PLANNING COMMITTEE **DATE: 7TH FEBRUARY 2018**

Application Number	17/1799/FUL	**Agenda Item**	
Date Received	17th October 2017	**Officer**	John Evans
Target Date	6th February 2017		
Ward	Newnham		
Site	Land West Of JJ Thomson Avenue, Cambridge, CB3 0FA		
Proposal	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.		
Applicant	Chancellor, Masters and Scholars of the University of Cambridge		

SUMMARY	The development accords with the Development Plan for the following reasons: 1. The proposal is in accordance with Policy 18 of the emerging Local Plan which supports densification of the site. 2. The proposed new building is of high quality design and will successfully integrate in the context of surrounding buildings and the emerging outline masterplan strategy.

	3. There will be no significant adverse visual impact from or to neighbouring residential properties. 4. Noise and amenity impacts arising from the development can be addressed by imposition of appropriate conditions. 5. The proposal is acceptable in transport terms. A high quality 3.5m segregated cycle link will be provided on JJ Thomson Avenue. A package of mitigation is provided for cycle improvements off site.
RECOMMENDATION	APPROVAL

A.0 BACKGROUND

Existing West Cambridge Site

A.1 The application site falls within the West Cambridge Site, a major new academic campus 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 site area is wholly within proposals site 7.06 of the Cambridge Local Plan 2006 and site M13 of the emerging Local Plan.

A.2 An extant 1999 masterplan has been partially implemented. This related to a scheme of 244,212 sq m floor space, which includes pre 1999 developments. The principal roads through the site have been implemented along with numerous key buildings including The Centre for 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 2 – masterplan as implemented).

Future Strategy

A.3 Policy 18 of the emerging Cambridge Local Plan (which is currently under examination) supports the principle of significant densification of the West Cambridge site, subject to provision of a revised site wide masterplan that takes an 'integrated and comprehensive approach to development'. This would include making more efficient use of land, increasing opportunities to meet employment need, enabling a different approach to place making, and provision of more shared social spaces and other ancillary support services to enhance the vibrancy of the area.

A.4 The emerging policy 18 supports land uses on the site for (D1) educational uses, associated sui generis research establishments and academic research institutes and commercial research (B1(b), where it will support knowledge transfer and/or open innovation. Small scale community facilities, amenities, shops and student accommodation are also supported to enhance vibrancy.

A.5 An application for a new outline planning application for the West Cambridge Site was submitted in June 2016. (See appendix 3: illustrative masterplan). The outline application has been under consideration since submission to resolve key issues regarding landscape and visual impact, transport, drainage, trees, environmental and amenity concerns. A single package of amended information was submitted in October 2017 for full reconsultation. It is anticipated that the outline application will be presented to Planning Committee later this year.

A.6 The proposed densified West Cambridge development is anticipated to 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. This includes the previously approved Civil Engineering Building (CEB) scheme (16/1811/FUL) of 4500 sq m.

Context for separate full planning application

A.7 This site falls within the red line boundary of the wider West Cambridge outline application. The reason it is being brought

forward ahead of the outline is because the Cavendish III project was awarded a significant grant of £75 million in the 2015 Government Autumn Statement. The terms of this funding requires the planning outcome by early 2018 to comply with the spending timescales set by Government.

A.8 For this reason, this application will need to be determined ahead of the outline permission which is currently under consideration. Provided there is full scrutiny of the application and the proposals are in accordance with the emerging wider masterplan, prior determination will not in the view of officers prejudice determination of outline application in due course.

1.0 SITE DESCRIPTION/AREA CONTEXT

Existing Cavendish II site

1.1 The existing Cavendish II site is situated in the south east corner of the West Cambridge Campus and comprises a complex of modular buildings, between 2 and 4 storeys in height, that were constructed in 1974. They have been heavily adapted and modified since their construction. The complex is accessed from Charles Babbage Road and JJ Thomson Avenue.

1.2 The existing Cavendish II complex has exceeded its original building lifespan and its format does not meet existing or future requirements for modern research. The Department of Physics require new accommodation to continue its leading research into the future. The complex will continue to be used in the short term as decant space for other departments relocating to West Cambridge and will continue to be maintained as part of the wider campus.

Outline layout

1.3 The application proposal forms a part of the University's 'key phase 1' developments at West Cambridge. The application site is situated on the western side of JJ Thomson Avenue to the south of Madingley Road. It adjoins 'The Green' key place, Central Green Link and Madingley Road site edge, within the Design Guide which accompanies the current West Cambridge outline application.

Proposed Cavendish III Application Site

1.4 The proposed application site is situated on the west side of JJ Thomson Avenue on the existing east paddocks which are used in connection with the School of Veterinary Medicine (Vet School). The site is 4.89 hectares and is currently used to graze animals. The site is split by a narrow accessway which links JJ Thomson Avenue with the Vet school. The paddocks are bound by timber post and rail fences.

1.5 In the northeast corner of the application site is Merton Hall Farmhouse (MHF) which is currently used to accommodate the University multi faith Chaplaincy Centre. It is a 2 storey brick built farm house building which has been altered and extended. It is not a listed or locally listed building. Within the northern paddock, there is also a mature Luscombe Oak tree.

1.6 To the north 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 to the application site.

1.7 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 a number of Listed Buildings within the Conservation Area including the Grade 2 Listed Willow House located approximately 80m to the north east.

1.8 To the east of the site is JJ Thomson Avenue, an existing street approximately 7m 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 computer laboratory. Beyond, to the east of the wider campus (approximately 500 m) are the residential properties of Perry Court and the Lawns and the West Cambridge Conservation Area.

1.9 To the south of the site is the University nursery and North Residences, comprising of 4, four storey buildings. Beyond, is the Broers Building and East Forum, which is separated from the open fields to the south by the Southern Ecological Corridor, a hedgerow

belt (City Wildlife Site), east-west footpath/cycleway and the Coton footpath.

1.10 Within the site to the west is the existing Vet school access (pedestrian and cycle access only from Madingley Road), which is lined on either side by mature trees. To the west beyond is the Vet school complex, other undeveloped plots and the Schlumberger Gould Research Centre, a Grade 2* Listed Building.

1.11 The nearest Sites of Scientific Interest (SSSI) are the Travellers Rest Pit geological site within the North West Cambridge Development (NWCD) and Madingley Wood, approximately 2km west along Madingley Road.

1.12 The site falls outside of the Controlled Parking Zone.

1.13 The site is outside of the Air Quality Management Area.

1.14 Cavendish III falls within Flood Risk zone 1.

2.0 THE PROPOSAL

Proposed Cavendish III building

2.1 Full planning permission is sought for the erection of a new building complex to accommodate the Department of Physics (The Cavendish Laboratory). The proposed development would provide a total of 37,160 sq m of D1 academic floor space. The application seeks consent for the entirety of the building, although the University's cost plan does not currently cover the block at the north east corner 'phase 2'. An interim design is therefore proposed for the north east corner if funding does not come forward during the construction period. Both phases have been assessed as a permanent final scheme.

2.2 The building is organised into 4 zones, a utility zone to the west, a research zone in the centre, a public zone to the east and an internal 'street' which links the zones together. It contains 4 levels of accommodation, including a basement. The 'public wing' to the eastern end includes a foyer, lecture theatres, outreach area, library, study space and common room on the third floor. The western side provides four 'central utility hubs' which accommodate plant and services.

2.3 The main catering facilities for the building will be located in a new Shared Facilities Hub (SFH) building (4907sq m in total). This is a proposed new building located to the south of Cavendish III and JJ Thomson Gardens. It has been submitted as a separate full planning application 17/1896/FUL and is anticipated that it will be presented to Planning Committee within the next few months.

2.4 The proposed Cavendish III building contains courtyards set on different floors. The north and south corridors are on the ground floor, visible from the east JJ Thomson elevation and will contain small trees and landscaping. The third and second floor courtyards provide a hard standing amenity area. These courtyards are not accessible to the public. Central courtyard is provided on the third floor and is a part paved and landscaped space to be used in conjunction with the main auditorium for summer events. It is designed to allow managed public access.

2.5 The northern Madingley Road elevation has a main parapet height of 12.6m and is finished with reconstituted stone and metal panel cladding with windows arranged along the first and second floors to frame the north east corner.

2.6 The eastern JJ Thomson elevation stands 17.6m to the main parapet with a recessed plant screen standing 20.6m. The northern and southern glazed links have an overall height of 16.6m. The frontage has the public wing, which is situated 5m from the back edge of the existing footpath on the western side of JJ Thomson Avenue. It is finished with glazed panels through which the internal stairways, atrium spaces and lectures theatres are visible. Reconstituted stone, with some areas of metal cladding is proposed for the external areas.

2.7 The southern elevation stands predominantly 17.6m and has the main public wing entrance at the south east corner, accessed by an external stair and ramp. Externally it has a mix of reconstituted stone cladding with windows allowing views to the ground floor cryostat room. This will be viewable from the raised landscape bank proposed within JJ Thomson Gardens to the south.

2.8 The western green link elevation stands predominantly 16.6m across its length. It has 4 chimney features which punctuate the elevation, each standing 25m in height. The elevation is articulated by pocket landscape gardens and is finished externally

with areas of metal and translucent screening and reconstituted stone.

Public Realm

2.9 Externally, the development will provide all drainage infrastructure, landscaping and 769 cycle parking spaces.

2.10 The development will provide 2 new areas of public realm (JJ Thomson Gardens and Central Green Link) and modifications to the existing public realm along JJ Thomson Avenue. Central Green Link will be implemented in 2 phases, the first of which will provide a temporary car park for the Vet School (33 spaces).

2.11 JJ Thomson Gardens is proposed to the south of the proposed Cavendish III. This is the first phase of a new strategic open space which extends from JJ Thomson Avenue to High Cross. It totals 0.9 ha in area and comprises green space, new tree planting, hard landscaped public realm with formal and informal seating areas and associated drainage infrastructure.

2.12 4 Disabled car parking spaces will be provided within the reconfigured JJ Thomson Avenue.

2.13 Overall 27 trees will be removed in the centre of the site, including the crescent of trees opposite the Vet School. 15 of the trees are Category B, with 11 Category C.

Site Access

2.14 The development will provide alterations to the existing cycle access point at the north west corner of the site at the junction with Madingley Road. This existing access (currently pedestrian/cycles only) will be reconfigured to provide vehicle servicing access.

Demolition

2.15 As part of the development MHF in the north east corner of the site will be demolished.

2.16 The proposal is to subject to an Environmental Impact Assessment (EIA). The application is accompanied by the following supporting information:

1. Planning Statement
2. Design and Access Statement (DAS)
3. Transport Assessment (TA)
4. Travel Plan
5. Energy and Sustainability Strategy
6. Flood Risk Assessment (FRA)
7. Drainage Strategy
8. Arboricultural Method Statement and Management Plan
9. Statement of Community Involvement
10. Lighting Report
11. Public Art Delivery Plan
12. Fire Strategy (in DAS)

Environmental Impact Assessment (EIA)

13. EIA Non-technical summary

Environment Statement (ES) Chapters

14. Historic Environment
15. Landscape and Visual
16. Socio economics
17. Traffic and Transport
18. Air Quality
19. Noise and Vibration
20. Ground Conditions
21. Cumulative effects
22. Summary of Mitigation

Amended Plans and Additional Information

2.17 The following supplements the original submission:

- The development is now accompanied by a revised strategy for interventions to the existing layout of JJ Thomson Avenue. The revisions provide a segregated cycleway on the eastern side of JJ Thomson Avenue 3.5m in width, with a 2m footpath and amended crossing points.

- Ground source heat pump plan.

- Response to Anglian Water comments.

- Service access response.
- Response to Landscape Officer comments.
- Response to Environmental Health Officer comments.
- Archaeological excavation report - Merton Hall Farmhouse.
- Quality Panel and Disability Panel response.
- Updated visuals.
- Drainage Clarifications.

3.0 SITE HISTORY

Reference	Description	Outcome
97/0961/OP	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
13/1564/FUL	Construction of an annexe to the Centre for Advances Photonics and Electronics	Approved

	(CAPE) Building	
16/1134/OUT	Outline planning permission with all matters reserved is sought for up to 383,300m2 of development comprising up to 370,000m2 of academic floorspace (Class D1 space), commercial/research institute floorspace.	**Submitted June 2016, currently under determination**
17/0163/SCOP	Request for a scoping opinion, proposed Cavendish III, West Cambridge.	Scoping Issued March 2017
17/1942/FUL	Construction of two concrete slabs (10m by 10m and 13m by 15m) for the purposes of testing vibration impacts from surrounding uses.	Approved
17/1896/FUL	Proposed Shared Facility Hub amenity building.	**Under determination, submitted October 2017**

3.1 The Scoping opinion 17/0163/SCOP was submitted in accordance with the Town and Country Planning (Environmental Impact Assessment) Regulations 2011. It was informed through consultation with statutory and other consultees. The Council's Scoping Opinion response described the matters that needed to be addressed in the EIA.

4.0 PUBLICITY

4.1

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

5.0 POLICY

EIA Directives and Regulations

5.1 An EIA is required by the 2011 EIA Regulations (as amended). The ES must identify and report the likely significant effects of the project on the environment, which should cover the direct effects and any indirect, secondary, cumulative, short-term, medium-term and long term, permanent and temporary, positive and negative effects of the project. It must also report the mitigation measures that are proposed to avoid, reduce or remedy the likely significant effects. In cases where mitigation measures are not proposed or entirely effective, the EIA will identify any residual impacts and determine their significance. The application falls to be assessed under the 2011 Regulations (rather than the current 2017 Regulations) because the timing of the Scoping Opinion was prior to 16 May 2017.

5.2 Relevant Development Plan policies:

PLAN	POLICY NUMBER
Cambridge Local Plan 2006	3/1 3/2 3/4 3/6 3/7 3/9 3/11 3/12 3/13 3/15 4/4 4/9 4/11 4/13 4/14 4/15 5/11 7/1 7/2 7/3 7/4 7/5 7/6 8/2 8/3 8/4 8/5 8/6 8/9 8/10 8/16 10/1

5.3 Relevant Central Government Guidance, Supplementary Planning Documents and Material Considerations:

Central Government Guidance	National Planning Policy Framework March 2012 National Planning Policy Framework – Planning Practice Guidance March 2014

	Circular 11/95
Supplementary Planning Guidance	Sustainable Design and Construction (May 2007) Cambridgeshire and Peterborough Waste Partnership (RECAP): Waste Management Design Guide Supplementary Planning Document (February 2012) Planning Obligation Strategy (March 2010) Public Art (January 2010)
Material Considerations	<u>City Wide Guidance</u> 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 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) Department for Transport - Cycleway Guidance (IAN 195/16) 2016 Transport Strategy for Cambridge and South Cambridgeshire 2013 Greater Cambridge Partnership – A428 Cambourne to Cambridge project
	<u>Area Guidelines</u> Conduit Head Road Conservation Area Appraisal (2009) West Cambridge Conservation Area Appraisal (2011)

5.4 Status of Proposed Submission – Cambridge Local Plan

Planning applications should be determined in accordance with policies in the adopted Development Plan and advice set out in the NPPF. However, after consideration of adopted plans and the NPPF, policies in emerging plans can also be given some weight when determining applications. For Cambridge, therefore, the emerging revised Local Plan as published for consultation on 19 July 2013 can be taken into account, especially those policies where there are no or limited objections to it. Whilst the adopted development plan and the NPPF are overriding, emerging policy 18 can be given some weight.

For the application considered in this report, the following policies in the emerging Local Plan are of relevance:

Policy 18 West Cambridge

5.5 Cambridge City Council and the University of Cambridge have agreed a Statement of Common Ground to inform the Local Plan examination. There are now no areas of disagreement between the parties in relation to Policy 18 and its supporting text.

6.0 CONSULTATIONS

Department for Communities and Local Government (DCLG)

6.1 No comments on the Environmental Statement.

Cambridgeshire County Council (Highways Development Management)

6.2 There are no objections to the development as it is within the quantum of development allowed under the West Cambridge extant permission. The proposed mitigation measures will need to be agreed with the County Council and secured through S278 and S106 agreements.

Existing and proposed Mode Share

- The Travel for Cambridgeshire Travel Survey, undertaken in 2016 identifies that the majority of staff and student trips to Cavendish II are made by cycle 53.1% and 64.9% respectively.

- The proposed development will have 1081 staff and 560 students, this is an increase of 249 staff and 51 students. It is estimated that 65% of staff are on the site at any one time.

