2020
Heritage Assessment	September 2017
Revised Transport Assessment	October 2020

Note following Transport related concerns arising from the November 2020 consultation period	Undated – received March 2021
Arboricultural Impact Assessment (incl. within ES Addendum vol. 3)	September 2017
Flood Risk Assessment and Drainage Strategy	September 2017
Flood Risk Assessment and Drainage Strategy – Review (Technical Note)	January 2021
Energy Strategy and Energy Statement Addendum	Addendum November 2019
Sustainability Statement	September 2017
Sustainability Assessment Matrix	September 2017
Statement of Community Involvement	June 2017
Revised Framework Travel Plan	October 2020
Waste Management Plan	June 2016
Utilities Statement	June 2017
Construction Environmental Management Plan	June 2017
Public Art Strategy	September 2017
Woodland Management Plan (Appendix 8.4 of ES Addendum)	May 2017
Transport Assessment Pro Forma	October 2020
Innovation Letter from Vice Chancellor of University of Cambridge	August 2020
Revised Servicing Technical Note	September 2020

Application plans

Plans	**Issue**
Planning application boundary	WC/POA/APP/01
Demolition Plan	WC/OPA/APP/02

Development Building Zones Parameter Plan 1	WC/OPA/PAR/01 Rev 01
Land Use Parameter Plan 2	WC/OPA/PAR/02 Rev 01
Access and Movement Parameter Plan 3	WC/OPA/PAR/03 Rev 02
Landscape and Public Realm Parameter Plan 4	WC/OPA/PAR/04 Rev 01
Maximum Building Heights Parameter Plan 5	WC/OPA/PAR/05 Rev 01

Updated and Additional Information

2.29 The application has been amended on two occasions, with two supplementary submissions of additional information in October 2017 and October 2020.

2.30 The two packages of supplementary information (the 'Supplementary Planning Submission') were submitted in response to a Regulation 22 request under the Town and Country Planning (Environmental Impact Assessment) Regulations 2011 (as amended) to provide further information in respect of the ES including further documents and information in support of the outline planning application.

October 2017 Supplementary Planning Submission

2.31 The October 2017 Supplementary Planning Submission was submitted following officer negotiations and included a revised Transport Assessment which reconsidered the development's impact in 2021 and 2031.

2.32 Maximum building heights were amended to reduce visual impacts on its setting and reductions to building heights across the southern, eastern and western boundaries to the site. The previous ten areas of additional height were removed from the proposal, which resulted in an amended building heights parameter plan. There was a reduction of building heights around the newly listed Schlumberger Gould Research centre and associated updates to the heritage assessment.

2.33 In layout terms, provision of open space was increased in The Central Green from 6ha to 6.9ha. At the eastern edge a Servicing Technical Note was provided setting out the proposed impacts of servicing on CMR.

2.34 The drainage strategy was updated to provide further information on the enhancement of storage capacity to existing drainage features, strategies to improvement water quality and responses to third party concerns about flooding locally.

2.35 An energy statement addendum was submitted promoting a revised hierarchical approach to energy, in the event that a fully site wide solution proves unviable.

2.36 Revised Historic Environment chapter in the ES to assess the Listing of Schlumberger Gould Research Centre and an extended baseline for other heritage assets.

2.37 A new Woodland Management Plan and Arboricultural Impact Assessment (AIA) was submitted setting out a long-term strategy to managing the boundaries of the site. The development proposed the addition of five new legacy trees to the south of the site and inclusion of mandatory buffer zones where development cannot take place.

2.38 The ES chapter 12 Noise and Vibration was expanded in scope to include:

- Updated baseline noise conditions section
- Operational multi-storey car park noise impact assessment
- Operational servicing / access route noise impact assessment - servicing along Clerk Maxwell Road
- Operational road traffic noise (updated impact assessment - due to changes in the predicted traffic flows)
- Operational plant noise emissions – Noise from proposed building services mechanical plant / equipment and CHP units to include Energy Strategy considerations
- Mitigation Measures: Construction and Operational Phases

2.39 A new Public Art Strategy was submitted.

2.40 For avoidance of doubt, there was no change in the overall floorspace amount proposed. The potential floorspace for use class A1-A5 was increased to 4,000 sq m. There is no overall increase in floor area, but it allows food and beverage uses to come forward a standalone building(s) rather than ancillary to the academic (use class D2) or commercial (use class B1b) floor space.

<u>October 2020 Supplementary Planning Submission</u>

2.41 The October 2020 Supplementary Planning Submission was submitted following continued negotiations with officers. The changes included within the submission are set out below.

2.42 A Building Heights plan showing the proposed building heights in relation to existing ground levels was submitted (drawing ref WC/OPA/APP/03/REV01) for information only.

2.43 The submission of verified views located east of the Site were included within the Revised Design and Access Statement.

2.44 A number of changes to the Design Guidelines were included, particularly in relation to:

- street interventions and the provision of cycle infrastructure within the site;
- the scale of the Multi-Storey Car Park proposed along Clerk Maxwell Road;
- access arrangements in the eastern part of the site between JJ Thomson Avenue and Clerk Maxwell Road;

- Landscape guidelines in relation to promoting ecological value and diversity.

2.45 The inclusion of a biodiversity net gain assessment (this is included in the Environmental Statement Addendum).

2.46 The refinement of the Transport Assessment methodology and proposed mitigation package, set out in the Revised Transport Assessment, together with the submission of a Transport Assessment Pro Forma.

2.47 A revised Servicing Technical Note was submitted showing the revised servicing access with a single access/egress to the site from CMR.

2.48 Clarification of air quality impacts and proposed mitigation.

2.49 The description of development remains as per the description submitted in 2017.

3.0 SITE HISTORY

3.1 The key relevant history is set out below:

Reference	Description	Outcome
97/0961/OP	**1999 masterplan** - outline application for the development of 66.45ha of land for University academic departments (73,000sq.m), research institutes (24,000sq.m), commercial research (41,000sq.m) and associated infrastructure	Approved
99/0042/FUL	Erection of three storey building to form Computer Sciences Faculty with associated parking and landscaping. (William Gates Building).	Approved
C/04/0614	Erection of part two-part three storey building for academic research "purposes, pursuant to C/97/0961/OP. (CAPE building)".	Approved
07/1061/REM	Creation of East Forum building comprising D1 (2432 sq m), café A3 use and cycle connections to the Coton footpath.	Approved
10/0315/REM	Phase 3 infrastructure works, new access arrangements, extension of Charles Babbage Road, creation of	Approved

	West Forum and square and the western balancing lake.	
12/1391/REM	Expansion of internal road network, pedestrian and cycle routes and landscaping.	Approved
13/1564/FUL	Construction of an annexe to the Centre for Advances Photonics and Electronics (CAPE) Building	Approved
13/0034/RM	Proposed new data centre.	Approved
16/1811/FUL	**Civil Engineering Building, phase 1 priority project** - Full planning permission for 4376sqm of D1 (Academic) floorspace, along with external landscape, cycle parking, temporary parking area and associated infrastructure including new service road connecting to existing entrance from Clerk Maxwell Road.	Approved
17/1799/FUL	**Cavendish III, phase 1 priority project** -Development of 37,160 sqm for D1 academic floor space to accommodate the relocation of the Cavendish Laboratory, namely; all associated infrastructure including drainage, utilities, landscape and cycle parking; strategic open space to the south and west of the new Cavendish; modifications to JJ Thomson Avenue to provide disabled parking and changes to road surface materials; alterations to the existing access to Madingley Road to the north west to enable servicing; and demolition of Merton Hall Farmhouse and removal of existing Vet School access road from JJ Thomson Avenue.	Approved
17/1896/FUL	**Shared facilities hub, phase 1 priority project** - Mixed use building 4907 sq m in total, comprising 3411 sq m of D1 academic floor space on the first and second floors; 1421 sq m of A3 (Café and restaurant) space on the ground floor; 75 sq m of A1 (retail) on the ground floor; all associated	Approved

	infrastructure, including drainage, service yard area, utilities, landscape and cycle parking; modifications to JJ Thomson Avenue to provide disabled car parking and a substation building.	
15/5150/PREEIA	Outline Scoping opinion on the proposed new masterplan.	Issued 6 May 2015
19/1763/FUL	**Department of Engineering, Whittle Laboratory** - Full planning permission for extension of the Whittle Laboratory, including new National Centre for Propulsion and Power (4,251 sq metres of Academic (D1) Floorspace), demolition of 1,149 sq metres of D1 floorspace, and all associated Infrastructure including landscaping, drainage, substation and car and cycle parking.	Approved

4.0 RELEVANT PLANNING POLICY, GUIDANCE AND OTHER MATERIAL CONSIDERATIONS

Relevant Development Plan policies:

PLAN	POLICY NUMBER
Cambridge Local Plan 2018	Policy 4: The Cambridge Green Belt Policy 8: Setting of the City Policy 14: Areas of major change and opportunity areas – general principles Policy 28: Carbon reduction, community energy networks, sustainable design and construction and water use. Policy 29: Renewable Energy and Low Carbon Energy Generation Policy 31: Integrated water management and the water cycle Policy 33: Contaminated Land Policy 34: Light Pollution Control Policy 37: Cambridge Airport Public Safety Zone and Safeguarding Zones Policy 38: Hazardous installations Policy 40: Development and expansion of business space Policy 41: Protection of office space Policy 42: Connecting new developments to digital infrastructure Policy 43: University Development

	Policy 57: Designing new buildings Policy 59: Designing Landscape and the Public Realm Policy 60: Tall buildings and the skyline in Cambridge, including Appendix F: Tall buildings and the skyline guidance. Policy 61: Conservation and enhancement of Cambridge's historic environment. Policy 67: Protection of Open Space Policy 68: Open space and recreation provision through new development Policy 69: Protection of sites of Local Nature Conservation Importance Policy 70: Protection of Priority Species and Habitats Policy 71: Trees Policy 72: Development and change of use in district, local and neighbourhood centres Policy 73: Community, sports and leisure facilities Policy 77: Development and expansion of visitor accommodation Policy 80: Supporting sustainable access to development Policy 81: Mitigating the transport impact of development Policy 82: Parking management Policy 85: Infrastructure delivery, planning obligations and the Community Infrastructure Levy

Relevant Central Government Guidance, Supplementary Planning Documents and Material Considerations

Central Government Guidance	National Planning Policy Framework March 2019 National Planning Policy Framework – Planning Practice Guidance March 2014 National Design Guide Circular 11/95 (Annex A)
Transport Strategy for Cambridge and South Cambridgeshire (TSCSC)	Policy TSCSC 1: The strategic approach Policy TSCSC 5: Planning obligations Policy TSCSC 6: Transport assessments Policy TSCSC 7: Supporting sustainable growth Policy TSCSC 12: Encouraging cycling and walking Policy TSCSC 15: Managing travel demand Policy TSCSC 17: Air Quality

Supplementary Planning Guidance	Greater Cambridge Shared Planning Sustainable Design and Construction (2020) Cambridgeshire and Peterborough Waste Partnership (RECAP): Waste Management Design Guide Supplementary Planning Document (February 2012) Planning Obligation Strategy (March 2010) Public Art (January 2010) Statement of Community Involvement (2019)
Material Considerations	<u>City Wide Guidance</u> Cambridge City Council Air Quality Action Plan 2018 – 2023 Cambridge Air Quality, Developers Guide 2008 Arboricultural Strategy (2004) Cambridge Landscape and Character Assessment (2003) Cambridge City Nature Conservation Strategy (2006) Criteria for the Designation of Wildlife Sites (2005) Cambridge and South Cambridgeshire Strategic Flood Risk Assessment (November 2010) Strategic Flood Risk Assessment (2005) Cambridgeshire Quality Charter for Growth (2008) Cambridge City Council - Guidance for the application of Policy 3/13 (Tall Buildings and the Skyline) of the Cambridge Local Plan (2006) (2012) Cambridge Walking and Cycling Strategy (2002) Protection and Funding of Routes for the Future Expansion of the City Cycle Network (2004) Cambridgeshire Design Guide For Streets and Public Realm (2007)

	Cycle Parking Guide for New Residential Developments (2010) Air Quality in Cambridge – Developers Guide (2008)
	Area Guidelines Conduit Head Road Conservation Area Appraisal (2009) West Cambridge Conservation Area Appraisal (2011)

Planning and Compulsory Purchase Act 2004 (as amended)

4.1 Section 38(6) of the Planning and Compulsory Purchase Act 2004 requires that applications are determined in accordance with the development plan unless material considerations indicate otherwise. The development plan for the LPA is the Cambridge Local Plan 2018.

Use Classes Order Change

4.2 From 1st September 2020 the Town and Country Planning (Use Classes) (Amendment) (England) Regulations 2020 (2020 No. 757) came into force. However, for any planning applications submitted before 1 September 2020, the Use Classes in effect when the application was submitted are to be used to determine the application. This application was submitted in 2016 therefore falls to be assessed under the previous Use Classes Order.

5.0 PUBLICITY

5.1

Advertisement:	Yes
Adjoining Owners:	Yes
Site Notice Displayed:	Yes

5.2 Three rounds of formal consultation have been undertaken for this application. The first was following submission of the application in June 2016. The second was in October 2017, following the submission of the first Supplementary Planning Submission. The third was in November 2020 following the submission of the second Supplementary Planning Submission. The responses to the publicity are set out in the Consultations and Representations sections below (sections 6 and 7 respectively).

Statement of Community Involvement

5.3 The applicant has set out a statement of community involvement setting out the applicant's public engagement, set out by the Localism Act 2011 and within the Council's Statement of Community Involvement, updated in 2019.

5.4 Prior to submission the proposed development was presented to the North West Community Forum (organised by Cambridge City Council and South Cambridgeshire District Council) at its 12 March, 16 June and October 2015 meetings. In addition, two drop in events were held at the University Sports Centre on 6 October and 29 October 2015.

5.5 Prior to submission the University engaged with their consultative Cycling Group, comprising stakeholder and local representative. Meetings were held on 19 November 2014, 3 February, 21 May and 2 July 2015. This consultative informed the West Cambridge Cycling and Walking Strategy. Since submission the West Cambridge Active Travel (WCAT) group has been established.

5.6 The University has engaged with residents associations, including through their own West Cambridge Community Group. The group has meet on 13 occasions, the minutes of which are reported on the University's West Cambridge website.

Development Control Forum

5.7 A petition was received in response to the consultation undertaken in November 2020. The grounds for requesting a Forum were as follows:

1. "The creation of a multi-storey carpark conflicts with Cambridge Local Plan Policy 80, which states that 'Development will be supported where it demonstrates prioritisation of access is by walking, cycling and public transport, and is accessible for all'.
2. The location is inappropriate for siting a multi-storey carpark. CMR and Madingley Road are residential roads, and the building would be right on the edge of a conservation area. The first thing visitors approaching the site from the city will see is a multi-storey carpark, which would be an underwhelming introduction to a 'world-class facility' and out of keeping aesthetically with its surroundings.
3. The applicant has offered to fund the construction of cycle paths down both sides of Clerk Maxwell Road, which would leave insufficient space to build a feeder lane in CMR for vehicles to queue to get into the car park, adding to congestion and pollution on the corner and creating the possibility that cars will back up onto Madingley Road.
4. On 1 July 2020, planning approval was granted for the construction of 35 dwellings on the site of the former Cocks and Hens Tennis Club on CMR. The entrance to this development, where an open play area will be provided for young children and teenagers, is opposite the proposed entrance to the multistorey car park. This conjunction of traffic and play area is potentially unsafe. We would ask the applicant to give consideration to either removing the car park from its plan or moving it to the western end of the site adjacent to the M11, where fewer people live, and from there, if necessary, run visitors round the site on electric buggies. If that is not possible, the applicant should accept that it is responsible for the traffic generated by the West Cambridge site development and arrange for access/egress to the car park and to the buildings at the eastern end of the site to be directed via JJ Thompson

Road, rather than utilising CMR as its service road. In essence, the plan brings traffic from the M11 and A428 further down Madingley Road and into the city than is necessary and is an imposition on local residents and contrary to the public policy of encouraging cycling, walking and the use of public transport."

5.8 As a result of the petition, a Development Control Forum was held on 14th January 2021 where the petitioners and applicant addressed the petition. Minutes of the DCF are attached in Appendix 3.

6.0 CONSULTATIONS

6.1 As set out in section 5.2 above, three rounds of consultation have been undertaken. For clarity, this report sets out the responses for each consultee in date order, with the most recent response first. Where consultees have provided more the one response i.e. they have responded to one or more round of consultation, the responses are set out in headings as follows:

- Application as amended (2020)
- Application as amended (2017)
- Application as submitted

6.2 Where the consultee has only commented on the application as submitted, and no further comments are received, their comments are included without any additional headings.

Cambridgeshire County Council (Transport Assessment Team)

Application as amended (2020)

6.3 Support: Based on the evidence provided, CCC considers that the development may proceed only in accordance with the following principles:

- An initial phase 1 development phase, which is supported by a multi-modal mitigation package.
- All future phases will need to be accompanied by a Full Transport Assessment at the time of submission. The financial cap will need to cover the best mitigation available depending on the transport situation at the time.
- A financial contribution to the strategic transport solution of £9.29 million.
- A financial contribution towards the GCP Madingley Road cycle scheme of £2.348 million.
- A financial contribution towards the GCP Madingley Road cycle scheme of [£3.75 million TBC] should this scheme come forward before the works to Madingley Road/JJ Thompson Ave and Madingley Road High Cross Junction are triggered.

- A financial cap amount of [£12.603 million TBC] that can be used for mitigation during future phases. This includes the above Madingley Road cycle scheme contributions.

- A review of Car Parking numbers with each reserved matter application with the ambition of reducing amounts if possible.

- There is to be a **development hold** after Phase 1. The developer may only proceed beyond Phase 1 in the following scenario:

    - **The Strategic Scheme (Cambourne to Cambridge, C2C (or superseding strategic equivalent) has been delivered** – and a Transport Assessment for the remaining phases (to be approved by CCC) demonstrates that the remaining development can be delivered sustainably. The TA would be subject to CCC's TA Requirements, be informed by updates survey information (alongside other observed data) and include comparisons between the trips assumed in the original TA and actual trips.

- The above is to be secured and controlled through appropriate planning conditions / Section 106. This 'Monitor and Manage' approach is not dissimilar to the approach taken at Waterbeach, at which Reserved Matters for future phases require (i) a Transport Assessment (ii) demonstration that adequate network capacity exists for the phase, and (iii) the use of a strategic financial sum to support delivery of the required mitigation.

6.4 The above is to be secured and controlled through appropriate planning conditions / Section 106. This 'Monitor and Manage' approach is not dissimilar to the approach taken at Waterbeach, at which Reserved Matters for future phases require (i) a Transport Assessment (ii) demonstration that adequate network capacity exists for the phase, and (iii) the use of a strategic financial sum to support delivery of the required mitigation.

Trip Generation

6.5 Cambridgeshire County Council sought more information as to why the predicted total 2031 Mitigated Do Something AM peak hour flows reduced by 1,048 from the 2031 Do Something scenario. The University have responded with details that the predicted usage of the various public transport mitigation measures set out in the mitigation tables, along with the Cambourne to Cambridge strategic transport measures will enable this shift from vehicles. CCC accept the trip figures.

Public Transport Strategy

6.6 The bus viability assessments are helpful and demonstrate that the proposed public transport services are likely to become commercially viable, or close to commercially viable by the time the proposed funding runs out. These

contributions would be applied to the Transport Cap assessment of the adopted Adaptive, Phased (Monitor and Manage) Approach. This is acceptable and should be agreed and secured with any permission.

Impact of Covid-19 on Parking

6.7 The technical note responds to CCC's queries about parking levels on reflection of Covid 19 and potential changes in home working for the future. The University anticipates that there will a shift in more remote working depending on staff roles and will be more prevalent in those roles that have been desk based. A lot of the staff and students will still need to be on site for laboratory work etc. This potential change would result in a reduction in vehicles coming to the site, and therefore a good opportunity of car parking levels to be reduced. The 'Monitor and Manage' transport approach for future Key Phases of this site enable the University and County Council to work together to capture any mode shift change and review the mitigation and car parking levels for the future phases.

Madingley Road Cycle Scheme

6.8 Since the initial submission of the application there has been development of a Madingley Road Cycle scheme by the Greater Cambridge Partnership (GCP). CCC have requested that these plans are incorporated into the West Cambridge application. GCP and the University are currently working together to do this and this will need to be included within any S106.

Mitigation Proposals

6.9 A package of mitigation measures has been proposed by the developer for both phase 1 and also to inform the Transport Cap for future phases. Some of the mitigation measures have already been secured through other planning permissions such as the Cavendish, but these have still been included for completeness as they are located on the West Cambridge site and are within the floor area proposed.

Full comments are contained in Appendix 4

<u>Application as amended (2017)</u>

6.10 There are still a significant number of outstanding issues with the TA. Until this information has been provided and agreed with Cambridgeshire County Council we are unable to state whether or not this development is acceptable in highway terms.

6.11 The TA states that the West Cambridge OPA does not rely on the GCP proposals for mitigation. CCC does not agree with this statement and has consistently advised that a contribution towards the GCP scheme is an essential part of the mitigation strategy for this site in additional to the wider mitigation package. Since submission of the TA the University has now agreed

to the principle of making a GCP contribution. The detail of the contribution is to be discussed and agreed with CCC.

Cycling

6.12 Table 6.1 shows that around 574 cycle trips (47%) would be expected to use Madingley Road. Some safety improvements have been proposed for Madingley Road, however there have not been any cycle lane improvements suggested. Further information should be provided detailing what needs to be done to accommodate these additional cycle tips.

6.13 Figures 6.12 and 6.13 - show a potential cycle bridge or tunnel crossing Madingley Road. CCC will give consideration to the potential crossing solutions for this area and whether or not a bridge or crossing would be required. Further information is required showing what numbers of cyclists are expected to be travelling from the North West site to the West Cambridge site, during the peak hours and also during the day.

6.14 The measures proposed for KP1, up to 2021 do not include any improvements for cyclists and pedestrians at the High Cross/ Eddington Avenue/ Madingley Road junction. The approach from the site to the High Cross junction is poor with no provision for cyclists which is particularly unsafe for the majority of cyclists who are travelling straight on towards Eddington and the north as they are in conflict with the majority of motor vehicles who are turning left. Improvements to this junction in the form of an approach lane for cyclists between the vehicular lanes or a separately signalled phase for cyclists, should therefore be provided, subject to discussions with the safety audit team, for the first phase of this development.

6.15 Further information is required showing what numbers of cyclists are expected to be travelling from Eddington to the West Cambridge site, during the peak hours and also during the day.

6.16 Further information is required to demonstrate that cyclists would use the proposed alternative cycle route along Grange Road and West Road. The colleges have been marked on Figure 6.7 but further detail is required demonstrating approximately how many students are likely to be travelling from these college that would find the proposed route more convenient than the existing Burrells walk route. Further information should also be provided to show exactly what changes are proposed with the ‘cycle streets’ to make the routes a more attractive alternative.

6.17 The proposed route includes Grange Road, West Street and onto Silver Street. Past consultation has specified that Sidgwick Avenue was preferred over West Road and therefore this option should not be discounted at this stage. Any works should be undertaken or contribution paid during phase 1. A contribution for cycle improvements along Grange Road and either West Road or Sidgwick Avenue has since been agreed as part of the mitigation for Cavendish III. If this is not be delivered with the Cavendish application for any reason then the requirement would fall back to being needed with the full outline application.

Public Transport

6.18 CCC require confirmation from Stagecoach that this is an accepted proposal. Bus viability information is required showing proposed costs, patronage and that it will be commercially viable in the future. It is not clear how long the funding of the proposed routes is proposed for.

Car parking

6.19 Car parking - This is still an increase over existing and permitted. Further information should be provided showing if there is any scope for further reduction without pushing parking onto the surrounding streets and Park and Ride car park.

2021 Impact analysis

6.20 The TA still does not contain a trip generation. The TA needs to consider the likely trip generation of the proposed development across all modes of transport.

6.21 The LINSIG, PICADY and ARCADY models are required to enable CCC to check them before the results can be agreed.

6.22 Table 14.3 shows the results of the LINSIG modelling for the 2021 scenario. A similar table should be provided showing the 2016 base scenarios results to enable the scenarios to be compared to the existing situation.

6.23 When compared to the 2021 do minimum scenario, which includes the 1999 committed development this shows a reduction in congestion.

6.24 The Linsig results shown in tables 14.3, 14.4 and 14.5 show that the Park and Ride site junction, High Cross Junction and JJ Thompson junction are all over capacity in all scenarios with the existing junction arrangement. It should be noted that the LINSIG models have not been agreed yet, therefore these are initial comments on the results that may be subject to change following the checking process.

6.25 The M11 off slip junction shows that in the 2021 Do minimum scenario there is a 20 car queue on the Madingley Road East bound ahead arm. This seems very light on the traffic as most mornings during the peak hour the queue can stretch back almost to the A428 Madingley mulch roundabout. Before these results can be agreed a 2016 Base model with the existing junction layouts needs to be provided. Validation will also be required showing that the queue lengths are representative. Information from queue length surveys should be used for this.

6.26 The TA states that a further Linsig assessment has been undertaken to understand the scale of the necessary trip reduction in the through flow to make the junction work. It was concluded that this can be achieved by a reduction

from the worse-case scenario tested of 150 trips. The University is required to make a contribution towards the GCP scheme and therefore the modelling should be revisited reflecting this improvement to show a realistic case.

6.27 The TA states that a couple of junction improvements have been proposed to the Madingley Road/ High Cross junction. This includes a two to one lane merger on the eastbound exit of the High Cross junction. This may potentially cause safety issues. The safety audit results should be referred to.

6.28 Even with these junction improvements the Linsig models are currently showing that the junction would still operate over capacity. Further mitigation should be looked at to enable the junction to operate within capacity to avoid the queues tailing back to other junctions and causing operation problems. The current capacity impacts are unacceptable.

6.29 CCC are already managing an extremely congested network on Madingley Road following large scale development of North West Cambridge. Previous comments stated that the High Cross junction was operating as a three arm junction relatively well. However, since the opening of Eddington Avenue and introduction of the fourth arm in October 2017 queues have become significantly worse. CCC receive regular complaints from the public and local members about the queues on Madingley Road, sometimes reaching the A428 and causing exit blocking at M11 junction 13. This has resulted in vehicles queueing on the hard shoulders.

Bus Priority

6.30 There is not currently an agreed standard for bus priority in Cambridgeshire. GCP plan to utilise bus priority, however we don't currently have a system compatible with Cambridgeshire County Council's RTPI system to allow the system to prioritise late buses. Liaison with the GCP team to ensure a common practice is adopted is required.

6.31 Bus priority has the potential to increase delay to all traffic including buses if used inappropriately. The reason being it causes junctions to run inefficiently due to regularly reacting to buses, regardless of whether it is the most efficient time to change. Therefore, increasing queue lengths on other arms that other busses must queue in. It would be prudent to reduce queues as much as possible before introducing a priority system.

Proposed Changes to Existing Junctions

6.32 There are a number proposed changes to existing junctions in the area to attempt to address road safety issues, as well as improving facilities for users. Generally these changes focus on larger advanced stop lines, advanced green cycle filters and revalidating existing junction timings. We have no issue with these proposals in principal. However, please be aware that the use of advanced green cycle filters is not widely used in Cambridgeshire and it may not be possible to use them on main road approaches where more than one phase run in the same stage.

6.33 To provide further comment CCC need more detailed information on the proposals. Further information should be provided. There are also a number of different design options included in the TA, however it is unclear how some of these interact. i.e. the High Cross design with three lanes on the internals between the Park and Ride is not shown on other plans.

Madingley Road/High Cross – Enhanced ASL and Feeder Lanes Fig 6.10

6.34 The extra lanes make an already very large junction, even larger. this may be mitigated if the additional lanes increase capacity.

Madingley Road/High Cross – Segregated Cycle provision Fig 6.11

6.35 Signals team would question how effective the two stage right turn for cyclists would be, especially in this location with a junction so large. Crossings are now too wide.

Modelling

6.36 Copies of the electronic Linsig models will be required for CCC to carry out a detailed analysis and provide a conclusive response. These have requested multiple times but still not received. Until these have been received and checked comments cannot be made on the junction modelling results. The Signals Team also suggest that with development of this scale there would be benefit in providing a microsimulation to truly demonstrate the impact on the road network.

2031 impact analysis

6.37 The Linsig results show that most of the junctions along Madingley Road in the assessment area will be operating at or over capacity in 2031. Although this improves slightly in the Do something scenario, the High Cross junction is a particular problem with significant queuing on Madingley Road East Bound in the am peak and West bound in the pm peak. This will cause issues with the adjoining junctions by queuing back though them. A significant amount of mitigation is required to ensure there is capacity made available for the additional trips that are being generated as a result of the 2031 West Cambridge traffic. The mitigation currently included within the TA is not sufficient. A contribution towards a strategy improvement such as the GCP Cambourne to Cambridge scheme is required.

6.38 It is not clear whether the Western Access Road junction is proposed as a priority or signalised junction. Further clarification should be provided. County have concerns that this additional junction will cause queuing back to the M11 off slip junction which could cause safety issues.

6.39 The WAR also needs to be wide enough for the potential Orbital Bus route to travel down, should that be the chosen route. Further plans are required detailing this.

2021 Transport Strategy

6.40 The new residential offer in the area, including Darwin Green and Eddington has been included as a Travel Plan measures. It should be noted that although this new housing may be beneficial, this is not a measure that is being implemented by the university application as it would be happening whether this application is granted or not.

6.41 Proposed on site walking and cycling facilities are listed as a mitigation, however it is not clear precisely what is actually proposed. Further information is required.

6.42 Table 17.1 - details that one of the proposed mitigation measures for 2021 and 2031 is to provide car club cars. Further information is required detailing how many are proposed to be provided in each phase along with what the existing use is of the car club spaces already on university sites.

6.43 Details are also required on the number of electric vehicle charging stations that are being proposed within the TA and Travel Plan.

6.44 The proposed cut through the site linking to the M11 pedestrian/cycle bridge are included as part of the cycling improvements. This should be delivered in Phase 1, confirmation should be provided.

2021 and 2031 Transport Strategy

6.45 Table 18.1 seeks to set out the additional two way traffic movements to West Cambridge during the AM and PM peak hours. Traffic movements are also set out in Table 13.1 and in the flow diagrams. The information presented within the TA appears to be inconsistent. Further clarification is required to describe the tables and associated flow diagrams, and to ensure that the traffic forecasts detailed in the TA are consistent with the spreadsheet model.

6.46 It is not fully clear why there are fewer trips coming from the West than other directions, such as the A14 North West. Further clarification is required that the assumptions in the modelling relating to this are correct.

6.47 No cycleway improvements along Madingley Road have been proposed. Although there is a route through the site which it is likely will be well used, there are still sections of Madingley Road that are being used. Table 6.1 shows that 574 (47%) of cycle movements in 2021 would be along Madingley Road East. Further mitigation should be investigated to see what improvements could be made along here to connect the site and improve accessibility.

<u>Application as submitted</u>

6.48 <u>Insufficient information</u>. The monitor and manage approach cannot be supported at this stage because the 2031 scenario has not been assessed, designed or costed. This is a significant omission in the application proposal

and as such the Highway Authority is unable to conclude whether or not the development is acceptable in highway terms.

6.49 Inadequate analysis has been provided for the new access junction at the western end of the site. From the information supplied, officers have significant concerns that there may be insufficient stacking capacity at the junction which is likely to have a detrimental impact on the M11. As such the application cannot be supported.

6.50 Development testing - From the information supplied, officers are unconvinced the development testing in the TA represents a reasonable worst case scenario. Further evidence is required to demonstrate this is the case.

6.51 Use of the Transport CAP is a fundamental component of the 'monitor and manage approach', but the application proposal is unclear whether this will be used and how it will be calculated. This is a key issue to resolve.

6.52 City Deal - The proposal must contribute proportionately to City Deal. The method and costing is undetermined and is a key issue to resolve.

6.53 Inadequate cycle connections are provided to Eddington, the amenities of which the University places significant weight in serving West Cambridge.

6.54 Improvements to walking and cycling to the site require significant revision and clarification. The proposals do not have consensus from key stakeholders.

6.55 Public transport - There are inconsistencies and uncertainty in the approach to improving public transport.

6.56 Summary - A significant amount of work is required to agree the 2015 modelling assumptions, assessment of key phase one to 2021 and longer term 2031 impact and mitigation.

Highways England

Application as amended (2020)

6.57 Holding objection: – A holding objection until July 2020 was issued pending consideration of further information. Discussions with Highways England have been ongoing, and it is likely a revised consultation response removing the holding objection will be issued prior to Planning Committee. Any response received will be provided with an Amendment Sheet.

Application as amended (2017)

6.59 Holding objection to determination maintained since submission. More details of the monitor and manage approach required.

Application as submitted

6.60 Insufficient information. The 'Adaptive phased approach' whereby the initial phase of development is assessed in detail and subsequent phases are assessed on a 'monitor and manage' process to assess the outcome of the

previous phase, is supported. This is to account for what in this case are substantial uncertainties of future progress of developments elsewhere in Cambridge and surrounds and of future infrastructure provision such as on the M11.

6.61 Given the site already has planning permission the comparative datum for the new key phase 1 proposal is the anticipated trip levels of that permission as if fully built out. With a robust sustainable transport strategy key phase 1 is likely to generate less traffic than the permitted site. The developer, the University of Cambridge has an enviable track record of delivering the objectives of ambitious travel plans across their estate in Cambridge and, therefore a condition should be imposed requiring the Travel Plan to be implemented in full.

6.62 Further key phases of the development will, crucially, need to be subject to further consent, further assessment and, probably, further mitigation.

6.63 The lack of objection to key phase 1 was without prejudice to those subsequent phases and in no way implies we will have no concerns regarding those subsequent phases.

Environmental Health

Application as amended (2020)

6.64 Support: New information has been provided to the Greater Cambridge Shared Planning service in support of planning application 16/1134/OUT. The information is in response to comments on the previous submission (2019) from Cambridge City Council Environmental Health (mostly air quality) and Cambridgeshire County Council Highways; they relate to air quality and transport issues. The impact of the additional traffic generated by the proposed development remains the outstanding air quality concern.

6.65 The development can be made acceptable if the recommended planning conditions are attached to the permission.

6.66 The comments are assuming that the traffic impacts have been agreed as acceptable by Highways England and by the Transport Team at Cambridgeshire County Council

Key points

- This application is for a significant intensification of the use of the West Cambridge site, with a threefold increase in GFA from 153,855 m^2 to a total of 490,265 m^2.
- The application includes a threefold increase in the number of car park spaces, from to 1,571 to 4,390.
- A threefold increase in traffic on the road system is predicted at peak hours and throughout the day.
- The Air Quality Assessment (AQA) predicts increases in pollution levels in the Air Quality Management Area (AQMA), which is contrary to Local Plan Policy 36.

- The increases in air pollution affecting the AQMA are related to traffic emissions.
- The site design and traffic mitigation measures proposed do not manage the impacts on air quality in the AQMA if the proposed development comes forward as currently described. The AQA demonstrates that the proposal will still result in additional air pollution in the Cambridge AQMA.
- The primary method of mitigation to the increased air pollution is the Greater Cambridge Partnership Cambourne to Cambridge Busway (C2C project) to be funded in part by a significant financial developer contribution.
- Calculations are provided for further offset contributions using the Defra Damage Cost approach. The value of the contributions is based on trip generation projections.
- Electric Vehicle Charge Points will be required in all new car parks; levels of provision can be secured by condition.
- Improvements are required to the cycle provision proposed. Any cycling infrastructure should be compliant with LTN 1/20.
- Construction impacts on air quality can be managed by a Construction and Management Plan and secured by an appropriate condition.
- Emissions from the proposed energy centre will be small and extremely localised. The details can be secured by an appropriate condition which sets emission limits for all plant generating combustion emissions to air.

Mitigation

EVCP

6.67 It is recommended that, to future-proof the site, 90% of car parking spaces have electric vehicle charge points (slow charge points). These should be installed as the car parks are built. Fast and Rapid Charge Points should also be available for drivers needing a quicker charge. The IAQM/EPUK guidance suggests the provision of at least 1 Rapid EV charge point per 1,000m^2 non-residential floorspace. This would suggest around 400 Rapid Charge points for this site, which is considered would be an over-provision and would have grid capacity implications. Therefore, it is recommended recommend that at least 10 Rapid Charge Points and 10 Fast Charge Points are installed (at least 20 in total - approximately one of each per 40,000m^2 GFA). Ten electric vehicle fast charging points should be installed at the earliest opportunity.

Car parking

6.68 There is a commitment in the Car Parking Delivery Framework (1705021 Framework Parking Review) to ‘seek to reduce provision’ as West Cambridge development progresses, which is welcomed . Agree that it could be secured by planning condition as suggested in this document. Designated parking spaces for low emission vehicles and differential parking charges could be incorporated into the car parking proposals.

Cycling

6.69 The applicant offers cycle parking to ‘at least’ the minimum that City Council standards require but offers no specific quantum. it is recommended that the applicant should consider if this level of provision could be increased to accommodate future demand (and avoid street clutter). E-bikes are increasingly used for travel to/from and for work; provision for e-bikes parking should be considered here to improve the range of sustainable travel modes on offer.

6.70 A pool bike scheme is discussed, and some ideas are presented including the consideration of on-site cycle hubs at convenient locations. Also considered is the provision of electric / hybrid cycles, to provide an alternative option to pedal cycles. The level of fitness required to use these bikes is less than that of a pedal bike and therefore the use of electric bikes may attract more students / staff to consider cycling at work between University sites. Whilst this is welcomed, a stronger commitment to the introduction of pool bikes is required.

6.71 No provision for cargo bikes, electric or otherwise, is mentioned, which is a serious omission; cargo bikes are increasingly used for transporting goods and children. The applicant has stated that they will provide an ‘appropriate’ number of EV charging stations for cycles but no further information or definition of ‘appropriate’ is provided. Further work is required to make the cycling provisions acceptable, unless they have been agreed by the Cycling and Walking officer who objected to the previous cycling and walking provision.

Cycling and walking infrastructure

6.72 There will be a significant increase in the number of cyclists (in particular) and pedestrians entering and leaving the site at peak hours, as well as during the day, as the University relocates departments from the city centre to the West Cambridge site. It is noted that the current access provisions for cyclist and pedestrians are already very congested at times. Query if enough space has been allocated on site and off site to physically allow the large increase in cyclists and pedestrians that will be required to improve the non-vehicular modal share. Shared space is not suitable for high volumes of usage and should be avoided.

Public transport provision

6.73 The public transport provision is probably the most important key to the demand management/ demand reduction for this proposed development. The primary method of mitigation to the increased air pollution is the Greater Cambridge Partnership Cambourne to Cambridge Busway (C2C project), the implementation of which is predicted to ease peak hour and 24-hour traffic volumes. However, this project is not certain to go ahead – routes and vehicle types are yet to be decided; any alternative transport project(s) that may or may not come forwards may or may not serve the West Cambridge site.

6.74 There is no information about how the trips have been assigned from cars to C2C vehicles in the modelling. We would expect a substantial alternative package of mitigation measures to be proposed should this project not come

forward within an agreed and realistic timescale. There will be a developer contribution to the Greater Cambridge Partnership's Cambourne to Cambridge route (if it goes ahead)

6.75 Bus services need to have an improved frequency, run at weekends including Sunday, and run during the evenings with improved frequency. Further, bus services must be low emission to avoid additional air pollution in the Air Quality Management Area. This currently means that bus services must be run using electric buses (single decker) or Euro VI buses (double decker). It is disappointing to see no mention of low emission public transport in the FTP and only one mention in the TA. S106 agreements could be made to support improvements to the low emission public transport provision in the west of Cambridge. Public transport subsidies for staff and residents could be included as an incentive as they move onto the development. The public transport offer requires detail, clarity and commitment.

Framework Travel Plan

6.76 The Framework Travel Plan sets out ambitions to reduce single occupancy rates during the AM peak from around 47% currently to 32%. However, even with mitigation, there would still be two and a half times the volume of traffic compared with the 2016 baseline - 1,870 compared with 751. Without mitigation the figures are even higher, five and half times the volume of traffic - 2,565 compared with 751.

6.77 The provision of on-site car clubs is an important measure to reduce the need to travel to and from site. The effectiveness of car clubs at both reducing the need for car ownership, and car usage is recognised; indeed the University of Cambridge currently operates a business account Car Club membership. Car Club vehicles are located at the West Cambridge and the Old Addenbrooke's Sites, and the FTP states that further Car Club vehicles at other sites are planned. The Individual Travel Plan Coordinators will be responsible for raising awareness of this by distribution of promotional literature developed by the Travel Plan Manager. Whilst this is welcomed, a stronger commitment to the introduction of car club vehicles is required. There is no evidence to suggest that a coherent phased plan has been considered and there is no indication of the level of provision likely to be established. In the absence of any proposal details, it is recommended that a minimum of one car club vehicle parking space is provided for each academic/commercial/research building. Provision of car club vehicles can be secured as part of a S106 agreement. A strategy should be outlined to assess usage, encourage uptake and to provide additional vehicles as demand increases in the future. EV car club provision is preferable.

6.78 However, even with the proposed design and transport mitigation, the air quality assessment demonstrates that there is still a negative air quality impact in the Air Quality Management Area. This is not acceptable and is contrary to Policy 36 of the Cambridge Local Plan (2018).

Offset

6.79 The final stage of air pollution mitigation is provision of funds for other air quality improvements. Therefore, a damage costs assessment has been carried out based on the Defra Damage Costs Approach. This calculation compares the impact of the additional emissions associated with the proposed development with the current impact and assigns a monetary cost to the additional damage. This sum should then be used to make further improvements to the proposals to offset the damage incurred.

6.80 The calculated damage costs range from £558,993 for the baseline scenario in 2019 to £1,466,608 for the Full Development without mitigation.

6.81 The difference between the baseline and the 2021 Do Something is £421,960 – this is the environmental cost of the air quality impact of Phase One compared with the current situation, resulting from almost twice as much traffic. This is the sum that should be considered as an appropriate contribution towards air quality mitigation for the first phase of the development. Early provision of fast and/or rapid EV charge points will make an important contribution at this stage.

6.82 The difference between the baseline and the 2031 Do Something is £907,615 – this is the environmental cost of the air quality impact of Phase Two compared with the current situation, resulting from three times as much traffic. This is the sum that should be considered as an appropriate contribution towards air quality mitigation, if no Mitigation Strategy is in place for the second phase of the development. The difference between the baseline and the 2031 Do Something with Mitigation Strategy is £230,618 – this is the environmental cost of the air quality impact of Phase One compared with the current situation, resulting from almost twice as much traffic in the future when emissions from vehicles are lower. This is the sum that should be considered as an appropriate contribution towards air quality mitigation, if the mitigation described comes forwards.

6.83 The Phase Two with mitigation flows reflect the expected benefit of the C2C bus scheme and West Cambridge Public Transport (WC PT) Strategy (changes to the Citi 4, the Universal and Guided Bus services; introduction of the Arc services). Reduced car trips are to be expected with the introduction of new high quality public transport services. Trip numbers have been assigned from cars to public transport. The supporting document do not indicate how this was estimated but assigns 353 West Cambridge vehicle trips in the AM peak to the C2C project, 695 West Cambridge vehicle trips in the AM peak to WC PT Services. The supporting documents do not include the number of additional bus services that will be required. This information has now been provided.

6.84 The figures in the Outline Air Quality Mitigation Statement do not include an estimation of the air pollution costs of the additional public transport movements resulting from the mitigation measures. These have now been estimated with supporting information provided separately. The figures do not include the cost of any emissions from the Cambourne to Cambridge service as it is stated that this service will be all electric. However, the provision of EV buses is an ambition for C2C at this stage and whilst the city council is strongly advocating for them, rather than Euro VI, they are not guaranteed at this stage. This results

in some uncertainty around the costs calculated as well as an under-estimate of potential costs because although there will be no costs associated with nitrous oxide emissions, there will be an impact from particulate matter. The level of service provision for the C2C is likely to be more than 50 services daily, 100 bus movements. Thus the figures calculated should only be used as guidance.

6.85 Therefore, the sum that should be used to make further improvements to the proposals to offset the damage incurred is between £304,398 and £421,960. This sum should be committed to EVCP provision on the West Cambridge site. This can be covered by a planning condition for an EVCP strategy.

Conclusion

6.86 The current submission documents have gone a long way to clarifying outstanding issues and providing a more detailed mitigation package for the impact on air quality that this development will have.

6.87 The development proposal will result in a significant increase in traffic, which will be even greater if the Cambourne to Cambridge Busway (or similar) is not in place by 2031. Additional traffic will result in additional air pollution.

6.88 There are many uncertainties in the future provision of public transport in the area around Cambridge, which makes it difficult to predict what might or might not happen, or what might or might not be reasonable to mitigate.

6.89 Conditions are recommended that will cover the uncertainties and prevent an increase in air pollution in the Cambridge AQMA.

Application as amended (2017)

6.90 Objection. Refusal is recommended on the grounds of unacceptable adverse local air quality impacts / effects for the following reasons:

a) the negative adverse impact on air quality in the City's Air Quality Management Area (AQMA), and

b) insufficient information and commitment to measures to adequately demonstrate with confidence that adverse air quality impacts can be mitigated and minimized.

6.91 The air quality mitigation proposed and in particular in relation to transport related impacts are in our view insufficient to manage the adverse air quality impact of the amended proposed development, if it comes forwards as currently described.

6.92 The application could be made acceptable if a package of specific and strategic transport solutions for the reduction of the number of trips and air pollution generation is provided to mitigate the adverse impacts on air quality.

6.93 This should include, but not be limited to, commitments to car club provision, EV charge points and developer contributions to support alternative transport options (which should be low emission). Demand management should be developed to make a substantial reduction in the proportion of trips per GFA m2. Quantifiable targets and timelines are required.

6.94 The applicant is aware of our current objection to the application on air quality grounds. This objection has been the subject of ongoing discussions (meeting 11th June 2018 etc.), correspondence and negotiation between the City Council, County Council and we understand the applicant and their agents / consultants are considering this matter further including air quality / transport mitigation.

Application as submitted

6.95 Objection. The application documents and Environmental Impact Assessment (EIA) with associated Environment Statement (ES) / Appendices are complex and detailed in many respects.

6.96 However, the submissions are lacking sufficient detail / assessment on a number of environmental health related issues / strategies, and in particular in relation to:

- Noise and Vibration - Construction and Operational
- Air Quality
- Artificial Lighting – Operational

6.97 As these issues are fundamental we are currently unable to reach a fully informed decision on the acceptability of the proposals in these respects and to allow us to consider the formulation of possible conditions that may need to be imposed to mitigate potential adverse impacts / effects.

6.xx The additional impacts / effects assessment and request for additional information / clarifications as detailed below for Noise and Vibration, Air Quality and Artificial Lighting (*detailed under various topics sections part titled - Conclusion: Noise and Vibration etc. - Summary of Concerns & Request for Additional Assessment and Information)* should be provided under EIA regulation requirements, to ensure all the information specified in Part II of Schedule 4 to the Regulations and the relevant information set out in Part I of that Schedule.

Urban Design and Conservation Team

Application as amended (2020)

6.98 Support, with exception of south east corner. There have been no changes made to the scale and massing of the south east corner of the site and so the view from Wilberforce Road (View 6) has not materially changed since the previous revised application. In our view, the impact of the scale and massing in this part of the site would be significant 'less than substantial harm' (as defined by the NPPF paragraph 196) to the setting of the West Cambridge

Conservation Area. Additionally, the proposed scale and massing is overbearing in relation to residential properties at Perry Court and The Lawns.

6.99 The changes outlined in the Table 1 will also be required to the Design Guidelines.

Application as amended (2017)

6.100 Support, with exception of south east corner. Overall the application amendments have addressed most of the concerns raised previously. However, concerns remain with the height of buildings in the south-east corner and Parameter Plan 5: Maximum Building Heights is misleading in the colour representation when AOD levels are analysed. Accordingly, the team's conclusion is that the overall scale of development in the south-east corner of the site needs to be reduced.

6.101 The Design Guidelines along with the Parameter Plans now form a much more robust framework to guide development on the site. Table 1 in these comments identifies a number of changes and clarifications required before it could be supported. With the amendments to Parameter Plan 5 and the various issues in Table 1 resolved the application would be supported by the Urban Design and Conservation Team along with Landscape and Arboricultural Officers.

Application as submitted

6.102 Objection. Significant Visual Impact is likely to result from the revised West Cambridge Masterplan from key views from the south and south west. The harm is considered unacceptable because of the additional height, scale and mass over and above the extant permission.

6.103 Extant 1999 masterplan – Analysis is not provided for the impact of the existing built out masterplan.

6.104 Overlay Information in relation to the consented scheme is required to fully assess the comparative edge treatments and impacts on the setting of the City and Green Belt. The proposed mitigation is insufficient.

6.105 Wider North/South corridors are needed to break up the significant mass of proposed development. There is a concern the 25m minimum width for n/s green corridors will be insufficient to sustain large scale trees as well as transport routes and utilities.

6.106 Forest scale trees are required to break up the mass of the proposed development from key views from the south and south west.

6.107 Design Guide needs significant redrafting to secure mandatory elements of the new masterplan. *(NB. Detailed critique of the Design Guide was also provided).*

6.108 Open Space Parameter Plan – Inadequate provision for safeguarding existing infrastructure or adequately securing new green infrastructure.

6.109 Building heights parameter plan – approach to areas of additional height not supported.

6.110 Loss of heritage assets are not assessed in the outline application. The loss of Merton Hall Farmhouse appears unnecessary.

6.111 Summary – the overall impact of what is proposed is unacceptable because it results in a height, scale and mass of development significantly above that contained in the extant outline permission and will have a significant and harmful impact on the setting of the City and the surrounding conservation areas. The Design Guide, as currently drafted, is insufficient and too flexible to control the impact of the development on its surroundings. The scheme would therefore need to be amended to reduce the overall height, scale and mass of development as proposed, and the Design Guide re-worked to provide greater control over the detail, form and future quality of development.

Planning Policy Team

Application as submitted

6.112 Support. The decision was taken in the emerging local plan to allocate this site for densification to support the Cambridge Cluster and ensure there is a good supply of employment land. This allocation is subject to the criteria in policy 18, including satisfactory transport, design and impact on land in the Green Belt.

6.113 Section 4 of the applicant's planning statement sets out the background for the proposed development, explaining the rationale behind the academic and commercial development proposals. Section 6 of the planning statement explains that any subsequent reserved matters planning applications incorporating an element of commercial research will be accompanied by a statement demonstrating how the proposal will support knowledge transfer and / or open innovation, thereby committing to demonstrate the need for the development as it arises. I consider that this approach to complying with criteria a) and b) of the emerging policy 18 is appropriate.

6.114 In policy terms, the principle of densification of development on the site is accepted, subject to design, transport, impacts on the setting of the city and the other provisos in the emerging policy.

Sustainability Officer (Design and Construction)

Application as amended (2020)

6.115 Support. A condition requiring review of the Bespoke Sustainability Assessment Matrix and the targets therein after a set amount of time, to ensure that targets keep up to date with progress towards net zero carbon should be included. The following could be added to the end of the Sustainability Statement condition previously referred to:

"The bespoke Sustainability Assessment Matrix for the West Cambridge site and the targets therein, shall be reviewed after every three years from the date

of approval of the outline application in order to reflect changes in both national and local policy. The revised Matrix shall be submitted to and approved in writing by the local planning authority either prior to or concurrently with appropriate reserved matters applications."

Application as amended (2017)

6.116 Support. As part of the original outline application, the energy strategy was focussed on the development of a site wide heat network with a single energy centre containing gas fired Combined Heat and Power (CHP). While this approach was supported, issues have since come to light which means that this strategy may not be capable of implementation, notably grid capacity constraints. In addition, changes to carbon factors for different forms of energy mean that over time gas will become a higher carbon approach as the electricity grid decarbonises and electrical forms of heat become a lower carbon option. As such, and in discussion with the University's consultants, the energy strategy has been revisited to provide more flexibility to ensure deliverability whilst optimising carbon reduction.

6.117 To summarise, the Energy Statement Addendum sets out a hierarchical approach to deliver an energy solution for the site, which is:

1. Fully site wide (based around the single energy centre outlined in the original Energy Statement), then if not;
2. Using clusters or precincts linking several buildings, then if not;
3. Building by building solutions.

Application as submitted

6.118 Further information required. To conclude, while many aspects of the scheme are supported, further certainty is required in relation to the provision of the energy centre in order that the local planning authority can be assured that the findings of the EIA and Energy Statement are realised.

6.119 The approach to developing this bespoke approach to sustainable construction is fully supported. Such an approach will ensure that site specific opportunities can be fully taken into account and reflect the nature of the opportunities posed by the further development of the West Cambridge campus.

6.120 With regards to the provision of renewable/low carbon energy, the applicant has submitted an energy strategy as part of the proposals, which sets out the hierarchical approach to reducing carbon emissions. It has long been recognised that the densification of the West Cambridge site offers the opportunity for a more comprehensive site wide approach to the provision of renewable/low carbon energy provision. Such an approach would help realise greater levels of efficiency and carbon reduction than would be achieved if a building by building approach were to be adopted.

6.121 Confirmation that the energy centre will be delivered as one of the early projects in Phase 1 of the proposals so that we can be assured that the energy strategy

and findings of the EIA will be delivered and in light of ongoing pre-application discussions for buildings which include their own renewable/low carbon energy solutions.

Head of Streets and Open Spaces (Tree Team)

Application as amended (2017)

6.122 Support. See joint Urban Design and Landscape Team comments above.

Application as submitted

6.123 Objection. As the application is currently presented it appears to result in a significant and detrimental impact on the site's tree stock in terms of required removals, effect of construction on retained trees and pressure for additional tree removals in the future as younger trees increase in size and conflict with new buildings.

6.124 The team has significant concerns regarding the reality of retaining all trees shown to be retained given the density of development and proximity of trees to buildings and some proposed removals.

6.125 Officers appreciate the difficulty of assessing the development given the limited layout information but cannot accept the document as an implications assessment as is does not (cannot) fully assess the impact.

6.126 An acceptable developable area should be established at this stage that will not conflict with mandatory tree retentions. Trees should have adequate space between canopy edge and elevations and must be allowed room to grow. To this end buffer zones should be created around trees and this along with RPAs should inform the developable area.

6.127 It is noted that many of the groups along Madingley Road are categorized as C. It should be noted that while the quality of trees here may be poor the retention of a viable verdant buffer between the road and development is essential to the character of the area therefore the developable areas need to allow space for replacement planting along this boundary where retentions are not realistic due to tree condition.

