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BY EMAIL

To: transportinfrastructure@dft.gov.uk

Secretary of State for Transport c/o Transport Infrastructure Planning Unit Department for Transport Great Minster House 33 Horseferry Road London SW19 4DR

30 July 2021

Dear Sir

PROPOSED NETWORK RAIL (CAMBRIDGE SOUTH INFRASTRUCTURE ENHANCEMENTS) ORDER 202[X] (THE "DRAFT ORDER") UNIVERSITY OF CAMBRIDGE- OBJECTION TO THE PROPOSED SCHEME

Introduction

- This letter is submitted by The University of Cambridge (the "**University**"), the owner of land and interests in land included in the Draft Order for the proposed Cambridge South Station scheme ("**Scheme**").
- The University is the freehold owner and leaseholder of several land interests in parts of the Cambridge Biomedical Campus, Cambridge, which immediately adjoin or are in sufficiently close proximity to the proposed Scheme to be considered sensitive receptors (see the land edged red on the plan appended to this Objection at **Appendix 1**) (the "**Biomedical Campus**"). The entirety of the Biomedical Campus land shown on the plan in Appendix 1 is included within the Order Limits for the proposed Draft Order and this includes land which is to be permanently or temporarily acquired by Network Rail.
- The University has a long leasehold interest in a world-leading research facility on the Biomedical Campus, known as the Anne McLaren Building ("AMB"). The AMB operates 24 hours a day, 365 days a year, and is sensitive to both external noise and vibration factors. The AMB includes a high-throughput centre providing material that supports globally important research activities across the Biomedical Campus, including pioneering research into Covid-19 and various forms of cancer.
- The location of the AMB is shown outlined in red on the plan included at **Appendix 1** and outlined in blue on the plan at **Appendix 2**. Located immediately next to the AMB is another plot outlined in red on the plans at Appendix 1 and Appendix 2 (known as "**Plot 9**" by the University) over which the University also has a long leasehold interest. Plot 9 has the benefit of outline planning permission (ref 16/1078/OUT) granted on 3rd July 2017 for a further research building ("**OPP**").

- The AMB and the Plot 9 building under the OPP are a vital component of the Biomedical Campus. The plot parcels which appear to fall within the University's leasehold interests in respect of the AMB and Plot 9 and the rights granted to the University therein include: 020, 021, 022, 029. 030, 036, 037, 038, 039, 040, 044, 045, 046, 047, 048, 049, 050, 051, 052, 053, 054, 055, 056, 057, 059, 060, 061, 062, 063, 064, 065, 067. It would be helpful to receive an overlay plan from Network Rail showing the land interests affected by the Scheme works, as it is very difficult for the University to ascertain this from the TWAO application documents.
- The University also has further land interests across the Biomedical Campus. Of these, the AMB and Plot 9 are the closest to the Scheme, alongside tenanted space within the Laboratory of Molecular Biology ("LMB"). The plot parcels which appear to fall within the University's leasehold interest in respect of the LMB and the rights granted to the University therein are: 015, 016, 017, 018, 019, 020, 021, 022, 024, 025, 026, 027, 028, 029. The University is also the principal leaseholder of the soon to be completed Heart and Lung Research Institute Building ("HRLI"), which sits between the Royal Papworth Hospital building and Francis Crick Avenue, under which it has access and servicing rights along Francis Crick Avenue and Robinson Way. It also has freehold and leasehold interests in other property to the north of the Biomedical Campus site, which are accessed from Robinson Way ("CRUK", "JCBM" and two car parks).
- Fach of the interests noted in the foregoing paragraphs comprise the "University's Estate" ("Estate") for the purposes of this letter.
- The University writes to object to the Scheme. Whilst the University supports the objectives of the Scheme, and the overall benefits it will bring, it has serious concerns that the Scheme will cause significant harm to University research and property interests within the Estate particularly during the enabling works and construction phases.