Trip generation

- The person trips are derived from a survey undertaken on the Department of Materials Science and Metallurgy. This has been validated to ensure that the trip rates are as accurate as possible.
- There will be an estimated 29 car driver arrivals during the am peak and 3 car driver departures.
- During the pm peak there will be 4 arrivals and 33 departures.
- These trips will be distributed over the local road network.
- The majority of trips will be made using sustainable modes of transport.

Cycle Parking

- A total of 769 cycle parking spaces will be provided, which is less than the existing 800 spaces, of which only around 540 tend to be utilised.
- The cycle parking accumulation exercise estimates a maximum of 748 cycle spaces are required to serve the development.
- On-going monitoring will be carried out in accordance with the Travel Plan.

Car Parking

- The TA includes an accumulation assessment. This shows a peak accumulation of 77 car parking spaces required between 14:00 and 15:00.
- No new car parking will be provided other than 4 new spaces for disabled people.
- It has been demonstrated that there are sufficient spaces on the wider campus to accommodate the additional demand.

Junction safety

- The proposed servicing access as a left in- left out access would not be anticipated to result in any demonstrable harm.

- Whilst the access has been closed for many years, this, in itself, would not be grounds for the Highway Authority to oppose its reopening. The planning system requires that harm has to be demonstrated in order to justify opposition.

- The access could be suitable for larger vehicles. That would be demonstrated by a vehicle tracking and capacity assessment. Neither of these is considered sufficient ground for the Highway Authority to oppose the proposal.

- Whilst a vehicle emerging would present a hazard, as in all such cases, the scenario proposed by the objector would, be unlikely and could not justify opposition. A vehicle on a side road is unlikely to emerge onto the through lane because the driver has assumed that a vehicle will be able to take avoiding action by entering the right turn lane. The risk associated would be no different from many other junctions and would not be demonstrably exceptional.

Mitigation

6.3 The following measures have been identified and are broadly supported:

- Due to certain cycle mitigation measures being unable to be delivered with the extant permission, this has left some unfulfilled mitigation requirements. These include the rifle range route and improvements between West Road and Silver Street. Therefore the County Council has some additional mitigation requirements that are needed as part of the Cavendish application. This includes delivering an enhanced cycle route alternative to Burrell's Walk. This alternative route would include various cycle improvements along, Grange Road and West Road or Sidgwick Avenue to join Silver Street.

- Should permission be granted Cambridgeshire County Council would require a £400,000 contribution to enhance the cycling environment along Grange Road and West Road (or Sidgwick Avenue).

- Should these improvements be superseded by the A428 Cambourne to Cambridge Greater Cambridge Partnership (GCP) Scheme plans, the financial contribution above can be diverted towards these GCP improvements as an alternative.

- A S106 contribution will also be sought for the Burrell's Walk improvements if the County Council is to deliver this scheme.

- Road safety measures on Madingley Road east at the junction to improve conditions for cyclists.

- Road safety measures on Madingley Road at the Storeys Way junction to improve conditions for cyclists.

- Widening of the bridge over the Bin Brook on Burrell's Walk.

- Minor enhancements to the Grange Road/Adams Road signalised junction which links to Burrell's Walk.

- Travel Plan for the development.

- Construction Management Plan.

Highways England

6.4 Offer no objection. The proposed development is closely associated with the larger West Cambridge proposals under 16/1134/OUT, which remains the subject of on-going consideration and negotiations. However, in transport terms this proposal is within the overall scope of the long standing extant permission on the site.

Environmental Health

6.5 Application supported. Some concern expressed that this development is coming forward early in the absence of an approved strategic masterplan for the entire West Cambridge Site and general intensification of the area. It will be important to ensure that the cumulative environmental impacts associated with the emerging West Cambridge Site masterplan outline are considered and mitigated as necessary in a holistic, coordinated, integrated and comprehensive site wide approach.

6.6 This application is being considered as Environmental Impact Assessment development (EIA development) which has required the submission of an Environmental Statement (ES). It is acknowledged that this stand-alone full application needs to be considered on its own merits. The applicant has also acknowledged in principle that the cumulative environmental health related impacts associated with the wider West Cambridge outline masterplan need to be considered and controlled in the medium and long term.

Demolition and construction

6.7 There is agreement with the ES conclusion that with appropriate mitigation measures in place any adverse impact resulting from the demolition and construction works including construction related vehicle movements should be minimised so that there would not be any significant residual effect at nearby receptors. Negligible to minor adverse impacts are predicted.

6.8 There is a commitment to develop and implement a Construction Environmental Management Plan (CEMP) during the entire construction period to mitigate any construction related impacts. In the interests of amenity and to be consistent with the approach that

is likely to be taken for the West Cambridge Site outline planning application a Demolition and Construction Environmental Management Plan (CEMP) planning condition is recommended.

Noise and Vibration – Operational

6.9 The noise and vibration assessment in Chapter 11 of the ES considers the following operational impacts:

- Operational road traffic noise on the local road network.
- Workshop / laboratory uses.
- Mechanical and Electrical Building Services.
- Deliveries and Collections / Service Yard and Access Road.

6.10 The noise and vibration assessment has been undertaken with reference to relevant legislative frameworks and in accordance with national / local planning policy, industry standards / codes of practice and best practice technical guidance. The mitigation and minimisation of any potential adverse noise impacts has also been adequately considered.

6.11 The team agrees with the conclusions that provided mitigation measures (where necessary, to offset or minimise any adverse scheme effects) are implemented for the identified impacts the overall cumulative adverse noise impact will be negligible for the majority of operational noises sources and only minor for bespoke service deliveries such as large articulated lorries.

6.12 The impact of all operational noise sources either individually or cumulatively is likely to be negligible or at worst case low / minor at the nearest noise sensitive residential premises garden boundary.

Air Quality – Operational

6.13 Although Environmental Health Officers consider the prediction on vehicle movements associated with the proposed development to be on the low side no further information is required in relation to the impact on air quality from traffic emissions for the proposed development as this will be incorporated as agreed into the site wide West Cambridge masterplan and associated outline planning application under consideration. Increased cycle provision is welcomed to future proof the development, as modal shift away from cars towards more sustainable forms of transport is achieved.

6.14 It is consided the results on the impact on air quality from combustion emissions are acceptable. Information on the boilers to be installed and the use of low NOx boiler can be secured by condition as recommended above. A condition requiring compliance with Chapter 11 - Air Quality etc. of the ES is also recommended to ensure flue heights as assumed in the assessment are implemented.

Odour / Fumes / Dust – Operational

6.15 It is acknowledged that building extraction and ventilation systems are usually a detailed design matter. Environmental Health are confident that any significant adverse or other adverse odour or similar impacts can be ether avoided or minimised to an acceptable level by designing systems in accordance with national / industry standards and best practice.

6.16 Further detailed design information of equipment and systems for the purpose of extraction and filtration of odours, fumes and dust or similar emissions is required for approval and a bespoke condition is recommended.

Artificial Lighting – Operational

6.17 Final external and internal artificial lighting detailed design has yet to be finalised a bespoke artificial light assessment / mitigation condition is recommended.

Contaminated Land

6.18 A satisfactory desk study, scope of work and intrusive investigation has been completed and submitted with the application. Chapter 12 ‘Ground Conditions’ concludes that no specific remediation is required. A Watching Brief for unexpected contamination will be kept and details on materials to be imported will be included in a Material Management Plan.

6.19 However, a number of bespoke contaminated land conditions and associated informatives are recommended to ensure the development is in accordance with the ES submissions and to ensure any unexpected contamination that may be encountered is remediated and rendered harmless.

Urban Design and Conservation Team

Comments on application as amended

6.20 JJ Thomson Avenue amendments now supported.

Comments on application as submitted

6.21 Overall the scheme can be seen to be compliant with the emerging West Cambridge parameter plans. Whilst not approved, the overall scale of the building and response to the site edges, such as the well vegetated woodland buffer to Madingley Road, have all been considered irrespective of the Outline to ensure that, as a 'full application', it is acceptable in its own right. The proposals respond well to the existing as well as emerging West Cambridge site contexts and in this regard are acceptable in urban design terms. A building recording condition for MHF is unnecessary given the low significance of the extant building and the degree of previous alteration.

Senior Sustainability Officer (Design and Construction)

Comments on application as amended

6.22 The information provided for Ground Source Heat pumps clarifies this issue which is now acceptable.

Comments on application as submitted

6.23 Application supported. The proposals incorporate a number of sustainable design and construction features in response to planning policy and the Sustainability Assessment Matrix that has been prepared for the West Cambridge site overall, including achievement of BREEAM excellent.

6.24 The Sustainability Statement also provides a comparison of the strategy being taken for this scheme against the bespoke Sustainability Assessment Matrix (SAM) that has been developed as part of the outline application for the wider West Cambridge site. While this application has yet to be determined, this comparison is welcomed, and for the most part the scheme meets the targets set out in the SAM. However, there are some areas

where the design does not meet the targets set out in the SAM, notably in relation to water efficiency.

6.25 With regards to the energy strategy for the site, the proposal is for the Cavendish III building to form part of an energy cluster, powered by a ground source heat pump array to be located beneath the building. This approach is in line with the energy hierarchy envisaged by the Energy Strategy Addendum which forms part of the outline planning strategy for the wider West Cambridge site.

Access Officer

6.26 The application is supported and has been considered by Disability Panel. No further comments.

Head of Streets and Open Spaces (Tree Team)

Comments on application as amended

6.27 JJ Thomson Avenue amendments now supported.

Comments on application as submitted

6.28 Concerns raised regarding the provision for retention of lime trees along JJ Thomson Avenue in the context of cycle improvements.

Head of Streets and Open Spaces (Landscape Team)

Comments on application as amended

6.29 All issues raised in landscape comments dated 11 December 2017, have been addressed satisfactorily or can be detailed further within the discharge of condition process.

6.30 It is acceptable that the confirmation of the species of the existing Lime trees for gapping up purposes, can be carried out at a later stage.

6.31 The clarification regarding the responsibilities of the immediate management of the woodland belt is welcome.

Comments on application as submitted

6.32 Landscape Officers have reviewed the submitted LVIA and support the methodology and the findings of the report. With regard to the verified views the additional view produced from Madingley Road is appreciated. Landscape Officers are confident that the methodology and photographic techniques used are of high quality and the views produced are an accurate representation of what will be seen on completion of the project.

6.33 Officer consider that the views illustrate how important the West Cambridge perimeter woodland planting is to the integration of new development into the site itself and the surrounding area. The importance of the woodlands should be recognised through their timely management.

6.34 Additional clarification required:

- Replacement tree query – Tilia Cordata.
- Confirmation of levels around the Vet School car park.
- Confirmation that a resin bound material will be used for the public realm rather than tar spray and chip.
- Further sections of the retention basins north of the building.
- Rain garden and attenuation tank specification details.
- Tree pit dimensions.
- Response on typical planting palette comments.

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

6.35 JJ Thomson Avenue amendments are supported.

Cambridgeshire County Council (Flood and Water Management)

6.36 Awaiting final comments.

Head of Streets and Open Spaces (Sustainable Drainage Officer)

Comments on application as amended

6.37 Awaiting final comments on amendments.

Comments on application as submitted

6.38 The application is supported. The proposed discharge rate of 2.59l/s/ha is well supported and represents a 10% betterment on the 1in1 year greenfield runoff rate. The overall surface water drainage approach is in line with the West Cambridge outline drainage scheme.

6.39 Whilst drainage officers are supportive of the proposals there are a number of additional details which are required in order to be confirm that these features can be delivered successfully across the site:

- Technical detail on the design of the rain gardens.
- Cross sections through the detention basins.
- Information confirming the designs of the blue and green roofs across the site.
- Outfall point discharge rate clarification.

Head of Streets and Open Spaces (Nature Conservation Officer)

6.40 Application supported. The team is content that the site has limited ecological value, and that the proposals do not impact on the site wide ecology designations. Officer support the proposed biodiversity enhancements and suggest a condition for an Ecological Design Strategy (EDS) to capture the exact number, specification and locations of features such as nest boxes and log piles. In addition to the proposed nest boxes within the boundary woodland, integral nest boxes and bat roost features within the proposed built environment are encouraged.

6.41 The potential for Protected and other species to use the area should be considered within the Construction Method Statement to ensure that trenches are covered overnight.

6.42 The inclusion of Green Roofs are supported and would encourage opportunities to create bio diverse habitats as opposed to purely sedum systems.

6.43 The retention of the existing plantations are supported and their protection and enhanced through implementation of an approved

management plan. Landscape colleagues have covered the details of such a plan within their response.

Historic England

6.44 Application supported. Historic England are satisfied that the proposed four storey laboratory building would be of a contextually appropriate height, scale and massing in relocation to nearby Listed Buildings and Conservation Areas and the proposed materials would be of a suitably high quality.

6.45 MHF provides a positive contribution to the street scene opposite Conduit Head Road Conservation Area and would prefer to see it retained and adapted for reuse. However, on balance it is considered that the overall development would not cause an unacceptable level of harm to the setting of designated heritage assets within a 1.5km radius of the site.

Natural England

6.46 Application supported. Based upon the information provided, Natural England advises that the proposal is unlikely to affect any statutory protected sites.

6.47 Standing advice is provided regarding protected species. Green infrastructure is encouraged in the development.

Sport England

6.48 The proposed development does not fall within either Sport England's statutory remit (Statutory Instrument 2015/595), or non-statutory remit (National Planning Policy Guidance (PPG) Par. 003 Ref. ID: 37-003-20140306), therefore Sport England has not provided a detailed response in this case.

Environment Agency

6.49 No objections in principle. The developer should address risk to controlled waters from contaminated land at the site. Anglian Water should be consulted and be requested to demonstrate that the sewerage and sewage disposal systems serving the development have sufficient capacity.

6.50 All surface water from roofs shall be piped with sealed downpipes. Surface water from roads and impermeable vehicle parking areas shall be discharged via trapped gullies. The inclusion of a detailed waste management plan is welcomed.

Anglian Water

Comments on application as amended

6.51 Conditions are still required to ensure that connection to the Anglian Water network will not cause detriment to the existing network.

Comments on application as submitted

6.52 Anglian Water does not object to planning application 17/1799/FUL.

6.53 Some concerns are raised regarding the surface water strategy and a condition is requested to ensure connection to one of Anglian Water's assets will not cause capacity issues.

6.54 A foul water condition is requested as we have identified there is potential for flooding downstream as there are network capacity issues. Anglian Water would want to work with the developer to ensure that mitigation is identified and planned effectively.

6.55 Waste water treatment is accepted by Anglian Water who will ensure there is adequate treatment capacity should planning permission be granted.

Cambridgeshire Constabulary (Architectural Liaison Officer)

6.56 Support the application and also noted that the requirement is to achieve BREEAM Excellence – and in that regard this office is more than happy to be consulted to provide a Security Needs Assessment.

Cambridgeshire County Council (Archaeology)

6.57 The evaluation of MFH revealed no significant archaeology, however a condition of planning permission is required for the wider Cavendish III site.

Public Art Officer

6.58 Application supported. An element of Phase One of the outline masterplan has come forward under 17/1799/FUL for the Cavendish Laboratory and this covers the commission for The Green. It sets out that 'A Final delivery plan for the commission(s) once they are worked up will be issued for agreement with the local authority' (p 25). What is submitted at the moment sets out the approach to commissioning, but not the detail of the commissions themselves. Whilst the approach can be agreed, the Decision Notice should include a condition setting out submission of a delivery plan with detailed proposals, and completion of the work to the delivery plans agreed. The Delivery Plan that gets submitted later on should be reviewed by Public Art Panel.

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

Cambridgeshire Quality Panel (Meeting of 10 August 2016)

6.60 The Cavendish III proposals were reviewed by the Cambridgeshire Quality Panel against the four 'C's' of Community, Climate, connectivity and Character on the 10 August 2016. Overall the Panel was impressed by the handling of such a complex application and supported the way the scheme was developing. The Panel raised concerns about the delivery of Phase 2 and stressed the advantages of delivering the building in a single phase. Some concerns raised regarding the amount of hard landscape in JJ Thomson Gardens. Full comments are contained within Appendix 2 and summarised in the design sub section below.

Disability Consultative Panel (Meeting of 27 June 2017)

6.61 An impressive design for a building with highly complex needs. A site visit once completed would be welcomed.

6.62 The Panel welcomed the provision being made to accommodate disabled lecturers as well as students.

6.63 Ramped access. Part M Building Regs may not specify the need for a handrail at such a low gradient. However, these are

recommended for the benefit of the ambulant disabled who may struggle to walk any significant distance. The proposal to include a resting point would also be very much welcomed.