Head of Streets and Open Spaces (Walking and Cycling Officer)

Application as submitted

6.128 Objection. Proposed cycle provision within the site is inconsistent, with each street accommodating cyclists in a different way. It is understood that this is to fit in with the existing infrastructure but this unfortunately has resulted in sub optimum (or no) provision with the exception of High Cross.

6.129 Appendix 17.1 (in the section entitled 'Measures directed at improving conditions for Pedestrians and Cyclists) states that 'to maintain their

attractiveness the proposed with-flow segregated cycle tracks along the main routes through West Cambridge would be…' the only main route which has segregated cycle tracks is High Cross – does the following paragraph therefore apply to the other main routes? More detail is needed.

6.130 An illustrated plan is needed to show how the side road junctions will achieve an 'appropriate level of priority at side roads' as set out in paragraph 6.5.13/14 in the Transport Assessment.

6.131 4m should be provided for the length of the shared path along JJ Thompson Lane on both sides of the road except for sections where this is not possible due to tree protection issues.

6.132 Detail should be provided as to how the shared and segregated paths link to the junctions with Madingley Road and the toucan crossing.

6.133 There is no information about proposals for Ada Lovelace Road.

6.134 There is no provision for cyclists on Charles Babbage Road. There is no detail of the courtesy crossings proposed and it is not, therefore, accepted that these will slow traffic sufficiently to provide a safe on-road environment for cyclists. Consideration should be given to re-allocating the road space to provide cycle lanes and no on-street parking. The road and footpath widths for Charles Babbage Rd are illegible.

6.135 The Western Access road has been suggested as the main vehicular access for buses and cars from west yet it is only 5.4m wide whilst the reason for maintaining the 7.3m wide carriageways on High Cross and JJ Thompson is that this is necessary for buses. A central reservation was discussed as an option for reducing speeds and improving crossings for pedestrians but there is no information about this or indication of how a 20mph speed will be achieved with the existing straight, wide carriageway.

6.136 Appendix 17 states that 'controlled crossing points would be provided' but there is no detail of the type of controlled crossing points or where they are proposed.

6.137 The path along the southern corridor is poorly segregated with a line down the middle. Some users keep to the left, some keep to the cycle or pedestrian side but the signage is difficult to see. As usage increases this is likely to become more of a problem and so it is recommended that alternative surfacing materials/colours are used to better define the cycle and pedestrian sides of the path - this should be included as a measure within the 2031 transport strategy.

Off- site infrastructure:

6.138 Paragraph 6.7.11 in the TA suggests reviewing whether advanced greens can be included within the signal controls – this is supported although the wording is too vague.

6.139 The measures proposed for phase 1, up to 2021 do not include any improvements for cyclists and pedestrians at the High Cross/ Eddington Ave/ Madingley Road junction. The approach from the site to the High Cross junction is poor with no provision for cyclists which is particularly unsafe for the majority of cyclists who are travelling straight on towards Eddington and the north as they are in conflict with the majority of motor vehicles who are turning left. Improvements to this junction in the form of an approach lane for cyclists between the vehicular lanes or a separately signalled phase for cyclists, should therefore be provided for the first phase of this development.

6.140 Paragraph 6.8.12 needs to be amended to include the provision of double yellow lines as well as advisory cycle lanes.

6.141 The shared use crossing between Lady Margaret Rd and Grange Rd is supported.

6.142 The improvements to the connection between the M11 bridge and the Western Access Road are supported and should be part of the phase 1 works.

6.143 More detail is needed regarding the proposal to widen the Coton Path within the boundary of the West Cambridge site

6.144 The access to the Hauser building via East Forum is currently a pedestrian and cycle route and the development of this area was approved as such. The statement in para 6.9.5 of the TA and the response document that this is a pedestrian only route is not acceptable.

6.145 The principle of giving priority to cyclists at the Adams Rd/Wilberforce Rd/Coton path junction is very much supported although the detail (signs/lines/island) will need further discussion and should be conditioned if the University carry out the work.

6.146 The existing cross sections for Adams Road and Grange Road shown in plan 6.17 are incorrect and it is unclear what is proposed. Removing some or all of the parking on Adams Road is supported if this can be shown to provide an improved environment for cyclists and will not result in increased speeds. The City Council have already implemented a 20mph limit on Adams Road.

6.147 Advanced greens for Adams Rd/Grange Rd/Burrells Walk could be useful on the Adams Rd arm but not on the other arms. The exit from Burrell's Walk is on a challenging slope which results in waiting cyclists being in the way of pedestrians crossing the junction. Measures could include changing the layout of the junction to accommodate a widening of the Burrells walk arm into the junction with a separate phasing for vehicles on Grange Road on a narrowed carriageway.

6.148 Whilst the implementation of an alternative route into the city via Grange Road and Silver Street is supported the route via West Rd and Queen's Green is problematic as the response to the consultation on this in 2011 was very negative. Respondents and local members were keen to improve Sedgwick

Avenue as a cycling and walking street and modelling was undertaken for implementing a one-way system for West Road/ Sedgwick Avenue as was included in the original West Cambridge sec. 106. It is therefore recommended that the alternative route is not yet fixed and the application wording amended to something like ' *to provide an alternative route from Adams Road into the City Centre via either West Road/Queens' Green or Sedgwick Avenue and Silver Street'* to allow for a more flexible approach. Providing an alternative route to Burrell's Walk was included in the original section 106 agreement and so it is not acceptable for the implementation of this element to be postponed until phase 2 of the Transport Strategy.

6.149 Even with the promotion of an alternative route it is unlikely that the importance of the Burrell's Walk route will be reduced. The enhancement to Burrell's Walk is very much supported and should improve the situation for users whilst signs directing cyclists to the path further south are impractical and not supported.

6.150 Improving the surfacing of Senate House Passage should be included in the mitigation measures proposed.

6.151 Any additional shared use signage will need to be carefully located to avoid sign clutter.

6.152 Cambridgeshire County Council and Cambridge City Council have an aspiration to provide a continuous on-road cycle lane on the south side of Madingley Road. The North West development was unable to provide the on-road lane or off road improvements between the junction with Eddington and Lansdowne Road due to tree issues. It was agreed to consider this gap in provision when the new West Cambridge outline application was agreed but there is no proposal within the documents relating to this gap.

Access Officer

Application as submitted

6.153 Support. Existing provision across the campus is generally good.

6.154 Blue badge spaces need to be near to actual facilities in the future. Some dropped kerbs are required to improve access/drop off to institutes around the site, particularly on Charles Babbage Road.

Head of Streets and Open Spaces (Sustainable Drainage Officer)

Application as amended (2017)

6.155 Support. Additional detailed design drawings have been supplied including a network model demonstrating that the proposals are acceptable from a flood risk point of view. Phasing plans have also been produced to confirm the order of surface water drainage network modifications before plot development can commence so as to ensure that there is no increase in flooding during construction.

6.156 A Technical Note was prepared which assessed the likely water pollution risks from the development. Where car parks are proposed, the existing SuDs measures will be supplemented by the use of proprietary systems such as Class 1 Oil bypass separators. Using the Simple Index approach set out in CIRIA C 753 The SuDs Manual it was demonstrated that the use of linked SuDs features in series, as proposed, would enable post development flows to be treated and provide the required levels of pollution mitigation without the need for sediment fore bays.

Application as submitted

6.157 Objection. In order to ensure the integration of sustainability from the outset, a comprehensive bespoke Sustainability Framework has been created to guide the project from the initial master planning stages, through the design and construction stages to the operations phase.

6.158 The approach to developing this bespoke approach to sustainable construction is fully supported.

6.159 Proposals include a site wide energy strategy based on a low temperature heat network using Combined Heat and Power (CHP) and which may incorporate heat pumps in the future (for more detail see the Renewable/Low carbon energy section below).

6.160 Reference is made in the Energy Statement to the energy centre being delivered as part of Phase 1 of the development, although it is noted that some of the early buildings may require temporary energy solutions prior to connecting to the heat network. Given the potential impacts of standalone energy provision, notably environmental health impacts, greater certainty as to when in Phase 1 the energy centre and heat network will be delivered is required prior to determination of the application.

6.161 To conclude, while many aspects of the scheme are supported, further certainty is required in relation to the provision of the energy centre in order that the local planning authority can be assured that the findings of the EIA and Energy Statement are realised.

Head of Streets and Open Spaces (Nature Conservation Officer)

Application as submitted

6.162 Support. The Team would resist the proposed piping of a section of Coton Ditch as it flows past the existing Cavendish Laboratory Pond.

6.163 In addition to the proposed boxes for House Martin and Swallow mitigation a site wide enhancement nest box scheme would be appropriate. This should include specifications and numbers of boxes per unit / building type. And include species such as kestrel, swift, pied wagtail, house sparrow, pipestrelle bat, and

brown longed eared bat. At least one bespoke bat roost should also be considered in an appropriately located service building or store.

6.164 The EDS should include long term management plans seeking to restore and enhance the City Wildlife Sites. The EDS should include details of the proposed new pond and swale profiles to ensure they maximise biodiversity potential.

6.165 Encourage the use of green / blue / brown and biodiverse roofs across the site to support a second tier of habitats. The Construction Management Plan should include details to protect the badgers set and foraging routes during and post development.

Biodiversity Officer
Application as amended (2020)

6.166. Support: The correspondence from the applicant with regards BNG has been reviewed and we are satisfied that the proposed reserved matters condition below will ensure future planning applications deliver BNG in line with future national and local BNG policies. Concerns remain that the available green space proposed may not be able to achieve new habitats of sufficient area and condition to achieve this on site. A DEFRA metric was previously requested to be provided for the outline to give the local authority confidence of the BNG likely to be available as the site is developed and would continue to advocate this assessment prior to determination. Off site BNG provision is an option where shortfalls occur but onsite provision is favoured. For offsite provision the applicant will need to be able to demonstrate that BNG best practice is being implemented and that long term, sustainable offsite BNG is achievable.

Application as amended (2017)

6.167 As discussed broadly content with the proposal which retain the designated sites. However in relation to the proposed guided bus routes through the scheme, there are a number of route options, but all would result in the loss of some areas of City Wildlife Sites and therefore have the potential to compromise the ecology aspects within the masterplan. It is suggested that the route options should be presented within the Masterplan and the potential to mitigate the impacts, both on and off site be explored.

Historic England

Application as amended (2017)

6.168 No objection. Historic England's views are in accord with your Conservation Team regarding their comments on Merton Farmhouse, the grade II* listed Schlumberger building, the Veterinary School and the setting of Conduit Head Conservation Area.

6.169 Historic England are satisfied that issues relating to the setting of the Schlumberger building can be dealt with should any planning applications be

forthcoming and have no objections on heritage ground to the proposals that will affect the other buildings and the conservation area.

Application as Submitted

6.170 Objection. The landmark buildings cannot constitute landmarks as they are too bulky to provide a contextually sensitive contribution. The addition of tall flues would exacerbate their impact. The proposed height will cause harm to the Schlumberger Cambridge Research Centre which is currently pending consideration for inclusion in the national statutory list.

6.171 Concerns that the current proposals encompass a much bigger increase than permitted under the original masterplan (1999). A number of views, including both close by along Madingley Road (East) and in long views from the south west and south east across the M11 and across the Green Belt towards the site from Cambridge City Centre, are considered to be affected by the proposals. The proposed landmark buildings are not considered to constitute landmarks as their massing would be too bulky. The tall flues would also exacerbate their impact.

6.172 The demolition of the Merton Hall Farmhouse and School of Veterinary Science has not satisfactorily been justified and could instead be retained and re-used.

Natural England

Application as Amended (2020)

6.173 No objection. The advice provided in the previous response applies equally to this amendment although we made no objection to the original proposal. The proposed amendments to the original application are unlikely to have significantly different impacts on the natural environment than the original proposal.

Application as Amended (2017)

6.174 No objection. The advice provided in the previous response applies equally to this amendment although we made no objection to the original proposal. The proposed amendments to the original application are unlikely to have significantly different impacts on the natural environment than the original proposal.

Application as Submitted

6.175 No objection. The detailed CEMP should comprise measures to protect wildlife, including bats badgers, amphibians and breeding birds through cross-reference to the Biodiversity Strategy. This document should be secured through planning condition.

6.176 Features such as SUDS should be integrated within the green infrastructure network. Opportunities to incorporate biodiversity enhancement should be integrated into the scheme.

6.177 Appropriate green infrastructure is required which should be secured through the production of a Green Infrastructure Strategy. Impacts on other local site of landscape and biodiversity value should be assessed.

Sport England

Application as amended (2017)

6.178 No objection. Sport England have no additional comments to make a this stage, our views remain those submitted with our original representations.

Application as submitted

6.179 No objection. Sport England considers that the application can be consistent with the Sport England policy objective: Policy Objective 3 – to provide new sports facilities to meet current and future demand.

6.180 This being the case, Sport England does not wish to raise an objection to this application, though we would wish to be consulted on any detailed proposals to extend the University Sports Centre on the site.

Environment Agency

Application as Submitted

6.181 No objection, subject to the imposition of conditions covering foul water and the sewerage network.

Environment Management

6.182 The outline planning application appears to have given an appropriate level of consideration to the potential pollution risks posed by the construction and operational phases of the development. Appropriate condition measures have been proposed. As foul drainage for the development is yet to be confirmed the imposition of a condition is recommended.

Waste Planning

6.183 The consideration of potential waste arising from the development is strongly supported.

Water resource comments

6.184 Development should not be committed ahead of secure water supplies. There should also be measures to reduce water use across the development.

Site specific comments

6.185 The Environment Agency do not consider detailed land contamination comments necessary. The developer should address risks to controlled waters from contamination at the site, following requirements of the National Planning Policy Framework.

Cambridgeshire County Council Minerals and Waste

Application as submitted

6.186 No objection. The inclusion of the Waste Management Plan in this application is noted and welcomed. As it set out in that document, it is understood that the applicant intends to submit a Detailed Waste Management and Minimisation Plan (DWMMP) as part of a future reserve matters application / discharge of condition. In order to ensure that the DWMMP, and consequently the development, meets the requirements set out in Policy CS28 Waste Minimisation, Re-use, and Resource Recovery of the adopted Cambridgeshire and Peterborough Minerals and Waste Core Strategy (2011) it is requested that, should the Planning Authority be minded to grant planning permission a condition is required for the DWMMP.

Anglian Water

Application as amended (2017)

6.187 Foul drainage - Development will lead to an unacceptable risk of flooding downstream. A drainage strategy will need to be prepared in consultation with Anglian Water to determine mitigation measures.

6.188 We request a condition requiring the drainage strategy covering the issue(s) to be agreed.

6.189 Surface water drainage - The surface water strategy/flood risk assessment submitted with the planning application relevant to Anglian Water is unacceptable. No evidence has been provided to show that the surface water hierarchy has been followed as stipulated in Building Regulations Part H. This encompasses the trial pit logs from the infiltration tests and the investigations in to discharging to a watercourse.

Application as Submitted

6.190 There are assets owned by Anglian Water close to the development boundary that may affect the layout of the site. Imposition of a condition is required to ensure these are adequately considered.

6.191 The foul drainage from the development is within the catchment of the Cambridge Water Recycling Centre that will have available capacity for these flows. The sewerage system has adequate capacity. If the developer wishes

to connect notice should be served under Section 106 of the Water Industry Act 1991.

6.192 The proposed method of surface water management does not relate to Anglian Water operated assets. The Lead Local Flood Authority should be consulted.

Cambridge Water

Application as submitted

6.193 No objection. Our final Water Resources Management Plan (WRMP19) covers the next 25 years and indicates water resources availability. The growth in new properties and water demand in our WRMP is based on the adopted 2018 local authority plan, therefore if this development and property numbers was included in the local plan, then there is water resources allowance for this development. This is for both construction and post construction period assuming that construction period demands for water do not exceed post construction demands for water.

6.194 For a development at this stage, and with no increase in demand, I do not see the need to add conditions to the final permission over and above those for BREAAM Excellent and water management targets.

6.195 The need for mains reinforcement was identified by Cambridge Water carrying out some network modelling, using the developer's figure for anticipated demand when the site is fully developed. The purpose of the reinforcement is to ensure that existing customers on relatively high ground around Histon Road and Huntingdon Road do not suffer undue detriment as a result of the development, rather than to ensure adequacy of supply to the site itself. With this in mind, Cambridge Water will continue to monitor pressures in the areas most at risk and reinforce the network as and when necessary.

Health and Safety Executive (HSE)

Application as submitted

6.196 No objections. Do not advise against - HSE does not advise, on safety grounds, against the granting of planning permission in this case.

6.197 The development includes a site licensed for storage of explosives (Cavendish II Laboratory). Should the development proceed HSE would expect to revisit the location to determine whether or not it remained suitable and would expect the licensee to apply for the licence to be varied in order to reflect the changes brought about by the development.

Cadent Gas

Application as submitted

6.198 No objection. Cadent have identified operational gas apparatus within the application site boundary. This may include a legal interest (easements or wayleaves) in the land which restricts activity in proximity to Cadent assets in private land. The Applicant must ensure that proposed works do not infringe on Cadent's legal rights and any details of such restrictions should be obtained from the landowner in the first instance.

6.199 If buildings or structures are proposed directly above the gas apparatus then development should only take place following a diversion of this apparatus. The applicant should contact Cadent's Plant Protection Team at the earliest opportunity to discuss proposed diversions of apparatus to avoid any unnecessary delays.

6.200 If any construction traffic is likely to cross a Cadent pipeline then the Applicant must contact Cadent's Plant Protection Team to see if any protection measures are required. All developers are required to contact Cadent's Plant Protection Team for approval before carrying out any works on site and ensuring requirements are adhered to.

Cambridgeshire Constabulary (Designing Out Crime Officer)

Application as amended (2017)

6.201 Support. No comments at this stage but request this office be consulted should this go to a full planning status and comment regarding design and layout especially in mitigation against crime and disorder. Fully supportive of this application and look forward to being involved in future consultations

Application as submitted

6.202 No objection. At this stage this office has no further comments, suggestions or recommendations. Given the large scale car and cycle parking on the site we would wish to be added to the list of consultees in regards to any security assessment required.

Lead Local Flood Authority

Application as amended (2020)

6.203 An initial response was received requesting an addendum or update of the FRA be provided. Following the subsequent submission of the "FRA and Drainage Strategy – Review prepared by Stantec (12 January 2021 – TN-31500- 2021-01)" the LLFA confirmed:

6.204 No objection, subject to a condition relating to future reserved matters applications on the site.

Application as amended (2017)

6.205 No objection, subject to a condition relating to future reserved matters applications on the site.

Application as submitted

6.206 Objection. The submitted Flood Risk Assessment and Drainage Strategy provides inadequate information regarding surface water drainage proposals for the site. The team objects because there is insufficient information in order to determine the impacts of the proposal.

6.207 The existing and proposed impermeable area for the site must be set out in respect of each development phase.

6.208 The existing and additional storage volume on the site to attenuate for the surface water from the increased impermeable area has not be set out. Calculations showing the required storage within the ponds is required.

6.209 Drawings for the site wide surface water drainage plan are required and a management and maintenance plan.

Cambridgeshire County Council (Archaeology)

Application as Amended (2017)

6.210 Support. This service confirms that the issues raised regarding archaeology have been addressed and that we are content that mitigation of the development impact can be addressed through condition of planning permission.

6.211 With regard to built heritage, it is disappointing that these have not been addressed in the ES as there will clearly be an impact on buildings which, although not listed, can be considered undesignated heritage assets. We are however prepared to accept that mitigation of this loss can be secured by condition of planning permission.

6.212 We would recommend the following conditions to secure the mitigation of the heritage impacts of development.

Application as Submitted

6.213 Objection. The site is located in an area of high archaeological potential. Previous investigations within the area have identified an extensive Roman settlement with associated cemeteries at Vicar's farm (HER 15361) and evidence of Iron Age and Roman settlement at High Cross (HER 13016, 15913).

6.214 The Environmental Impact Assessment submitted in support of the application includes details of the known (excavated) and anticipated (from evaluation) archaeological character of the site. Table 7.6 identifies the impact on the identified surviving archaeological assets as Minor. Clearly this is incorrect as

development will result in partial or full loss of the significance of these assets and should be considered a major impact. We would consider preservation by record to be appropriate, which would result in a minor impact with mitigation.

6.215 We would however advise that the mitigation measures put forward in section 7.6 are not appropriate and a series of excavation and investigation and mitigation requirements are recommended. This programme of work should be managed through a written scheme of investigation which, once the identified issues with the ES have been addressed, could be secured through a suitably worded condition.

Built Heritage

6.216 The only proposed mitigation measures relating to built heritage relate to the visual and setting impacts to off-site assets. The EIA makes no reference to undesignated built heritage assets which will be demolished as part of the redevelopment programme. We would advise that there is significance to these built heritage assets and that a programme of historic building recording, in accordance with Historic England guidance, would be appropriate to record the record the significance of these assets prior to demolition.

6.217 The programme of historic building recording could be managed through a written scheme of investigation and secured through the inclusion of a suitably worded condition. We would however recommend that the EIA is amended to reflect the requirements for this aspect of the mitigation of the development impact on heritage assets.

Cambridgeshire Quality Panel (Meetings of April 2015, March 2016 and July 2017)

6.218 The Quality Panel first considered the emerging revised masterplan in April 2015 and encouraged further thought on how the site will integrate its' various functions; address densification; provide open spaces; find the right level of car parking and accesses; improve landscaping, and also consider whether this is a residential or business park type development.

6.219 The Panel reviewed the proposals again in March 2016. Panel had continuing concerns with the lack of residential to provide 24 hour activity. It requested more details on the landscape and public realm strategy interacting with shared amenities and the phasing of development. In addition, further details on connections with the North West Cambridge Development needed and a demarcation of what is private and what is public open space.

6.220 Following submission of the planning application, the Panel reviewed the proposals again in July 2017 (see Appendix 7 – Cambridgeshire Quality Panel minutes 7 July 1017). The conclusions of the Panel meeting(s) were as follows:

- The application submission must be supported by further graphical analysis of the illustrative masterplan in context.

- Important to implement priority measures and landscape features as early as possible to improve the environment for users and potential investors
- Linkages and permeability to Eddington should be improved.
- Green corridors should be enhanced and further green spaces should be provided if possible.
- Consider impact of City Deal and bus priority proposals and how they might affect the site.
- Ensure active frontages where-ever possible
- Support site-wide environmental infrastructure if possible, but recognise hierarchical approach if not.
- Explore role of planting in cooling of buildings and places.
- Reconsider ratio of hard/soft land scape in green space by JJ Thompson Avenue
- Develop Public Art Strategy.
- Welcome interim uses for places and spaces.
- Remember to enhance existing streets and places as well as new ones.
- Important to ensure that the master plan is carried through into what is actually delivered on the ground.

Cambridgeshire Fire and Rescue Services

Application as amended (2020)

6.221 No objection. Adequate provision be made for fire hydrants, the costs of which shall be met by the develop.r Access and facilities for the fire service should also be provided in accordance with the Building Regulations.

Application as submitted

6.222 No objection. Adequate provision should be made for fire hydrants. The number and location will be determined following a Risk Assessment. Access and facilities for the fire service should also be provided in accordance with the Building Regulations.

The above responses are a summary of the comments that have been received. Full details of the consultation responses can be inspected on the application file.

Public Art Officer

Application as amended (2020)

6.223 Support: The University has developed the site wide Strategy and negotiated the budget With the involvement of the public art officer who is also part of a steering group overseeing the development and delivery of work.

Application as amended (2017)

6.224 The Public Art Delivery Plan includes budget figures -concern about one element: The West Forum Commission sets out that an artist will work with an architectural design team in the development of a social space. Whilst integrated/embedded works are permitted, it is not clear on how the budget is therefore allocated.

6.225 The involvement of the Arts Advisory Panel from NW would be advantageous, however there is no reference to the process of engaging our appointed Public Art Panel.

6.226 An evaluation pro forma has been developed , which we can give to the project group to help assess this.

6.227 Further detail in Delivery Plans:

- There is limited reference to engaging nearby residents. Whilst the Strategy focuses on providing activation and events for the users of the site, who it is agreed will be the main audience, it should also be noted that this programme should reach out into audiences across the city. The Activation Programme mentions the potential development of an annual festival, which is supported/recommended in order to enable this.

- There is reference to the appointment of high calibre established artists. Whilst it is agreed that this results in high quality outcomes it would be wrong to overlook the potential development opportunity for local artists through engaging with this programme. Again, this could be tied into delivery plans.

Public Art Panel

<u>Application as amended (2017)</u>

6.228 Panel welcomes the production of the document at this early stage in the development process. The commitment to 'open minds and open briefs' is supported.

6.229 The concentration on encouraging social space is important as a major issue for the West Cambridge site (by those that are based there) is its isolation and the departments within it. If the public art programme is able to resolve this it will be a great achievement.

6.230 Given that the development will take 15 years plus it is a good idea that a regular review process is established at the outset.

6.231 The principles and processes described are sound and are based on well-established precedents and the requirements of the SPD.

6.232 There is much talk about public engagement but this predominantly seems to focus on the site users and visitors. Given the potential remit of the planning condition I would hope that the wider Cambridge audience could be involved and in particular local residents etc.

6.233 There have been a number of earlier public art projects on the West Cambridge site which share very similar objectives to those proposed as part of the strategy. It would be good to acknowledge these.

6.234 As an observation, the percentage of management/integration against total art budget seems quite high: Phase 1 – 17%, Phase 2 – 27%, Phase 3 – 25%. From the figures provided it is difficult to ascertain why. This could be further clarified.

6.235 To conclude, our concerns are that it is very site focussed and could benefit from a commitment to links with the broader Cambridge context (not just NW Cambridge). Some of the emerging proposals could easily help build external links, which would be beneficial to broader audiences and encourage greater connectivity through this part of the city.

7.0 REPRESENTATIONS

7.1 The representations set out below are a summary of the comments that have been received. Full details of the representations can be inspected on the application file online. As per the consultation responses above, responses are included under the following headings:

- Application as amended (2020)
- Application as amended (2017)
- Application as submitted

Neighbour responses

Application as amended (2020)

7.2 The owners/occupiers of the following addresses have made representations:

2 Perry Court
3 Perry Court
6 Perry Court
10 Perry Court
14 Perry Court
9 Wilberforce Road
2 Hedgerley Close
5 Hedgerley Close
5A Hedgerley Close
53 Madingley Road
3 The Lawns
5 The Lawns
9 The Lawns
17 Adams Road
6 Lansdowne Road

7.3 The representations are summarised as follows:

Design, form, layout and building heights

- Height and scale of buildings on the eastern side of the site will dominate neighbouring properties, resulting in loss of sunlight, visual impacts, loss of privacy, light spill and noise into a quiet residential area.

- The buildings along CMR should be dug down into the ground to reduce overall massing.

- Any large building is going to impact on the sky line. New range of bulky buildings already dominate fully grown trees and pitched roofs.

- No visual connection to the nearest neighbours or the City centre.

- Building heights proposed are deceiving and not in keeping with general environment and current heights and should be reduced.

- Different ground levels are being used, lack of transparency.
  There is a need for more open space and better landscaping to reduce wind tunnel effect.

Heritage

- Could the Council commission a Heritage Impact Statement on works to date? Since 2016, it is now easy to see the impact of the new Buildings from the Eastern, Northern Western and Southern approaches, especially Madingley Road and Coton footpath.

- The trajectory of tall bulky buildings, massing closely to the roadside is adversely impacting on views into and from the Historic approach road into the City and adjoining domestic Conservation Area.

- Impact of the MSCP on the conservation area.

Transport concerns

- Comments made by CMRRA are fully supported.

- Plans to use CMR as a service road.

- There should be no access to the site from CMR.

- The impact on CMR is exacerbated by the new development of 35 houses on CMR.

- The Travel plan is outdated and misleading. Reference to data from 2017 is inaccurate.

- The suggestion of using Coton path and Burrell's walk to get to the City Centre in 10 minutes by bike is absurd, when the reality is the route is over congested already by bikes and tourism and growth. The same goes for the 20 minutes to the station.

- The University and GCP do not seem to be discussing cycle or pedestrian routes.

- Who will be paying for the cycle route on CMR?

- The construction of cycle paths down both sides of Clerk Maxwell Road, which would leave insufficient space to build a feeder lane in CMR for vehicles queuing to turn right into the car park, adding to congestion and pollution on the corner and creating the possibility that cars will back up onto Madingley Road

Car parking

- The proposed car parks for the corner of Clerk Maxwell Road need to be located further west in close proximity to the M11, this would dissipate traffic and avoid utilitarian buildings on the key Madingley Road frontage.

Flooding

- Impact and risk of flooding to neighbours needs to be considered.

- Water course through the site need to be properly reviewed to avoid the disaster that occurred to the ditch along Coton footpath during construction of the Engineering Building.

General comments

- The amount of documentation is extensive, it should be more succinct.

<u>Application as amended (2017)</u>

7.4 The owners/occupiers of the following addresses have made representations:

185 Victoria Road
14 St Peters Road
2 Hedgerley Close
19 Albemarle Way
31 Brooke House, Kingsley Walk
9 Wilberforce Road
6 Lansdowne Road
Unit 1 Kings Court, Kirkwood Road
9 Wilberforce Road

7.5 The representations are summarised as follows:

Design, form, layout and building heights

- The plan of the site still privileges cars through the scale and distribution of buildings.

Transport concerns

- The plans fail to provide adequate cycling and walking provision for the new development.

- There is a strong emphasis on shared use cycling and walking facilities. These have much lower capacity than dedicated pavements and cycle lanes and are unattractive to both modes.

- The existing shared paths are congested even now.

- The carriageways are excessively wide which will only encourage speeding.

- Priority for pedestrians and cyclists is lost on every side road.

- There is inadequate future capacity which reduces the attractiveness of sustainable travel.

- Increased risk to pedestrians and cyclists.

- Provision for cycling infrastructure is inadequate and, in some places, unsafe.

- Proper infrastructure must be included in the plans.

- The plans for cycling are very poor and do not meet even the University's internal standards for cycling and walking.

- Shared use paths are inadequately for the high volumes of undergraduate traffic anticipated.

- The site requires segregated cycling and walking facilities.

- Adam's Road is threatened with new street scape. There is no mention of its Conservation Area context or aspiration to enhance pedestrian experience.

- Queens Green is threatened with a new route across with no analysis of listed status.

- Garrett Hostel Bridge and Silver Street Bridge are already at peak capacity. The application gives no concrete data of cycle and pedestrian movements across the bridges today and projected.

- The proposed TA is not sustainable.

- Madingley Road junctions are very poor and have no character. They provide a poor pedestrian and cycle experience.

- Comments made by CMRRA, NNRA, WCAT are supported.

- There is no provision for improvements to Madingley Road or wider GCP schemes.

- There appears to have been limited communication with the GCP, in particular Madingley Road.

- No mention of the western orbital discussions.

- Unless provision for comprehensive public transport is made into the site, there will be a dominance of car usage and private car parking.

- There is still a failure within the SPS to take account of transport issues relating to the immediate neighbourhood.

- The car park proposed for the corner of CMR should be relocated adjacent to the M11. This would help dissipate traffic movement and take cars off Madingley Road earlier. Mini buses or autonomous pod systems could transport employees to different part of the site.

- There are no improvements to cycleways between Eddington Avenue and Madingley Rise.

- The pedestrian access opposite Conduit Head Road is proposed for re opening to allow the servicing of the new Cavendish Laboratory. This will impede resident free flow west bound along Madingley Road.

- The speed limit on Madingley Road should be reduced from 40mph to 30mph from the park and ride and Conduit Head Road.

Car parking

- The proposed car parks for the corner of Clerk Maxwell Road need to be located further west in close proximity to the M11 and sui generis uses, this would dissipate traffic and avoid utilitarian buildings on the key Madingley Road frontage.

- Concerns regarding the flues which may exceed the height by 8m. This is excessive.

- Plant on rooftops should be kept to a minimum.

- Relocation of the energy centre adjacent to the M11 is noted.

<u>Application as submitted</u>

7.6 The owners/occupiers of the following addresses have made representations:

Unit 1, Kings Court, Kirkwood Road
2 Perry Court
4 Perry Court
6 Perry Court
15 Perry Court
3 The Lawns
5 The Lawns
7 The Lawns
9 The Lawns
10 The Lawns
6 Lansdowne Road
2 Hedgerley Close
5 Hedgerley Close
7 Wilberforce Road
9 Wilberforce Road
14 Conduit Head Road
42 Conduit Head Road
7 Bradrushe Fields
5 Madingley Road
53 Madingley Road
11 Clarkson Road
6 Lansdowne Road
7 Wilberforce Road

7.7 The representations are summarised as follows:

Principle of Development

- Concerns with the design of the masterplan in relation to their own growth ambitions.

- The red line boundary appears to be in the wrong place (CMR and Madingley Road are probably not in the University's ownership).

Design, form, layout and building heights

- The heights of the proposed buildings are out of character with the surroundings. A buffer zone between residential and institutional buildings is necessary.

- Concerns over bulky rectangular block in the skyline (views 6 and 7).

- More should be done to break up the dreary uniform bulk of the development.

- Views from the M11 need to be improved.

- The height of the MSCP is out of character with its surroundings.

- The loss of green space is impacting views onto development.

- There are inconsistencies in the design guidelines submitted.

- The planning application has not had enough regard for neighbours.

- The application does not consider the context of the CMR east edge.

- The proposed MSCP will result in a major and embarrassing eyesore as the first may building on the site when approaching from the City centre.

- Design of public roads is functional with no attempt at place making.

- Junctions are treeless, flat and ugly.

- Cambridge deserves better along its principle historic approach roads.

- No reference to the suburbs and approaches study.

- Linkages to North West is a fabulous opportunity for distinctive place making.

- The current plans do not take into account the immediate neighbourhood.

- The present junction at High Cross is bleak, unlandscaped and does not relate to Madingley Road.

- Concept of character areas is a welcome attempt to address the random development which has taken place.

- 4-5 storey height will exceed existing landscaping/tree belt.

- Four storey heights do not respect the character of the surrounding area.

- Boundary to CMR is very important.

- Heights of buildings on the West Side of CMR need to be closely controlled.
- Loss of green space has implications.

- Height and massing of the proposed Cavendish III is a key concern.

- Service access opposite Conduit Head Road is unacceptable.

Heritage matters

- Loss of heritage assets are not assessed in the outline application. The loss of Merton Hall Farmhouse appears unnecessary.

- The response points to incorrect assessment of impacts and mitigation measures identified by the Environmental Statement.

- Significant impact on undesignated heritage assets.

- The impact on heritage assets and designations has not been taken into account.

- Inadequate consideration of Heritage assets.

- School of Veterinary science should be retained.

- Whittle laboratory should be retained.

Transport Concerns

- Objection to the location of the multi-storey car park on the corner of CMR and Madingley Road.

- A more appropriate location for the multi-storey car park would be adjacent to JJ Thomson Avenue.

- The proposed new access from the Vet School onto Madingley Road is not supported. It will cause too much congestion and should remain for cyclists and pedestrians only.

- The proposed vehicle access opposite Conduit Head Road would result in another set of traffic lights, with associated costs to the community and additional frustrations for road users.

- The plan requires two new access roads to be built off Madingley Road which will inevitably affect the already heavy traffic flow on that artery.

- Transport Plan seems to go against the thinking of Cambridge City Council and City Deal proposals.

- Flawed statistic generated and outlined in the Transport Assessment.

- Concerns over the 'Cycle Street' as there is no mention of how this will be accommodated.

- Construction traffic access onto CMR is an issue.

- Peak time traffic flow impact on Madingley Road will be significant.

- The multi storey car park should be situated on either the M11 end of the site or from the centre with access from JJ Thomson Avenue.

- Residents turning right into the City out of CMR will be prevented from doing so.

- The proposal will increase the existing congestion.

- A more appropriate location for the MSCP would be adjacent to JJ Thomson Avenue.

- Objection to the location of the multi-storey car park on the corner of CMR and Madingley Road given its proximity to residential properties.

- Existing cycle path in the centre of the site linking to CMR is inadequate. A green corridor should be created on the pedestrian walkway east of JJ Thomson Avenue along Clerk Maxwell Road.

- Proposed use of Clerk Maxwell Road for heavy construction traffic is unacceptable. Any burden of construction traffic should be absorbed by the existing West Cambridge road system.

- The proposals for cycle traffic into the City centre are unrealistic. The current Burrells Walk cycle route is already heavily congested. The strategy of downgrading this route will not work.

- The 1999 parking provision should not be used as a benchmark for future parking allocations. There should not be an overprovision of car parking.

- The analysis of the implications of construction traffic is flawed. There needs to be a more precise comparison that directly relates to when the traffic is likely to flow.

- The increase in traffic by 40% which will be generated by the planning application is considered unacceptable.

- Inconsistencies between the number of vehicles indicated in TA and requirement for the MSCP.

- Request for numbers of vehicle drivers that cross the narrow bridges and for applicant to define what is ‘pleasant and safe’.

- 1999 ‘junction improvements show no understanding of place making with distinctiveness.

- Existing roads are not safe for pedestrians.

- Bridge by Cobbetts corner was not widened under the 1999 consent.

- No increase in cycling capacity from the south.

- Transport Plan seems to go against the thinking of Cambridge City Council and City Deal proposals.

- Access for the new car park should come from JJ Thompson Avenue.

- The proposal will put pressure on existing traffic congestion.

- New and existing roads are not safe for road users and pedestrians.

- The amount of car parking proposed is unnecessary.

Cycling and Walking

- Significant cycle improvements needed.
- Cycle mitigation inadequate.
- The existing Coton footpath must be retained.

Landscape

- Many aspirations for the site are welcomed, including tree planting and consideration of wildlife.
- However, the open spaces within the site are so confined.
- The Green should be broader and link into Girton Gap.
- Additional tree planting – spring catkins can be hazardous to health.
- Maintenance of existing public realm should be clarified.
- Green corridor from Schlumberger through the site should be enlarged.
- The current plan will not deliver green space.
- The proposed demolition of the Vet school with its tree lined avenues is a very significant amenity loss.
- Concern with general loss of green space and associated environmental and amenity impact.

Drainage

- There various errors and assumptions on water courses and flood risks.
- There are no comments on the risk of flooding at the culvert at Cambridge Lawn Tennis Club due to debris clogging the culvert and restricting flow rates during heavy episodes of rain.
- The ES does not propose how to mitigate the risk of flooding along Reaches 4 and 5 in view of the increased surface run-off into the Coton Ditch.
- Sewer upgrades are required to mitigate the impact of the development.
- Maintenance schedules for drainage are required.
- The redevelopment of the Cavendish site must not impinge on the green space and lake in the south east corner.

- Loss of green space will negatively impact drainage.

- The water quality of Coton Ditch is of upmost importance to the Adams Road nature reserve.

- The Coton Ditch flows into the Adams Road Sanctuary Club and a major feature is a small lake which was formed by damming of the brook.

- A heavy load of silt is produced by the building programme at West Cambridge.

- The Quality of water into the Sanctuary has declined in recent years. Anti-freeze caused serious ecological damage in the early 2000's.

- Impact of construction activity must be mitigated and the Adam's Road Sanctuary explicitly recognised in the ES.

- Impact of flooding of properties downstream of West Cambridge is also of concern.

Biodiversity

- Pollution and erosion of water quality, fauna downstream of Coton Ditch.

- A further environmental study into sunlight along the green corridor and wildlife habitats should be requested.

- All efforts should be made to minimise the negative impact on existing wildfowl colonies on the two major lakes.

Environmental Health Matters

- Potential noise from the car park is an issue.

- Noise impact from roof top plant is already causing noise and disturbance at night.

- Loss of green space will negatively affect and air quality.

- Noise impact from plant.

- Noise impact from MSCP.

- Impact of borderline B2 uses on the campus creating noise and smells.

Campus Amenity Issues

- Space should be allocated for fast food vans to address Clerk Maxwell Road litter issue.

- Lack of facilities for people to relax on their breaks.

- It is not a human scale layout with pleasant pathways and well laid out landscaping.

Sustainability

- Assurances are sought that plug in hybrid car facilities (EV charging points) that comply with mandated European DC charging standards.

Camcycle

Application as amended (2020)

7.8 We object under policies 56, 57, 80 and 82 of the Cambridge Local Plan, as well as Local Transport Note (LTN) 1/20.

7.9 Substantial chunks of the documents are out-of-date or do not respond to previous comments.
- Neither the Planning Statement nor the Transport Assessment build from the government's cycling design manual, LTN 1/20, as they should.
- There is an over-reliance on shared space and shared-use pathways or areas, which does not comply with the government's latest guidance in LTN 1/20.
- The Transport Assessment contains uninterpretable figures showing projections dated to 2021 in Table 6.1, as well as various proposals for Madingley Road that do not make any sense in the context of the GCP Madingley Road project.
- To resolve this objection: primary cycle routes should not be shared-use pavements where there will be significant foot traffic. The designs of cycling facilities should be based on LTN 1/20: in particular at junctions, bus stops, crossings and cycle streets. It also means a much stronger emphasis on segregated cycleways, separate from dedicated footways, and not falling back into poorly designed shared space or shared-use pathways. The Transport Assessment needs to be updated for modern design guidance, fix errors, and to remove or revise stale sections (see detailed notes below).

7.10 In particular, the proposals for handling increased cycle traffic flows between the city centre and the site remain largely unchanged from the previous revision, and they are still weak and ineffective.
- The paragraph describing cycle streets is missing the key element of a cycle street, which is the reduction of motor traffic levels and speeds such that it meets the thresholds in Figure 4.1 and paragraphs 4.4.4 and 14.3.25 of LTN 1/20. As a rough rule of thumb, cycle traffic should be significantly more numerous than motor traffic on a cycle street.
- The proposals to put 'contrasting surfaces' on Grange Road and West Road are unclear and unworkable without serious reduction of motor traffic on those roads. The proposal appears to put cyclists in the centre of the road mixed with motor traffic. In practice, cyclists will be bullied by drivers into riding in the gutters of the road unless motor traffic is significantly reduced by the use of measures such as bus gates or other modal filters according to LTN 1/20 Section 7.3.
- The southeastern corner of the West Cambridge site remains largely impermeable to cycle traffic according to the plans, but this will not work in

practice. The reason why the majority of people continue to cycle via the Hauser Forum / Broers building route is because it is clear, legible, welcoming, relatively direct and easy-to-follow. Without such a route from the Coton Path into the site, most people will continue to percolate through the Eastern Forum area in whatever way they can find.

- There is an unresolved contradiction between the plans to increase cycle traffic on Silver Street, a street that has sections too narrow for two buses to pass, and the plans to increase bus traffic on Silver Street, because the latter will significantly decrease the safety of the former. The combination of increased Universal bus frequency and GCP Cambourne to Cambridge bus service would overload the narrow sections of Silver Street.
- To resolve this objection: the applicants need to propose realistic plans for increased cycle traffic, in particular between the city centre and the site. Turning Grange Road and West Road into LTN 1/20-compliant cycle streets will require traffic reduction measures like bus gates and other modal filters. Silver Street cannot be overloaded with an increase of bus traffic as well as cycling traffic - the applicants should find a way to increase bus traffic that does not put people cycling and walking at increased risk of injury on Silver Street. Finally, the southeastern corner of the site should be more permeable to cycling, and the applicants should commit to clearly described proposals to make the primary cycle route via Clerk Maxwell Road and The Green much more welcoming, legible and easy-to-follow.

7.11 Cycle access to and from the north, south and west depend on the actions and outcomes of the GCP Madingley Road and Barton/Comberton Greenways projects. Without those projects, the site's sustainable transport plans will be in significant jeopardy. However, we do not accept the explanation in the applicant's response to Highways (15 April), because:

- The poor state of the Madingley Road junctions is not acceptable going forward;
- The proposed projects from the original planning application were very small, piecemeal or inappropriate (such as the strip of blue paint at Storey's Way); and
- Cycling access from the southwest would remain extremely circuitous.
- In order to resolve this objection: there should be better contingency plans in case the GCP fails to deliver its projects.

7.12 Details are lacking regarding the cycling infrastructure within the site in some cases. In other cases, there is detail, but it is not compliant with LTN 1/20.

- The Green, as the Strategic Cycle Route through the site, should be provisioned for a segregated cycleway and dedicated footway.
- The junction of The Green and Clerk Maxwell Road must be a properly designed junction that is intended to handle large flows of cyclists as well as being a welcoming, attractive, coherent and sensible entrance into the site if the applicants intend for this to be the 'main' cycling entrance from the east.
- Charles Babbage Road does not have much detail regarding the proposed cycling infrastructure, it is hard to tell if the applicants intend to do anything at all here.
- High Cross and JJ Thomson Avenue are better developed, however some details are not in compliance with LTN 1/20. In particular, shared-use areas are inappropriate at bus stop bypasses and the locations next to crossings;

cycleways and footways should remain segregated throughout and use 'mini-Zebra' markings to indicate where pedestrians have priority when crossing cycleways.
- The Eastern Green Link claims to be a 'pedestrian-only area' but this does not make sense as Green Links are supposed to be suitable areas for walkingand cycling, and several buildings would have cycle parking accessed from the Eastern Green Link and therefore need cycling access.
- The southern half of the Central Green Link is supposedly part of the primary cycle route network but this is not indicated in the Design and Access statement, nor the Transport Assessment. It may also become part of the GCP Cambourne to Cambridge busway if that project proceeds, which is also not mentioned.
- In order to resolve this objection: LTN 1/20-compliant details should be supplied for the various streets and green links. In particular, side road junctions, bus stops and other pedestrian crossings should be designed in compliance with Section 10.5, paragraphs 6.6.8-11, paragraphs 6.2.29-32 and Figures 6.12 and 6.30. The Eastern Green Link cannot be a 'pedestrian-only area' and must at least permit cycling access to buildings. The Central Green Link should have design suitable for being a primary cycle route as indicated by the parameter plan, and contingency plans should be ready in case the Cambourne to Cambridge busway is routed through it.

7.13 The cycle parking described and shown in paragraph 6.4.9 and Plate 6.2 of the Design and Access statement is non-compliant with Policy 82. In order to resolve this objection: this non-compliant paragraph and plate must be revised.

7.14 We are not opposed to the principle of Cycle Hubs, however they cannot be considered replacements for convenient, covered, secure and accessible cycle parking integrated with buildings unless they are immediately adjacent, meet all policy requirements and provide at least as many cycle parking spaces as would be required by the sum of each individual building's requirements. In order to resolve this objection: please ensure that Cycle Hubs are not being provided in lieu of policy-compliant cycle parking.

7.15 We are concerned that the multi-storey car park proposed for Clerk Maxwell Road will lock-in a certain level of car travel and will concentrate motor traffic on the Clerk Maxwell Road / Madingley Road junction where many people will be walking and cycling. In order to resolve this objection: any car parking provision should be reduced as much as possible and shifted closer to the M11 so that the motor traffic it generates is removed from the network farther away from the areas of busy walking and cycling movement. *Detailed notes are also included (please refer to the representation in full online).*

Application as submitted

7.16 Objection. Endorse the comments of WCAT.

West Cambridge Active Travel (WCAT)

Application as amended (2017)

7.17 Objection. The revised application proposes neither sufficient nor safe infrastructure to support the high level of walking and cycling that are necessary for the site to work. There are still too many car parking spaces proposed.

7.18 The present-day site already enjoys a high level of cycling by existing staff and students. However, with a few notable exceptions, the surrounding streetscape and infrastructure is very car-oriented with wide carriageways and meagre pathways shared between people walking and cycling.

7.19 Good public transport access is important for the future of the site. However, the plan to sharply increase the number of buses running through West Cambridge site (in addition to various lorries and delivery vans) is directly at odds with the plan to have many people cycling on the carriageway of the same roads.

Proposed on site cycle network

7.20 The removal of the cycle route past the Hauser Forum is troublesome because this edge of the site will continue to be very busy as it lies along the direct approach from the city centre. That will put all of the stress upon the connection from Clerk Maxwell Road, and the Central Green Link.

7.21 The existing conditions of the walking and cycling connection from Clerk Maxwell. Roads are very poor, with a chicane-within-a-chicane. This pathway absolutely must be straightened out and given a proper junction with Clerk Maxwell Road, with no strange obstructions, and full visibility splays, as a condition of further development.

7.22 Alternatively, a better connection between the Coton Path and JJ Thomson Ave needs to be designed, preferably a more direct approach from the south eastern corner of the site.

7.23 The Central Green Link found in the design guidelines is currently 'missing' its cycling provision, so it is unclear how it is expected to function as a primary connection between the Coton Path and the site.

JJ Thomson Avenue

7.24 The proposed use of the existing shared use pathways is inadequate. A 3-4m shared used path is inadequate for the large number of people walking and cycling. Segregation must be provided on JJ Thomson Avenue and across the campus. That may be bidirectional on one side or uni directional on each side. A 7.3m wide carriageway is significantly wider than necessary and will lead to excessive speed by motor vehicles.

7.25 A bi-directional cycleway of 3.5m width on the east side of the road (until the Maxwell Centre) and a uni-directional northbound cycleway of 2m width on the west side of the road should be provided instead. At the Maxwell Centre the cycleway would join with the crossing from the Green, and the bi-directional

cycleway would become uni-directional (heading south). Walking and cycling provision must be continuous in appearance and have priority over side roads and driveways.

7.26 'Brick paving stones' at crossings do not convey priority for people walking and cycling. Experience at Northwest Cambridge shows that motorists will treat such crossings as car-priority and refuse to give way. Crossing the junction of JJ Thomson Ave and Madingley Road must be made significantly better for walking and cycling. We recommend a much wider refuge island, at least 3 metres deep, no stagger, and wide enough to accommodate people cycling and walking in parallel. Priority for walking and cycling can be achieved using Zebra crossings on either side of the refuge.

Charles Babbage Road

7.27 The revised outline planning application shows Charles Babbage Road with 6.8m footways and 6.5m carriageway, but no cycling provision.

7.28 Protected and segregated cycleways should be incorporated into the design of the road. That may be bi-directional on one side or uni-directional on each side.

7.29 Walking and cycling provision must be continuous in appearance and have priority over side roads and driveways.

7.30 Important crossings of Charles Babbage Road must be explicit Zebra crossings, with parallel walking and cycling provision, clearly showing priority for people walking and cycling. 'Brick paving stones' are not sufficient.

7.31 Excessively flared junctions should be scaled back in order to tame motor vehicle speeds at junctions.

High Cross

7.32 The revised planning application shows High Cross as a 7.3m carriageway with 2m uni-directional protected and segregated cycleways on either side, alongside 2 metre footways. Although this is a reasonable overall design, we would like to point out some small problems that can be fixed easily. The High Cross cycleway should be 2.5m in width.

7.33 Footways and cycleways should be continuous over junctions. Excessively flared junctions should be modified.

7.34 We anticipate that thousands of people per hour will be cycling on the site in the future, in addition to many people walking, far in excess of levels considered acceptable for shared-use pathways by department for Transport Local Transport Note 1/12, which fall within the range of hundreds of users per hour.

7.35 The Madingley Road/JJ Thomson Avenue crossing is a barrier to people walking and cycling. Crossings on Charles Babbage Road must be explicit with Zebra crossings.

7.36 There should be a parallel walking and cycling zebra at the important cycle route junction where the Green meets High Cross.

Western Access/Ada Lovelace Road

7.37 Given the constraints of the location and the expected provision of a crossing, a continuous walking and cycling route along the eastern side of Western Access / Ada Lovelace Road should be provided to connect Madingley Road with the Southern Ecological Corridor and the Coton Path, and everything in between. In the long run this should be a segregated footway and cycleway. The walking and cycling route should be continuous across side-road junctions and driveways.

The Green

7.38 The Green should make provision for a fully segregated cycle route with parallel walking and cycling zebra crossings at either end. The Green should be designated as a 'non-motorised user' pathway as defined by Highways England.

Central Green Link

7.39 Ensure that a sensible design for cycling is included along the Central Green Link, with adequate width to avoid unnecessary conflicts with pedestrians. If this route leads to lecture theatres then segregated paths are likely to be required as peak traffic will exceed the 25 users-per-meter-of-width limit from CROW 2006.

Other

7.40 Madingley Rise and Western Access crossings should have a single stage crossing. A new link should be established via the Ridgeway to connect Storey's Way to Madingley Rise.

7.41 The Observatory Drive/Clerk Maxwell Road crossing point requires enhancement. The south side of Madingley Road needs to be enhanced.

Cycle connections to the north

7.42 The existing facility is of poor quality for people walking and cycling, with two staggered crossings featuring long delays.

7.43 Madingley Rise provides an important cycling and walking connection to the north of the city through the shared use paths to Storey's Way and Horse Chestnut Avenue. Both of these paths are of poor quality and do not provide for the current levels of demand on those routes but there is potential for substantial improvement to both routes.

Observatory Drive/CMR

7.44 Should this crossing be pursued as an informal crossing point then the central refuge needs to be widened and deepened to at least 3m.

7.45 On the south side of Madingley Road the walking provision is currently a narrow, muddy footway and there is nothing for cycling. The south side of Madingley Road needs to be enhanced with proper walking and cycling provision.

Western access

7.46 The proposed design has indicated a poor-quality, staggered set of crossings similar to the existing state of Madingley Rise crossing. Our recommendations are the same as for Madingley Rise crossing.

Madingley Road

7.47 As a main artery from the city to the west, Madingley Road is and will remain a busy route for walking and cycling access to the site, as well as for buses. Ideally, it would have segregated and protected infrastructure for walking and cycling, given priority along its whole length.

7.48 The Greater Cambridge Partnership (GCP) is currently engaged in a consultation that may make very large changes to Madingley Road, so it is understandable that the University is reluctant to commit to any particular design changes at this time. However, the extent of the GCP scheme should become apparent within the next few months after this application has been submitted. It is important that the problems of Madingley Road be revisited as soon as possible, as the need for better and safer walking and cycling facilities grows every day.

Junction of Veterinary School access

7.49 The application proposes a massively flared junction not too dissimilar from existing conditions. It is understandable that this junction will handle long vehicles and deliveries. However, there is no walking provision nor cycling provision through this junction, even though there is a path on either side. That is unacceptable.

Junction of JJ Thomson Avenue

7.50 The indicated crossing of JJ Thomson Ave at its junction with Madingley Road is a tiny staggered island within a very large and unnecessary sea of tarmac, which appears designed to promote very high vehicular speeds at the expense of safety. We recommend that the refuge island be widened out to at least 3 metres in depth.

7.51 The narrow and muddy footway along the south side of Madingley Road, between Clerk Maxwell Road and JJ Thomson Ave, should be upgraded to be a safe walking and cycling route.

Junction of Clerk Maxwell Road

7.52 The narrow and muddy footway along the south side of Madingley Road, between Clerk Maxwell Road and JJ Thomson Ave, should be upgraded to be a safe walking and cycling route.

Junction of Storey's Way

7.53 Our recommendation instead is to create a humped parallel walking and cycling Zebra crossing of Storey's Way approximately 4-5 metres from the edge of Madingley Road. That would accommodate bi-directional flow and work much more naturally with people's expectations.

