

APPENDIX 12.1A

HEALTH IMPACT ASSESSMENT

The Beehive Redevelopment

Health Impact Assessment

August 2024

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1. Executive summary

- 1.1 This Health Impact Assessment (HIA) has been prepared by Volterra Partners on behalf of Railway Pension Nominees Limited ('the Applicant'), in support of an outline planning application for the demolition and redevelopment ('the Proposed Development') of the Beehive Centre ('the Site').
- 1.2 The Proposed Development would generate new commercial floorspace meeting the need for life sciences and office space in Cambridge. The Proposed Development would contain a mix of Class A office and lab uses, along with efficient and high-quality retail space, and a local centre set within a new area of public realm. A community pavilion would also be provided to offer additional local area benefits. Supporting facilities including open space and improvements to the active travel access would aim to deliver positive impacts on human health.
- 1.3 There is no requirement to produce an HIA, however, the Applicant has commissioned an HIA to understand ways positive health impacts could be enhanced and negative impacts mitigated. This HIA aligns with requirements set out in South Cambridgeshire District Council's (SCDC) Supplementary Planning Document on HIA. In the County Council's Screening Opinion,¹ they confirmed that a completed Rapid HUDU matrix would be beneficial however given the scale of the development, a fuller standalone HIA would be preferable. As such this document completes the Rapid HUDU matrix but also provides explanatory report alongside it which provides more detail on the health baseline, impact on vulnerable groups and health impact of the Proposed Development.

¹ Their response to a document outlining the proposed scope of the HIA as well as a follow up meeting, not to be confused with an EIA Screening Opinion.

Health impacts of the Proposed Development

1.4

Table 1.1 provides a summary of the health impacts of the Proposed Development for each relevant determinant of health.

Table 1.1 – summary of health impacts of the Proposed Development

Determinant of health	Construction health impact	Operational health impact	Vulnerable groups	Justification for health impact
Access to open space and nature	Neutral	Positive	Younger people (0-24) Low income and unemployed residents Long term illness or disability	The current site does not support any publicly accessible open space. During the construction phase, new workers would be introduced to the Site, who would place some demand on local open spaces, but there are alternatives nearby. Once operational, the Proposed Development would provide a significant uplift (2.6ha) in high quality public open space and improved public realm provision that would contribute to local open space provision. The majority of the Site will be accessible to the public, with no gates or barriers to access. A key principle of the masterplan is to achieve an ambitious target of 100% biodiversity net gain. The Proposed Development would provide plenty of healthy spaces for the workforce and community users to enjoy, ensuring mental health benefits for employees and the community alike.
Accessibility and active travel	Negative	Positive	Older people (65+) Low income and unemployed residents Long term illness or disability	Construction activity at the Proposed Development would result in goods vehicle trips to the Site. The health impact of these trips would be mitigated where feasible through measures outlined in the Construction Environment Management Plan. Once operational, the Proposed Development would include lots of measures to encourage cycling and walking, and discourage car trips, including cycle parking, showers, changing facilities, and other facilities, cycle routes, and improved pedestrian environment. The Proposed Development is expected to result in a 24.5% increase in cycle mode share and an 60% reduction in car mode share, which will have significant positive health benefits.

Determinant of health	Construction health impact	Operational health impact	Vulnerable groups	Justification for health impact
Crime reduction and community safety	Positive	Positive	Younger people (0-24) Older people (65+) Ethnic minority groups Homeless people Care leavers	During the construction phase, the Site would be boarded by security fencing and hoarding on the Site boundary would also be covered in lights to enhance the feeling of safety. During the operational phase, crime prevention measures would be implemented as outlined in the Design and Access Statement. The Proposed Development will increase natural surveillance and Secured by Design principles have been followed. A key design principle of the Proposed Development is to design safe space through continuous and active use, such as activated open space and activated ground floors on all corners of the Site.
Air quality, noise, and neighbourhood amenity	Neutral	Neutral	Younger people (0-24) Older people (65+) Low income and unemployed residents Long term illness or disability	Construction activity at the Proposed Development would generate air and noise pollution through demolition, the use of construction plant and goods vehicle movements. These impacts would be mitigated through construction practices and would not significantly alter local health. Once operational, the Proposed Development would have a positive impact on air quality when compared to the existing site because of the reduction in annual average daily traffic when compared to the existing Site. Additionally, the Proposed Development is expected to be compliant with the proposed noise limits and would be controlled through planning conditions.
Access to healthy food	Negative	Positive	Younger people (0-24) Low income and unemployed residents Long term illness or disability Homeless people Care leavers	During construction, new workers would be introduced to the Site, which currently has relatively limited access to healthy food products. Once operational, the Proposed Development would deliver multiple cafes/restaurants to meet the needs of the building occupants and the local community. The Proposed Development would provide affordable restaurants and cafes on site.
Access to work and training	Positive	Positive (new jobs and skills)	Low income and unemployed residents	The Proposed Development would support significant job opportunities through both the construction phase and the operational phase. The Applicant has committed to delivering a comprehensive

Determinant of health	Construction health impact	Operational health impact	Vulnerable groups	Justification for health impact
		opportunities and affordable workspace) Negative (loss of jobs and retail onsite)	Ethnic minority groups Long term illness or disability Single parents Homeless people Care leavers	Employment and Skills Strategy which will maximise local job and skills opportunities. A meanwhile strategy will be developed for the construction period. Set against this, however, there may be a negative impact for some due to the loss of jobs currently onsite and a loss of affordable retail options. That said, the Applicant is retaining the opportunity to relocate Asda and other retailers to the nearby Cambridge Retail Park, Newmarket Road, which is also in their ownership. As outlined in the Design and Access Statement, the Applicant is also curating affordable food and beverage businesses or cafes, providing an affordable gym and aiming to make the community pavilion free to access. To some extent this would mitigate these issues.
Social cohesion and inclusive design	NA	Positive	Younger people (0-24) Older people (65+) Low income and unemployed residents Ethnic minority groups Long term illness or disability	A range of stakeholders have been consulted to inform the design of the Proposed Development. These include local community groups and groups representing individuals with restricted mobility. The Proposed Development would incorporate a range of inclusive design measures once operational to maximise access to onsite facilities and opportunities. The Proposed Development would also be providing a range of community spaces to be provided to the local residents and workers. This new local centre would provide a new cultural venue, health and wellbeing facility, and social food and beverage options. A key objective of the development is to create an interactive place where people can meet and learn from each other. This will be done through creating opportunities for interactions between workers and local residents, allowing public access to roof terraces for specific events, setting up intern and work experience programmes with office tenants and positioning facilities for local community at the centre of the Site.
Climate change	Neutral	Positive	Younger people (0-24) Older people (65+) Long term illness or disability	Construction activity would result in the generation of embodied carbon, through the plant, vehicle and material use at the Site. A pre demolition audit would be completed which would evaluate how the materials can be reused on the Site which would minimise the impact due to embodied carbon.

Determinant of health	Construction health impact	Operational health impact	Vulnerable groups	Justification for health impact
				Once operational, the Proposed Development would achieve energy efficiency through a fabric first approach and maximisation of the use of renewable energy, particularly PV panels and air source heat pumps. This would also be achieved through energy modelling and efficient metering in order to gain a better understanding of the energy demand in the building. Additionally, the Proposed Development aims to target 100% biodiversity net gain. The Proposed Development would also deploy building fabric with a high thermal performance, built to rigorous standards to minimise heat loss whilst being considerate to cooling demand within the space. The façade of the buildings would be carefully refined to maximise passive design features including external shading, and thermally efficient insulation.

Recommendations and mitigations

1.5

To enhance the health impact of the Proposed Development a series of recommendation and mitigation measures have been developed. **Table 1.2** presents the measures relevant for each determinant and the method for delivery.

Table 1.2 – recommendations and mitigation measures

Determinant of health	Recommendation and mitigation measures
Access to open space and nature	• Provide an estate team which would manage and maintain the Site. • Open spaces should be inclusive, accessible and safe with shade, seating and natural surveillance
Accessibility and active travel	• Ensure that access to the Site is free from safety risks such as fall hazards through the use of tactile paving surfaces and regular maintenance. • Implement the measures identified in the Travel Plan to promote sustainable travel including mode share change targets, transport survey, and cycle to work week.

Determinant of health	Recommendation and mitigation measures
Crime reduction and community safety	• Implement the measures outlined in the Construction Environment Management Plan. • Incorporate principles of Crime Prevention through Environmental Design (CPTED) within development and across open space across the Site, reducing opportunities for crime and enhancing natural surveillance.
Air quality, noise, and neighbourhood amenity	• Implementation of measures outlined within the Construction Environment Management Plan. • Require the lead contractor for construction works to deliver the highest standard of the Considerate Constructors accreditation. • Monitor environmental impacts during construction in line with the Considerate Constructors accreditation, recording safety issues and feedback from local communities on environmental impacts that may affect health, such as the generation of dust. • Consider the air quality benefits through widespread tree planting and natural spaces.
Access to healthy food	• Ensure that the operator of the onsite food services provides healthy food options for workers and the community.
Access to work and training	• Continue to develop employment and training opportunities in collaboration with local stakeholders, such as opportunities to continue delivering training with the nearby schools. • Implement the Employment and Skills Strategy. • Provide affordable retail options onsite to mitigate loss of retail, and work to re-provide Asda at Cambridge Retail Park. • Consider re-provision of the pharmacy that is currently located in Asda.
Social cohesion and inclusive design	• Explore opportunities for locating community events in the community space and open space located in the Proposed Development. • Continue consultation with community groups to understand the needs of the community and to offer the space for local groups who may need it. • Encourage permeability and access from and through the Site to local community services and infrastructure.
Climate change	• Deliver the measures identified in the Design and Access Statement, Sustainability Strategy, and Energy Strategy.

2. Introduction

- 2.1 This Health Impact Assessment (HIA) has been prepared by Volterra Partners on behalf of Railway Pension Nominees Limited ('the Applicant'), in support of an outline planning application for the demolition and redevelopment ('the Proposed Development') of the Beehive Centre ('the Site').
- 2.2 There is no requirement to produce an HIA, however, as agreed with the public health team of Cambridge City Council (CCC), this HIA aligns with requirements set out in South Cambridgeshire District Council's (SCDC's) Supplementary Planning Document on HIA (SPD). Additionally, as agreed through consultation, this assessment considers how the Proposed Development could impact factors that can influence human health and wellbeing. It suggests ways potential positive health impacts could be enhanced through the masterplan and negative impacts mitigated.
- 2.3 The Proposed Development is a commercial-led development nearby to Cambridge city centre. The plans include the development of lab and office space and supporting retail and community space. The Proposed Development would create a new local centre, workplace, and innovation cluster. Eleven new buildings for life science, innovation and office use come together to create a masterplan organised around a series of connected open spaces, providing a vibrant mixed-use environment.
- 2.4 The ground floors of the buildings work together to create a mix of shops, services, leisure spaces and spaces to socialise. A community facility sits at the heart of the scheme and would create spaces to be used by local groups.

The Site

- 2.5 The Site is within Greater Cambridge at an edge-of-centre location in proximity to central Cambridge. It lies between two rail stations: approximately 2km from Cambridge North and 1km from Cambridge Station. It is connected to both stations by existing on and off-road cycle routes with the network due to be expanded through city-wide initiatives. The Site is located around a 25-minute walk or 10-minute cycle to Cambridge city centre. The Site is accessed via Coldham's Lane which forms the northern boundary and connects to Newmarket Road which is the main route to the city via car.
- 2.6 The Site is currently known as the Beehive Retail Centre, which comprises of approximately 17 units that which are retail focused this includes an Asda superstore and various home and DIY stores. There is also a leisure facility (a private gym which includes a swimming pool) and some food and beverage (F&B) uses. Adjacent to the site is the Cambridge Retail Park which is also in the ownership of the Applicant. It is expected that the proposals for the Beehive Masterplan would create great opportunity to bolster Cambridge Retail Park's position as one of the leading retail parks in Cambridge.
- 2.7 The geographical definitions in **Table 2.1** are the study areas that are analysed within this report.