Background to the University

- The University has been at the heart of Cambridge for generations. Having been founded in 1209, it is the second oldest university in the English-speaking world and one of the most prestigious academic institutions in the world. It is a top ranked Russell Group University and was globally ranked 7th in the 2021 QS World University Ranking. The 2020 Research Excellence Framework results place 99% of the University's research activity to be "world leading", "internationally excellent" or "internationally recognised", with the University being recognised as excellent in disciplines which span the full range of academic research.
- The University's core activities are of world class academic teaching and research and its ability to provide an environment in which these activities can successfully flourish is therefore critical. The Scheme will be severely detrimental to these activities.
- The AMB is a vital component that supports the wider research activities of the Biomedical Campus. Neither the University, nor wider Campus occupiers have access to an equivalent facility should the AMB be unable to operate within its core design parameters. This would lead to the loss of both direct research grant income to the University directly, but also have a devastating impact upon the vital research activities that rely upon the AMB, possibly preventing projects from proceeding for a number of years. The Draft Order does not adequately protect this world leading and sensitive site. The University has a number of significant issues of concern which must be addressed to our satisfaction to ensure that the vital operation of the University's Estate can continue, with particular regard to the significant impacts upon the AMC Building and future development of Plot 9 of the Biomedical Campus. As a globally recognised centre for research excellence and, given the breadth of research activities and the specialist nature of the work undertaken, the AMB Building has specialist working requirements in respect of environmental laboratory conditions, with a narrow tolerance range beyond which research outcomes would be rendered unreliable. As such,

much of the equipment is noise and vibration sensitive and has the potential to be materially adversely affected by the Scheme

Grounds of objection

The grounds of the University's objection to the Draft Order are set out below.

Ground 1 - Impact of the Scheme on the University - Noise and Vibration

- As set out above, the Biomedical Campus within the University's Estate comprises the AMB and the future Plot 9 building, amongst others, which are directly adjacent to or within the vicinity of the proposed works for the Scheme.
- The AMB (alongside rented space within the LMB and the soon to be completed HRLI) is sensitive to the effects of airborne noise, groundborne noise and vibration. In light of its proximity and the activities carried out within it, the AMB is particularly susceptible to noise and vibration effects.
- 15 Chapter 6 of the Environmental Statement submitted with the Draft Order assesses the noise and vibration effects of the Scheme. This confirms that there are likely significant effects arising from the construction process upon the AMB, notably as shown within table 6-2-7 of the ES (extracted below). As is clear from Network Rail's own assessment and confirmed in the table below, even after potential mitigation measures the residual effects remain significant upon research activities.

Receptor	Basis	Building Effect	Residual Effect Significance
Sedley-Taylor Road Residences	PPV impact classification shows Negligible impact	Not applied	Not Significant
Hobson's Park Residences	PPV impact classification shows Negligible impact	Not applied	Not Significant
Granham's Road Residences	PPV impact classification shows Minor impact	Not applied	Not Significant
Abberley Wood Residences	VDV impact classification shows Moderate impact for worst construction activities within 30m from construction zone. If wibratory piling cannot be avoided, Major impact predicted for closest receptors. BPM mitigation to be managed and implemented through CoCP.	Some reduction in vibration levels from building effect	Significant for receptors within 30m or worst construction activities (greater distance for vibratory piling if required – CoCP to establish offset for significance based on proposed equipment)
MRC LMB building	PPV impact classification shows Moderate impact for track works and haul road. Most sensitive equipment more onerous than standard PPV limits. This equipment is further from vibration sources but may also predicted to be subject to Moderate impact. BPM mitigation to be managed and implemented through CoCP.	Some reduction in vibration levels expected from building effect which will reduce distance at which Moderate impact caused.	Significant for sensitive equipment in areas closest to the track works and haul road (and for most sensitive microscopes to north east of the MRC LMB building) to some construction activities.
Anne McLaren building	PPV impact classification shows Moderate impact for track and station works BPM mitigation to be managed and implemented through CoCP.	Heavyweight building will reduce vibration levels at ground floor but potential for amplification at upper levels to offset benefit. Probable reduction from Moderate to Minor impact but does not alter significance.	Significant for vibration sensitive areas during some construction activities near to the building
AstraZeneca building	PPV impact classification shows potential Minor impact. Mitigation measures proposed to reduce impact through BPM.	Deep basement and heavyweight structure designed for scientific uses will result in reduction on free-field vibration levels.	Not Significant
Royal Papworth Hospital	PPV impact classification shows Negligible impact	Not applied	Not Significant
Abcam building	PPV impact classification shows potential Moderate impact for construction of haul road close to the building and minor impact for the use of the haul road.	Building on raft foundation and heavyweight frame for scientific purposed will result in reduction on	Not Significant

Table 6-2-7: Summary of predicted significant effects from construction

As explained above, the AMB undertakes research activities 24 hours per day, 365 days per year in controlled conditions which are sensitive to noise and vibration. Disturbance to working conditions needed for sensitive equipment and staff to work effectively have

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material adverse impacts on the ability to progress research programmes and the research data collected. Significant adverse impacts upon the AMB for any duration could render the building unusable for sensitive research worth millions of pounds.