7.0 REPRESENTATIONS

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

31 Brooke House, Kingsley Walk
19 Albemarle Way (On behalf of)
14 St Peters Road, Coton
14 Conduit Head Road
16 Conduit Head Road
42 Conduit Head Road
Brian Pippard Building, Clare Hall, Herschel Road (2 representations from employees)

7.2 The representations can be summarised as follows:

Principle of Development

- No objections to the proposed Cavendish III building (2 representations).

Design and visual impact

- We recognise that the tree cover along Madingley Road between us is to be maintained and enhanced and will continue to screen the site (except for some pipework yet to be specified in the NW corner).

JJ Thomson Avenue Street Design

- Street interventions for JJ Thomson Avenue are not supported.
- The application should be split so the Cavendish III building can go ahead.
- There is currently inadequate provision for cyclists because the pavement is not large enough to accommodate cyclists and pedestrians.
- There is no dedicated cycle lane on the road.
- The new laboratory would increase the numbers of cyclists and heavy goods vehicles.

- Proper infrastructure is needed to allow increased traffic while keeping cyclists safe.
- The present crossing of JJ Thomson Avenue at the junction with Madingley Road is poorly designed. The proposals make no improvement on this current situation.

The Green

- The path through the Green should be segregated when it is fully completed.

Service Access from Madingley Road

- Object to the proposal to reopen the access road from Madingley Road opposite Conduit Head Road.
- The new access is not necessary because there is an existing access from JJ Thomson Avenue and High Cross.
- The new access is dangerous, particularly for cyclists and will adversely affect traffic on Madingley Road.
- The proposed new access removes landscaping and an opportunity for further greening of the entrance.
- A road currently exists along the alignment due south to Charles Babbage Road. The TP page 55 and Appendix A, Fig3.2 and 3.3 refers to an interim and final service route, both of great complexity. The final plan shows construction of a new connection due west to High Cross (road). The latter still includes access (left in and left out only) which must surely be unnecessary by then. We think it is unnecessary in the interim, too.
- The addition of a competing vehicle wanting to exit the site opposite offers a hazard in either case. Madingley Road traffic outbound which is accelerating away at this stage would be slowed or could veer into the space in the refuge denying our use of it, or even stranding a vehicle that was committed in the path of inbound traffic.

Noise

- Measures to mitigate noise from the Service Area are included in the proposal which is supported.

West Cambridge Active Travel group (WCAT)

Principle of development

- WCAT is a grassroots organisation seeking to help enable walking, cycling and public transport on and around the West Cambridge site.
- Object to the proposed designs for JJ Thomson Avenue and JJ Thomson Gardens contained in 17/1799/FUL as they have significant problems and require substantial redesign.
- It is intended that the working population of the West Cambridge Site will grow substantially over the next few years while the number of cars travelling to the site remains constant or decreases.
- A substantial increase in the proportion and number of people arriving by cycle, walking, or public transport will be required.
- The tidal nature of undergraduate movements mean that routes on and near the site will regularly experience high traffic for which shared use paths are inappropriate.
- The existing site links are already over capacity at peak times. The adjacent shared facilities hub will generate a further 1200 flows per hour, with the William Gates Building 1680 per hour. There will be an overall flow rate of 5000 cyclist per hour.

JJ Thomson Avenue

- The plans for JJ Thomson Avenue, JJ Thomson Gardens and improvements to the surrounding transport network fall short of fixing the present problems on and around the site.
- Shared use paths are not appropriate. Segregation is required as required by Interim Advice Note 195/16, Cycle Traffic and the Strategic Road Network, Highways England.
- The minimum width for a two way cycleway is 3.5m. Additional width is necessary because of the hedge on the eastern side of JJ Thomson Avenue.
- A 2m footway and 3.5m cycleway is needed along JJ Thomson Avenue (with permeable paving) which should be achievable.
- There should be also be sufficient space on the western side of JJ Thomson Avenue to provide a segregated cycle route.
- The crossing of JJ Thomson Avenue at the junction with Madingley Road is poorly designed and will not be attractive to use. The existing two northbound lanes are unnecessary and should be configured. The central refuge is too small.
- At present the plans give priority to the driveway for the small visitors car park for the William Gates Building over through traffic on the path along the east side of JJ Thomson Avenue.

- Carriageway width should be reduced to 6.1m to encourage drivers to comply with the 20 mph speed limit.

Madingley Road

- The proposed re-opened junction of the Cavendish III access road with Madingley Road does not provide an indication of how pedestrians and cyclists are supposed to cross it.
- The woodland edge section of the DAS does ignores the desperately needed cycling and walking improvements on Madingley Road at this point.

The Green

- The 6m wide shared path for the Green is insufficient when the entirety of the Green is completed.
- The planning application should contain a commitment to turn the path into a segregated walking and cycling route (no increase in width required), or to provide a separate cycling route.
- It is not clear that sufficient thought has been given to desire lines for cyclists and pedestrians using the junction of The Green and JJ Thomson Avenue.
- Tar and chip spray surface provides a poor quality surface for cycling.

Cavendish III cycle parking

- The proposed cycle parking is generally good, but some aisles are narrower than the minimum 1.8m width.
- The usage survey within the TA may not be representative. Fly parking is already a problem on Cavendish II and it is not clear whether they formed part of the survey.
- Provision for pool bikes is not mentioned in the TA usage survey.

Charles Babbage Road

- The crossing of Charles Babbage Road at the junction of JJ Thomson Avenue is not proposed to be improved as part of these plans. There should be a crossing with priority for walking and cycling.

Document Analysis

- The representation contains a detailed critique of the presentation of the Design and Access Statement, Transport Assessment and Travel Plan. An officer response to these points is set out in the summary of representations table 5.
- It is estimated that approximately 80% of students cycle to the site rather than 65% set out in the TA.
- The deficiencies in pedestrian and cycle facilities list in the TA is not comprehensive.
- Some of the existing amenities on the Campus are missing from Appendix A, figure 3.9 in the TA.
- The University Travel Plan is reviewed every two years, so a 2017 version should be available.

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

8.0 ASSESSMENT

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

1. Principle of development
2. Context of site, design and external spaces
3. Residential amenity
4. Impact on Trees
5. Renewable energy and sustainability
6. Transport
7. Drainage
8. Disabled access
9. Refuse arrangements
10. Public Art
11. Third party representations
12. Planning Obligations (s106 Agreement)

Principle of Development

Current 2006 Local Plan and 1999 Masterplan

8.2 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 2006 policy 7/6 (West Cambridge). Further development which accords with the provisions of the masterplan will be permitted. The broad principle of the application proposal is in accordance with the extant policy 7/6.

8.3 In terms of the extant 1999 masterplan, the proposed site falls within the original Design Guidelines Plot D, which envisaged the site to remain used for paddocks for the Vet School and did not anticipate significant new buildings. Typically, guidelines for the other plots on West Cambridge allowed for buildings between 8.5m and 12.0m above finished ground level (corresponding to two and three storeys for academic and research uses). There is however no specific height or massing guidelines for plot D. In my view, the 1999 masterplan has limited weight on the basis of the current situation. Assessment of the proposed development as a separate full planning application turns on its design in context, on its own merits, which is discussed in the relevant design subsections below.

Draft Local Plan Policy 18 and outline Parameter Plans as submitted

8.4 The parameter plans submitted as part of the outline application (latest December 2016 revision still under review) will, if approved, fix the key principles for the development. The Parameter Plans are:

- Development Building Zones 01
- Land Use Parameter Plan 02
- Access and Movement 03
- Landscape and Public Realm 04
- Maximum Building Heights 05

8.5 The outline is at present an undetermined application. It will be brought to this Committee for determination in due course. It is therefore important that this application in no way pre determines the outline application and is considered on its own merits.

8.6 The application must be assessed on its own merits on the basis of the current situation.

Proposed Cavendish III floor space in context

8.7 The extant 1999 permission at West Cambridge allowed for development of 176,120 sqm floor space in total. To date, 103,722 sqm remains to be implemented. On this basis this full application must be considered in the context of the remaining floor space available through the 1999 masterplan. The proposed development, in combination with what has already been constructed on site totals 201,710 sqm. (Including the CEB approved in March 2017, 16/1811/FUL). This is over 4 fifths of the total potential 1999 masterplan (244,212 sqm). The relative increase in floor space in relation to the extant permission is relevant to any future mitigation, which is set out in the relevant subsections below. Table 1 below summaries the proposed floor space in context with other development at West Cambridge.

Table 1: Proposed floor space in context

	Overall floor space
Existing implemented West Cambridge development	164,550
1999 outline not implemented	103,722
Proposed Cavendish III	37,160
Proposed Cavendish III and existing implemented (including CEB)	201,710
For information only – not part of Cavendish III application New outline masterplan 16/1134/OUT Total potential under new masterplan	 383,300 500,280

Demolition of Merton Hall Farmhouse

8.8 MHF is identified for removal. As set out in paragraph 135 of the NPPF, the effect of an application on the significance of a non-designated heritage asset 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 publically accessible building record may be specified (paragraph 141).

8.9 MHF is identified in the Suburbs and Approaches study for Madingley Road as having a 'positive' level of significance, but it is not Listed or Locally Listed. The building is analysed within the ES Heritage Assessment. The building is a 2 storey, 3 bay gault brick built farmhouse constructed in the 19th Century. The building has been much altered internally. Its associated farm buildings are no longer on the site, so the farmhouse does not sit in its original context. MHF was identified for demolition in the extant 1999 masterplan and 2004 masterplan review.

8.10 In the view of officers, the overall social, environmental and economic public benefits arising from the development outweigh the loss of 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. New facilities to be provided include high performance computing, clean rooms and facilities to handle biological material. This will allow the changing disciplines within the department to continue their world leading research. The Cavendish work creates, and is engaged with industry partners from small start-ups to larger corporations. This has a major positive impact on the economy and will make a significant contribution to the West Cambridge Campus reaching its potential in the future. The new Cavendish III building will also bring significant benefit to the West Cambridge Campus through delivery of a high quality building, designed to enhance social activity on the site, through provision of significant public realm.

8.11 The potential reuse of MHF has been discussed with the developer team at pre application stage and officers sought to secure its

retention. However, the applicant has set out the case that its location is not compatible with the final design and layout of the proposed Cavendish III. This area of the site is also required to provide strategic drainage for the development. Whilst Historic England would prefer to see its reuse, in the view of officers, the benefits of redevelopment wholly outweigh the loss of the non-designated heritage asset. A full recording of the building is not considered necessary given its low significance and the degree of previous alteration.

8.12 The visual impact of the building on the adjacent Conservation Areas and nearest Listed Buildings is discussed in the design subsection below.

Archaeology

8.13 The amended submission includes the excavation report for the MHF area of the site, which has been agreed by the County Archaeology Team. Proposed **condition 4: archaeology** is still however required to secure investigations on the wider site. The application has adequately considered the impact on archaeological areas, in accordance with Cambridge Local Plan 2006 policy 4/9.

Replacement of Community Facilities

8.14 As part of the development of the site, the existing University Chaplaincy has been relocated to the ground floor of the south residences, to the south of the proposed Cavendish III site. Local Plan policy 5/11 states that development leading to the loss of community facilities will only be permitted if it can be demonstrated that the facility can be replaced to at least its existing level and quality within the new development or that the facility is to be relocated to another premises or similar accessibility. In this case the entire University community facility is being replaced to a vacant D1 unit in a better location close to the residential units on the campus.

8.15 A similar level of facility is provided for the relocated chaplaincy. In addition, the separate SFH project, which, if approved will be carried in the same contract as Cavendish III will provide ancillary multi faith meeting and contemplation spaces. Overall, officers consider the quality of facilities available to the chaplaincy to be

enhanced as a result of the development. The proposal compliant with Cambridge Local Plan 2006 policy 5/11. Analysis of amenities delivery is discussed in paragraph 8.60.

Reuse of existing Cavendish II

8.16 The proposed development is put forward on the basis that the proposed Cavendish III is new floor space, in addition to the existing Cavendish II laboratories.

8.17 It is the University's intention to reuse the existing Cavendish II as decant space for the Department of Engineering in their transition to the West Cambridge Site. The teaching space and lecture theatres are still in good condition and will be used in the short term. While demolition of the existing Cavendish II complex is proposed under the outline masterplan, this is a longer term aspiration and is not proposed under this separate full application.

Context of site, design and external spaces

8.18 The key design issues are the detailed design and appearance of the new building in its setting, the impact on heritage assets and its relationship with the wider assessment of the outline application 16/1134/OUT.

<u>Design and Layout</u>

Outline strategy

8.19 The proposed Cavendish III building will contribute to evolving the outline masterplan strategy through its layout, orientation and integration with the amenity areas to the immediate south and west of the site. The emerging outline identifies the application site for the Cavendish III laboratory.

8.20 The orientation of the building positively responds to the existing and emerging campus. A single main entrance, a key objective of the new building, is located in the south east corner. The public wing is positioned on the eastern end addressing JJ Thomson Avenue. This is a positive design response because it will create an active frontage onto the street, with the main public areas of the building, including the lecture theatres visible from outside. This is in contrast to the design of some previous buildings on the campus

(for example Materials Science and Metallurgy) which have been more insular in design, lacking active edges onto public space, to the detriment of the campus overall. The proposed Cavendish III approach rationalises the multiple entrances which are currently problematic at the existing building, but maximises public outlook and windows on key elevations. This approach is supported in design terms because it demonstrates a positive response to context in accordance with Cambridge Local Plan Policy 3/4.

8.21 Vibration sensitivity and the scientific needs of the internal layout have influenced the location of the basement and the uses contained within. Vibration sensitive equipment is located to the south end of the complex, away from Madingley Road and potential traffic vibration. These user requirements have been successfully integrated with the public wing of the building and the outline design intention of promoting active frontage to the south elevation on the proposed JJ Thomson Gardens. In taking this approach the proposed Cavendish III reflects the principles of the emerging outline masterplan, demonstrating successful interrelations and integrations between buildings, routes and spaces, in accordance with Cambridge Local Plan 2006 3/7.

8.22 The western side of the building accommodates the plant and servicing equipment and will deliver part of Central Green Link, a green corridor proposed as part of the outline masterplan. Pocket parks will form the new link and will ensure the early delivery of an important green corridor to the benefit of the overall campus. This demonstrates a positive response to the existing and emerging context, in accordance with Local Plan policy 3/12.

8.23 The proposed servicing access in the north west corner is informed by the need to have as much distance as possible from the vibration sensitive equipment at the southern end of the building. It has been designed to be visually unobtrusive and will incorporate an acoustic fence to minimise noise impacts. Its design and use of the existing access is considered appropriate, in accordance with Local Plan policy 3/4. Potential noise impacts from servicing and the highway safety of the access is discussed in the Amenity and Transport sub sections below.

8.24 While this application is to be assessed independent from the outline application, it has been designed to positively relate to that

wider strategy. In isolation, the layout of Cavendish III accords with Cambridge Local Plan 2006 policies 3/4, 3/7 and 3/12.

North east corner

8.25 The north east corner of the development may be delivered at a later stage from the main building. Notwithstanding, the detailed design of both the first phase and final phase have a high design quality, at this prominent entrance into the campus. This is because of the final scheme treatment of the fenestration will define the north east corner, creating an attractive corner to the Madingley Road street scene. The interim proposal will have an area of soft landscaping including tree planting. The façade of the building adjacent to phase 2 will use the same high quality materials as the rest of the building. While the potential implementation of the building in 2 phases is not ideal, officers are satisfied both development scenarios will result in a high quality design outcome. The design for phase 1 is supported by officers even if phase 2 is not delivered. The proposal is supported and is considered well connected with the character of Madingley Road, in accordance with Local Plan policy 3/4 and 3/12.

Active frontage to the south elevation

8.26 The south elevation of the proposed Cavendish III is identified as 'active frontage' in the new masterplan. The intention is to ensure large institution buildings integrate and contribute to the character and vitality of the wider campus. This is reflected in Local Plan policy 3/7 part e which seeks to ensure new developments incorporate active edges onto public spaces, which has not always been the case at West Cambridge. The design of the southern elevation of the proposed Cavendish III provides views into the Cryostat rooms on the ground floor, to provide controlled views of 'science on show'. This is well integrated into the design of JJ Thomson Gardens and its banked seating area which ensure the building positively contributes to the public realm, in accordance with Local Plan policy 3/7.