Table 2.1 – geographical definitions

Geographical level	Definition
The Site	Site boundary shown in Figure 2.1
Local Area (ward)	The Cambridge wards: Abbey, Petersfield and Romsey
Local Authority	Cambridge City

Geographical level	Definition
District	Greater Cambridge (Cambridge and South Cambridgeshire)
Regional	East of England
National	England

2.8 The below map shows the site in the context of the local and wider area.

Figure 2.1 – site context map



The Proposed Development

- 2.9 The Proposed Development would be a commercial-led, life science development. There is an opportunity to densify the site, bringing forward a world-class commercial-led mixed-use scheme creating long-term benefits. The Proposed Development would contain a mix of Class A office and lab uses, along with efficient and high-quality retail space, and a local centre set within a new area of public realm. A community facility would also be provided to offer additional local area benefits.
- 2.10 The Proposed Development has been sensitively designed to provide a place to enjoy working and living and offers a catalyst for regeneration. The vision is to offer a variety of floorspace options to support a wider range of occupiers and foster a collaborative and people-centric place, which embraces local heritage through its design, and is at the forefront of science and medicine.
- 2.11 A description of the development is as follows:

‘the demolition and redevelopment of the Beehive Centre, including in Outline Application form for the demolition and redevelopment for a new local centre (E (a-f), F1(b-f), F2(b,d)), open space and employment (office and laboratory) floorspace (E(g)(i)(ii) to the ground floor and employment floorspace (office and laboratory) (E(g)(i)(ii) to the upper floors; along with supporting infrastructure, including pedestrian and cycle routes, vehicular access, car and cycle parking, servicing areas, landscaping and utilities.’

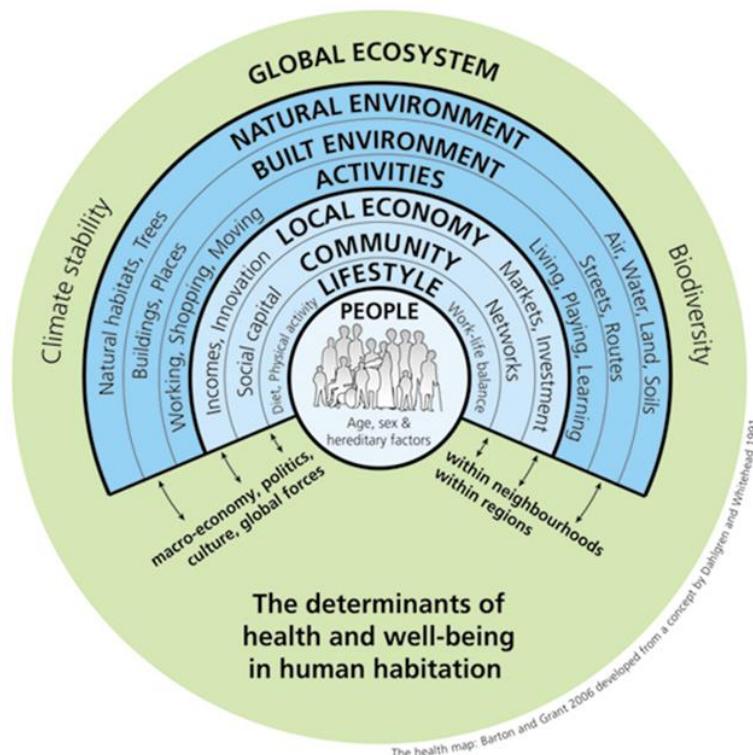
Health Impact Assessment

- 2.12 Health is influenced by a combination of biological and environmental factors. Biological factors are largely inherent. However, environmental factors can be influenced through design and management of buildings and spaces which may be able to impact on health outcomes. This is particularly important when it comes to health inequalities – people who are economically, environmentally, and socially disadvantaged experience poorer health outcomes. Planning can influence these factors and is therefore an important consideration in health.
- 2.13 HIA is a tool that aims to understand the impact of development on human health, considering both the positive and negative impacts on the different affected subgroups of the population that may result from a development. The methodology for this HIA is drawn from the HIA SPD and has been agreed through consultation with CCC.² In line with the HIA SPD, the assessment considers how the Proposed Development could impact on the factors that can influence human health. It suggests ways potential positive health impacts could be enhanced and negative impacts mitigated.
- 2.14 This assessment is based on the wider determinants of health model, which recognises that the economic, physical, and social environment has a significant impact on our health.³ Factors that have the most significant influence on the health of the population are called ‘determinants of health’. Across a broad scale, these include, at the lowest level, an individual’s generics, and their lifestyle, broadening out to include the surrounding environment, as well as policy, cultural and societal issues. The wider determinants of health are shown in **Figure 2.2**.
- 2.15 The aims and objectives of this detailed HIA are to:
- Understand the mechanisms through which the Proposed Development could directly or indirectly impact health determinants;
 - Identify vulnerable groups within the population that are most likely to have health outcomes affected by the Proposed Development, and
 - To identify measures to enhance the beneficial health effects and mitigate the adverse effects on public health arising from the Proposed Development.

² South Cambridgeshire District Council, 2011. Health Impact Assessment, Supplementary Planning Document

³ Dahlgren G, Whitehead M. 1991. Policies and Strategies to Promote Social Equity in Health, as referenced in Public Health England, 2022. Health Profile for England 2021

Figure 2.2 – the wider determinants of health



Source: Barton, H. and Grant, M., 2006. A Health Map for the Local Human Habitat. *Journal of the Royal Society for the Promotion of Health*

HIA policy context

- 2.16 The National Planning Policy Framework (NPPF) is the main guidance for local authorities when assessing proposed development. Chapter eight of the NPPF (2021) 'promoting healthy and safe communities' details the role of planning policy in ensuring the health of communities.⁴ The NPPF also outlines key principles in ensuring that local planning authorities consider these outcomes, including policies aiming to support and enable healthy lifestyles, improving the social and cultural well-being of all sections of the community, ensuring that places are well-designed, and conserving and enhancing the natural and local environment.
- 2.17 The Cambridge Local Plan states the aim to promote a safe and healthy environment, minimising the impacts of development and ensuring quality of life and place.⁵ Policy 35 states the protection of human health and quality of life from noise and vibration. Any new developments would have to demonstrate that it would not lead to any significant adverse effects and impacts. People's health and quality of life needs to be protected from unacceptable noise impacts by effectively and appropriately managing the relationship between noise sensitive development and noise sources through land use development.
- 2.18 The Greater Cambridge health and wellbeing topic paper also states that for major developments, an HIA will be required to be submitted alongside any planning application to demonstrate that the potential impacts

⁴ MHCLG, 2021. National Planning Policy Framework

⁵ Cambridge City Council, 2018. Local Plan

on health have been considered at the planning and design stage.⁶ The HIA should include a consideration of the differential impacts on different groups in the population because certain groups are potentially more vulnerable to negative impacts of a development.

⁶ Greater Cambridge, 2021. Topic paper: wellbeing and social inclusion

3. Methodology

3.1 There is no one definitive methodology for HIA. The preparation of this HIA has been informed by several documents, including:

- **South Cambridgeshire's (2011) Health Impact Assessment, Supplementary Planning Document (HIA SPD)** – This framework provides the methodology and requirements for an HIA.⁷
- **The London Healthy Urban Development Unit for Health Rapid Health Impact Assessment (HUDU Rapid HIA) Tool and Checklist (2017)** – Notwithstanding the fact that the Proposed Development is located outside London, this is a helpful tool for understanding the impact of developments on health.⁸
- **Public Health England (PHE) Health Impact Assessment in Spatial Planning (2020)** – This report provides a process through which health and wellbeing impacts of any plan or development project can be identified and assessed.⁹
- **Wales Health Impact Assessment Support Unit's HIA A Practice Guide (2015)** – This guidance provides further evidence on the links between development and health, and in particular the impact of development on vulnerable population groups and the process for addressing this through an HIA.¹⁰

HIA scope

3.2 An HIA is not formally required within Cambridge City, however, due to the scale of the Proposed Development, this document presents the health impacts of the Proposed Development, using a methodology in line with the HIA SPD. This document sets out the approach to screening (deciding whether HIA is the best way to address health impact) and scoping (deciding the approach to HIA and considerations).

3.3 The screening and scoping process for this HIA has been undertaken in collaboration with CCC's public health team. The HIA team met with the public health team for Cambridge County Council in early 2023 to discuss the approach to this HIA and to inform the scoping exercise. A scoping note sent to CCC in April 2023 which set out the approach and the agreed determinants of health to be considered in this HIA. The public health team welcomed the proposal to undertake a HIA would for the Proposed Development and noted that it would be important to note the temporal effect where relevant – so to assess the health effects at each stage. The county council followed up that meeting with a Screening Opinion which noted several areas which would need comprehensive coverage in the HIA:

- **Transport** – consideration given to accessibility, active travel and parking, with an expectation of active travel and use of public transport onsite to achieve better health outcomes;
- **Air quality, noise and neighbourhood amenity** – factoring in wet laboratories and their appropriate mitigation for odours and emissions;
- **Green and blue infrastructure** – safe management of all open space and creating healthy spaces for the work force and community users to enjoy breaks and lunch to ensure better mental health for employees;
- **Socio-economic factors** – the impact that the loss of commercial floorspace would have at a community and regional level, social cohesion between the workers and locals, how the shared community spaces would be managed and maintained, and what measures would be taken to reduce anti-social behaviour;

⁷ South Cambridgeshire District Council, 2011. Health Impact Assessment, Supplementary Planning Document

⁸ NHS, 2017. HUDU Planning for Health: Rapid Health Impact Assessment Tool

⁹ Public Health England, 2020. Health Assessment in Spatial Planning

¹⁰ Wales Health Impact Assessment Support Unit, 2015, Health Impact Assessment: A Practical Guide

- **Climate change** – the impact more extreme temperatures is having on workforce wellbeing; and
- **Social infrastructure** – broader view of the project such as dementia friendly environments, what is the ethos for the social aspects of works, where do office workers go for lunch, cycle storage, and showers availability.

- 3.4 This HIA assesses the potential impact of the scheme on the health and wellbeing of the population, taking each determinant in turn. The link between the determinant and health is summarised at the beginning of each section. The assessment presents the health impact during the construction and operational phases separately. For each determinant of health, this HIA presents a HUDU matrix tables which measures the impacts and provides recommendations incorporated to mitigate adverse and enhance positive health impacts.
- 3.5 Typically, an HIA should consider only those determinants that are relevant to the scheme. To provide assessment of the most relevant impacts, the impact of the Proposed Development on the determinants of housing design and accessibility, access to healthcare services and social infrastructure, and minimising the use of resources have been scoped out of this assessment. The impact of the Proposed Development on the social cohesion and inclusive design determinant has been scoped out during the construction phase. The determinants scoped into this assessment have been previously agreed with CCC.
- 3.6 **Table 3.1** summarises the health impacts of the Proposed Development and differentiates between construction and operational phases.

Table 3.1 – health determinants scoped-in and out of this HIA

Determinant	Construction	Operation
Housing design and affordability	Scoped out	
Access to healthcare services and social infrastructure	Scoped out	
Access to open space and nature	✓	✓
Air quality, noise, and neighbourhood amenity	✓	✓
Accessibility and active travel	✓	✓
Crime reduction and community safety	✓	✓
Access to healthy food	✓	✓
Access to work and training	✓	✓
Social cohesion and inclusive design	Scoped out	✓
Minimising the use of natural resources	Scoped out	
Climate change	✓	✓

Impacts on vulnerable population groups

- 3.7 As identified in the HIA SPD, certain population groups are more vulnerable to the health impacts resulting from development. This may happen because of specific characteristics that make them more vulnerable to changes (for example, children being more vulnerable to changes in air quality due to their lungs still developing), or as a result of existing health or socio-economic inequalities (for example ethnic minority groups face inequalities in employment outcomes).
- 3.8 For the purposes of this HIA, the following vulnerable population groups are considered to be potentially differentially impacted by the Proposed Development. These vulnerable population groups align with groups presented within the Welsh HIA Support Group (2011) guidance and the HIA SPD and have been agreed in principle through consultation with CCC.¹¹
- Ethnic minority groups
 - Older people
 - Younger people
 - People of low income and unemployed residents
 - Traveller groups
 - People with health problems or disabilities
 - Single parents
 - Homeless people
 - Care leavers
- 3.9 This HIA makes the distinction between the impacts of the Proposed Development on the general population and the impact specifically on vulnerable groups as presented in **Table 3.2**.