Crossing of Madingley Road east of Storey's Way

7.54 The same diagram (above) shows a signalised crossing of Madingley Road just east of Storey's Way. Currently it is a busy and popular crossing, but there is very little space on the shared-use pathway along the southern edge of Madingley Road. This section of pathway desperately needs to be widened in whatever scheme that comes forward.

Junction with Grange Road

7.55 We recommend that the 'head-start' green be visible to people cycling on the shared-use pathway so that they are able to safely cross the junction while protected from turning motor traffic.

Junction of Madingley Rise

7.56 Also not mentioned in the Transport Assessment: currently the crossing of Madingley Rise is a 'shared surface' humped informal crossing. Motorists treat it as car-priority and do not give way to people walking and cycling. This could easily be a parallel walking and cycling Zebra with clear priority for people walking and cycling.

Madingley Road General

7.57 Just about every junction along the south side of Madingley Road is in bad shape: the dropped kerbs are not flush, they are crumbling, there is poor visibility, and the pathway is substandard.

7.58 The Lady Margaret Road junction has no provision for people trying to cross it on foot. People are forced to cross fingers and run blindly across whenever it seems to be clear of cars. This is simply unacceptable in the 21st century, especially in a city that is supposed to prioritise walking.

Connections east to the City Centre

7.59 We support the changes to the junction of the Coton Path and Adams Road. Thousands of people cycle and walk here, yet the current conditions are atrocious, hazardous and disrespectful to sustainable transport modes. The proposed plans to straighten out the pathway and give cycling priority at the junction are very welcome and need to be implemented as soon as possible. Our one suggestion is that walking priority also be implemented alongside cycling priority. Another thing to consider is that the Coton Path is already a very busy cycle route and may soon reach a point where the cycleway needs to be widened to 4 metres to provide sufficient safe capacity during peak times.

7.60 WCAT support the fixes to the bridge along Burrell's Walk, as it is in poor shape currently.

7.61 WCAT support the proposal to remove parking on Clerk Maxwell Road and install cycle lanes instead. We suggest that they should be marked as mandatory cycle lanes instead of advisory and take any steps necessary to ensure that drivers do not park cars in the cycle lanes.

7.62 WCAT have concerns about the cross-sections shown for various roads such as Adams Road, Grange Road and West Road, and we object until those concerns are resolved. The proposed cross-sections appear to show parking maintained on Adams Road contrary to expectations and counterproductive to the overall aims of promoting sustainable transport.

7.63 The Transport Assessment makes reference to a 'Cycle Street' concept that appears to mix people cycling with motor vehicles. Such 'Cycle Streets' only work when motor vehicle speeds and volumes are kept low. There does not appear to be any means of reducing traffic speeds and volumes on these roads, so we have no confidence that a 'Cycle Street' treatment would work. One alternative proposal for West Road and Sidgwick Avenue is for them to be made one way for motor traffic which would free up road space for segregated cycle lanes on both sides.

7.64 There is no provision for cycling along the section of Queen's Road between Silver Street and West Road, but Queen's Road is very busy with motor vehicles. Paragraph 6.10.7 of the Transport Assessment mentions a potential route through Queen's Green. Substantial improvements to Sidgwick Avenue and Grange Road could make that a good quality route to Silver Street that avoids Queen's Road.

Summary

7.65 The transport measures being proposed are piecemeal changes that will not significantly improve conditions for active transport, even while the site becomes more than twice as busy and heavily reliant on walking, cycling and public transport to meet its needs. We object to this application because it lacks adequate facilities to match the vital role that active transport has to play in order for the site to work successfully as it grows. The problems of Madingley Road are left largely untouched while waiting for the Greater Cambridge Partnership to decide on its plans.

Clerk Maxwell Road Residents' Association (CMMRA)

Application as amended (2020)

Height of buildings, visual impact, shading and privacy

7.66 We object to the proposed maximum heights of buildings on the eastern edge of the site on the following basis:

7.67 The applicant's Objective 3 (DAS page 18) is not met. The objective is 'To create and sustain a high-quality place by transforming the physical and social environment for site users and neighbours.' The planning application shows little regard for neighbours, with site-edge buildings dominating adjacent residential areas.

7.68 A feasible option exists to reduce building heights. The applicant claims (DAS 5.1.25) 'Further reduction [in the height of buildings] at the eastern side of the site would mean that the Department of Engineering would not be accommodated in full at West Cambridge…'. However, by excavating and placing the buildings below current ground level full accommodation could be achieved with more reasonable building heights. The Centre for Mathematical Sciences in Clarkson Road, which is referred to in the Design Principles on page 117 of the DAS, demonstrates how large buildings can blend sympathetically into their surroundings.

7.69 The visual impact of the proposed building heights is contrary to Local Plan Policy NH/2. The heights, massing and density of the proposed buildings on the eastern edge of the site are detrimental to the neighbouring area.

7.70 The buildings will shade the gardens that border CMR to an unacceptable extent and, from the upper floors, look directly into the gardens and houses in The Lawns and Perry Court. Modelling by CMRRA indicates that a significant portion of the evening sun will be lost from certain gardens nearest to the new buildings. Privacy issues are not addressed in the documentation and should be seen as conditions to the awarding of planning approval.

7.71 We request that planning permission should only be granted subject to the following conditions:

a) The proposed maximum building heights on the eastern edge of the site should be reduced by at least 4 metres to a maximum height of at most 27m Above Ordnance Datum ('AOD' – essentially, above mean sea level) to make the heights Above Ground Level ('AGL') more acceptable and bring them into line with the heights AGL along Charles Babbage Road.
b) The zone of reduced AOD heights at the southern end of the eastern edge of the site should extend west as far as they do at the northern end.
c) The Civil Engineering building should not be considered a suitable precedent for future plans on the eastern edge of the site.

d) The maintenance of privacy for residents whose houses are overlooked should be a condition.
All development should respect the applicant's stated Objective 3 (DAS page 18).

Multi Storey Car Park

7.72 We are concerned by the proposal contained within the Outline Plan to build a multi-storey car park for 450 cars on the corner of CMR and Madingley Road. By placing the car park at the north east corner, the applicant is bringing traffic visiting the site from the M11 and A428 further down Madingley Road and into the city than is necessary. This is an imposition on local residents and contrary to the public policy of encouraging cycling, walking and the use of public transport. The applicant is clear about its motives in locating its car parks. In the DAS paragraph 3.3.5, it says it has arranged 'provision of sufficient car parking places around the periphery of West Cambridge site to minimise car movement within the development'. If cars are not on the site, they will be on the neighbouring roads (either arriving, leaving or queuing), adding to noise, congestion and pollution. The applicant has offered nothing to ameliorate the effect on residents of the increased traffic flows, undermining at a stroke its claim to be a good neighbour and confirming our belief that the only transformation of the physical environment for neighbours under Objective 3 is likely to be adverse.

7.73 We consider that either the car park should be removed from the plan or it should be relocated at the western end of the site nearer to the M11, where fewer people live. From there, if necessary, visitors could be taken round the site on electric buggies. The grounds for requesting this are as follows:

1. The creation of a multi-storey car park conflicts with Cambridge Local Plan Policy 80, which states that 'Development will be supported where it demonstrates prioritisation of access is by walking, cycling and public transport, and is accessible for all'.
2. The location is inappropriate for siting a multi-storey car park. CMR and Madingley Road are residential roads, and the building would be right on the edge of a conservation area. The first thing visitors approaching the site from the city will see is a multi-storey car park, which would be an underwhelming introduction to a 'world-class facility' and out of keeping aesthetically with its surroundings.
3. The applicant has offered to fund the construction of cycle paths down both sides of Clerk Maxwell Road, which would leave insufficient space to build a feeder lane in CMR for vehicles queuing to turn right into the car park, adding to congestion and pollution on the corner and creating the possibility that cars will back up onto Madingley Road.
4. On 1 July 2020 planning approval was given to the construction of 35 dwellings on the site of the former Cocks and Hens Tennis Club on CMR. This development includes an open play area for small children and teenagers at its entrance, which is opposite the proposed entrance to the multi-storey car park. The conjunction of traffic and play area is potentially unsafe.

7.74 The applicant seems unwilling to accept that it is responsible for the traffic generated by the West Cambridge site development. Paragraph 6.2.30 of the DAS states 'It is acknowledged that there will be an increase in the number of vehicles using the northern part of CMR to access the proposed multi-storey car park when compared to the existing Park and Cycle facility.' However, it states, the impact on residents will 'not be unacceptable' because noise and vibration assessments have said so. But no assessments appear to have been done of congestion, pollution and the safety of other road users.

7.75 As residents we consider it unacceptable for the applicant to make traffic accessing the car park and the eastern end of the site queue on CMR and Madingley Road instead of on the site. If the car park is to be built where proposed, the applicant should arrange for access/egress to be directed on-site via JJ Thomson Avenue instead of via CMR. A link between the car park and JJ Thomson by-passing the Whittle Laboratory should be constructed.

Use of CMR as a service road

7.76 The Revised Servicing Technical Note describes the applicant's plans for servicing the site to the east of JJ Thomson Avenue. The proposal is that all vehicles accessing this part of the site, whether to use the multi-storey car park or for deliveries, should turn from Madingley Road into CMR, and should then turn right in CMR into the site at the entrance way to the car park (referred to as I-J on the plan). It reserves the right to open another access point (known as M-N in the original plan) to the south of CMR should it be required, for which further planning permission would be requested. In our view it is inconsistent for the applicant to claim that its plans will reduce traffic flows at the southern end of CMR (paragraph 6.2.28) while reserving the right to build another exit point from the site that will have the exact opposite effect, if it decides it needs it.

7.77 In addition to the 450 cars using the car park, the plan expects 321 7.5 tonne deliveries every week. The document states 'Consideration has been given to utilising JJ Thomson Avenue for servicing buildings in the Green, Purple and Blue Zones. However, this would require the construction of service roads that would significantly compromise the environmental quality of the key north-south East Green Link and flexible zone for public realm, pedestrians and cyclists …. As such, this strategy was discounted due to the adverse impact it would have on the public realm within this part of the site and the increased risk of conflict between servicing vehicles and pedestrians/cyclists. Never mind significantly compromising the environmental quality of CMR, and the increased risk of conflict between servicing vehicles, pedestrians and cyclists using the road. Objective 3 (DAS page 18) - 'to create and sustain a high-quality place by transforming the physical and social environment for site users and neighbours' – is not met as there is no equivalence in how the two groups are being treated.

7.78 We ask that planning permission should only be granted if the applicant agrees to require service vehicles for the eastern side of the West Cambridge site to access buildings in the green, purple and blue zones from JJ Thompson Avenue instead of imposing all the consequences of its growth for traffic

congestion, noise and pollution on the residents who live nearby. The applicant makes a virtue of preserving the public realm within the site but clearly has far less interest in the public realm immediately beyond its parameters.

7.79 *Officer note: The objection also includes an appendix which provides comments on building heights and views from CMR (available to view online).*

Application as amended (2017)

7.80 CMRRA provided detailed comments on the original Master Plan Planning Application 16/1134/OUT in 2016. Other resident associations did the same. More recently, in November 2017 CMRRA provided selected detailed comments to the University of Cambridge and to AECOM in response to the new documents filed for the Supplementary Planning Submission. These documents run to hundreds of pages and contain considerable detail; more than is within the capacity of a single residents' association or other interested party acting alone to analyse in depth. Consequently, CMRRA's additional comments below are necessarily of a limited nature. Nevertheless, it is useful to aggregate documents and responses that have been prepared by other interested parties.

7.81 In essence, the AECOM response comprises a rebuttal of the vast majority of points raised, and a justification for the key aspects of the design principles and detailed planning for the West Cambridge site ('WCS'). An unwillingness to reconsider beyond minor tweaking the main elements of the original plan is perhaps understandable, but CMRRA feels it is an opportunity lost. As residents, we applaud the vision and ambition behind the University's plans for the site, but we consider our concerns for the implications of the development on the immediate vicinity to be valid and insightful and worthy of greater consideration than they appear to have received thus far.

7.82 A key philosophy underpinning the WCS design and planning process has been that issues (such as travel infrastructure and possible future building developments) relating to areas outside the immediate boundary of the site need not and cannot be taken into account, especially where specific planning approvals have not been given. While this approach may Clerk Maxwell Road Residents' Association CMRRACMMRA – Response to West Cambridge Supplementary Planning Application 4 be valid for an individual building development, it is hard to comprehend how it can be justified given the scale of the site and its close proximity to other substantial partly completed or proposed future developments.

7.83 At a time when so many major decisions concerning Cambridge's future development remain to be taken, especially with regard to transport issues to the west of the City (e.g. as described in the Greater Cambridge Partnership 'Cambourne to Cambridge' document), and planning proposals have been publicised to build significant numbers of houses on land adjacent to Clerk Maxwell Road that could potentially require access from the road, CMRRA strongly feels that planning permissions for this SPA should take account of these wider issues and timescales, and be flexible enough to allow for future

consultations (with the Cambridge City Council ('CCC'), residents and other interested parties) and permissions (from the CCC). This is especially relevant to the WCS development, which will unfold over 10 to 15 years and undoubtedly require amendments.

7.84 Two major initiatives under discussion concern the construction of a transport tunnel under Cambridge entering from the west of the city. It has been suggested that locations for the mouth of the tunnel could either be on the WCS or in the West Fields adjacent to it. Similarly, if buses are to congregate in WCS a proper terminus should be allowed for. No mention of these initiatives, which could have a transformational effect on transport in this part of the city, are made in the Master Plan, yet the WCS might be intrinsic to their creation. These possibilities need to be acknowledged in the Master Plan.

Cycle and pedestrian traffic

7.85 CMRRA feels that despite the detailed comments presented in 2016, there has been a failure in the SPA to take account of issues relating to the immediate neighbourhood, despite this being a stated objective in the Design Statement.

7.86 We urge the planners to seek out creative solutions to the challenges of a development on this scale. For example, electric autonomous pods could be used to transport people around the WCS, allowing for a more centralised facility for car parking located much closer to the M11 (and reducing pressure on Madingley Road), and minimising the environmental impact of combustion engine vehicle use. More visitors could be encouraged to use existing and new Park & Ride facilities and be bussed in. The money saved on not building a multi-story car park on CMR (which CMRRA continues to oppose) could instead be spent on increasing capacity - if needed, by going underground - in the other car parks. The proposed multistorey only provides 12 per cent of capacity, so there is a major question over whether it is really needed, and whether it is a sensible use of resources.

7.87 Much of the road infrastructure on the WCS is already in place and CMRRA holds the view that all additional traffic could readily be kept on site and managed efficiently with minor adjustments to the plan. One-way traffic flows on certain parts of the site could facilitate large vehicle deliveries and turning, while avoiding crossing major cycle routes. We are not convinced of the need to create new vehicular access points along CMR into the site. The site should be self-sufficient when it comes to transport and not rely on neighbouring residential roads. CMMRA – Response to West Cambridge Supplementary Planning Application 5

7.88 CMRRA is in favour of the removal of general parking in CMR and the installation of dedicated cycle paths along the entire road. Notwithstanding this, we recommend that the access point K-L is closed off, as it encourages cyclists to use CMR in order to access the site when they could do so directly from the Coton footpath or Madingley Road. Cyclists should be directed within the site to the south-east and north-east corners, thereby avoiding CMR completely.

Specific comments and recommendations

7.89 CMRRA requests that the following items are either modified by the applicant or included as conditions by CCC if the application is approved.

A. Access

a. All access for demolition of the current Cavendish should be via WCS roads and not via CMR.

b. All access for construction of building on the east of the West Site should be via WCS roads and not via CMR.

c. All long-term vehicular access to the WCS should be via WCS roads and not via CMR.

d. The layout of buildings and roads within WCS should be designed to enable the above three points to be achieved.

e. Any variations from the above should be purely temporary and subject to prior scrutiny.

B. Building heights and skylines

f. The guidelines should be much more specific - for example on:

i. The maximum number and size of 'structures' and flues on the roofs.

ii. The minimum set-back distance of structures on the roofs – possibly with reference to an angle from the roof edges.

C. Site edges

g. The Design Guidelines in 4.1.7 should be expanded to include specific noise limits.

i. We note that the Civil Engineering building has a sound-containing 'box' for large, noisy experiments which has 70 cm thick internal walls and only 20 cm thick doors facing CMR at the edge of site. This approach should not be treated as creating a precedent.

D. Process

h. Any revisions to the planning should be in the form of planning applications and subject to public scrutiny.

7.90 CMRRA makes the following suggestions to the applicant:

Respect more clearly the following stated guidelines:

a. 'ensuring that the development relates well to the surrounding context' … 'and mitigates and minimises visual impacts'.

b. 'Create and sustain a high quality place by transforming the physical and social environment for site users and neighbours…'

c. 'Ensure reduced visual impact for residential and conservation areas adjacent to the site and landscapes further afield…'

d. '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'. This is clearly contravened as shown in Figures 194 and 196 on page 97 of the Design and Access Statement volume 3.

7.91 CMRRA does not support the building of a multi-storey car park on the north-east corner of the site, for reasons concerned with access, traffic volumes in CMR and Madingley Road, CMMRA – Response to West Cambridge Supplementary Planning Application 6 noise, pollution near residential areas and the visual impact of such a building on the edge of a conservation area.

7.92 However, in the event that CCC is inclined to approve it, access should only be from an east/west road running along the north of the site from JJ Thomson Avenue. This could be achieved without any detrimental effect on the proposed East Green Link.

7.93 The proposed north-south access road immediately to the west of CMR could connect to the road proposed in point 2 providing access to all buildings on the east side of the site.

7.94 The current foot/cycle path which exits at 'K-L' could be turned south to join the road proposed in point 2 to provide a safe cycle exit directly onto the Coton footpath or onto CMR south of Perry Court, eliminating the need for the exit 'K-L', which is dangerous, disgorging cyclists through parked vehicles into the traffic.

7.95 Frontages and facades visible from site edges should have the same key principles as Primary or Active frontages.

7.96 Officer note: Further detailed comments on the submitted Parameter Statement, Design and Access Statement and the Design Guidelines are also set out in the letter and are available to view online.

Application as submitted

Design, Form, Layout and Building Heights

7.97 The height of the proposed multi storey car park (MSCP) is out of character with its surroundings. The gateway design into the site from Madingley Road is very unclear. The application generally does not consider the context of the Clerk Maxwell Road (CMR) east edge.

7.98 The loss of green space impact on views onto the development.

7.99 There are inconsistencies in the design guidelines submitted. *(Officer comment - CMMRA sets out various queries relating to the Design Guidelines, the officer response to which is summarised in the Third Party Representations table subsection).*

7.100 The planning application has not had enough regard for neighbours. The application does not consider the context of the Clerk Maxwell Road (CMR) east edge. Gateway design into the site from Madingley Road is very unclear.

Transport

7.101 The Transport Assessment seems to go against the thinking of Cambridge City Council and City Deal proposals. Flawed statistics are outlined in the Transport Assessment.

7.102 The use of CMR as parking zones for construction and related support services is considered problematic. The negative consequences of traffic should be confined to the West Cambridge Site.

7.103 The proposal for a multi-storey car park on the corner of CMR and Madingley Road with entry and exit traffic flows via CMR, should be rejected in its current form, and at a very minimum should not have access via CMR. Indeed, CMRRA advocates, in decreasing order of preference:

- Building an off-site car park west of the M11 with a shuttle service to site. This would considerably de-congest the existing M11 bridge; or
- Placing all multi-storey car parking facilities on the site in the western most zone of the site, adjacent to the M11, to minimise traffic on Madingley Road, and to then be serviced by electric vehicles and bicycles throughout the rest of the development area; or
- Moving the car park to the existing Whittle laboratory (which the plan show will be rebuilt anyway) with access from JJ Thomson Avenue; or
- Moving the planned car park further west along Madingley Road.

7.104 A permanent high specification bicycle lane should be created along the length of CMR. The proposed new vehicle access onto the south side of CMR should be denied because of cyclist and pedestrian safety concerns.

7.105 There are concerns over the City 'Cycle Street' as there is no mention of how this will be accommodated within existing streets.

7.106 Road safety incidents on the junction of Madingley Road/CMR and along CMR itself.

7.107 Concerns with the cycle and pedestrian walkway link and capacity constraints on CMR for cyclists. General concern with the potential increase in cyclists traveling back to the City.

Landscape

7.108 CMRRA request that the pedestrian walkway east of JJ Thompson Avenue, along Clerk Maxwell Road to the Coton footpath forms part of the green corridor and be an extension of the Flexible Zone West of JJ Thompson Avenue, with a landscaped and dedicated off road cycle path, and dedicated pedestrian walkway.

Drainage

7.109 There is no analysis on the risk of flooding at the culvert at Cambridge Lawn Tennis Club due to debris clogging the culvert and restricting flow rates during heavy episodes of rain.

7.110 The ES does not propose how to mitigate the risk of flooding along Reaches 4 and 5 in view of the increased surface run-off into the Coton Ditch.

7.111 Sewer upgrades are required in the surrounding local area.

7.112 Volume attenuation for the 1 in 100 year event (+ 40%) must be fully implemented.

Environmental Health Matters

7.113 Residents should be fully consulted on the construction and environmental management plan.

Campus Amenities Issues

7.114 The development should provide an area for food vans. These are currently parked on Madingley Road.

North Newnham Residents Association (NNRA)

Application as amended (2020)

Transport

7.115 A major concern is in the area of transport. Congestion remains a key issue on many of the city's roads and the need to push for further modal shift remains imperative, especially as growth in and around the city continues.' This is the context in which the OPA needs to be judged. Its request to increase parking capacity to over 4000 cars is unacceptable. The east-bound flow on Madingley Road during the morning working-day rush hour (7am-9am) is around 2,200 vehicles. The existing development of the West Cambridge site, in particular the provision of additional junctions, has already had a negative effect on the road's capacity.

Mitigating the effects of the development

7.116 The further development of the West Cambridge site will lead to much greater traffic flows, pedestrian, cycling, public transport as well as, unfortunately car traffic. There is an overwhelming need to curtail the OPA ambitions to significantly increase parking on the site; this will necessarily lead to increases in these other sustainable modes of transport. The OPA lacks specificity in terms of the Section 106 obligations that the University will undertake to mitigate the negative effects of these increases on the surrounding community. What is proposed is mainly the repurposing of existing infrastructure to the detriment of local inhabitants. It is also notable that the University has completely failed to deliver on its existing Section 106 obligation to implement a dedicated cycle route eastwards from the site. The OPA needs to demonstrate much greater financial and planning commitment to mitigating the impact of the proposed development.

Flood risk

7.117 We have noted in previous comments that a considerable part of the rainwater runoff from the site, having passed through the attenuation features (West Lake, South Eastern pond and canal) and a series of pipes, is discharged through our area. However, the names used for the various watercourses do not correspond with local usage or detailed maps of the area. We are concerned about the past history of pollution from the Cavendish Laboratories in the early 2000s, more recently a leaking tap and the continuing silting up of the watercourse that runs through the garden of a property in Wilberforce Road and into the lake in the Sanctuary Nature Reserve. (We believe that this is a branch of the Coton Ditch which joins Bin Brook further down its course.) Events of this kind threaten both plants and wildlife. The gardens of properties in our area have suffered flooding in the last 20 years following a 1 in 100 years event. We require further evidence that the further development of the site will not exacerbate these problems of flooding and pollution.

Construction traffic

7.118 The OPA continues to analyse the effects of construction traffic involved in developing the site, based on the 24-hour daily flows on the relevant roads. Unsurprisingly, using this approach, it shows that construction traffic is not significant. But construction traffic does not arrive over a 24- hour period. It arrives during limited windows in the day. For this analysis to be at all relevant it needs to consider the construction traffic in relation to traffic loading and levels of congestion at the times when the construction traffic flows. The current OPA statement is simply misleading. A realistic analysis of the effects of construction traffic is needed.

General comment

7.119 Concern expressed about the number and length of documents submitted with the application.

<u>Application as amended (2017)</u>

Transport

7.120 In comparison with the current state of the site the development represents a tripling of capacity. This is a massive change. There is limited detail in the application as to how the development will mitigate the impact, particularly in respect of traffic, public transport, movement of people and car parking. There needs to be a move away from the currently strongly car centric approach.

7.121 The proposed 4,390 car parking spaces which is three times the current provision and not in line with aspirations to limit car use. The east bound flow on Madingley Road is currently 2,200 vehicles. The requested provision is twice this capacity. There should be no increase in car parking provision except for disabled visitors.

7.122 There is no risk assessment of the significant additional flows in cycle traffic. There are no serious proposals to deal with the issue of cycle flow from the City to the site. It proposes a weak set of measures based on existing infrastructure and signage. The Rifle range route previously proposed was not delivered.

7.123 The OPA has a misleading analysis of the construction traffic. Construction traffic arrives during limited windows which should be reflected in the assessment.

Drainage

7.124 The revised submission has still not addressed threats of water capacity, flooding and silting downstream. NNRA are concerned about the past history of pollution from the Cavendish Laboratory in the early 2000's. The gardens of properties have suffered flooding in the last 20 years following the 1 in 100 yr event. The water runoff consequences of the massive amount of additional building must be safely managed.

7.125 The Bin Brook is recognised as a 'wet spot', which is at risk from flooding and it is questioned whether the FRA is too complacent. The anticipated 40% increase in rainfall in the FRA is insufficient. The enhancement of the West Lake and South East Pond attenuation features must be carried out to a high standard. Further details are required about the effectiveness of improvements to deal with impervious areas that will be nearly 75% greater than now. The plan to reduce discharges into adjacent watercourses by 10% is welcome if ambitious.

7.126 An unspecified proportion of on plot drainage will be the responsibility of independent sustainable drainage systems. More guidelines are needed for individual plot developers. There is particular concern regarding water quality entering the Sanctuary, a nature reserve. The potential impact should be recognised.

7.127 Existing pipework requires maintenance and new sewer connections must be carried out with minimum disturbance to neighbours.

<u>Application as submitted</u>

Principle of development

7.128 The development represents an extremely significant as compared with the extant 1999 outline planning permission. It represents a tripling of capacity. Limited details provided for how the development will mitigate its impact, particularly traffic, public transport, movement of people, parking and flood risk.

Transport

7.129 Movement of additional people should be managed with emphasis on sustainability, moving away from a car centric approach. The outline needs much more analysis in quantifying the transport impact.

Parking

7.130 The extant permission grossly over provided car parking which should be remedied.

7.131 The proposed 4,390 space proposed in the outline is not a sufficient modal shift away from private vehicles. It represents twice the peak morning rush hour flow on Madingley Road and is completely unrealistic.

7.132 Any increase in parking needs to be significantly below the requested figure.

Cycling

7.133 The quality of data regarding cycle movements to West Cambridge is questionable. The outline does not seriously attempt to deal with the issue of cycle flow between the City and the site. It proposes a weak set of measures based on existing infrastructure and signage.

7.134 It is regrettable the previously proposed Rifle Range route does not form part of the application.

Flooding

7.135 Water from the site flows through the Sanctuary Nature Reserve. The names used for watercourses do not correspond with local usage or maps.

7.136 Concerns regarding silting up of a watercourse which runs into the Sanctuary Nature Reserve.

7.137 Water runoff must be safely managed to prevent flooding locally. 61% of the site will be developed compared with 41% now.

7.138 It is essential that the enhancement of the West Lake, South Eastern pond and the canal as attenuation features be carried out to a high standard to ensure they can cope with the additional runoff.

7.139 The plan to reduce runoff into the washpit brook by 10% is highly ambitious but welcome.

7.140 Clear guidance for on plot sustainable drainage systems should be given to future plot developers.

7.141 The strategy should explicitly mention the water quality entering the Sanctuary Nature Reserve.

7.142 Maintenance of existing pipework is essential.

7.143 All new sewer work must be carried out with minimum disturbance.

Madingley Road Area Residents Association (MRARA)

Application as amended (2020)

7.144 The Madingley Road Area Residents Association (MMRA) extends along Madingley Road from just west of Lansdowne Road to the the Northampton Street roundabout. As such the West Cambridge site of the University of Cambridge is our largest neighbour. Commuter, service and construction traffic to and from the site will affect our members daily. We are among the closest neighbours to site and will live closely with the University's planning decisions.

7.145 The Outline Planning Application (OPA) documents are voluminous, repetitive and unclear. It is not possible to determine a clear timeline for building on the site. It is not clear how many people will be living on the site or are living there at present. It is difficult to determine the planned heights above ground level of buildings. The University seems to be struggling with a set of contradictory aims for the West Cambridge site and reconciling them with mixed success. A very densely developed site cannot become the world class campus the OPA claims to want to develop. The OPA does not appear to have kept up with the requirements of the Cambridge Local Plan, in particular with respect to climate change and sustainability, or with local planning developments.

7.146 The MRARA supports the objections of the North Newnham Residents Association (NNRA) and the Clerk Maxwell Road Residents Association (CMMRA). We also support the objections of Cambridge Past Present and Future (CPPF) and the West Cambridge Community Group.

7.147 In particular, the MMRA opposes the OPA on the grounds that it does not meet the objectives set out in the Design and Access Statement (DAS) to:

2.1.6 Create and sustain a high quality place by transforming the physical and social environment for site users and neighbours across the City;
2.1.7 …seek 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 … linking into a wider network of open spaces and pedestrian and cycle routes.

7.148 While the various planning documents include commitments to reducing car use and supporting walking and cycling, the design decisions that have been made do not support this. The OPA privileges the use of cars on the site by providing for parking along various edges of the site rather than limiting it to one section along the western boundary by the M11. Clerk Maxwell Road is repeatedly identified as a key cycle access to the site in the Travel Plan and the DAS while at the same time being identified as the access for the multi-story car park planned for the south-eastern corner of the site as well as utility access. This is simply not possible if there is to be a real commitment to "encouraging the use of non-car modes of transport" and "discouraging the use of car mode".

7.149 In order to support a safe walking and cycling environment and limit congestion along Madingley Road, all vehicle traffic to the University should be directed onto the site as close to the M11 as possible. Using local roads to reduce traffic internal to the West Cambridge site is not acceptable.

7.150 The West Cambridge Framework Travel Plan Version 3 October 2020 acknowledges in passing the Greater Cambridge Partnership (GCP) project to improve cycling and walking along Madingley Road that was approved June 2020, but does not really incorporate this major project into its overall design. Comments about adding junctions and signalling are very worrying to the MRARA which is working closely with the GCP design team to improve the existing layout of Madingley Road, including some of the poor junctions built the University. The Madingley Road Walking and Cycling scheme will be a reality early into the implementation of the OPA and design decisions should be made to support it.

7.151 As a general comment, some of the travel data referenced in the Framework Travel plan appears to be a decade out of date. This document references and includes the University Travel Plan from 2010. Section 7.1 in the University Travel Plan states that it should be reviewed every two years and it is not clear that has occurred. Transport management is a key component of the plan for the West Cambridge site. Surely any justification for the 4000+ parking spaces planned should be based on up-to-date information. A letter from the Highways Agency among the OPA documents notes that the agency is awaiting further traffic modelling, which begs the question of whether there is relevant transport information missing from the OPA.

7.152 The MRARA is part of the West Cambridge Community Group set up by the University in 2014 to engage with local residents. While this group is a useful forum for discussion of mutual concerns, it appears to have fallen into abeyance and, with hindsight, it is telling that it was set up fifteen years after the first OPA was submitted. The University is clearly aware of residents' concerns in the Conservations Areas immediately adjacent to the West Cambridge site, but the OPA relies mainly on the "woodland screen' along the Clerk Maxwell Road and Madingley Road to buffer these neighbourhoods from the impact of the buildings on the West Cambridge site. This is not satisfactory or adequate given the heights and the masses of the building under construction and planned. The CMMRA and CPPF objections explain this in detail. The very large footprint of many of the buildings on the site make the idea of it being 'permeable' to pedestrians and cyclists unlikely.

7.153 The MRARA is also concerned that flues on buildings can rise as much as 8m above roof height. *Officer note - Photographs are included in the response to demonstrate the impact of chimneyts/vents.*

7.154 As an immediate neighbour of the site, the MRARA is concerned about a serious increase in light pollution from the large number of new buildings and associated structures. These photos from across the site show how bright, widespread and inconsistently managed the lighting is at night. West

Cambridge has always been a relatively dark part of the city and this should not change needlessly.

7.155 Conditions of approval should include:
- Adoption of best practice to keep light spill from the site to a minimum as a courtesy to neighbours, to the Institute of Astronomy and in order to reach the University's own net-zero by 2048 ambition. Internal lights and those of intermittently used facilities like bike shelters should be on motions sensors and timers and not be brighter than necessary. Lights should not be incorporated into buildings to illuminate external walls or features on the roof.
- Strict limits on the level of noise emitted by new and maintained HVAC and other mechanical service equipment. Existing equipment on the site in some buildings emits sufficient noise for it to be unpleasant.
- A robust plan to deal with waste on the site.

7.156 As was mentioned previously, it is not clear how many people are or will be resident on the site. At least 250 at present is a best estimate based on the references to accommodation units in the DAS. The OPA must take a long hard look at how well these buildings age and whether they provide a good standard of outdoor space for the people who live there. It is disturbing to see broken children's toys in a dark courtyard and stained walls and prominent service boxes in the relatively recently constructed accommodation block.

Application as amended

7.157 The MRARA supports the comments of our neighbour residents associations from North Newnham (NNRA) and Clerk Maxwell Road (CMMRA). Also support the comments of CPPF and WCAT.

7.158 There seems to be very little consideration of the net effect of the fully developed West Cambridge site on its surroundings. A relevant example of this for the MRARA is CMR, which will apparently function as MSCP access, key cycle route, delivery access and overspill parking. This does not seem very well thought out.

7.159 Further east and west along Madingley Road, pedestrian and cycling provision is basic at best with little attention to crossing points and junctions. The MRARA is currently campaigning for safer cycling along Madingley Road, with two cycle lanes divided from both traffic and pedestrians. In a wider context, there seems no provision to tie into whatever transport measures evolve from the Greater Cambridge Partnership.

7.160 The three different trajectories for the bus way (Route C) to potentially traverse the site would indicate limited communication between the University and the GCP. There is no mention of the Western Orbital discussions. Unless provision for comprehensive public transport into, through, and out of the site is addressed at the planning stage, there will probably never be proper provision for public transport on the site, which will further emphasise the dominance of car-usage and private car-parking.

7.161 As a close neighbour of the site, the MRARA believes the OPA should ensure minimum light pollution from the site after dark. No rooftop plant (HVAC) equipment

or other features should be illuminated. The buildings planned are huge with lots of windows. The resultant amount of light and its effect on the night sky must be considered, not least because of the Observatory close by. All external lighting should be directed where it is needed and spillage minimised.

7.162 Given that the buildings in this proposal relate to technology-based engineering, it is concerning that no overt provision is made for energy-reducing technologies that can (and elsewhere do) reduce light levels and therefore energy usage outside normal work hours.

7.163 We would like to add to the NNRA concerns regarding drainage from the West Cambridge site. Every care must be taken during construction. At the start of recent construction, drilling mud escaped into the brook along Coton footpath turning the water white.

Cambridge Past, Present and Future (CPPF)

Application as amended (2020)

Visual impact on landscape

7.164 The heights, massing and density of the currently-approved and proposed development is injurious to the adjacent Green Belt, and to the skyline and views into Cambridge from the west. This is contrary to Local Planning Policy NH/2.

7.165 The development is adjacent to open countryside, designated as green belt. One of the purposes of the Cambridge green belt is to protect the historic setting of the city, including views of it. In particular the views from Red Meadow Hill and the "West fields" will be significantly harmed by the proposals set out in the application.

7.166 The building heights are too high, meaning that the buildings cannot be screened by trees (notwithstanding that trees take 30+ years to reach a size where they can screen large buildings). The applicant does not seem to have respected that Red Meadow Hill is higher than the proposed development which will mean that screening by trees will have very little mitigating effect. In order to mitigate the impacts, we recommend a reduction in maximum building heights by at least 3.3 metres and provision of green rooves/vegetative screening on all buildings. This also accords with University sustainability objectives. We note that the design guide provides that any buildings will need to consider and mitigate the impacts of rooftop plant and be designed so that they are not rectangular blocks, but instead a variety of shapes, sizes and materials so that the site does not appear in distant views as if it is a giant wall of brick, concrete and glass. The risk of this is well highlighted in the applicants' own visualisation of how the site might appear from Red Meadow Hill. The existing view clearly shows the negative impact of buildings already constructed.

The application does not demonstrate that there will be a gain in biodiversity, contrary to national and local planning policy

7.167 We could not see that the applicant has produced a biodiversity metric, such as the DEFRA Metric 2.0, nor that they have demonstrated that the mitigation measures will ensure the application will produce at least a 10% net gain in biodiversity, as the government is proposing should be mandated for all new developments.

7.168 The University has recently published a report setting out how it will increase biodiversity on the University estate and so we have no doubt that the University would wish to achieve at least a 10% gain in biodiversity from its development.

7.169 We therefore recommend refusal on this issue unless there is a condition that a plan will be forthcoming which will calculate the biodiversity loss caused by the development and that the mitigation proposed will achieve at least a 10% net gain. This is to ensure compliance with NPPF paragraphs 170, 174, and 175, the adopted South Cambridgeshire District Council Local Plan Policy NH/4, the Greater Cambridge Sustainable Design and Construction Supplementary Planning Document (SPD) (Section 3.5), and the upcoming Environment Bill.

Additional comments

7.170 We would encourage that all new buildings should be required to achieve BREEAM Excellent sustainability standard. We believe that this may be University policy however a contracted developer bringing forward the commercial sites may go for less.

7.171 The way the buildings are so packed into the site, at such a high density and heights, the intended green fingers between them risk being little more than sterile wind-tunnels; the size of a central green space should be significantly increased given the number of workers that it will be serving. We note that this is oriented to provide views of Kings College, as an alternative, a similar approach on the western side of the site would have helped to mitigate the impacts on views and the landscape – and we would encourage this to be considered instead.

7.172 We wish to make clear that we have no objection in principle to the development of this site and the uses which are intended for it, but we do object to the outline planning application which has been submitted.

<u>Application as amended (2017)</u>

7.173 Refusal or withdrawal recommended. The revised proposals fail to tackle the key transport issue which has implications for the masterplan layout.

7.174 CPPF acknowledge that maximum building heights have been revised and the recent Listing of the Schlumberger, which is welcomed.

7.175 The site is still overdeveloped with inadequate green space and a general appearance of an industrial park.

7.176 There is a stark disparity between the Greater Cambridge Partnership proposals and that of the University site. The University emphatically state that the West Cambridge Site does not rely on the City Deal proposals for mitigation. This is either misguided or naive because the two are inextricably linked. There is nothing within the amended documents that demonstrates how the GCP proposals integrate into, within and without the site itself.

7.177 There is no provision for the Cambridge – Cambourne busway nor any form of connecting hub with the Western orbital. If option 3a is given consent it will take buses directly into the West Cambridge Site, but there is no provision for this. As a result the application is premature until this is resolved. It is not clear whether the proposed Cambourne buses have to enter the park and ride before going through the West Cambridge Site.

7.178 The plan still envisages car parking along both sides of Adams Road together with two-way flow of traffic with cyclists. There should be no on street car parking if this goes ahead.

Application as submitted

7.179 The application is generally supported subject to conditions.

7.180 CPPF recognise the need for the University to expand its scientific research on a purpose-built campus.

7.181 There are however concerns are raised regarding indicative building heights which appear contrary to draft Local Plan policy 18 and should not exceed 16m. The maximum building height proposed (41m AOD) is unacceptable. The overall approach to building heights is unclear.

7.182 The potential visual impact upon the Coton nature reserve has not been adequately assessed. A visual impact assessment should be included for all reserved matters applications.

7.183 The strategy of developing surface car parks to multi storey car parks is welcomed.

7.184 Heritage assets have not been taken into consideration. These include adjacent Conservation Areas, Listed Buildings, Sites of Special Scientific Interest, important tree groups and Coton Countryside Reserve.

7.185 Density should be reduced through reduced building heights and additional green space.

7.186 The site should be better integrated with Eddington and City Deal proposals. The proposed employment numbers will significantly increase traffic in this area of the city.

Schlumberger Gould Research Centre

Application as amended (2017)

7.187 Recognition of the need to protect views and setting of Schlumberger is supported.

7.188 The Design Guidelines are too prescriptive regarding the creation of Schlumberger Garden. Clarification needed on the assumptions made for the ability to develop buildings to the east of the area around Schlumberger Garden. Land to the east of Western Access should be reserved for surface car parking. Loss of car parking would create significant cost to Schlumberger. Consolidating car parking into multi storey's is not deliverable and would impact on the ability of the masterplan to deliver the quantum of development envisaged for Zone iv.

7.189 The mandatory requirement for active frontages should allow for exceptions where it can be demonstrated that such exceptions are necessary to accommodate specific business requirements.

7.190 Public Access across the site is not acceptable and Schlumberger object to this being imposed on their land. Access should be on a controlled basis only.

7.191 Removal of car parking, erection of 3-4 storey building to the south, provision of 2 access routes and frontage setbacks and green corridors detract from the setting of the Grade 2 * Listed Building.

7.192 Schlumberger's future vision for the Research Centre would be jeopardised.

Application as submitted

7.193 Some concerns with the strategies set out in the Design Guide for the outline masterplan. Some of these strategies could restrict Schlumberger's potential expansion plans in the future. These concerns have now been addressed with the developer team.

Madingley Parish Council

7.194 The site will generate thousands of new jobs in its lifetime and today the main access, Madingley Road, is unsustainably congested on a daily basis.

7.195 The application should contribute to the City Deal proposals.

7.196 Significant concerns raised regarding buildings heights. Taller buildings should be sited to the south of the site or they will overpower the streetscape of Madingley Road.

7.197 The site should incorporate residential accommodation in the interests of enabling people to live close to their workplace. This would make the scheme properly sustainable.

Newnham Croft Residents Association

Application as amended (2017)

Parking

7.198 The provision of parking spaces is seriously excessive. There needs to be a serious reduction in the requested provision of parking on the site. The previous OPS requested a gross over-provision which has not been implemented and this error should not be repeated. There should be no increase in parking except for disabled parking provision.

Cycling

7.199 The expansion will lead to a vast increase in cycle traffic between the site and the centre of Cambridge. There needs to be a dedicated cycle route provision between the site and town centre and should be an integral part of the OPA.

Flood risk

7.200 The loss of permeable open space caused by the development will necessarily increase flood risk. In the last twenty years there have been at least teo 'one in a hundred year' flood events in the area. We need a more convincing case that the flooding risk will be mitigated.

Construction traffic impact

7.201 This section of the OPA is inadequate., A revised calculation relating construction traffic movements to existing day-time traffic flows is needed.

Application as Submitted

7.202 The office space proposed for both the North West Cambridge Development and West Cambridge proposes over 25,000 employees across the two sites.

7.203 With the upcoming development of North West Cambridge and West Cambridge, it is considered that the access strategy does not sufficiently address the traffic increase anticipated in the area.

7.204 The planning application falls very short in providing a viable solution for how all these people will enter and exit both sides of the site on already heavily congested roads. This is difficult to comprehend when the University have stated that the planning application does not depend in any way on City Deal.

7.205 The 'travel to work plan' submitted lacks sufficient details. A detailed realistic Travel Plan is required.

West Cambridge Community Group (WCCG)

Application as amended (2020)

7.206 Building heights: The scale, massing and density of the scheme is intensive. We have requested at our meetings with the University that heights of all buildings on the perimeter immediately adjacent to Clerk Maxwell Road and Madingley road are kept to a maximum of 2 storeys in height or should be at least 4 metres lower than currently proposed within this application. The current application requests that flues be as much as 8 metres above building heights, which is excessive. This should be restricted by conditions to the central areas of the campus. Object to the proposed maximum heights of buildings requested on the eastern edge and northern perimeters. The application does not consider neighbours enough.

7.207 MSCP and Access: Grave concerns about the congestion caused by the MSCP and brings traffic visiting the site from the M11 and A428 further down Madingley Road and into the city than is necessary. This is an imposition on local residents. The MSCP should be located on the western side of the site. Concern over the new access at original vet school onto Madingley Road. A traffic satefy audit needs to be undertaken and reduction of speed limit on Madgingley Road from 40 MPH to 30MPH.

7.208 Use of CMR as a service road: HGVs should use existing infrastructure and not resdiental side roads. Use of the road will significantly compromoise the environmental quality of CMR and increase risk of conflict between servicing vehcicels, pedestraisn and cyclists using the road.

7.209 Improvements to cycling and pedestrian provision on Madingley Road: Conditions should be added to reduce speed limit of Madingley Road and for the retention and reinforcement of the woodland buffer.

7.210 The WCCG supports the objections of the Madingley Road Area Residents Association the North Newnham Residents Association and the Clerk Maxwell Road Residents Association and support the objections of Cambridge Past Present and Future.

Adams Road Bird Sanctuary

Application as amended (2020)

7.211 The Adams Road Bird Sanctuary is a City and County Wildlife site that connects to waterways that run within and next to the West Cambridge site.

7.212 There are errors in the application:
- The waterway on the southern side of the West Cambridge site is not called Coton Brook. It is an agricultural drainage ditch called ‘Coton ditch’.
- The ponds at the University Sports Ground have nothing to do with Bin Brook. They are balancing ponds, created for run off from the artificial hard surfaced pitches, and drain into the Coton Ditch.

7.213 The Adams Road Bird Sanctuary has a large lake directly connected to the Coton Ditch. Any ground works in proximity to the Coton ditch will potentially affect the water quality and ecology upstream and downstream. The balancing ponds north of the Athletics track compound (in the green belt), feed directly into the Coton Ditch. The ponds and trees are an important part of the aquatic matrix that supports wildlife in the area.

7.214 The West Cambridge site has not amended their maps or documents to correct names of watercourses, despite previous notifications in 2017. They have not plotted the waterways connectivity towards the City Centre and the River Cam – and appear to be unaware of wider environmental impacts beyond the application site. We have had three or four water pollution incidents from The West Cambridge site since 2000. The most recent being from the new Engineering labs, when white clay diffused downstream. (It took Construction Company by surprise. They were helpful in explaining and mitigating future conditions). Is there an EIA on recent piecemeal buildings constructed since 1999, or a published log of ground particulate pollution incidents to refer to, and how they were mitigated, in this OPA? We suggest this application is objected to until these points are addressed.

Application as submitted

7.215 The Adams Road Sanctuary is a nature reserve (a City Wildlife Site) situated between Adams Road and Clarkson Road. As is shown in the Environmental Impact Assessment (EIA) section 13.4, the Coton Brook (also called Coton Ditch) flows through it, and a major feature of the Sanctuary is the small lake which was formed many years ago by damming the brook. (Please note: the area of the Sanctuary which is open water is much greater than the area marked in blue on the plan included by Atkins Ltd in EIA section 13.) Consequently, the quality of the water flowing along the brook, which carries much of the water draining from the West Cambridge site. is of the utmost importance to the Sanctuary.

7.216 The quality of water in the brook where it flows into the Sanctuary has declined over the last two decades. As mentioned in EIA 13.4.21, in the mid-2000s pollution of the Coton Brook by antifreeze caused serious ecological damage in the Sanctuary and, we believe, in waters connected to the brook upstream of it. (The owner of a garden upstream of the Sanctuary has photographic evidence of the effects of pollution of the brook.) An important result was a major reduction in a flourishing population of frogs and toads in the Sanctuary and its neighbourhood, and this population has never recovered.

7.217 The brook carries a heavy load of silt, which is inevitably deposited at the upper end of the lake in the Sanctuary owing to the reduced speed of the flow of water where the brook widens into the lake. This causes a serious problem in the Sanctuary (and in the garden immediately upstream of it) and if unchecked may in the long term make it impossible to maintain the lake and so destroy a great part of the wildlife value of the Sanctuary. It seems clear to us that this exceptionally heavy load of silt is produced by the continuous building programme on the West Cambridge site and that any measures currently in

force to mitigate this problem are ineffective. We note that the Impact Assessment for the construction phase of the development (EIA 13.5.1) indicates "a small risk that contamination ... could result in additional sedimentation and harm to aquatic flora and fauna": in our view, unless mitigation measures are substantially more effective than at present, then damage to the Adams Road Sanctuary from deposition of silt during the construction phase will certainly be serious.

7.218 We are also apprehensive about the risk of flooding of properties downstream of the West Cambridge Site. Unless it can be guaranteed that all necessary mitigation measures are taken and are properly maintained, we fear that there is a significant risk of flooding of properties downstream of the West Cambridge Site, including the Adams Road Sanctuary.

7.219 Plans for the West Cambridge site should explicitly recognise the potential impact of the proposed developments on the Sanctuary as an important ecological site and should include a commitment to its protection, and that this should include protection of the Sanctuary during the construction phase of the proposed development.

Newnham's City and County Councillors

Application as amended (2020)

7.220 A letter was received from Newnham Ward Councillors Markus Gehring and Lucy Nethsingha (also Cambridgeshire County Councillor) and former Councillor Josh Matthews in response to the application in support os the statement of the Clerk Maxwell Residents' Association (CMRRA) regarding 16/1134/OUT—The Revised Outline Planning Proposal for the West Cambridge Site.

7.221 The letter drew particular attention to CMRRA's headline concerns:

- Residents have had to assess a frightening number of pages and navigate complex language. On such a massive scheme that will have an impact on the whole city, it's in everyone's interest that all stakeholders are involved not only as a statutory "tick-box exercise" but are helped to fully understand and engage in the planning process.
- The height and visual impact of buildings proposed for the eastern edge of the West Cambridge site and the shade they will cast.
- The construction of a multi-storey car park on the corner of CMR and Madingley Road— especially with the existing levels of congestion in the area— and broader air pollution and climate emergencies.
- The plan to use CMR as a service road for the site.

8.0 ASSESSMENT

8.1 From the consultation responses and representations received and from my inspection of the site and the surroundings, the main issues are:

1. Principal of Development
2. Design and layout
3. Transport
4. Air Quality
5. Environmental Impacts and Residential Amenity
6. Landscape and Visual Impact
7. Impact on Heritage Assets
8. Impact on Trees
9. Ecology
10. Flood Risk and Sustainable Drainage
11. Renewable Energy and Sustainability
12. Utilities
13. Waste Management
14. Disabled Access
15. Public Art
16. Third Party Representations
17. Planning Obligations

Principle of Development

8.2 The development has been considered in the context of an up to date Local Plan, adopted in September 2018, which is compliant with the NPPF (2019) and found to be sound. The key Local Plan policy for West Cambridge is policy 19. There were no issues raised with respect to the principle of development at West Cambridge at the Local Plan examination.

NPPF (2019)

8.3 The key chapter in the National Planning Policy Framework (2019) (NPPF 2019) is chapter 6m 'Building a strong, competitive economy'. Paragraph 80 states that "Planning policies and decisions should help create the conditions in which business can invest, expand and adapt". It then goes on to say that

"Significant weight should be places on the need to support economic growth and productivity…". Further development of this well-established employment and education site is broadly aligned with this national objective.

8.4 Paragraph 82 specifically recognises the importance of networks or clusters of knowledge and high technology industries such as those at West Cambridge, whereby decisions address their locational requirements.

Local Plan Employment Policy

Densification at West Cambridge – Policy 19

8.5 Development for University needs will be permitted on the West Cambridge Site, during the local plan period and beyond in accordance with Cambridge Local Plan 2018 Policy 19 (West Cambridge Area of Major Change). Further development which accords with the provisions of the extant 1999 masterplan will be permitted.

8.6 The policy sets out the following: that the principal land uses will be:

2. The principal land uses will be:

a. D1 educational uses, associated sui generis research establishments and academic research institutes; and

b. commercial research and development of products or processes within use class B1(b) that will support knowledge transfer and/or open innovation in respect of D1 higher educational uses, associated sui generis research establishments, academic research institutes, and/or other Class B1(b) uses already authorised or granted permission pursuant to this policy.

3. Any densification of development on the site that results in a significant increase in floorspace, over that already approved, will be supported providing that:

c. a revised masterplan supporting an outline planning application (OPA) is submitted and agreed that takes an integrated and comprehensive approach to the provision and distribution of the uses, and supporting facilities and amenities;

d. phasing of the development will be determined through the outline planning permission (OPP) and as the need is proven;

e. the approach to appropriate development heights will be determined through the OPP giving consideration to the sensitivity of the landscape within the Green Belt to the south and west;

f. proposals respect the important adjacent Green Belt setting to the south and west, and other neighbouring residential uses and views of the city from the west;

g. it includes a comprehensive transport strategy for the site, incorporating a sustainable transport plan to minimise reliance on private cars. This should include assessing the level, form and type of car parking on the site;

h. that walking, cycling and public transport links (including access for all) to the city centre, railway station(s), other principal educational and employment sites, and other key locations within the city are enhanced to support sustainable development; and

i. that proposals provide appropriate green infrastructure which is well integrated with the existing and new development and with the surrounding area.

8.7 Policy 19 also states that the development will also include further phases of the sports centre. Small-scale community facilities, amenities, and A1 (local shop), A3 (café), A4 (public house), D1 (crèche) type uses and student accommodation will be acceptable, if they support existing occupants on the site and add to the social spaces and vibrancy of the area, essential to its continued success.

8.8 Policy 19 also states that the Council will be supportive of a site-wide approach to renewable or low carbon energy generation or the future proofing of buildings to allow for connections to energy networks.

8.9 Policy 19 is clear that the precise amount of new floor space will be subject to testing and does not specify how much 'significant densification' entails. This is to be demonstrated through the revised masterplan for the site, which has been developed before and since formal submission of the OPA in June 2016. The accompanying text of Policy 40: development and expansion of business space (paragraph 5.11) does envisage that the West Cambridge Site could accommodate *'up to 468,000 sq m of academic and commercial floor space of which around 210,000 sq m would be for B1(b) commercial'*. Again, whilst this give a clear indication of the amount of development expected at West Cambridge, Policy 40 clarifies that the exact amount will be tested through the new masterplan.

University Vision

8.10 A new masterplan for West Cambridge has emerged from the University's strategic need to maintain global competiveness through additional high quality research space and to strengthen its reputation in innovation and collaboration with industry. It is also a response to the reappraisal of the 1999 masterplan delivery, which does not make best use of the site or maximise employment potential.

8.11 Five key objectives underpin the development; optimising the amount of development to support the City and Region as a world leader in learning, teaching, research and development; supporting the commercialisation of knowledge through collaboration with industry; create and sustain a high quality

place by transforming the physical and social environment; create flexible and efficient space and to deliver sustainable development by investing in the quality of the estate and its integration with the City. These principles align with the City's vision for the site set out within Cambridge Local Plan policy 19.