<u>Height, mass and visual impact</u>

8.27 New development should have a positive impact on its setting in terms of scale and mass and contribute to a sense of place. One of the aims of the Cavendish III design brief is to break the mass of

the institution down to a human scale. In the view of officers this has been achieved through its siting in relation to JJ Thomson Avenue, the articulation of its elevations, the width of frontages and through its height and parapet treatment. The sections through Madingley Road to Conduit Head Road to the north demonstrate that the proposed Cavendish III will not detract from the residential scale and character of development on the northern side of the road.

8.28 In long section, mindful of the slight fall in ground level from east to west, the proposed Cavendish III is of a broadly comparable height and mass to the existing buildings on the campus. Its articulation, use of glazing and recessed main entrance will in the view of officers ensure a satisfactory contextual relationship with Computer Science and views along JJ Thomson Avenue.

8.29 The proposed building will not in the view of officers result in significant visual harm from closer vantage points along Madingley Road to the east and west of the site. This is because the building is proportionately lower, closer to the northern boundary adjacent to the tree belt and Madingley Road. The tree belt will remain the dominant feature along Madingley Road. As illustrated by the site sections, the proposed acoustic screen around the service yard area is obscured by the woodland belt and will not be intrusive from Madingley Road.

8.30 The visual impact of the building has been considered from ‘17 visual receptors’ within the Landscape Visual Impact Assessment (LVIA) and modeled with 2 verified views. This demonstrates that the building will not be unduly dominant or intrusive. The submitted view from Conduit Head Road looking south illustrates how the proposed chimney features, which are the tallest part of the building, will sit comfortably in relation to the tree belt and surrounding development. The chimneys will be visible on top of the building, but they are sculptural forms adding general interest rather than another level of accommodation.

8.31 Management and maintenance of the woodland tree belt will be secured through **condition 9: woodland management and maintenance**. This will ensure that appropriate mitigation is secured in the short term and also to ensure longer term maintenance is considered to address the effects of the development, post consent, in future.

8.32 The verified view from the south, from Grantchester shows the building will not be unduly prominent from long views to the south because its height is similar to the surrounding buildings, the Graphene Centre and CAPE. This gives assurance that approval of Cavendish III will not compromise ongoing discussions regarding the wider visual impact of the outline masterplan application. Officers do not consider the height and massing of the proposed Cavendish III (circa 17m) will create an undesirable precedent for the development of the adjacent plot to the west, or when viewed with existing development, will cumulatively create a harmful visual impact.

8.33 The proposed proportions of Cavendish III sit well within the height parameter plan for outline masterplan. While this is given very limited weigh because the outline is undetermined, it demonstrates the proposal is coordinated with this wider strategy coming forward.

Impact on Heritage Assets

8.34 Paragraph 132 of the NPPF makes it clear that the significance of a heritage asset can be harmed by development within its setting. Local Plan policy 4/11 states that the design of any new building which affects views into or outside of a Conservation Area should faithfully reflect its context or provide a successful contrast with it. These policies reflect the NPPF's core principles seeking high quality design to conserve heritage assets appropriate to their significance.

8.35 At the EIA Scoping stage, it was identified that the ES should assess potential impact on a number of heritage assets including the recently Grade 2* Listed Schlumberger Gould Research centre, Willow House, Shawms, 48 Storeys Way, Murray Edwards College and the adjacent conservation areas of Conduit Head Road, West Cambridge, Storeys Way and Central Cambridge, which are all within 1.5km radius of the site. MHF was also included (described in the Principle of Development above).

8.36 Historic England and The Design and Conservation Team have confirmed that the proposed 4 storey Cavendish III building would be of a contextually appropriate height, scale and massing in relation to nearby Listed Buildings and Conservation Areas. The

majority of the above listed assets involve potential impact of longer distance viewpoints. Officers agree with the conclusions of the ES that harm would be minimal because the height of building is not visually intrusive as described in the massing sub section above.

8.37 The ES concludes that there will be a slight adverse impact on the setting of Schlumberger. However, this change in setting is part of the overall continued development of the campus, around 100,000 sqm of which remains to be implemented from the 1999 extant consent. Delivery of JJ Thomson Gardens through this scheme ensures that the view cone looking east from Schlumberger to the City is maintained. Construction impacts on Schlumberger can be adequately mitigated through the **DCEMP condition 3**. Overall the development will not result in harm to the setting of Schlumberger in accordance with Local Plan policy 4/10.

8.38 In closest proximity, the Conduit Head Road 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. While the ES does identify a substantial change to the setting of the Conservation Area, the existing application site makes a low contribution to the setting of the asset. Filtered views of the new building at the junction of Conduit Head Road as a result of the proposed development would not in my view result in significant harm to its setting.

8.39 As such I consider the development will not adversely impact heritage assets near to the site and is not in conflict with paragraph 132 of the NPPF or Local Plan policy 4/11.

Detailed design and materials

8.40 The external appearance of the building is intended to set a high quality benchmark for the rest of the site. Historic England is in agreement that the materials are of suitably high quality. The reconstituted stone exterior cladding will provide a high quality finish to the external elevations. The final details of which can be agreed through the imposition of **condition 11: materials**.

8.41 The external appearance of the building positively reflects its approach to sustainable design and construction. For example, the projecting fins on the south elevation will prevent overheating. These features will also provide visual interest and an attractive façade with the reconstituted stonework and glazing. This approach demonstrates sustainable construction well integrated into the design, in accordance with Cambridge Local Plan 2006 policy 3/12.

8.42 The proposed Cavendish III articulates the length of the building with vertical reconstituted stone mullions which terminate the different sections of the building. This would be broken with central glazed sections to break up the length of the building. This in the view of officers would demonstrate variation to create an attractive JJ Thomson Avenue street scene, in accordance with Local Plan policies 3/4 and 3/12.

8.43 Lighting has been considered through the design of the building. The application includes a lighting assessment which outlines the main principles for external lighting. There is no requirement to illuminate the chimney flues on the west side of the building. This can be ensured through the imposition of **condition 32: artificial lighting**. In my view, appropriate consideration has been given to the way in which the building will be lit and the impact on its character and wider environment.

External Spaces

JJ Thomson Gardens

8.44 The development includes delivery of a key new area of public realm (JJ Thomson Gardens) to the south of the proposed Cavendish III. It will be the first phase of The Green, a new strategic open space which will be delivered as part of the wider masterplan proposals. JJ Thomson Gardens on its own is a substantial new amenity area with seating, new planting and innovative water features which form part of the sustainable drainage strategy for the site. It timely delivery will be secured through the imposition of **condition 39: phasing**.

8.45 The future strategic role of The Green as a cycle and pedestrian route east – west has been adequately considered. The proposed

shared space pathway adjacent to the SFH could be reconfigured with a more formal, segregated cycle path in future when the Vet school relocates. The public realm is coordinated with the pedestrian focused alterations to JJ Thomson Avenue to reflect movement flows through the site.

JJ Thomson Avenue enhancements

8.46 Enhancements to walking and cycling provision at West Cambridge are required by emerging local Plan policy 18 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.

8.47 As submitted, the proposed JJ Thomson interventions had unresolved tensions between the proposed enhancements to walking and cycling and adequate provision for the retention of existing trees. Representations were received from 2 site users regarding the adequacy of provision for cycling along JJ Thomson Avenue. The amended proposals have an alternative strategy.

8.48 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. Final materials for the cycle way can be agreed through **condition 37: works relating to JJ Thomson Avenue.**

8.49 2 new crossing points through shared space areas will improve east- west connections across the campus, considerably enhancing the public realm, in accordance with part j, of Local Plan policy 3/7. Final details of the crossing points can also be agreed through the discharge of **condition 37.**

8.50 For the wider outline application, the proposed interventions across the wider campus (Charles Babbage Road, High Cross and Western Access Road are still the subject of further negotiation which is independent from the application proposal.

Central Green Link

8.51 A north south green corridor will be provided as part of the proposed development. It is primarily a green landscaped amenity space providing a buffer between plots and also serving a more strategic mitigation for the potential increase in development on the campus through the new outline. The phase 1 design re provides some car parking for the Vet School, which is considered acceptable for a temporary period, the future removal of which can be ensured through negotiation of the outline Travel Plan and provision of multi storey car parks on the site. Delivery of Phase 1 of the north south green corridor can be ensured through imposition of **condition 39: phasing**.

Cambridgeshire Quality Panel

8.52 The Cambridgeshire Quality Panel reviewed the emerging proposal on. The Panel were supportive of the proposals. A number of specific comments and recommendations were made to further enhance the scheme which are set out in table 2 below. The full minutes are attached as Appendix 1.

Table 2: Quality Panel Issues and officer responses

Issues and recommendations of Quality Panel	**Officer response**
Community Panel were very supportive of the environment being designed to enhance public learning and outreach programmes. The third floor common	The Design and Access Statement includes a detailed description on how the need for controlled public access and outreach has influenced the design process. The common room has also been

room could be an interactive space for users with stunning views.	designed to provide a visual link with JJ Thomson Gardens.
Inclusion of a public art strategy is supported.	Details of the Public Art Delivery Plan have been included in the submission.
Panel were concerned about the adaptability of the internal space of Cavendish III.	At Quality Panel, the design team explained that if work patterns change in future, the building can be altered to fit another use, such as office space. It was demonstrated that the sizing of the proposed offices and the related fenestration could be converted to an open plan format if this was needed in the future.
Connectivity Panel were concerned about the need for the entrance to be democratic. Internal connectivity was supported.	The design of the steps and entrance plaza has continued to evolve after the Panel meeting. The main plaza has been designed to be more welcoming encouraging longer dwell times for people using the space. A shallower profile has been introduced to make the steps less intimidating with rest spaces and landscaping elements.
Greater consideration needed on future phases of the Green.	The Design and Access Statement demonstrates how JJ Thomson Gardens will integrate with future phases of the Green. JJ Thomson Gardens maintains flexibility through the design of the proposed 6m footpath/cycleway through the

	space which could be segregated in future.
Character Panel were concerned about the need for a small phase 2 in the north west corner because there is a possibility that it may not be delivered in the right way, or not at all. Panel felt it would be beneficial (and cheaper) to deliver the building in a single contract.	The detailed design for phase 2 and its interim condition have been provided. Officers are satisfied both outcomes are high quality in context.
The panel felt the 3 primary courts were rather rigid, but were reassured that each will have its own character.	The planning application has advanced the detailed design of the courtyards with further details of the use for each space, including planting.
Panel liked the gravitas of the building, but encouraged the team to keep the vertical mullions simple and strong.	The detailed design of the public wing has progressed throughout the pre application discussions to balance visual permeability into the public area with a consistent use of stone work across the JJ Thomson elevation. Mullions have been slightly reconfigured as a result.
The panel were keen for the JJ Thomson Avenue and its landscape to be a part of the red line area. Modifications envisaged in the outline application should be delivered by this project.	The final application includes the proposed interventions to JJ Thomson Avenue. This approach is strongly supported by officers because it will ensure delivery of campus transformations envisaged in the outline masterplan. Interventions to existing streets are unlikely to come forward as separate projects in their own right.

Consideration of how lighting will be used at night.	A lighting strategy was submitted with the application which outlines the main principles for external lighting. There is no requirement to illuminate the chimney flues on the west side of the building. This can be ensured through the imposition of **condition 32: artificial lighting**.
The Panel were concerned at the extent of hard paving in JJ Thomson Gardens with 60% soft and 40% hard landscape. Greater consideration should also be given to relief across the landscape.	The development has increased the amount of green space in the design of JJ Thomson Gardens and provides further gradient adjacent to the south elevation of Cavendish III.
Climate The Panel were content with the buildings response to the environment but were concerned about natural ventilation of such deep spaces.	The vertical fins on the southern elevation will help to regulate the internal temperature and prevent overheating.
The Panel supported the applicant's ambition of BREEAM excellent.	BREEAM excellent will be secured by planning condition.

Quality Panel Conclusion

8.53 The outstanding queries of Quality Panel have been satisfactorily addressed through the application submission.

Fire Strategy

8.54 A non-technical summary of the fire strategy for the building accompanies the application submission. This includes the fire strategy for each part of the building, installation of fire detection and alarm systems, means of escape and warning, internal fire spread structure details, fire sprinkler systems, external materials specification and relevant British Standards. In the view of officers the development has adequately considered a fire strategy at this stage in the process, demonstrating design safe and accessible for future users, in accordance with part b of Local Plan policy 3/12.

Conclusion

8.55 The proposal is fully supported by the City Council's Urban Design and Conservation and Landscape Teams, and has been robustly assessed for visual impact in the context of the undetermined outline planning application. A high quality building is proposed which is well integrated in context. It is considered that the proposal conforms with Cambridge Local Plan 2006 policies 3/4 and 3/12.

Residential Amenity

8.56 The key amenity issues are the potential disturbance from deliveries, noise and vibration operational noise, operational odour and dust, artificial lighting, contaminated land, air quality and potential impact of the building in relation to residential properties to the north beyond Madingley Road.

8.57 While this development is coming forward early, in advance of an approved new strategic masterplan for the entire West Cambridge Site, it is important that the cumulative environmental impacts associated with the emerging West Cambridge Site masterplan are considered.

8.58 As a stand-alone full application the proposed conditions will provide a very high level of protection for existing residents from the impact of this development which provide mitigation requirements, where necessary, to offset or minimise any adverse scheme effects.

Impact on amenity of neighbouring occupiers

Relationship with residential properties

8.59 There is a significant distance of approximately 60m separating the proposed Cavendish III from the nearest residential property at 14 Conduit Head Road. Because of the distances involved, the tree belt and Madingley Road, there will be no direct visual impacts, enclosure or over shadowing resulting from the development.

Operational Noise

8.60 In noise terms, the development site is relatively close to sensitive residential premises immediately to the north on the other side of Madingley Road, (Conduit Head Road), Merton Farm Cottages to the west and Landowne Road off Madingley Road. In addition the residential premises on the campus at Fawcett and Franklin Court.

The likely noise generating activity / sources are:

- Operational road traffic noise due to changes in traffic flow and composition caused by the development;

- Operational noise caused by workshop uses and mechanical plant; and

- Operational noise caused by deliveries and collections;

8.61 The potential noise disturbance has the potential to affect quality of life resulting in significant impacts if not avoided, reduced or minimised by mitigation.

8.62 The operational noise of the proposed Cavendish III from workshops spaces is unlikely to result in harmful effects. At this stage of the process the detailed design information for each workshop is not available. Notwithstanding, the Council's Environmental Health Team are satisfied that through the imposition of **condition 12**, an vibration and insulation mitigation scheme can be agreed to ensure there will be no loss of amenity for the nearest residential properties and other buildings on West Cambridge. This mitigation will ensure that the specification of the building façade for the workshop spaces is of a sufficient performance to contain breakout noise. **Condition 12: Noise and vibration scheme** will ensure that all workshops achieve a façade rating of *30dB Rw +Ctr*, including doors, which is the identified mitigation in the ES.

Mechanical and Electrical Building Services

8.63 Typical internal and external fixed mechanical / electrical building services plant and equipment e.g. ventilation systems, air condenser units and similar have been assessed as having a negligible impact. The noise assessment details operation noise criteria limits which are 3dBA below typical background noise levels for day, evening and night time periods that must be met at the boundary of any residential premises. Building services noise is to be controlled through careful selection of plant and appropriate sizing of in-duct attenuators or similar and acoustic screens. Acceptable operational noise limits have been proposed which need to be subject to approval by **condition 18: total noise levels**.

Operational road traffic noise

8.64 The ES states that traffic predictions show that compared with the baseline traffic flows in 2021, the Proposed Development will increase noise levels by a maximum of 0.1 dB LA10.18h. A change of noise levels of this magnitude is considered negligible.

Outline Masterplan Strategy

8.65 The long term noise and vibration impacts from this development should not be considered in isolation. There are other similar buildings and uses planned for the wider campus. In the longer term the cumulative impact of all sound / noise will be considered and controlled to protect existing background noise levels at noise sensitive premises. The noise impact from the service is however well below the level which would cause nuisance to residential properties.

8.66 In summary, for this individual full application officers are satisfied that the operation of the building and its noise impacts can be mitigated and reduced to a negligible level. The principle of further buildings proposed as part of the outline is not prejudged through determination of this application.