Table 3.2 – list of receptor populations considered in the assessment

Receptor group	Receptor populations
General population	Residents
	Staff onsite and in the surrounding area
	Visitors onsite and in the surrounding area
Vulnerable groups	Ethnic minority groups
	Older people
	Younger people
	People of low income and unemployed residents
	Traveller groups
	People with health problems or disabilities
	Single parents
	Homeless people
	Care leavers

¹¹ Welsh Health Impact Assessment Support Unit, 2011. Health Impact Assessment: A Practical Guide; South Cambridgeshire District Council, 2011. Local Development Framework Health Impact Assessment Supplementary Planning Document

3.10

This HIA is structured as follows:

- **Baseline:** providing a general health baseline of the area, identifying the prevalence of vulnerable groups, and summarising key health inequalities in Cambridge;
- **Impacts:** each scoped in health determinant is taken in turn. For each:
 - The literature on the link between the determinant and health impacts is summarised;
 - Key relevant baseline is provided;
 - The ways in which the Proposed Development may impact health of the general population is described and a narrative over the health impact on vulnerable groups is provided; and
 - Health impacts are presented under the assessment criteria of the HUDU Rapid HIA Toolkit.
- **Summary:** providing a summary of health impacts and health inequalities.

4. Baseline health profile

- 4.1 This section provides a summary of the baseline health and population characteristics relevant for consideration of the health impacts of the Proposed Development. Data is presented at the Cambridge and the Local Area levels where available.

Joint Strategic Needs Assessments

Access to transport/active transport (2015)

- 4.2 Cambridge has high numbers of individuals with no access to transport and with long trips to GPs or hospitals.¹² Additionally, transport barriers are not experienced equally throughout Cambridgeshire and are impacted by social exclusion, living in rural areas, access to a car and the skills and confidence to use available transport. Furthermore, half of work trips are walked or cycled in Cambridge City compared to one in seven in the rest of the county and traffic cordon data shows that walking is more common in the market towns and cycling more common in Cambridge City.¹³ Future focus should be on improving the safety of pedestrians and cyclists and provide infrastructure which encourages active transport.

Air pollution (2015)

- 4.3 Most annual average concentrations are not over the air quality threshold. The Department for Environment Food and Rural Affairs (DEFRA) create an annual all cause adult mortality attributable fraction to particulate air pollution.¹⁴ This assesses the fraction of deaths that could be attributed to air pollution. In 2010, Cambridge City Centre has the highest attributable fraction 5.8% compared to Cambridgeshire's 5.5%. Public Health England (PHE) use this fraction to estimate a total of 257 deaths attributable to air pollution in Cambridgeshire in 2010.¹⁵ Hot spots of pollution are located in urban areas and trunk roads such as the A14. There are high levels of nitrogen dioxide in the winter months and peaks of larger particulate matter in the spring, which may lead to seasonal health impact. Future focus should be on switching to low emission vehicles and active travel.

New housing developments and the built environment (2016)

- 4.4 The term "built environment" includes open space, networks and connectivity between areas as well as the physical structures. This includes the places where people work, live, play and socialise.¹⁶ The JSNA found that there is an importance of accessible green space and parks, which need to be designed to maximise

¹² Cambridgeshire County Council, Peterborough City Council, 2015. Cambridgeshire & Peterborough Joint Strategic Needs Assessment Access to Transport

¹³ Cambridgeshire County Council, Peterborough City Council, 2015. Cambridgeshire & Peterborough Joint Strategic Needs Assessment Active Transport

¹⁴ Cambridgeshire County Council, Peterborough City Council, 2015. Cambridgeshire & Peterborough Joint Strategic Needs Assessment Air Pollution

¹⁵ Cambridgeshire County Council, Peterborough City Council, 2015. Cambridgeshire & Peterborough Joint Strategic Needs Assessment Air Pollution

¹⁶ Cambridgeshire County Council, Peterborough City Council, 2016. Cambridgeshire & Peterborough Joint Strategic Needs Assessment Air Pollution

potential use, and an importance to provide infrastructure to enable people to make more active travel choices.

Summary health profile

- 4.5 PHE provide summary Fingertip Health Profiles for local authorities across England. The profiles present key population and health statistics. PHE summarises the health profile of Cambridge as follows:¹⁷

“The health of people in Cambridge is varied compared with the England average. About 14.3% (2,460) children live in low income families. Life expectancy for men is higher than the England average.”

- 4.6 The PHE Fingertip Health Profile finds that Cambridge performs well in terms of life expectancy and mortality rate relative to national levels. In particular, the under 75 mortality rates from all causes for Cambridge (309.4 deaths per 1,000 people) is lower than national average (363.4 deaths per 1,000 people).
- 4.7 Additionally, the percentage of adults who are physically active is 81.1% in Cambridge, much higher than the national average of 67.3%. The percentage of adults classified as overweight or obese in Cambridge (46.3%) is also much smaller compared to the national levels (63.8%).
- 4.8 However, a key issue that the life expectancy gap between the most and least deprived areas of Cambridge is 12.0 years for males and 11.8 years for females. This implies that male residents located in 10% most deprived areas of the borough are expected to live over 12 years fewer than those in the 10% least deprived areas. For context, the national average is 9.7 years for males and 7.9 years for females, which is much better than at the Cambridge level.
- 4.9 The PHE Fingertip Health Profile also looks at the ward level. **Table 4.1** shows the health indicator levels for the wards that make up the Local Area. The table shows how each ward in the Local Area compares against the district and national levels.¹⁸ Red signifies that the geography is performing poorly, amber shows that the geography is performing on par with the district, and green shows that the geography is excelling the national levels. Overall, the Local Area has a good performance across the wards.

Table 4.1 – the Local Area performs well health indicators compared to other geographies

Health indicator levels (Local Area)

Health Indicator	Abbey	Petersfield	Romsey	District	England
Life expectancy at birth (Male)	80.0	88.6	79.4	81.0	79.5
Life expectancy at birth (Female)	86.8	86.1	83.2	83.2	83.2
Death from all causes, all ages, standard mortality ratio (per 100)	79.9	66.1	97.5	88.8	100.0

¹⁷ Public Health England. 2019. Local Authority Health Profile 2019 Cambridge

¹⁸ Note: District in this case is the counties unitary authority of Cambridgeshire as defined by Public Health England.

Health Indicator	Abbey	Petersfield	Romsey	District	England
Reception: Prevalence of overweight (including obesity), 3 years combined	19.0%	14.3%	16.1%	22.6%	42.9%
Year 6: Prevalence of overweight (including obesity), 3 years combined	34.5%	24.2%	26.9%	35.8%	58.3%

Source: Public Health England, 2019. Small Area Public Health Data. Note: District in this case is the counties unitary authority of Cambridgeshire as defined by Public Health England.

4.10 The Cambridgeshire and Peterborough Joint Strategic Needs Assessment (JSNA) finds that Cambridgeshire presents a relatively healthy picture when compared nationally.¹⁹ The area compares generally well with national health and wellbeing determinants, and outcomes. The key issues addressed in the JSNA are as follows:

- Self-harm appears to be a particular issue across Cambridgeshire;
- The combined authorities have an ageing population. This is resulting in a larger number of individuals being diagnosed dementia and it is feared that this will become more common among residents;
- Cambridgeshire overall has low levels of socio-economic disadvantage compared to other areas, however, there are pockets of deprivation, particularly in the north west of Cambridge, near the Site.

Demographic profile

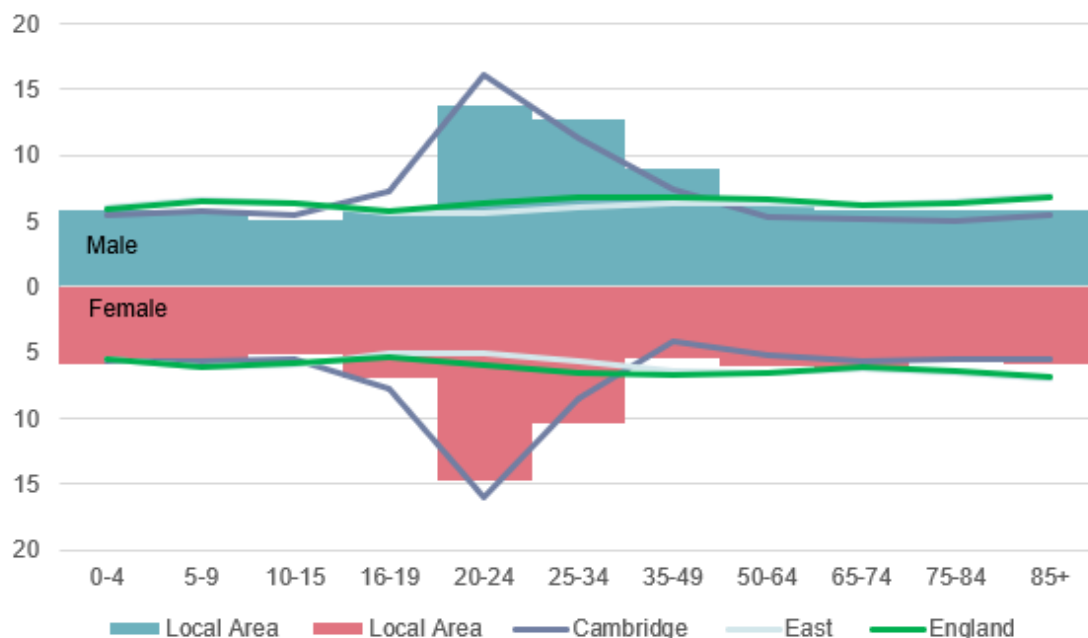
4.11 **Figure 0.1** displays the demographic composition of the Local Area. The population of the Local Area has a higher proportion of residents aged 25-34 than any other group, and a significantly higher proportion when compared to geographic comparators. The population profile of the Local Area is broadly similar to the local authority level, however, it is significantly different to the wider regional and national levels which have a similar proportion of residents within each age group.

4.12 The Local Area and Cambridge has a very high proportion of 20–24-year-olds, which make up 13% and 14%, respectively of the resident population compared to 5% and 6% across the East and England, respectively.

¹⁹ Cambridgeshire County Council, Peterborough City Council, 2020. Cambridgeshire & Peterborough Joint Strategic Needs Assessment

Figure 0.1 – the Local Area has a high proportion of 25–34-year-olds relative to geographical comparators

Percentage of residents within each age group (%)



Source: ONS. 2021. Estimates of the population for the UK, England and Wales, Scotland, and Northern Ireland

Vulnerable groups

Identifying vulnerable receptor groups

- 4.13 **Table 0.1** outlines the proportion of residents in respective vulnerable groups categories between geographies. There are no vulnerable receptor groups which are disproportionately represented if the Local Area is compared with the local authority. However, when considering this at the regional level, there is a disproportionate number of younger people and ethnic minority groups.
- 4.14 As a result of the lack of data availability, the proportion of single parents, homeless people, and care leavers is not presented in the table. Furthermore, as noted by the CCC health offices and presented in the JSNA, there is a concern of the ageing population of Cambridge residents. Therefore, residents with long term illness or disability includes people with dementia.

Table 0.1 – there are no vulnerable receptor groups when comparing the Local Area with geographic comparators

Proportion of residents in study areas within vulnerable groups (%)

	Younger people (0-24)	Older people (65+)	People of low income	Unemployed residents	Ethnic minority groups	Long term illness or disability	Traveller groups
Local Area	32%	10%	10* among 10% least deprived	3%	15%	15%	<1%
Cambridge	35%	11%	6* among top 40% least deprived	4%	17%	15%	<1%
East	28%	20%		4%	9%	17%	<1%
England	29%	18%		5%	14%	17%	<1%
Data source	Census 2021	Census 2021	IMD 2019	Census 2021	Census 2021	Census 2021	Census 2021

Source: ONS, 2021. Census 2021; ONS. 2021. Estimates of the population for the UK, England and Wales, Scotland, and Northern Ireland; MHCLG. 2019. English indices of deprivation 2019. Note: People of low income has been taken from the Index of Multiple Deprivation (Income). Note: *The Local Area in this case is the LSOA of which the Site falls within (E01017990).

4.15

Table 0.2 illustrates the HUDU health determinants which could potentially effect each of the vulnerable groups scoped into this HIA. The differential effects have been informed by existing literature and guidance and have been agreed with the CCC public health team. These vulnerable groups selected have an enhanced sensitivity to each of these health determinants with limited capacity to experience a negative change regarding respective health determinants.