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- The vibration criteria for the building are VC-C for the MRI Room on the ground floor and VC-A at all other locations, as noted in Chapter 6, paragraphs 6.2.38-6.2.40 of Network Rail's Environmental Statement. The University is concerned that it has not been adequately demonstrated to be technically feasible to construct and operate the proposed Cambridge South Station including construction and operation of the proposed temporary construction haul roads without exceeding these vibration criteria. The potential scale of the material effects and the outturn impact of the construction activities upon the use of the AMB cannot be overstated. Given the proximity of the AMB to the Scheme works and the acknowledged significant impacts by Network Rail, the University considers that it likely to be untenable to operate from the AMB during the construction phase and potentially during operation of the Scheme. The activities within the AMB would need to be relocated with the associated loss of vital research time and research data that would ensue.
- The University does not have the benefit of protective provisions within the Draft Order, nor are there any tangible controls within the TWAO application documents. An ES should identify those stakeholders who have particular needs or for whom the standard mitigations described, for example, in a Code of Practice, are not sufficient. Network Rail's ES for the proposed Scheme does not do this. Network Rail has not committed to mitigation measures which take into sufficient consideration the implications of the Scheme on a specialist multiuse site such as the AMB and the University Estate as a whole and they are therefore inadequate. As such, the ES and the Draft Order are deficient.
- The University is a unique stakeholder and must be considered as such by Network Rail, meaning that specific mitigation requirements are essential.

Ground 2 - Impact of the Scheme on the University- wider impacts

Compulsory acquisition of land and rights in land

- The University understands that Network Rail has various powers within the Draft Order to acquire land compulsorily. This includes land shown on the deposited plans within the limits of deviation and described in the book of reference, as well as land specified in Schedules 2, 3 and 4 of the Draft Order. We note that in terms of temporary powers to undertake the construction works for the Scheme, Network Rail may remain in possession of the plots needed for a considerable number of years (bearing in mind that Network Rail would have a period of 5 years in which to take possession and can remain in possession beyond that period, including for a period of up to one year following completion of the works).
- The University received a Rule 15 notice from Network Rail, dated 18 June 2021 (the "**Notice**"). The following plot numbers within the Estate are included within the schedule in the Notice and urgent clarification is sought from Network Rail in relation to what compulsory powers are sought and/or intended for these plots:
 - 084a, 084, 005a, 006, 006a, 006b, 006c, 007, 008, 010, 011, 065, 064, 062, 061, 057, 056, 055, 054, 053, 052, 020, 051, 050, 049, 048, 021, 047, 046, 045, 044, 043, 042, 041, 040, 039, 038, 022, 037, 024, 025, 036, 035, 028, 030, 029, 008a
- It is not clear which plots will be subject to permanent acquisition powers and it is important for the University to understand the full extent of land (or rights) being proposed to be used or taken (whether permanently or temporarily and for what purpose). We note that some of the plots will be subject to the acquisition of new rights (plots 008, 008a, 021, 022, 029,

- 030, 037, 038, 042, 043 and 044) and plot 008a will be include a right of access to replacement land for existing open space. A large number of plots are the subject of temporary powers of possession for Works 1, 2, 3, 4 and 5 (006, 006a, 006c, 008, 010, 011, 025, 028, 041, 045, 046, 051, 053, 057, 061, 062, 064, 065).
- Sheets 2 and 3 (refs 158454-ARC-00-ZZ-DRG-EMF-200002 Rev P02.1 and 158454-ARC-00-ZZ-DRG-EMF-200003 Rev P02.1) of the deposited plans and sections include the plots of land owned by the University within the limits of deviation for the Works in the Draft Order. However, the University is concerned that neither drawing includes a sufficiently updated base map to enable a detailed comparison between the Scheme as proposed and the University's land holding. Neither plan illustrates buildings that have been built and operational in the last 3-4 years, including the AMB. The University has provided additional information to Network Rail to enable a clearer comparison but Network Rail has not produced an accurate as built base plan within their TWAO Application documents that the University can rely on to assess the impacts on the University's Estate. Further detail is required from Network Rail so that we can properly assess the impacts.
- Whilst a number of Deemed Planning Drawings, including Sheet 1 of 5 (ref 158454-ARC-ZZ-ZZ-DRG-LEP-000051) illustrate the committed AstraZeneca developments to the north of the University's Estate, the only plans that provide more detail in respect of our land holding, such as drwg. 158454-ARC-ZZ-ZZ-DRG-LEP-000101, are at an unhelpful scale to allow us to assess the implications of the Scheme. Moreover, as stated above, it is not clear what land is to be permanently acquired or where the boundaries fall relative to built development.
- As such, we have insufficient information to determine the impacts on the operation of the University's Estate, including upon features such as our car park shown on the plan at Appendix 1 (and access to this), surface water drainage and landscape features which run parallel to the western boundary of the University's Estate, or the impact upon the size and functional area of our future development plot (Plot 9) (see Ground 3 below).