Servicing

6.67 The servicing access to the proposed Cavendish III will use the existing, modified access off Madingley Road in the north west corner of the site. It is considered that 20 small vehicles will access the service yard on a daily basis delivering and collecting which is less than the existing Cavendish II, because the canteen facilities will be provided in the SFH. In addition, 3 heavy goods vehicles will undertake deliveries 3 times a day and a twice weekly delivery of nitrous oxide will be carried out with a heavy goods vehicle. A single refuse collection would be made before the AM peak.

8.68 The closest residential property to the delivery yard is 14 Conduit Head Road, which is located on the opposite side of Madingley Road from the service yard and is obscured from direct view by the existing bank of trees immediately north of the Proposed Development. Storerooms, garages and an acoustic barrier are located at the northern perimeter of the site to provide screening of service yard activities. It is expected that most deliveries will take place underneath the overhanging section of the main building. Because of these measures and given the relatively limited servicing demands, there is not considered to be any significant noise impact on 14 Conduit Head Road.

8.69 The ES identifies that no significant effects are expected from the proposed development from road traffic noise. The likely level of movements to and from the site is well below those which might give rise to a significant increase in noise above the existing baseline. Notwithstanding, **conditions 15: deliveries and condition 20: management plan** are recommended to ensure the regime of servicing occurs within daytime hours and deliveries occur directly via the external doors in the ground floor workshops. The conditions specify that no noise generating experiments must take place at delivery times to limit internal noise breakout. In addition a management plan should identify the strategy for undertaking deliveries, including limiting the time of bespoke deliveries (liquid nitrogen). Officers are satisfied this is a robust approach to mitigate any potential noise impacts arriving from servicing.

Outline application – medium and longer term servicing

8.70 The University has submitted a servicing strategy for the West Cambridge Site to inform the new masterplan. Servicing is

distributed across the site. While there may be some future additional servicing required from the proposed new access, and cumulatively there may be some headroom in terms of noise impacts to allow for this, the longer term strategy of servicing these future buildings will be considered on their own merits.

Construction Impacts

8.71 The construction implementation of the proposed Cavendish III will potentially result in significant effects, cumulatively with other projects (West Cambridge/North West Cambridge Development Darwin Green), especially if their programmes overlap.

8.72 In terms of construction servicing of the site will be from Madingley Road. The TA identifies that 84 two way construction movements (47 light vehicles and 37 HGV's) are anticipated per day. Heavy goods vehicles will access the site from the M11 junction 13 and Madingley Road and there will be no movements through the City.

8.73 At this stage the phasing and build programme for Cavendish III has not been determined. The developer team has put forward mitigation measures to be included in a formal Construction, Environmental Management Plan (CEMP). These include scheduling deliveries outside of the AM and PM peak periods.

8.74 Officers are satisfied that a detailed DCEMP can be agreed and can be secured through the imposition of **condition 3: DCEMP**. The DCEMP will include mitigation for temporary noise barriers for construction, limits to emissions of machinery plant, hours of construction activities, measures to minimise noise from site equipment, programme of consultation and updates for residents surrounding the site, delivery management plan and delivery construction traffic controls.

Air Quality

8.75 The proposed use of Ground Source Heat Pumps (GSHP) is welcomed because they minimise emissions to air. It indicates that gas boilers will provide 10% of the heating and hot water load but provides no further information on the proposed system to be installed or whether the capacity of the boilers will be sized to meet 100% of the load for back up purposes. Detailed information on the boilers being installed needs to be supplied to the Local

Planning Authority once this has been agreed. This can be secured by **condition 21: low nitrogen oxide boilers**.

8.76 Modelling in the ES predicts a maximum increase of NO_2 at all relevant receptors of 0.1 micrograms per cubic metre. The maximum increase of 0.5 micrograms per cubic metre is located just outside the development site on Madingley Road. The impact on air quality from proposed combustion emissions is found to be negligible. No further mitigation is recommended. The Council's Environmental Health Team accepts this conclusion.

8.77 There is also a commitment to ensure that any long term (in the context of the wider Cambridge West masterplan) air quality traffic impact mitigation that is attributable to traffic will be implemented and secured as part of an overarching West Cambridge approach. This is likely to include measures to aid sustainable transport through a travel plan and modal shift away from the private car and provision of electric vehicle charging infrastructure through the future car parking proposals.

Contaminated Land

8.78 The ground contamination report completed in 2016 notes the absence of any significant contamination from the site. Notwithstanding, any unexpected contamination will be mitigation through the imposition of **condition 34: unexpected contamination**.

Amenity for future occupiers of the site

8.79 Shadow and shade have been modeled to inform the design of the building, to reduce unwanted solar gains and to ensure the courtyards provide natural ventilation and lighting. This demonstrates a high quality of environment and construction in a sustainable manner to the benefit of amenity, in accordance with Local Plan 3/12.

8.80 The primary amenities for the building, which include the main catering facility, will be provided in the SFH to the south (17/1896/FUL). This will provide café and restaurant space, library facilities and a small shop. Secondary amenities will be provided within Cavendish III including lecture theatres for 520 people and upper level common room which overlooks the main entrance

plaza and JJ Thomson Gardens. The application demonstrates through an amenities delivery strategy how the development will provide an excellent level of facilities for staff and students, which also contributes to the wider campus. In my opinion the proposal provides a high standard of amenity for future occupiers and I consider that it is compliant with Cambridge Local Plan (2006) policies 3/4 and 3/7.

8.81 JJ Thomson Gardens will provide opportunities for development of the cultural life of the campus through the public art strategy. Areas for temporary events have also been considered in its design, such as markets and food vans, to the benefit of the whole campus. Additional nursery provision is intended under the wider outline strategy and would not be required to mitigate the impact of this development.

Impact on trees

8.82 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 service road to the west of the site.

8.83 The proposed revised alterations to JJ Thomson Avenue to provide the segregated cycleway have been achieved by extending the pathway east and not towards the root area of the Lime trees. This revised strategy satisfies concerns from the Council's Arboricultural officer that inadequate provision is made for the protection of the Lime trees. As such, tree loses have been minimised on JJ Thomson Avenue (5 trees), which ensures the symmetrical arcade of Limes is maintained into the future. In the long term some of the Limes will need to be removed to manage their growth and spread. In that context, the limited tree removals which are required are consistent with their longer term management.

8.84 Development of the site will result in the loss of the Luscombe Oak in the north east corner of the site, which is a category A tree. As a result of the building footprint, the crescent of trees adjacent to the Vet school drop off will require removal, in addition to 9 trees in the centre of the site. On the site edges, 6 trees will need to be

removed to facilitate the new shared surface areas on JJ Thomson Avenue and the new service access point. These losses are considered justified through the benefits of redevelopment, including new tree planting at JJ Thomson Gardens. The Council's Arboriculture Officers does not object to the development.

8.85 The long term management and maintenance of the woodland belt will be secured through planning **condition 9: woodland management and maintenance** and will ensure an appropriate regime of thinning and planting is put in place to maintain its long term health. Tree protection during construction will be ensured through **condition 5: Tree protection**. These measures illustrate that the design of the development has responded positively to the existing natural character, and successfully integrates existing trees into the development, in accordance with Cambridge Local Plan policies 3/4 and 4/4.

Renewable energy and sustainability

8.86 The application proposes a hierarchical approach to energy provision which follows the strategy which has been developed for the outline masterplan. The proposal is for the Cavendish III building to 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 subject to a separate planning application, 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 which forms part of the outline planning strategy for the wider West Cambridge site. The final layout of the proposed ground source heat pumps will need to be agreed, taking into account the drainage strategy, landscape and trees. Officers are satisfied this can be ensured through the imposition of **condition 7: ground source heat pump array.**

8.87 The development overall will achieve BREEAM excellent, which demonstrates construction in a sustainable manner required by local plan policy part c3/12 and is strongly supported. The implementation of the energy strategy will be secured and monitored through condition, and the achievement of the BREEAM standard through **condition 10: design stage certificate**.

8.88 The longer term implications of our changing climate and the

resilience of projects to climate change have been considered. For Cambridge this is likely to include extreme weather events leading to increased surface water flooding and hotter drier summers and an increased risk of heat waves. The development responds to these risks through extensive testing of thermal and daylight modelling of the building to ensure is manages temperature and ventilation as effectively as possible. This demonstrates appropriate consideration of future conditions.

Outline Masterplan Strategy

8.89 The emerging outline energy strategy for the wider West Cambridge site is focussed on a site wide approach to energy provision. 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.

8.90 The proposed ground source heat pump 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. As such, the energy strategy for this scheme is supported. In my opinion the applicants have suitably addressed the issue of sustainability and renewable energy and the proposal is in accordance with Cambridge Local Plan (2006) policy 8/16 and the Sustainable Design and Construction SPD 2007.

Transport

Highway Impact Assessment

8.91 In terms of vehicle based trips, the traffic survey data is derived from survey work undertaken on the Materials Science and Metallurgy building on West Cambridge (October 2016). The County Transport Team is in agreement this data is robust. The TA sets out that the proposed development will generate 29 vehicle arrivals during the AM peak with 3 car driver departures. The PM peak would generate 4 arrivals and 33 departures. Following sensitivity test, the impact on the surrounding highway network, in particular the A1303 Madingley Road/ Eddington

Avenue/High Cross junction will suffer minimal additional impact as a result of the proposed development.

8.92 The majority of trips by staff and students to the existing Cavendish II laboratory are by cycle. This is evidenced by the 2016 Travel for Cambridgeshire travel survey which identifies 53% of staff and 65% of students traveling by cycle. The proposed Cavendish III is likely to result in significant tidal flows of cyclists during the AM and PM peak periods, many of which will be travelling to and from the City Centre.

8.93 A significant amount of mitigation within the S106 Agreement for the extant 1999 masterplan has been implemented, with the exception of some cycle improvements, principally the creation of a new cycle link to the south of the site known as the 'Rifle Range' route. The cycle improvements related to the Rifle Range route were undelivered because of third party land ownership issues which were not known at the time of the original 1999 S106 Agreement. All highway capacity improvements have been implemented.

8.94 Since the time of the original extant 1999 masterplan, existing capacity issues with the off road Burrells Walk link to the City Centre have been well documented and are evidenced by the University's annual travel monitoring survey. Because of the additional impact of the proposed development, over and above the current situation, a mitigation package is identified which will provide a realistic alternative to the undelivered Rifle Range. This satisfies the Community Infrastructure Levy Regulations (CIL) tests in that the mitigation is directly related to the development.

8.95 This is on the basis of strategic enhancements to cycling on Grange Road and either Sedgwick Avenue or West Road and Silver Street. A financial contribution is proposed and the mitigation would be secured in the S106 Agreement (see planning obligations section below). Consultation on a final worked scheme would be carried out by the County Council before implementation.

8.96 The TA also identifies 4 specific measures to enhance cycle infrastructure which are supported. These include 2 highway safety improvements at the junctions with Madingley and Storeys Way and Madingley Road and Clerk Maxwell Road. There will also be a minor improvement at the junction of Adams Road and

Burrells Walk. In additional, the proposed widening of the Burrell's Walk bridge has been advanced to improve the environment for cyclists using this route into the City.

8.97 In the view of officers, the package of mitigation proposed mitigates the transport impact of the development based on its impact over and above the current situation. It is not considered that there will be adverse cumulative effects for traffic and transport as result of other committed developments identified in the ES. Appropriate mitigation for cycling is provided, in accordance with Local Plan policy 8/2 and 8/3.

Highway Safety

8.98 The County Highways Authority has assessed the proposed reopening of the access onto Madingley Road for vehicle servicing and is content that there would be no significant adverse harm to highway safety. This is because there will be not be significant intensification which might result in harm to the public highway. In my opinion the proposal is compliant with Cambridge Local Plan (2006) policy 8/2 and 8/9.

Outline Masterplan Strategy

8.99 The mitigation package for the outline masterplan is still under negotiation. This is independent and will not be prejudiced by the proposed mitigation outlined for Cavendish III, the focus of which is to secure an appropriate contribution for the amount of development, its impact, in the context of the extant 1999 permission.

Car Parking

8.100 The 2006 Cambridge Local Plan car parking standards indicate a maximum of 317 spaces should be provided to serve the proposed development. A parking accumulation study has been used to verify this figure which estimates 77 car parking spaces (for University of Cambridge staff) is required which is based on the maximum cumulative demand over the course of the day. The County Transport team agrees this is appropriate.

8.101 As part of the final development the Vet school will lose some of its 73 car parking spaces. This will be partly re provided for the final phase of the build out with a new car park for 37 spaces. The proposed new car park is considered justified because the Vet school requires some staff to park close to their building. A temporary provision of 33 spaces is also proposed to be retained in phase 1. These spaces are an interim provision before measures in the Travel Plan make private car journeys less attractive and a comprehensive approach to multi storey car parks is agreed through the outline. In dependant of the outline, proposed **condition 40: Car parking review** will ensure there is a further review of the need for the Vet School car parking in this location. The overall balance of car parking is summarised in table 3 below.

8.102 The 36 spaces to be removed as part of the final development will be accommodated within the existing surface car parks in areas 15, 18, 20, 23 and 41 which have sufficient capacity. These car parks will also continue to service the existing Cavendish II complex. In the view of officers the proposed vehicle trip generation is considered robust and car parking can be adequately provided in the existing West Cambridge pooled car parks. As such, the development makes adequate provision for car parking in accordance with Cambridge Local Plan policy 8/10.

8.103 Coach drop-off is provided along JJ Thomson Avenue which will provide for outreach and public events which form part of the Department's activities. This contributes to mitigation outlined in the ES for promoted sustainable transport and will be included in the final Travel Plan secured through the imposition of **condition 30: travel plan**.

Table 3: Summary of Car Parking – Cavendish III

Car Parking	**Car parking spaces**
Identified demand for proposed Cavendish III	77
Loss of Vet School car parking spaces through site development	-73

Provision of temporary spaces adjacent to the Vet School	+33
Car parking for disabled people	4 spaces on JJ Thomson Avenue
Existing Cavendish II car parking	Surface car parks in areas 15, 18, 20, 23 and 41

Car parking for disabled people

8.104 The existing Cavendish II Laboratory has one car parking space for use by disabled people which is situated 20m from the main entrance. The proposed development would provide 4 spaces along JJ Thomson Avenue which will be considerably more convenient than the existing situation. This provision is supported by the Council's Access Officer and accords with the 5% of total car parking capacity required under the 2006 Local Plan Car Parking Standards.

Outline Masterplan Strategy

8.105 The wider approach to car parking is currently subject to the ongoing transport assessment work for the outline planning application. However the TA as submitted for the outline sets out the University's long term commitment to managing car parking. It is currently proposed that the maximum number of car parking spaces reduces towards the later phases of West Cambridge, reflecting the increased frequency and coverage of public transport in future. This will however need to be carefully managed and timed to follow wider transport improvements.

8.106 Whilst the application proposal is for full planning permission, it will form a part of Key Phase 1 of the main outline application. As part of this initial phase, the University is seeking consent for a total of 2,571 car parking spaces. This provision is 579 spaces lower than the 1999 extant permission. Whilst this overall modal shift from private car use to sustainable modes will be determined through the outline permission, approval of the Cavendish III proposal with not prejudice the outcome of these negotiations. This is because it

has been clearly demonstrated that there is an over provision of car parking adjacent to the application site.

8.107 In summary, in the view of officers, adequate car parking is retained to meet the needs of future building occupiers in the short to medium term. The approach to car parking provision for Cavendish III is fully in accordance with the emerging outline strategy of reducing car trips and travel demand management. Approval of this application will not prejudice the Council's position in relation to the ongoing work associated with the outline Transport Assessment (16/1134/OUT). In my opinion the proposal is therefore compliant with Cambridge Local Plan (2006) policies 8/6 and 8/10.

Cycle Parking

8.108 The existing Cavendish II site has approximately 770 cycle parking spaces across 7 locations. An application of the cycle parking standards for the emerging Local Plan (higher than 2006 Local Plan) would require a minimum of 756 spaces. This is on the basis of 2 spaces for every 5 members of staff and cycle parking for 70% of students based on anticipated peak number of students on the site. This is verified by the accumulation assessment in the TA.

8.109 To account for a future modal shift in cycling, 767 spaces would be required. It is proposed to provide a total of 769 cycle parking spaces which exceeds the minimum provision and anticipated demand. The majority of these will be Sheffield Stands, with a limited number of two tier racks to meet the overall numbers required.