Table 0.2 – differentially affected vulnerable groups

	Younger people (0-24)	Older people (65+)	Low income and unemployed residents	Ethnic minority groups	Individuals with long term illness or disability	Traveller groups	Single parents	Homeless people	Care leavers
Access to open space and nature	✓		✓		✓				
Accessibility and active travel		✓	✓		✓				
Crime reduction and community safety	✓	✓		✓				✓	✓
Air quality, noise, and neighbourhood amenity	✓	✓	✓		✓				
Access to healthy food	✓		✓		✓			✓	✓
Access to work and training			✓	✓	✓		✓	✓	✓
Social cohesion and inclusive design	✓	✓	✓	✓	✓				
Climate change	✓	✓			✓				

5. Impacts of the Proposed Development

Access to open space and nature

Pathways for health impact

- 5.1 Providing secure, convenient, and attractive open space can lead to more physical activity and reduce levels of heart disease, strokes and other ill-health problems that are associated with both sedentary occupations and stressful lifestyles. There is growing evidence that access to parks and open spaces and nature can help to maintain or improve mental health.²⁰
- 5.2 The patterns of physical activity established in childhood are perceived to be a key determinant of adult behaviour; a growing number of children and young people are missing out on regular exercise, and an increasing number of children and young people are being diagnosed as obese. Access to play spaces, community, or sport facilities such as sport pitches can encourage physical activity. There is a strong correlation between the quality of open space and the frequency of use for physical activity, social interaction, or relaxation.
- 5.3 The literature on access to open space and nature highlights that it is an important driver of health for certain vulnerable population groups. For example, for those with long term illness or disabilities, access to open space has been found to help increase activity and reduce obesity.²¹ Additionally, people of lower socio-economic status reap greater benefit from urban green space than more privileged groups, especially in terms of reducing stress and improving mental health.²²
- 5.4 Changes caused by the Proposed Development regarding access to open space and nature has the potential to differentially effect the following vulnerable population groups:
- **Younger people (0-24):** to be able to grow and develop properly, children need open space to play, learn, exercise, recreation, which is very important for children's development and cognitive skills development.
 - **Low income and unemployed residents:** this group are less likely to have access to private open or greenspace. Therefore, a change in access to green or open space has the potential to have large health impacts for this group.
 - **Individuals with a long-term illness or disability:** this group are more sensitive to the health impacts associated with green or open space. Therefore, a change in access to green or open space would have large health impacts for this group.

²⁰ NHS London HUDU, 2017. Rapid Health Impact Assessment Tool

²¹ Natural England, 2009. An estimate of the economic and health value and cost effectiveness of the expanded WHI scheme 2009

²² Ward, Aspinall, Roe, Robertson, and Miller, 2016. Mitigating Stress and Supporting Health in Deprived Urban Communities: The Importance of Green Space and the Social Environment

Baseline conditions

- 5.5 The Cambridge Open Space Strategy was produced in 2011 and provides profiles on the open space within the wards (CCC, 2011). The ward profiles for the three wards which make up the Local Area are quite different. The Abbey ward is identified as having 103 ha of publicly accessible open space, compared to Petersfield and Romsey which have 7.8 ha and 3.8 ha respectively.
- 5.6 The current provision of open space per resident within the Local Area is shown in **Table 5.1**. Overall, the data shows that the Local Area fails to meet the standards for outdoor sports facilities and play space, but it provides sufficient levels of informal open space and allotments. In comparison, Cambridge fails to meet all standards for the different types of spaces.

Table 5.1 – the Local Area has a higher rate of open space provision than Cambridge

Provision of types of open space across geographies

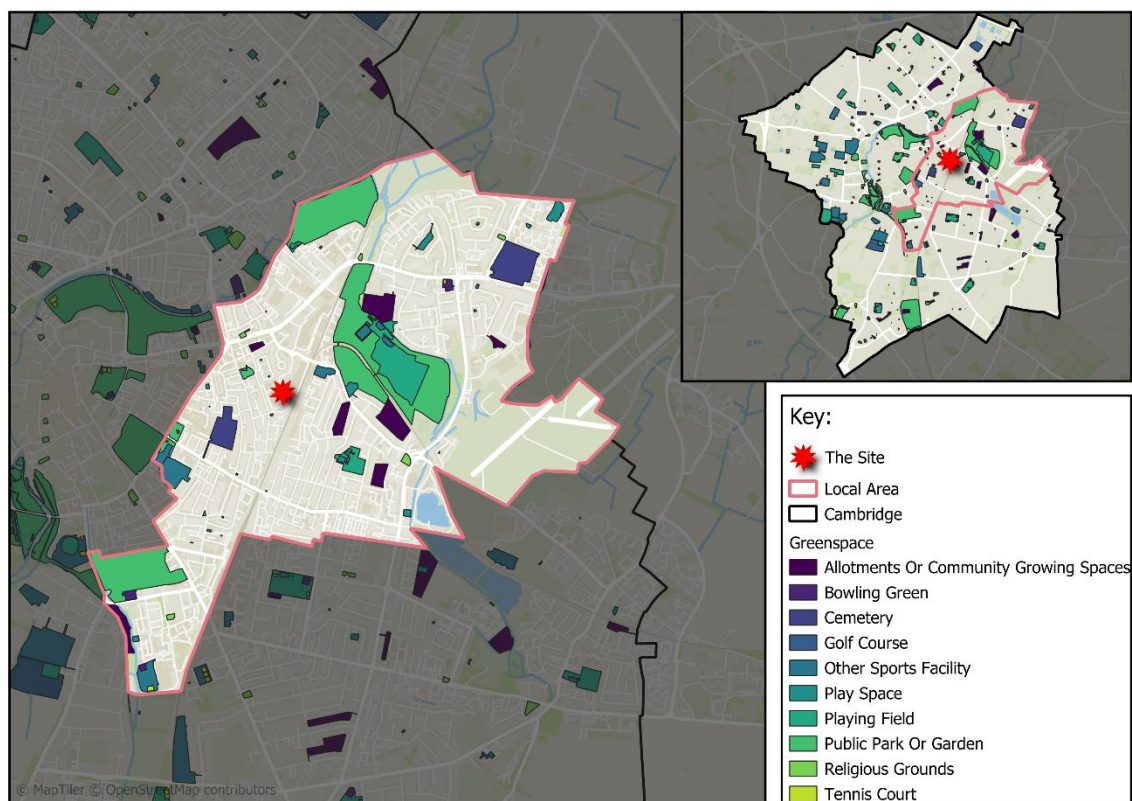
Type of open space	Standard	Local area provision (ha per 1,000)	Cambridge provision (ha per 1,000 population)
Informal open space	2.2 ha per 1,000 people	2.6	1.3
Allotments or community growing spaces	0.4 ha per 1,000 people	0.4	0.2
Outdoor sports facilities	1.2 ha per 1,000 people	0.6	0.6
Play space	0.3 ha per 1,000 people	0.1	0.1

Source: Ordinance Survey, 2022. OS Open Greenspace

- 5.7 **Figure 5.1** maps the open space within the Local Area and Cambridge. The largest open space provision near the Site is Coldham's Common which is 4ha of open space and is a 12-minute walk away.

Figure 5.1 – there is a significant provision of greenspace around the Site

Provision of types of open space across geographies



Source: Ordnance Survey, 2022. OS Open Greenspace

Assessment of impact

Construction phase

- 5.8 The existing site does not contain any publicly accessible green space, with the current building and car park making up the bulk of space at the site. As a result, no existing public open space would be lost by the construction of the Proposed Development.
- 5.9 Access to open space and nature can deliver physical and mental health benefits for workers, with spaces and connection to nature providing opportunities for workers to 'decompress' and undertake physical activity. The Site is well connected to existing local open spaces. Onsite construction workers would have access to the open spaces with Coldham's Common located within a 12-minute walk of the Site.

Operational phase

- 5.10 The **Design and Access Statement** summarises the open space and public realm provision at the Proposed Development. The vision of the Proposed Development is to provide 2.6ha of open space. It is

expected that there would be a weekday peak Site capacity of c.5,160 people and an expected daily range of 3,870-5,160 people onsite. Therefore, there would be between 6sqm-7sqm of open space per worker.

- 5.11 A community focus has been given to the main access points to boost and welcome residents and locals to interact and enjoy the new activities onsite. The open space on the Site has been designed to be welcoming to all visitors and workers with great detail been given to the every-day visitor experience and how visitors may engage with the Site. Additionally, the Site would prioritise pedestrians by through access routes, and the space would be large enough so that the public space and public realm is accessible to all regardless of needs. The public realm would encourage health and wellbeing as it would provide the provision of formal and informal activities, such as green gym equipment, a running track, group exercise class spaces, open space and access to nature.
- 5.12 The seven distinct landscape characteristics are described below:
- **Abbey Grove** – this is the welcome place in the north of the Site. The walk would provide a flexible space and provide a diverse set of scenarios and intimate spaces which could host a variety of events which would have a focus on culture, art, and community. The space is flexible enough to be able to provide temporary installations and a community theatre. Along the walk there would be a variety of retail and café space for all visitors as well as seating for meet ups;
 - **Garden Walk** – this is the green link between the north and south of the Site. It acts as a shared space for pedestrians and cyclists, providing a green, accessible, and pleasant route for those moving between plots. The walkway would have cafes, intimate seating areas, and cafes, creating a calm and pleasant space;
 - **Maple Square** – at the heart of the Site would be Maple Square, a large central plaza in which creative events could be held, public art could be displayed, and events such as pop-up cinemas or ice-skating rinks could be hosted. Cafes, seating, and the four existing maple trees would skirt the outer edge of the square, creating a vibrant and green setting;
 - **Hive Park** – in the south west corner of the Site would be Hive Park, a large new public park. A south-facing open lawn would create an ideal environment for summer picnics, reading, and sun-bathing, whilst wildflower meadows would provide character and life. The park would include a dedicated play area for children, as well as ample seating for parents;
 - **The Lanes** – skirting the north west boundary of the Site, The Lanes would retain and enhance the existing green boundaries and routes. A wide, pleasant footpath would be provided that incorporates access to local cafes, incidental play integration, and a green buffer;
 - **Wildlife area** – to the north of the Site would be the Wildlife Area, which would contain a natural pond, a low-level boundary hedge, and a range of habitat installations designed to provide habitats for local wildlife. Interpretation boards would allow visitors to identify local wildlife, and the area would provide a high-level of biodiversity;
 - **Linear walks** – this would be the walk which interconnects all of the above and provide a space to dwell and have lunch or coffee with colleagues.
- 5.13 The open space has been designed to create buffers between the Site and the neighbouring residential areas, named Silverwood Close, Sleaford Street, York Street, and St Matthews Gardens. These spaces would serve a townscape purpose, separating the residential areas from the commercial property. This high-quality open space would be provided alongside improved public realm which would provide better access to all around the Site.
- 5.14 The **Design and Access Statement** outlines that the open space would be managed and maintained by the Applicant via their estate/property team manager. They would be responsible for the security of the open space, cleaning and maintaining, and making sure the landscape is kept in good condition.
- 5.15 The **Design and Access Statement** outlines that a key principle of the masterplan is to achieve an ambitious target of 100% biodiversity net gain by retaining 58 trees and planting a further 290 new ones. Additionally, new climate resilient habitat types would be introduced to the Site and existing ones will be

strengthened. This would be achieved by providing characterful landscape with water features, public art, 'play on the way' spaces, woodland and picnic lawns.

- 5.16 The **Design and Access Statement** notes that a key issue raised through the consultation process is not just support for more green space but ensuring that the space is of high quality and there are opportunities for social interaction. The Proposed Development has designed each landscape characteristic to have its own identity and has provided enough space to meet the needs of the community and to allow for greater social interaction.

Health impact

- 5.17 It is expected that there would be a neutral impact on health during the construction phase as it would not affect the open space provision onsite, because there is currently none, and there are alternatives nearby (Coldham's Common) which the construction workers could utilise.
- 5.18 Based on the known positive links between access to open space and nature and health outcomes, the provision of open space at the Proposed Development would have a positive impact on health during the operational phase. This positive health impact is expected to be felt by all vulnerable groups due to the large provision and accessibility of the open space. The open space and walkways proposed would improve and encourage activity, reduce stress, and improve mental health for all visitors to the Site. Additionally, the Proposed Development is expected to provide a positive health impact to residents suffering with dementia which is further discussed in **paragraph 5.115**.