Drainage

- We have previously supplied numerous details of the site layout for the AMB and Plot 9 to Network Rail, including the approved planning drainage layout for the AMB, so that Network Rail can better understand our site arrangement. We attach the technical drainage layout as **Appendix 3** to this letter.
- Any alterations to the drainage arrangements proposed by the Scheme would need to be undertaken in a manner that preserves the normal operation of the AMB facility, both temporarily and permanently. It is currently unclear what impacts there are upon the swale and attenuation pond that exist within the University's Estate, particularly given that the limits of deviation shown on the TWAO application drawings appear to straddle on site drainage infrastructure. Network Rail's Environmental Statement for the proposed Scheme does not obviously assess this. Network Rail has not committed to any mitigation measures which take into consideration the implications of the Scheme on the drainage arrangements for the AMB facility and they are therefore inadequate. As such, the Environmental Statement and the Draft Order and related suite of TWAO application documents are deficient.

- The University must also understand the intended implications for the management and maintenance of drainage and landscape features going forward to protect future maintenance and building operations. At present, whilst the submitted Flood Risk Assessment suggests that it is Network Rail's intention to manage features within the Order Limits, there appears to be no further information provided in this regard to clarify which elements are temporary and which are permanent management issues, despite the deposited TWAO plans suggesting that some of the University's existing surface water drainage features fall within land that Network Rail is looking to compulsorily acquire.
- The deficiencies in the Environmental Statement and related TWAO application documents create uncertainty and significant management and maintenance implications for the University.

Ground 3 - Other concerns

Hobson's Conduit

- Hobson's Conduit Trust was established circa 1500-1600's to maintain good quality water supply from Nine Wells into Cambridge. The water in Hobson's Conduit runs above ground from the Nine Wells Nature Reserve, south of Cambridge. The stream passes west of the Biomedical Campus, and Hobsons Park, on into Cambridge. See **Appendix 4** attached.
- 31 The University expects that the Hobson's Conduit Trust (of which the University is a stakeholder) (the "Trust") will have been consulted separately with regard to the Scheme, which has resulted in the Protective Provisions for the Trust included within Part 4 of Schedule 12 in the Draft Order. However, we would highlight that the surface water drainage outlet from AMB and Plot 9 discharges into the balancing ponds to the south of the AMB (within the control of Cambridge Medipark Limited), as illustrated within the information at Appendix 4. The University understands that the water from the balancing ponds subsequently feeds into the Hobson's Conduit via the south ditch further to the south of the AMB and Plot 9, outside of the University's demise. Furthermore, the University has given covenants to the Trust to protect the Hobson's Conduit from damage and contamination.
- Given the inter-dependency between the AMB and Plot 9 drainage design and the potential impact upon the Conduit, the University requires suitable mitigation measures to be put in place to ensure the outfall drainage from the AMB and Plot 9 remains unaffected by the Scheme. Whilst we understand that there are protective provisions in place in relation to the Conduit itself, it does not appear to us that Network Rail has committed to any specific mitigation measures to protect the outfall drainage from the AMB and Plot 9. As such, the Environmental Statement and the Draft Order and related suite of TWAO application documents appear to us to be deficient.

Development of Plot 9

- The approved development parameters for Plot 9 are shown on the plan attached at **Appendix 5**. The colours on Plot 9 represent:
 - Yellow development area
 - Green(s) landscape buffer
 - Grey strategic gap

As highlighted under Ground 2, there is some ambiguity with regard to the precise setting out of temporary and permanent land acquisitions being sought. From a review of the information presently available, it appears likely that the proposed compulsory acquisition powers include land set aside for landscaping, surface water drainage and possibly car parking on Plot 9, as these are intended to be contiguous with the same features at the AMB (see detailed comments above). Should this land become unavailable to the University in the long term, it has the potential to reduce the developable area of the future development of Plot 9 by requiring a re-engineering of the site, which in turn would impact the plot's future capacity.