8.110 The majority of staff spaces (505) will be located under the main entrance square in a safe, secure and covered area, accessed using a key fob. Further spaces will also be provided along the southern and eastern boundaries and under the plaza which will be available to all users (264). The final Travel Plan secured under **condition 30** will ensure the provision is monitored and catering for demand. The schedule of cycle parking to be provided is summarised in table 4 below. In my view the proposed prioritises cycle parking in its design and secures a high quality provision, in accordance with Cambridge Local Plan 2006 policy 8/4.

Table 4: Schedule of cycle parking

Cycle parking location	**Provision**
Covered staff spaces	505 (of which 216 secured with fob access)
Southern elevation	126 covered 24 Uncovered
Main entrance	410 Covered
Eastern elevation	179 Uncovered
North west service yard	30 Covered
Total Provision	**769**

Outline Masterplan Strategy

8.111 To accommodate the likely 3,600 students and 7,200 staff within Key Phase 1, the initial development will be provided with around 7000 cycle parking spaces. Their distribution will come forward with each reserved matters. The University is also investigating cycle hubs to provide a further pooled facility. The County Council is content with the standards identified for cycle parking and are content that approval of this full application does not prejudice assessment of the outstanding masterplan outline application 16/1134/OUT.

Drainage

8.112 The overall surface water drainage approach is in line with the West Cambridge outline drainage scheme. The proposed discharge rate of 2.59l/s/ha is well supported and represents a

10% betterment on the 1in1 year greenfield runoff rate. This will ensure there is no increase in flood risk.

8.113 The development proposes to discharge surface water drainage to a new site wide sewer in Clerk Maxwell Road. While this approach is supported by Anglian Water, further details of the connection arrangements can be secured through the imposition of **condition 8: drainage utility connection**.

8.114 The drainage statement breaks down the site into two networks with two separate outfall points. The Northern Network includes a variety of sustainable drainage features such as blue roofs, detention basins and rain gardens, with many areas passing through several stages of water quality treatment. This network outfalls to the west and intends to connect into a new surface water sewer.

8.115 The Southern Network consists of blue roofs and several rain garden features to treat water quality, part of this network outfalls into JJ Thomson Gardens where attenuation tanks and rain gardens are proposed. This network outfalls to the east and connects into an existing sewer. Attenuation tanks have been utilised across both networks in order to meet the large volumes of storm water storage required.

8.116 Blue/Green roofs have been incorporated on 18% of the rooftop. It is understood that the research within the building is sensitive so more extensive areas of roof top retention has been avoided. In light of the benefits of the overall drainage strategy this is considered acceptable. Overall the application successfully addresses sustainable drainage issues in accordance with Cambridge Local Plan policy 3/7 and 8/18.

Ecology

8.117 The Council's Ecology Officer is content that the site has limited ecological value, and that the proposals do not impact on the site wide ecology designations. Habitats that have been identified through the wider West Cambridge masterplan application will not be adversely affected by the proposed development. This position was set out in the Council's Scoping Opinion pre application.

8.118 Notwithstanding, officers support the proposed biodiversity enhancements and recommend **condition 6**: **Ecological Design**

Strategy (EDS) to capture the exact number, specification and locations of features such as nest boxes and log piles. In addition to the proposed nest boxes within the boundary woodland, we encourage the use of integral nest box and bat roost features within the proposed built environment.

8.119 The construction and operational impact on the nearest Site of Scientific Interest (SSSI), the geological Travellers Rest site on the NWCD and Madingley Wood is considered negligible.

8.120 While officers agree with the conclusions of the ES that formal ecological mitigation is not required, the proposed development adequately incorporates biodiversity measures within its design, in accordance with the NPPF paragraph 118 and Cambridge Local Plan 2006 policy 4/3.

Disabled access

8.121 The application has been presented to Disability Panel. The design of the main entrance provides equity between the upper and lower entrances and the access ramp has been modified to provide resting points. Appropriate consideration has been given to the needs of those with disabilities to ensure the building is safe and accessible, in accordance with Cambridge Local Plan 2006 policy 3/7 criteria (m).

8.122 Car parking provision for disabled people is set out in the Transport/car parking section below. Overall, in my opinion the proposal is compliant with Cambridge Local Plan (2006) policies 3/7 and 3/12.

Refuse Arrangements

8.123 Refuse storage has been integrated into the design and will be accommodated within the service yard in the north west corner. The space provided for bin and its accessibility is considered acceptable.

Outline Masterplan Strategy

8.124 Refuse requirements are being considered in the context of servicing arrangements for the wider West Cambridge Site. Measures to reduce waste will be set out in the Sustainability

Assessment Matrix which provides objectives for new occupants on the site. In my opinion the proposal is compliant with Cambridge Local Plan (2006) policy 3/12.

Public Art

8.125 Both Cavendish III and the proposed JJ Thomson Gardens to the south can potentially accommodate public art as part of the overall strategy for West Cambridge. The applicant has submitted a commissioning strategy which sets out the strategy for The Green, the new area of public realm to be delivered through the outline masterplan.

8.126 The further detail of the specific commission can only come forward following selection of an artist. The recruitment and selection process is set to start in February which will have specific proposals from that artist. This next step in the process requires a planning decision. The submitted strategy at this stage is accordance with the Council's Public Art SPD. Officers are satisfied that a scheme for public art, either on site or in the immediate locality, can be satisfactorily agreed through the imposition of planning **condition 25: public art**. In my opinion the proposal is compliant with Cambridge Local Plan (2006) policies 3/7 and 10/1 and the Public Art SPD 2010.

Outline Masterplan Strategy

8.127 The University has developed a site wide public art strategy which identifies different themes and priorities for public art across the site. This will be developed by the University over the coming months and provides the strategic framework for reserved matters applications in the future. The key area for incorporating public art is likely to be the SFH which is likely to be presented to Committee in March.

Third Party Representations

8.128 The issues raised have been addressed in the above report and are summarised in table 5 below:

Table 5: Summary of third party representations

Issue	**Report section**
Visual impact We recognise that the tree cover along Madingley Road between us is to be maintained and enhanced and will continue to screen the site (except for some pipework yet to be specified in the NW corner).	The development will provide a enhanced and managed Madingley Road tree belt. This will ensured through the imposition of **condition 9: woodland management and maintenance**.
JJ Thomson Avenue enhancements Street interventions for JJ Thomson Avenue are not supported. The application should be split so the Cavendish III building can go ahead. There is currently inadequate provision for cyclists because the pavement is not large enough to accommodate cyclists and pedestrians. Shared use paths are not appropriate. Segregation is required as required by Interim Advice Note 195/16, Cycle Traffic and the Strategic Road Network, Highways England.	The amended strategy for JJ Thomson Avenue achieves a 3.5m segregated cycle route. This will provide significantly improved north/south connections through West Cambridge. See paragraph 8.46.
Presentation/factual Issues The existing West	This has been brought to the

Cambridge Active Travel Group (WCAT) should be referenced rather than BUG-WAG. Some of the existing amenities on the Campus are missing from Appendix A, figure 3.9 in the TA.	attention of the University for future consultations on West Cambridge.
Design matters Carriageway width should be reduced to 6.1m to encourage drivers to comply with the 20 mph speed limit.	A reduction in the carriageway to JJ Thomson Avenue was considered at pre application stage, but was not considered compatible with bus movements along the street and would be potentially very costly when considered against the potential benefit. The proposed median strips and shared surface tables will in the view of officers promote lower vehicle speeds and a more pedestrian friendly environment to the benefit of the wider campus. See from paragraph 8.46.
p15 3.7.8 This junction is awful and dangerous for cyclists as cyclists going straight on are placed to the left of the left-turn lane for motor traffic, among other design flaws.	The aecom masterplan team are investing possible alterations for this junction as part of the outline application.
TA methodology 7.2.3 541 spaces utilised during the survey conducted during the peak time of 15:00 Thursday 16th	See from paragraph 8.46. The amended 3.5m segregated cycle route along JJ Thomson Avenue will provide a significant

February. This one-off survey at one time of day may not be representative. The assumption of a 15:00 peak could be wrong and different days could have different usage levels. Additionally one-off events could cause substantially higher usage, for example, undergraduate induction lectures when all the first years are in the building at once rather than being split across multiple labs.	enhancement to existing capacity.
Service Access from Madingley Road Object to the proposal to reopen the access road from Madingley Road opposite Conduit Head Road. The addition of a competing vehicle wanting to exit the site opposite offers a hazard in either case. Madingley Road traffic outbound which is accelerating away at this stage would be slowed or could veer into the space in the refuge denying our use of it, or even stranding a vehicle that was committed in the path of inbound traffic.	Whilst a vehicle emerging would present a hazard, as in all such cases, the scenario proposed by the objector would be unlikely and could not justify opposition. A vehicle on a side road is unlikely to emerge onto the through lane because the driver has assumed that a vehicle will be able to take avoiding action by entering the right turn lane. The risk associated would be no different from many other junctions and would not be demonstrably exceptional.
Cycle Parking The proposed cycle parking is generally good, but some aisles are narrower than the minimum 1.8m width.	The spacing of cycle parking accords with the Council's 2006 Adopted Cycle Parking Standards.

The usage survey within the TA may not be representative. Fly parking is already a problem on Cavendish II and it is not clear whether they formed part of the survey.	See paragraph 8.108.
No provision for the pool bikes that are part of the University's transport strategy is mentioned when calculating the number of spaces required, though pool bikes are mentioned later in the document.	Pool bikes do not specifically form part of the 769 cycle parking spaces.
p26 4.5.5 566 covered spaces and 203 uncovered spaces. Covered spaces are much preferable to uncovered as they prevent damage to cycles caused by exposure to the weather.	The development provides a range of different spaces to cater for staff and visitors. Overall a high quality, flexible provision will be available. Further demand/changes in use patterns will be mitigated through monitoring in the Travel Plan.
The proposed cycle parking is generally good, but some aisles are narrower than the minimum 1.8m width.	The spacing between Sheffield stands accord with the Council's cycle parking standards.

Planning Obligations (s106 Agreement)

8.129 The Community Infrastructure Levy Regulations 2010 (as amended) 'CIL Regulations' have introduced the requirement for all Local Planning 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 my recommendations in relation to the Planning Obligation for this development I have considered these requirements.

8.130 In line with the CIL Regulations, councils can pool no more than five S106 contributions towards the same project. The new 'pooling' restrictions were introduced from 6 April 2015 and relate to S106 agreements completed since that date. This means that all contributions now agreed by the city council must be for specific projects at particular locations, as opposed to generic infrastructure types within the city of Cambridge.

Transport Infrastructure

8.131 County Council officers have confirmed that mitigation measures are needed to address the demands imposed on the transport network as a result of the development. This primarily relates to increased demand on cycle infrastructure. Officers at the County Council have assessed the transport information submitted by the applicants and have reached the view that the proposed measures are appropriate in the context of the 1999 extant permission on West Cambridge and on the basis of the impact of this development over and above the current situation:

- Proposed contribution (£400,000) to improve the environment for cyclists. This is based on an enhanced environment for cyclists along Grange Road and West Road (or Sidgwick Ave).
- Road safety measures on Madingley Road east at the junction to improve conditions for cyclists.
- Road safety measures on Madingley Road at the Storeys Way junction to improve conditions for cyclists.
- Widening of the bridge over the Bin Brook on Burrell's Walk.
- Minor enhancements to the Grange Road/Adams Road signalised junction which links to Burrell's Walk.
- Travel Plan for the development.
- Construction Management Plan.

8.132 The above measures are considered an appropriate package of mitigation based on the likely impact of the development.

Particularly Madingley Road east (268 and 248 cycle arrivals and departures daily) and the Coton Path east (125 and 116 arrivals and departures). The mitigation package will directly mitigate this impact and will be delivered and monitored in future through the accompanying S106 Agreement.

8.133 Subject to the completion of a S106 planning obligation to secure this infrastructure provision, I am satisfied that the proposal accords with Cambridge Local Plan (2006) policy 10/1 and the Planning Obligation Strategy 2010.

Greater Cambridge Partnership Schemes

8.134 Contributions to the A428 Cambridge to Cambourne project is under negotiation for the outline planning application and is not considered appropriate for Cavendish III, in the context of the extant 1999 permission.

Planning Obligations Conclusion

8.135 It is my view that the planning obligation is 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 CONCLUSION

Planning Balance

9.1 The NPPF in paragraph 14 sets out a presumption in favour of sustainable development, with proposals that accord with the Development Plan to be approved without delay. The proposed development will provide a high quality building for the Department of Physics and is in accordance with the existing strategy for West Cambridge set out in Local Plan policy 7/6 and the future strategy detailed in policy 18 of the emerging Local Plan. The emerging policy 18 carries some weight because there is an agreed Statement of Common Ground and there are no outstanding objections.

9.2 The development scheme would have a number of dis-benefits. These include construction related impacts, moderate adverse

impacts to the setting of some heritage assets, demolition of MHF and loss of the Category A Luscombe Oak. The implications these disbenefits have been evaluated as part of this committee report. In my professional opinion, the dis-benefits do not outweigh the significant benefits that the scheme would bring, which are set out below.

9.3 Significant economic benefits locally will result from the proposed development. Employment across a range of disciplines and jobs created through the construction itself. At a regional and national level the economic benefit through the research provided at the proposed Cavendish III is significant. This is in terms of skills, improved technologies and collaboration with industry through partnerships.

9.4 Socially, the proposed Cavendish III will represent a step change in the development of the West Cambridge Campus. This is through the design of the building itself, the public wing, its integration with and provision of JJ Thomson Gardens, significant areas of public realm including a green corridor and pocket landscapes and interventions to the existing JJ Thomson Avenue (including provision of a 3.5m segregated cycle route), which will benefit the whole campus.

9.5 Environmentally, there are significant improvements to the ecological value of the site compared with the existing situation, future management and maintenance of the Madingley Road tree belt, interventions to JJ Thomson Avenue and significant improvement to the environment for pedestrians and cyclists. APPROVAL is recommended.

10.0 RECOMMENDATION

APPROVE subject to completion of the s106 Agreement and the following conditions:

Implementation

1. The development hereby permitted shall be begun before the expiration of three years from the date of this permission.

Reason: In accordance with the requirements of section 51 of the Planning and Compulsory Purchase Act 2004.

Approved Drawings

2. The development hereby permitted shall be carried out in accordance with the approved plans 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.

Prior to commencement - DCEMP

3. Prior to the commencement of development, a Demolition and Construction Environmental Management Plan (DCEMP) 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.

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, construction compound arrangements / set up.

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, which 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 / recycling of soil / materials for use on site, the importation and storage of soil / 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.

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.

h) Dust management / monitoring plan and wheel washing measures. Non-Road Mobile Machinery (NRMM), demolition or construction works or similar, emissions standards. 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.

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- CEMP 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: To protect human health and amenity in terms of noise and local air quality in accordance with policies 4/13 and 4/14 of the Cambridge Local Plan (2006).

Prior to commencement - Archaeology

4. No development shall take place within the site until the applicant, or their agent or successors in title, has secured the implementation of a programme of archaeological work in accordance with a written scheme of investigation which has been submitted to and approved in writing by the local planning authority.

Reason: To ensure that an appropriate archaeological investigation of the site has been implemented before development commences. (Cambridge Local Plan 2006 policy 4/9).

Tree Protection

5. Details of the specification and position of fencing, or any other measures to be taken for the protection of any trees from damage during the course of development, shall be submitted to the local planning authority for its written approval, and implemented in accordance with that approval before any equipment, machinery or materials are brought onto the site for the purpose of development (including demolition). 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 this condition, 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.

Reason: To protect the visual amenity of the area and to ensure the retention of the trees on the site. (Cambridge Local Plan 2006 policies 3/4, 3/11, 3/12 and 4/4).

Prior to commencement: ecological design strategy

6. Prior to above ground works, an ecological design strategy (EDS) detailing proposed enhancements shall be submitted to and approved in writing by the local planning authority.

The EDS shall include the following:

a) Purpose and conservation objectives for the proposed works.

b) Review of site potential and constraints.

c) Detailed design(s), specifications and/or working methods to achieve stated objectives.

d) Number, 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 (if required)

i) Details for monitoring and remedial measures (if required)

The EDS shall be implemented in accordance with the approved details and all features shall be retained in that manner thereafter.

Reason: In the interest of providing adequate provision for the enhancement of biodiversity on the site, Cambridge Local Plan policy 4/3.

Prior to commencement - ground source heat pump array (GSHP)

7. Prior to commencement of the development a plan showing the final location of the ground source heat pump array shall be submitted to and approved in writing by the Local Planning Authority. The plan shall include trees and drainage features. The development shall be carried out in accordance with the approved plan.