8.12 The proposed development is essentially an evolution of the existing 1999 planning permission to fulfil the University's aspirations for the site and its new relationship with Eddington to the north. There are huge benefits of co-locating academic research with industry partners, which has driven the new masterplan. Co-location of uses on the site builds on the success of Cambridge as a location for cutting edge, knowledge-based industry that can compete on a world-scale and which in turn brings economic prosperity. The proposed uses for D1 academic and B1(b) and sui generis commercial research space, with supporting facilities, fully accords with the principles of densification at West Cambridge, set out within Cambridge Local Plan 2018 Policy 19.

University Development outside the City Centre

8.13 Cambridge Local Plan 2018 Policy 43 states that the development or redevelopment of faculty, research and administrative sites for the University of Cambridge and Anglia Ruskin University (including teaching hospital facilities) will be supported when it meets the principles set out in this policy and other planning policies. This affirms the importance of the University of Cambridge as a vital driver to the Cambridge economy and is the reason why so many high technology and knowledge-based employers decide to locate in the city. The policy acknowledges existing plans of the University of Cambridge on sites outside of the city centre, including West Cambridge.

8.14 Most of the University's sites in the City are intensively developed and do not have further capacity. West Cambridge is the exception. The proposed development is therefore aligned with the City-wide strategy for University development relocation and will ensure that that it provides a new home for institutes constrained within historic buildings in the City centre.

8.15 Developing the West Cambridge Site enables the University to meet its floor space requirements whilst ensuring that existing academic sites in central Cambridge are retained. The University cannot expand on its existing central historic sites significantly to meet the long term need for further floorspace.

Development and expansion of office space

8.16 The West Cambridge Site is one of six key employment sites in Cambridge which will deliver new jobs and prosperity. These strategic employment sites are: the Station Area; West Cambridge; Cambridge Biomedical Campus and Addenbrooke's; Fulbourn Road; and Cambridge Northern Fringe East. All of these sites will contribute to supporting the Cambridge economy. West Cambridge is identified as having an academic and physical science focus. Developments on all of these sites will help grow the Cambridge Cluster, by ensuring that there is sufficient employment land available in the right locations.

8.17 Cambridge Local Plan 2018 Policy 2 sets out the spatial strategy of the location of employment development in Cambridge to 2031. This is to support Cambridge's economy, offering a wide range of employment opportunities, with particular emphasis on growth of the Cambridge Cluster of knowledge-based industries and institutions. The Council will support the forecast growth of 22,100 net additional jobs in Cambridge by 2031, including a net gain of some 8,800 jobs in the 'B' use classes (offices and industry). See economic benefits subsection below for further analysis on jobs growth.

8.18 Cambridge Local Plan Policy 40: 'Development and expansion of business space', specially encourages new offices, research and development within specific locations across the City, which includes the West Cambridge Site. Policy 40 encourages this development because it will support the forecast of jobs growth for Cambridge. The policy recognises that growth in other use classes, which includes the potential 370,000 sq m of additional D1 academic floor space at West Cambridge are more difficult to quantify. It is notable that the Cambridge Local Plan 2018 seeks to protect existing uses in the 'B' use classes outside of protected employment sites, which demonstrates their importance to the City.

8.19 The Cambridge Local Plan 2018 reports both a loss of land, but also a growth in floor space across the City within Policy 40. This is due to the fact that employment land being lost tends to have less floor space on it than the new employment land being proposed or developed. The Local Plan identifies that there has been a densification of employment land in Cambridge, as a denser form of development replaces less dense sites. While there is more employment land available than the forecasts indicate is needed, there are a number of benefits to this approach. It allows for flexibility within the supply of employment land. There will always be a certain amount of churn as businesses start and grow and move to new premises to meet their needs; a larger supply of employment land means that there is more likely to be empty land or floor space to move into, and businesses will not have to wait as long for someone else to move out. This also means that the inherent uncertainties in forecasts will not unnecessarily constrain business growth. Further development at West Cambridge will continue the trend of densification of employment site, making a major contribution to job and employment floor space for the City.

8.20 The proposed new masterplan is based on needs for current and future known occupiers particularly the academic departments of Cavendish and Engineering, which are the Key Phase 1 projects approved through full planning permissions. Limited evidence has been submitted of commercial input into overall strategy, although the University references development of an Innovation Strategy to encourage future take up.

8.21 The Greater Cambridge Employment Land and Economic Development Evidence Study (2020) states that the modelling suggests a small undersupply in Class B1a (office) provision before taking into account B1 supply contributions. However, the Greater Cambridge area is represented by a more blended market of Class B1a and b uses. Combining these requirements identifies a significant shortfall. Within Class B1b (laboratories), the *"modelling*

points to a shortfall which could be in the order of 50,000 – 100,000 sqm when taking into account the potential contribution of mixed use sites" which reflects the higher growth scenario is assumed to be for research and development employment. The West Cambridge Site seeks to provide a range of workspaces; start-ups and major industry occupiers, 'blended together' with academic uses. This could be in the form of small scale entrepreneurship space; small and medium sized enterprise space or major industry research and technology companies providing between 3000 and 10,000 sq m each. The demand and anticipated research growth at West Cambridge is estimated at 5% per annum. This is evidenced by data from Bidwells Databook Spring 2016 which identifies unsatisfied floor space requirements of 179,000 sq m for office and laboratory accommodation against an average of 112,000 sq m over the previous ten years. Bidwells also report an uptake in floorspace across the City. Key to the success of West Cambridge will be delivering the type of floor space which businesses are looking for. This may include added value from the quality of the overall campus environment.

8.22 The delivery rate could be up to 5,000 – 10,000 sq m per annum, which is faster than the historic rate at Cambridge Science Park (4,0000 sq m per annum). At these rates, the first phase of development would take 5 – 10 years to develop. The overall development would take around 15 - 35 years depending on take up. This aligns with the Council's expectation that West Cambridge will deliver jobs beyond the current plan period to 2031.

8.23 The OPA has been supported by a benchmarking exercise, which examines other campuses at different densities. This includes Massachusetts Institute of Technology (MIT), University of Delft, Netherlands and Chiswick Park, London. It is considered that additional capacity is needed to transform the West Cambridge Site into a commercial cluster of significant scale. It currently lacks critical mass to support innovation and co-location of industry partners. Through densification at significant scale, it is considered that the site will be able to support a critical mass of facilities which will support open innovation at the campus. This position is supported by Cambridge Local Plan 2018 Policy 19.

Open Innovation and Knowledge Transfer

8.24 Policy 40 sets out that in the past, employment policies in Cambridge sought to support the high technology economy through selective management of the economy, reserving employment land in Cambridge for high technology uses. There is now a significant supply of land for high technology uses, enough to last beyond the lifetime of the plan, and hence this policy emphasis has changed. Changes in national policy, combined with new local evidence, indicated for the Cambridge Local Plan 2018 that this approach was no longer best for Cambridge. Consequently, the previous policy no longer applies and the new approach supports all types of employment development, subject to a number of criteria. For West Cambridge, this focuses on open innovation and knowledge transfer.

8.25 In response to the growing commercial demand the University has developed an innovation strategy (not submitted with the OPA) for the development of

commercial research at Eddington and West Cambridge. The new masterplan for West Cambridge seeks for much more integration and functional relationships between the research sector and the academic sector through the encouragement of knowledge transfer and open innovation. Knowledge transfer refers to the exchange of knowledge and information between and within the commercial and academic sectors. Open innovation promotes collaborative working between and within the academic research sector and the commercial research sector with the objective of accelerating the rate and scope of innovation.

8.26 Policy 19 of the Cambridge Local Plan 2018 supports the West Cambridge site becoming a premier location for Physical Sciences and Technology through more effective clustering of academic and commercial uses, although as the need is proven, in accordance with part d. As such, future reserved matters applications will be required to be accompanied by a statement setting out how the proposed uses will support the existing academic and commercial uses on the site. This will be secured and monitored through **condition 16: Need - Open innovation / knowledge transfer**.

Economic benefits

8.27 The ES (Table 9.8, Volume 2 Main Report, page 95) sets out the construction and operational phases benefits to result from the proposed development. The construction phase is estimated to provide direct employment of 800 people. Indirect employment is estimated at 1,000 an additional 200 jobs at the local level and an additional 400 jobs regionally. This totals 1,400 estimated jobs during the estimated 15 year construction phases. Given that Cambridge and South Cambridgeshire has a lower than national average proportion of people who work in the construction sector, the proposed development would provide new opportunities for local people. The ES concludes this to be of significant benefit. Officers agree with this conclusion.

8.28 The ES (Table 9.9, Volume 2, Main Report page 96) assesses the operational phase of development to have a major significant benefit for employment due to the new, high quality academic and employment floor space which would be provided and the direct and indirect job opportunities which would result. The total number of full time equivalent employees on site is calculated to be a maximum of around 14,000, of which approximately 9,400 would be office/commercial research jobs; 400 retail and amenities and 4,200 would be academic. Around 40 jobs would be supported by the proposed nursery and new leisure facilities. These jobs numbers will be lower if the proportion of commercial floor space is dry lab/workshop which has a lower density of employees.

8.29 If the jobs growth in the Cambridge area is as anticipated (i.e. 22,100 new jobs between 2011 and 2031), then the West Cambridge site is likely to be developed out over a longer time period than the current Cambridge Local Plan 2018 and certainly beyond 2031. This will support the balance of homes and jobs across the Housing Market Area envisioned to be achieved.

8.30 The Planning Statement also acknowledges that if the full commercial allocation is developed this could take 15-35 years, which is well beyond the plan period to 2031. Whilst there is uncertainty in the delivery rate of development at West Cambridge, this has always been the case in the build out of the site. Whilst the final balance of jobs delivered at West Cambridge will depend on the precise level of academic and commercial development on the site, the development will undoubtedly make a major positive contribution to meeting the Local Plan employment objective to deliver 8,800 jobs in the B use classes.

8.31 If jobs growth is faster than anticipated, then the proposed development at West Cambridge will be able to provide additional capacity, ensuring the growth of the Cambridge Cluster is not hindered and the business needs of the area are met. The Councils have already committed to an early review of the Local Plans which could take into account any change in circumstances. In practice, based on current build out rates, the site will be developed over a longer timescale than 2031 and may take some time to fully come forward. This development is recommended to be granted consent for a 20 year permission through **condition 4: Implementation for overall development**, which is consistent with other strategic developments of this scale.

8.32 The ES takes account for potential 'leakage' and 'displacement' and the 'economic multiplier' when calculating projected jobs numbers. Leakage is the percentage of jobs which will be taken up by people outside of the local area. It is expected that commercial office, dry lab and workshop jobs leakage will be moderate (25%) with some commuting from outside Cambridge and South Cambridgeshire. Given the high level of qualification of residents in Cambridge and South Cambridgeshire, far exceeding the regional average it is assumed that many of the jobs will be taken up by those locally. Leakage for the academic jobs is considered to be low (10%) because the majority will be taken up by those based locally at the University of Cambridge.

8.33 Displacement is when businesses located in the proposed development would employ people currently employed in firms elsewhere in the area. These jobs would not therefore be 'additional jobs' but would be displaced from other sites. Displacement for the future commercial development is expected to be low (25% at the local level). This is because new businesses at West Cambridge are anticipated to be start-ups and new firms, rather than existing firms based elsewhere, either locally or regionally. The campus specialism in science and technology and the growing pool of skilled labour associated with the University is likely to significantly reduce displacement effects.

8.34 For academic development, the majority of floorspace will be displaced from existing academic departments in the City. Therefore it is expected there to be a high level of displacement, around 65%.

8.35 The economic multiplier effect is the knock-on effects within the local economy by which the economic impact of a development is multiplied. This includes supply chain linkages. Following consideration of leakage, displacement and the economic multiplier, the proposed maximum net increase in employment would be 6,600 full time jobs at the local level and 8,100 full time jobs at the

regional level. The minimum level to come forward would be 2,400 full time jobs at the local level and 2,900 full time jobs at the regional level.

8.36 The operational phase of development has the potential of generating additional annual income Gross Value Added (GVA) of £378.2 million at the local level and £476.6 million at the regional level, calculated by converting the net employment benefits into GVA (refer ES Table 9.9, Volume 2 Main Report, page 96). In terms of GVA, the proposed development would therefore have a major significant benefit if built out to its full potential.

Existing Delivery

8.37 The need for the new masterplan has arisen to provide a more flexible framework for delivery of capital projects. The extant masterplan already has flexibility through a development plot ratio approach, albeit the academic quantum has almost been reached**.** The commercial element of the extant masterplan has not come forward as was originally envisaged and around 80,000 sq m remains to be delivered. Delivery at West Cambridge is shown in Table 4.0 below:

Table 4.0: West Cambridge existing floorspace delivered

Land Use	**1999 consent floor area not implemented (sq m)**
Academic research	27,576 39% remaining
Commercial	52,086 73% remaining
Assembly and Leisure (sports, shared facilities)	4,060 40% remaining
Total	**83,722**

8.38 The remaining floor space which has not been delivered under the 1999 masterplan will effectively be rescinded under the new masterplan S106 and the outstanding S106 obligations will no longer apply. The mitigation package set out in section 8 is the revised strategy which takes account of the current situation in relation to the extant 1999 permission.

Retail Impact Assessment

8.39 The NPPF 2019 paragraph 89 states that when assessing applications for retail and leisure development outside town centres, which are not in accordance with an up-to-date plan, local planning authorities should require an impact assessment if the development is over a proportionate, locally set floorspace threshold (if there is no locally set threshold, the default threshold is 2,500 sq m of gross floorspace). Development at West Cambridge is in accordance with an up to date development plan and retail uses and supporting facilities are supported in principle by Local Plan Policy 19. The proposed 4,000 sq m of A1 – A5 use floor space will support the site and is not considered to require a retail impact assessment.

Further residential accommodation

8.40 The existing site accommodates 206 residential apartments to the east of the site. Officers recognise the potential benefits that a mix of uses, including further residential, could bring. This is in terms of activity through the day and evening. Cambridge Local Plan 2018 Policy 19 does not require the new masterplan to incorporate housing within the mix of uses, although student accommodation could form part of the development. Although officers have highlighted the benefits of providing additional residential on the site,the University are firmly of the view the West Cambridge Site shall be a primary employment site and Eddington will remain the focus for delivering residential accommodation to meet their housing needs. In view of the wording of the allocation, the absence of further residential accommodation is considered acceptable,subject to satisfactory provision of other supporting uses that would contribute to the vitality and activity levels on the Campus and provide facilities for employees. The development is therefore compliant in this regard with Cambridge Local Plan 2018 policy 19.

Summary

8.41 Notwithstanding the uncertainties with the exact balance of development which will come forward in terms of academic and commercial uses, the proposed development will nevertheless have a major beneficial impact in terms of employment in the local and regional area. The proposed development will make a significant contribution to jobs through the plan period and beyond, in accordance with Cambridge Local Plan 2018 Policies 2, 19 and 40.

Design and Layout

8.42 The key policies relevant to the design and layout of the site are Cambridge Local Plan 2018 Policies 19, 55 and 56.

8.43 The key parts of Policy 19: West Cambridge area of major change are part c, requiring the OPA to take an integrated and comprehensive approach to the provision and distribution of uses and supporting facilities and amenities. In addition, phasing of the development will be determined through the OPA as the need is proven. The policy text acknowledges that the timing of future reserved matters applications will continue to be dependent on funding.

8.44 Cambridge Local Plan 2018 policies 55 and 56 set out that development will be supported where it can be demonstrated that it responds positively to its context and draws positive inspiration from the key characteristics of the site. A positive response to natural, historic or local importance on or close to the site is required and for the development to be well integrated to the immediate locality and wider City.

Land Uses

8.45 The OPA splits the site into four development zones which the proposed uses will be accommodated, as the need is proven. The balance of the site has an academic focus to the eastern side (development zone 1), which allows up to 77,000 sq m of additional D1 floorspace and a lesser amount of new commercial floorspace (up to 21,900 sq m). This reflects the continued future focus of the eastern side of the site for the relocation of the Department of Engineering currently accommodated on Fen Causeway.

8.46 In contrast, the masterplan allows the western side of the site to have potentially an equal proportion of commercial research and new academic floor space (up to 104,000 sq m respectively).

8.47 The central area of the site has potential for a greater academic focus (up to 178,400 sq m) with a lower potential for commercial floor space (up to 51,700 sq m).

8.48 The potential distribution of uses proposed by the OPA are set out in Table 1.0 in section 2.7 of this report.

8.49 The proposed development will provide a maximum total of 383,300 sq m of floorspace, but the proposed framework for distribution allows some flexibility for the applicant to respond to future academic and commercial demand. The level of flexibility allowed remains within the conclusions of the likely significant effects of the development set out in the ES. Unlike the extant 1999 permission, the OPA includes the whole site and includes supporting ancillary uses essential to its continued success. As such, officers are satisfied that the broad distribution of uses and framework for distribution accord with the principles of a comprehensive approach to development set out in Cambridge Local Plan 2018 Policy 19.

Supporting uses and amenities

8.50 Cambridge Local Plan 2018 Policy 19 states that the development will also include further phases of the sports centre and that small-scale community facilities and amenities are provided. This includes a local shop (use class A1), café (A3), public house (A4) and nursery (D1). This is because they support existing occupants and users on the site, add to social spaces and vibrancy, which is essential to the continued success of West Cambridge.

8.51 In developing Policy 19, it was noted that the current West Cambridge Site has been built out at a relatively low density and there are perceptions that this part

of the city is less accessible, and lacks vibrancy and social interaction as an employment location when compared to the Station Area or other city centre locations. In response, the OPA provides for essential supporting facilities. This includes further retail and catering provision being delivered as part of the SFH. If the SFH is successful in future, it is intended to be a model for future amenities buildings at West Cambridge. It is anticipated that the majority of the additional retail and restaurant floor space sought will be provided within institutes as ancillary uses.

8.52 In 2011, the Cambridge Cluster at 50 Study identified a number of critical changes for the competitiveness of the economy. This included designing new developments with social spaces, not just as locations for businesses and research. One of the biggest challenges for edge of town developments, such as West Cambridge, is that they need to function as effective social spaces and not isolated buildings.

8.53 Most provision for social spaces across the campus has tended to be internal to individual institutes rather than explicitly shared. The Broers Building at East Forum being an exception. It is important that further development incorporates and brings forward more social spaces for those working and those living at the West Cambridge site (206 residences).

8.54 The Cambridge Cluster at 50 Study also identified a need to improve connectivity between the railway station, city centre and the principal employment sites. The perception of isolation on the principal employment sites was one of the most consistent findings of the study. Whilst reality may be different, it is perception that often determines behaviour and therefore is a real challenge. With the Cambridgeshire Guided Busway serving other employment areas, the West Cambridge site is seen as the most isolated. The study proposed a regular and direct shuttlebus between West Cambridge and the other main high-tech locations, combined with greater efforts to support social interaction, which could do much to improve connectivity and change perceptions. It is also seen as essential that new developments take the pressure off the city centre as the location of choice and therefore increasing the appeal and accessibility of sites like West Cambridge as a destination is paramount. The development takes a comprehensive approach to providing new amenities as set below.

Shared Facilities

8.55 The existing amenity provision on the campus includes the Cavendish II canteen (space for 258 diners); CAPE pop up café (60 seat ground floor café); West café at East Forum (172 seats); William Gates Building café (96 seats, open access via reception); the University Sports Centre (with small café) and the Food Park (12:00 – 14:00 at West Forum on Wednesdays).

8.56 The University has made a significant investment in improving shared facilities and the catering offer at West Cambridge through development of the SFH, which is a KP1 project and is an example of how the Amenities Delivery Strategy intends future development to be undertaken. The SFH building

provides 4,907 sq m of floor space. The ground floor contains a café bar, cafeteria and restaurant with associated kitchen areas and a shop unit. The first and second floors contain a mix of lecture theatres (100 seat lecture hall, 50 seat lecture hall and 30 seat lecture hall), study areas, seminar rooms, library space, meeting rooms and a contemplation room (University Chaplaincy space). The building includes the University's Central Production Kitchen (CPK) which is to be relocated from its current premises on Granta Place in the City centre.

8.57 The SFH will be a unique building at West Cambridge. This is because it will provide communal teaching and catering facilities which will encourage collaboration between departments and enable more efficient use of resources. The SFH is the first of a series of planned 'hubs' whereby facilities are not provided internally within departments, but externally as a shared resource.

8.58 The scale of the SFH has been considered in relation to the existing population of the campus and anticipated need. Currently there are approximately 4,450 site users at West Cambridge. This is on the basis of 2,100 academic staff, 1,000 commercial research workers and 2,350 students (which varies through the day). While the University considers the amount of catering floorspace sufficient to meet current demand, the location of current facilities and the nature of the offer do not support the social life of the campus.

8.59 The SFH will provide the main catering provision for the Cavendish III laboratory. A total of 320 seats will be provided in the restaurant area which is significantly more than the existing 258 seats provided at the existing Cavendish II. There will be provision for 600-800 people over the lunchtime period. The proposed SFH will therefore provide a much-needed focus for catering and general amenity, which is supported Cambridge Local Plan 2018 Policy 19 and essential to the continued success of the campus. As such, the early approval and construction of the SFH demonstrates comprehensive development for the new masterplan, in accordance with part c of policy.

8.60 The existing sports centre at West Cambridge was constructed in 2011 and was an important step change in providing community and vibrancy on the campus. The proposed development makes provision for two future phases of the sports centre, which would be extensions to the east and west flank of the building. The next phase of the sports is intended to deliver a swimming pool on the site. At present, an extension to the sports centre is not a KP1 project and the University cannot commit to its early delivery. Whilst the Council cannot mandate its early delivery, Local Plan Policy 73 advises that new City-wide facilities should, where possible, include in the proposal facilities which are open to the wider community to enhance both accessibility and the range of facilities available. As such future public access to the swimming can be agreed through **condition 10 – requirements for all reserved matters applications**, where sub-section (s) requires details of how the development accords with the Amenities Delivery Strategy. Phase one of the existing sports centre already includes provision for public access secured through the Eddington development.

8.61 Notwithstanding delivery of the SFH, the University recognises that the continued provision of appropriate amenities is essential to the future success of the proposed new masterplan. The existing range of amenities has tended to come forward within each new faculty building and are not readily accessible to wider site users. The OPA is accompanied by an Amenities Delivery Strategy. The strategy seeks to ensure that catering facilities for new buildings coming forward have spaces located on the ground floor, outside of secure areas. This strategy is also embedded in the Design Guidelines, at 1.6.4 on page 28, which requires large scale catering facilities, retail or cafes to only be located on ground floors, which any future reserved matters application must comply (**condition 10 (t)**). The strategy includes provision for ongoing monitoring of the delivery of amenities, through the development of the site.

8.62 The Design Guidelines identifies Primary Amenities Zones where the primary amenities listed above must be located (1.6.4). The Guidelines also identify Secondary Amenities Frontages (1.6.5 on page 29) where major building entries, entrances with extended social use, academic social spaces shall be located.

8.63 The Design Guidelines (1.6.4) and the Amenities Delivery Strategy seek to ensure the main catering facilities are available for all site user by ensuring that they are located outside the 'security zone' of the building in which they are location. This is to ensure they will be accessible to site users or visitors who do not necessarily have access to that specific building.

8.64 Overall, the schedule of proposed uses is considered sufficient to support the growing campus, subject to appropriate conditions to ensure that further supporting facilities come forward as the development is built out to meet the needs of employees on the Campus in accordance with Cambridge Local Plan 2018 Policy 19.

Energy Centre

8.65 Provision is made for the site wide energy centre in the south western corner of the site, the impacts of which have been tested as part of the ES. Please see the sustainability subsection below for further analysis.

Parameter Plans

8.66 The parameter plans submitted as part of the OPA will fix the key principles for the development. They provide a framework which reserved matters applications in the future should comply. The Parameter Plans are:

Development Building Zones Parameter Plan – WC/OPA/PAR/01/REV01

8.67 This parameter plan sets out the framework of four development zones across the campus within which the proposed development will be accommodated. The plan shows the existing buildings on the campus and future buildings zones where new development will take place. The schedule of development shown

in table 1 above must not exceed the maximum provided for each development zone.

Land Use Parameter Plan – WC/OPA/PAR/02/REV01

8.68 The built development across the site comprises three broad land use areas. The proposed development does not introduce any new land uses which are not already at West Cambridge. The central area of the site is a 'mixed use zone' which allows for Use Classes A1 – A5 and which the Design Guidelines seeks to cluster around the East and West Forums. The overall disposition of uses is considered appropriate in the context of the allocation framework set out in Cambridge Local Plan 2018 Policy 19.

Access and Movement Parameter Plan – WC/OPA/PAR/03/REV02

8.69 The access and movement parameter plan sets out the movement strategy for the campus. The main vehicle accesses into the site will remain as High Cross and JJ Thomson Avenue. Charles Babbage Road, WAR and Ada Lovelace Road will remain as the principle vehicle access within the internal site. For the 2031 assessment in the ES, the WAR, which is currently closed to motor vehicles, would be opened up to provide a right in/left out vehicle access onto Madingley Road. The traffic impacts of this proposal are set out in the transport subsection below.

8.70 In addition to the site access points, cycle and pedestrian connectivity is provided east to west across the Southern Ecological Corridor, with links to the Coton footpath at the southern edge of the site. The development would provide improved cycle and pedestrian access improvements, including a new cycle link to the Coton footpath at the western end.

8.71 At the eastern end, cycle access would be focused on the existing accesses at the junction with CMR. The existing cycle access through the Hauser Forum from the Coton footpath would be reduced to a secondary route for future phases. This is because of the location of future buildings and the site levels difference towards the eastern end of the site.

Landscape and Public Realm Parameter Plan – WC/OPA/PAR/04/REV01

8.72 The existing trees along High Cross have not been successful. They have not thrived or reached their intended size to create the high-quality tree lined boulevard originally intended. As part of the framework for improving the north to south corridors of the site, their replanting is considered necessary during the early phases of the development, which will be secured through **condition 35: High Cross segregated cycleways and tree replacement**. It is worth noting that the greening of existing north to south streets is also a mandatory criteria in the Design Guidelines: public realm and landscape paragraph 1.1.5, page 17. Also see Design Guidelines sub section below.

8.73 The development includes provision for north to south green corridors across the site. Some of these are the existing tree lined streets of High Cross and JJ

Thomson Avenue. Three new corridors will also be provided; East Green Link, Central Green Link and Central Gardens Green Link. The proposed amended parameter plans now fixes the width of north to south green corridors to 20m minimum within the supporting text. Whilst the Council's landscape officer previously had concerns that the 20m would be insufficient to accommodate large trees and utilities, landscape **condition 28: landscaping and trees**, can ensure this is adequately assessed at detailed reserved matters stage.

Maximum Building Heights Parameter Plan – WC/OPA/PAR/05/REV01

8.74 The building heights parameter plan defines the maximum heights of proposed buildings across the site. The central area constitutes the tallest built elements rising to 41m AOD. Given the existing ground level across the site of between 18m and 21m, the proposed building heights equate to around four commercial storeys of academic or commercial floor space. This is a similar height to existing buildings constructed pursuant to the extant 1999 masterplan.

8.75 The amended October 2017 SPS removed the previously proposed ten areas of additional height (up to 49m) across the site as Officers considered these elements harmful because they would break the established tree line and create visual harm. The building height parameter plan as amended is considered appropriate to its sensitive context to the south and west, in accordance with part e or Cambridge Local Plan 2018 policy 19. Further analysis is provided in the landscape and visual impact subsection below.

8.76 The parameter plan includes provision for a potential flue for the energy centre, up to 50m AOD. This will form a distinctive element of height across the proposed development and if carefully designed has the potential to bookend the west side of the campus and provide a unique waymarker for the development. Because of its likely slender form when contrasted with the large floor plan buildings of the overall campus, officers are satisfied it could be contextually appropriate.

Objections

8.77 Objections have been received from CMRRA highlighting that the greatest level of height increase, relative to ground level, occurs in the south east corner of the site, closest to the nearest residential properties of The Lawns and Perry Court. The buildings on the eastern edge of the site are 17m above the nearby ground level (relative to Clerk Maxwell Road) and 19m (relative to the nearby playing fields) compared to 16m and 20m respectively, in the centre of the site. This shows that the greatest level of increased height relative to ground level, is in the south east corner, where the development rises to 36 AOD. The Urban Design and Landscape Team also maintains an objection to height in this corner of the site.

8.78 The revised October 2017 SPS reduced height at the eastern boundary from 38m to 36m and 31m AOD, this was unchanged in the October 2020 submission. Development is restricted to 31 AOD along the entire length of the eastern side of the site and no development at all will occur in the far south

eastern corner which is occupied by East Pond. The revised October 2020 SPS is accompanied by two new verified views which demonstrate that the worst case scenario for building heights on the eastern boundary. Whilst concerns regarding height in the south eastern corner are noted, when balanced against the needs of the Department of Engineering to relocate to West Cambridge in its entirety, the harm is not considered such as to justify refusal. Further analysis is provided in the landscape and visual impact subsection below.

Open space provision

8.79 There are no specific policies or design standards for open space in non-residential developments. Cambridge Local Plan Policy 68: Open space and recreation provision for new development, sets out standards for residential development only as such it cannot be applied to the proposed development. However, Part i and k of Policy 14: Areas of major change, set out that proposals should develop a new strong landscape framework that is guided by and incorporates existing positive landscape and townscape features and heritage assets. Furthermore, that existing assets should be protected. Policy 56 states that proposals should create and improve public realm, open space and landscaped areas that respond to their context and development as a whole and are designed as an integral part of the scheme. The proposed strategy incorporates the existing assets of the site, improving their landscape quality, in accordance with the principles of protecting existing open space assets set out in part i of Cambridge Local Plan 2018 policy 14.

8.80 The new masterplan at West Cambridge will deliver one new area of open space of strategic size, known as The Green. It will be located in the centre of the site, on land currently occupied by the Veterinary School, the eastern end of which is currently being delivered through the Cavendish III proposals. Whilst the proposals will involve the development of the existing east and west paddock grazing fields, they are not publicly accessible and are low ecological value. Overall, a total of 6ha of publicly accessible open space is provided across the campus which is considered an appropriate contribution to green infrastructure which is well integrated to the development, in accordance with part I of Cambridge Local Plan 2018 policy 19.

8.81 It is recognised that The Green will not be delivered in its entirety until the later phases of development, following the relocation of the Veterinary School. As such the benefit of the amenity space, and the new east to west pedestrian and cycle links will not be realised until the later phases of the development. The University recognise this potential deficiency in the medium term and offer the development of interim open space either side of the existing sports centre. This will be secured through **condition 10**: Requirements for all reserved matters applications (k).

8.82 The detailed design of The Green, together with the potential impacts of over shadowing and daylighting in the context of surrounding buildings, will be assessed at reserved matters stage. Mandatory criteria in Design Guidelines require BRE standards and assessment. The Design Guidelines require lower

buildings on the southern side of The Green, with the area without sun exposure on 21 March not exceeding 25% of the overall area. This is a mandatory criterion, which officers support for the future quality of the public realm.

Design Guidelines

8.83 The Design Guidelines along with the parameter plans establish design parameters and principles for assessing future reserved matters planning applications. They are a key strategy for securing mitigation for the impacts of the development and will be a material consideration for future planning applications and contain mandatory and recommended design criteria. (For the purposes of the ES only the Design Guidelines measures which are mandatory will be assumed to be implemented). They cover controls on building design; controls on planting and retention of existing vegetation; measures to increase biodiversity; controls on plant; controls on artificial lighting and controls to protect the built environment.

8.84 The vision for the site is a gradual transformation of existing streets and spaces already within the site. The Design Guidelines are organised around key places at the campus and set out the changes which are envisaged. The phasing of the key internal street layout improvements will be controlled through the discharge of proposed **condition 18: Access K – L – detailed design; condition 19: Charles Babbage Road –strategy for pedestrian, cycling and tree planting; condition 20: New footpath and cycle link – West Lake to the M11 bridge; condition 35: High Cross segregated cycleways and tree replacement; and condition 10: Requirements for all reserved matters applications (t)**.

8.85 The key pedestrian and cycle enhancements proposed for the existing campus are summarised in the transport, walking and cycling subsection, below.

8.86 Key to the strategy of campus transformation is a low speed environment. The Design Guidelines mandate a design speed of 20 mph for existing and proposed streets to reduce dominance of motor vehicles. This will be achieved through interventions to existing streets through shared space areas and other strategies.

8.87 Car parking for future phases will be located in MSCPs to the western, northern and eastern sides of the campus. The specific locations of these future car parking will be set out in each future phase and reserved matters application. There is potential for a 460 MSCP in the north east corner off CMR only. The remainder will be on the northern and western edges. This strategy for dealing with future car parking will make better use of the existing site, with streets that are animated by buildings with active frontage.

8.88 Section 9: Addendum of the Design and Access Statement was submitted in response to the County Council's Transport Assessment Response of December 2020. The County Council raised concerns that the potential C2C corridor along Charles Babbage Road was not safeguarded in the submitted plans. As the C2C route is not part of the application and has not yet been

confirmed the Addendum has shown the space provided for a bridge over the M11 to link up with Charles Babbage Road and for bus priority along Charles Babbage Road to be achieved through demand activated signal which would hold back traffic and ensure clear passage along Charles Babbage Way buses. The bus priority corridor, including the link from the M11 to Charles Babbage Way and the route out of the site to the south would be safeguarded as part of the Section 106 agreement.

Cambridgeshire Quality Panel

8.89 The Cambridgeshire Quality Panel reviewed the proposal on three occasions, the latest being 7 July 2017. The Panel were generally supportive of the proposals. A number of specific comments and recommendations were made to further enhance the scheme which are set out in table 5 below. The full minutes are attached as Appendix 7.

Table 5: Quality Panel Issues and officer responses

Issues and recommendations of Quality Panel	**Response**
The application submission must be supported by further graphical analysis of the illustrative masterplan in context.	The revised application submission (October 2017 SPS and October 2020 SPS) has been accompanied by additional verified views from Madingley Road and in the south eastern corner, adjacent to The Lawns and Perry Court.
Important to implement priority measures and landscape features as early as possible to improve the environment for users and potential investors	Officers agree that landscape enhancements should be delivered early for each phase and reserved matter of the development. Additionally, **condition 36: New legacy trees** secures the delivery of legacy trees at the early stage to ensure that the future development of the southern edge landscaping softens and screens the site in future years.
Linkages and permeability to Eddington should be improved.	Later phases of the development include provision for a possible bridge or underpass linking Eddington to West Cambridge. This will be costed as part of the transport cap and assessed as part of later phases.

Green corridors should be enhanced and further green spaces should be provided if possible.	Replacement tree planting will be provided along High Cross early in the development. New green links will be created including a substantial new central open space, the Green.
Consider impact of City Deal and bus priority proposals and how they might affect the site.	The amended proposal includes consideration of how the C2C strategic busway could be accommodated and prioritised through the site layout.
Ensure active frontages where-ever possible.	The Design Guidelines 1.6.4 and 1.6.5 embed the principles of active frontages for new buildings in the future.
Support site-wide environmental infrastructure if possible, but recognise hierarchical approach if not.	The site wide Energy Strategy has developed since the original submission. The revised hierarchical approach is set out in the October 2017 SPS still allows for provision of a site wide energy centre, but also a clustered energy network provision which is flexible to the grid capacity issues.
Explore role of planting in cooling of buildings and places.	Each reserved matters will be required to demonstrate compliance with the site wide sustainability strategy and a sustainability statement (**condition 10 : Requirements for all reserved matters applications (n) and (r); condition 58: Sustainability statement and construction standards**). The submitted Sustainability Assessment Matrix includes provision for cooling of the public realm through planting strategies.
Reconsider ratio of hard/soft land scape in green space by JJ Thomson Avenue.	This was modified and approved as part of the SFH application reference 17/1896/FUL.
Develop Public Art Strategy.	The October 2017 SPS was accompanied by a Public Art Strategy which is supported by both the Council's Public Art Officer and

	Public Art Panel (unchanged in October 2020 submission). A Public Art Delivery Plan is being developed for the Cavendish III (17/1799/FUL) project for implementation over the next three years, following completion of the building.
Welcome interim uses for places and spaces.	Reserved matters planning applications in future will consider the need for any potential interim use of spaces through the campus. This will also be integrated as part of the scheme for public art.
Remember to enhance existing streets and places as well as new ones.	The Design Guidelines set out proposed enhancements to the existing street environment, including replacement tree planting along High Cross and Charles Babbage Avenue.
Important to ensure that the master plan is carried through into what is actually delivered on the ground	This will be monitored through the phases of development and through consideration of each reserved matters application.

Summary

8.90 The parameter plans and Design Guidelines together set out the design parameters and principles for the development of the site. The Design Guidelines supplement the parameter plans through providing a greater level of detail of the design, standards and delivery across the site to ensure a high-quality environment. Whilst there are some elements of the design that have raised objections, in particular the visual impact of development in the south-eastern corner of the site, it is considered that the broad parameters are acceptable and that visual impacts, detailed design and articulation, can be considered in detail at the reserved matters application stage. Overall, it is considered that the proposal is in accordance with the key policies relevant to the design and layout of the site in Cambridge Local Plan 2018, Policies 19, 55 and 56.

Transport

Transport Assessment

8.91 The NPPF 2019, advises in paragraph 108 that in assessing development proposals it should be ensured that appropriate opportunities to promote sustainable transport modes can be, or have been taken up; that safe and suitable access to the site can be achieved for all users and that any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree. In paragraph 109 it states that development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe. Paragraph 110 then goes on to set out the priority for pedestrian and cycle movements and layouts and facilities which encourage public transport use.

8.92 Cambridge Local Plan 2018 Policy 5: Strategic transport infrastructure, sets out that development proposals must be consistent with and contribute to the implementation of the transport strategies and priorities set out in the Cambridgeshire Local Transport Plan (LTP) and the Transport Strategy for Cambridge and South Cambridgeshire (TSCSC). Cambridge City Council and Cambridgeshire County Council and developers will work together to achieve the objectives and implement Cambridge-specific proposals, with a particular emphasis on achieving a modal shift and the greater use of more sustainable forms of transport. The policy also states that Cambridge City Council will work with partners to support the implementation of transport schemes that improve linkages across the region and by doing so increase the use of sustainable transport modes to get to and from Cambridge.

8.93 More specifically, the following will be supported in principle:

"a. delivery of local and strategic transport schemes, subject to the outcome of up-to-date, detailed assessments and consultation, where appropriate;
b. promoting greater pedestrian and cycle priority through and to the city centre, district centres and potentially incorporating public realm and cycle parking improvements;
c. promoting sustainable transport and access for all to and from major employers, education and research clusters, hospitals, schools and colleges;
d. working with partners in supporting the TSCSC's aim for a joined-up, citywide cycle and pedestrian network by addressing 'pinch-points', barriers and missing links;
e. linking growth to the proposed city-wide 20 mph zone; and
f. easing pressure on the air quality management area (AQMA) in the city centre."

8.94 Policy 80 states that development will be supported where it demonstrates that prioritisation of access is by walking, cycling and public transport, and is accessible for all. It sets out the importance of ensuring major developments on the edge of Cambridge are supported by high quality transport links to

Cambridge City centre and the need to safeguard existing routes for walking and cycling.

8.95 Policy 81 sets out that developments will only be permitted where they do not have an unacceptable transport impact and that transport assessment should accompany major schemes. New development will require reasonable and proportionate financial contributions/mitigation measures where necessary to make the transport impact of the development acceptable.

8.96 Policy 82 describes the Council's maximum car parking standards, referring to appendix L. Electric vehicle charging points or infrastructure to ensure their future provision should be provided where reasonable and proportionate.

8.97 Policy 19 allows for the significant densification on the West Cambridge Site, but subject to there being a comprehensive transport strategy for the site incorporating a sustainable transport plan to minimise reliance on private cars. This should include assessing the level, form and type of car parking on the site. In addition, that walking, cycling and public transport links (including access for all) to the city centre, railway station(s), other principal educational and employment sites and other key locations within the city are enhanced to support sustainable development.

Method of Assessment

8.98 The application utilises a Spreadsheet Transport Model (STM) to calculate trips associated within the proposed development. The STM was originally developed in conjunction with the Highway Authorities, Cambridgeshire County Council and Highways England, to assess development trips resulting from the adjacent Eddington development. It has since been expanded to include the West Cambridge site, as well as the additional modelling zones for other development sites in the wider Cambridge area. The STM estimates trip numbers by combining a series of processes producing trip matrices for different scenarios, transport modes and time periods and assigning these to the appropriate transport and development network in OmniTrans (the transport modelling software).

Scope of assessment

8.99 The proposed development has been considered for the following three scenarios:

- The effects of the construction phases of the development - assessed in the context of the 2019 base flows.

- The effects of the development in 2021, known as the 'Do minimum' option test which includes all existing, committed and consulted development. The TA includes a detailed assessment of trip generation for the *first phase of development only* with an associated mitigation strategy. The vehicular trip generation is compared against the extant 1999 masterplan. The ES considers

the flow scenario assuming the existing development at West Cambridge, with no further development of the extant 1999 masterplan.

- The effects of the development in 2031 also include a 'Do Minimum' and 'Do something' option test. This is a less detailed assessment of the later phases of development to inform the Transport CAP to finance later years development mitigation. This will be reviewed again through a new transport assessment after KP1 is completed. Consistent with the 2021 modelling, the 2031 study in the TA includes a comparison against the extant 1999 masterplan. The ES does not include this comparison.

8.100 These scenarios help identify both the growth of trips, regardless of the proposed development, and the number of additional vehicular trips generated by this development on the transport network in the assessment year.

Trip rates

8.101 The West Cambridge Development trip rates have been derived for all the land uses, including those existing and proposed for the West Cambridge site from various sources:

- Academic research: derived from person trip survey data taken from the Department of Materials Science and Metallurgy at West Cambridge.

- Commercial research: taken from a synthesised twelve hour data set from four commercial developments at Cambridge Biomedical Campus; AstraZeneca; Abcam and CCL Phase 7 Cambridge Science Park.

- Commercial: from the Trip Rate Information Computer System (TRICS) trip rate per employee.

Trip distribution

8.102 This was calculated in the following way:

- Academic research staff: taken from staff travel pattern survey (2015) and applying these rates to the residential units forecast for particular development zones.

- Commercial research and staff: calculated using a 'gravity' model. This means a distance weight was applied using census journey to work data.

Committed Developments

8.103 The TA includes strategic residential and employment developments as part of its assessment. Those sites included within the assessment are contained in Appendix 6.

Junctions Assessed

8.104 The following junctions have been assessed in the TA:

- M11 J13 Off Slip Signalised Junction – LinSig;
- M11 J13 On Slip – PICADY;
- Madingley Road / Park and Ride / High Cross Signalised Junctions – LinSig;
- Madingley Road / JJ Thomson Avenue Priority Junction – PICADY;
- Madingley Road / Madingley Rise Priority Junction – PICADY; and
- Madingley Road / Clerk Maxwell Priority Junction – PICADY.

Site Access

8.105 The proposed development will be accommodated by the existing site access arrangements, with some enhancements for the later stages of development. These enhancements will be delivered throughout the development of the site, agreed at the appropriate stage through the discharge of **condition 10: Requirements for all reserved matters applications and condition 17: Western Access Road – later phases.**

8.106 The key phase one development will utilise the existing junctions at High Cross, JJ Thomson Avenue and CMR. A new, limited access (left left in left out) will also be created at the junction formerly serving the Veterinary School (currently closed), which has already been approved as part of the Cavendish III development (17/1799/FUL). This was not considered to adversely affect the use, function and safety of Conduit Head Road opposite.

8.107 KP1 of the development also includes provision to ban the right turn in/right turn out of the High Cross/Madingley Road junction. This measure is supported to improve the flow of traffic along Madingley Road and will be included as a measure within the S106 package.

8.108 The vehicle access enhancements for 2031 are a new traffic signal controlled, restricted movement (right in / left out), access junction onto Madingley Road at the western end of the site, which would connect to the Western Access roadand would be delivered during later phases of development after KP1. This junction would intercept strategic traffic movements between the site and the west, including from the M11. This early interception would help to maintain conditions at other local junctions such as High Cross. Provision for the junction opening to motor vehicles was included within the TA and the County Strategy Transport Team and Highways England are content that it can be adequately designed taking into account the M11 junctions, Park and Ride and Eddington. A future scheme for the junction will be secured through **condition 17: Western Access Road – later phases.**

8.109 The development will continue to utilise the cycle/pedestrian access to the east of the site at the junction with CMR to facilitate cycle trips through the site from the City and those travelling north. Officers note objections from some third

parties that there is concern with the safety of this access due to queuing vehicles and the new residential development under construction on CMR (ref: 19/1734/FUL). Neither the TA or the County Highways Authority identify this as a location of highway safety. Notwithstanding, the junction with CMR requires detailed design and improvement prior to development of the adjoining plots, which form part of KP1. This will be secured through the imposition of **condition 18: Access K – L – detailed design**.

Vehicle Trip generation

8.110 Table 6 below shows a comparison of peak hour vehicle flows for the difference phases of development. This shows that the KP1 development would generate less peak time vehicle trips as compared with the worst case, extant consent.

8.111 This is however a hypothetical comparison, in that the extant 1999 permission could never achieve 3,150 car parking spaces. This is because future applications brought forward under the 1999 permission would be assessed against the current car parking standards, not those of the 1996 Cambridge Local Plan. Notwithstanding this, the University has mitigated Madingley Road to accommodate this amount of development, therefore the extant permission should be given some weight.

Table 6.0: Comparison of peak hour vehicle flows

Scenarios	**Inbound trips**	**Outbound trips**
2021 Do Minimum – 1999 Consented Development	1,418	1,235
2021 Do Something – Proposed Initial Phase of Development	1,210	1,079
2031 Do Something – Proposed Initial Phase of Development	2,178	1,914

8.112 The Highway Authority has accepted the predicted trip generation for the site and the mode shares.

8.113 In the 2031 scenario there will be an additional 1,552 vehicular trips arriving at the development site during the AM peak when compared to the existing 2016 scenario. During the PM peak there will be an additional 1,329 vehicles departing the site. This is a significant number of additional trips that need to be mitigated on the congested road network which is at already capacity in certain areas. In order to accommodate these trips a strategic scheme will be needed. The GCP A428 Cambourne to Cambridge scheme would help take existing and new trips off the network, therefore giving space for these additional trips to be accommodated.

All mode trips – walking cycling and public transport

8.114 Existing cycle movements from staff and students to West Cambridge was undertaken in May 2015 and is included in the TA, table 3.1. It is based on postcode data. It shows that during the AM peak, 722 cycle trips (around 65%) would be expected to use Madingley Road in 2021. 300 cycle trips are expected to travel north to Eddington Avenue and Madingley Rise (around 30%). A relatively small number are expected from the west of the City along the Coton footpath or Madingley road west (only around 5%).

Impact on Strategic Network

8.115 Highways England note that the later phases of the development focus on a bus mitigation strategy to manage down demand for private motor vehicles to the site. Subject to the details of the updated travel plan being secured through **condition 10: Requirements for all reserved matters applications (i)**, Highways England are content that in the context of the wider mitigation package the development will not give rise to significant adverse impacts on the strategic highway network.

Madingley Mulch Roundabout

8.116 The Madingley Mulch Roundabout is predicted to operate within capacity in 2031 with the Do minimum scenario, in other words with the background growth not including further development at West Cambridge. With the proposed development it will operate marginally above capacity. Neither Highways England nor the County Highway Authority consider there to be a need to undertake works at this junction. This is because of the likely effectiveness of travel demand management in the future and mitigation brought forward by other major schemes on the corridor.

Local Roads

8.117 As a result of this development, the profile of traffic on Madingley Road will change. A threefold increase in traffic on the road system from current numbers is predicted at peak hours and throughout the day. This does not however include the trips generated from background growth on the network and those consented under the 1999 extant permission. All flows experience increases in peak hours reflecting other emerging development.

8.118 The two-way flow on Madingley Road to the west of the new opened WAR is predicted to increase by around 100 peak hour vehicular trips for the 2021 scenario and 400 in 2031. A sample of trip increases along two key links at either end of Madingley Road is set out in Table 6.0 below. The reporting of all links in the study area can be found in the TA, appendix 13.3.

Table 6.0: Increase in vehicle trips

Link	2016 Baseline	Do minimum (extant consent)	KP1 2021	2031 Do minimum (extant consent)	2031 Do something (proposed development)
Madingley Rd between M11 Sbd On Slip - Proposed Madingley Rd West Access Ebd	AM 1,212 PM 424	AM 1,338 PM 600	AM 1,334 PM 595	AM 1,361 PM 674	AM 1,633 PM 689
Madingley Rd - East of Clerk Maxwell Rd Wbd	AM 643 PM 647	AM 919 PM 803	AM 1,040 PM 850	AM 1,040 PM 850	AM 1,215 PM 929

Impact in 2021

8.119 Some links on Madingley Road are predicting to experience decreases in flow for KP1 2021 because of the reduction in car parking at the site as compared to the extant 1990 permission. The highest link flow changes are in CMR, between Madingley Road and the car park access. This reflects the increased vehicle trips associated with the new MSCP in this location. Conversely, the south of CMR there would be a decrease in flows because of the removal of on street car parking.

8.120 The TA concludes that the local highway network operates towards capacity in 2019 during peak hours. The Madingley Road corridor has been assessed for the increase in baseline growth until 2021. This shows that the Park and Ride Access (122% in the AM peak), High Cross (125% in the AM peak) and JJ Thomson Avenue junctions (124% in the PM peak) will operate over capacity at peak periods, without any further development at West Cambridge. These are worst case scenario estimates and it is anticipated that strategic developments on the corridor, i.e. Cambourne West will mitigate those trips at source, through strategic improvements to public transport on the corridor.

8.121 The TA reports an improvement as compared with the total potential development assessed and consented under the 1999 consent. Because of the reduced car parking proposed for KP1 2021, the key junctions are predicted to be less saturated than the 'do minimum' scenario whereby the University builds out the extant permission. For example, High Cross would be 124.5% saturated in the AM under the extant 1999 permission. For KP1 2021 this reduces to 106%. This improvement contributes to the overall officer view that the KP1 development is acceptable.

8.122 Whilst the amount of car parking for 1999 consent would never be built out, the University has implemented the mitigation associated with the 1999

development. Given the 18% reduction in car parking as compared with the 1999 extant consent and the improvements to public transport and travel demand management (see subsections below), the development in KP1 is considered acceptable.

8.123 Notwithstanding the predicted decrease in flows for KP1, the junction at Madingley Road/High Cross, will still be over capacity. The TA calculates this could be resolved with a reduction of only 150 trips. Whilst this is likely to be achieved through travel demand management associated with the Cambourne West development, the TA also considers a physical measure instead. This would consist of a two-to-one lane merger on the eastbound exit of the High Cross junction and both the right turn movements – the west to south right turn inbound and the south to east outbound movements being banned. These movements would be accommodated at the Madingley Road / JJ Thomson Avenue junction. Junction monitoring will be secured through the S106 Agreement (see planning obligations subsection below) and if the junction reaches capacity the measure will be triggered.

Impact in 2031

8.124 The LINSIG results show that most of the junctions along Madingley Road in the assessment area will be operating at or over capacity in 2031. The High Cross junction is a particular problem with significant queuing on Madingley Road east bound in the am peak and west bound in the pm peak. This will cause issues with the adjoining junctions by queuing back though them. A significant amount of mitigation is required to ensure there is capacity made available for the additional trips that are being generated as a result of the 2031 West Cambridge traffic. The mitigation originally included within the TA was not sufficient. A contribution towards the strategic transport solution for the corridor (C2C busway scheme or similar) is therefore required. This is because the overall amount of development proposed requires a strategic transport intervention to take vehicle trips off the network.

8.125 As with the KP1 2021 assessment, the 2031 assessment does not account for any benefit of mitigation assumed to be provided by other developments. As such these results are a worst-case scenario which are unlikely to come to fruition.

8.126 A further LINSIG test was undertaken to understand the scale of trip reduction necessary in the through-flow necessary to make the junction work. It was concluded that this be achieved by a reduction from the worst-case scenario tested of 400 trips, a reduction of around 7 a minute. With the proposals outlined for improved movement along the A428 / A1303 Corridor by others, the TA concludes that this level of reduction remains ‘quite feasible’. For this reason, a strategy for physical improvements to Madingley Road to accommodate these additional movements has not been developed. In addition, to increase the physical scale of the Madingley Road carriageway to provide sections of three-lanes width to respond to peak hour conditions would result in a poorer environment for pedestrians and cyclists.

Mitigation - Adaptive Phased Approach

8.127 The application sits within a strategic context of much transport uncertainty. This is because of the following:

- the impact of the A14 Huntingdon – Cambridge Improvement Scheme;
- the A428 Black Cat to Caxton Gibbet Enhancement Scheme;
- Highways England's need to consider and define the measures along the M11; and
- the impact of a series of other transport schemes – including - the Oxford – Cambridge Expressway, and East to West Rail.

8.128 The development therefore has a defined package of mitigation for KP1 only. To maintain future flexibility, the proposed mitigation for later phases responds to the amount of development within the individual future phase proposals, the timescales for the delivery, changes in future travel behaviour patterns, emerging transport policy, and the current uncertainty relating to the development and transport infrastructure enhancement proposals. At this stage, because of uncertainty, it is not possible to specify what mitigation measures might be required for later phases of the development. When the amount of development allowable under KP1 has been reached, a reassessment of the transport context and impacts will be required. This will be secured through **condition 10: Phase one: amount of development – traffic impacts.**

Relationship with the Cambridge to Cambourne Busway Scheme

8.129 Significant development for the later phases of West Cambridge are indivisible from the strategic transport improvements to the Madingley Road corridor. In order to drive the required modal shift, the West Cambridge proposals require a high quality, attractive bus route to give buses priority and deliver reliable journey times. This is in the form of the proposals being drawn up by the GCP, which also include attractive walking and cycling options to further encourage modal shift.

8.130 The key strategic improvement for the later phases of the development at West Cambridge are contributions to the strategic corridor improvement which will be provided by the C2C route or an equivalent strategic improvement. This aligns with Cambridge Local Plan 2018 Policy 81, whereby reasonable and proportionate financial contributions/mitigation measures are necessary to make the transport impact of the development acceptable. It also aligns with Policy TSCSC 5: Planning Obligations of the Transport Strategy for Cambridge and South Cambridgeshire 2014, which seek a comprehensive approach to the provision of new and improved infrastructure and the University's strategic aims within their Transport Strategy 2019 -2024 which aims to support and where appropriate enable the development of strategic proposals for mass transit and demand management.

8.131 Development of the sustainable transport network will need to strengthen the employment hubs and high tech clusters in Greater Cambridge by making movement between them more straightforward, efficient and convenient. The GCP was predicated on the pooling of local resources from developers of key sites to complement investment from Government.