Ancillary rights

Through its leasehold and freehold interests in the University's Estate, the University has the benefit of rights of way over the Estate roads, footpaths and cycleways at the Biomedical Campus. The proposed street works and access works to and temporary stopping up and diversion of these accessways, as set out in Schedules 7, 8 and 9 to the Draft Order may impede on the University's ability to use and enjoy its Estate for its proper purposes. The University also benefits from servicing rights in relation to the services supplying the Biomedical Campus and any interruption or prevention of such rights would cause the University significant harm.

Correcting errors in the Book of Reference (specifically any plots that are missed)

Whilst the Book of Reference indicates many of the plot parcels over which the University has an interest, we believe that there are some discrepancies and some plot parcels that have been missed. These include: 015, 016, 017, 018, 019, 026, 027, 028, 059, 060, 063, 067. We would welcome some clarity on this from Network Rail.

Conclusion

- The University has serious concerns that the Scheme will cause significant harm to the University throughout all phases, but particularly during the construction phase. The University requires further information from Network Rail regarding the proposed Scheme (including in the form of detailed overlay plans) in order that we may better assess the impacts of the Scheme on the Estate.
- The AMB (alongside rented space within the LMB and HLRI) is sensitive to the effects of airborne noise, groundborne noise and vibration. The University considers that the impacts of the Scheme will result in the loss of vital research time and sensitive research data worth millions of pounds.
- Network Rail has not committed to mitigation measures which take into sufficient consideration the implications of the Scheme on a specialist multi-use site such as the AMB and the University Estate as a whole, meaning that the mitigation measures that have been included within the Environmental Statement are inadequate. The University is a unique stakeholder and must be considered as such by Network Rail, meaning that specific mitigation requirements are essential.
- The proposed Scheme also has the potential to significantly impact the University's development aspirations for Plot 9 through a reduction in the capacity of the plot.
- 41 Finally, there appear to be some errors and omissions in the Book of Reference where the University's land interests have been missed which is of concern to us.

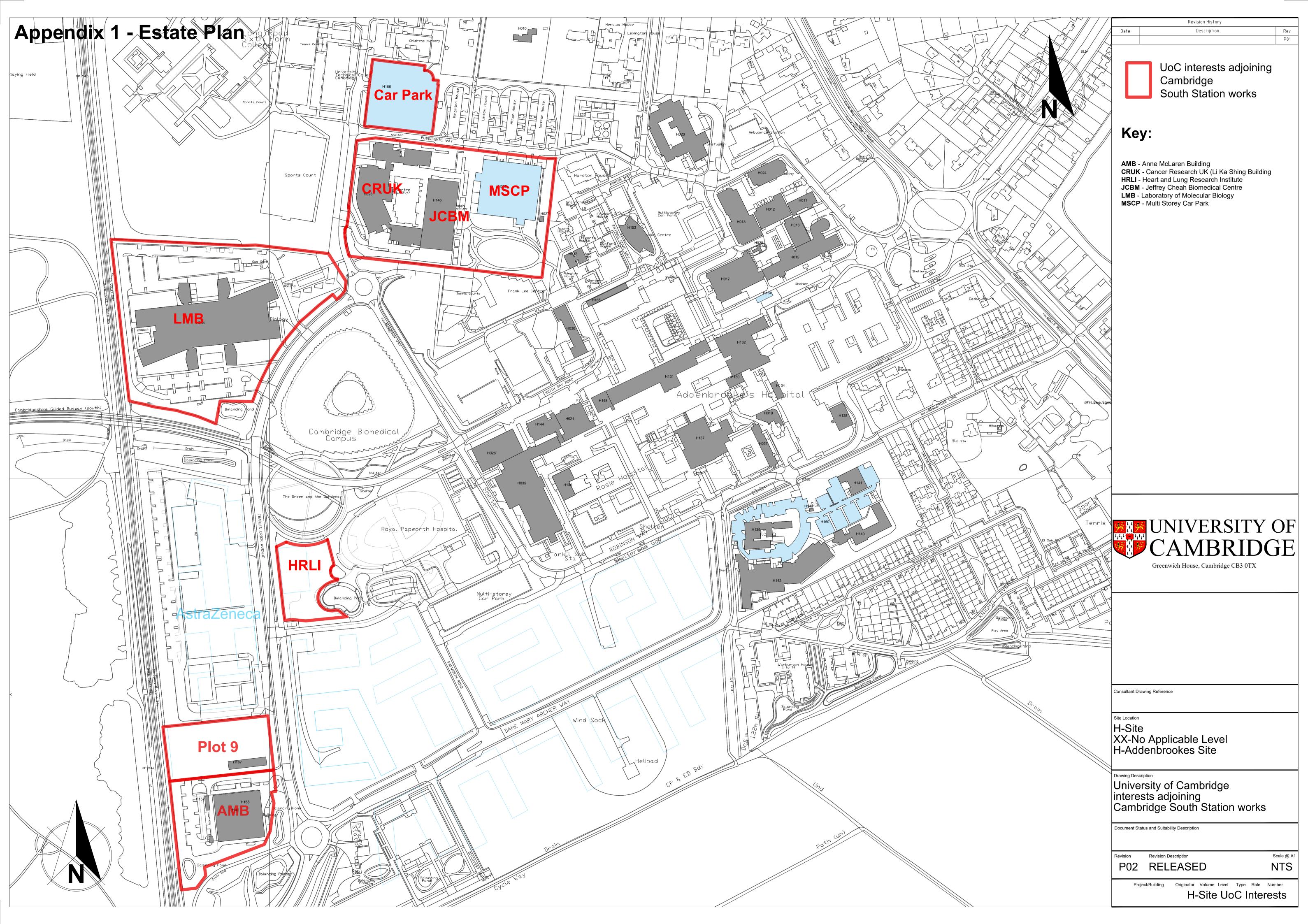
Please direct all correspondence relating to this objection to: Graham Matthews at the following postal address Greenwich House, Madingley Road, Cambridge CB3 0TX and by email: Graham.Matthews@admin.cam.ac.uk.