Reason: In the interests of reducing carbon dioxide emissions and to ensure that the siting of the GSHP are coordinated with trees and drainage. (Cambridge Local Plan 2006 policy 8/16).

Prior to commencement -Drainage Utility Connection

8. No development shall commence until confirmation of water service connections have been 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 adequate provision is made for utilities connections, Cambridge Local Plan 2006 policy 8/18.

Prior to commencement of development - woodland management and maintenance scheme

9. Prior to commencement of development, a woodland management and maintenance scheme shall be submitted for the woodland belt to the north of the site adjacent to Madingley Road. The development shall be carried out in accordance with the approved details.

Reason: To ensure that the woodland belt is maintained in a healthy condition in the interests of visual amenity and to ensure that adequate mitigation is provided for the visual impact of the proposal. (Cambridge Local Plan 2006 policies 3/4, 3/11 and 3/12 and the Town and Country Planning (Environmental Impact Assessment) Regulations 2011).

Within 6 months of commencement: Design Stage Certificate

10. Within 6 months of commencement, a BRE issued Design Stage Certificate demonstrating that the development has achieved a BREEAM rating of 'excellent' 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: In the interests of reducing carbon dioxide emissions and promoting principles of sustainable construction and efficient use of buildings (Cambridge Local Plan 2006 policy 8/16 and Supplementary Planning Document 'Sustainable Design & Construction' 2007).

Prior to above ground works- Materials Samples

11. Prior to above ground works for;

a) Phase 1 shown on the approved drawings,
b) Phase 2 shown on the approved drawings,

A sample panel of the materials to be used in the construction of the external surfaces for that phase has been prepared on site for inspection and approved in writing by the Local Planning Authority. The sample panel shall be approximately 2m x 2m and show the proposed palette of materials (including plant screening, metal cladding, brickwork/masonary) to be used in the development. The development shall be constructed in accordance with the approved sample, which shall not be removed from the site until the completion of the development.

Reason: To ensure that the external appearance of the development is in keeping with the existing character of the area. (Cambridge Local Plan 2006 policies 3/4, 3/12 and 3/14).

Prior to any above ground works - detailed noise and vibration insulation / mitigation scheme

12. Prior to any above ground works for

a) Phase 1 shown on the approved drawings

a detailed noise and vibration insulation / mitigation scheme for UTILITYWINGS 1, 2, 3, WING 4 (including the north-west corner service yard, all plant rooms – generator & transformer, mechanial workshops (double height), carpentry workshop, drop weight and plate impact rooms / workshops and laboratories, but excluding Phase 2 as shown on the drawing) and the PUBLIC WING (specifically third floor common room and assocoaited terrace) of the building, in order to minimise and control the level of noise/vibration emanating from these approved uses and rooms and to protect the amenity of neighbouring properties shall be submitted to and approved in writing by the Local Planning Authority.

b) Phase 2 shown on the approved drawings

a detailed noise and vibration insulation / mitigation scheme for Phase 2 of the building, in order to minimise and control the level of noise/vibration emanating from these approved uses and rooms and to protect the amenity of neighbouring properties shall be submitted to and approved in writing by the Local Planning Authority.

The said noise and vibration insulation / mitigation schemes shall include:

i. sound reduction indices (R) of the airborne sound insulation properties / performance (in octave and 1/3 octave frequencies as approprite) for each external building façade construction element - walls/panels, windows and doors including any acoustic doorsets. The sound reduction index performance for each element shall be certified by official “third party” laboratories according to relevant international and or national standards.

ii. the airborne sound insulation performance of the external composite building façades having regard to representive internal noise levels and use.

iii. detailed architectural construction and engineering specifications and drawings (with sections) for each composite element of the external building façade

iv. operational noise data for any acoustic door opening / closing mechanism for any external doors to the said workshops

v. Northern service yard perimeter acoustic barrier / fence design and specifications (length & height) including acoustic performance testing and certification (sound absorption and air bourne sound insulation)

vi. ventilation provisions

vii. administrative/management noise mitigation controls, as appropriate

The noise and vibration insulation / mitigation scheme for UTILITY WINGS 1, 2, 3, WING 4 and the PUBLIC WING of the building shall be in accordance with and shall demonstrate compliance with the principles, operational noise / vibration levels and mitigation measures and recommendations detailed in the submitted *'Cavendish III Laboratories: Environmental Impact Assessment - Volume 2: Environmental Statement, October 2017 Chapter 11. Noise and Vibration and Cavendish III Laboratories: Environmental Impact Assessment - Volume 3: Environmental Statement Appendices, October 2017 - Noise and Vibration 11.1, 11.2, 11.3, 11.4, 11.5* including *'Chapter 11. Noise and Vibration as amended / revised with Appendix 11.6 received under cover of applicants letter dated 7 January 2018*' and shall demonstrate compliance with the operational sound / noise ratinglevels detailed in condition 17.

The development shall be constructed, operated and fully maintained thereafter in strict accordance with the building noise and vibration insulation/mitigation scheme as approved.

Reason: To protect / safeguard the health and quality of life (amenity) of existing residential premises from noise in accordance with paragraphs 109, 120, 123 of the National Planning Policy Framework (NPPF), March 2012 and aims of Policy 4/13 – Pollution & Amenity of the adopted Cambridge Local Plan 2006.

Prior to commencement of roof mounted equipment - Roof top plant and solar panels

13. Prior to the commencement of installation of any roof mounted equipment, full details of all roof top plant and solar panels and/or photovoltaic cells, including type, dimensions, materials, location, fixing, etc. 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 that the external appearance of the development is in keeping with the existing character of the area. (Cambridge Local Plan 2006 policies 3/4, 3/12 and 3/14).

Non-Road Mobile Machinery Plant (NRMM)

14. All Non-Road Mobile Machinery (NRMM) of net power between 37 kW and 560 kW used during demolition and construction works or similar, shall meet the emissions standards in Stage IIIA of EU Directive 97/68/EC emission of gaseous and particulate pollutants from internal combustion engines to be installed in non-road mobile machinery and as amended) and "Non-Road Mobile Machinery (Emission of Gaseous and Particulate Pollutants) Regulations 1999" for both Nitrogen Oxides (NOx) and Particulate Matter (PM). If Stage IIIA equipment is not available the requirement may be met using the following techniques:

- Reorganisation of NRMM fleet
- Replacing equipment
- Retrofit abatement technologies
- Re-engineering

All eligible NRMM shall meet the emissions requirement above unless it can be demonstrated that the machinery is not available or that a comprehensive retrofit for both NOx and PM abatement is not feasible. In this situation every effort should be made to use the least polluting equipment available including retrofitting technologies to reduce particulate emissions.

An inventory of all NRMM, including evidence of emission limits for all equipment must be kept on site and all machinery should be

regularly serviced and service logs shall be kept on site for inspection. This documentation shall be made available to local authority officers upon request.

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 National Planning Policy Framework (NPPF) and policy 4/14 of the Cambridge Local Plan (2006).

Collections and deliveries

15. All collections from and deliveries to the approved development and service yard area located in the north-west corner of the site to WING 4 (garage & stores, gas stores / compounds, gas trailer, under croft 'drive through' loading / unloading area, including the refilling of gas stores) during the operational phase shall only be permitted / undertaken as follows:

a) Bespoke deliveries / collections compised / consisting of an articulated lorry and all Heavy Goods Vehicles (HGV - defined as any vehicle over a maximum gross weight of 3.5 tonnes) including arriving/departing and the refilling of gas stores / compounds and liquid nitrogen tanks or similar shall only be permitted between the hours of 0700 hrs and 1900 hrs Monday to Friday. Only two bespoke delivery / collection events are permitted in any single hour period between permitted hours. There shall be no bespoke collections or deliveries on Sundays or any Bank / Public Holiday.

b) all other deliveries / collections shall only be permitted between the hours of 0700 hrs and 2300 hrs Monday to Friday, 0700 hrs to 1900hrs on Saturdays. There shall be no collections or deliveries on Sundays and any Bank / Public Holiday.

c) when deliveries/collections occur directly via external doors into the ground floor workshops of WING 4 these said areas shall not be in use (no noise generating experiments, tests or similar noise generating activities permitted in workshops in order to limit internal noise breakout).

Reason: To protect / safeguard the health and quality of life (amenity) of existing residential premises from noise in accordance with paragraphs 109, 120, 123 of the National Planning Policy

Framework (NPPF), March 2012 and aims of Policy 4/13 – Pollution & Amenity of the adopted Cambridge Local Plan 2006.

Service Yard Activities

16. The use of forklifts or similar equipment used for the lifting, carrying and movement of materials / items including loading and unloading activities and the use of powered plant and equipment on the ground floor within the service yard associated with the approved use shall only be permitted between the hours of 0700 hrs and 1900 hrs Monday to Friday.

Reason: To protect / safeguard the health and quality of life (amenity) of existing residential premises from noise in accordance with paragraphs 109, 120, 123 of the National Planning Policy Framework (NPPF), March 2012 and aims of Policy 4/13 – Pollution & Amenity of the adopted Cambridge Local Plan 2006.

Noise Attenuation – Restrictions for Opening of External Windows / Doors

17. Save for all external windows into office or meeting rooms, when noise generating academic and research activities are undertaken within WING 4 on the North Elevation (Drawing No. EM00033-JW-ZZ-ZZ-DR-A-3100 – Proposed Elevations East & North - Phase 1 & 2 (Final Condition) (including all plant rooms, mechanial workshops (double height), carpentry workshop, drop weight and plate impact rooms / workshops and laboratories) all external windows and doors that serve those spaces shall be kept closed at all times during those activities. All academic and research activities associated with the approved use shall be carried out internally.

Reason: To protect / safeguard the health and quality of life (amenity) of existing residential premises from noise in accordance with paragraphs 109, 120, 123 of the National Planning Policy Framework (NPPF), March 2012 and aims of Policy 4/13 – Pollution & Amenity of the adopted Cambridge Local Plan 2006.

Total noise levels

18. Save for collections from and deliveries to the approved use, the 'rating level' (as defined in BS 4142: 2014 – *Methods for rating and assessing industrial and commercial sound* - or any successor

document) of all sources of sound / noise immissions, from and attributable to operation of the site and approved use when collectively measured at the property boundary of any premises / property (for avoidance of doubt this is the actual property boundary inclusive of external amenity areas such as property / garden boundaries or similar) shall not exceed the Operational Sound / Noise Rating Levels on any day, in the table below:

Operational Sound / Noise Rating Level

Operational Sound / Noise Rating Levels (all free field)		
Time Period	Normal Conditons	Emergency Conditions (use of backup generators)
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

Noise rating levels shall be measured directly or derived from a combination of measurement and calculation using propagation corrections. All noise measurements and rating levels shall be carried out in accordance with the requirements of of BS 4142: 2014 and BS 7445- Parts 1 to 3 : Description and measurement of environmental noise, or as superseded.

Following written notification from the Local Planning Authority (LPA) that it is their view that the above Operational Sound / Noise Rating Levels are being exceeded the applicant shall undertake a noise impact assessment (methodology and approach shall be submitted to and approved in writing by the LPA in advance) to assess compliance with the said levels.

The noise impact / compliance scheme assessment shall be commenced within 21 days of the notification, unless a longer time is approved in writing by the LPA.

The applicant shall provide to the LPA a copy of the impact / compliance scheme assessment within a time period to be agreed.

If the said assessment confirms non-compliance with the operational noise rating levels the applicant shall submit in writing to the LPA a noise mitigation scheme employing the best practical means to ensure compliance with the said operational noise rating levels. Following the written approval by the LPA of the scheme and a timescale for its implementation the scheme shall be activated forthwith and thereafter retained.

Reason: To protect / safeguard the health and quality of life (amenity) of existing residential premises from noise in accordance with paragraphs 109, 120, 123 of the National Planning Policy Framework (NPPF), March 2012 and aims of Policy 4/13 – Pollution & Amenity of the adopted Cambridge Local Plan 2006.

Prior to any above ground works - noise insulation scheme

19. Prior to any above ground works, a noise insulation scheme for all operational plant and equipment to include mechanical and electrical building services, electricity transformers, emergency generators, ventialtion systems and combustion appliances in order to minimise the level of noise emanating from the said plant and equipment shall be submitted to and approved in writing by the local planning authority.

The noise insulation / mitigation scheme shall be in accordance with the principles, operational noise levels and mitigation measures and recommendations detailed in the submitted *'Cavendish III Laboratories: Environmental Impact Assessment - Volume 2: Environmental Statement, October 2017 Chapter 11. Noise and Vibration and Cavendish III Laboratories: Environmental Impact Assessment - Volume 3: Environmental Statement Appendices, October 2017 - Noise and Vibration 11.1, 11.2, 11.3, 11.4, 11.5'* including *'Chapter 11. Noise and Vibration as amended / revised with Appendix 11.6 received under cover of applicants letter dated 7 January 2018' a*nd shall demonstrate

compliance with the operational sound / noise rating levels detailed in condition 17.

The development shall be constructed, operated and fully maintained thereafter in strict accordance with the operational plant and equipment noise and vibration insulation/mitigation scheme as approved.

Reason: To protect / safeguard the health and quality of life (amenity) of existing residential premises from noise in accordance with paragraphs 109, 120, 123 of the National Planning Policy Framework (NPPF), March 2012 and aims of Policy 4/13 – Pollution & Amenity of the adopted Cambridge Local Plan 2006.

Prior to occupation of development a Servicing and Operational Noise Minimisation Management Plan / Scheme

20. Prior to occupation of development a Servicing and Operational Noise Minimisation Management Plan / Scheme for the service yard located in the north-west corner of the site to WING 4 (garage & stores, gas stores / compounds, gas trailer, under croft 'drive through' loading / unloading area) shall be submitted in writing to the Local Planning Authority (LPA) for approval. This shall include details of measures to be undertaken and implemented to to mitigate and reduce noise activities / operations as far as is reasonably practicable. The approved plan / scheme shall be implemented and retained thereafter and shall be reviewed and revised as necessary at the reasonable request of the LPA.

The Plan / Scheme should include consideration of but not exhaustively the following:

a) Advice and policy for drivers of service vehicles to minimise noise during collections and deliveries

b) Implementation of a complaints procedure for verifying and responding to complaints about noise / vibration

Reason: To protect / safeguard the health and quality of life (amenity) of existing residential premises in accordance with paragraphs 109, 120, 123 of the National Planning Policy Framework (NPPF), March 2012 and aims of Policy 4/13 – Pollution & Amenity of the adopted Cambridge Local Plan 2006.

Prior to installation of boilers - Low Nitrogen Oxide (NOx) boilers

21. The development hereby approved shall utilise low Nitrogen Oxide (NOx) boilers, i.e., boilers that meet a dry NOx emission rating of 40mg/kWh, to minimise emissions from the development that may impact on air quality. Details of the boilers shall be submitted to the local planning authority for approval prior to installation.

A manufacturers NOx emission test certificate or other evidence to demonstrate that every installed boiler meets the approved emissions standard shall be submitted to and approved by the local planning authority. The details shall demonstrate compliance with the agreed emissions limits. The scheme as approved shall be fully carried out and implemented in accordance with the approved details before first occupation and shall be thereafter retained.

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) and policies 4/13 and 4/14 of the Cambridge Local Plan 2006.

Prior to the occupation: Post Construction Certification

22. Prior to the occupation, 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 unless otherwise agreed in writing by the Local Planning Authority.

Reason: In the interests of reducing carbon dioxide emissions and promoting principles of sustainable construction and efficient use of buildings (Cambridge Local Plan 2006 policy 8/16 and Supplementary Planning Document 'Sustainable Design & Construction' 2007).

Prior to the occupation/use of the development, an extraction/filtration and abatement odour scheme

23. Prior to the occupation/use of the development, an extraction/filtration and abatement scheme to include details of equipment and systems for the purpose of extraction, filtration and abatement of odours and fumes shall be submitted to and approved in writing by the local planning authority. The approved extraction/filtration and abatement scheme / details as approved shall be installed before the use hereby permitted is commenced and shall be retained thereafter.

Any approved scheme or system installed shall be regularly maintained in accordance with the manufacturer's specification / instructions to ensure its continued satisfactory operation to the satisfaction of the Local Planning Authority.

Reason: To protect the amenity of nearby properties from malodours. (Cambridge Local Plan 2006 policy 4/13).