Table 5.2 – access to open space and nature

Assessment criteria	Relevant?	Details/evidence	Potential health impact?	Recommended mitigation or enhancement actions
Does the proposal retain and enhance existing open and natural spaces?	☒ Yes ☐ No ☐ N/A	There are no existing open and natural spaces at the Site. The Proposed Development includes seven distinct landscape characteristics which would provide lots of open space for all employees and the local community.	☒ Positive ☐ Negative ☐ Neutral ☐ Uncertain	
In areas of deficiency, does the proposal provide new open or natural space, or improve access to existing spaces?	☒ Yes ☐ No ☐ N/A	The Proposed Development would provide high quality public realm, with the addition of the linear walks which would provide access to all open spaces around the Site.	☒ Positive ☐ Negative ☐ Neutral ☐ Uncertain	
Does the proposal provide a range of play spaces for	☒ Yes ☐ No ☐ N/A	Despite being a solely commercial development, the Proposed Development would provide a variety of play spaces for children and young people. This includes incidental play,	☒ Positive ☐ Negative ☐ Neutral ☐ Uncertain	

Assessment criteria	Relevant?	Details/evidence	Potential health impact?	Recommended mitigation or enhancement actions
children and young people?		play-on-the-way, and a play area. This would provide a positive beneficial health impact for all children and young people. The Proposed Development would provide a community facility which has been designed through consultation with many local community groups. Therefore, the space has been designed to cater for many needs.		
Does the proposal provide links between open and natural spaces and the public realm?	☒ Yes ☐ No ☐ N/A	The Proposed Development would provide accessible routes between open spaces and the public realm. The designated walkways, Garden Walk, The Lanes, and Linear Walks, will provide access through to the gardens and other open spaces onsite.	☒ Positive ☐ Negative ☐ Neutral ☐ Uncertain	
Are the open and natural spaces welcoming and safe and accessible for all?	☒ Yes ☐ No ☐ N/A	The Proposed Development would provide accessible walkways for all and provide open space large enough for all users to be able to enjoy the space. There would be a ramp to give access to all in the open space around the community hub. There would be no obstruction to any public space which would benefit any individuals which have mobility problems.	☒ Positive ☐ Negative ☐ Neutral ☐ Uncertain	
Does the proposal set out how new open space will be managed and maintained?	☒ Yes ☐ No ☐ N/A	The Design and Access Statement identifies that the estate would be managed and maintained by the Applicant, via their estate/property manager. This would encompass: Security, cleaning, maintenance, lighting and landscape management.	☒ Positive ☐ Negative ☐ Neutral ☐ Uncertain	Follow guidance as identified in the Design and Access Statement through the use of the estates team.

Accessibility and active travel

Pathways for health impact

- 5.19 The World Health Organisation 2020 report finds that cycling and walking can help fight weight problems and reduce physical inactivity, which reportedly cause one million deaths per year in the European region, while also helping to reduce air pollution, which reportedly cause more than half a million deaths per year. The report finds that significant shifts toward walking and cycling can address problems resulting from current transport patterns, such as emissions of air pollutants, greenhouse gasses and noise, traffic injuries, and limited opportunities for physical activity and use of public space.²³
- 5.20 Convenient access to a range of services and facilities minimises the need to travel and provides greater opportunities for social interaction. Buildings and spaces that are easily accessible and safe also encourage all groups, including older people and people with a disability, to use them. Discouraging car use and providing opportunities for walking and cycling can increase physical activity and help prevent chronic diseases, reduce risk of premature death, and improve mental health.²⁴
- 5.21 Existing literature on accessibility and active travel highlights its particular importance for certain equality groups. This is because these groups are more reliant on accessible active travel routes.²⁵ For example, there is a requirement to enable children to safely walk or cycle to school. Additionally, adequate pedestrian infrastructure is key to enabling the mobility in independence of older people. It is also important to promote accessibility in order to empower those with long-term health issues or disabilities to engage in active travel.
- 5.22 Changes in accessibility and active travel have the potential to differentially the following vulnerable population groups:
- **Older people (65+):** this population group are likely to have reduced mobility and therefore rely on accessibility provision.
 - **Low income and unemployed residents:** this population group are less likely to have access to vehicles and therefore rely on active travel alternatives.
 - **People with long-term illness or disability:** this population group are more likely to have reduced mobility and therefore rely on accessibility provision.

Baseline conditions

- 5.23 The Site has relatively good access to public transport options. It is located within walking distance (approximately 20 minutes) away from Cambridge train station. Cambridge train station connects to several major cities across the UK, including a direct train to London Kings Cross. A bus stop is provided within the Site which is served by bus route 19 and 114 which offer services to Addenbrookes, Chesterton, Landbeach and central Cambridge. Additional bus services can be accessed from bus stops along Newmarket Road. The bus stop on Newmarket Road is located 300m to the north-west of the Site and provides access to bus routes 3, 11, 12, 19, 114 and Park & Ride route 2.
- 5.24 **Figure 5.2** displays the method used to travel to work across relevant geographies. It is noteworthy that residents in the Local Area and Cambridge cycle to work at a significantly higher rate (18% and 17% respectively) than the East of England (2%) and England (2%). Additionally, travelling to work by car is

²³ WHO, 2022. WHO European Regional Obesity Report

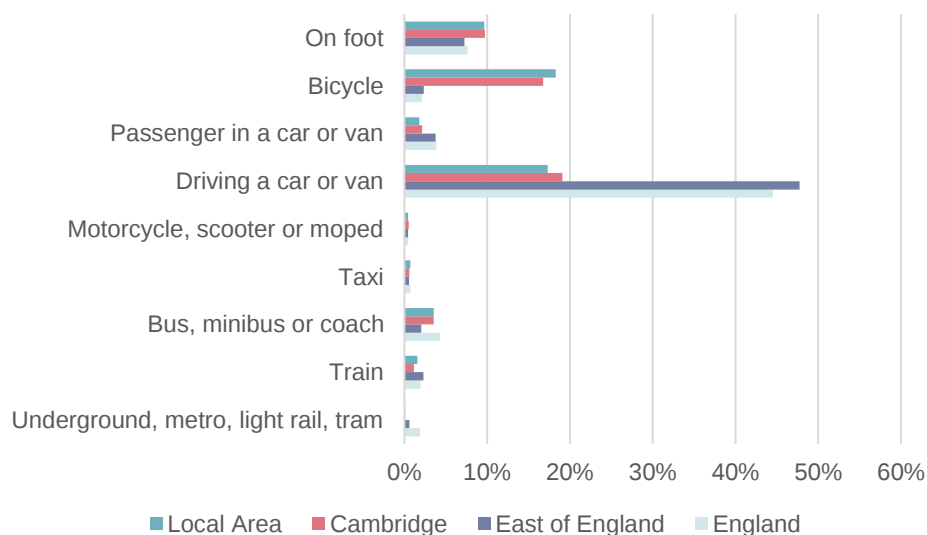
²⁴ NHS London HUDU, 2017. Rapid Health Impact Assessment Tool

²⁵ Public Health England, 2016. Working Together to Promote Active Travel

significantly less common for residents of the Local Area and Cambridge (17%, and 19% respectively), compared to levels seen across the East of England (48%), and England (45%).

Figure 5.2 – residents in the Local Area cycle to work more than residents of geographical comparators, with less emphasis on using independent vehicles

Method of travel across geographies (2021)



Source: ONS, 2022. Census 2021 TS061 - Method used to travel to work

Assessment of impact

Construction phase

5.25

Chapter 13 of the Environmental Statement, Transport finds there is existing pedestrian access at from Coldhams Lane, St Mathews Gardens, York Street and Sleaford Street, however many of the accesses are narrow and unattractive for pedestrians. The potential effects during the construction phase of the Proposed Development, including temporary disruption to pedestrians, cyclists and road vehicle users and temporary traffic generation in relation to HGVs during the construction works is considered. There are no significant effects expected in terms of pedestrian delay, as the Proposed Development is unlikely to generate significant traffic flows during the construction phase. In terms of access of the site to pedestrians and cyclists during the construction period:

- Access through the site will be retained for peds and cycles at all stages.
- Access routes will be influenced by construction phasing, however all routes will be secure, and well segregated from construction activities/movements.
- Routes will follow the existing or proposed lines as close as possible, depending on phase.
- This will be managed through the CEMP and site-specific actions.
- Potential for some – limited – closures, but only for key activities and planned / notified well in advance. Alternatives / diversions will be established in advance of such issues.

- 5.26 The **Construction Environmental Management Plan** states that the Principal Contractor is to consider all the information contained within the document as well as fully liaise with Cambridge City Council's Environmental Department. The Principal Contractor would use a designated construction traffic route for deliveries and removal of waste. Access routes to and from the Site are to be used by heavy goods vehicles (HGVs) and would be agreed with CCC prior to initiation of the construction programme, to minimise disruption to the road and pedestrian network.
- 5.27 To minimise the likelihood of congestion during the construction period, strict monitoring and control of vehicles entering and egressing on the Site would be implemented. The following best practices would be adopted:
- Construction deliveries would be carefully planned with delivery times agreed with each sub-contractor and supplier using a booking system;
 - Delivery schedules would be produced to look at the profiles of up- and-coming deliveries, and to regulate deliveries and eliminate bottle necks; and
 - The number of lorry movements, hours of operation and any lorry holding areas would be agreed in advance with the CCC.
- 5.28 Overall, **Chapter 13 of the Environmental Statement, Transport** finds that the demolition and construction works would result in some disruption to users of the Site and local highway networks. However a CEMP would be developed and mitigated which would ensure the construction phase would lead to a negligible, not significant impact. These effects are temporary and limited in geographic scope and so they are not expected to result in material changes to population health in the local area.

Operational phase

- 5.29 The Proposed Development would transform the Site into one that is focussed on people and place, with reduced car dominance, improved air quality and significantly enhanced provision for pedestrians and cyclists. A new network of cycle routes across the Site would improve local connectivity with safer, higher capacity routes. The Proposed Development aims to increase sustainable modes of travel by 74% and reduce car drivers by 60%. The main vehicular transit route across the Site would be retained but improved to ensure a quick passage through the site where possible. It is intended to be a one-way vehicular route to give priority to pedestrians and cyclists.
- 5.30 The following measures would be adopted to discourage driving to and from the Site which has been outlined within the **Car Parking Management Plan**:
- All vehicles would be required to pre-register before entering the Site;
 - Vehicles would be monitored via Automatic Number Plate Recognition; and
 - Companies onsite would be issued with a maximum amount of parking permits based on the floor area. These would be allocated on a needs basis.
- 5.31 The existing primary vehicular site access from Coldhams Lane would be preserved and enhanced in the proposed design. The access would continue to be facilitated by a roundabout; however, significant improvements would be made to prioritise pedestrian and cycle safety. Each arm of the roundabout would feature dedicated crossing points for pedestrians and cyclists, ensuring their priority and convenience. Additionally, the existing Toucan crossing on Coldham's Lane, located to the east of the site access, would be relocated closer to the access junction, further enhancing accessibility. While maintaining a similar geometric layout, the roundabout would be revitalised using distinct materials, creating a visually appealing and distinctive entrance that contributes to the site's unique character.
- 5.32 The Proposed Development would improve pedestrian routes. The Proposed Development aims to create attractive and well-lit routes, encouraging people to explore the Site on foot whilst improving access to nearby amenities and public transport links. A total of 395 car parking spaces would be provided in the

Proposed Development, of which 374 would be provided within a multi-storey car park (which includes accessible and general parking) and 21 accessible spaces would be provided at grade. One in 20 car parking spaces would be provided with rapid EV chargers, with all remaining spaces having passive allowance.

- 5.33 A dedicated 4m cycle route is provided to tie into the popular Chisolm Trail in order to support sustainable travel around the Site. The cycle route would be segregated from pedestrians and other road users. From the main cycle route, cyclists visiting the site or travelling to a particular building can use a number of secondary routes to access dedicated cycle parking areas. The Proposed Development would provide onsite cycle improvements which would include the LTN1/20 cycle route provided through the site connecting Sleaford Street, York Street, St Matthew's Gardens and Coldham's Lane. Each block within the Proposed Development would feature shower, changing facilities and lockers for cyclists and other non-car commuters. The provision would adhere to a ratio of one shower/changing room per 25 cycle parking spaces and one locker per cycle parking space. There would be a total of 4,593 cycle parking spaces. These facilities would be strategically located to provide simple and direct access to the shower/changing facilities. Additionally, the Proposed Development would provide a new network of cycle routes across the Site which would improve local connectivity with safer, higher capacity routes.
- 5.34 **Chapter 13 of the Environmental Statement, Transport** of the ES states that the existing bus stop within the Site would be relocated centrally along the one-way loop for ease of access for all site users. The relocated bus stop would be provided with high quality waiting areas, including a raised kerb to aid access for those with mobility issues, large shelters with seating, lighting and live arrival information and nearby bins. Additionally, Mobility as a Service (MaaS) would be facilitated which brings together different transport options for different users who may require different mobility needs. This further support increases the accessibility and inclusion of the Proposed Development.
- 5.35 **Chapter 13 of the Environmental Statement, Transport** concludes that the Proposed Development would have a long-term major beneficial impact regarding the disruption to pedestrians, cyclists and road vehicle users on and immediately surrounding the Site. The transport chapter finds that significant beneficial effects are anticipated due to the substantial net reduction in traffic flows.
- 5.36 Overall, the impact on health outcomes as a result of changes in accessibility, inclusivity and active travel are deemed positive.