Yours faithfully



Encs

- Appendix 1- Estate plan
- Appendix 2- Land Registry title plans showing AMB and Plot 9
- Appendix 3- Plot 8 Surface Water Drainage Drawing (ref.H145-02-CE-DRG-XX-XX-96020)
- Appendix 4- Plan showing the Hobson's Conduit
- Appendix 5- Plot 9 Land Use Parameter Plan



Appendix 2 - AMB

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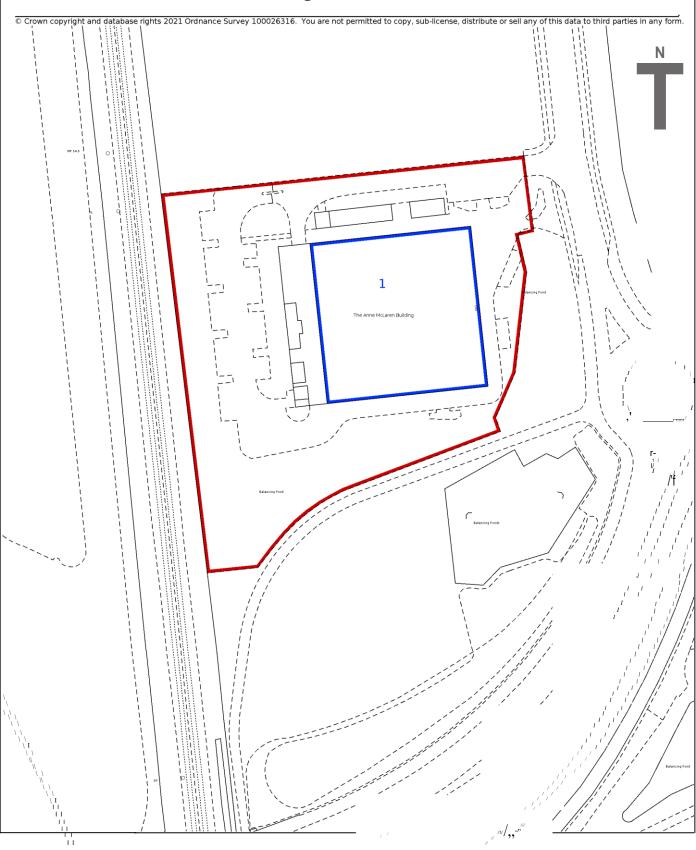
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Appendix 2 - Plot 9

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