Prior to the first occupation – Land contamination completion report

24. Prior to the first occupation of the development hereby approved the following shall be submitted to and approved in writing by the Local Planning Authority:

- A land contamination completion report demonstrating that the approved remediation scheme as implemented under condition 34 has been undertaken and that the land has been remediated to a standard appropriate for the end use.

- Details of any post remedial sampling and analysis (as defined in the approved Material Management Plan as required by Condition 31) shall be included in the completion report along with all information concerning materials brought onto, used, and removed from the development. The information provided must demonstrate that the site has met the required clean up criteria.

Thereafter, no works shall take place within the site such as to prejudice the effectiveness of the approved scheme of remediation.

Reason: To ensure full mitigation through any agreed remediation measures and to demonstrate that the site and land is suitable for

approved use in the interests of environmental and public safety in accordance with Cambridge Local Plan 2006 Policy 4/13.

Prior to occupation - Public Art

25. Prior to occupation of the building hereby approved, full details of a scheme of public art shall be submitted to and approved in writing by the Local Planning Authority. The submitted scheme will need to meet the Council's requirement for public art as set out in the Planning Obligation Strategy 2010 and the associated public art plan for Cambridge. The approved scheme for public art shall be carried out in accordance with the approved details not later than 6 months after the first occupation of the building or within a timeframe set out and agreed within the submitted scheme.

Reason: In the interest of creating successful, high quality, attractive environments, Cambridge Local Plan 2006 policy 3/7.

Prior to above ground works - Hard and soft landscaping

26. Prior to above ground works, full details of both hard and soft landscape works shall be submitted to and approved in writing by the local planning authority and these works shall be carried out as approved. These details shall include proposed finished levels or contours; hard surfacing materials; tree pit details and technical details of sustainable drainage features within landscaped areas. Soft Landscape works shall include planting plans; written specifications (including cultivation and other operations associated with plant and grass establishment); reinforced grass areas; planting for detention basins, swales, raingardens, green roofs, schedules of plants, noting species, plant sizes and proposed numbers/densities where appropriate and an implementation programme.

Reason: In the interests of visual amenity and to ensure that suitable hard and soft landscape is provided as part of the development. (Cambridge Local Plan 2006 policies 3/4, 3/11 and 3/12).

Prior to occupation – Landscape maintenance

27. No occupation of the proposed Cavendish III shall take place before a landscape maintenance plan and schedule for a period of 20 years has been submitted to and approved in writing by the local planning authority. The schedule shall include details of the programme and arrangements for its implementation.

Reason: To ensure that the landscaped areas are maintained in a healthy condition in the interests of visual amenity. (Cambridge Local Plan 2006 policies 3/4, 3/11 and 3/12).

Prior to occupation - Renewables maintenance

28. The approved renewable energy technologies shall be fully installed and operational prior to the first occupation of the development and shall thereafter be retained and remain fully operational in accordance with a maintenance programme, which shall be submitted to and agreed in writing by the local planning authority.

Reason: In the interests of reducing carbon dioxide emissions and to ensure that the development does not give rise to unacceptable pollution. (Cambridge Local Plan 2006 policy 8/16).

Prior to the occupation - **Contamination remediation**

29. Prior to the occupation of the development the contamination remediation strategy hereby approved (Appendix 12.2 - Contaminated Land Desk Study; EM00033-RAM-ZZ-XX-RP-YE-0001 - Ramboll September 2017); Appendix 12.3 - Contaminated Land Interpretative Report; EM00033-RAM-ZZ-XX-RP-YE-0002 (Ramboll, September 2017) shall be fully implemented on site.

Reason: To ensure full mitigation through the agreed remediation measures in the interests of environmental and public safety in accordance with Cambridge Local Plan 2006 Policy 4/13.

Prior to the occupation - Travel Plan

30. Prior to the first occupation of the building hereby approved, full details of a travel plan detailing the measures taken to promote sustainable travel modes shall be submitted to and approved by the Local Planning Authority. The travel plan shall be implemented in accordance with the agreed details.

Reason: In the interests of promoting sustainable travel modes for future users of the building, Cambridge Local Plan 2006 policy 8/3.

Prior to importation or reuse of material - Materials Management Plan (MMP)

31. Prior to importation or reuse of material for the development a Materials Management Plan (MMP) shall be submitted to and

approved in writing by the Local Planning Authority. The MMP shall:

- Include details of the volumes and types of material proposed to be imported or reused on site (for landscaping, piling and engineering)
- Include details of the proposed supplier(s) of the imported or reused material.
- Include details of the chemical testing for ALL material to be undertaken before placement onto the site.
- Include the results of the chemical testing which must show the material is suitable for use on the development.
- Include confirmation of the chain of evidence to be kept during the materials movement, including material importation, reuse placement and removal from and to development.

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 2006 policy 4/13.

Prior to the installation of any artificial lighting - Artificial Lighting

32. Prior to the installation of any artificial lighting an external artificial lighting scheme / impact assessment shall be submitted to and approved in writing by the local planning authority. The scheme shall include details of any artificial lighting of the site (external and internal building 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). Artificial lighting on and off site shall meet the Obtrusive Light Limitations for Exterior Lighting Installations for an Environmental Zone - E2 in accordance with the Institute of Lighting Professionals - Guidance Notes for the Reduction of Obtrusive Light - GN01:2011 (or as superseded) and any mitigation measures to reduce and contain potential artificial light spill and glare as appropriate shall be detailed.

The artificial lighting scheme as approved shall be fully implemented before the use hereby permitted is commenced and shall be retained thereafter.

Reason: To protect the amenity of nearby properties. (Paragraph 125 of the National Planning Policy Framework and Cambridge Local Plan 2006 policy 4/13.

Standby Emergency Backup Generator Operation

33. Any emergency backup generator shall only operate as follows:

(i) Emergency Use Only

Any emergency backup generator shall only be used in the event of standard mains electricity supply interruption / failure or in accordance with (ii) below. It shall not be used to supplement general energy demand, to feed electricity into the utility grid or as an alternative supply in the event of disconnection from the mains supply following for example non-payment or similar.

(ii) Hours of Running for Testing, Maintenance & Repair

Running of any backup generator as part of routine periodic testing, maintenance and repair shall only take place for the length of time specified by the manufacturer between the hours of 8am – 6pm Monday to Friday, 9am –1pm Saturday and at no time on Sunday or Public Holidays. Periodic testing, maintenance and repair shall only occur for a maximum duration of 15 hours in any calendar year. Accurate records of any testing shall be kept on site and shall be available for inspection at the request of the local planning authority.

(iii) In the event that the emergency backup generator is operated for *an "unforeseen extended period of time"* the local planning authority shall be immediately informed and a review / reassessment of the local air quality impacts of such operation shall be undertaken. The air quality impacts review / reassessment shall be agreed in writing with the local planning authority and if unacceptable adverse air quality impacts / effects are likely to arise an emergency generator air quality mitigation scheme shall be submitted in writing for approval. The approved scheme shall be implemented within a timescale to be agreed and shall be retained thereafter.

For the avoidance of any doubt an *"unforeseen extended period of time"* shall be defined as intermittent or continuous operation for a

cumulative period greater than a week (168 hours) in any calendar month, exclusive of the permitted hours detailed in (ii) above for periodic testing, maintenance and repair.

Reason: To protect human health and amenity in terms of noise and local air quality in accordance with policies 4/13 and 4/14 of the Cambridge Local Plan (2006).

Unidentified/unexpected contamination

34. If previously unidentified/unexpected land contamination is encountered whilst undertaking the development, all site works shall immediately cease until the Local Planning Authority has been notified and/or the additional contamination has been fully assessed and the following approved in writing by the County Council Planning Authority:

- A site investigation strategy detailing the works required to assess the previously unidentified contamination
- A site investigation report detailing all works that have been undertaken to determine the nature and extent of any contamination, including the results of the soil, gas and/or water analysis and subsequent risk assessment to any receptors
- A proposed remediation strategy detailing the works required in order to render harmless the identified contamination given the proposed end use of the site and surrounding environment including any controlled waters. The strategy shall include a schedule of proposed remedial works setting out a timetable for all remediation measures that will be implemented.

Reason: To ensure that any unexpected land contamination is rendered harmless in the interests of environmental and public safety in accordance with Cambridge Local Plan 2006 Policy 4/13.

Heating and cooling

35. Heating and cooling of the building shall only be provided by a ground source heat pump (GSHP) system with heat recovery supplemented by back up, low nitrogen oxides emitting gas boilers and general ventilation systems.

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 and to contribute toward National Air quality Objectives in accordance with the National Planning Policy Framework (NPPF) and policy 4/14 of the Cambridge Local Plan (2006).

Energy Strategy

36. The energy strategy for the approved buildings shall be implemented in accordance with the ground source heat pump driven cluster approach set out in the Cavendish III Energy and Sustainability Strategy (Hoare Lee, 03 October 2017). The development shall be implemented in accordance with the approved Strategy and shall thereafter be retained and remain fully operational in accordance with a maintenance programme, which shall be submitted to and agreed in writing by the local planning authority.

No review of this requirement on the basis of grid capacity issues can take place unless written evidence from the District Network Operator confirming the detail of grid capacity and its implications has been submitted to, and accepted in writing by, the local planning authority. Any subsequent amendment to the level of renewable/low carbon technologies provided on the site shall be in accordance with a revised scheme submitted to and approved in writing by, the local planning authority.

Reason: In the interests of reducing carbon dioxide emissions, promoting principles of sustainable construction and efficient use of buildings (Cambridge Local Plan 2006 policies 4/13 and 8/16, Supplementary Planning Document 'Sustainable Design and Construction' 2007).

Prior to commencement: works relating to JJ Thomson Avenue

37. Prior to commencement of the works relating to JJ Thomson Avenue details of the materials, detailing of markings, and crossing points for the approved interventions shall be submitted to and approved by the local planning authority. The development shall be carried out in accordance with the approved details.

Reason: To ensure that the external appearance of the development is in keeping with the existing character of the area. (Cambridge Local Plan 2006 policies 3/4, 3/12 and 3/14).

Prior to commencement: works relating to JJ Thomson Avenue - Cycle parking, William Gates Building

38. Prior to commencement of the works relating to JJ Thomson Avenue details of cycle parking in front of the William Gates Building shall be submitted to and approved by the local planning authority. These details shall ensure that that there is no net loss in cycle parking numbers as a result of this development. The development shall be carried out in accordance with the approved details.

Reason: To ensure that the external appearance of the development is in keeping with the existing character of the area. (Cambridge Local Plan 2006 policies 3/4, 3/12 and 3/14).

18 months after occupation: Public Realm Phasing

39. The proposed JJ Thomson Gardens, (to the south of the proposed Cavendish III) and the proposed north south green corridor ('Central Green Link') (as set out on landscape masterplan EM0003-ACM-ZZ-ZZ-DRG-LA-11-01 P02) shall be completed within 18 months following occupation of the approved Cavendish III building.

Reason: To ensure that the phasing of the development delivers key public realm on the site. (Cambridge Local Plan 2006 policies 3/4 and 3/7).

Car parking review

40. The proposed car park (33 spaces) to the east of the existing crescent shaped Vet School building and within the proposed JJ Thomson Gardens (as shown in EM0003-ACM-ZZ-ZZ-DRG-LA-11-01 P02) shall be reviewed following the expiration of 5 years from the date of this permission. The review shall include submission of details of current demand, usage and capacity of car parking at West Cambridge and fully justify its further retention for the needs of the Vet School.

Reason: In the interests of visual amenity and to ensure compliance with the car parking strategy for the site, Cambridge Local Plan policies 3/4 and 8/4.

INFORMATIVE: Demolition/Construction noise/vibration report

The noise and vibration report should include:

a) An assessment of the significance of the noise impact due to the demolition/construction works and suitable methods for this are to be found in BS 5228:2009 Part 1 Annex E - Significance of noise effects. It is recommended that the ABC method detailed in E.3.2 be used unless works are likely to continue longer than a month then the 2-5 dB (A) change method should be used.

b) An assessment of the significance of the vibration impact due to the demolition/construction works and suitable methods for this are to be found in BS 5228:2009 Part 2 Annex B - Significance of vibration effects

If piling is to be undertaken then full details of the proposed method to be used is required and this should be included in the noise and vibration reports detailed above.

Following the production of the above reports a monitoring protocol should be proposed for agreement with the Local Planning Authority. It will be expected that as a minimum spot checks to be undertaken on a regular basis at site boundaries nearest noise sensitive premises and longer term monitoring to be undertaken when:-

-Agreed target levels are likely to exceeded

-Upon the receipt of substantiated complaints

-At the request of the Local Planning Authority / Environmental Health following any justified complaints.

Guidance on noise monitoring is given in BS 5228:2009 Part 1Section 8.4 - Noise Control Targets and in Annex G - noise monitoring.

A procedure for seeking approval from the Local Planning Authority (LPA) in circumstances when demolition/construction works need to be carried out at time outside the permitted hours. This should incorporate a minimum notice period of 10 working days to the Local Planning Authority and 5 working days to neighbours to allow the Local Planning Authority to consider the application as necessary. For emergencies the Local Planning Authority should be notified but where this is not possible the Council's Out of Hours Noise service should be notified on 0300 303 3839.

Contact details for monitoring personnel, site manager including out of hours emergency telephone number should be provided.

. **INFORMATIVE: Dust condition informative**

To satisfy the condition requiring the submission of a program of measures to control airborne dust above, the applicant should have regard to:

-Council's Supplementary Planning Document - "Sustainable Design and Construction 2007":

http://www.cambridge.gov.uk/public/docs/sustainable-design-and-construction-spd.pdf

-Guidance on the assessment of dust from demolition and construction

http://iaqm.co.uk/wp-content/uploads/guidance/iaqm_guidance_report_draft1.4.pdf

- Air Quality Monitoring in the Vicinity of Demolition and Construction Sites 2012

http://www.iaqm.co.uk/wp-content/uploads/guidance/monitoring_construction_sites_2012.pdf

-Control of dust and emissions during construction and demolition - supplementary planning guidance

https://www.london.gov.uk/sites/default/files/Dust%20and%20Emissions%20SPG%208%20July%202014_0.pdf

INFORMATIVE: Ventilation associated with fume and microbiological cupboards / cabinets

Ventilation associated with fume and microbiological cupboards / cabinets shall be installed (including consideration of flue / exhaust termination discharge heights that are required for adequate dispersion) in accordance with national and industry standards, codes of practice and technical guidance, such as:

- Building Regulations

- BS EN 14175 - 'Fume Cupboards' - Parts 1 to 7

- BS 7989:2001 Specification for re-circulatory filtration fume cupboards

- BS 5726 various - Microbiological safety cabinets.

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: Permitted Process - Medium Sized Combustion Plant Directive – Informative

The Medium Combustion Plant Directive (MCPD), adopted in November 2015, is part of The EU Clean Air Package published in December 2013. It introduces a system of registration/permitting for 1-50MW plant, emission limits for nitrogen oxides, sulphur dioxide and particulate matter and monitoring of emissions by operators. Medium combustion plant include boilers, engines, turbines and backup generators running on natural gas, solid and liquid fuels, including biomass and biogas. New plant will need to be registered and meet emission limits in late 2018 and existing plants by 2025 and 2030 depending on size.

The proposed planning application involves the installation of plant that is likely to require regulation. The applicant is advised to ensure that the design and installation of any relevant plant takes into account the requirements of this Directive.

Further advice can be obtained from the Environmental Quality and Growth team at Cambridge City Council on telephone number (01223) 457890.

INFORMATIVE: Building ventilation fresh air intake louvres / points

To limit building re-entrainment **/** recirculation to inside the building of exhaust emissions to air from any proposed fume cupboards, dust and odour extraction systems, combustion plant or similar (preventing exhaust from re-entering the facility through fresh air supply ventilation systems, doors, and windows), it is recommended that any fresh air intake louvres / points for building ventilation or heating, ventilation and air conditioning or handling (HVAC) systems are located as far as possible from fume cupboards, dust and odour associated flues/stacks discharge terminations and where possible upwind of the flues/stacks from prevailing winds.

INFORMATIVE: Food Registration / Safety Informative

As the premises may have a kitchen providing food for staff or similar or facilities for food preparation the applicant is reminded that under the Food Safety Act 1990 (as amended) the premises will need to be registered with Cambridge City Council. In order to avoid additional costs it is recommended that the applicant ensure that the kitchen, food preparation and foods storage areas comply with food hygiene legislation, before construction starts. Contact the Commercial Team at Cambridge City Council on telephone number (01223) 457890 for further information.

Appeal process – S106

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.