Health impact

- 5.37 It is expected that there would be a negative impact on health during the construction phase due to the impacts of construction on the Site. Where possible mitigation would be implemented in order to reduce the impact that this would have on vulnerable groups.
- 5.38 Based on the known positive links between accessibility and active travel and health outcomes, the provision of accessible routes within the Site would have a positive impact on health during the operational phase. The Proposed Development would encourage active travel within the Site which would encourage workers to find an alternative method of travel to get to work. **Chapter 13 of the Environmental Statement, Transport** also shows the new active routes within the Site which have been designed to be accessible for all and these new active routes encourage visitors to use the Site and access the public realm and open space. There is clear objective to increase active travel and public transport use, which should increase physical activity and overall health outcomes.

Table 5.3 – accessibility and active travel

Assessment criteria	Relevant?	Details/evidence	Potential health impact?	Recommended mitigation or enhancement actions
Does the proposal address the ten Healthy Streets indicators?	☒ Yes ☐ No ☐ N/A	The Design and Access Statement concludes that the Proposed Development design of the internal pedestrian and cycle network would align with Transport for London's Healthy Streets Approach, promoting a safe and pleasant environment for all users.	☒ Positive ☐ Negative ☐ Neutral ☐ Uncertain	
Does the proposal prioritise and encourage walking (such as through shared spaces)?	☒ Yes ☐ No ☐ N/A	The Proposed Development provides accessible routes and encourages walking to open spaces around the Site and the public realm.	☒ Positive ☐ Negative ☐ Neutral ☐ Uncertain	
Does the proposal prioritise and encourage cycling (for example by providing secure cycle parking, showers and cycle lanes)?	☒ Yes ☐ No ☐ N/A	Each block within the Proposed Development would feature shower, changing facilities and lockers for cyclists and other non-car commuters. The provision would adhere to a ratio of one shower/changing room per 25 cycle parking spaces and one locker per cycle parking space. There would be 4,593 cycle parking spaces and these facilities would be strategically located to provide simple and direct access to the shower/changing facilities. Additionally, the Proposed Development would provide a new network of cycle routes across the Site which would improve local connectivity with safer, higher capacity routes.	☒ Positive ☐ Negative ☐ Neutral ☐ Uncertain	

Assessment criteria	Relevant?	Details/evidence	Potential health impact?	Recommended mitigation or enhancement actions
Does the proposal connect public realm and internal routes to local and strategic cycle and walking networks?	☒ Yes ☐ No ☐ N/A	The Proposed Development would provide safe, direct and coherent walking and cycling routes within the Site, connecting to the local area and amenities for all users. The Proposed Development would provide a new network of cycle routes across the Site which would improve local connectivity with safer and higher capacity routes.	☒ Positive ☐ Negative ☐ Neutral ☐ Uncertain	
Does the proposal include traffic management and calming measures to help reduce and minimise road injuries?	☒ Yes ☐ No ☐ N/A	The Proposed Development would transform the Site into one that is focused on people and place, with reduced car dominance, improved air quality and significantly enhanced provision for pedestrians and cyclists.	☒ Positive ☐ Negative ☐ Neutral ☐ Uncertain	
Is the proposal well connected to public transport, local services and facilities?	☒ Yes ☐ No ☐ N/A	The Site is a 20-minute walk away from Cambridge train station and there is a bus stop which is located onsite which provides access to the centre of Cambridge.	☒ Positive ☐ Negative ☐ Neutral ☐ Uncertain	
Does the proposal seek to reduce car use by reducing car parking provision, supported by the controlled parking zones, car clubs and travel plans measures?	☒ Yes ☐ No ☐ N/A	The Proposed Development would provide a total of 395 car parking spaces, of which 374 would be provided within a multi-storey car park (which includes accessible and general parking) and 21 accessible spaces would be provided at grade. This would be half of the current provision of parking spaces (885 existing car parking spaces).	☒ Positive ☐ Negative ☐ Neutral ☐ Uncertain	
Does the proposal allow people with mobility problems or a disability to	☒ Yes ☐ No ☐ N/A	The Proposed Development is designed to incorporate the highest levels of inclusive and accessible design.	☒ Positive ☐ Negative ☐ Neutral ☐ Uncertain	

Assessment criteria	Relevant?	Details/evidence	Potential health impact?	Recommended mitigation or enhancement actions
access buildings and places?				

Crime reduction and community safety

Pathways for health impact

- 5.39 Changes in both crime and the fear of crime have the potential to affect mental wellbeing. As well as the immediate physical and psychological impact of being a victim of crime, people can also suffer indirect long-term health consequences including disability, victimisation and isolation because of fear. Fear of crime in an area may be restrict residents from leaving their homes, reducing the number of opportunities an individual has to form social ties and participate in social activities.²⁶ Fear of crime has also been linked to physical activity, negative effects on psychological wellbeing, and an increased likelihood of heavy drinking.²⁷
- 5.40 Changes in crime reduction and community safety have the potential to differentially the following vulnerable population groups:
- **Younger people (0-24)** – in relation to younger children, a study into childhood obesity and physical activity found that children were less physically active when they were in an environment not judged as safe.²⁸
 - **Older people (65+)** – a literature review by J. Won et al. in 2016 studied older people's health outcomes in relation to neighbourhood safety²⁹. The review found that higher levels of safety caused higher levels of physical activity amongst older people. Further to this, crime related safety was associated with better mental health and more walking, as individuals were more assured of their safety when going outdoors.
 - **Ethnic minority groups** – data shows that a higher percentage of people from BAME groups were targets of crime relative to white individuals (22% for mixed and 16% for Asian compared with 14% for white).³⁰ Moreover, 1 in 5 BAME individuals were victim to crime (compared to 15% for white people), while black people were three times more likely to be arrested than white people, highlighting the disproportionate impact of crime on ethnic minorities, partially due to racial profiling.³¹ Those from ethnic minority groups already experience poorer health than the overall UK population, and the differential impact of crime on this group may affect their health further.³²
 - **Homeless people:** homelessness is associated with crime victimisation as this group is targeted by criminals.³³ Therefore, homeless people who already experience poorer health, are also differentially impacted by crime which may further affect their health.

²⁶ Stafford et al., 2007. Association Between Fear of Crime and Mental Health and Physical Functioning

²⁷ Lorenc et al. (2012): Crime, fear of crime, environment, and mental health and wellbeing: mapping review of theories and causal pathways, Health Place

²⁸ An et al. (2017): Influence of Neighbourhood Safety on Childhood Obesity: A Systematic Review and Meta-analysis of Longitudinal Studies. Obesity Reviews. Nov;18(11):1289-1309

²⁹ Lorenc et al. (2012): Crime, fear of crime, environment, and mental health and wellbeing: mapping review of theories and causal pathways, Health Place

³⁰ ONS (2018): Victims of Crime

³¹ Independent (2017): Ethnic minorities most likely to be both victims and suspects of crime, UK race report finds. Retrieved from: <https://www.independent.co.uk/news/uk/home-news/ethnic-minorities-crime-victims-perpetrators-uk-race-report-a7993521.html> Accessed June 2023

³² Centre for Crime and Justice Studies – Roberts and McMahon (2008): Ethnicity, harm and crime

³³ Sandra Nilsson, Merete Nordentoft, Seena Fazel and Thomas Laursen, 2020. Homelessness and police-recorded crime victimisation: a nationwide, register-based cohort study

- **Care leavers:** care leavers are likely to have experienced adverse childhood experiences and trauma. This group is left vulnerable to criminal and sexual exploitation.³⁴ Therefore, this group could be exposed to criminal activity after leaving care whilst also being targeted due to their vulnerability.

Baseline conditions

- 5.41 The most recent available crime data (February 2022 to February 2023) shows that there were approximately 4,000 crimes committed in the Local Area, a rate of 125 crimes per 1,000 residents.³⁵ This compares to a crime rate of 114 crimes per 1,000 residents across Cambridge more generally. For comparison, the East of England had a crime rate of 74 crimes per 1,000 residents, with England averaging 84 crimes per 1,000 population. This shows that the level of crime in the Local Area is worse than the regional and national average demonstrating that crime is a significant problem in the Local Area.
- 5.42 The Indices of Multiple Deprivations (IMD) is a measure of deprivation based on several 'domains' of deprivation.³⁶ The crime domain of the IMD measures the extent crime at the neighbourhood level. Under the crime domain, the LSOA of which the Site falls within, is located in the top 30% least deprived LSOA for crime in the UK. However, the Site sits next to LSOAs which fall within the top 30% most deprived LSOAs for crime in the UK. For comparison, Cambridge sits in the top 40% most deprived of all local authorities in the UK. This can be seen in **Figure 5.3**.

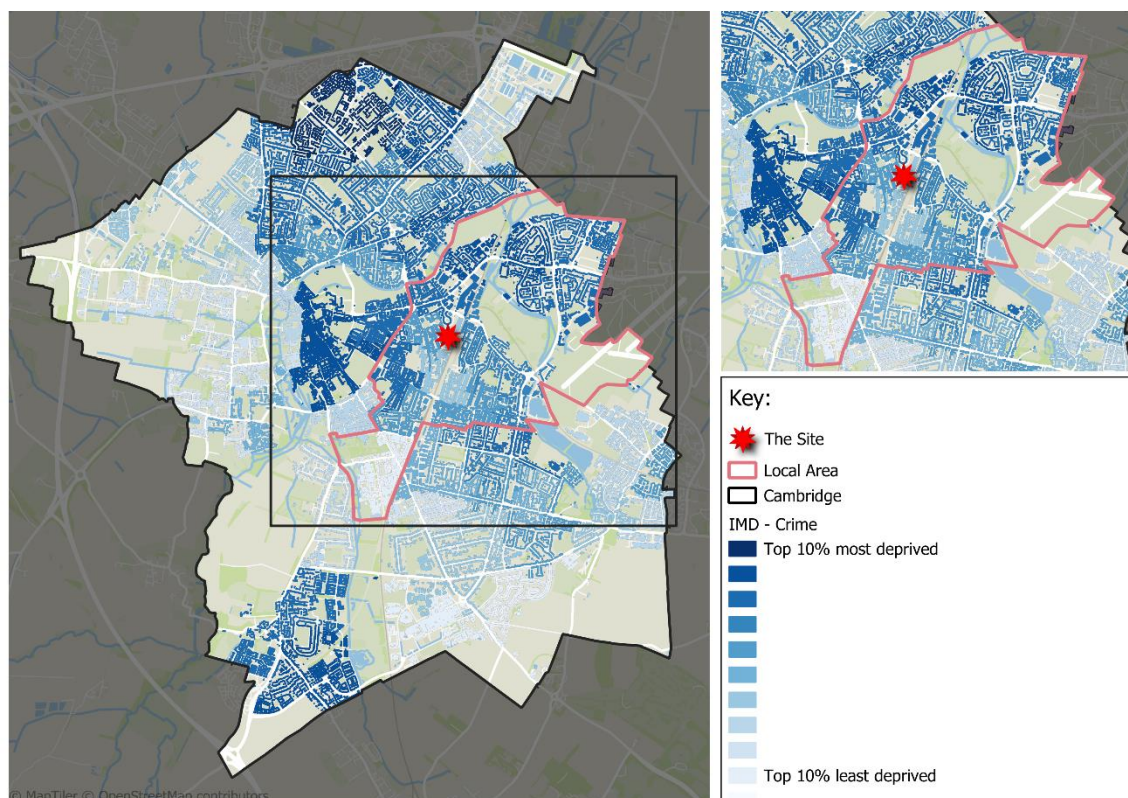
³⁴ Mayor of London, 2021. Reducing criminalization of looked -after children and care leavers

³⁵ Data Police UK, 2023. Data Downloads. Retrieved from <https://data.police.uk/data/> Accessed April 2023

³⁶ IMD, 2019. English Indices of multiple deprivations

Figure 5.3 – the Site is located near LSOAs which fall within the top 30% most deprived areas for crime in the UK

IMD – crime domain



Source: IMD, 2019. English Indices of multiple deprivations

Assessment of impact

Construction

- 5.43 The **Construction Environment Management Plan** outlines that the Site would be boarded by security fencing and hoarding on the Site boundary would also be covered in lights to enhance the feeling of safety. The construction activity would temporarily increase employment onsite, increasing informal natural surveillance.