8.132 This scheme is split over two tranches of the City Deal programme:

- The first tranche is for that element of the scheme east of (and including) Madingley Mulch Roundabout and proposed park and ride site. A contribution towards tranche one is a fundamental requirement of the West Cambridge development.

- The second tranche is for that element of the scheme west of Madingley Mulch Roundabout. West Cambridge will not be required to contribute towards tranche 2.

8.133 West Cambridge should make a proportional contribution to the Tranche 1 measures set out above (P&R / signalisation /Madingley Mulch to City section) based on the 2031 additional AM peak traffic demand that the development would generate along the corridor compared to observed flows plus background growth (768 AM peak trips). The contribution is therefore considered essential to make the development acceptable in planning terms and relates directly to the development because the C2C route would serve the site.

Objections

8.134 Concerns have been raised from CMMRA and CPPF that the scheme did not make adequate provision for the C2C scheme, particularly with regard to a possible bus interchange. The revised application now commits to making contributions towards the C2C to support the later phases of development at West Cambridge. The application DAS includes analysis of how bus prioritisation (rather than segregation) could be achieved through the site layout along Charles Babbage Road. Given the final C2C scheme has yet to be approved and designed, it cannot not be included on the application parameter plans or Design Guidelines however it has been demonstrated that its provision is safeguarded however, compliant with Cambridge Local Plan 2018 policies 19 and 81.

<u>Travel demand management strategy</u>

8.135 Managing travel at this site is key to reducing the number of trips on the network. The broad objectives of the travel plan(s) will be to reduce reliance on the car, promote the softer modes of travel, promote car sharing, encourage behavioural change.

8.136 The overall transport strategy for West Cambridge reflects local and national objectives and is centred on the site location within Cambridge enabling future occupiers to use sustainable modes of travel instead of private cars.

8.137 The development, through travel planning, will encourage the use of sustainable forms of transport such as walking, cycling and public transport which will reduce dependency on the private motor vehicle. Where new car parking is provided, the University commits to providing an 'appropriate' number of EV charging stations. (See air quality subsection below).

8.138 The development will accord with the wider transport strategy for Cambridge and with delivery of the wider transport strategy by providing appropriate developer contributions to the GCP's strategic transport improvements, and Madingley Road Cycle Schemes and assisting in reducing the number and severity of personal injury collisions on the local roads through some targeted road safety improvements.

8.139 Funding will be set aside for measures within the travel plan, as well as money set aside to address any shortfalls in targets for the travel plan. The travel plan will be a working document, monitored annually and adapted over time to be as effective as possible. It will be secured through the S106.

Walking and Cycling Strategy

On site improvements

8.140 Enhancements to walking and cycling provision at West Cambridge are required by Policy 19 as part of a comprehensive approach to the new masterplan. Improvements to the existing streets form a part of the University's strategy to deliver campus transformation through the outline application 16/1134/OUT.

8.141 To the west of the site, the development will provide a new link through the application site to the Coton footpath. This will be secured as a KP1 mitigation, as set out in the mitigation subsection below.

8.142 The amended application includes a revised strategy of cycle improvements for High Cross. Segregated cycle lanes will be provided within the existing green verge to provide north south connectivity with Eddington. This enhancement in the amended submission is strongly supported by officers and will help to promote modal shift by providing enhanced cycle links to Eddington Avenue. These improvements are considered important for KP1 of the development, to meet the needs of the earlier occupations at the site in order to influence travel behavior. This will be secured through **condition 35: High Cross segregated cycleways and tree replacement**.

8.143 A scheme for improving connectivity and the environment for pedestrians and cyclists along JJ Thomson Avenue has already been approved through the Cavendish III application 17/1799/FUL. The alternative strategy, which has broad consensus from officers, involves creation of a 3.5m segregated cycleway and 2m footpath (5.5m in total) along the eastern side of JJ Thomson Avenue. It would extend from the northern end of JJ Thomson Avenue to the Maxwell Centre. The footway in front of the Maxwell Centre would be a 2m cycleway and a 2m footpath. The proposed interventions still

include median strips and areas of shared space to reduce the design speed of the street. In the view of officers, there will be significant improvement to the existing environment along JJ Thomson Avenue for pedestrians and cyclists as a result of the revised strategy.

8.144 Two new crossing points through shared space areas will improve east to west connections across the campus, considerably enhancing the public realm, which will be delivered as part of the Green, in future phases of the development. WCAT previously raised concerns with the proposed design of the crossing points at either end of the Green. They considered the likely traffic flows to justify more formal cycling zebra crossing points. This design change has been incorporated into the Design Guidelines to strengthen east – west cycle connections through the site.

8.145 The OPA proposes an enhanced cycle route within the site to connect with the Coton footpath to the west. This should be delivered during the early phases of the development and will be secured through **condition 20: New footpath and cycle link – West Lake to the M11 bridge**. This will reduce the distance between these two points by approximately 250 metres, providing better access to locations within West Cambridge.

Off Site Improvements

8.146 The development proposes a range of enhancements off site as part of its overall transport package for KP1.

8.147 The principal cycle enhancement for beyond KP1 relates to Madingley Road cycle improvements. Developer contributions are being offered by the University to the GCP Madingley Road Cycle Scheme to assist in its delivery, the exact design of which is subject to public consultation. This improvement directly relates to the impacts of development through increased numbers of cyclists accessing the site and is considered necessary to make the development acceptable in planning terms.

8.148 To enhance connectivity further, there will be an on-going review of future road safety issues, with a fund to deliver road safety mitigation if required; two new crossing points on Madingley Road to enhance connections to the north; enhancements along the Coton Path / Adams Road / Burrell's Walk route into the City, including contributions towards the widening of the existing Bin Brook Bridge; and providing eastwards directly towards the City Centre – along Grange Road, West Road, Queen's Green and Silver Street. These measures have all been secured through the priority projects already approved and are summarised in the planning obligations subsection.

8.149 To provide a further environmental enhancement in the locality of West Cambridge, the University will provide a contribution towards the costs of the necessary traffic regulation order to implement a further reduced speed limit along Madingley Road adjacent the West Cambridge Development between the WAR and the High Cross junctions. The lower vehicle speeds will provide

benefit for existing users of Madingley Road, as well as for the pedestrians and cyclists generated by West Cambridge.

8.150 Later phases of the development could include a bridge or underpass option to link the application site with Eddington. These options have been included within the TA and are costed to form the overall Transport Cap for the development.

Objections

8.151 A number of concerns and objections were set out by WCAT in respect of the October 2017 SPS for off site walking and cycling enhancements. Since this submission, the University now commits to significant contributions towards both the GCP C2C scheme (or equivalent) which will deliver a segregated cycle route as part of its brief and also to the emerging GCP Madingley Road cycle scheme. In addition, the Cavendish III application (17/1799/FUL) was approved in 2018 which secured a significant sum of £400,000. This is based on an enhanced environment for cyclists along Grange Road and West Road (or Sidgwick Avenue).

8.152 The TA predicts that the majority of cycle trips (65%) will utilise Madingley Road. The proposed contribution to the Madingley Road cycle scheme directly mitigates the cycle impacts of the development and the corridor which will be most affected by the proposed development. This betterment in the view of officers addresses a key concern raised by WCAT and other third parties.

8.153 WCAT recommends that the future crossings at High Cross, WAR and JJ Thomson Avenue incorporate fully segregated cycleways that continue up to and though the junction, crossing in a single stage. Whilst this is likely to result in significant impacts on the capacity of the junction, it will nevertheless be considered as part of future phases in a new TA.

8.154 WCAT recommends that the proposed informal crossing point on Observatory Drive and CMR be widened and deepened to at least 3m. This mitigation was approved as part of the new Civil Engineering Building (16/1811/FUL) and forms part of the KP1 mitigation package (see planning obligations subsection). The width of the crossing point was approved at 2.1m because of the constraints of the existing chevrons along Madingley Road.

8.155 Concerns were raised with the design of the junction of the Veterinary School access behind the new Cavendish III laboratory. WCAT considered this to require pedestrian crossing facilities. The detail of this junction was considered and approved as part of the Cavendish III planning application (17/1799/FUL). There is not considered to be any demand for enhanced pedestrian facilities on the southern side of Madingley Road beyond JJ Thomson Avenue.

8.156 Similarly, WCAT raise concerns with the junction of JJ Thomson Avenue. They consider its design to be too vehicle dominated with only a small staggered island crossing for pedestrians. Officers do not consider the east to west flows across the JJ Thomson Avenue junction justify replacing the cycle feeder lane

with a slightly larger pedestrian crossing point. The person movement data in the TA supports that position.

8.157 A number of objections were also raised by CamCycle, which have been addressed in Table 8.0 below. In many instances, the issues raised would be resolved through ensuring compliance with LTN 1/20. This is recognised in conditions 17, 18, 19 and 34 which state that the proposals shall apply the principles within LTN 1/20 (or its successor).

Public Transport

8.158 The C2C GCP scheme (or similar strategy transport scheme) is key to mitigating the full development impacts on the western corridor, by providing an attractive, sustainable commuting option to the site and taking car trips off Madingley Road. In order for the mitigation strategy to be sufficient, a contribution towards the GCP scheme needs to be an essential component of the full mitigation strategy. Whilst the University's later stage mitigation package might release smaller phases in the future, the overall development relies on the GCP scheme, or equivalent, to deliver later phases.

8.159 Cambridge Local Plan 2018 Policy 19 requires high quality public transport to be provided as part of the development. The proposal provides for a comprehensive public transport strategy, developed by the applicant in conjunction with the County Council to address this policy. This strategy identifies the phasing of, and long-term viability of the various route options for public transport on this site.

8.160 The site is located on an existing transport corridor and is currently served by seven bus services provided by the operators Stagecoach and Whippet. The most frequent of which are the Universal 'U' (Whippet, 15 minute frequency) and the Citi 4 (Stagecoach, 20 minute frequency).

8.161 To the north of Cambridge, the Cambridge Guided Bus, a strategic rapid transit scheme, connects Cambridge with St Ives, Huntingdon and Northstowe. It does not serve the development, but through interchange to other bus services provides an alternative to the car to West Cambridge.

8.162 A mitigation strategy has been developed to improve conditions for those travelling by public transport which would be likely to increase the number of those choosing this mode as their mode of travel. The following services will be provided:

KP1 services

8.163 For KP1 the existing Citi 4 service, which has a 20-minute frequency would be diverted via JJ Thomson Ave, Charles Babbage Rd and High Cross. This would provide improved public transport provision to the west in the early phases of development before the C2C busway is operational. In the future, should the GCP proposals be delivered, any proposal to divert and enhance the Citi 4 service would be rescinded as it would be replaced by the GCP proposals. If

not, on completion of West Cambridge the 20-minute through-service to Cambourne would be enhanced by short-workings between the city centre and West Cambridge; these would also operate every 20 minutes to give a 10-minute combined frequency over this section.

Later phased mitigation to inform the transport cap

8.164 The Universal bus service will be increased in frequency. From the start of later phases, from 54% build-out, the frequency would be increased on Weekdays to every 10 minutes over the core North West Cambridge to Cambridge Rail Station section, with alternate journeys continuing to Addenbrooke's Hospital. The Saturday service would be maintained at every 20 minutes between Eddington and the Rail Station.

8.165 The Arc service will be implemented for later phases of the development. The proposed Arc service would reflect Cambridgeshire County Council's earlier GCP public transport proposals (referred to within the GCP documentation as the "Orbital service"). The Arc service would be introduced during later phases at around 80% build-out and would operate on up-to 20-minute frequency from Milton Park and Ride via Cambridge Science Park, Darwin Green, Eddington and West Cambridge to Trumpington Meadows, the Cambridge Biomedical Campus and Addenbrooke's Hospital. The service would operate between West Cambridge and Trumpington Meadows via the M11 motorway.

8.166 There is potential for an additional Guided Busway service operating as a variation to the existing Guided Busway Service B, between Hinchingbrooke – Huntingdon – Cambridge. These journeys would leave the Busway at Orchard Park East, then operate via NIAB (Darwin Green), North West Cambridge to West Cambridge, thereby providing direct links from the A14 corridor. Services would commence during Key later phases at around 80% development build-out, with a frequency of up to every 15 minutes during Weekday peak periods.

8.167 All of the above options are included in the overall transport cap for the later phases of development and would be reassessed based on the current situation at the time of the new Key Phase Strategy application.

Framework Travel Plan (FTP)

8.168 A Framework Travel Plan (FTP) has been included with the application which sets a basis individual travel plans for future reserved matters applications. The travel plan outlines both 'hard' and 'soft' measures designed to encourage sustainable travel to and from the development to reduce reliance on private motor vehicles. In taking this approach car sharing will be increased; improvements to public transport and walking and cycling promoted to a large target audience. In order to promote the implementation of the FTP the University will provide and support a Transport Coordinator for West Cambridge (Development Transport Coordinator); establishment of the Transport Stakeholders Group and a Sustainable Transport Fund for the implementation, management and monitoring and review of the FTP.

8.169 The FTP sets out a timetable for implementation of travel demand management measures through the construction of the scheme. Before implementation of any construction the Transport Development Co Ordinator will be appointed with soft measures introduced to encourage existing occupants to move away from the private car. These include cycle to work scheme vouchers; promoting existing bus services car sharing and other initiatives. At the early stages of the development the FTP will require the establishment of the Transport Stakeholders Group; implementation of hard measures within each key phase. These include the enhanced cycle and pedestrian facilities set out in the Design Guidelines (see planning obligations subsection); implementation of cycle parking facilities; new on-site public infrastructure such as bus stops and real time travel information and new electric vehicle charging points. The later phases of the travel plan commits to undertake monitoring and review which will help to inform strategies for mitigation for later phases of the development. This includes the carrying out of annual travel surveys.

8.170 In order to ensure that the mode share targets are achieved from day one of the occupation of the development the Highway Authority require each individual reserved matters application to provide an interim Travel Plan detailing which measures are intended to be taken for to ensure that the targets are met. The County Council have also requested that for commercial development that the Travel Plan includes early engagement with staff prior to relocation to ensure they are advised of the transport options available to them in advance of moving to the site. The Travel Plans will be secured through the S106 and this is included in the package of measures as set out in planning obligations subsection of the report.

8.171 The University reports in its estate wide Transport Strategy (2019 – 2024) the annual trends of its staff travel survey. This shows that since 2008 lone driver trips across the whole City have increased from 22% to 31% from 2008 to 2018. The study suggests that an introduction of car parking charges at Cambridge Park and Ride sites may be a contributory factor in this rise. The revised FTP (2020) includes mode share targets for both 2021 and 2031 which are 45% and 43.6% respectively for car driver and passenger trips. The aspirational figure of 31.8% for 2031 is included with the proposed highways interventions/improvements proposed.

8.172 If the development fails to achieve its mode share targets for trips by single occupancy private car journeys by the later phases of the development, future phases of the development will need to propose alternative strategies and mitigation.

8.173 Proposals within the travel plan include cycle pools/hubs that will be located near nodes of activity, cycle ‘clinic’ facility in the local centre for works and repairs to cycles, the creation of a cycle club and cycle discounts. Additional car club spaces are required via **condition 22: Site Wide Parking Strategy: Car Parking, EV Charging and Car Club**.

Car Parking Strategy

8.174 The proposed adaptive phased approach to the phasing of the site allows a flexible framework to review the most appropriate amount of car parking at different stages of the development. The University recognises in its Transport Strategy 2019-2024 that car parking is a diminishing resource and the University should manage this resource more effectively and with better regard to need and equity.

8.175 The applicant has made a commitment through the TA to comply with the maximum standards car parking standards, which will be monitored through the reserved matters applications. There is a clear balance to be struck in ensuring that adequate provision is provided and ensuring that use of the car is not encouraged. A lack of available spaces could lead to fly parking across the wider area harming amenity and over reliance on Madingley Road Park and Ride facility.

8.176 The Parking Strategy review takes into consideration the reduction in car parking levels as a result of the Travel Plan impacts on site over the Parking Strategy period. The TA applies the maximum car parking standards in the Cambridge Local Plan 2018, which are the same as that applied at Eddington. For business uses (B use class) the Cambridge Local Plan 2018 car parking standards specify a maximum of one space per 40 sq m gross floor area for academic and commercial uses, including disabled car parking provision. Non-residential higher education uses, as applied to academic research allows for two spaces for every three staff (ratio of 1:5), which is applied at one space per 60 sq m.

8.177 For context, the extant 1999 masterplan applied a car parking standard on one space per 30 sq m with research institutes a ratio of 1:78 which is a more generous provision than the current adopted car parking standards.

Existing car parking patronage

8.178 The results of University surveys of car parking patronage at the West Cambridge Site are included in the TA for 2016 and 2019. These surveys show that the total peak car parking occupancy has decreased marginally at West Cambridge by 1,278 to 1,272 vehicles in spite of further development being occupied and the occupancy of the private car parking has reduced since 2016.

8.179 Occupancy of car parks has decreased on the site overall, despite further development being occupied and generating greater need. This is likely to result from increased car parking controls across the site and introduction of a travel plan for the campus. The TA concludes that there is currently a 30% reserve car parking capacity throughout the day across the estate.

Proposed car parking

8.180 There are currently 1,571 car parking spaces on the West Cambridge site. The extant 1999 permission provided standards for up to a further 1,579 more, taking the total to 3,150 car parking spaces.

8.181 The extant 1999 permission is approximately similar in GFA to KP1 of the new OPA. Permission in 1999 was granted in accordance with the 1996 car parking standards, potentially resulting in up to 3150 car parking spaces. However, the 1999 masterplan was very clear that car parking would be reviewed for each reserved matters coming forward and there was an expectation there would be a shift to sustainable travel modes.

8.182 In addition, the 1999 total potential car parking could never be realised because the 2018 Cambridge Local Plan car parking standards would be applied for a reserved matters application under the 1999 masterplan in 2019. This is an important context when making comparisons between the 1999 extant permission (for up to 3150 car parking spaces) with the proposed development.

Phase 1 Car Parking

8.183 The first phase of development would see an 18% reduction in car parking as compared to the extant 1999 masterplan. Permission is sought for a maximum 999 additional car parking spaces over and above the 1,571 car parking spaces already built out at West Cambridge. This would bring the KP1 total to 2,570 spaces which equates to 58% of that which is permitted in the local plan.

8.184 The existing built out floorspace at West Cambridge, in additional to the priority projects recently approved, totals approximately 205,000 sq m. Taking into account the demolition of the existing Cavendish II Laboratory there is around 93,455sq m of floor space which remains to be provided. With the 52,000 sq m of commercial floorspace remaining to be delivered for KP1, approximately 1,300 car parking spaces would be required under the Adopted Car Parking standards. The priority academic projects came forward with a relatively low demand for car parking because of their use and function and high number of cycle trips from students living in the City. Most of their car parking needs were accommodated within the existing pooled academic car parks to the east of the campus. Depending on the form of development which comes forward for the remainder of KP1, there is a reasonable likelihood that an additional 999 car parking spaces over and above the existing provision on site, will not be required. The phasing for any further car parking for phase one, be it construction of one of the proposed MSCPs or additional surface level provision, will be managed through **condition 22: Site Wide Parking Strategy: Car Parking, EV Charging and Car Club.**

8.185 The University commits to monitoring the agreed car parking strategy on a long term basis through the future phases of development. The strategy for monitoring and review will require all reserved matters planning applications to take account of the following:

i) existing car park provision
ii) existing car park occupation;
iii) existing car park permit allocations;
iv) short-term changes to the on-site car parking requirements, including:
- building on car parks;
- construction activity on car parks;

- completion of new car parking spaces;
- building floor space closures / occupations;

v) accessibility car parking issues; and
vi) construction car parking.
vii) progress on travel plan implementation.

8.186 The travel demand management strategy aims to significantly reduce the maximum standards over time, by considering the various Travel Plan measures being proposed. The maximum parking provision will be monitored and enforced through the car park management **condition 22**.

Later phases

8.187 The OPA proposes up to 4,390 spaces in total, which responds to a considerable increase in employment floorspace, but at relatively lower levels of car parking provision. Car parking numbers have been derived using both the Local Plan provision on the gross floor areas by land-use type, and by the proposed car parking provision rates for West Cambridge and are summarised in Table 8.8 of the 2020 Transport Assessment. The proposed number of spaces is well below that which could be provided under the local plan provision, which would allow for 8,397 spaces, 52% provision. The car parking provision proposed reflect the proposed land-uses however should less commercial land-uses come forward, the total car parking provision would be significantly lower.

Off street car parking mitigation

8.188 The Highway Authority has considered the impact that those travelling to the development may park on-street in surrounding residential areas. In order to mitigate this potential impact the applicant must commit to parking surveys to monitor this. In the event that the surveys demonstrate there to be an issue, a consultation (funded by the developer) will be undertaken of residents in the affected streets to establish whether there is support amongst residents for a managed parking scheme. In the event that additional measures are shown to be required these will be funded by the developer. The survey work and funded can be secured through the Section 106 agreement as set out in section.

Blue Badge Car Parking

8.189 The parking strategy provides for a minimum of 5% of the total number of car parking spaces provided to be designated for use by the mobility impaired. These are to be located close to building entrances. This equates to a greater provision than the Cambridge Local Plan 2018 standards which are 5% of spaces.

Extant 106 obligations

8.190 The extant 1999 masterplan included a clause for improvements towards cycle and pedestrian improvements on Silver Street as follows:

Clause 13:

To pay a contribution not exceeding £30,000 towards cycle and pedestrian improvements on Silver Street, including signage, when the total number of two-way pedestrian and cycle movements between the City Centre and the Land measured at the junction of Adams Road, Wilberforce Road and the Coton footpath (Station 3) exceeds 500 in any one hour between 8am and 10am.

8.191 These monies were not spent. It is therefore proposed to include the unspent £43,816.60 (with indexation) towards future pedestrian/cycle links across Queen's Green which form part of the KP1 mitigation package. (See planning obligations subsection). This is a similar scheme to that originally intended.

8.192 The previously proposed Rifle Range cycleway to the south of the site is not currently deliverable because of land ownership issues. The OPA provides suitable alternative cycle provision into the City through its contributions to the Madingley Road cycle scheme and enhancements to Adam's Road, Grange Road and West Road or Sedgwick Avenue secured as part of the Cavendish III development 17/1799/FUL.

Transport Summary

8.193 With the transport mitigation measures proposed, the travel planning and parking strategy review, the car parking levels being sought are considered justified and acceptable in accordance with Cambridge Local Plan 2018 policy 82. The Local Highways Authority and Highways England raise no objection to the proposals subject to the mitigation package set out in the planning obligations section below.

Air Quality

8.194 The ES provides an assessment of potential impact of the development on local air quality. The development site is not within an AQMA but some of the likely traffic impacts will affect the City AQMA.

8.195 In terms of policy context, Part 4 of the Environment Act 1995 introduced a system of Local Air Quality Management (LAQM). This requires Local Authorities to regularly review and assess air quality within their boundary and appraise development and transport plans against these assessments. Where national air quality objectives are not met within relevant timescales, LPAs must draw up Air Quality Management Areas (AQMA) setting out measures it intends to introduce in pursuit of the objectives of the AQMA. Cambridge has an AQMA which broadly encompasses the City centre, including the eastern end of Madingley Road, finishing at Grange Road.

8.196 Ecological receptors for the protection of habitats form part of the air quality assessment. As part of the Scoping Response Natural England requested that the air quality impacts on Madingley Wood SSSI be assessed.

8.197 The NPPF (2019) in paragraph 103 states that significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. This can help to reduce congestion and emissions and improve air quality and public health. In principle the West Cambridge Site is suitably located and has the potential to meet these objectives.

8.198 The NPPF (2019) paragraph 181 states that planning decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of AQMA's and cumulative impacts. Opportunities to improve air quality or mitigate impacts from individual sites should be identified such as through traffic and travel management, green infrastructure provision and enhancement.

8.199 Cambridge Local Plan 2018 Policy 36: Air Quality, odour and dust, states that *"Development will be permitted where it can be demonstrated:*

a. that it does not lead to significant adverse effects on health, the environment or amenity from polluting or malodorous emissions, or dust or smoke emissions to air; or

b. where a development is a sensitive end-use, that there will not be any significant adverse effects on health, the environment or amenity arising from existing poor air quality, sources of odour or other emissions to air.

According to the end-use and nature of the area and application, applicants must demonstrate that:

a. there is no adverse effect on air quality in an air quality management area (AQMA);

b. pollution levels within the AQMA will not have a significant adverse effect on the proposed use/users;

c. the development will not lead to the declaration of a new AQMA;

d. the development will not interfere with the implementation of the current Air Quality Action Plan (AQAP);

e. any sources of emissions to air, odours and fugitive dusts generated by the development are adequately mitigated so as not to lead to loss of amenity for existing and future occupants and land uses; and

f. any impacts on the proposed use from existing poor air quality, odour and emissions are appropriately monitored and mitigated by the developer."

8.200 Chapter 11 of the ES assesses the likely significant effects of the proposed development on air quality. The assessment considers construction dust emissions; operational CHP plant emissions; operational laboratory emissions and road traffic emissions. The Council's Environmental Health Team are

content with this scope of assessment. The baseline information on existing air quality has been collated from results of monitoring carried out by Cambridge City Council and South Cambridgeshire District Council.

8.201 As part of the October 2020 SPS the air quality assessment in the ES included remodelling to take account of updated traffic data. 2021 traffic data was combined with 2018 emissions factors and background concentrations and 2031 traffic data was combined with 2025 emissions factors and background concentrations. This was in order to provide a conservative estimate of the effects of the proposed development. This reflects that road traffic emissions are predicted to decline with time through tighter emissions standards.

8.202 The effect of emissions from vehicles on CMR was screened out of the ES assessment because the total daily traffic movements is below the threshold stipulated by the Institute of Air Quality. This is considered acceptable by the Council's Environmental Health Team.

8.203 The centralised energy centre impacts were modelled as part of the assessment. There is potential for clusters of buildings across the site with part of the energy provision provided by ground or air source heat pumps. (See sustainability subsection above). However, in the scenario where there is a distribution of energy approaches, each combustion source will be much smaller that the centralised energy centre and the overall emissions are likely to be lower. The Council's Environmental Health Team are content with this approach.

8.204 The proposed development has the potential to adversely affect air quality during both the construction phase and the operational phase. The main pollutants of concern related to construction are dust and fine particulate matter (PM10) and for road traffic they are Nitrogen Dioxide (NO2) and fine particulate matter (PM10 and PM25). The ES concludes that the level of increase is not significant. Whilst the Council's Air Quality Officer has concerns with any increase in pollution within the AQMA due to the impact of additional traffic generated by the development, the package of mitigation in the round is considered sufficient to manage the harmful impacts over time.

8.205 Air quality was not considered to be an issue in 1999 at the time of the extant consent because an improvement in vehicle emissions was expected as the new Euro standards came into force. Therefore, the extant permission is only relevant as a matter of interest. It is not appropriate to compare the consented scheme with that now proposed.

Construction effects

8.206 The dust emission during construction of the site has the potential to be large given the size of the site. As construction traffic data is not known, but has the potential to be considerable, construction dust will need to be controlled. A construction and dust management plan will be required. This can be secured by **condition 44: Demolition and Construction Environmental Management Plan (DCEMP).**

Operational impacts - Energy Centre emissions

8.207 The provision of on-site district heating scheme is welcomed by the Environmental Health Team. This type of energy provision is typically more efficient than each building providing its own power supply.

8.208 Emissions from the proposed centralised energy centre have been modelled at existing off-site and on-site receptors and proposed receptor locations. The results demonstrate that on-site receptors will experience an addition of up to 2 micrograms per cubic metre of nitrogen dioxide, with higher concentrations close to the energy centre itself, where there are no receptors. Background levels of nitrogen dioxide are low at the proposed development, so this localised increase is acceptable. Contour plots are provided to show the distribution of air pollutants from the flue, which are considered acceptable.

8.209 The emissions from the Energy Centre have been modelled based on typical manufacturers' data for the type of equipment used and this is considered suitably robust. The emissions from the energy centre can be adequately controlled by **condition 21: Gas fired boilers.**

Operational effects - traffic

2021 – first phase of development

8.210 The ES concludes that there would be no significance of effect for air quality related to the increase in traffic and emissions. In 2021 with the development in place NO2, PM10 and PM25 concentrations are not predicted to exceed the air quality strategy objectives at any of the existing residential receptor locations.

8.211 The Air Quality Assessment predicts increases in pollution levels in the AQMA, which is contrary to Policy 36 in the adopted Cambridge Local Plan. The increases in air pollution affecting the AQMA are related to traffic emissions.

8.212 The Council's Environmental Health Team consider that although emissions have been declining, they have not been declining in line with predictions. Therefore, the usual approach recommended by Cambridge City Council and other local authorities is to carry out modelling for future years with baseline year background and emission factors to provide a realistic, if slightly conservative, prediction of future pollution levels. The approach adopted in this assessment is likely to have included optimistic emission factors and background data. Notwithstanding, the Environmental Health Team are satisfied with the scope of modelling work.

8.213 Traffic data is key to assessing the air quality impacts of the development. Data for vehicular trip generation is provided in section 13 of the Transport Assessment. The County Council had sought more information as to why the predicted total 2031 Mitigated Do Something AM peak hour flows reduced by 1,048 from the 2031 Do Something scenario. Further information was provided

by the University detailing that the predicted usage of the various public transport mitigation measures set out in the mitigation tables, along with the Cambourne to Cambridge strategic transport measures will enable this shift from vehicles. This was accepted by the County Council and taken into account by the Environmental Health Team.

8.214 The model results are tested by comparing the modelled air pollution predictions with the air pollution measurements at known points. This model verification process gives a reasonable comparison using a range of locations in the vicinity of the site. However, the comparison is not ideal for the Cambridge City area receptor points. There are two Receptor Points in the Air Quality Management Area (R15 Victoria Road and R16 Northampton Street) and two adjacent to the Air Quality Management Area (R17 and R18 at the eastern end of Madingley Road).

8.215 It is accepted that here is considerable local heterogeneity in air pollution levels and measurements and these receptor points are not all located in exactly the same place as the diffusion tube, so some variation is to be expected. However, overall the data demonstrates that the predictions for the locations in the Cambridge City Council district are always lower than those recorded, by a considerable margin in the case of Madingley Road. This suggests that the model is under-predicting the concentrations of nitrogen dioxide in 2016, and by implication, for future years as well. This appears to be a particular issue closer to the city centre, where the effects of slow-moving and stationary traffic are typically not well assessed by modelling, usually because traffic speeds in the model are higher than actual traffic speeds. Measurements are higher than predictions on the busy and congested roads.

8.216 It is well known that although emissions have been declining, they have not been declining in line with predictions. Therefore, the usual approach recommended by Cambridge City Council and other local authorities is to carry out modelling for future years with baseline year background and emission factors to provide a realistic, if slightly conservative, prediction of future pollution levels. The approach adopted in this assessment is likely to have included optimistic emission factors and background data. The consultants state that their approach is sufficient to assess the road traffic implications of the development and therefore have declined to provide a sensitivity analysis and state that no sensitivity testing is required for an Environmental Statement. As a result, some uncertainty in the modelling results must be assumed.

8.217 The predicted changes in concentration show an increase in ambient nitrogen dioxide, PM10 and PM2.5 in both 2021 where the increases are slight (Northampton Street) and moderate (Madingley Road) and 2031. As noted above, these are likely to be an under-estimate of the real impact.

2031 – Future phases – Protected air quality in the AQMA

8.218 A threefold increase in traffic on the road system from current numbers is predicted at peak hours and throughout the day for the 2031 assessment. This does not however include background growth not attributable to West

Cambridge or those already consented under the extant 1999 masterplan, which could be completed.

8.219 The Air Quality Officer has raised concerns that the percentage of heavy-duty vehicles (HDV) remains the same in the data sets for without and with mitigation. For example, the AADT for Western Access Northbound is 3,310 (6.26% HDV) without mitigation and 1,539 (6.26% HDV) with mitigation. This results in a prediction of 110 fewer HDV which is unrealistic. The mitigation measures remove only private vehicle journeys, however if there are fewer private cars arriving on site then it is expected that the percentage of HDVs would rise, for this segment then the percentage of HDVs would double. If the private car trips are being replaced by additional bus services then a further increase in the HDV percentage would follow, which is not reflected in the data sets. Accordingly, the AQA modelling for the 'with mitigation' scenario is not correct because the percentage HDV used has not changed to reflect the change in fleet composition, or the additional public transport trips being made.

8.220 The 2031 Full Development with Transport Mitigation Measures scenario is predicted to result in increases of up to 1.2 micrograms per cubic metre of nitrogen dioxide, up to 0.31 micrograms per cubic metre of PM_{10} and 0.1 micrograms per cubic metre of $PM_{2.5}$. These increases are small but the air quality assessment modelling does not work well in the busier more congested roads in Cambridge, so that these absolute figures are not likely to be accurate. The air pollution predictions are indicative. Further, the percentage of HDV remains the same in the data sets for without and with mitigation, as above. The Air Quality Assessment modelling is not correct because the percentage of HDV used has not changed to reflect the change in fleet composition, or the additional public transport trips being made. Accordingly, it is concluded that here will be a negative impact on air quality in the Cambridge Air Quality Management Area if this proposed development is permitted.

Mitigation

8.221 As there will be a negative impact on air quality in the Cambridge Air Quality Management Area if this proposed development is permitted. Therefore, mitigation is required. The Greater Cambridge Sustainable Design and Construction Supplementary Planning Document (2020) sets out the hierarchy within the approach to air quality that should be followed as below:

8.222 The application could be made acceptable with a package of specific and strategic transport solutions for the reduction of the number of trips and air pollution generation to mitigate the adverse impacts on air quality. This would include a commitment to integrate and contribute towards the strategic transport scheme for the corridor, the C2C busway or equivalent, plus on site mitigation including EV charge points, review of car parking demand and provision, cycle parking provision and car club provision.

8.223 **Condition 22: Site Wide Parking Strategy: Car Parking, EV Charging and Car Club** requires a site wide parking strategy to be submitted. The strategy requires identification of how existing (underutilised) infrastructure is used, commitments to car club provision and the provision of EV charge points. The Environmental Health Team has requested 90% of car parking spaces have electric vehicle charge points. However, this figure is significantly higher than the 50% required by the Cambridge Air Quality Action Plan 2018 and cannot be justified.

8.224 In addition to the above design and mitigation strategy, the final stage of air pollution mitigation is provision of funds for other air quality improvements. Therefore, a damage costs assessment has been carried out based on the Defra Damage Costs Approach. This calculation compares the impact of the additional emissions associated with the proposed development with the current impact and assigns a monetary cost to the additional damage. This sum should then be used to make further improvements to the proposals to offset the damage incurred. Additional information has been provided by the University to include additional bus services which were not included in the submission documents which has resulted in a higher figure than previously provided being £27,990 - £73,780 higher than the previously agreed mitigation package (the variation is due to the type fuel used by buses, currently not known). The Air Quality Officer has requested this sum be committed to EV charge point provision on the site however provision of EV charge points is already provided within the application therefore it is considered appropriate to require the monies are spent on any of the measure identified in Tables 3.18 and 3.19 of the Greater Cambridge Sustainable Design and Construction SPD (or its successor).

Environmental Impacts and Residential Amenity

8.225 Cambridge Local Plan 2018 Policy 35: Protection of human health and quality of life from noise and vibration, states that development will be permitted where it will not lead to significant adverse effects and impacts, including cumulative effects and construction phase impacts wherever applicable, on health and quality of life/amenity from noise and vibration. Noise must be carefully considered when new development might create additional noise and when development would be sensitive to existing or future noise.

8.226 The Council's Environmental Health Team have considered the long-term cumulative impact on existing off-site noise sensitive residential premises and receptors immediately to the east off CMR (The Lawns, Perry Court, Hedgerley Close, 9 and 51 and 53 Madingley Road) and to the north off Madingley Road (Rosemary Cottages, Lansdowne Road, Whitehouse Apartments and Conduit Head Road). Potential noise sensitive receivers on the site include tenants of the North and South Residences (Franklin Court, Fawcett Court, Forster Court) and Veterinary Cottages, nurseries and users of academic facilities.

Demolition and construction phase impacts

8.227 The development includes complete redevelopment of the existing Cavendish II Laboratory in the south eastern corner of the site. This will release the land for more appropriate and denser development of contemporary buildings, constructed to modern standards to meet the needs of the Department of Engineering.

8.228 The submitted CEMP is the strategic environmental plan for the construction of the proposed development and provides a framework that sets out the environmental issues and management procedures to be adopted during construction works on site. The Environmental Health Team is concerned that the submitted CEMP is lacking in detail with inadequate reference to relevant British Standards, best practice and technical guidance relevant to demolition / construction related environmental issues / topics and that it is not complete or comprehensive enough to be considered for a compliance type condition. This is agreed and more detailed CEMPs for specific development phases will come forward for future reserved matters applications, secured by **condition 44: Demolition and Construction Environmental Management Plan**. In addition, the ES states that Construction Waste Management Plans (CWMPs) and Construction Traffic Management Plans (CTMPs) are to be prepared in parallel. The preparation of these documents will be the responsibility of the Principal Contactor working with sub-contractors, at each stage of the development. It is noted that the Environmental Health Team have requested a site-wide CEMP be submitted prior to the commencement of development. However, due to the sheer scale of development and the timeframes involved (considering KP1 and beyond) it is considered that a site-wide CEMP would not be practicable to produce at this time due to the lack of information available (due to timeframes, contractors not yet known etc) therefore the CEMPs required by condition 44 with each reserved matters applications are considered an appropriate alternative.

8.229 Site lighting is likely to be required and ES states that mitigation of impacts may be necessary and could include careful positioning, directing and anti-glare control. The approach detailed is acceptable and artificial lighting impacts during demolition and construction can be controlled and mitigated by inclusion as an item in the DCEMP condition.

8.230 The Council's Environmental Health Team consider the following construction and collection hours appropriate, which would be secured through **condition 44: Demolition and Construction Environmental Management Plan**:

0800 hours and 1800 hours on Monday to Friday
0800 hours and 1300 hours on Saturday and at no time on Sundays, Bank or Public Holidays.

8.231 A construction related noise impact assessment that has been undertaken within the ES which is considered acceptable and mitigation will be secured through the DCEMP condition and as such impacts can be reduced to a minimum.

Operational noise and vibration

8.232 Noise and vibration effects associated with operation of the amended proposed development have the potential to affect the health and quality of life, amenity of surrounding properties and public areas. This could be from plant facilities or workshop activities within institutes that locate to West Cambridge in future. The potential impacts also include road noise.

Road noise

8.233 The impact assessment methodology and criteria used is acceptable for off-site local road traffic noise impacts. It considers the change in noise levels at noise sensitive receptors due to a change in the volumes of road traffic generated by the proposed development. The Council's Environmental Health Team agree with the conclusions of the ES that no or negligible adverse impact is likely to arise in the long term for off-site local road traffic noise following full build out.

8.234 Consideration has also been given to operational noise effects directly associated with the MSCP proposed in the north east corner of the site onto CMR. It is stated that predictions indicate that the change in ambient sound level following the introduction of the new car park are unlikely to exceed proposed Lowest Observed Adverse Effect Level (LOAEL) during AM and PM peak hours and should therefore be considered acceptable. Although the Environmental Health Team do not agree fully with some of the existing ambient noise levels used in the assessment, given the location of the proposed car park close to Madingley Road, there is agreement with the conclusions that impacts will be low to negligible. The detailed design of the MSCP will be considered at reserved matters stage as and when the need is demonstrated. Appropriate consideration has been given to potential noise and vibration impacts in accordance with Cambridge Local Plan 2018 policy 35.

Access from CMR (eastern end of the site)

8.235 The October 2020 SPS revised the accesses onto CMR and two accesses are now proposed: I-J (at the northern end of CMR) and K-L (mid-way down CMR) (see Figure 1 below). A third access further to the south on CMR was previously proposed but was removed in Access and Management Parameter Plan 03 in the October 2020 SPS.

8.236 The outline application is accompanied by a Servicing Technical Note (September 2020). The Servicing Technical Note sets out that access I-J would be the access point for all servicing vehicles serving the eastern part of the site as well as the proposed multi-storey car park in the north eastern corner of the site. Access K-L would be for pedestrian and cyclists only. Assumptions about the extent of vehicle usage of these servicing access points, based on assumptions around the relocation and growth of the Department of Engineering into the eastern part of the West Cambridge site are set out in the Servicing Technical Note, with a focus on the potential impact on neighbouring properties off CMR, broadly in the southern part of CMR.

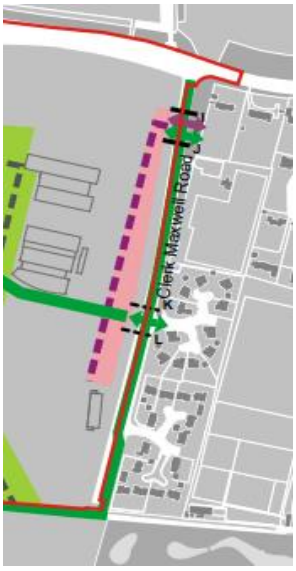

Figure 1: West Cambridge Site Outline Parameter Plan 03 (Rev. 02)

8.237 Officers note there are strong objections from CMRRA and neighbours regarding the increased use of CMR for access and servicing in terms of the impact on neighbouring amenity. The impact of the proposed development needs to be considered against the existing situation, or what could occur currently on site.

8.238 There is currently car parking for 290 spaces within the University Park and Cycle facility from CMR and approximately 95 uncontrolled spaces on street on CMR itself, totalling 385 spaces. The proposed development will provide complete removal of on-street car parking on CMR through the creation of cycle lanes (part of the KP1 mitigation package) on either side of the street. The proposed MSCP will have a maximum capacity of 450 spaces, access via access I-J, which is 65 spaces greater than the current situation on CMR. The submitted noise assessment has confirmed that the sound levels associated with the proposed multi-storey car park are not likely to exceed the proposed Lowest Observed Adverse Effect Level (LOAEL) and are therefore considered acceptable (see Noise and Vibration Chapter of the ES Addendum). The use of CMR for access to the MSCP is unlikely to result in an unacceptable noise impact on the residential amenity of properties at The Lawns and Perry Court or indeed 53 Madingley Road.

Future Long-Term Servicing Strategy

8.239 Access I-J will also be used by service vehicles. The serving operations and arrangements for the Department of Engineering, which is currently located on the Trumpington Road site, have been confirmed by the on-site facilities manager and are included within the Servicing Technical Note. This data provides a greater degree of certainty about future impacts on CMR.

8.240 Figure 2 below visually illustrates the proposed servicing strategy for the eastern part of the West Cambridge site broken into four zones and the following diagrams identifies the servicing strategy for each zone.

Figure 2: Zonal proposed servicing strategy for the eastern part of the West Cambridge site

8.241 It is anticipated that approximately 65 deliveries will a serve the site on a daily basis via access I-J on CMR, the majority of which will be white van/courier type vehicles. Approximately 2% of deliveries will be in vehicles over 7.5 tonnes, which equates to about 1.5 deliveries per day. As a worst-case the noise assessment has assessed one >7.5 tonne vehicle delivery per hour which is significantly higher than the number of deliveries forecast. The results of the assessment set out that there will be less than an adverse noise impact during the daytime on residents at The Lawns and Perry Court in this worst-case scenario.

8.242 Vehicles servicing the blue zone (see figure 2 above) will enter and exit the site from access I-J (see figure 1 above). Buildings in the green zone will predominantly be serviced from CMR however some buildings will be able to be serviced from JJ Thompson Avenue via the orange zone. All buildings in the orange zone will be serviced from JJ Thompson Avenue. Buildings in the purple zone will be serviced from CMR, travelling through the blue zone. Use of access I-J to the purple zone will require vehicles to cross the east-west cycle link at point (K-L). The infrequent movement of HGVs across this route to service the redeveloped Cavendish II site will be managed by a banksman, if necessary.

8.243 Consideration was given to using JJ Thompson Avenue for all servicing of this eastern part of the site however this would compromise the quality and enjoyment of the public realm of the north-south East Green Link and flexible zone as proposed on Parameter Plan 03. As such, this was discounted sue to the adverse impact on the public realm and potential conflicts between servicing vehicles and pedestrians/cyclists.

8.244 The full planning application for the Civil Engineering Building (permitted in March 2017 reference 16/1811/FUL) was accompanied by a 'Servicing and Operational Management Plan (October 2016). As later phases of development within the area east of JJ Thomson Avenue come forward through reserved matters applications, the servicing document will be updated. Updates will reference new buildings and any issues that need to be managed to ensure the amenity of neighbouring properties is protected. All future buildings to the east of the site will need to be in compliance with the site wide servicing strategy secured through **condition 48: West Cambridge - Servicing Technical Note – (AECOM August 2020).**

8.245 In terms of operational servicing from deliveries, an indicative assessment has been undertaken in general accordance with BS 4142:2014 to determine the likely noise impact associated with the use of CMR for deliveries, servicing and access on residential premises the quietest residential area adjacent to the development site. The assessment was undertaken for typical daytime (07:00 – 23:00) periods. As night-time deliveries are not anticipated, a night time assessment has not been undertaken. **Condition 48** restricts servicing of access I-J off Clerk Maxwell Road (as shown on parameter Plan 3 WC/OPA/PAR/03/REV02) for service deliveries / collections between the hours of Monday to Friday 0800 to 1800 hrs and no use on Saturdays and Sundays or Bank or Holidays.

8.246 The numerical assessment of sound levels associated with the proposed access route and associated delivery noise at the nearest proposed noise sensitive receptor indicates that the operation of CMR for servicing and access is likely to result in a low impact during the daytime. No objections are therefore raised by the Council's Environmental Health Team.

Operational plant equipment

8.247 The development will provide further laboratory space which will vary between potential future occupiers. Operational plant noise emissions have been assessed in accordance with BS 4142. and the *Cumulative plant noise emissions impact levels (Chapter 12. June 2016)* for assessing significance of impacts is generally considered acceptable. At this stage, it is stated that it is unknown what type of plant services will be required to serve the range of potential uses.

8.248 Based on typical plant noise emissions criteria and the background noise levels measured during environmental sound surveys, cumulative plant noise emissions at the nearest noise sensitive receptor should not exceed acceptable levels.

8.249 To protect the long-term quality of life and amenity of existing residential premises in the immediate vicinity offsite, cumulative maximum operational noise levels are recommended for each reserved matters in the future. This shall include cumulative impact of all reserved matters applications when completed. This approach was taken for the three priority projects already

approved as full planning applications. This will be secured by **condition 46: Total Operational Sound / Noise Levels.**

Odour and fumes

8.250 The proposed development includes cafés, restaurants and pubs which will be categorised as retail/food and drink floorspace (Classes A1-A5 uses). These uses have the potential to generate fumes and odours which may have an adverse impact on heath and quality of life and amenity, even at relatively low concentrations. The academic and research uses may also have fume cupboards and odorous chemicals may be used. This is usually a detailed design matter which is use and phase specific. The Environmental Health Team are satisfied that any significant adverse or other adverse impacts can be ether avoided or minimised to an acceptable level through the future discharge of **condition 49: Building Ventilation Strategy - Odours / Fumes.**

Light Pollution

8.251 The NPPF 2019 states that good design needs to limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation. Cambridge Local Plan 2018 Policy 34 states that proposals that include new external lighting will be permitted where upwards or intrusive light spill is minimised on both local residential amenity, wildlife and landscape character on the edge of Cambridge. Developers of major sites will be required to submit an assessment of the impact on any sensitive residential premises both on and off the site.

8.252 The Environmental Health Team raise concerns about the effects on residential premises as lighting can be considered a statutory nuisance and can have an adverse impact on quality of life and amenity. The proposed development has substantial new buildings (in terms of height and mass) closer to the eastern and northern boundaries, which has the potential to materially alter lighting levels and cause significant impact. The ES states in the LVIA that viewpoint 5 (from the east) is one of high sensitivity and impacts include external lighting and lighting from windows on the eastern facades of the building which would result in light spill and contribute to sky glow. The most significant light pollution is most likely to emanate from the illumination of car parking areas and internally from rooms in buildings that are lit up at night.

8.253 Artificial lighting is usually assessed at detailed design stage. The applications for the priority projects ensured that obtrusive lighting of their roof form was avoided. This approach is considered appropriate given the site context.

8.254 In terms of mitigation for the OPA, the ES states that any new artificial lighting to buildings or spaces will ensure that impacts of lighting on and offsite meet the Institute of Lighting Professionals – Guidance Notes for the Reduction of Obtrusive Light – GN01:2011 for the appropriate environmental zone. The Council's Environmental Health Team are content with this approach and as such **condition 50: Artificial Lighting Scheme / Impact Assessment (Reserved Matters)** is recommended.

8.255 Subject to the appropriate control over lighting impacts associated with the development of the site through the imposition of suitable conditions, the proposed development accords with Cambridge Local Plan policy 34.

Construction Traffic Management Plan

8.256 In order to reduce the impact of construction of the development on the local highway network a construction traffic management plan will be needed. The most significant impact that is likely to occur is the journeys of construction vehicles on the local highway network. **Condition 44: Demolition and Construction Environmental Management Plan** which will require details of construction traffic routes for each development parcel. The applicant has confirmed that there will be no construction traffic through CMR which is supported.

Contaminated Land

8.257 Cambridge Local plan 2018 Policy 33 states that development will be permitted where the applicant can demonstrate that there will be no adverse health impacts to future occupiers from ground contamination.

8.258 A review of historic maps confirms that parts of the application site were formerly occupied by a wartime facility (known as The Shorts) and by Depots. Potentially contaminative activities associated with the former military use include fuel dumping areas, aircraft servicing and chemical degreasers. More recently the site has a long-established use as University laboratories, research facilities and grazing farmland.

8.259 Individual intrusive investigations should be undertaken at each plot as development progresses. The Environmental Health Team requires that proposed scope of works is submitted for approval for the intrusive works before these are undertaken. It is expected that ground gas monitoring is undertaken as part of the intrusive works across the site. Investigations undertaken have reported concentrations of carbon dioxide in soils that warrant the incorporation of gas protection measures into the design of any new building on those parts of the site.

8.260 All land contamination issues can be covered by standard conditions covering both KP1 and later phases (**see conditions 37 – 42**)**.** In the view of officers, the proposed development adequately respects the residential amenity of its neighbours and the constraints of the site and with mitigation secured through conditions is considered compliant with Cambridge Local Plan (2018) policies 33, 34 and 35.

Landscape and Visual Impact

8.261 The NPPF (2019) advises new development should add to the overall quality of the area, not just for the short term, but over the lifetime of the development and that it should be sympathetic to local character and history, including

landscape setting. Paragraph 170 set out that planning decisions should contribute to and enhance the natural and local environment, protecting and enhancing valued landscapes and recognising the intrinsic character and beauty of the countryside. Analysis of these policy objectives is provided in this subsection below.

8.262 The key Cambridge Local Plan 2018 policies are 8, 19, 59 and 60, which cover setting of the City, tall buildings and integrated landscape approach. Policy 8: Setting out the City, states that development on the urban edge, including sites within and abutting green infrastructure corridors and the Cambridge Green Belt, will only be supported where it responds, conserves and enhances the setting and special character of the City. This is addressed in Policy 19: West Cambridge, whereby any new masterplan for West Cambridge should give consideration to the sensitivity of the landscape setting within the Green Belt to the south and west and other neighbouring residential uses.

8.263 Policy 60 provides a framework for assessing any proposal for a structure 'that breaks the existing skyline and/or is significantly taller than the surrounding built form'. It acknowledges Cambridge as a City of spires and towers which emerge from the tree and building line. Policy 60 states that within the suburbs buildings of more than four storeys and above, with a height of 13m above ground level, will trigger the need to address the policy criteria. This includes demonstration through visual assessment how the proposals fit the existing landscape and townscape, quantifying any potential harm to historic assets and more detail amenity and public realm considerations.

8.264 Policy 59: Designing landscape and the public realm stresses the importance of existing trees providing a sense of maturity to new developments and the important role they play in softening and integrating development in the wider City. Analysis of the setting of West Cambridge in relation to the new development is provided below.

8.265 The Landscape and Visual chapter 8 of the ES assesses the Landscape and Visual Impact Assessment (LVIA) carried out for the proposed development. The LVIA has been carried out because of the scale and massing of the scheme and its sensitive location. The ES considers the impacts of the development during the construction and operational phases for potential impacts on landscape character areas around the site and visual receptors (see Appendix 4 – Map of Visual Receptors). Visual receptors could include occupants of residential properties, public buildings, users of public open spaces, public rights of way or transport corridors. Visual receptor locations to inform the OPA were agreed with the applicant in consultation with the Council's Urban Design and Landscape Teams.

8.266 The existing campus occupies relatively high ground and is exposed to views to the south east, south and west. The areas to the south west, which contribute to the setting of Cambridge (as set out in the Cambridge Landscape Character Assessment) are designated as Green Belt. It is an open landscape with a relatively large field pattern and far ranging views. There are elevated and wide-ranging views from the high ground within the confines of the Coton

Countryside Reserve. There is substantial planting around all boundaries of the site, with occasional breaks and sparse sections allowing views of the campus.

8.267 The north and west context, is a gault clay ridge rising around 63m south west of the American War Cemetery at Madingley, with arable and mixed farmland. There are views down from the American War Cemetery towards the City and Eddington, but the West Cambridge Site is largely obscured from view by trees and hedgerows. Views into the site from the northern and western boundary are limited because of the dense vegetation at the site edges.

8.268 The landscape character areas graded as having a high sensitivity to change in the ES are Cambridge Central Core; Madingley; Coton; Grantchester. Hasinglfield is graded as medium in the ES. Landscape officers however consider Haslingfield to have a high sensitivity to change.

8.269 The LVIA visualisations consider the environment impacts at year 1 following completion of the whole development in 2031 and at year 15 after completion of the development. Both summer and winter views are provided, which is considered robust. This is to assess the changes in effects associated with the growth of the existing vegetation after year 15. This approach has been agreed with the Council's Principal Landscape Officer.

8.270 Six viewpoints in the LVIA were initially selected. The October 2017 ES included three additional viewpoints from Madingley Road (viewpoints 24, 25 and 26) to gain further assessment of the likely visual impacts from closer vantage points along the street. These inform the LVIA visual representations of the worst-case scenario allowed by the parameter plans. The latest October 2020 SPS Design and Access Statement provides three further viewpoints from the residential areas of The Lawns and Perry Court in response to third party objections with the proposed height in relation to existing levels. The DAS confirms the views are verified views. Further analysis is provided below.

Construction phase impacts and mitigation

8.271 The ES concludes that the construction phase of the development activities will result in a temporary change to character with a number of landscape character areas, with temporary new elements (construction cranes and other works) in the views of visual receptors. This will affect Coton landscape character area, viewpoint 1 (public view from Coton Countryside Reserve); viewpoint 5 (clerk Maxwell Road); viewpoint 6 (Wilberforce Road); viewpoint 7 (Dane Drive) and viewpoint 8 and 9 (Conduit Head Road and Madingley Road. The current construction works at the new Cavendish III laboratory has a tower crane which can be seen from near and far vantage points. Over the course of the build out although the construction works would not affect the whole site at the same time, they would have a semi-permanent effect.

8.272 **Condition 10: Requirements for all reserved matters applications (r)** and **condition 44 Demolition and Construction Environmental Management Plan (DCEMP)** will ensure that the future construction sites are kept as

contained and well managed as possible. Any security lighting during construction will also be agreed by the local planning authority. The proposed tree protection **conditions 32 and 33** will ensure that the important woodland boundary is not adversely affected by construction activities. Overall, the residual effects of construction activities are considered to be adequately mitigated, in accordance with Cambridge Local Plan policy 19.

Operational phase impacts and mitigation

8.273 Due to the limits in the overall building amounts that are being applied for, it will not be possible to build up to the full extent of the parameter plans in all locations. As such, the assessments are considering a hypothetical worst-case scenario that in reality can never be achieved. The assessments therefore have a negative bias towards the proposed development which overemphasises the adverse effects to the landscape and visual receptors. Officers accept that it will not be possible to deliver the full envelope of the buildings as presented in the visualisations due to the limitations on the overall floorspace in the proposed outline. However, the increased scale and massing proposed will have a significant impact on the middle and long distant viewpoints as shown in the ES.

8.274 When compared to the 1999 extant Masterplan, it is evident that the proposed outline masterplan has similar building heights across the site. Building heights around the sports centre will be maintained at 36 AOD and the southern edge drops to a maximum of 32 AOD. To the west, opposite Schlumberger, the maximum height permitted is 37 AOD, which is marginally taller than Schlumberger itself at 36.5 AOD. The proposed development along the eastern boundary remains at 31 AOD, albeit closer to the boundary of the site.

8.275 In the south-eastern corner there will be an uplift around 22m relative to ground level within the 36 AOD area. It is important to acknowledge however that development along the eastern edge of the site is significantly intensified and closer to the residential properties to the west of CMR in the proposed development than that approved in the 1999 Masterplan. In addition, no development was proposed under the 1999 Masterplan for the south eastern corner, where new development is now proposed.

8.276 Towards the centre of the site, with the development of the paddocks and replacement of the Veterinary School, there is the potential for an uplift of around 21m within the 41 AOD area. On the northern boundary the parameter plans will allow for up to 16m in the north east corner of the site and around 12m in the north west corner. These height increases exclude flues and aerials that could extend a further 8m, although their design will be careful controlled through the Design Guidelines and subsequent reserved matters applications (Discussed in flues subsection below). Notwithstanding, the overall infilling of the site over time, the potential height would be comparable to the height of existing buildings on the site. While there are significant effects resulting from a change in new built forms and urbanising impact from long views, many of these effects would occur if the extant 1999 masterplan were to be built out.

8.277 The operational phase will result in densification of the site with new contemporary and institution buildings visible from distance. This will have an urbanising effect at the edge of the City. At the opening year, (currently suggested as 2031), the ES reports temporary significant adverse visual impacts for West Cambridge Central Core; Madingley; Coton and Grantchester character areas and viewpoint 1 (Coton Countryside Reserve; viewpoint 3 (Harcamlow Way); viewpoint 4 Wimpole Way); viewpoint 5 (Clerk Maxwell Road); viewpoint 6 (Wilberforce Road) viewpoint 7 (Dane Drive); viewpoint 8 and 9 (Conduit Head Road and Madingley Road; viewpoint 10 (Public Right of Way south of Harcamlow Way); viewpoint 12 (Madingley Road east); viewpoint 14 (Public Right of Way south of Laundry Farm) and viewpoint 16 (Barton Road). It is temporary because it does not account for increases in screening over time from growth of trees and vegetation.

8.278 15 years after the opening year the ES reports that the screening vegetation and landscape mitigation (discussed below) will have matured which will soften and reduce the magnitude of impact of the development. Significant effects are reduced to West Cambridge Central Core; Madingley; Coton and Grantchester character areas; viewpoint 1 (Coton Countryside Reserve; viewpoint 6 (Wilberforce Road) viewpoint 7 (Dane Drive); viewpoint 8 and 9 (Conduit Head Road and Madingley Road; viewpoint 10 (Public Right of Way south of Harcamlow Way), viewpoint 12 (Madingley Road east).

8.279 From the south, the key vista from Red Meadow Hill (viewpoint 1: public view from the Coton Countryside Reserve) would still be significantly adversely affected by the proposed development. It is a key vista within the Cambridge skyline as set out in Cambridge Local Plan 2018 Appendix F: Tall buildings and the key skyline guidance. This is because the proposed development would introduce new buildings forming an infill to the existing partially constructed 1999 masterplan that is currently visible. The ES also notes a change in perception of the commanding views to the City from users because of its geography and potential increases in light glow are also recorded. But this change will still be contained to the long profile of the existing development on the site and the context that further development is allowable under the extant 1999 masterplan. The view of the West Cambridge site is seen some distance to the left of the recognisable historic core buildings such as the University Library and as such is contained.

8.280 Key to mitigating the impact of the proposed development will be a variation in building forms secured through the Design Guidelines; creation of north south corridors to break up the development; enhancement and management of tree planting (see tree section below); consideration of roof plant through the Design Guidelines and careful choice or materials and external lighting. With those measures in place secured through **condition 10: Requirements for all reserved matters applications (r) and (t)**, officers consider the significant environmental effects to be adequately mitigated. The effectiveness of these measures will be monitored over time through updating of the Woodland Management Plan and phased delivery of north- south corridors at each future key phase of development.

8.281 The views from the north of Madingley Road demonstrate how important the existing perimeter woodland planting is in bringing some mitigation to the mass and height of the proposed buildings. Future buildings will be proportionately lower, closer to the northern boundary adjacent to the tree belt and Madingley Road as required through the parameter plans and Design Guidelines. The Urban Design and Landscape Team welcome that the management of the woodland planting has been included within the mitigation measures and will provide a robust framework for mitigating the potential development. Compliance with the site-wide Woodland Management Strategy is required in **condition 10 (r)**. In addition, any reserved matters application within 20m of any site boundary will be accompanied by a Woodland Management Plan Strategy as required by **condition 31: Woodland Management Plan**.

8.282 The recently approved Cavendish III development which is under construction is appropriately set back from Madingley Road and will provide enhancement and management and protection of the tree belt. The height of Cavendish III was approximately 4m lower than the maximum 41 AOD allowable under the proposed parameter plan. This demonstrates that the worst-case scenario heights shown on the parameter plan are not necessarily to be built out by future occupiers.

8.283 The development framework secures the key view from Schumberger looking east through Central Gardens, which will be delivered in future phases. This safeguards internal views back to the City. Subject to the mitigation measures being secured, on balance officers support the approach to development.

Flues

8.284 Rooftop plant is included within the height parameter plan; this is mandated in the Design Guidelines (p.27). The Design Guidelines also provide a framework from which to assess future buildings which have a requirement for roof top plant. Smaller scale plant shall be located on locations not visible from the public realm (where possible) with consideration of long-distance views. Larger areas of plant shall be considered as part of the architecture of the building and placed in locations that do not overwhelm key spaces.

8.285 Flues are allowable up 8m above the prescribed parameter plan heights. Flues have been required on the Chemical Engineering Building and more recently on the roof of the Civil Engineering Building. The Design Guidelines require any flues to be screened and set back from the elevations to reduce its impact on the public realm, whilst recognising they can add visual interest to the roofscape. Officers consider that the proposed strategy to deal with roof top plant and flues to be a suitably robust framework, in accordance with the principles of comprehensive development in Cambridge Local Plan 2018 Policy 19.

<u>October 2017 and October 2020 Amendments</u>

8.286 The amended October 2017 SPS removed the previously proposed ten areas of additional height across the campus, with potential for 1,200 sq m taller

elements. This was in response to officer concerns that the development would rise above the established tree line, particularly when viewed from Red Meadow Hill (viewpoint 1: public view from the Coton Countryside Reserve). In addition, maximum building heights were reduced in the following locations:
- along the southern boundary to reduce the longer range urbanising impacts of the later phases of the development.
- to the south of Schlumberger to reduce the impact on the setting of the designated heritage asset (discussed below in Impacts on Heritage Assets section).
- in the south eastern corner to reduce the impact from the residential area to the west of the site and the playing fields.
- in the north eastern corner to provide a more stepped change in heights.

8.287 What is evident from the scale and massing approach in the 1999 extant permission is that the overall maximum heights keep the heights of the majority of buildings below the established tree line with selected and discrete additions to the skyline. The ability to maintain the backdrop of trees is important in terms of safeguarding the setting of the City in accordance with Cambridge Local Plan Policies 19, 59 and 60. The proposal, as amended, significantly reduces flexibility of height originally proposed but ensures that the new development is more contained within the parameters of the existing built development. As such officers are satisfied that the trees on the horizon can be seen beyond the development are not obscured by the development. These long-distance views also demonstrate how important the design of the buildings will be and in particular the choice of façade material and colour, which are included in the mitigation measures (below).

8.288 Building heights are unchanged in the October 2020 SPS, but further analysis has been provided for the proposed heights in the south eastern corner of the site. Concerns have been raised by residents and CMRRA regarding the heights of the buildings proposed in the south-eastern corner and their impacts on neighbouring residential amenity. In addition, the Urban Design, Landscape and Conservation Consultation Response (dated 27th April 2021) concludes that *"the overall heights to the south eastern corner are too tall and impact on the views from Wilberforce Road and properties at Perry Court and The Lawns along Clerk Maxwell Road"*. Whilst officers recognise that the relative increase in height is greatest in this location, the visuals demonstrate that the maximum AOD height in this location is graded to the boundary of the site. Buildings on the eastern edge will be more visible as the build out of the Department of Engineering continues. Notwithstanding this, officers consider that views from residential properties in Perry Court should remain screened or partially screened as a result of the existing landscape along the eastern boundary of the site. In addition, the visuals presentation show the worst-case scenarios in terms of height whereas at reserved matters stage applications will need to be assessed against the Design Guidelines and be considered acceptable in terms of design, appearance and massing.

8.289 The recently constructed Civil Engineering Building (planning reference 16/1811/FUL) is visible from across the playing fields to the east and at closer ranges. But in the context of the worst-case scenario shown in the LVIA, the

likely modular form of buildings to come forward and the gaps between buildings is, on balance, considered contextually appropriate. Further development close to the eastern edge will be moderated through strategies in the Design Guidelines, including a 45 degree setback grading to 25m AOD and further enhancement of the woodland buffer.

Mitigation Summary

8.290 The development will secure the following mitigation as it relates to landscape, green belt and visual impact. The framework aims to integrate the proposed development the development into the grain of the existing urban edge and wider landscape setting. Table 7.0 below summarises the key points from the Design Guidelines and ES:

Table 7.0: Landscape mitigation summary

Mitigation	**Method of delivery**
Landscape Large species new tree planting along the southern ecological corridor in five key locations (Design Guidelines p.48). Replacement tree planting to High Cross (Design Guidelines p.57). Additional planting at West Forum, East Pond and along the southern edge to increase depth of buffer planting (Design Guidelines p. 48). 8m buffer between stems of existing trees on Charles Babbage Road and any future building line (Design Guidelines p.65). Delivery of north - south green corridors to break up the mass of the development from southern and south-western views (Design Guidelines p. 56). Minimum width of East Green Link to be 23m. (Design Guidelines p74). Creation of Central Gardens. (Design Guidelines p74).	**Condition 10 (t)** Design Guidelines, **Condition 19: Charles Babbage Road – strategy for pedestrian, cycling and tree planting Condition 35: High Cross segregated cycleways and tree replacement**

Creation of pocket landscapes. (Design Guidelines p74). Any development to provide additional planting and to be in accordance with the Woodland Management Strategy Design Guidelines p. 19, 82, 83, 84, 85, 86).	
Design Maximum 50m frontages, well-articulated buildings with high quality materials (Design Guidelines p.24). Unbroken lengths of MSCPs limited to 50m (Design Guidelines p.25). The western edge shall have a minimum of 20m between buildings (Design Guidelines p. 86). The maximum build-to lines along High Cross are restricted to 38.3m in the south and 44.8m in the north, to ensure a generous green corridor (Design Guidelines p. 59). Rooftop plant design setback, screening and design (Design Guidelines p. 83, 84, 85). Controls on flue design (Design Guidelines p. 27). CMR – The eastern edge of the building zone will comply with an additional 25m AOD. From this line the development will remain within the envelope rising 45 degrees to the parameter plan 31m AOD (Design Guidelines p. 85).	**Condition 10 (t)** Design Guidelines
Artificial lighting to accord with Institute of Lighting Professionals – Guidance notes for reduction of Obtrusive Light (Design Guidelines p. 17).	**Condition 10 (t)** Design Guidelines Design Guidelines, **condition 50: Artificial Lighting Scheme / Impact Assessment (Reserved Matters)**

8.291 The proposed development will result in significant adverse visual and landscape impacts from key view to the south, including from the Coton Nature Reserve at Red Meadow Hill. With suitable mitigation the proposed development can provide an appropriate setting along the south western edge of Cambridge. The extant 1999 permission would also result in a significant adverse impact if fully built out and in that context the new masterplan is considered, on balance, to be acceptable. The potential impact on the setting and special character of Cambridge, including the Green Belt and open countryside can be managed to facilitate the delivery of this key employment site in the Cambridge Local 2018 and as such is considered compliant with policies 8, 19, 59 and 60.

Impact on Heritage Assets

8.292 The statutory considerations as set out in section 66(1) and section 72(1) of the Town and Country Planning (Listed Buildings and Conservation Areas) Act 1990, are matters to which the determining authority must give great weight to when considering schemes which have the potential to impact on heritage assets.

8.293 Paragraphs 193-196 of the NPPF state that when considering the impact of a proposal on the significance of a designated heritage asset, 'great weight' should be given to the asset's conservation. Paragraph 194 makes it clear that any harm to, or loss of significance of a heritage asset should require clear and convincing justification. Paragraph 196 of the NPPF states that where a proposal will lead to less than substantial harm to the significance of a designated heritage asset, such harm should be weighed against the public benefits of the proposal, including its optimum viable use.

8.294 For non-designated heritage assets, paragraph 197 of the NPPF states that the effect of an application on significance should be taken into account in determining the application. In weighing applications that affect directly or indirectly non-designated heritage assets, a balanced judgment will be required having regard to the scale of any harm or loss and the significance of the heritage asset. If demolition is permitted as part of the approved development, a publicly accessible building record may be specified (paragraph 199).

8.295 Paragraph 200 makes it clear that local planning authorities need to look for opportunities for new development within Conservation Areas, World Heritage Sites and within the setting of heritage assets to enhance or better reveal their significance. Proposals which make a positive contribution to the asset or better reveals its significance should be treated favourably.

8.296 Cambridge Local Plan 2018 Policy 61 sets out that proposals should preserve or enhance the significance of the heritage assets of the city, their setting and the wider townscape, including views into, within and out of conservation areas; demonstrate a clear understanding or heritage assets affected, together with clear justification for any works that would lead to harm or substantial harm.

8.297 The ES chapter 7 (June 2016) sets of the baseline assessment of all heritage assets in and around the site. This was updated in October 2017 to take account of the listing of the Schlumberger Gould Research Centre in 2017. The ES contains an assessment of significance of all relevant heritage assets. The October 2017 SPS includes submission of a heritage assessment. This provides a full assessment of heritage significance of Merton Hall Farmhouse and the University of Cambridge Department of Veterinary Medicine.

8.298 The ES included the following assets in the assessment:

Archaeology

Site 1 (Iron age)
Site 2 (Iron age)
Site 3 (Iron age/Roman)
Vicar's Farm
Nano Fabrication Building Site

Built Heritage

Central Cambridge Conservation Area and designated assets therein
Conduit Head Road Conservation Area
West Cambridge Conservation Area
Storeys Way Conservation Area
Shawms (Grade II* Listed)
White House (Grade II Listed)
The Observatory (Grade II Listed)
Northumberland Dome at the Observatory (Grade II Listed)
9 Wilberforce Road (Grade II Listed)
Emmanuel College Sports Pavilion including grounds man's house (Grade II Listed)
Schlumberger Gould Research Centre (Grade II* Listed)
Merton Hall Farmhouse (now demolished)
Department of Veterinary Medicine
Whittle Laboratory
Cavendish Laboratory
Willow House (Grade II Listed)
48 Storeys Way (Grade II Listed)
Salix (Grade II Listed)
Spring House (Grade II Listed)
Chapel, Churchill College
Research Flats, Churchill College (Grade II Listed)
Residential Courts at Churchill College (Grade II Listed)
Wolfson Hall, Bracken Library and Bevin Rooms (Grade II Listed)
Central Buildings Churchill College (Grade II Listed)
31 Madingley Road
House and Brock Brothers Studio (Grade II Listed)
Garden at 48 Storeys Way (Grade II Listed Park and Garden)

8.299 Officers agree with the scope of the assessment.

Building demolitions

8.300 The most significant buildings are identified for removal in heritage terms are MHF and the main entrance building of the School of Veterinary Science. The other building demolitions, including the existing Cavendish II complex and Whittle Laboratory are not considered to have any harm to heritage significance.

8.301 The proposed development, as originally submitted, included the demolition of MHF in the north eastern corner of the site. The building was a two storey, three bay gault brick built farmhouse constructed in the 19th Century. Since submission, approval of the Cavendish III development (17/1799/FUL) agreed the principle of its demolition. A full recording of the building was not considered necessary given its low significance and the degree of previous alteration.

8.302 The proposed development includes the demolition of the School of the Department of Veterinary Medicine buildings of 1953 by Ian Forbes. These incorporate the Queen's Veterinary School Hospital, a purpose-built veterinary referral hospital. The attached southern crescent range houses the Small Animal Hospital reception in the rotunda. Opposite the southern end of the crescent are numbers 1 and 2 Veterinary Cottages.

8.303 Concerns were raised in the June 2016 original submission to the loss of the Veterinary School buildings by Historic England and some third parties. The original June 2016 ES concludes that the Veterinary school is of low value. However, in response to the objections raised, the October 2017 SPS included a full assessment of heritage significance of both MFH and the Veterinary School.

8.304 The Veterinary School was never part of a wider integrated complex within the site, and its current setting reflects this. The Heritage Assessment reports that the ad hoc nature of the hospital's rear extensions also partly detract from the legibility of the building and from its setting. Officers are content that the Veterinary School does not have a significant group value with other buildings. The buildings which were formerly located to its east were demolished in the early 2000s. The school's western aspect has been radically altered by the construction of outbuildings in an ad hoc manner.

8.305 In terms of the building itself, the Heritage Assessment reports that although the building does contain some individually impressive architectural elements, such as the Hospital Block rotunda and the Teaching Block entrance portico, the overall quality of the architecture is limited. The combination of classical elements on the facades, with some art deco decoration and modernist and art deco motifs internally, means the building does not maintain one harmonised character. Unfinished brickwork on the southern section on the east façade of the teaching block also detracts from the main façade.

8.306 The architect, Ian Forbes, was not particularly renowned. Despite designing some notable residential buildings in the home counties during the inter-war

period, the building does not form part of a wider scheme of work. Unlike other University buildings where the University's own School of Architecture or competitions provided opportunities for stylistically and technologically advanced work, the Veterinary School has no such significance, being a largely backward looking design in stylistic terms. Although of architectural and historic interest the buildings are not of special architectural or historic interest and therefore do not meet the criteria for listing.

8.307 The overall social, environmental and economic public benefits arising from the development are considered to outweigh the loss of the non-designated heritage asset. This is because of the public benefits provided by the new facilities which will address constraints to the Department from the existing accommodation. Technical equipment cannot be satisfactorily accommodated in the existing buildings. In addition, the potential reuse of the buildings would not be compatible with the key east to west pedestrian and cycle access strategy across the site or the delivery of the central green space. Retention of the Veterinary School would be fundamentally incompatible with the design strategy of the new masterplan.

8.308 Both Historic England and the Council's Historic Environment manager conclude that although the Veterinary School is of some historic interest, its loss is considered acceptable. Demolition of the complex should however be addressed by provision for an appropriate level of building recording. **Condition 27: Veterinary School Demolition - Built Heritage** will require a contextual record, archive plans, and photography of architectural features in accordance with best practice and NPPF paragraph 199. The benefits of redevelopment are considered to clearly outweigh the significance of the non-designated heritage asset.

8.309 The existing Whittle Laboratory is also identified for demolition. The building complex is not considered to have any heritage significance. Notwithstanding, the full demolition specified in the OPA, the Whittle Laboratory intend to demolish only a small section of existing office accommodation to meet their expansion needs. This will be assessed as part of a separate planning application.

Construction phase Impacts

8.310 The ES recognises that the construction phase of the development at the western end of the site will significantly affect the tranquil semi-rural setting of Schlumberger, the Grade II* Listed Building. The significance of the building lies in its architectural approach by of the foremost contemporary British architects, Sir Michael Hopkins. Its setting makes a limited contribution to the Listed status. The architectural significance of the building will remain unaffected during the potentially lengthy construction periods, but which are ultimately temporary. As such, officers agree with the conclusions of the ES that the harm would be not significant and therefore less than substantial in accordance with paragraph 196 of the NPPF 2018. On this basis no specific mitigation is required. Notwithstanding, construction impacts on Schlumberger

can be adequately mitigated through **condition 44 - Demolition and Construction Environmental Management Plan (DCEMP).**

8.311 Similarly, the construction phase of the development is judged to have a moderate adverse impact on the West Cambridge Conservation Area. This is because construction activities will feature prominently in views to and from the Conservation Area, eroding its tranquil setting. The ES concludes that the construction phases will 'challenge' part of the significant of the Conservation Area which draws from the interface between the suburban and rural edge to the west. However, the construction phases will vary in intensity through the development and the site is not visible from significant areas within the Conservation Area. This harm is not considered substantial under the framework of the NPPF and is not considered to be unacceptable by either Historic England or The Council's Historic Environment Manager.

8.312 Conduit Head Road Conservation Area will experience a moderate adverse impact because of construction works and plant, but there is significant tree screening on both sides of Madingley Road which will reduce the impact. No specific mitigation is considered necessary.

Operational Phase Impacts

8.313 The ES states the development will have a neutral impact with no significant effect on the setting of Schlumberger Gould Research Institute. The setting of the Grade II* Listed Building will change because of future new buildings either side. However, the proposed development safeguards views to the east, back to the City, through the proposed future central Gardens. This is secured on the parameter plans and within the Design Guidelines. Schlumberger was always intended to be a feature building as part of a campus and the new masterplan respects and enhances that context. The Design Guidelines ensure that a 20m view corridor will be maintained between JJ Thomson Avenue and High Cross to protect this key view. This required mitigation will be secured through **condition 10: Requirements for all reserved matters applications (t)**.

8.314 A change in setting around Schlumberger is part of the overall continued development of the campus, around 100,000 sq m of which remains to be implemented from the 1999 extant consent. Overall the development will not result in significant harm to the setting of Schlumberger in accordance with Cambridge Local Plan Policy 61.

8.315 In close proximity, to the north of the site, is the Conduit Head Road Conservation Area and Listed Buildings contained within. In particular, it includes White House a Grade II Listed Building, in closest proximity to the site. The Conservation Area appraisal identifies that views are directed along the tree lined portion of Conduit Head Road and out of the Conservation Area along Madingley Road itself. The high level of vegetation, coupled with the relatively flat topography creates a secluded, inward looking sense of enclosure. The 20th Century detached properties, set within sizeable gardens, are largely screened by mature vegetation. The ES identifies a moderate adverse impact

magnitude, with a significant effect to the setting of the Conservation Area and the Grade II Listed White House.

8.316 Filtered views at the junction of Conduit Head Road as a result of the proposed development would help to soften the impacts on its setting. The approved Cavendish III building (planning reference 17/1799/FUL) is articulated and stepped down in height to Madingley Road, which assists in demonstrating that future reserved matters will be contextually appropriate. The Design Guidelines secured by **condition 34** will ensure that the mitigation measures set out in the ES are secured to reduce the significance of effects. This includes limiting the maximum length of uninterrupted roof to 50m; requirements to reduce external plant; careful consideration of materials; and protection and enhancement of the woodland belt. As such, officers consider the development will not result in substantial harm to the heritage asset. The less that substantial harm identified, when considered against the significant economic benefits at a local and regional level, outweigh the less than substantial harm set out in the ES.

8.317 The development will result in permanent adverse effects to the setting of the West Cambridge Conservation Area due to a change in direct close views from new buildings within the site. The density of buildings will erode the tranquil setting of the Conservation Area and will fundamentally alter the interface between the suburban and rural at its western edge. Importantly however, the proposed development is not readily visible from many key areas in the Conservation Area, including Grange Road and the area surrounding the University Library because of the topology and vegetation. The suite of mitigation proposed in the ES will be secured in the Design Guidelines and includes height restrictions in the eastern boundary; limited building frontages to 60m; variation in the roofline on the western edge and setbacks to rooftop plant. Notwithstanding the significant effect, the ES considers the harm to be less than substantial. With the proposed mitigation, officers concur with this assessment and, subject to mitigation, find the scheme benefits (described above) to outweigh the harm.

Archaeology

8.318 The relevant policy of the 2018 Cambridge Local Plan is Policy 61. The policy seeks to ensure that proposals preserve or enhance the significance of the heritage assets of the City and their setting; provide a clear understanding of the significance of the asset and of the wider context in which the asset sits alongside an assessment of the potential impact of the development on the heritage asset and a provide clear justification for any works that would lead to harm or substantial harm to a heritage asset yet to be of substantial public benefit.

8.319 The ES Chapter 7: Baseline sets out that the area's archaeological potential has been fully examined in a desktop study. Approximately half of the site has already been subject to fieldwork as reserved matters applications pursuant to the 1999 masterplan have come forward. There are five main sites of archaeological interest already the subject of investigation as part of the 1999 masterplan. Sites 1 – 3 are iron age/ Roman sites either side of the Veterinary

School. The fourth site, Vicar's Farm, has shown evidence of Mesolithic to Romano-British activity and is located close to the existing Whittle Laboratory. The fifth site, known as the nano fabrication site near to the Cavendish II Laboratory reveals iron age workings. All of the main sites on the campus have been excavated and there have been two major excavations in the past.

8.320 The ES Addendum Chapter 7 sets out the likely impacts on archaeological heritage assets on the site. These likely impacts are principally construction and landscaping activities which require excavations for basements, foundations or drainage which could result in physical disturbance to the asset. With regard to Site 1 (Iron Age) the 2015 field evaluation study has already sufficiently evaluated the site and no further mitigation is required to preserve its heritage significance.

8.321 The other Iron Age/Roman sites, including Vicar's Farm will require a further scheme of investigation, prior to commencement of development of these areas of the site. The Written Scheme of Investigation and scheme of dissemination and post excavation and recording will be agreed by the CHET through the orderly discharge of **condition 26: archaeology**.

8.322 The County Council's Archaeology Team has assessed the archaeology chapter of the ES and the additional material provided in October 2017. They initially raised some concerns with the impact magnitude assigned to development affecting archaeological assets on the site as minor. Through the amended October 2017 SPS and a commitment in the application mitigation to carrying out further schemes of investigation, including trail trenching at the Nano Fabrication Site, the County Archaeological Team conclude the issues raised have been addressed and they are content that mitigation of the development impact can be addressed through condition of planning permission. **Condition 26: Archaeology** will ensure that the process of archaeological investigation secures suitable mitigation across the site to preserve the sites heritage significance. The potential archaeological remains on the site are fully examined and will be appropriately preserved, recorded and archived through the mitigation secured. As such the development is compliant with Cambridge Local Plan 2018 Policy 61.

Summary

8.323 The development does not result in substantial harm or loss of any designated heritage assets. The less than substantial harm identified for White House, Conduit Head Road Conservation Area, West Cambridge Conservation Area are considered to be outweighed by the significant public benefits for local strategy employment benefits, the generation of over 10,000 FTE jobs and significant potential increases in GVA both locally and regionally. Similarly, the overall public benefits of the development are considered to outweigh the loss of non-designated heritage assets on the site.

Impact on trees

8.324 Cambridge Local Plan Policy 71: Trees states that development will not be permitted which involves felling, significant surgery (either now or in the future) or potential root damage to trees of amenity value, unless there are demonstrable public benefits accruing from the proposal. The policy wording sets out the importance of providing space for trees to thrive and mature within developments.

8.325 The amended development has taken adequate provision for the preservation of key tree groups and individual specimens inside and around the site. As part of the October 2017 SPS the applicant submitted a Woodland Management Plan, which is a framework for ensuring that development does not unduly impact on the planted boundaries of the site, the retention of which is crucial to its setting. It provides management principles and objectives for the tree and shrub groups which are to be retained. This includes principles from which future monitoring of the woodland boundaries will take place. This forms an important part of the mitigation of the visual impact of the development identified in the ES.

8.326 If the existing trees and woodland are left unmanaged the condition of the vegetation will deteriorate over time because of competition for light and resources. This will lead to slender trees reducing the overall level of screening and increasing the chances of tree failures. This would create gaps in the wooded boundaries of the site.

8.327 **Condition 31 - Woodland Management Plan** requires the submission of a Woodland Management Plan Strategy to be submitted with any reserved matters application within 20 metres of any site boundary. The strategy will be based upon selective thinning of trees, with replanting to create a diverse structure to the canopy with variations in age, tree form and layering. This will be promoted by creating dense young growth to provide more vertical structure and screening, with a mix of species so the woodland is more resilient to disease and climate change. These works will be carried out as they relate to each reserved matters planning application coming forward and will informed by the project team's ecologist.

8.328 The Woodland Management Plan also seeks to develop trees to their full growth potential by selecting individual specimens as legacy trees. New legacy trees will also be planted on the south boundary to supplement the Southern Ecological Corridor, the precise number and location of which will be assessed at reserved matters stage. This mitigation will be secured through the imposition of **conditions 32 and 33: tree protection**.

8.329 Overall, the development retains the majority of trees along the boundaries of the site, which are a key positive asset for the character of the campus. This includes the Madingley Road tree belt, the majority of the existing Lime trees which line JJ Thomson Avenue and the Lime trees along the proposed WAR.

8.330. In the opinion of officers the proposal is compliant with Cambridge Local Plan 2018 Policy 71 and the principle of landscape setting within Policy 19: West Cambridge.

Ecology

8.331 In accordance with NPPF paragraph 170, 174, and 175, applications should contribute to enhancing and restoring biodiversity. Opportunities should be taken to achieve a measurable net gain in biodiversity through the form and design of development (ideally through submission of a calculator using Defra Metric V2.0 or 3.0).

8.332 Policy 69: Protection of sites of biodiversity and geodiversity importance of the Local Plan states that in determining any planning application affecting a site of biodiversity or geodiversity importance, development will be permitted if it will not have an adverse impact on, or lead to the loss of, part or all of a site identified on the Policies Map. Proposals must minimise harm and include measures to secure mitigation.

8.333 Policy 70: Protection of priority species and habitats states that development which protects and enhances species will be permitted. Any development which harms populations should minimise that harm and secure achievable mitigation resulting in no net loss or a net gain of priority habitat.

8.334 The ES assesses the ecological impacts expected as a result of the development however the proposals do not include a DEFRA metric to measure Biodiversity Net Gain (BNG) for the proposed development. Although this would have been ideal to provide an understanding of what the site can accommodate, it is considered acceptable in this instance for each reserved matters application to demonstrate ecological enhancements that align with the policy requirements of BNG at the time of submission (**condition 56: Ecology**). Should it be the case that on-site provision (the preferred option) cannot be met, off-site provision would be an option where shortfalls occur. For offsite provision, the applicant would need to be able to demonstrate that BNG best practice is being implemented and that long term, sustainable offsite BNG is achievable.

8.335 The reprofiling of the established East Pond is likely to have high impact on existing marginal vegetation and associated bird species although may benefit some of the invertebrate species. Whilst recognising the long-term plan is to allow this to re-establish the proposal approval of a site-wide ecological design strategy will be required at the appropriate stage, secured by **condition 56: Ecology**.

8.336 Subject to the imposition of **condition 55: Ecological Design Strategies Condition (or Biodiversity Strategy)** to secure appropriate consideration of construction impact and conservation management, onsite ecological interests will be suitably safeguarded and **condition 56** the proposal is considered in accordance with Cambridge Local Plan 2018 policies 69 and 70.

Flood Risk and Sustainable drainage

8.337 Paragraph 163 of the NPPF states that when determining any planning applications, local planning authorities should ensure that flood risk is not increased elsewhere. The NPPF also requires local planning authorities to consider flood risk and use opportunities offered by new development to reduce the causes and impacts of flooding. More efficient use and management of water, such as with the use of more efficient water related appliances within buildings and with incorporation of SUDS, should be also sought.

8.338 Cambridge Local Plan 2018 Policy 31: Integrated water management and the water cycle, states that development will be permitted provided that surface water is managed close to its source and on the surface where reasonably practical. Policy 31 includes a suite of criteria setting out the need for reducing potable demand; multi-functional use of land and features making an active contribution to making places for people; inclusion of brown and green roofs; no discharge for the developed site for rainfall depths of 5mm of any rainfall event; pollution control measures; avoidance of culverting and use of permeable surface where practicable.

8.339 Cambridge Local Plan 2018 Policy 32 of: Flood risk, states that development will be permitted provided it is demonstrated that the peak rate of run off over the lifetime of the development, allowing for climate change; is no greater for the developed site than it was for the undeveloped site. It contains standards mandating that the development be designed to avoid flooding of property in and adjacent for a 1 in 100 year flood event, plus allowance for climate change. Furthermore, the discharge locations must have capacity to receive all foul and surface water flows; there is a management and maintenance plan for the lifetime of the development and that the destination of the discharge obeys the following priority order: to ground via infiltration; then, to a water body; then, to a surface water sewer.

8.340 The West Cambridge Site as existing is developed with an extensive network of water services infrastructure constructed under the 1999 extant consent and connection points to this system have been provided to undeveloped plots. This has been built out in four phases. Primary sewers have been installed with spurs provided for the majority of the plots shown on the consented 1999 masterplan. Currently the amount of development area represents approximately 35 ha of the site.

8.341 The FRA sets out that the development could increase flood risk to both the existing campus and downstream catchments from increased volumes of surface water. The development will also place greater demand on potable water, resulting in increased wastewater discharges to the public sewer network. In addition, the development has the potential to reduce water quality and increase pollution risk unless it is effectively mitigated. This is particularly the case where there are concentrations of car parking in multi storey car parks which could potentially increase the risk of pollution incidents.

8.342 In order to establish the condition, capacity and connectivity of the existing primary foul and surface water sewer network, the applicant commissioned extensive survey work. This shows that the general network is in good condition, although a number of pipes encountered debris by up to 20%. These details are set out in the drainage strategy submitted for the Amended Proposed Development is set out in the Flood Risk Assessment (PBA September 2017).

Surface Water Drainage

8.343 The existing site has two drainage outfalls into which all the site's surface water flows. The northern catchment drains via a piped network to a series of ditches and culverts adjacent to Madingley Road before eventually out falling to Washpit Brook. The southern side of the site is collected and conveyed via a piped network to the existing on-site attenuation features at restricted rates via the 450mm culvert located to the south east adjacent to the Coton footpath.

8.344 Flows from the site are restricted by a three-way flow control to Greenfield runoff rates as previously agreed with the EA as part of the consented 1999 masterplan. The proposed new masterplan proposes the whole site will discharge to 1 in 1 Greenfield runoff rate for all storm events up to and including the 1 in 100 year + 40% climate change event. An additional 10% reduction to the discharge rate is proposed to provide further resilience to flood risk and to ensure long term storage is met. The Council's Sustainable Drainage Officer and the LLFA are content that the scheme complies with Local Plan policies 31 and 32 and will result in an enhanced water drainage environment, with less risk of flooding in future.

8.345 The main principle of the FRA is to throttle back surface water from the site to greenfield run off rate. This is to ensure surface water is mitigated within the site curtilage boundaries and to downstream development. This will be achieved through on-plot attenuation for each reserved matters coming forward. This means that every new building or infrastructure element in future must demonstrate that it is dealing with its own surface water run-off in the context of the wider strategy. This phased approach will be secured through the imposition of **condition 56: Drainage.**

8.346 Provision for green roofs and required by part f of Policy 31 will be required for new buildings in future on the site. New development must demonstrate compliance through **condition 56**.

8.347 The densification of the West Cambridge Site will see a total impermeable area across the site of around 45 ha, which is a 2.82 ha increase as compared with the extant 1999 masterplan. Current drainage standards require a significantly greater volume of attenuation storage of surface water. Whilst it is the intention to use as much of the existing infrastructure as possible, based upon the indicative development phasing, much of the existing surface water storage located in the eastern and central areas of the site will need to be removed. To mitigate the loss of this storage, it is proposed that enabling works are undertaken to the lake, Canal and Paynes Pond to replace the storage loss and

mitigate any risk of flooding. The Council's Nature Conservation Officer notes that the ecology impacts of any works to these features will need to be carefully considered and can adequate be considered through the phased discharge of **condition 55: Ecological Design Strategies Condition (or Biodiversity Strategy)**

8.348 The development proposes disposal of the majority of surface water into nearby watercourses, in accordance with the drainage hierarchy set out in the Building Regulations (Part H). Whilst some of the eastern plots currently discharge into the surface public sewer in CMR, which is the least preferred option, it is not proposed to increase discharges. Anglian Water have confirmed they are content to accept the site discharge and will make the necessary upgrades to the sewer network. As such the development is compliant with part d of Cambridge Local Plan 2018 policy 32.

Flooding

8.349 Whilst the site is situated within the Bin Brook Wet Spot, the applicant's FRA demonstrates that the depth of surface water flooding will be very low during a 1 in 200 year rainfall event, as such the risk of flooding is considered to be minimal, provided management and maintenance of all the strategic drainage infrastructure is carried out and secured by **condition 53: Drainage management and maintenance**. Similarly, the risk to groundwater flooding is considered low and the EA have raised no objection.

Water Quality

8.350 Pollution control measures will be included in the surface water drainage system, to minimise the risk of contamination or pollution entering groundwater from surface water runoff. This will be secured by **condition 54: Water – pollution control**, which captures the mitigation and future monitoring of the development identified by the ES. The development will seek to provide bio retention areas such as rain gardens along existing streets in the campus, where service corridors, trees and other constraints allow. This will be considered in the context each reserved matters application where it relates to adjacent public realm and streets.

<u>Foul Water Drainage</u>

8.351 The new development requires modification of existing site conditions and infrastructure on the campus. The drainage strategy has been developed to minimise the impact on existing infrastructure and utilities.

8.352 Foul water flows drain to either the 300mm diameter public sewer located in Madingley Road or the private foul sewer located within the Coton footpath which flows east before discharging to a 225mm public sewer in Wilberforce Road.

8.353 The southern part of the site discharges to a foul water sewer located under the Coton Footpath, which gravitates eastwards to a sewer network in Wilberforce

Road. The ES acknowledges that there may be limited capacity to discharge increased flows from the site to the foul sewer under the Coton footpath.

8.354 Anglian Water confirm the sewer in Wilberforce Road has limited capacity. A proposed new 300mm sewer is proposed which will run parallel to the existing private 300mm sewer along the Coton footpath. This would be sited in land south of the site in the ownership of St John's college. Anglian Water advise that the new sewer would be carried out under Section 98 (Water Industry Act) Sewer Requisition agreement.

Amendments post submission October 2017

8.355 Post submission discussions with officers identified concerns from the LLFA regarding the potential effect of development on water quality. These discussions evolved around the effectiveness of the proposed SuDs measures to treat post development run off. The original FRA and Drainage Strategy (PBA, June 2016) proposed the use of bio retention zones for treatment of highway run off. Lakes and Ponds were to incorporate fore bays (graded ledges).

8.356 Discussions with the Local Planning Authority on proposed public realm treatments and landscaping resulted in modified landscaping proposals being prepared. The construction of fore bays to the Western Lake and Payne's pond were reviewed. They are no longer proposed as their introduction could impact upon ecology and the amount of surface water storage available.

8.357 A Technical Note was prepared which assessed the likely water pollution risks from the development. Where car parks are proposed, the existing SuDs measures will be supplemented by the use of proprietary systems such as Class 1 Oil bypass separators. It was demonstrated that the use of linked SuDs features in series, as proposed, would enable post development flows to be treated and provide the required levels of pollution mitigation without the need for sediment fore bays in Paynes Pond.

8.358 Following the October 2020 SPS, the Lead Local Flood Authority (LLFA) requested an addendum or update to the FRA given that the FRA was prepared in 2016/17. In response, an FRA and Drainage Strategy Review prepared by Stantec, dated 12th January 2021, was submitted. The LLFA subsequently advised they have no objection in principle to the scheme subject to conditions, discussed further below.

Potable Water demand

8.359 See Utilities sub section below.

Objections

8.360 Officers note objections received from third parties, including a detailed critique of the FRA from CMRRA and NNRA, and concerns raised by the Adams Road

Bird Sanctuary which is located to the east of the site between Wilberforce and Grange Roads.

8.361 The concerns from CMRRA and NNRA revolve around the very significant increase in floorspace as compared with the current situation. While these concerns are noted, the development will secure a 10% betterment in runoff as a result in throttling back runoff to the Greenfield rate. Regular management and maintenance of the strategic drainage infrastructure will be secured by conditions and each reserved matter in future will need to demonstrate integration with the site wide strategy and any upgrades required to on site attenuation. In that context, all consultees including the Council's Sustainable Drainage Officer, the LLFA, the EA and Anglian Water are all supportive of the development. A detailed response to third party drainage concerns is set out in the third-party Representations subsection of this report below.

8.362 Overall officers consider the strategy for integrated water management to be compliance with the NPPF paragraph 163 and Cambridge Local Plan 2018 policies 31 and 32.

Renewable Energy and Sustainability

8.363 Cambridge Local Plan 2018 Policy 28 states that all new developments should take the available opportunities to integrate the principles of sustainable design and construction into the design of proposals.

8.364 Promoters of major development, including redevelopment of existing floor space, should prepare a Sustainability Statement as part of the Design and Access Statement submitted with their planning application, outlining their approach to the following issues:

a. Adaption to climate change,
b. Carbon reduction
c. Water Management
d. Site waste management
e. Use of materials

8.365 Policy 28 also sets out minimum standards for sustainable construction, carbon reduction and water efficiency unless it can be demonstrated that such provision is not viable. For non-residential development this means a minimum BREEAM level of excellent for sustainable construction; accordance with BREEAM excellent for on site carbon reduction and full credits to be achieved for category Wat 01 of BREEAM for water efficiency.

8.366 The Council's Sustainable Design and Construction, SPD (2020) sets out principles for renewable energy technologies applicable to large sites, mandating a 10% CO2 reduction. Elements of the Sustainable Design and Construction Checklist, a reference for all planning applications have been included in the applicant's Sustainability Assessment Matrix, which sign posts how each sustainability measure proposed will be secured.

8.367 Cambridge Local Plan 2018 Policy 19, part 6 states that the Council will be supportive of a site-wide approach to renewable or low carbon energy generation or the future proofing of buildings to allow for connections to energy networks. The OPA's Sustainability Statement (SS) has been developed to positively respond to a comprehensive approach to sustainability on the West Cambridge Site.

8.368 The original 2016 submission was accompanied with a SS setting out how the proposed development is intended to be a 'showcase' for sustainability standards in design and operation and will aim to be a pioneer in the design of low energy research. The SS sets out the overall vision for the site, structured around four categories; resources and climate change; transport and local connectivity; health, social and economic wellbeing and ecology and local impact. The SS and Energy Strategy seek to support the aims of low and zero carbon energy generation and CO2 reduction; on-building and off-building arrays of photovoltaic panels and establishing building performance standards.

8.369 The SS seeks to ensure that all new buildings on the campus make best use of sunlight and daylight with narrow plan buildings, orientated to make best use of natural ventilation. Low carbon energy forms are intended to be used such as solar roofs and CHP. The SS commits to the achievement of BREEAM excellent as a minimum with an aspiration for two buildings to be delivered to BREEAM outstanding. These aspirations address the Policy 28 objective of ensuring development meets the principles of sustainable design and construction. This will be controlled through the imposition of **condition 58: Sustainability Statement and construction standards.**

8.370 Part of the rationale for the proposed development is to re-house a number of academic departments, particularly the department of engineering on Fen Causeway, which present an opportunity to redesign how these buildings operate to reduce the University's overall energy use. The University will incorporate as many low carbon cooling options as possible and as such the proposal provides a robust framework to manage this transition.

8.371 Each new construction project at the West Cambridge site will be expected to target ultra-low waste generation rates, zero waste to landfill and high rates of recycled and re-used materials. This has happened through the construction management of the priority projects including the new Cavendish III Laboratory, which demonstrates compliance with part d of Policy 28.

8.372 Transport improvements are central to achieving low carbon transport accessibility to the site. The western corridor will achieve a step change in provision through the proposed C2C bus route which would serve the site, connecting it to the City centre and new residential communities to the west. The proposed development will make a significant contribution to the delivery of this service through a Section 106 obligation. In addition, the first phase of development at the west Cambridge Site will benefit from an expanded bus network and improved cycle connections to the City, principally through the GCP Madingley Road cycle scheme, to which the scheme will contribute. Further commentary is provided in the transport subsection above.

8.373 Water efficiency will be achieved through water efficient fittings and appliances and where possible rainwater harvesting systems for individual buildings which come forward. The SAM sets out that the development will achieve a 55% reduction in mains potable water consumption per person against the current baseline which is strongly supported. Low water consumption, future green infrastructure through green and brown roofs and drought tolerant specifies will ensure that the development, in accordance with Cambridge Local Plan 2018 Policy 28 part a.

Revised Energy Strategy post submission - October 2017

8.374 It is the University's preference to deliver a site wide solution to energy and sustainability in line with the OPA as originally submitted in 2016, with buildings linked together with a heat network and a single large centre proposed to deliver most of the heat to the site. This would be a low temperature heat network. This would be served by gas CHP in the short to medium term, but with the option to replace this with another technology at a later stage. It would be modular in nature, allowing for the facility to be upgraded in line with the development trajectory of the wider site.

8.375 Since the original submission however, there are a number of factors which the commercial viability of this option, principally viability and the University's ability to export energy to the National Grid. The October 2017 SPS was accompanied with a revised Energy Statement which follows from ongoing liaison with the Council's Sustainability Officer to address with UKPN grid capacity in this part of the City. In addition, fossil gas CHP is not a low carbon solution in the medium term. Officers agree therefore, to adopt an energy hierarchy to allow alternative solutions to be delivered. This is consistent with the approach taken on other major schemes in Greater Cambridge, including the Wellcome Genome Campus expansion. The principles of the hierarchical approach are:

1) Fully site solution to energy provision, if not;
2) Clusters or precincts linking several buildings;
3) Building by building approach.

Cluster approach

8.376 From the current and proposed masterplan, there are areas of the site that would form more naturally into clusters, and the cluster option in the Energy Statement 2017 recognises the benefits of linking buildings together, particularly where there are differences in heating and cooling. These future clusters could be served with either CHP or air or ground source heat pumps.

8.377 CHP systems benefit from increased scale and greater diversity across buildings so that the engine is meeting a smoother demand. Whilst reducing to a cluster level will incur cost and more carbon as compared with a site wide solution, this will be mitigated by reduces losses inherent with a smaller total length of the network. However, the challenges of exporting electricity to the wider grid will remain whether there are small engines or one large engine. For

these reasons the University does not consider CHP appropriate at cluster level.

Building by Building Approach

8.378 Although it is not the preferred approach, some buildings may be best served with a building by building approach to energy provision, particularly if they are remote from other buildings or have very low heat demands. The technology most appropriate on a building by building scale is likely to be heat pumps. Such developments may also require PV panels to achieve the same levels of carbon savings as a site wide or cluster solution. For these reasons, a building by building approach is the least preferred option and would need to be robustly evidenced in any future submission for reserved matters.

Proposed Strategy

8.379 The site wide heat network remains a possibility at West Cambridge and the Energy Framework allows this to be considered in future. If it proves unfeasible, the strategy gives a framework to assess other options on their merits. If a cluster approach is adopted for new buildings in future, the preferred option for energy delivery would be a mix of air and ground source systems to give flexibility for the future.

8.380 Each of the of the three options has the potential to deliver the same amount of carbon savings, but each has specific impacts:

Combined Heat and Power

- NOx emissions from potentially more locations, although the overall emissions will remain unchanged.
- Visual impact from more flues.
- The SS commits to the achievement of BREEAM excellent as a minimum with an aspiration for two buildings to be delivered to BREEAM outstanding.

Air Source Heat Pumps

- Potentially more roof top plant.
- Potential noise from heat exchange systems.
- Possible need for peak boilers with flues.

Ground Source Heat Pumps

- Borehole space.
- Aquifer impacts and permissions.
- Possible need for peak boilers with flues.

8.381 The ES considers the potential ground water implications for a more extensive array of ground source heat pumps coming forward in future. The potential risk of migration of new and existing contaminants due to construction activity, including boreholes for ground source heat pumps is considered very low. It

will be adequately mitigated through implementation of the Environment Agency's former Pollution Prevention Guidance, set out in an informative.

8.382 The impacts of any future boreholes on landscape and trees would need to be vigorously assessed as part of any reserved matters planning application. The site wide borehole plan submitted in the energy statement 2017 suggests a significant number of ground source heat pumps could be located under the Central Green. It would be preferable for boreholes to be sited under new future buildings, as is the case with the new Cavendish III, but this will need to be weighed against future maintenance considerations. Future reserved matters applications would need to consider the tree and landscape implications through **condition 28: Landscaping and trees**, which provide a suitable framework for assessment.

8.383 Similarly, the ES models a scenario where there are more than one CHP energy centre. Further commentary is provided in the air quality section above.

8.384 Air source heat pumps can have noise implications, and as such need to be carefully sited and, in some cases, acoustically screened. In light of this, proposals that include the use of air source heat pumps will need to give consideration to appropriate mitigation. This is considered further in the Environmental Considerations subsection above.

8.385 Overall the aims of the energy strategy should be to maximise the reduction of carbon emissions associated with further development at the West Cambridge site, while minimising any potential amenity impacts, including cumulative impacts. As such, officers' preference would be for the first two stages in the hierarchy, rather than an individual building approach. Notwithstanding this, consideration of any future reserved matters proposals will be assessed against **condition 61: Energy strategy**.

Priority Project example – Cavendish III 17/1799/FUL

8.386 The outline strategy assumes that some earlier buildings on the site, notably the Civil Engineering Building (CEB) and Cavendish III, would precede the construction of the energy centre associated with this network and as such would need their own energy solution.

8.387 The, currently under construction, Cavendish III will form part of an energy cluster, powered by a ground source heat pump array to be located beneath the building. This cluster will also link to the SFH, which is also under construction, with the potential to connect to other future buildings subject to energy requirements. This approach is in line with the energy hierarchy envisaged by the Energy Strategy Addendum 2017 which forms part of the outline planning strategy for the wider West Cambridge site.

8.388 The proposed ground source heat pump for Cavendish III is in keeping with the medium-term energy strategy for the West Cambridge site, which includes the use of heat pumps to serve the heat network, located within individual building plots. This demonstrates the proposed strategy will deliver sustainable design

and construction objectives in accordance with Cambridge Local Plan 2018 policy 28.

8.389 There is an intention to form an interconnection between the buildings on the West Cambridge Site to maximise efficiency through networks. However, the benefit and feasibility of this relies on an understanding of the heat flows both into and out of the buildings. It is difficult to predict these flows for research buildings such as the new Cavendish III. In order to undertake the assessment with a reasonable degree of confidence data is required for these buildings to understand their heat flows.

8.390 Once the operation of the building is better understood and verified, the intention to connect and share loads will be appraised and undertaken if environmental value can be found. By facilitating future interconnection the Cavendish III and other priority projects are investing now to ensure that disruption and cost are kept to a minimum and the barrier to this adaptation is low. In the view of officers, the outline application suitably demonstrates future proofing building for connections to energy networks in accordance with Cambridge Local Plan 2018 Policy 19, part 6.

Consideration of existing buildings on the site

8.391 Officers recognise there may be technical constraints if existing building systems are not compatible with future energy provision. The new masterplan is a framework to guide the future development of the site and cannot mandate retrofitting of the existing building stock on the campus. Nevertheless, each reserved matters application coming forward will cover in its sustainability assessment whether the infrastructure of localised connection to other buildings is technical possible.

Connection to Eddington CHP

8.392 Policy 19, part 6, states that the Council will be supportive of the future proofing of buildings to allow for connections to energy networks. The revised hierarchical strategy does not include provision for connection to Eddington CHP facility. This is because of the technical challenges of providing a connection across Madingley Road to other buildings. Grid capacity constraints are also impacting the full implementation of the energy strategy for the Eddington site, which further complicates the potential for connection of the two sites. Officers accept that this wider connection to Eddington is not practicable in the context of the wider strategy and that a separate approach to energy for the West Cambridge site will allow for the electrification of heat.

Summary

8.393 In light of the constraints faced in relation to grid infrastructure, officers consider the proposed strategy acceptable in principle. The lower in the hierarchy that schemes are brought forward in reserved matters applications, the greater level of detailed explanation will be required.

8.394 An option lower down the hierarchy should only be considered when the option(s) above have been demonstrated not to be feasible and/or viable. The term energy centre above could be a physical building housing energy plant such as CHP, or it could refer to a ground source heat pump array, which will be assessed through implementation at reserved matters stage.

8.395 The overall approach to sustainable design and construction and energy/carbon emissions and the development of a bespoke Sustainability Strategy for the West Cambridge Site is supported and subject to the conditions listed above officers consider the proposal is in accordance with Local Plan Policy 28 and the Sustainable Design and Construction SPD 2020.

Utilities

8.396 Cambridge Local Plan 2018 Polices 14: Areas of major change - general principles, 38: Hazardous installations and 42: Broadband are relevant. Policy 14 states that development in the areas of major change should seek to protect existing public assets, including water management.

8.397 The existing site has a high-pressure gas main running north to south at its western end, broadly following the length of the Western Access Road, before continuing south into open countryside. Cambridge Local Plan Policy 38: Hazardous installations states that modifications to existing sites or development in the vicinity of pipelines will only be permitted where is has been satisfactorily demonstrated that the amount type and location of hazardous substances will not pose adverse health and safety risks. The HSE have advised that they 'do not advise against' development of the site based on the proposed land uses. There will be very little development taking place in close proximity to the gas main. Whilst the western access road will be modified with repurposed pedestrian and cycle ways, this is not considered to conflict with the gas main or create undue health and safety issues. The EA does not raise any issues with this aspect of the development. The development is therefore compliant with Policy 38.