Operational

- 5.44 The **Crime Prevention Measures** are outlined in the **Design and Access Statement**. It states that the Proposed Development would not condition a Secured by Design (SbD) initiative for planning. However, the principles to achieve SbD accreditation have been followed throughout the security design for the Site.
- 5.45 The following measures would be developed and co-ordinated by Hoare Lea (security consultants) to keep the Proposed Development a safe area:

- Physical security measures on externally accessible doors (i.e., main entrances, final emergency escape exits and cycle store entrances);
 - Reception lobbies in all buildings incorporate turnstiles as a first line of control during standard operating hours;
 - Compartmentalisation to be applied to the circulation cores of each building to control access, with a focus on vertical compartmentalisation controlling access to each floor;
 - Electronic security systems would be provided that deter, detect, delay and allow facility management to respond and recover. These electronic systems would likely include:
 - Electronic access control;
 - Video surveillance systems; and
 - Audio and visual intercoms.
 - All cycle storage provided should provide the ability for 3-point locking (i.e., Sheffield stands); and
 - SbD principles for external designs, including uniformity of lighting and considerations for enhancing natural surveillance and specifying street furniture designs that mitigate ASB.
- 5.46 The wider site would be managed 24/7 by an on-site security team that operates out of a security control room located within the multi-storey car park (MSCP). The security team would have the ability to monitor security systems such as view CCTV images 24/7, monitor access control notifications and receive intercom calls (to remotely release landlord-controlled doors and communicate with reception staff).
- 5.47 Clear distinctions between user groups will be created through physical barriers and access control methods. It is essential that there is a separation between commercial tenant users and the public. These measures have been put in place in order to protect workers and visitors to the Site.
- 5.48 Surveillance will be achieved through a balance of natural and active surveillance (video surveillance Systems / CCTV). The optimisation of natural surveillance, through spaces that are well lit, are naturally overlooked by users, and has the increased benefit of reducing the need for active measures, whilst remaining an excellent deterrent for crime within that space. Surveillance, largely acts as a deterrent, helping to reduce the likelihood of many conventional crimes (i.e., trespass, theft and insider threat) from taking place.
- 5.49 A key principle of the Proposed Development is to design a safe space through continuous and active use. This will be done through: activating open space throughout, an active two-way management mechanism, a meanwhile strategy in the construction period, active ground floor uses on all corners of the site, curated uses that can offer some night time activity across the site, and address traffic, parking and safe cycle access.

Health impact

- 5.50 Based on the known positive links between crime reduction and health outcomes, and the provision of designing out crime measures during the construction and operational phase of the Proposed Development, it is expected that this would have a positive impact on health. The designing out crime measures proposed would make the Site an active hub which would help to reduce crime. This would help to improve the health of vulnerable groups in the local community as these groups should have a greater assurance of safety in the area.

Table 5.4 – crime reduction and community safety

Assessment criteria	Relevant?	Details/evidence	Potential health impact?	Recommended mitigation or enhancement actions
Does the proposal incorporate elements to help design out crime?	☒ Yes ☐ No ☐ N/A	The Proposed Development would include elements such as passive and active surveillance measures to help design out crime. Such measures include CCTV which would be watched by the security team and lighting to increase eyes on the street which would provide natural surveillance.	☒ Positive ☐ Negative ☐ Neutral ☐ Uncertain	Deliver the measures as identified in the Crime Prevention Measures section of the Design and Access Statement .
Does the proposal incorporate design techniques to help people feel secure and avoid creating 'gated communities'?	☒ Yes ☐ No ☐ N/A	The Proposed Development would provide new active public realm and lighting. This would provide extra security around the Site and make people feel more secure. The Site will also be accessible to all with no gates or barriers to entry, and it will be accessible 24 hours a day and seven days a week.	☒ Positive ☐ Negative ☐ Neutral ☐ Uncertain	
Does the proposal include attractive, multi-use public spaces and buildings?	☒ Yes ☐ No ☐ N/A	The Proposed Development would provide community spaces and publicly accessible open space. This would provide a community feel around the Site. The majority of the Site will be accessible to the public, with no gates or barriers to access, at any time or day of the week.	☒ Positive ☐ Negative ☐ Neutral ☐ Uncertain	
Has engagement and consultation been carried out with the local community?	☒ Yes ☐ No ☐ N/A	Community consultation has been carried out with the local community. The main concerns are summarised in paragraph 5.108 .	☒ Positive ☐ Negative ☐ Neutral ☐ Uncertain	

Air quality, noise and neighbourhood amenity

- 5.51 The quality of the local environment can have a significant impact on physical and mental health. Pollution caused by construction, traffic and commercial activity can result in poor air quality, noise nuisance, and vibration. Poor air quality is linked to incidence of chronic lung disease (chronic bronchitis and emphysema) and heart conditions and asthma levels among children and young people. Noise pollution can have a detrimental impact on health resulting in sleep disturbance, cardiovascular and psycho-physiological effects. Good design and the separation of land uses can lessen the impact of noise on health.³⁷
- 5.52 Literature on air quality, noise, and neighbourhood amenity provides insight as to which vulnerable groups are significantly impacted in this regard. Children are particularly vulnerable to the negative effects of air pollution and noise. Exposure to air pollution has been linked to reduced lung function, asthma, and cognitive impairment, while exposure to noise can cause sleep disturbances and affect their learning and development. The elderly are more susceptible to the negative health effects of air pollution, such as heart and lung diseases, and can also be more sensitive to noise, which can disrupt sleep and exacerbate existing health conditions. People with pre-existing respiratory and cardiovascular diseases are at higher risk of experiencing health problems related to air pollution, such as exacerbation of asthma and heart attacks. Exposure to noise can also increase their risk of heart disease. Low-income communities and people living in urban areas are more likely to be exposed to high levels of air pollution and noise due to factors such as proximity to highways and industrial facilities.
- 5.53 Changes to air quality, noise, and neighbourhood amenity have the potential to differentially impact the following vulnerable groups:
- **Younger people (0-24):** children and younger people are more vulnerable to respiratory health conditions such as asthma or bronchitis as their lungs are developing.
 - **Older people (65+):** older people are more likely to have pre-existing respiratory issues, which can exacerbate with a deterioration to air quality. Additionally, older people are more likely to experience loneliness and therefore rely on neighbourhood amenity.
 - **Low income and unemployed residents:** This population group are more likely to live in areas affected by noise and air pollution.
 - **Individuals with Long-term illness or disability:** this population group are more likely to have pre-existing respiratory issues, which can exacerbate with a deterioration to air quality.

Baseline conditions

- 5.54 **Chapter Six of the Environmental Statement, Air Quality** found that PM10 and PM2.5 AQS objectives were met at all five automatic monitors in CCC from 2016 to 2023. The annual mean NO2 AQS objective was met at all monitors in all years with the exception of the CM4 monitor in 2016. Additionally, pollutant concentrations have generally reduced between 2016 and 2023. The results show the annual mean NO2 AQS objective of 40µg/m3 was met at all eight of the closest diffusion tubes closest to the Site from 2016 to 2023. Annual mean NO2 concentrations reduced between 2016 (or when monitoring started) and 2023 at all eight diffusion tubes. Overall, the data in shows that all pollutants are below the respective AQS objectives.
- 5.55 **Chapter Eleven of the Environmental Statement, Noise and Vibration** identified that the primary sources of environmental sound affecting the Site are road traffic on the local road network, particularly vehicles travelling along Coldhams Lane, and trains running along the railway tracks which demark the eastern Site boundary.

³⁷ NHS London HUDU, 2017. Rapid Health Impact Assessment Tool

- 5.56 The Indices of Multiple Deprivations (IMD) is a measure of deprivation based on several 'domains' of deprivation.³⁸ The living environment domain of the IMD measures the extent of air pollution, noise levels and road traffic accidents at the neighbourhood level. Under the living environment domain, the LSOA of which the Site falls within, is located in the top 10% most deprived LSOA for living environment in the UK. For comparison, Cambridge sits in the top 30% of all local authorities in the UK.
- 5.57 The centre of Cambridge has been a statutory Air Quality Management Area since 2004 due to exceeding levels of nitrogen dioxide.³⁹ This has mainly come from vehicle emissions. Air quality has been improving in most parts of Cambridge. There was a decrease of nitrogen dioxide and particulate matters during the coronavirus pandemic with levels staying similar into 2021. Though it is clear that air pollution has fallen, the annual report was not able to fully determine the extent of the fall. The Cambridge Local Plan (2018) sets out three main actions to help improve pollution emissions in Cambridge:⁴⁰
- Reducing local traffics emissions as quickly as possible to meet national objectives;
 - Maintaining levels of pollutants below national objectives; and
 - Improving public health.

Assessment of impact

Construction phase

- 5.58 Throughout the construction phase, the Proposed Development could result in the generation of additional noise and air pollution through construction activities including the operation of plant machinery and the movement of bulk material. This would have the potential to adversely affect residents, and particularly those sensitive to the changes, including the vulnerable population groups of older people and those with long term illness or disability.
- 5.59 **Chapter Six of the Environmental Statement, Air Quality** provides an assessment of the impact of the construction phase of the Proposed Development on dust generation and emissions. The results of the dust impacts caused by the Proposed Development consider both the potential magnitude and the sensitivity of the area. Additionally, it is estimated that the number of Heavy Duty Vehicles would be over 50 outward movements in any one day. It is considered that the construction vehicles could have an adverse impact on local pollutant concentrations but would be very small in comparison to the emissions from traffic movements on the roads adjacent to the Site. **Chapter Six of the Environmental Statement, Air Quality** states that during the demolition and construction phase, the Site is considered high risk to dust soiling and human health impacts. Therefore, mitigation would be required to ensure that the adverse impacts would be minimised, reduced and, where possible, eliminated.
- 5.60 The **Construction Environmental Management Plan** outlines mitigation measures that would be implemented to reduce the impacts of the construction phase. Some of the mitigation measures are outlined below:
- Development and implementation of a Dust Management Plan (DMP), which may include measures to control other emissions, approved by CCC;
 - Record of all dust and air quality complaints, identify cause(s), and take appropriate measures to reduce emissions in a timely manner, and record the measures taken;
 - Undertake a daily onsite and off-site inspection, where receptors (including roads) are nearby, monitor dust levels and record inspection results, and make the log available to the CCC when its requested.

³⁸ IMD, 2019. English Indices of multiple deprivations

³⁹ Cambridge City Council, 2022. Air Quality Annual Status Report 2022

⁴⁰ CCC, 2018. Local Plan

This should include regular dust soiling checks of surfaces such as street furniture, cars and windowsills within 100m of site boundary, with cleaning to be provided if necessary; and

- Fully enclose the Site or specific operations where there is a high potential for dust production.

- 5.61 Overall, **Chapter Six of the Environmental Statement, Air Quality** finds that following range of environmental management measures, the changes to dust emissions, would be negligible and not significant. The effect of construction vehicles entering and leaving the Site, following implementation of mitigation, and construction plant emissions would also be negligible during the construction phase. Nevertheless, construction vehicle routes and timings would be discussed and agreed with the CCC to minimise effects to sensitive receptors.
- 5.62 **Chapter Eleven of the Environmental Statement, Noise and Vibration** finds that the majority of demolition and construction activities would be expected to have a neutral to minor adverse magnitude. The assessment finds that the noise from construction traffic can be expected to have a minor adverse impact which is negligible. The following mitigation measures have been outlined to minimise noise and vibrations associated with demolition and construction works:
- Limiting works to less sensitive daytime hours. (Normal working hours would be 07:00 to 19:00 Monday to Friday, 08:00 to 13:00 on Saturday and no construction on Sunday or bank holidays. Permission to undertake works outside of these hours may be required on occasion and permission should be agreed on a case-by-case arrangement.);
 - Defining access routes, reducing speeds and routing site traffic away from sensitive receptors where possible;
 - Adopting quieter methods of working and equipment. Careful consideration should be given to the methods of piling in particular;
 - Ensuring equipment, vehicles and plant are regularly maintained and operated in an appropriate manner;
 - Installing noise barriers and hoarding to control noise breakout at low level; and
 - Liaise with local residents to inform them of particularly high noise and vibration generating activities, setting out when and for how long these are likely to occur. This would be of particular importance where receptors are located at very small distances (less than 10m).
- 5.63 **Chapter Eleven, noise and vibration of the ES** finds that during the construction phase of the Proposed Development, demolition and construction activities as well as construction traffic have the potential to generate high levels of noise and vibration which may adversely affect existing and future receptors within the local area. However, following mitigation, such as limits on construction hours, this is expected to be mitigated and no significant effects are expected.
- 5.64 As such health effects due to changes in air quality and noise and vibration during the construction phase are expected to be neutral.