8.398 Cadent Gas has confirmed that future development can proceed subject to consideration of their medium and high pressure assets at the appropriate time. A suitable informative is recommended.

Future Water Abstraction

8.399 Cambridge Water has confirmed the development falls within their WRMP. The development seeks to achieve maximum BREEAM credits for water efficiency, which is equivalent to a 55% improvement on water consumption as compared with the baseline current position. Cambridge Water has confirmed that because West Cambridge is within the current local plan 2018 then this variation would be included in the current Water Resource Management Plan (WRMP) for the area. This is subject to some further reinforcement of a section of the existing trunk mains along Queens Road, Madingley Road and Lady Margaret Road to avoid any adverse effects on water pressure to the west and

north of the City. These works would be carried out at the appropriate time by Cambridge Water.

8.400 The purpose of the reinforcement is to ensure that existing customers on relatively high ground around Histon Road and Huntingdon Road do not suffer detriment to their supply as a result of the development, rather than to ensure adequacy of supply to the site itself. Cambridge Water will continue to monitor pressures in the areas most at risk and reinforce the network as and when necessary.

Broadband

8.401 Cambridge Local Plan Policy 42 requires provision for high quality broadband (such as ducting and cables) to be designed and installed as part of development to minimise visual impact and disturbance. Because the site already has an existing street network, the provision of supporting ducting has been and will continue to be upgraded as and when new plots come forward. The need for any upgraded service runs will be considered in the context of drainage and landscape constraints through the future discharge of **condition 65: Broadband** for each reserved matters parcels that come forward.

Summary

8.402 The proposed development for the most part, uses existing utilities which were laid down as part of the 1999 masterplan. Future demand can be adequately accommodated by statutory providers without significant upgrade. Electric capacity on the grid remains an issue for the wider site and the sustainability strategy has a framework for dealing with this uncertainty. Overall the development is compliant with Cambridge Local Plan 2018 policies 14, 19, 38 and 42.

Waste Management

8.403 The relevant policy of the Cambridge Local Plan is 28; Carbon reduction, community energy networks, sustainable design and construction, and water use. It states that all development should take available opportunities to integrate the principles of sustainable design and construction into the design of proposals. Promoters of major development should outline their approach to site waste management as part of the overall sustainability approach. Developments should be designed in a way that reduces the amount of construction waste and maximises the reuse and recycling of materials at all stages of a development's lifecycle.

8.404 A Site Waste Management Strategy has been submitted as part of the application. This sets out a framework to mitigate construction and operational waste arising from the development and is supported by Cambridgeshire County Council Each reserved matters application will need to have its own individual and site specific waste management plan. This can be controlled through recommended **condition 43: Detailed Waste Management and**

Minimisation Plan (DWMMP) to ensure maximising waste re-use and recycling opportunities during construction is achieved.

8.405 In the view of officers the proposal makes adequate provision for waste management and is compliant with Cambridge Local Plan 2018 Policy 28.

Disabled Access

8.406 Cambridge Local Plan 20218 Policy 80: Supporting sustainable access to development, requires development (at point 4) to ensure accessibility for those with impaired mobility. Policy 82: Parking management, states that planning permission will not be granted for developments that would be contrary to the parking standards set out in Appendix L, including c. providing at least the disabled and inclusive parking requirements in Appendix L.

8.407 The Framework Travel Plan – Version 3 confirms that at least 5% of the total number of car parking spaces will be reserved for disabled people. This is secured via **condition 22: Site Wide Parking Strategy: Car Parking, EV Charging and Car Club.** In addition, the Design Guidelines will ensure, through mandatory provisions, that the disabled access is provided across the site. The Guidelines state that on-street parking shall be used for disabled parking only and dropped kerbs shall be provided to ensure suitable access. In addition, disabled parking shall be located as close to building entrances as possible and where located in MSCPs, they shall be located on ground floor adjacent to pedestrian accesses. Area specific requirements, for example at the East Forum Steps, also provide for disable access as the Guidelines require “an accessible route shall be provided and ramps shall be incorporated within the design of the steps for disabled access” as a mandatory requirement. Other requirements within the Guidelines which generally seek to improve pedestrian access and prioritise pedestrian (and cycle) routes over vehicular traffic will also have some positive indirect impacts on disabled access.

8.408 In the view of officers the proposal makes adequate provision for disabled access and is compliant with Cambridge Local Plan 2018 policies 80 and 82.

Public Art

8.409 Public art should be embedded as an integral part of development proposals as identified through the Council’s Public Art Supplementary Planning document, as set out in Cambridge Local Plan 2018 Policy 56: Creating successful places. Public art makes an important contribution to the character and visual quality of the City. The Council is committed to the provision of public art within developments and the public realm.

8.410 The Council’s Public Art SPD 2010 sets advises that for larger scale projects a 1% contribution to public art (meaning 1% of the construction capital costs) is generally reasonable to yield sufficient money to fund high quality public art. The contribution should cover the creation and delivery in situ of the artwork (including project management) and a commuted sum for maintenance over 25 years. However, the SPD recognises that for strategy scale development,

where the costs of construction run into hundreds of millions of pounds therefore 1% is not an appropriate measure. The SPD states that for site of major change (DC guidance 2) the contribution will be negotiated on a case by case basis. The contribution will cover:

a) artist's fees, fabrication and installation;
b) specialist advice and project management;
c) public engagement and consultation costs;
d) long term maintenance and decommissioning plan;
e) linked promotion, community and education programmes; and
f) project evaluation costs

8.411 The development has been accompanied by a strategic level Public Art Delivery Strategy. The strategy aims to improve the quality of experience at West Cambridge through social interaction. The expanded social amenities on the site (e.g. the sports centre and Shared Facilities Hub) will encourage interest in West Cambridge from the wider area.

8.412 The proposed strategy follows the principles of the public art strategy agreed as part of the Eddington development, which has facilitated collaboration between researchers and artists and engaged a variety of different audiences. The strategy will be phased over time, with the overall build out of West Cambridge to extend over 15 years. The programme will have three phases. There is a detailed strategy which aligns with key phase 1 for the site and focuses on the new Cavendish III Laboratory, The Green, West Forum and the South Ecological Corridor. The later phases are indicative only, but are expected to focus on East Forum, the central section of The Green and further parts of the Southern Ecological Corridor.

8.413 The phase 1 strategy is expected to take place over three to five years. There is a significant focus on The Green which will be the main link east west cycle and pedestrian link through the site in future years. The strategy seeks to explore technology and diverse media to provide a series of encounters through the space, providing animation at key points such as resting and seating spaces. The eastern end of The Green was approved as part of the Cavendish III application and a planning condition attached to application 17/1799/FUL will secure the Public Art Delivery Plan (PADP).

8.414 The proposed public art strategy has been considered by the Council's Public Art officer and Public Art Panel, who are both support of the strategy.

Budget

8.415 The Public Art Strategy includes an indicative budget for the three phases. The budget is broken down into the art budget, integration costs and management. Phase one is allocated for £1,248,000. The largest proportion of which is allocated for West Forum Social Spaces project. The overall budget for the entire scheme would total £2,200,000. The Public Art Strategy costings, which have been considered and are supported by the Council's Public Art Officer and Public Art Panel are set out in Table 8.0 below:

Table 8.0: Public Art budget

Phase	**Total**
Phase 1 The Green Sustainable Landscape Social Spaces West Forum Programme	£1,248,000
Phase 2 West Forum Programme East Forum Programme Sustainable Landscape	£584,000
Phase 3 Connecting Spaces Sustainable Landscape	£368,000

8.416 The Council's Public Art Officer has raised the issue of further public engagement in the strategy. The Activation Programme with the Public Art Strategy mentions the potential development of an annual festival, which would be fully supported in order to enable this. Final details of the schedule of public engagement through the lifetime of the new masterplan can be ensured through the imposition of **conditions 63 and 64**.

8.417 In the view of officers the proposal is fairly and reasonably related in scale and kind to the development and is compliant with Cambridge Local Plan (2018) policy 56 and the Public Art SPD 2010.

Third Party Representations

8.418 The issues raised have been addressed in the above report and are set out in Table 9.0 below:

Table 9.0: Summary of third party representations

Issue	**Report Section**
Design, form, layout and building heights	

CMRRA July 2016, November 2017, November 2020 Request full compliance with Page 10, paragraph on site edges: *"Control of the site edges is aimed at ensuring that the development relates well to the surrounding context, responds well to heritage assets and mitigates and minimises visual impacts".* 'Transforming the nature of existing streets is essential' (paragraph 0.2.9) but is being done at the expense of negatively transforming the adjacent roads.	It is agreed that this paragraph accurately frames the issues for development affecting the site edges. Section 4 (Site Edges) of the Design Guidelines has been revised to strengthen the mandatory requirements that must be implemented as part of any future development. It is considered that CMR is being positively enhanced through the removal of cars parked along the road and the installation of on road cycle lanes; the removal of food trucks and the allocation of spaces within the site for food trucks to relocate to; reducing the number of vehicle movements south of proposed access I-J and implementing a Woodland Management Plan (see Environmental Statement Addendum Volume 3) which will retain and protect the woodland along CMR through the implementation of woodland buffers.
Concerns with proposed building heights on the eastern side of the site.	The October 2017 SPS reduced building heights on the eastern side from 38m to 36m and 31m AOD. Section 4 (Site Edges) of the Design Guidelines has also been revised to provide more certainty on what guidelines must be implemented as part of reserved matters applications. The implementation of these measures will ensure that any development along the CMR edge will be designed sensitively. See the Landscape and Visual Impact section above for commentary on views from the west over the site.
Maximum heights of roof tops should not be exceeded with chimneys, rooftop plant, screens, utilities and other 'features' above these designated heights, which would render the 'maxima' useless.	Plant and their screens (if screens are appropriate) are within the maximum building heights. Building elements such as lightening conductors, weather vanes, telecommunication equipment, flues and aerials can exceed the stated maximum building height up to a maximum additional 8m. See for the Landscape and Visual Impact section for further analysis.

The rooftop plan (para 4.4) is not effective unless the set-back distance and the nature of 'effective screening' are specified.	The mandatory guidelines with regard to plant set out the principles that must be adopted when designing rooftop plant. Specifying the exact setback from the building elevation is considered to be over-prescriptive as the required setback will be dependent on the height of the proposed building. Any future plant will be considered at reserved matters stage.
The multi-storey car park accessed from CMR will be at the expense of traffic movements on CMR. Where is the consideration for neighbours? CMRRA propose that access to all car parks should be from within the site and not from neighbouring residential roads such as CMR.	The impact of the MSCP on residents of CMR has been carefully considered. The size of the MSCP has been further reduced to provide 450 spaces, which when considered against the removal of car parking spaces along CMR and the existing park and ride capacity, will result in a net increase of only 70 spaces. The TA identifies that both in the AM and PM peaks the junction of CMR with Madingley Road would operate within practical capacity for all phases of the development. **Condition 22** requires the phased delivery of Multi-Storey Car Parks with the one off CMR being the final phase car park. No objection has been raised by either the County Council in terms of traffic impact or the Council's Environmental Health Team in terms of noise impact.
For the safety of all users including cyclists, all construction, demolition and support related traffic to the West Cambridge site should be prohibited from using CRM, including parking.	It is anticipated that the vast majority of construction traffic accessing West Cambridge will be from Madingley Road using the general use access points shown on Parameter Plan 3 (A-B, C-D and G-H). Construction access may be required from Clerk Maxwell Road. However, this will only occur where necessary and will be confirmed at reserved matters stage.
CMRRA request that the pedestrian walkway east of JJ Thompson Avenue, along Clerk Maxwell Road to the Coton	The KP1 transport mitigation package includes provision for new segregated cycle lanes on either side of CMR. This

footpath forms part of the green corridor.	will transform its attractiveness as a cycle route. Because CMR is outside of the application site, the University is not able to introduce any new landscape treatment, although the woodland belt in this location will be managed and enhanced.
Servicing access Avoiding the movement of vehicles from JJ Thomson Avenue to the east of the site is to the detriment of vehicle movements in CMR. This pedestrianisation requirement should be removed from the Guidelines. The Eastern Green link concept is unnecessary.	The requirement for pedestrianisation of East Green Link is part of the core principles underpinning the masterplan. While some servicing is proposed from CMR the Servicing Technical Note and Environmental Statement Addendum (notably the Traffic and Transport, Air Quality and Noise and Vibration chapters) demonstrate that impacts are not expected to be unacceptable. The proposed development seeks to remove the car parking from CMR so that it can be used as a more attractive and safe cycle route. The proposed development is therefore considered to declutter the street, greatly improving the existing situation.
MSCP location – eastern edge The multi-storey car park on CMR will be at the expense of traffic movements on CMR. Where is the consideration for neighbours? CMRRA propose that access to all car parks should be from within the site and not from neighbouring residential roads such as CMR. The application states that CMR currently accommodates 190 car movements, but this assumption ignores car journeys by local residents and their visitors, deliveries to the closes and other users of CMR (such as taxi drivers) who park temporarily and illegally on double yellow lines. It also, of course, ignores the plans for further development around CMR.	Consideration has been given to neighbours near to the proposed MSCP car park off CMR. The total number of existing car parking spaces which can be accessed from CMR is 380 (290 spaces within the Park & Cycle Facility and 90 on-street spaces along CMR). The University has reviewed the proposed car park off CMR and reduced the total number of car parking spaces from 640 to 460. While some servicing is proposed from CMR the Servicing Technical Note and Environmental Statement Addendum (notably the Traffic and Transport, Air Quality and Noise and Vibration chapters) demonstrate that impacts are not expected to be unacceptable.

The height of the MSCP is out of character with its surroundings.	The application can only take into account 'committed' developments, not schemes planning by others outside of any Local Plan allocation. The overall height and design of any future MSCP adjacent to CMR will be considered at reserved matters stage.
Heritage matters *Third Parties* Loss of heritage assets are not assessed in the outline application. The loss of Merton Hall Farmhouse appears unnecessary. The response points to incorrect assessment of impacts and mitigation measures identified by the ES.	The loss of heritage assets was in the view of officers adequately considered in the ES. The October 2017 submission provides an expanded assessment of heritage assets in the ES and a Heritage Assessment for the Veterinary School and MHF. It includes the new Listing of Schlumberger. Officers consider the OPA adequately assesses the impact on heritage assets. Officers and Historic England are content that the assessment of impacts on heritage assets is appropriate.
Significant impact on undesignated heritage assets. School of Veterinary science should be retained.	There will be total loss of the Veterinary School, which is an undesignated heritage asset. All consultees agree its reuse is not practicable within the new masterplan. A recording condition is recommended.
The impact on heritage assets and designations has not been taken into account.	The ES does fully appraise the impact on heritage assets and their designations. See heritage assets report subsection.
Whittle laboratory should be retained.	The Whittle Laboratory, whilst identified for demolition in the OPA, the department intend to retain the majority of the existing buildings in their expansion proposals. Demolition of MHF was assessed and approved through the Cavendish III application 17/1799/FUL.
Transport *NNRA (all submissions)*	

CMMRA (all submissions) In comparison with the current state of the site the development represents a tripling of capacity. This is a massive change. There is limited detail in the application as to how the development will mitigate the impact, particularly in respect of traffic, public transport, movement of people and car parking. There needs to be a move away from the currently strongly car centric approach.	See Transport section above.
The proposed 4,390 car parking spaces which is three times the current provision and not in line with aspirations to limit car use. The east bound flow on Madingley Road is currently 2,200 vehicles. The requested provision is twice this capacity. There should be no increase in car parking provision except for disabled visitors. The fact that less than 50% of the 1999 figure has actually been implemented suggests that the original plan requested a gross over-provision. The OPA requests a maximum of 4,390 places. This is effectively three times the current provision, a growth which is in line with the increasing development of the site. Although the OPA has a section on the reduced use of cars, this is not borne out by the requested provision. The strategy for the amount of proposed car parking is unclear. If there is too few spaces there will be overspill onto The Lawns and Perry Court.	See Transport section above.
The modelling is undermined further by the fact that prospective developments have not been included in the assessment.	The submitted Transport Assessment has taken into account all of the committed development within Cambridge (see Appendix 6), in accordance with industry

That is a serious shortcoming, as the proposed developments (St John's plan to put 500 houses on the West Fields: Gonville and Caius and Emmanuel's plan to put houses on the playing fields and tennis courts behind CMR: St John's plan to put houses on the old Cocks and Hens site in CMR: and the North Barton Road Landowner's Group plan to put 1,500 homes on West Fields) would have a significant impact on vehicle flows down CMR. And that is not to mention the effect of the Eddington site, which will drive massive increases in traffic down Madingley Road and CMR.	best practice. It is not possible to take into account the sites listed as they are not currently 'committed'.
The OPA has a misleading analysis of the construction traffic. Construction traffic arrives during limited windows which should be reflected in the assessment.	As detailed in Section 11.3 of the revised Transport Assessment, only a limited number of construction-related car and HGV movements would typically occur during the peak hours. The working hours of most operatives would not coincide with the network peak and construction processes would be programmed to avoid reliance on deliveries of concrete and bituminous materials during the more congested periods. As there would be only a limited number (if any) of construction movements in the peak hours, no peak hour assessment has been made.
Junction capacity concerns at Madingley Road and CMR. West Cambridge should get traffic off Madingley Road as soon as possible after it turns off the M11.	The revised TA reports that this junction would operate at capacity for KP1. In future phases the Western Access Road will be opened which will intercept inbound vehicle movements from the M11.
Design and Access Statement envisages underground parking for 67 cars at the Innovation Centre. This is an interesting precedent, as it begs the question why underground parking cannot be provided elsewhere on the site.	Paragraph 6.2.46 of the DAS refers to a semi-basement car park, not a basement. Semi-basement car parking could be in the form of undercroft parking. Basement car parking is not being promoted at the site as a number of existing and proposed facilities are sensitive to vibration and the

	number of car parking spaces required across the site could not be accommodated in basements.
Cycling concerns *WCAT* *CamCycle* *CMRRA* General concern with the potential increase in cyclists traveling back to the City. The OPA does not seriously attempt to deal with the issue of cycle flow between the City and the site. It proposes a weak set of measures based on existing infrastructure and signage.	The daily cycle movement profile for academic activity differs from standard employment. Commercial uses tend to have a significant peak of movement to/from work, whereas the academic uses on the site has more regular activity throughout the day as students and staff appear for lectures/tutorials. This will help to spread the impact. The TA sets out a series of enhancements to cycling, including a significant contribution to the Madingley Road cycle scheme in KP1 as part of the amended application submission. These measures are summarised in the Planning Obligations subsection above.
Garrett Hostel Bridge and Silver Street Bridge are already at peak capacity. The application gives no concrete data of cycle and pedestrian movements across the bridges today and projected. The revised TA massively underestimates the likely cycling trips to the site along Burrells Walk. We support the fixes to the bridge along Burrell's Walk, as it is in poor shape currently. We expect that significant numbers of staff and students will continue to cycle on Burrell's Walk via the bridge, even if alternatives are improved,	The October 2020 SPS now includes link flows setting out the likely increases in cycle movements along the Coton footpath and Burrells Walk. Burrells Walk will remain an attractive option for people traveling back and forth to the City. The KP1 mitigation package includes some provision to improve it through the widening of the bridge over Bin Brook on Burrells Walk. In addition, £400,000 was secured as part of the Cavendish III development (17/1799/FUL) to provide an alternative route into the City. The final design for these enhancements will be worked up by the County Council.

because it is the straightest, most obvious and direct route. Criticisms of the proposed cycle street on Adams Road.	
A permanent, high specification lane should be created on the entire length of CMR with immediate effect for the safety of the increasing number of cyclists on this designated cycle route.	This is secured as a transport mitigation measure in KP1 of the development. See also the Planning Obligations subsection.
Segregation must be provided on JJ Thomson Avenue and across the campus. That may be bidirectional on one side or uni directional on each side.	The Cavendish III application (17/1799/FUL) secured a new 3m bidirectional cycle link along the eastern side of JJ Thomson Avenue. This is considered a significant enhancement on the existing cycle provision north – south through the campus.
CMR should be modified to reduce the turning radii so that it is no greater than 6m.	The benefits to east - west pedestrian and cycling on the south side of Madingley Road would not justify a remodelling of the turning radii.
Junction improvement to Storey's Way should be a bidirectional crossing set 4-5m into Storey's Way.	This was approved as part of the Cavendish III application 17/1799/FUL and was considered acceptable by the County Highways Authority. It will be subject to a safety audit before installation.
The signalised crossing just east of Madingley Road is a busy and popular crossing, but there is very little space on the shared-use pathway along the southern edge of Madingley Road. This section of pathway desperately needs to be widened in whatever scheme that comes forward.	This is will be considered as part of the GCP Madingley Road cycling scheme.
The proposed safety enhancement to the junction of Grange Road requires a cycling head start green light phase.	This was approved as part of the Cavendish III application 17/1799/FUL and was considered acceptable by the County Highways Authority. It will be subject to a safety audit before installation.

Junction with Madingley Rise could have a parallel walking and cycle zebra.	This is will be considered as part of the GCP Madingley Road cycling scheme.
The Coton Path is already a very busy cycle route and may soon reach a point where the cycleway needs to be widened to 4 metres to provide sufficient safe capacity during peak times.	Future cycle movements will be split across Madingley Road to the north and the Coton footpath to the south. The widening of the Coton footpath is not considered necessary to the likely increase in flows.
Proposals are not in accordance with LTN1/20.	Conditions are proposed to ensure the development is in accordance with LTN1/20 (or its successor).
Drainage concerns *CMMRA July 2016 response* *NNRA* *Adams Road Bird Sanctuary* *Other third parties* Sewer upgrades must be implemented prior to implementation of the full development. In order to reduce the risk of flooding to residential areas North and East of the site and in consideration of any subsequent developments or amendments to the plans a number of guarantees are required relating to sewer upgrades.	The University has confirmed that where additional sewerage capacity is required, this will be implemented at the appropriate phase of development. This will be secured through the discharge of **condition 52: Drainage: Sewerage system implementation.** Conditions will require the site wide drainage strategy to be fully implemented.
Regular maintenance of all drainage infrastructure is required.	Future management and maintenance of the strategic drainage infrastructure will be secured through **condition 52**.
The redevelopment of the Cavendish II complex should not impinge on Paynes Pond and green space.	The redevelopment of the Cavendish II area of the site seeks to celebrate and enhance Paynes Pond (East Pond) and green space, enhancing access from the east and within the campus.
The existing brooks do not have capacity for the increased flows.	The proposed discharge rates from the site, after development will be significantly lower than existing rates.

Concerns with implications for the Bin Brook 'wet spot'.	The Wet Spots are based on pluvial flood maps prepared by the Environment Agency. They take account of topography and soil conditions. Officers consider the measures set out in the FRA and agreed in principle with the Environment Agency and Lead Local Flood Authority are stringent as the engineering measures proposed will significantly reduce the amount of flow into the Bin Brook.
Defects with the existing on-site surface water drainage system and capacity constraints off site are highlighted.	Existing drainage networks will be cleaned and where required pipes will be replaced as proposed. (secured by **condition 51**) The net surface water discharge from the site will be reduced post development. The offsite foul water sewer will be upgraded. Anglian Water has confirmed there is sufficient capacity in their downstream network to accommodate development waste water flows.
Concerns will loss of water storage capacity during construction.	The FRA confirms no loss of capacity during or after construction. This will be secured through **condition 51**.
Concerns will the blocking of the culvert at the Cambridge Lawn Tennis Club and maintenance regime.	The applicant has confirmed regular cleaning of the debris screens. Discharge rates into the culvert will be restricted and will be lower than existing rates.
Potential flooding for residential areas south of CMR.	The risk of flooding from the development will be mitigated by the restriction of discharge rates to the 1 in 1 year Greenfield run off rates and provision of onsite attenuation facilities that will be inspected and maintained. The FRA and ES does not identify The Lawns or Perry Court to be at risk of flooding.
Concerns about previous pollution from the Cavendish II Laboratory in the 2000's. The ES must specifically recognise the Adams Road Sanctuary Club.	**Condition 54: Pollution control** requires a review of all the activities on the site using and disposing of chemicals, plus all chemical and material stores and their pollution prevent measures, as set out in the ES.

The water runoff consequences of the massive amount of additional building must be safely managed.	Each reserved matters application will be required to demonstrate compliance with the approved FRA, which results in a betterment of the existing drainage system.
The anticipated 40% increase in rainfall in the FRA is insufficient.	The drainage strategy takes account of climate change, in accordance with policy 31.
The enhancement of the West Lake and South East Pond attenuation features must be carried out to a high standard. Further details are required about the effectiveness of improvements to deal with impervious areas that will be nearly 75% greater than now.	The enhancements to on site attenuation features will be carefully considered for future reserved matters applications. The ecological impacts and achievement of net bio diversity gain will be secured by **condition 55: ecological design strategy.**
An unspecified proportion of on plot drainage will be the responsibility of independent sustainable drainage systems. More guidelines are needed for individual plot developers.	It is considered the FRA and Design Guidelines provide a sufficient framework with which to negotiate sustainable drainage systems for future reserved matters applications.
Concerns about incorrect naming of drainage features in and around the site.	This was addressed in the technical note by Atkins, dated 8 January 2021.
Environmental Concerns *CMRRA July 2016 and November 2017* Of key concern is that nearby residents will merely be 'advised' rather than consulted about minimising disruption to occupiers of existing facilities on the site and nearby residents. We request a planning condition that residents are consulted and that CCC should resolve any dispute arising from unacceptable construction nuisance to neighbours. Our full comments are contained in Appendix 3.	Local residents will be notified of and consulted on the subsequent reserved matters applications submitted by the University, which will contain details of their construction strategy. To date, no complaints have been received regarding the construction of the new Cavendish III, which is a development of significant scale.
Appendix 3 – The application should include a construction routing plan, rather than just propose that there will be a plan, so that it can be considered as part of the application.	The outline is accompanied by a framework CEMP which sets out the principles each detailed CEMP will need to adhere to. The detailed route of

	construction traffic will be considered at each individual reserved matters stage.
Appendix 3 – CMRRA knows from experience (from Churchill College) that the University has no control over construction car parking and will rely on contractors to enforce it. There needs to be a planning condition which ensures that neighbouring roads are not used by any contractors or subcontractors during construction.	Contractors will be required to adhere to the detailed CEMP which will be submitted as part of the reserved matters applications. If issues are reported regarding contractor car parking, the University and CCC will investigate and action if necessary.
Appendix 3 – There is no mention of the possibility of asbestos dust during the demolition of Cavendish II which is close to residential properties on CMR.	A detailed demolition impact assessment will be prepared and submitted as part of the planning application to demolish Cavendish II. Asbestos will be considered as it will be necessary to not only protect residents along CMR but also existing site users and demolition contractors.
Appendix 3 – we suggest that these construction operational hours should form part of the planning application or planning conditions prior to approval.	This is secured through **condition 44: Site Wide Demolition and Construction Environmental Management Plan (DCEMP).**
The recent planning application for the Civil Engineering Building showed a total disregard CMR with loading bays and poorer sound insulation on the eastern side of the building facing CMR. These Design Guidelines should stop this from happening again.	The eastern elevation for the Civil Engineering building (16/1811/FUL) had as much attention to detail as the western elevation. The loading bay is an internal function that was carefully designed in and at ground floor behind the berm. Sound insulation is maximised on this elevation (not poorer) and is the subject to a planning condition (see Condition 10 on the Decision Notice).
Lighting As a close neighbour of the site, the MRARA believes the OPA should ensure minimum light pollution from the site after dark.	The development requires submission of a site artificial lighting strategy from which future reserved matters applicants will need to accord. It is agreed that light pollution after should be kept to a minimum. The ES recognises however that the proposed development will have a significant adverse impact on long views

	from to the south, with external lighting creating sky glow.
Ecology *Natural England* Appropriate green infrastructure is required which should be secured through the production of a Green Infrastructure Strategy. Impacts on other local site of landscape and biodiversity value should be assessed.	The Council's Ecology officer is satisfied with the scope of assessment informing the ES. The Design Guidelines provide a suitable framework to assess and deliver new on site green infrastructure in future.

Planning Obligations (s106 Agreement)

8.419 The Community Infrastructure Levy (CIL) Regulations 2010 have introduced the requirement for all local authorities to make an assessment of any planning obligation in relation to three tests. Each planning obligation needs to pass three statutory tests to make sure that it is

(a) necessary to make the development acceptable in planning terms;
(b) directly related to the development; and
(c) fairly and reasonably related in scale and kind to the development.

In bringing forward the recommendations in relation to the Planning Obligation for this development these requirements have been considered.

8.420 The applicant has indicated their willingness to enter into a S106 planning obligation in accordance with the requirements of the Council's Local Plan and the NPPF.

Heads of Terms

8.421 The Heads of Terms (HoTs) as identified are to be secured within the S106. Contributions and their respective triggers have yet to be agreed as a complete package and these are for the most part excluded from the HoTs as they are still subject to negotiation.

8.422 The HoTs are split into key topics as identified below, each of which has been justified and explained as part of its corresponding section in this report and is considered to be CIL compliant. The HoTs are as follows:

Transport

8.423 In discussions with the Highway Authority the following transport mitigation measures are considered necessary and the applicants have agreed to secure

these in principle. These are a combination of financial contributions towards schemes or relate to works that will be carried out by the developer.

8.424 The triggers for when these contributions are delivered will have to be agreed with the applicant to ensure that the necessary measures are implemented at the appropriate time to facilitate the development and to mitigate against the development as it is delivered.

8.425 The following site wide strategies will be secured:

Table 10.0: Site Wide Strategies

Mitigation measure summary	**Proposed trigger**	**Method of delivery**	**Delivered by**
Construction Environmental Management Plan	Construction Method Statement to be submitted with each individual RMA	Condition attached to the outline approval	University and Individual contractors
Framework Travel Plan Targets for all mode shares. Sustainable Transport Fund for the implementation, management and monitoring and review of the FTP. Bus stop upgrades.	Framework Travel Pan Ongoing throughout the life of the development	Framework to be secured via the Section 106 agreement	University and Departments
Overall public art budget of £2,200,000	As set out in the outline PADP.	Through reserved matters PADP's	University
Community access to future phases of the sports centre including the swimming pool.	On implementation of later phases of the sports centre	Planning condition	University
Monitoring costs to be negotiated and agreed.	To be agreed	To be agreed	University

8.426 The following measure are already committed through approved priority projects (additional 46,443 sq m).

Table 11.0 Committed projects

Mitigation measure summary	Proposed trigger	Method of delivery	Delivered by
Pedestrian/Cycle Links to Observatory Drive	Upon Occupation of 16/1811/FUL	Secured via Condition of 16/1811/FUL	University
Burrells Walk Improvements	Payment prior to substantial commencement of 17/1799/FUL	Secured via Cavendish III S106	County
Pedestrian and cycle links along Grange Road (Cycle Streets Improvement)	Payment prior to substantial commencement of 17/1799/FUL	Secured via Cavendish III S106	County
Pedestrian and cycle links along West Road (Cycle Streets Improvement)	Payment prior to substantial commencement of 17/1799/FUL	Secured via Cavendish III S106	County
Junction Improvements at Storey's Way and Madingley Road	Payment prior to substantial commencement of 17/1799/FUL	Secured via Cavendish III S106	County
Junction Improvements at Grange Rd and Madingley Road	Payment prior to substantial commencement of 17/1799/FUL	Secured via Cavendish III S106	County
Grange Road/Adams Rd/Burrells Walk Toucan Upgrade	Delivered upon occupation of 17/1799/FUL	Secured via Cavendish III S106	University
RTPI and Bus Shelters N and S bound on JJT Ave	Delivered within 12 months of Occupation of SFH	Secured via SFH S106	University
Madingley Road Cycle Zebra	Payment prior to Commencement of 17/1896/FUL	Secured via SFH S106	County
New segregated cycleway on the	Secured through application 17/1799/FUL	New segregated cycleway on the eastern side of	Secured through application 17/1799/FUL

eastern side of JJ Thomson Avenue	Already under construction.	JJ Thomson Avenue	Already under construction.

8.427 The following additional mitigation for the remainder of KP1 (up to 143,000 sq m) is proposed:

Table 12.0: Proposed additional mitigation KP1

Mitigation measure summary	**Proposed trigger**	**Method of delivery**	**Delivered by**
Review of CPZ to surrounding areas	Payment prior to commencement of 50,000sqm floorspace	Secured through OPA S106	County
New segregated cycle lane on both sides of High Cross	Secured by condition	New segregated cycle lane on both sides of High Cross	University
A new Cycle and Pedestrian route will be provided between the M11 bridge crossing and the Western Access Road within West Cambridge.	Secured by condition	Secured through S106	University
Scheme for the improvement of the cycle and pedestrian access at the southern end of Clerk Maxwell Road at its junction with the Coton footpath	Delivery prior to occupation of 75,000sqm floorspace	Secured through S106	University
Pedestrian/ Cycle links along Coton Path	Payment prior to commencement of 75,000sqm floorspace	Secured through OPA S106	County
Coton Path/Adams Road enhancements	Payment prior to commencement	Secured through OPA S106	County TBC

	of 75,000sqm floorspace		
Adams Road Pedestrian and Cycle Improvements	Payment prior to commencement of 75,000sqm floorspace	Secured through OPA S106	County
Universal- increased frequency potentially to every 10 minutes and extended to Saturdays	Payment prior to occupation of 75,000sqm floorspace	Secured through OPA S106	University
Citi 4 to be delivered into the West Cambridge Site	Payment prior to occupation of 100,000sqm floorspace	Secured through OPA S106	County
Arc Service- hourly orbital service from West Cambridge to Science Park and Milton Rd P&R	Payment prior to occupation of 100,000sqm floorspace	Secured through OPA S106	County
Potential Speed Limit Restriction on Madingley Rd (investigate reduction and fund if found possible)	Payment prior to occupation of 100,000sqm floorspace	Secured through OPA S106	County
Pedestrian/cycle links across Queen's Green	Payment prior to occupation of 125,000sqm floorspace	Secured through OPA S106	County
Monitoring of High Cross junction and if the junction exceeds capacity, implement a two to one lane merger on the eastbound exit of the High Cross junction; and banning right turn movements from High Cross. (Dependent on GCP Madingley Road plans)	Ongoing	Secured through OPA S106	University/County
Charles Babbage Road will be a bus priority corridor with demand activated signal control to ensure that buses are	Dependant on C2C delivery timings	Secured through OPA S106	University/County

not impeded by other traffic.			

8.428 Future mitigation will be informed by the future transport assessments and funded using the transport cap of £12.603 million. The cap amount has been informed by an indicative package as set out below, though flexibility shall exist to allow the most appropriate measures to be developed as required.

Table 13.0: Proposed later phase mitigation to inform transport CAP of £12.603 million)

Mitigation measure summary	Proposed trigger	Method of delivery	Delivered by
1. Madingley Road cycleway scheme	Prior to commencement of Key Phase 2 (KP2)	Secured through OPA S106	County
2. Madingley Road cycleway scheme In place of delivery of items 5 and 7. Cost equivalent to be contributed of £3.75 million	Prior to commencement of Key Phase 2 (KP2)	Secured through OPA S106	County
3. Citi 4 increased frequency to every 10 minutes	Prior to occupation of KP2	Secured through OPA S106 transport cap	County
4. Arc Service- increased frequency and extend service further to Barton Rd P&R and towards South Cambridge	Prior to occupation of KP2	Secured through OPA S106 transport cap	County
5. Madingley Road/ JJT Ave Junction Enhancements (Dependant on GCP Madingley Road cycle scheme plans)	Prior to occupation of KP2	Secured through OPA S106 transport cap	University - s278 works
6. Extra Over for Detection technology for bus priority	When JJTA signalled or WAR built	Secured through OPA S106 transport cap	County
7. Madingley Road - including the High Cross Junction	Prior to occupation of KP2	Secured through OPA	University - s278 works

	Enhancement (Dependant on GCP Madingley Road cycle scheme plans)		S106 transport cap	
8.	Improvements from M11 J13 to Western Access Junction	Upon opening of the Western Access Road	Secured through OPA S106 transport cap	University - s278 works
9.	Expand Milton Rd P&R by 200 spaces	KP2	Secured through OPA S106 transport cap	County
10.	Review a new variation of the Service B on the Guided Busway	Prior to occupation of KP2	Secured through OPA S106 transport cap	County
11.	Further increase to frequency of Universal bus service	Prior to occupation of KP2	Secured through OPA S106 transport cap	County
12.	Speed limit restriction on Madingley Rd where possible (extension to Phase 1 scheme)	Prior to occupation of KP2	Secured through OPA S106 transport cap	County
13.	Pedestrian cycle links to the North	Commencement of 300,000sqm floorspace	Secured through OPA S106 transport cap	University - s278 works / County - s106 contributions
14.	Charles Babbage Road will be a bus priority corridor with demand activated signal control to ensure that buses are not impeded by other traffic.	Dependant on C2C delivery timings	Secured through OPA S106	University/ County
15.	Air Quality Mitigation	Prior to occupation of KP2	Secured through OPA S106	University

8.429 The following table sets out the GCP Contribution and M11 monitoring required:

Table 14.0: GCP contribution and M11 monitoring

Mitigation measure summary	Proposed trigger	Method of delivery	Delivered by
Greater Cambridge Partnership contribution £9.29 million	1/5 upon occupation of 175,000sqm Floorspace 1/5 upon occupation of 215,000sqm Floorspace 1/5 upon occupation of 260,000sqm Floorspace 1/5 upon occupation of 310,000sqm Floorspace 1/5 upon occupation of 350,000sqm Floorspace	Secured through OPA S106	County
Improvements to M11 J13 on and off Slips	Only required if trip generation above TBC level	Secured through OPA S106 (if required)	Highways England - by s106 contribution if condition triggered

Planning Obligations Conclusion

8.430 The planning obligations sought above are necessary, directly related to the development and fairly and reasonably in scale and kind to the development and therefore the Planning Obligation passes the tests set by the Community Infrastructure Levy Regulations 2010.

9.0 PLANNING BALANCE AND CONCLUSION

9.1 Planning decisions must be taken in accordance with the development plan unless material considerations indicate otherwise (Section 38 (6) of the Planning and Compulsory Purchase Act 2004). The NPPF represents current government planning policy and is a material planning consideration that must be considered where it is relevant to a planning application. This includes the presumption in favour of sustainable development found at Paragraph 11, which requires approving development proposals that accord with an up to date development plan without delay.

9.2 The NPPF lists the three dimensions to sustainable development: economic, social and environmental. These dimensions are interdependent and need to be pursued in mutually supportive ways to achieve sustainable development. The benefits and dis-benefits of the development proposals have been evaluated against the objectives of the NPPF and the presumption in favour of sustainable development, as summarised below.

Economic dimension

9.3 The NPPF places a clear emphasis on the importance of economic growth and delivering economic benefits as a key component of sustainable development. Significant economic benefits locally and regionally will result from the proposed development through job creation. At a regional and national level, the economic benefit through the research is significant. This is in terms of skills, improved technologies and collaboration with industry through partnerships.

9.4 Although the exact balance of development which will come forward in terms of academic and commercial uses is not known, the proposed development will nevertheless have a major beneficial impact in terms of employment in the local and regional area. The development would create a significant number of direct and indirect jobs throughout the construction and operational stages of development. The operational phase of development has the potential of generating additional annual income Gross Value Added (GVA) of £378.2 million at the local level and £476.6 million at the regional level, calculated by converting the net employment benefits into GVA.

Social dimension

9.5 In terms of the social role, the proposed outline application will represent a step change in the development of the West Cambridge Campus with an objective of the University being to improve the social life of the site. The way in which the centralised amenity facilities will be provided is as a shared resource which can be used by all site users, including residents, as well as the general public with the aim of promoting interaction between site users with the hope of aiding collaboration between academic disciplines and between academics and industry. This is secured by the Design Guidelines which ensure such facilities are located outside of the 'security line' of the building in which they are located. The Amenities Delivery Strategy sets out the aims of the University in regard to food, drink and retail facilities, health and well-being facilities. For example, by providing public access to future phases of the sports centre including the swimming pool, will ensure each reserved matters application is in accordance with the strategy.

9.6 The Design Guidelines will ensure an improved environment and facilities for existing and future occupiers of the site through the provision of additional and enhanced open green spaces and improved and additional on-site facilities.

Environmental dimension

9.7 In relation to the environmental role of sustainability, the proposal has a number of beneficial and negative impacts.

9.8 Importantly, the proposal makes effective and efficient use of land responding to its location in an Opportunity Area and Area of Major Change in the Local Plan. It is recognised that the extant 1999 masterplan was not comprehensive and that it did not make the most efficient use of the site.

9.9 The proposals will secure improvements to the ecological value of the site compared with the existing situation through the future management and maintenance of the Madingley Road tree belt, interventions to JJ Thomson Avenue which secure the longer-term strategy for the oak trees along High Cross and significant improvement to the environment for pedestrians and cyclists. These improvements are secured through the Design Guidelines and conditions. Although it has not been demonstrated that the proposals can achieve BNG of 10%, a planning condition requires all reserved matters applications to demonstrate BNG at the level required by planning policy at the time of submission, thus ensuring appropriate levels of BNG are achieved.

9.10 The potential transport effects are significant, particularly after the implementation of KP1. However, the monitor and manage approach to highway impacts provides sufficient safeguards to ensure that the later phases of development proceeds only when transport capacity exists in the local network, including the delivery of the strategic transport infrastructure.

9.11 Traffic generation also impacts on air quality and it has been assessed that there will be some negative impact on the Cambridge Air Quality Management Area. This can be mitigated through on-site mitigation measures.

9.12 Impacts on the surrounding area from noise are considered to be minimal however, where there are potential impacts, conditions will ensure appropriate mitigation.

9.13 The proposal will result in adverse landscape and visual impact due to its scale and location. Such impacts can be appropriately mitigated through the Design Guidelines and through the consideration of future reserved matters applications where detailed design will be considered.

Summary

9.14 Overall, the proposed development will bring significant measurable economic, social and environmental public benefits that accord with the three dimensions of sustainable development set out in the NPPF. Officers are of the view that the dis-benefits, including any minor or negligible adverse environmental impact can be addressed through recommended conditions and planning obligations set out in this report. All mitigation measures are largely capable of being enforced by the LPA through planning conditions, either as part of management

documents, as standalone conditions or obligations, or financial contributions secured via S106.

10.0 RECOMMENDATION

APPROVE planning permission subject to:

1. The prior completion of a Section 106 Agreement under the Town and Country Planning Act 1990 which includes the Heads of Terms (HoTs) as set out in Tables 10, 12, 13 and 14 in this report, and any other HoTs or detail including phasing and triggers, that are still under negotiation. The final wording of any significant amendments to the HoTs listed in the repot to be agreed in consultation with the Chair and Vice Chair prior to the issuing of the planning permission.

2. The planning conditions specified in this report with the final wording of any significant amendments to these to be agreed in consultation with the Chair and Vice Chair prior to the issuing of planning permission.

3. The relevant informatives as specified in this report to be included at the discretion of officers.

Reserved matters

1. No development on any individual development parcel shall commence until approval of the details of the access, appearance, landscaping, layout and scale (hereinafter called the reserved matters) within that phase has been obtained from the local planning authority in writing. The development shall be carried out as approved.

   Reason: To ensure that all necessary details are acceptable in accordance with the requirements of section 91 of the Town and Country Planning Act 1990 (as amended).

Time limit - First reserved matters

2. The first application for approval of reserved matters shall be made to the local planning authority no later than three years from the date of this permission.

   Reason: In accordance with the requirements of section 91 of the Town and Country Planning Act 1990 (as amended).

Time limit - Implementation after all reserved matters

3. The development of each development parcel pursuant to this outline consent shall begin before the expiration of two years from the date of the last reserved matter of that phase to be approved.

Reason: To prevent the accumulation of unimplemented planning permissions and in accordance with the requirements of section 91 of the Town and Country Planning Act 1990 (as amended).

Time limit - Implementation for overall development

4. Application(s) for approval of all the reserved matters shall be made to the local planning authority before the expiration of 20 years from the date of this permission.

Reason: To prevent the accumulation of unimplemented planning permissions and in accordance with the requirements of section 91 of the Town and Country Planning Act 1990 (as amended).

Compliance - Approved Plans

5. The development hereby permitted shall be carried out in accordance with the approved plans and documents as listed on this decision notice.

Reason: In the interests of good planning, for the avoidance of doubt and to facilitate any future application to the Local Planning Authority under Section 73 of the Town and Country Planning Act 1990.

Time limit - Phase one development

7. Applications for approval of all reserved matters for Phase One of the development shall be made to the local planning authority before the expiration of 10 years from the date of this permission. For clarity the total approved floorspace of the development is set out below:

Use Class (as per approved plans and documents)	**Floorspace**
D1 (academic)	Up to 370,000 m^2
B1(b) and sui generis research	Up to 170,000 m^2 of the 370,000 m^2 in the line above
D1 (nursery)	Up to 2,500 m^2
Classes A1-A5 (retail/food and drink)	Up to 4,000 m^2
(D2) Assembly and Leisure	Up to 4,000 m^2 and not less than 3,000 m^2
(sui generis) uses including energy and data centres	Up to 5,700 m^2

Phase One of the development shall comprise a maximum total floorspace of 143,000 m^2

Reason: To prevent the accumulation of unimplemented planning permissions and in accordance with the requirements of section 91 of the Town and Country Planning Act 1990 (as amended).

Phase one: amount of development – traffic impacts

8. Prior to submission of any reserved application for a development parcel which would take the total floorspace beyond 143,000m^2 an updated Transport Assessment setting out the development trips and proposed mitigation for the remainder of the development floorspace shall be submitted to and approved by the local planning authority. No development beyond Phase One shall commence until the updated Transport Assessment has been approved and mitigation measures identified and agreed.

The Phase One floorspace shall include those full permissions identified in conditions 11 to 14 inclusive at the point in which they are implemented.

Reason: In order to clarify the parameters of the permission for key phase one in terms of overall floorspace for uses and to enable the transport of other impacts of the development and mitigation to be reassessed, Cambridge Local Plan 2018 policy 19.

Phasing

9. Prior to or concurrently with the submission of the first reserved matters application for any development on the site, an Initial Site Wide Phasing Plan which accords with the S106 triggers shall be submitted to the local planning authority for approval. From the date of the approval of the Initial Site Wide Phasing Plan an annual Update Site Wide Phasing Plan shall thereafter be submitted to the local planning authority for information each year of the 20 year period hereby approved (condition 4) for submission of reserved matters, unless all reserved matters have already been submitted prior to this date.

The Initial Site Wide Phasing Plan shall include the expected sequence of delivery of development of the following elements:

a) Provision of reserved matters parcels including amount of floor area
b) Interventions to primary and secondary roads
c) Junction improvements
d) Provision of primary/secondary pedestrian and cycle links
e) Strategic foul surface water features and SUDS
f) Car parking including provision of EV charging points
g) Provision of cycle parking
h) Cycle and pedestrian routes and links
i) Strategic electricity and telecommunications networks
j) Environmental mitigation measures and landscaped areas
k) Provision of on-site amenities and open space
l) Public transport enhancements

No development approved under the first reserved matters application shall commence until such a time as the Initial Site Wide Phasing Plan has been approved. The Site Wide Phasing Plan shall then be updated and submitted with each reserved matters application to provide a position statement on progress and delivery of all the elements a) – l) above. The development shall

be carried out in accordance with the approved details (or subsequently approved phasing details).

Reason: To clarify how the site is to be phased to assist with the determination of subsequent reserved matters applications and to ensure that major infrastructure provision and environmental mitigation is provided in time to cater for the needs and impacts arising out of the development to ensure satisfactory coordination of the West Cambridge site as a whole in accordance with Cambridge Local Plan 2018 Policy 19.

Reserve Matters Applications - Requirements for all reserved matters applications

10. Reserved Matters Applications for all future development parcels shall be accompanied by the following:

a) A plan defining the extent of the development parcel.
b) Supporting statement, including:
    - Relationship with reserved matters applications already approved.
    - Contribution to the vision for West Cambridge set out in the Design and Access Statement Supplement and Design Guidelines.
c) A schedule identifying the disposition of uses and amount of development within the development parcel including the gross internal area of all uses.
d) Estimated timing of any outstanding plots under construction within Phase one.
e) A statement which has regard to the triggers in the S106 Agreement, details of mitigation within that phase.
f) A review of any previous monitoring and travel demand measures being delivered including traffic surveys and public transport use.
g) A Transport Assessment together with a schedule of the mitigation measures required.
h) The timing and provision and opening of access points into the site.
i) Updated Travel Plan (including progress on travel plan implementation to date).
j) Statement demonstrating compliance with the Site Wide Parking Strategy (required by condition 21).
k) Open space, any interim open space and delivery of north – south green corridors.
l) Strategic surface and foul surface water features and SuDS.
m) Strategic electricity and telecommunications networks.
n) Sustainability Statement and details of energy and heat networks.
o) Environmental mitigation measures and landscaped areas.
p) Public Art strategy.
q) Waste management and minimisation plan.
r) Any supplements to site wide strategies to address issues, including water management requirements, construction management and waste management, compliance with the site wide Woodland Management Strategy, site wide drainage strategy and the site wide Sustainability Strategy and Energy Strategy.

s) Amenities Delivery Statement setting out how the development accords with the principles of the Amenities Delivery Strategy. The Statement shall include an updated baseline position of the current provision of amenities on the site; the amount of development which has been delivered (D1/B1 floor space); estimated numbers of staff and students regularly using the site and the current ratios of amenities to number of users on the site.
t) Design Guidelines Statement that demonstrates how the application accords with the approved Design Guidelines.

The development shall be carried out in accordance with the approved details. Reserved matters applications shall conform to the approved documents.

Reason: To set out the schedule of development for each development parcel and to assist with the determination of subsequent reserved matters applications and in order to ensure that major infrastructure provision and environmental mitigation is provided in time to cater for the needs and impacts arising out of the development, Cambridge Local Plan 2018 Policy 19.

Compliance - Overall amount of development

11. The overall development pursuant to this permission shall not exceed the development levels across the building zones shown on parameter plan reference WC/OPA/PAR/01 rev 01: Parameter Plan 1: Development Building Zones and accompanying schedule of floorspace.

Reason: In order to clarify the parameters of the permission in terms of overall floorspace for uses, Cambridge Local Plan 2018 Policy 19.

Delivered floor space – Civil Engineering Building 16/1811/FUL

12. The development approved under planning application ref 16/1811/FUL comprising 4376sqm of academic (D1) floorspace shall be removed from the D1 (academic) floor space totals set out within Conditions 7 and 8 of this planning permission.

Reason: To ensure that the overall Environmental Impact is capped at the total floorspace levels assessed through the Environmental Statement that supported this Outline Planning Application, Cambridge Local Plan 2018 policy 19.

Delivered floor space – Cavendish III 17/1799/FUL

13. The development approved under planning application ref 17/1799/FUL comprising 37,160sqm of academic (D1) floorspace shall be removed from the D1 (academic) floor space totals set out within Conditions 7 and 8 of this planning permission.

Reason: To ensure that the overall Environmental Impact is capped at the total floorspace levels assessed through the Environmental Statement that

supported this Outline Planning Application, Cambridge Local Plan 2018 policy 19.

Delivered floor space – Shared Facilities Hub 17/1786/FUL

14. The development approved under planning application red 17/1896/FUL, comprising 3,411sqm of academic (D1) floorspace, 1,421sqm of Café and Restaurant (A3) floorspace and 75sqm of Retail (A1) floorspace, shall be removed from the corresponding floorspace totals set out in within Conditions 7 and 8 of this planning permission.

Reason: To ensure that the overall Environmental Impact is capped at the total floorspace levels assessed through the Environmental Statement that supported this Outline Planning Application, Cambridge Local Plan 2018 policy 19.

Approved floor space – Whittle Extension 19/1763/FUL

15. Should the development approved under planning application ref: 19/1763/FUL be implemented and occupied then 3,102sqm of academic (D1) floorspace, shall be removed from the floorspace totals set out in conditions 7 and 8 of this planning permission

Reserved Matters Applications - Need - Open Innovation/knowledge transfer

16. With any submission of reserved matters for Academic/Research floorspace (use classes D1, B1(b), and sui generis), within the areas illustrated on plan reference WC/OPA/PAR/01 rev 01: Parameter Plan 1: Development Building Zones, a needs assessment, which sets out the specific requirements of the intended occupier(s) to locate onto the site shall be submitted to the local planning authority.

Where there is development for commercial research, the needs assessment shall demonstrate how proposals will support knowledge transfer and/or open innovation in respect of D1 higher educational uses, associated sui generis research establishments, academic research institutes and/or other Class B1(b) uses already at West Cambridge.

Reason: To ensure that any occupier supports its primary function for open innovation and knowledge transfer, to promote the site as a cluster for University science and technology research, Cambridge Local Plan 2018 policy 19.

Later Phases - Western Access Road – later phases

17. Any individual development parcel beyond the phase one floorspace set out in conditions 7 and 8, shall be accompanied by an assessment of Madingley Road to show whether the junction with the West Access Road shown on parameter plan WC/OPA/PAR/03/REV01 as Zones of access points A-B, is required,

together with (should it be required) a detailed design of the junction and the proposed timetable for implementation.

No development of the West Access Road junction with Madingley Road shall commence until the details of the scheme for the following have been submitted to and agreed with the local planning authority.

(a) Provision of Scoot and Mova traffic signal optimisation to link with M11 J13 Northbound off slip road, M11 J13 Southbound on slip road, Park and Ride Junction and Eddington Avenue junctions.
(b) Final road markings, signal heads and kerbs.
(c) Adjacent landscaping

The works shall then be carried out in accordance with the approved details, and the junction remain closed for vehicular access until the approved works for criteria (b) and (c) have been implemented and completed to the satisfaction of the local planning authority.

Reason: To ensure suitable junction design for future phases of the development, Cambridge Local Plan 2018 Policies 19 and 81.

Prior to Occupation - Access K – L – detailed design

18. Prior to the occupation of any new floorspace on land between JJ Thomson Avenue and the eastern boundary of the site, beyond floorspace identified by conditions 11-14, a scheme for the enhanced design of the cycle and pedestrian access K – L on the eastern side of the site at the junction with Clerk Maxwell Road, and subsequent cycle route to JJ Thomson Ave (as shown on Parameter Plan 3 WC/OPA/PAR/03/REV02) shall be submitted to and approved in writing to the local planning authority. The details shall apply the principles within LTN 1/20 (or its successor). The development shall be carried out in accordance with the approved details.

Reason: In order that the transport strategy and provision for sustainable transport is implemented, to ensure a modal shift away from the private motorcar through the development, Cambridge Local Plan 2018 policies 19 and 81.

Reserved Matters Applications - Charles Babbage Road – strategy for pedestrian, cycling and tree planting

19. With any future reserved matters application which has a frontage onto Charles Babbage Road between High Cross and JJ Thomson Ave (as shown on Parameter Plan 3 WC/OPA/PAR/03/REV02, details of a strategy for enhanced pedestrian and cycle provision, and tree replacement plan along Charles Babbage Road shall be submitted to and approved by the local planning authority. The strategy shall set out how it has responded to the principles for enhancement that are set out in the approved Design Guidelines and shall apply the principles within LTN 1/20 (or its successor). The development shall be carried out in accordance with the approved details.

Reason: In order that the transport strategy and provision for sustainable transport is implemented, to ensure a modal shift away from the private car through the development and to improve the environment for pedestrians, including disabled access, Cambridge Local Plan 2018 policies 19 and 81. In addition, to ensure that adequate provision is made for the retention of existing trees on the street.

Prior to Occupation - New footpath and cycle link – West Lake to the M11 bridge

20. Prior to the occupation of 25,000 sqm of new floorspace beyond that set out in conditions 11-14, a scheme for the delivery of the proposed new western footpath and cycle link, shall be submitted to and approved by the local planning authority. The new footpath and cycle link will connect the southern ecological corridor from Ade Lovelace Rd, to the M11 motorway bridge. The proposal shall apply the principles within LTN 1/20 (or its successor). The development shall be carried out in accordance with the approved scheme.

Reason: In order that the transport strategy and provision for sustainable transport is implemented, to ensure a modal shift away from the private motorcar through the development, Cambridge Local Plan 2018 policies 19 and 81.

Prior to Installation - Gas fired boilers

21. Prior to the installation of any gas fired combustion appliances, technical details and information demonstrating the use of low Nitrogen Oxide (NOx) combustion boilers, i.e., individual gas fired boilers that meet a dry NOx emission rating of ≤40mg/kWh, to minimise emissions from the development that may impact on air quality, shall be submitted to and approved in writing by the Local Planning Authority.

If the proposals include any gas fired Combined Heat and Power (CHP) System, technical details and information demonstrating that the system meets the following emissions standards for various engines types shall be submitted for approval in writing by the Local Planning Authority:

- Spark ignition engine: less than or equal to 150 mg NOx/Nm^3
- Compression ignition engine: less than 400 mg NOx/Nm^3
- Gas turbine: less than 50 mg NOx/Nm^3

The details shall include a manufacturer's Nitrogen Oxides (NOx) emission test certificate or other evidence to demonstrate that every boiler installed meets the emissions standards above.

The scheme details as approved shall be fully installed and operational before first occupation and shall be maintained and retained thereafter.

Reason: To protect local air quality and human health by ensuring that the production of air pollutants such as nitrogen dioxide and particulate matter are kept to a minimum during the lifetime of the development, to contribute toward National Air Quality Objectives in accordance with the requirements of the National Planning Policy Framework (NPPF, 2019) paragraphs 170 and 181, policy 36 of the Cambridge Local Plan 2018 and Cambridge City Councils adopted Air Quality Action Plan (2018).

Reserved Matters Applications - Site Wide Parking Strategy: Car Parking, EV Charging and Car Club

22. Prior to, or concurrently with the first submission of reserved matters application, a Site Wide Parking Strategy shall be submitted to and approved by the local planning authority. The strategy shall set out how parking provision will be phased throughout the development to ensure that a balance between sustainable travel provision is balanced with adequate on-site parking. The Strategy should identify how existing (underutilised) infrastructure is used, as well as temporary provision for parking, contractor parking during construction, and the phased delivery of Multi-Storey Car Parks. In providing this phasing the Strategy should identify the proposed Multi-Storey Car Park at the north east of the site, accessed of Clerk Maxwell Road as the final phase car park.

The total number of car parking spaces for Phase One should not exceed 2,565 spaces with at least 5% of these spaces for disabled uses. The total number of car parking spaces for the full development should not exceed 4,359 spaces with at least 5% of these spaces for disabled uses.

The Site Wide Parking Strategy should also set out a site wide Electric Vehicle Charging Point provision and infrastructure strategy including an implementation plan.

The Site Wide Parking Strategy shall be appropriate for the proposed end use(s) of the development and shall provide full details of the provision of allocated parking spaces for dedicated electric vehicle charging in line with the principles set out in the NPPF, the Cambridge Local Plan and Cambridge City Council's Air Quality Action Plan. The strategy shall include consideration of both active (slow, fast and rapid) and passive electric vehicle charge point provision and design to enable the charging of electric vehicles in safe, accessible and convenient locations.

The Site Wide Parking Strategy shall include the following:

1. Dedicated Slow electric vehicle charge points with a minimum power rating output of 7kW for at least 50% of new permanent non-residential parking spaces and at least 10 Rapid Charge Points and 10 Fast Charge Points shall be installed across the site. The 10 Fast Charge Points shall be installed within Key Phase 1.

2. Additional passive electric vehicle charge provision of the necessary infrastructure including capacity in the connection to the local electricity distribution network and electricity distribution board, as well as the provision of cabling to parking spaces for all remaining car parking spaces to facilitate and enable the future installation and activation of additional active electric vehicle charge points as required.

3. Electric vehicle charge points shall be compliant with BS7671 and BS61851 or as superseded.

4. The implementation plan shall set out the schedule for delivery of the EV infrastructure. Information should include numbers of charge points, intentions for active and passive provision, location, layout (including placement of EV infrastructure), Charge Rates of active EV charge points (slow, rapid or fast) and availability of power supply.

The strategy shall include the provision of a minimum of one car club or pool car vehicle with one dedicated car club or car pool parking space per 10,000sqm of new floor space. The new dedicated car parking spaces shall be for the exclusive use of car club or pool car vehicle(s). The car club parking spaces shall be provided in accordance with the approved strategy prior to the first occupation of the development that triggers an additional space and shall be maintained and retained thereafter.

Reason: : In the interests of encouraging more sustainable modes and forms of transport, to reduce the impact of development on local air quality, to balance overprovision of car parking on the site with potential impact on Madingley Road Park and Ride and adjacent residential streets and to ensure that an adequate number of blue badge space are provided in accordance with the National Planning Policy Framework Cambridge Local Plan (2018) Policies 19, 36 and 81, and Cambridge City Council's adopted Air Quality Action Plan (2018).

Reserved Matters Applications - Cycle Parking

23. Any reserved matters application for new buildings or open space shall include details of facilities for the covered, secure parking of bicycles for use in connection with the approved development and demonstrate that the provision is in accordance with the approach to cycle parking approved as part of the Design Guidelines for the site. The facilities shall be provided in accordance with the approved details before use of the development commences and shall thereafter be retained and shall not be used for any other purpose.

Reason: In order that the transport strategy and provision for sustainable transport is implemented for the first phase of development, Cambridge Local Plan 2018 Policies 19 and 81.

Prior to Occupation - Bus stops

24. Prior to the occupation of any development within Phase One (defined by conditions 7 and 8 beyond the floorspace approved through conditions 11-14) details relating to the location, design, specification, management and maintenance and phasing of bus stops within the development shall be submitted to and approved by the local planning authority. Development shall then be carried out in accordance with the approved details.

Reason: In order that the transport strategy and provision for sustainable transport is implemented for the first phase of development, Cambridge Local Plan 2018 policy 19.

Prior to Occupation - Sports centre public access

25. Prior to the occupation of any future phases of the sports centre, details of the strategy for public access shall be submitted to and approved in writing to the Local Planning Authority. The development shall be carried out in accordance with the approved details.

Reason: In order that the proposed facilities are open to the wider community, to enhance both accessibility and the range of facilities available, Cambridge Local Plan 2018 policy 73.

Pre-commencement - Archaeology

26. No development on any individual development parcel shall take place until the applicant has secured the implementation of a programme of archaeological work in accordance with a Written Scheme of Investigation (WSI) for that development parcel which has been submitted by the applicant and approved by the Planning Authority. This WSI will include the following components, the implementation of which will trigger the phased discharge of the condition:

1. Approval of the WSI that should include:

(a) the statement of significance and research objectives;
(b) the programme and methodology of site investigation, an appropriate outreach element, post-excavation assessment and archiving;
(c) the nomination of a competent person or organisation to undertake the agreed works.

2. Fieldwork in accordance with the agreed Written Scheme of Investigation to include an appropriate outreach element.

3. Submission of a Post-Excavation Assessment report and delivery of an approved Updated Project Design (UPD), setting out the scheme and budget review point within six months of the completion of fieldwork.

4. Delivery of an archive report within 18 months of approval of the UPD. The preparation of the archaeological archive for deposition at the Cambridgeshire Archive facility or another appropriate store approved by the Planning Authority.

5. Provision to be secured for the publication of the results to achieve the preservation by record of the heritage assets affected by development.

Reason: To ensure adequate provision for the recording of historic assets, Cambridge Local Plan 2018 policy 61.

Pre- commencement - Veterinary School Demolition - Built Heritage

27. No development shall take place on any reserved matters plot which involves demolition of the Veterinary School until the applicant has secured the implementation of a programme of historic building recording in accordance with a Written Scheme of Investigation which has been submitted by the applicant and approved by the Planning Authority. The programme shall be carried out prior to demolition in accordance with the approved details.

Reason: To ensure adequate provision for the recording of historic assets, Cambridge Local Plan 2018 policy 61.

Reserved Matters Applications - Landscaping and trees

28. With any reserved matters application pursuant to this approval, the landscaping details shall include detailed landscape designs and specifications for the associated reserved matters site. The details shall be accompanied by a Design Statement that demonstrates how the landscaping scheme accords with any emerging or approved details sought as part of the Design Guidelines for the site. The landscape designs and specifications shall include the following:

Soft Landscaping

a) Full details of planting plans and written specifications, including cultivation proposals for maintenance and management associated with plant and grass establishment, details of the mix, size, distribution, density and levels of all trees/hedges/shrubs to be planted and the proposed time of planting. The planting plan shall use botanic names to avoid misinterpretation. The plans should include a full schedule of plants.
b) 1:100 plans (or at a scale otherwise agreed) with cross-sections of mounding, ponds, ditches and swales and proposed treatment of the edges and perimeters of the site.
c) The landscape treatment of roads through the development, including any improvements to existing infrastructure.
d) A specification for the establishment of trees within hard landscaped areas including details of space standards (distances from buildings etc.) and tree pit details.
e) The planting and establishment of structural landscaping to be provided in advance of all or specified parts of the site as appropriate.
f) Full details of any proposed alterations to existing watercourses/drainage channels.

g) Details and specification of proposed earth modelling, mounding, re-grading and/or embankment areas or changes of level across the site to be carried out including soil quantities, topsoil storage to BS 3882:2007, haul routes, proposed levels and contours to be formed, sections through construction to show make-up, and timing of works.
h) Ecological mitigation and bio-diversity enhancement proposals associated with the City Wildlife Sites adjacent to the southern and western boundaries.
I) Consideration of any ground source heat pumps required as part of the Energy Strategy.

Hard Landscaping

j) Full details of all proposed methods of boundary treatment including details of all gates, fences, walls and other means of enclosure both within and around the edge of the site.
k) Full details, including cross-sections, of all bridges and culverts.
l) Utility routes, type and specification.
m) The location and specification of minor artefacts and structures, including furniture, refuse or other storage units, signs and lighting columns/brackets.
n) 1:200 plans (or at a scale otherwise agreed) including cross sections, of roads, paths and cycleways.
o) Details of all hard surfacing materials (size, type and colour).

The landscaping within the application site areas shall be implemented in accordance with the approved timing condition for implementation and replacement of landscaping. No development within the site for which reserved matters approval is sought shall commence until the landscaping scheme has been approved in writing by the local planning authority. The scheme shall be carried out in accordance with the approved details.

Reason: To ensure that the landscaping works deliver the environmental mitigation set out in the Environmental Statement and to ensure that each reserved matters application provides high quality landscaping, Cambridge Local Plan 2018 policies 56 and 59.

Reserved Matters Applications - Hard and soft landscaping compliance

29. All hard landscaping shall be completed prior to the occupation/use of any part of the building(s) approved through the relevant reserved matters. All planting, seeding or turfing comprised in the approved details of soft landscaping, shall be carried out in the first planting and seeding seasons following the occupation of the buildings or completion of the development, whichever is the sooner, unless an alternative landscaping phasing plan is submitted to and approved in writing by the local planning authority. Any trees or plants which, within a period of five years from the completion of the development, die, are removed or become seriously damaged or diseased, shall be replaced in the next planting season with others of similar size and species as those originally planted, unless the local planning authority gives written consent to any variation.

Reason: To ensure that the landscaping works deliver the environmental mitigation set out in the Environmental Statement and to ensure that each reserved matters application provides high quality landscaping, Cambridge Local Plan 2018 Policies 56 and 59.

Reserved Matters Applications - Landscaping management and maintenance

30. Within any reserved matters application pursuant to this approval, the landscaping details required by condition 27 shall include a landscape maintenance and management plan, including long-term design objectives, management responsibilities and management and maintenance schedules for all landscape areas. The landscape maintenance and management plan shall include where applicable, but not be limited to, the following details: an explanation of planting design objectives; planting, grass cutting, weeding and pruning schedules; management details relating to SUDS features; inspection, repair and maintenance details relating to hard landscaping; a programme of management activities and monitoring and operational restrictions; a maintenance programme for the establishment period of the planting (1-5 years). The landscape maintenance and management plan shall be carried out as approved.

Reason: To ensure that the landscaping works deliver the environmental mitigation set out in the Environmental Statement and to ensure that each reserved matters application provides high quality landscaping, Cambridge Local Plan 2018 policies 56 and 59.

Reserved Matters Applications - Woodland Management Plan

31. Any future reserved matters planning application within 20m of any site boundary shall be accompanied by a Woodland Management Plan Strategy, setting out the proposed measures for management, maintenance and enhancement of the tree boundary to be carried out pursuant to that phase of development, showing compliance with the approved outline Woodland Management Plan (Environmental Statement Vol. 3 September 2017). The development shall be carried out, managed and maintained, in accordance with the approved strategy.

Reason: To safeguard and ensure the protection of those existing trees which are to be retained in the woodland boundaries of the site and to ensure the works deliver the environmental mitigation set out in the Environmental Statement, Cambridge Local Plan 2018 policies 56, 57 and 71.

Reserved Matters Applications - Tree protection

32. Any reserved matters application pursuant to this approval, shall include an Arboricultural Impact Assessment (AIA) applicable to the associated phase and in accordance with the recommendations set out in British Standard 5837:2012. A topographical survey recording the position of all trees with a stem diameter

of 75mm or more as measured at 1.5 m above ground level; spot levels at the base of trees and throughout the site; any significant level changes including retaining structures, ditches and embankments will form the basis of a tree survey. The survey will include:

a) reference number
b) species listed by common name
c) height
d) stem diameter
e) branch spread, taken as a minimum at the four cardinal points
f) height of first branch and canopy above ground
g) life stage
h) general observations to include physiological and structural condition
i) estimated remaining contribution, in years (<10, 10+, 20+, 40+);
j) category U or A to C grading

The AIA will include a plan indicating:

a) The location of all trees, identified by number, included in the survey schedule, shrub masses and hedges,
b) Tree canopy spread
c) Root protection area (RPA)
d) The proposed layout including hard-standing and existing and proposed levels
e) Trees proposed to be removed
f) Trees to be retained
g) Location of tree protection barriers and ground protection

Reason: To satisfy the Local Planning Authority that important trees can and will be retained, in order to preserve arboricultural amenity in accordance with section 197 of the Town and Country Planning Act 1990 and Cambridge Local Plan 2018 Policy 71: Trees.

Pre-Commencement - Tree Protection

33. Prior to commencement of any future reserved matters approval and in accordance with BS5837 2012, a phased tree protection methodology in the form of an Arboricultural Method Statement (AMS) and Tree Protection Plan (TPP) shall be submitted to the local planning authority for its written approval, before any tree works are carried and before equipment, machinery or materials are brought onto the site for the purpose of development (including demolition). In a logical sequence the AMS and TPP will consider all phases of construction in relation to the potential impact on trees and detail tree works, the specification and position of protection barriers and ground protection and all measures to be taken for the protection of any trees from damage during the course of any activity related to the development, including supervision, demolition, foundation design, storage of materials, ground works, installation of services, erection of scaffolding and landscaping.

Prior to the commencement of site clearance a pre-commencement site

meeting shall be held and attended by the site manager, the arboricultural consultant and local planning authority Tree Officer to discuss details of the approved AMS. The development shall be carried out in accordance with the approved AMS.

Reason: To satisfy the Local Planning Authority that trees to be retained will be protected from damage during any construction activity, including demolition, in order to preserve arboricultural amenity in accordance with section 197 of the Town and Country Planning Act 1990 and Cambridge Local Plan 2018 Policy 71: Trees.

Implementation – Tree Protection Plan

34. The approved tree protection plan methodology will be implemented throughout the development and the agreed means of protection shall be retained on site until all equipment, and surplus materials have been removed from the site. Nothing shall be stored or placed in any area protected in accordance with approved tree protection plans, and the ground levels within those areas shall not be altered nor shall any excavation be made without the prior written approval of the local planning authority. If any tree shown to be retained is damaged, remedial works as may be specified in writing by the local planning authority will be carried out.

Reason: To ensure that trees to be retained are not damaged during any construction activity, including demolition, in order to preserve arboricultural amenity in accordance with section 197 of the Town and Country Planning Act 1990 and Cambridge Local Plan 2018 Policy 71: Trees.

Reserved Matters Applications - High Cross segregated cycleways and tree replacement

35. With any reserved matters application which has a frontage onto the east or west side of High Cross, or prior to occupation of 25,000 sq m of new floorspace beyond that set out in conditions 11-14, whichever is sooner, a scheme for the delivery of the proposed north to south segregated cycleways along High Cross shall be submitted to and approved in writing by the local planning authority and shall apply the principles within LTN 1/20 (or its successor). The scheme shall include provision for the replanting of trees along either side of High Cross as necessary and shall include the wider street enhancements as set out in the Design Guidelines. The development shall be carried out in accordance with the approved scheme.

Reason: In order that the transport strategy and provision for sustainable transport is implemented, to promote a modal shift away from the private motor car through the development, Cambridge Local Plan 2018 policies 19 and 81 and to ensure that the landscaping works deliver the environmental mitigation set out in the Environmental Statement. In addition, to ensure that the existing failing oak trees on High Cross are replaced with suitable alternatives. (Cambridge Local Plan 2018 policies 56, 59 and 71).

Implementation - New legacy trees

36. Within five years of the date of this permission or following 25,000 sq m of new floor space beyond that set out in conditions 11-14 as part of phase one of the development, (whichever is sooner), details of large feature tree planting shall be submitted to and approved in writing by the local planning authority. The legacy trees shall be provided at a minimum of five key locations along the southern edge of the development. 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.

Reason: To ensure that the landscaping works deliver the environmental mitigation set out in the Environmental Statement and secure a soft edge to the development, helping the transition to open countryside. (Cambridge Local Plan 2018 policies 56, 59 and 71).

Pre-commencement: Contaminated Land - Phase 1 Desk Study

37. No development (or development parcel), or any investigations required to assess the contamination of the site, shall commence until a Phase 1 Desk Top Study and a Phase 2 Site Investigation Strategy have been submitted to and approved in writing by the Local Planning Authority.

Reason: To ensure that risks from land contamination to the future users of the land and neighbouring land are identified and to ensure that the development can be carried out safely without unacceptable risks to workers, neighbours and other offsite receptors as well as to controlled waters, property and ecological systems (Cambridge Local Plan 2018 policy 33).

Pre-commencement: Contaminated Land - Phase 2 Site Investigation & Phase 3 Remediation Strategy

38. No development (or development parcel) shall commence until the following have been submitted to and approved in writing by the Local Planning Authority:

(a) A Phase 2 Intrusive Site Investigation Report based upon the findings of the approved Phase 1 Desk Top Study.
(b) A Phase 3 Remediation Strategy based upon the findings of the approved Phase 2 Intrusive Site Investigation Report.

Reason: To ensure that any contamination of the site is identified and appropriate remediation measures agreed in the interest of environmental and public safety (Cambridge Local Plan 2018 policy 33).

Compliance: Contaminated Land - Implementation of Remediation

39. The development (or development parcel) shall not be occupied until the approved Phase 3 Remediation Strategy has been implemented in full.

Reason: To ensure that any contamination of the site is effectively remediated in the interests of environmental and public safety (Cambridge Local Plan 2018 policy 33).

Pre-occupancy: Contaminated Land - Submission of Phase 4 Completion Report

40. The development (or development parcel) shall not be occupied until a Phase 4 Verification/Validation Report demonstrating full compliance with the approved Phase 3 Remediation Strategy has been submitted to and approved in writing by the Local Planning Authority.

Reason: To demonstrate that the site is suitable for approved use in the interests of environmental and public safety (Cambridge Local Plan 2018 policy 33).

Pre-occupancy: Contamination - Unexpected Contamination

41. If unexpected contamination is encountered during the development works which has not previously been identified, all works shall cease immediately until the Local Planning Authority has been notified in writing. Thereafter, works shall only restart with the written approval of the Local Planning Authority following the submission and approval of a Phase 2 Intrusive Site Investigation Report and a Phase 3 Remediation Strategy specific to the newly discovered contamination.

The development shall thereafter be carried out in accordance with the approved Intrusive Site Investigation Report and Remediation Strategy.

Reason: To ensure that any unexpected contamination is rendered harmless in the interests of environmental and public safety (Cambridge Local Plan 2018 policy 33).

Pre-occupancy: Contamination - Material Management Plan

42. No material for the development (or development parcel) shall be imported or reused until a Materials Management Plan (MMP) has been submitted to and approved in writing by the Local Planning Authority. The MMP shall include:

(a) details of the volumes and types of material proposed to be imported or reused on site
(b) details of the proposed source(s) of the imported or reused material
(c) details of the chemical testing for ALL material to be undertaken before placement onto the site
(d) results of the chemical testing which must show the material is suitable for use on the development

(e) confirmation of the chain of evidence to be kept during the materials movement, including material importation, reuse placement and removal from and to the development

All works will be undertaken in accordance with the approved MMP.

Reason: To ensure that no unsuitable material is brought onto the site in the interest of environmental and public safety in accordance with (Cambridge Local Plan 2018 Policy 33).

Pre-Commencement - Detailed Waste Management and Minimisation Plan (DWMMP)

43. Prior to the commencement of development of any reserved matters approval, a Detailed Waste Management and Minimisation Plan (DWMMP) shall be submitted to and approved in writing by the local planning authority. The DWMMP shall include details of:

a) Construction waste infrastructure including a construction material recycling facility to be in place during all phases of construction;
b) anticipated nature and volumes of waste and measures to ensure the maximisation of the reuse of waste;
c) measures and protocols to ensure effective segregation of waste at source including waste sorting, storage, recovery and recycling facilities to ensure the maximisation of waste materials both for use within and outside the site;
d) any other steps to ensure the minimisation of waste during construction;
e) the location and timing of provision of facilities pursuant to criteria a/b/c/d;
f) proposed monitoring and timing of submission of monitoring reports;
g) the proposed timing of submission of a Waste Management Closure Report to demonstrate the effective implementation, management and monitoring of construction waste during the construction lifetime of the development.

The Detailed Waste Management and Minimisation Plan shall be implemented in accordance with the agreed details.

Reason: In the interests of maximising waste re-use and recycling opportunities, Cambridge Local Plan 2018 Policy 28.

Pre-Commencement - Demolition and Construction Environmental Management Plan (DCEMP)

44. Prior to the commencement of development for each individual development parcel, a Demolition and Construction Environmental Management Plan (DCEMP) for that individual development parcel shall be submitted to and approved in writing by the local planning authority. The DCEMP shall include the consideration of the following aspects of demolition and construction:

a) Demolition, construction and phasing programme for the site. This shall include the existing Cavendish II complex demolition. (To include an asbestos removal strategy).

b) Contractors' access arrangements for vehicles, plant and personnel including the location of construction traffic routes to, from and within the site, details of their signing, monitoring and enforcement measures.

c) Construction/Demolition hours which shall only be carried out between 0800 hours to 1800 hours Monday to Friday, and 0800 hours to 1300 hours on Saturday and at no time on Sundays, Bank or Public Holidays, unless in accordance with agreed emergency procedures for deviation. Prior notice and agreement procedures for works outside agreed limits and hours.

d) Delivery and collection times for construction/demolition purposes shall only be carried out between 0800 to 1800 hours Monday to Friday, 0800 to 1300 hours on Saturdays and at no time on Sundays, bank or public holidays, unless otherwise agreed in writing by the local planning authority in advance.

e) Soil / Materials Management Strategy having particular regard to potential contaminated land and the reuse and recycling of soil on site, the importation and storage of soil and materials including audit trails.

f) Noise impact assessment methodology, mitigation measures, noise monitoring and recording statements / procedures in accordance with the provisions of BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites. Noise

g) Vibration impact assessment methodology, mitigation measures, vibration monitoring and recording statements / procedures in accordance with the provisions of BS 5228-2: 2009+A1:2014 Code of practice for noise and vibration control on construction and open sites. Vibration

h) Dust management / mitigation / monitoring plan and wheel washing measures. Details regarding Non-Road Mobile Machinery (NRMM) use, demolition or construction works or similar emissions to air standards. Confirmation of use of concrete crushers.

i) Prohibition of the burning of waste on site during demolition/construction.

j) Site artificial lighting. Site artificial lighting during construction and demolition including hours of operation, position and impact on neighbouring properties including consideration of mitigation as required.

k) Drainage control measures including the use of settling tanks, oil interceptors and bunds.

l) Screening and hoarding details.

m) Access and protection arrangements around the site for pedestrians, cyclists and other road users.

n) Procedures for interference with public highways, including permanent and temporary realignment, diversions and road closures.

o) External safety and information signing and notices.

p) Consideration of sensitive receptors.

q) Prior notice and agreement procedures for works outside agreed limits or protocols.

r) Implementation of a Stakeholder Engagement / Residents Communication Plan- DCEMP Monitoring, Review and Complaints procedures, including complaints response.

s) Membership of the Considerate Contractors Scheme.

Thereafter all phases of the development shall be undertaken in accordance with the approved site wide DCEMP.

Reason: In order to safeguard the health and quality of life / amenity of surrounding properties both on and off site, Cambridge Local Plan 2018 Policies 35 and 36.

Reserved Matters Applications - Operational Noise Impact Assessment & Insulation / Mitigation Scheme

45. Concurrently with the submission of each detailed reserved matters application or phase, a site specific operational noise impact assessment and noise insulation scheme / mitigation measures for buildings, proposed uses and plant / equipment including servicing vehicles and delivery yards in order to minimise the level of noise emanating from the said buildings, uses and plant / equipment shall be submitted to and approved in writing by the local planning authority.

The noise impact assessment and noise insulation scheme shall demonstrate that:

a) The rating level (in accordance with BS4142:2014+A1:2019 - Methods for rating and assessing industrial and commercial sound or as superseded) of all specific sound / noise sources (cumulatively / collectively) associated with each individual reserved matters application should be less than or equal to the background level (L90) at the boundary of the premises subject to each reserved matters application and having regard to noise sensitive premises.

b) Characteristic features of the sound, including tonal/impulsive sound character shall be eliminated or at least considered in any assessment and should carry an additional character correction / adjustment to the specific sound level in accordance with BS4142:2014+A1:2019. This requirement applies both during the day (0700 to 2300 hrs over any one

hour period) and night time (2300 to 0700 hrs over any one 15 minute period).

Total Operational Sound / Noise Levels as detailed and approved under Condition 45 will not be exceeded.

The development as approved shall be constructed, operated and fully maintained thereafter in strict accordance with the noise impact assessment and noise insulation/mitigation scheme as approved.

Reason: In order mitigate and reduce to a minimum adverse noise impacts to protect / safeguard the health and quality of life / amenity of surrounding properties both on and off site, Cambridge Local Plan 2018 policy 35.

Compliance: Total Operational Sound / Noise Rating Levels

46. The cumulative operational sound 'rating levels' (as defined in BS 4142: 2014+A1:2019 – *Methods for rating and assessing industrial and commercial sound* - or any successor document) of all sources of sound / noise emissions, from and attributable to the site and approved uses, including operational noise from the following already approved full planning application references that form part of the outline master plan:

- 16/1811/FUL: Cambridge UK Collaboration for Research in Infrastructure and Cities (UK-CRIC) Centre and other Civil Engineering (save for collections from and deliveries to)
- 17/1799/FUL: Cavendish III (save for collections from and deliveries to)
- 17/1896/FUL: Shared Facilities Hub (save for collections from and deliveries to)
- 19/1763/FUL: Extension of the Whittle Laboratory, including new National Centre for Propulsion and Power (save for collections from and deliveries to)

shall not exceed the Total Operational Sound / Noise Rating Level values at the locations detailed in tables i, ii and iii below, when collectively measured at any height and point along the boundary locations including where applicable the property boundary of any residential property.

(For the avoidance of doubt the 'property boundary' of any residential property is the actual property boundary inclusive of external amenity areas such as property / garden boundaries or similar – not just actual building façade).

(i) Residential properties to the east of the site off Clerk Maxwell Road.

Total Operational Sound / Noise Rating Levels (all free field)

Time Period	Normal Conditions		Emergency Conditions (use of backup generators / smoke extract systems)	
	Monday to Friday	**Saturday and Sundays (including public holidays)**	**Monday to Friday**	**Saturday and Sundays (including public holidays)**
Day (0800 – 1900hrs) during any single one hour reference period	42 dB LAeq, 1 hour	42 dB LAeq, 1 hour	47 dB LAeq, 1 hour	47 dB LAeq, 1 hour
Evening (1900 – 2300hrs) during any single one hour reference period	42 dB LAeq, 1 hour	41 dB LAeq, 1 hour	47 dB LAeq, 1 hour	46 dB LAeq, 1 hour
Night (2300 – 0800hrs) during any single 15 minute reference period	40 dB LAeq, 15 mins maximum noise level of 55 dB LAmax for indiviual events	37 dB LAeq, 15 mins maximum noise level of 55 dB LAmax for indiviual events	45 dB LAeq, 15 mins maximum noise level of 55 dB LAmax for indiviual events	42 dB LAeq, 15 mins maximum noise level of 55 dB LAmax for indiviual events

(ii) Residential properties to the north of Madingley Road along the length of the site and at 53 Madingley Road to the south of Madingley Road:

Total Operational Sound / Noise Rating Levels (all free field)		
Time Period	Normal Conditions	Emergency Conditions (use of backup generators / smoke extract systems)
Day (0800 – 1900hrs) during any single one hour reference period	46 dB LAeq, 1 hour	51 dB LAeq, 1 hour

Evening (1900 – 2300hrs) during any single one hour reference period	43 dB LAeq, 1 hour	48 dB LAeq, 1 hour
Night (2300 – 0800hrs) during any single 15 minute reference period	35 dB LAeq, 15 mins maximum noise level of 55 dB LAmax for indiviual events	40 dB LAeq, 15 mins maximum noise level of 55 dB LAmax for indiviual events

(iii) Boundary locations to the South within the site along Charles Baggage Road: Philippa Fawcett Court, north and south residences and the southern site boundary.

Total Operational Sound / Noise Rating Levels (all free field)		
Time Period	Normal Conditions	Emergency Conditions (use of backup generators / smoke extract systems)
Day (0800 – 1900hrs) during any single one hour reference period	46 dB LAeq, 1 hour	51 dB LAeq, 1 hour
Evening (1900 – 2300hrs) during any single one hour reference period	46 dB LAeq, 1 hour	51 dB LAeq, 1 hour
Night (2300 – 0800hrs) during any single 15 minute reference period	39 dB LAeq, 15 mins maximum noise level of 55 dB LAmax for individual events	44 dB LAeq, 15 mins maximum noise level of 55 dB LAmax for individual events

Sound / noise rating levels (specific sound level plus any adjustment for the characteristic features of the sound) shall be measured directly or derived from a combination of measurement and calculation using propagation corrections. All sound / noise measurements and rating levels shall be carried out in accordance with the principles of BS 4142: 2014 and BS 7445- Parts 1 to 3: Description and measurement of environmental noise, or as superseded.

Reason: In order to mitigate and reduce to a minimum adverse noise impacts and to protect / safeguard the health and quality of life / amenity of surrounding properties both on and off site, Cambridge Local Plan 2018 policy 35.

Compliance - West Cambridge - Servicing Technical Note – (AECOM August 2020)

48. The outline planning approval and subsequent reserved matters applications shall be constructed and shall operate fully in accordance with the submitted West Cambridge – Revised Servicing Technical Note – (AECOM September 2020), including the following:

The use of access I-J off Clerk Maxwell Road (as shown on parameter Plan 3 WC/OPA/PAR/03/REV02) for service deliveries / collections shall be only be permitted between the hours of Monday to Friday 0800 to 1800 hrs and no use on Saturdays and Sundays or Bank or Holidays.

Reason: In order to protect / safeguard the health and quality of life / amenity of surrounding properties both on and off site, Cambridge Local Plan 2018 Policy 35.

Reserved Matters Applications - Building Ventilation Strategy - Odours / Fumes

49. Concurrently with the submission of each detailed reserved matters application or phase, a building ventilation strategy including consideration of and details of equipment and systems for the purpose of extraction, filtration and abatement of odours and fumes to discharge at an appropriate outlet discharge height / level and the standard dilution / dispersion, shall be submitted to and approved in writing by the local planning authority. The approved extraction/filtration/abatement details shall be installed before the uses hereby permitted are commenced and shall be retained thereafter.

Reason: In order to safeguard the health and quality of life / amenity of surrounding properties both on and off site, Cambridge Local Plan 2018 Policy 36.

Prior to Installation – Artificial Lighting Scheme / Impact Assessment (Reserved Matters)

50. Prior to the installation of any artificial lighting (external and internal lighting) associated with any approved reserved matters application a detailed artificial lighting scheme / impact assessment shall be submitted to and approved in writing by the Local Planning Authority. The scheme shall demonstrate compliance with the maximum values of light parameters for the control of obtrusive light - limitation of illumination on surrounding properties, as detailed within the Institute of Lighting Professionals *'Guidance Notes for the Reduction of Obtrusive Light –GN01/20'* (or as superseded) for an Environmental Zone 2, shall include details of any site specific artificial lighting (external and internal lighting) and an artificial lighting impact assessment with predicted lighting levels at proposed and existing properties shall be undertaken (including horizontal / vertical isolux contour light levels and calculated glare levels).

The artificial lighting scheme as approved shall be fully implemented before the use hereby permitted is commenced and shall be retained thereafter.

Reason: To limit the impact of light pollution from artificial light on local neighbouring amenity, wildlife and landscape in accordance Cambridge Local Plan 2018 Policy 34.

Reserved Matters Applications – Drainage

51. Any reserved matters application shall include a detailed surface water strategy pursuant to the reserved matters site for which approval is sought. The strategy shall demonstrate how the management of water within the reserved matters application site for which approval is sought accords with the approved details of the strategic site wide surface water strategy ('Flood Risk Assessment and Drainage Strategy PBA, Ref: 31500, September 2017, Rev B). The strategy shall be based upon a SUDS hierarchy, as espoused by the publication 'The SuDS Manual CIRIA C753'. The strategy shall maximise the use of measures to control water at source as far as practicable to limit the rate and quantity of run-off and improve the quality of any run-off before it leaves the site or joins any water body. The strategy shall include details of all flow control system and the design, location and capacity of all strategic SuDS features and shall include ownership, long-term adoption, management and maintenance schemes and monitoring arrangements/responsibilities. The strategy should also demonstrate that the exceedance of the designed system has been considered through the provision of overland flow routes. The development shall be carried out in full accordance with the approved details and no building pursuant to that particular reserved matters site for which approval is being sought shall be occupied or used until such time as the approved detailed surface water measures have been fully completed in accordance with the approved details.

Reason: to ensure that surface water is managed close to its source and is well integrated with the wider site, Cambridge Local Plan 2018 policies 31 and 32.

Reserved Matters Applications - Drainage: Sewerage system implementation

52. Any reserved matters application shall include a foul water drainage assessment which must be in accordance with the strategic site wide strategy as detailed in the 'Flood Risk Assessment and Drainage Strategy PBA, Ref: 31500, September 2017, Rev B' pursuant to the reserved matters site for which approval is sought. No occupation of any buildings approved shall occur until the drainage strategy has been implemented in full.

Reason. The existing sewerage infrastructure does not have sufficient capacity and improvements are required in order to prevent environmental and/or amenity problems from flooding, Cambridge Local Plan 2018 policy 32.

Pre-Commencement: Drainage management and maintenance

53. Prior to the commencement of any individual development parcel, a scheme for the management and maintenance schedule for that individual development parcel of the strategic drainage infrastructure shall be submitted to and approved in writing by the local planning authority. The development shall be carried out in accordance with the approved details.

Reason: To ensure the satisfactory maintenance of drainage systems that are not publicly adopted, in accordance with the requirements of paragraphs 163 and 165 of the National Planning Policy Framework and Cambridge Local Plan 2018 policy 31.

Pre-commencement - Water – pollution control

54. Prior to the commencement of any individual development parcel, a scheme for the provision and implementation of pollution control of the water environment for that individual development parcel, shall be submitted and agreed in writing with the local planning authority. This shall include a review of the activities on the site using and disposing of chemicals, plus all chemical and material stores and their pollution prevent measures, as set out in the ES (chapter 13 water environment mitigation paragraph 13.1.3). The works/scheme shall be constructed and completed in accordance with the approved plans. The development shall be carried out in accordance with the approved strategy.

Reason. To ensure that measures for pollution control are implemented, to maintain water quality in and around the site, Cambridge Local Plan 2018 policy 31.

Pre- Commencement - Ecological Design Strategies Condition (or Biodiversity Strategy)

55. No development shall take place beyond the floorpsace approved in conditions 11-14 until a site wide ecological design strategy (EDS) addressing measurable net biodiversity gain, mitigation, compensation, enhancement and restoration has been submitted to and approved in writing by the local planning authority.

The EDS shall include the following.

a) A site wide EDS that demonstrates a measurable biodiversity net gain.
b) Purpose and conservation objectives for the proposed works.
b) Review of site potential and constraints.
c) Detailed design(s) and/or working method(s) to achieve stated objectives.
d) Extent and location/area of proposed works on appropriate scale maps and plans.
e) Type and source of materials to be used where appropriate, e.g. native species of local provenance.
f) Timetable for implementation demonstrating that works are aligned with the proposed phasing of development.
g) Persons responsible for implementing the works.
h) Details of initial aftercare and long-term maintenance.
i) Details for monitoring and remedial measures.
j) Details for disposal of any wastes arising from works.

The EDS shall be implemented in accordance with the approved details and all features shall be retained in that manner thereafter.

Reason: To ensure that the development protects priority species and habitats and achieves a net gain in biodiversity, Cambridge Local Plan 2018 policy 70.

Reserved matters - Ecology

56. Any reserved matters application shall include a site Biodiversity Survey and Assessment that demonstrates how it accords with the aims and objectives of the site wide Ecological Design Strategy. It shall detail which specific ecological enhancement and/or mitigation measures are proposed and the timing for their delivery. The details of specific ecological enhancement should align with the planning policy requirements of Biodiversity Net Gain at the time of submission. No development shall commence within the site for which reserved matters approval is being sought until such time as the Biodiversity Survey and Assessment has been approved in writing by the local planning authority. The development shall only commence in full accordance with the approved details.

Reason: To ensure that the development protects priority species and habitats and achieves a net gain in biodiversity, Cambridge Local Plan 2018 policy 70.

Pre-Commencement - Construction environmental management plans (Biodiversity)

57. No development of any individual development parcel shall take place (including demolition, ground works, vegetation clearance) until a construction environmental management plan (CEMP: Biodiversity) has been submitted to and approved in writing by the local planning authority for that individual development parcel. The CEMP (Biodiversity) shall include the following.

a) Risk assessment of potentially damaging construction activities.
b) Identification of “biodiversity protection zones”.
c) Practical measures (both physical measures and sensitive working practices) to avoid or reduce impacts during construction (may be provided as a set of method statements).
d) The location and timing of sensitive works to avoid harm to biodiversity features.
e) The times during construction when specialist ecologists need to be present on site to oversee works.
f) Responsible persons and lines of communication.
g) The role and responsibilities on site of an ecological clerk of works (ECoW) or similarly competent person.
h) Use of protective fences, exclusion barriers and warning signs.

The approved CEMP shall be adhered to and implemented throughout the construction period strictly in accordance with the approved details.

Reason: To ensure that the development protects priority species and habitats and achieves a net gain in biodiversity, Cambridge Local Plan 2018 Policy 70.

Reserved matters Applications - Sustainability Statement and construction standards

58. All future reserved matters applications shall be accompanied by a Sustainability Statement setting out how the proposals meet the requirements set out in the bespoke Sustainability Assessment Matrix for the West

Cambridge site and associated construction standards (e.g. BREEAM). This statement shall include a BREEAM pre-assessment, prepared by an accredited BREEAM assessor, setting out how the proposals shall meet a minimum of BREEAM 'excellent'. The bespoke Sustainability Assessment Matrix for the West Cambridge site and the targets therein, shall be reviewed after every three years from the date of approval of the outline application in order to reflect changes in both national and local policy. The revised Matrix shall be submitted to and approved in writing by the local planning authority either prior to or concurrently with appropriate reserved matters applications.

Reason: In the interests of reducing carbon dioxide emissions and promoting principles of sustainable construction and efficient use of buildings (Cambridge Local Plan 2018 policy 28 and Greater Cambridge Supplementary Planning Document 'Sustainable Design & Construction' 2020).

Compliance - BREEAM Condition 1 – Design Stage Certification

59. All buildings on site, with the exception of ancillary buildings, shall be constructed to meet the approved overall BREEAM 'excellent' rating as a minimum, with maximum credits achieved under Wat 01. Prior to commencement of development of each building on site, or within 6 months of commencement, a BRE issued Design Stage Certificate shall be submitted to, and approved in writing by, the local planning authority. Where the interim certificate shows a shortfall in credits for BREEAM 'excellent', a statement shall be submitted identifying how the shortfall will be addressed.

Reason: In the interests of reducing carbon dioxide emissions and promoting principles of sustainable construction and efficient use of buildings (Cambridge Local Plan 2018 policy 28 and Greater Cambridge Supplementary Planning Document 'Sustainable Design & Construction' 2020).

Pre-occupation - BREEAM Condition 2 – Post Construction Certification

60. Prior to the occupation of each individual building, or within 6 months of occupation, a certificate following a post-construction review, shall be issued by an approved BREEAM Assessor to the local planning authority, indicating that the approved BREEAM rating has been met. In the event that such a rating is replaced by a comparable national measure of sustainability for building design, the equivalent level of measure shall be applicable to the proposed development.

Reason: In the interests of reducing carbon dioxide emissions and promoting principles of sustainable construction and efficient use of buildings (Cambridge Local Plan 2018 policy 28 and Greater Cambridge Supplementary Planning Document 'Sustainable Design & Construction' 2020).

Reserved Matters Applications - Energy Strategy

61. Each reserved matters application shall be accompanied by an Energy Strategy setting out how the energy solution for that building relates to the following energy hierarchy as set out in the Energy Statement Addendum (June 2017):

1. Fully site wide, then if not;
2. Using clusters or precincts linking several buildings, then if not;
3. Building by building solutions.

The strategy shall set out how the building will connect to, or allow for future connection to the site wide or cluster/precinct approach and the levels of carbon reduction associated with the energy solution. The strategy shall include a plan showing the network route and connection point to the site wide/cluster network, high level technical specification, including any mitigation measures required to maintain amenity and prevent nuisance, and date of implementation and connection. Where a building scale solution is proposed, the strategy shall include details of why connection to the site wide or cluster network is not possible, and an assessment of any landscape, tree, air quality, noise and odour impact and mitigation measures required to maintain amenity and prevent nuisance in accordance with the Council's Sustainable Design and Construction Supplementary Planning Document. The development shall be carried out in accordance with the approved strategy.

Reason: In the interests of reducing carbon dioxide emissions and promoting principles of sustainable construction and efficient use of buildings (Cambridge Local Plan 2018 Policy 28 and Greater Cambridge Supplementary Planning Document 'Sustainable Design & Construction' 2020).

Reserved Matters Applications - Waste recycling

62. Within any reserved matters application details of the on-site storage facilities for waste including waste for recycling shall be provided. Such details shall identify the specific positions of where facilities for commercial or industrial waste, or any other means of storage will be stationed and the arrangements for the disposal of waste and shall identify collection contract details. The approved facilities shall be provided prior to the commencement of the use and shall be retained thereafter.

Reason: In order that adequate provision is made for waste storage provision within each reserved matters application, Cambridge Local Plan 2018 policy 19 and 28 and the RECAP Waste Management Design Guide (2012).

Reserved Matters Applications - Public Art

63. Within any reserved matters application a Public Art Delivery Plan (PADP) shall be submitted which accords with the approved Public Art Strategy dated September 2017. The PADP shall include the details as set out in Appendix 2 and 4 of the Cambridge City Council Public Art SPD. If no Public Art is proposed for that reserved matters submission then a short statement referring back to the Public Art Strategy should be submitted. The PADP shall include:

a) Details of the public art and artist commission;
b) Details of how the public art will be delivered, including a timetable for delivery;
c) Details of the location of the proposed public art on the application site;
d) The proposed consultation to be undertaken;

The approved PADP shall be fully implemented in accordance with the approved details and timetabling. Once in place, the public art shall not be moved or removed otherwise than in accordance with the approved maintenance arrangements.

Reason: To accord with the provisions of Cambridge City Council Public Art SPD (2010) and Cambridge Local Plan 2018 policy 56.

Prior to Occupation - Public Art Maintenance Plan

64. Prior to the occupation of development requiring a Public Art Delivery Plan, a Public Art Maintenance Plan (PAMP) shall be submitted to and approved in writing by the Local Planning Authority and shall include the following:

a) Details of how the public art will be maintained;
b) How the public art will be decommissioned if not permanent;
c) How repairs will be carried out;
d) How the public art would be replaced in the event that it is destroyed.

The approved PAMP shall be fully implemented in accordance with the approved details. Once in place, the public art shall not be moved or removed otherwise than in accordance with the approved PAMP.

Reason: To accord with the provisions of Cambridge City Council Public Art SPD (2010) and policy 56 Cambridge Local Plan (2018).

Reserved Matters Applications - Broadband

65. Any future building within a reserved matters application shall provide infrastructure within the site to facilitate the connection of a highspeed fibre optic broadband service. Such provision shall be provided prior to the occupation of any building.

Reason: To ensure adequate IT infrastructure for the development, Cambridge Local Plan Policy 42.

Reserved Matters Applications - Fire Hydrants

66. Within any reserved matters application a scheme for the provision of fire hydrants shall be submitted to the local planning authority. Development shall be carried out in accordance with the approved details and the approved scheme shall be fully operational prior to the first occupation of that development.

Reason: To ensure the provision of adequate water supply infrastructure to protect the safe living and working environment for all users and visitors, Cambridge Local Plan 2018 policy 19.

Prior to installation - Construction cranes

67. Prior to the use of any cranes and/or temporary tall structures required during the construction of the development, a strategy shall be submitted setting out the details of the cranes and other tall construction equipment, including the details of obstacle lighting. The development shall be carried out in accordance with the approved strategy.

Reason: To ensure that construction work and construction equipment on the site and adjoining land does not obstruct air traffic movements or otherwise impede the effective operation of air traffic navigation transmitter/receiver systems, Cambridge Local Plan 2018 Policy 37.

Informatives

Informative: Cadent Gas - Considerations in relation to gas pipeline/s identified on site

Cadent have identified operational gas apparatus within the application site boundary. This may include a legal interest (easements or wayleaves) in the land which restricts activity in proximity to Cadent assets in private land. The Applicant must ensure that proposed works do not infringe on Cadent's legal rights and any details of such restrictions should be obtained from the landowner in the first instance.

If buildings or structures are proposed directly above the gas apparatus then development should only take place following a diversion of this apparatus. The Applicant should contact Cadent's Plant Protection Team at the earliest opportunity to discuss proposed diversions of apparatus to avoid any unnecessary delays.

If any construction traffic is likely to cross a Cadent pipeline then the Applicant must contact Cadent's Plant Protection Team to see if any protection measures are required.

All developers are required to contact Cadent's Plant Protection Team for approval before carrying out any works on site and ensuring requirements are adhered to.

Email: plantprotection@cadentgas.com Tel: 0800 688 588

Informative: CAANI - Clean Air Act

It is a requirement of the Clean Air Act 1993 that no furnace shall be installed in a building or in many fixed boiler or industrial plant unless notice of the proposal to install it has been given to the local authority. Formal chimney

height approval may be required. Details of any furnaces, boilers or plant to be installed and calculations should be provided using the Chimney Height Calculation form (available here: https://www.cambridge.gov.uk/chimney-height-approval).

Informative: Remediation Works Informative – Contaminated Land

Approved Contaminated Land remediation works shall be carried out in full on site under a quality assurance scheme to demonstrate compliance with the proposed methodology and best practice guidance.

Informative: Materials Chemical Testing Informative – Contaminated Land

Any material imported into the site shall be tested for a full suite of contaminants including metals and petroleum hydrocarbons **prior** to importation. Material imported for landscaping should be tested at a frequency of 1 sample every 20m3 or one per lorry load, whichever is greater. Material imported for other purposes can be tested at a lower frequency (justification and prior approval for the adopted rate is required by the Local Authority). If the material originates from a clean source the developer should contact the Environmental Quality Growth Team for further advice at Cambridge City Council on telephone number (01223) 457890.

Informative: Env Health - General Local Planning Advice / Requirements

Any artificial lighting, contaminated land, noise / sound, air quality impact assessments and mitigation shall have regard to the scope, methodologies, submission requirements and local planning policies of relevant sections of the Greater Cambridge - Sustainable Design and Construction SPD, Adopted January 2020', (https://www.cambridge.gov.uk/greater-cambridge-sustainable-design-and-construction-spd) and in particular 'section 3.6 - Pollution 'and the following associated appendices:

6: Requirements for Specific Lighting Schemes,
7: The Development of Potentially Contaminated Sites in Cambridge and South Cambridgeshire: A Developers Guide and
8: Further technical guidance related to noise pollution

Due regard should also be given to relevant and up to date Government / national and industry British Standards, Codes of Practice and best practice technical guidance.

Informative: LLFA - Ordinary Watercourse Consent

Constructions or alterations within an ordinary watercourse (temporary or permanent) require consent from the Lead Local Flood Authority under the Land Drainage Act 1991. Ordinary watercourses include every river, drain, stream, ditch, dyke, sewer (other than public sewer) and passage through which water flows that do not form part of Main Rivers (Main Rivers are regulated by the Environment Agency). The applicant should refer to Cambridgeshire County

Council's Culvert Policy for further guidance: https://www.cambridgeshire.gov.uk/business/planning-and-development/water-minerals-andwaste/watercourse-management/ Please note the council does not regulate ordinary watercourses in Internal Drainage Board areas.

Informative: LLFA - Signage

Appropriate signage should be used in multi-function open space areas that would normally be used for recreation but infrequently can flood during extreme events. The signage should clearly explain the use of such areas for flood control and recreation. It should be fully visible so that infrequent flood inundation does not cause alarm. Signage should not be used as a replacement for appropriate design.

Informative: LLFA - Pollution Control

Surface water and groundwater bodies are highly vulnerable to pollution and the impact of construction activities. It is essential that the risk of pollution (particularly during the construction phase) is considered and mitigated appropriately. It is important to remember that flow within the watercourse is likely to vary by season and it could be dry at certain times throughout the year. Dry watercourses should not be overlooked as these watercourses may flow or even flood following heavy rainfall.

Informative: Fire hydrants and access

The cost of Fire Hydrants will be recovered from the developer. The number and location of Fire Hydrants will be determined following Risk Assessment and with reference to guidance contained within the "National Guidance Document on the Provision of Water for Fire Fighting" 3rd Edition, published January 2007. Access and facilities for the Fire Service should also be provided in accordance with the Building Regulations Approved Document B5, Section 16. If there are any buildings on the development that are over 11 metres in height (excluding blocks of flats) not fitted with fire mains, then aerial (high reach) appliance access is required, the details of which can be found in the above document.

Alternative recommendation

In the event that the application is refused, and an Appeal is lodged against the decision to refuse this application, delegated authority is sought to allow officers to negotiate and complete the Planning Obligation required in connection with this development.

Contact

Please contact Fiona Bradley if any clarification is needed before the meeting.

Fiona Bradley, Interim team Leader, Greater Cambridge Planning Service

Fiona.bradley@greatercambridgeplanning.org 07704 018408

Abbreviations

AOD – Above Ordnance Datum. The term refers to a height above the Ordnance Datum. The term 'Ordnance Datum' refers to the height of mean sea-level, taken from a reference point at Newlyn in Cornwall. This is basis of the national height system for Britain. The proposed parameter plans display height in this way.

AQMA – Air Quality Management Area.

BNG _ Biodiversity Net Gain.

C2C – Cambridge to Cambourne busway scheme. A Greater Cambridge Partnership tranche 1 scheme for the west corridor of Cambridge.

CAM – Cambridgeshire Autonomous Metro.

CEMP – Construction Environmental Management Plan.

CHP – Combined Heat and Power.

CMMRA – Clerk Maxwell Road Residents Association.

CMR – Clerk Maxwell Road.

CPZ – Controlled Parking Zone.

CWMP - Construction Waste Management Plan.

CWMMP - Construction Waste Management Plan.

ES – Environmental Statement. Part of the Environmental Impact Assessment.

FTP – Framework Travel Plan – the overarching site wide approach to travelling planning which future reserved matters applications will comply.

GCP – Greater Cambridge Partnership

KP1 – The first proposed defined key phase of development at West Cambridge. This includes the priority projects already approved, a new building for Civil Engineering, Cavendish III and the Shared Facilities Hub.

LLFA - Lead Local Flood Authority.

LTN 1/20 - Local Transport Note 1/20 Design of Cycling Infrastructure.

LTP – Local Transport Plan.

MHF – Merton Hall Farmhouse, a building originally at the entrance to the site on the eastern side of JJ Thomson Avenue, which has now been demolished as part of the Cavendish III development.

MSCP – Multi Storey Car Park.

MRARA – Madingley Road Area Residents Association

NCRA – Newnham Croft Residents Association.

NNRA – North Newnham Residents Association.

OPA – outline planning application.

SFH – Shared Facilities Hub, (17/1896/FUL) – key phase one project currently under construction.

SPS - Supplementary Planning Submission.

STM - Spreadsheet Transport Model.

SSSI – Site of Specific Scientific Interest – the closest being Madingley Wood, 1.8km from the site.

TSCSC - Transport Strategy for Cambridge and South Cambridgeshire.

WAR – Western Access Road – an existing street running north to south from Madingley Road on the far western side of the site. It is currently closed to vehicular traffic, but will be opened for later phases of development.

WRMP - Water Resources Management Plan.