Operational phase

- 5.65 The **Chapter Six of the Environmental Statement, Air Quality** finds that the Proposed Development would result in a reduction of car parking spaces and subsequent reduction in vehicle movements, in annual average daily traffic, when compared to the existing site. It is predicted the Proposed Development would have a minor beneficial impact on local air quality and not significant. No mitigation measures would be required to mitigate against the operational development.
- 5.66 During consultation with the county council, they mentioned that this HIA should consider the implications of the wet lab space and any mitigation for odours and emissions. An odour assessment has not been undertaken at this stage. Odour assessments would be undertaken, if required, when the occupants and uses of the Proposed Development are confirmed. With regard to lab emissions, the tenant(s) would be responsible for the filtration for harmful chemicals they use in the fume cupboards. The fume extract

exhausts height will be based on BS 14175 BS 14175 Fume cupboard-Part 2 safety and performance requirements relating to fume discharge to atmosphere height.

5.67

Chapter Eleven of the Environmental Statement, Noise and Vibration concludes that the Proposed Development is expected to be compliant with the proposed limits and would be controlled through planning conditions. Therefore, the noise impact from the building services plant is assessed as being of neutral to minor adverse magnitude. The chapter outlines the following management policies which could be implemented during the operational phase to minimise the noise levels which are outlined below:

- Limiting the capacity of external spaces, operating hours, and use of amplified music;
- Fitting external furniture with soft rubber footings;
- Installing acoustic screens around external spaces;
- Installing signs to remind patrons to be mindful of surrounding neighbours;
- Establishing clear lines of communication with the local community to report issues relating to event noise; and
- Maintaining and regularly reviewing the Noise Management Plan to accommodate feedback from receptors and adapting to the specific need of events.

5.68

As a result of the mitigation measures, it is concluded that the noise would have a minor adverse effect which is not significant.

Health impacts

5.69

It is expected that there would be a neutral impact on health during the construction phase and the operational phase. This mitigation during the construction and operational phases would be implemented in order to reduce the impact that this would have on vulnerable groups. Overall, the Proposed Development is not expected to have an impact on any of the vulnerable groups stated above.

Table 5.5 – air quality, noise and neighbourhood amenity

Assessment criteria	Relevant?	Details/evidence	Potential health impact?	Recommended mitigation or enhancement actions
Does the proposal minimise construction impacts such as dust, noise, vibration, and odours?	☒ Yes ☐ No ☐ N/A	As described above, noise and air quality impacts are not considered to be significant after the implementation of appropriate mitigation.	☐ Positive ☐ Negative ☒ Neutral ☐ Uncertain	Implementation of the measures summarised above.
Does the proposal minimise air pollution caused by traffic and energy facilities?	☒ Yes ☐ No ☐ N/A	Air quality impacts are not considered to be significant after the implementation of appropriate mitigation. Additionally, Chapter 13 of the Environmental Statement, Transport outlines how the Proposed Development would reduce the number of cars and the Site would promote active	☒ Positive ☐ Negative ☐ Neutral ☐ Uncertain	

Assessment criteria	Relevant?	Details/evidence	Potential health impact?	Recommended mitigation or enhancement actions
		travel, helping to reduce air pollution.		
Does the proposal minimise noise pollution caused by traffic and commercial uses?	☒ Yes ☐ No ☐ N/A	The Proposed Development would reduce the number of cars and the Site would promote active travel, helping to reduce air pollution. Additionally, Chapter 13 of the Environmental Statement, Transport outlines mitigation measures to reduce noise and air pollution around the Site. A Delivery and Servicing Plan has been prepared in line with the local planning policy. The DSP outlines that DSP will take place onsite and will have a negligible impact on site users, pedestrian and cyclist safety, and the surrounding highway network.	☐ Positive ☐ Negative ☒ Neutral ☐ Uncertain	Implementation of Chapter 13 of the Environmental Statement, Transport mitigation measures

Access to healthy food

Pathway for health impact

- 5.70 Access to healthy and nutritious food can improve diet and prevent chronic diseases related to obesity. People on low incomes, including young families and older people are less likely to be able to eat well because of a lack of access to nutritious food. They are more likely to have access to food that is high in salt, oil, energy-dense fat and sugar. Opportunities to grow and purchase local healthy food, as well as limiting concentrations of hot food takeaways can change eating behaviour and improve physical and mental health.⁴¹
- 5.71 Wider literature suggests access to healthy food can have a significant impact on a wide range of vulnerable groups. Low-income neighbourhoods often lack access to grocery stores and other sources of fresh, healthy food, leading to higher rates of obesity and diet-related diseases. This is sometimes referred to as a "food desert."⁴² Individuals with chronic health conditions such as diabetes, heart disease, and obesity often require a specific diet to manage their condition, exacerbating need for healthy food access. Access to healthy food is particularly important for children, as their bodies are developing and require proper nutrition to support growth and development.
- 5.72 Changes in access to healthy food has the potential to differentially impact the following five vulnerable groups:
- **Younger people (0-24):** children who lack access to healthy food are more likely to experience poor health outcomes, including obesity and developmental delays.
 - **Low income and unemployed residents:** people in this group are more likely to rely on cheaper less nutritious food options. Therefore, the availability of healthy food outlets is important and can have large health impacts for this group.
 - **Individuals with long term illness or disability:** inadequate access to healthy food options can exacerbate underlying long-term illnesses or disabilities. Therefore, changes in access to healthy food can have large health impacts for this vulnerable population group.
 - **Homeless people:** this population group have significant barriers to access healthy food as more often than not they do not have the funds to provide this for themselves.⁴³ This can have a large health impact on this group.
 - **Care leavers:** this population group have found themselves leaving care and being responsible for themselves for the first time.⁴⁴ Therefore, it is important that this group has available healthy food options and information about how to prepare healthy food.

Baseline conditions

- 5.73 **Table 5.6** illustrates that Cambridge has relatively lower rates of obesity than wider geographic areas. The rate of obesity for adults within Cambridge is approximately 20 percentage points lower than regional and national averages. Rates of obesity among children are significantly lower in Cambridge than those seen regionally and nationally. Rates of obesity among children within Cambridge are approximately 19%, compared to 21% regionally and approximately 23% nationally.

⁴¹ NHS London HUDU, 2017. Rapid Health Impact Assessment Tool

⁴² Walker, 2010. Disparities and access to healthy food in the United States: a review of food deserts literature

⁴³ Kevin Fitzpatrick

⁴⁴ Rosemary Furey, Jean Harris-Evans, 2021. Work and resilience: Care leavers' experiences of navigating towards employment and independence

Table 5.6 – rates of obesity among adults and children are lower in Cambridge compared to geographical comparators

Rates of obesity across age groups and geographies

Health indicator	Cambridge	East	England
Percentage of adults (aged 18 plus) classified as overweight or obese	46%	64%	64%
Year 6: Prevalence of obesity (including sever obesity)	19%	21%	23%

Source: Public Health England, 2020. Cambridge Local Authority Health Profile 2019

5.74 **Table 5.7** shows the numbers of obesity related hospital admissions across geographies. Unsurprisingly, given relatively lower rates of recorded obesity, Cambridgeshire has a significantly lower rate of obesity-related hospital admissions per 1,000 residents (12) than that seen regionally and nationally (14 and 20).

Table 5.7 – there is a lower proportion of obesity related hospital admissions in Cambridgeshire compared to geographical comparators

Hospital admissions related to obesity across geographies

Indicator	Cambridgeshire	East	England
Obesity related hospital admissions	75	840	10,780
Obesity related hospital admissions per 1000	12	14	20

Source: NHS Digital, 2021. Statistics on Obesity, Physical Activity and Diet

5.75 The Site is located within a seven minute walk from Cambridge Retail Park (CRP) and 13-minute walk from the Grafton Shopping Centre. There are three and six food outlets in CRP and Grafton Shopping Centre respectively. Most of these food outlets are fast food restaurants. There are also other food outlets dotted around the Site which are accessible to the public.

Assessment of impact

Construction phase

5.76 Construction activity at the Proposed Development would introduce a significant number of workers to the site. This would have the potential to affect health through changing access to healthy foods for onsite workers. Currently, the surrounding area contains a shopping centre that contains Lidl which is located within a 13-minute walking distance of the site.

Operational phase

5.77 As described in the **Design and Access Statement**, once operational, the Proposed Development would deliver a number of restaurants/café/grab & go food offering spaces. This facility would be accessible to all users of the Proposed Development. The details regarding the exact operators and the provision of food at these spaces are not yet known and would be confirmed at a later stage. Nevertheless, it is acknowledged that the provision of food onsite would contribute to the provision of food options for onsite workers, and result in a small, but positive impact for users of the Proposed Development, provided the onsite spaces provide a range of healthy food options.

Health impacts

- 5.78 As a result of the current lack of healthy food options nearby, there is potential for adverse health impacts for construction workers on-site. However, construction workers are only temporarily stationed and could have poor access to healthy food in other locations they would alternatively be working in. A relatively larger health impact would be expected for on-site workers with specific needs or illnesses relating to food provision and dietary requirements.
- 5.79 Based on the known positive links between access to healthy food and health outcomes, the provision of healthy food restaurants at the Proposed Development would have a positive impact on health. The positive health impacts would be felt by workers and local residents as the additional options would improve their overall health and reduce the likelihood of obesity or other unhealthy food related illnesses.

Table 5.8 – access to health food

Assessment criteria	Relevant?	Details/evidence	Potential health impact?	Recommended mitigation or enhancement actions
Does the proposal facilitate the supply of local food, for example allotments, community farms and farmers' markets?	☐ Yes ☐ No ☒ N/A	The details regarding the exact operators and the provision of food at these spaces are not yet known and would be confirmed at a later stage.	☐ Positive ☐ Negative ☐ Neutral ☒ Uncertain	Ensure that the operator of the onsite food services to deliver healthy food options for staff.
Is there a range of retail uses, including food stores and smaller affordable shops for social enterprises?	☒ Yes ☐ No ☐ N/A	The Proposed Development would provide 17 shops, cafes, services and mixed use spaces onsite. The details of the offering of the space is still uncertain but expected to have a positive impact on the workers and residents.	☒ Positive ☐ Negative ☐ Neutral ☐ Uncertain	
Does the proposal avoid contributing towards an over concentration of hot food takeaways in the local area?	☒ Yes ☐ No ☐ N/A	There is a commitment to healthy food. The Local Centre and Public Realm Strategy sets the framework to ensure that the right mix and type of units will form the new Local Centre and is something that would be done after the Outline consent. This would be a matter for agreement with the planning authority and done in partnership with stakeholders.	☒ Positive ☐ Negative ☐ Neutral ☐ Uncertain	

Access to work and training

- 5.80 Employment and income are key determinants of health and wellbeing. Unemployment can lead to poverty, illness, and a reduction in personal and social esteem. Work aids recovery from physical and mental health.⁴⁵ The Marmot Review, commissioned by the Department of Health, looks at the relationship between health inequalities and economic status for communities within England. The review concludes that greater economic status is predictive of better health outcomes, and unemployment contributes to poor health outcomes. This conclusion is echoed by Public Health England (2014): “unemployed people have a greater risk of poor health than those in employment, contributing to health inequalities.”
- 5.81 Employment and skills effects are shown to be particularly relevant for some equality groups, including, people from ethnic minority communities, disabled people, and people from low-income groups. Unemployment can lead to poverty, illness, and a reduction in personal and social esteem. Work aids recovery from physical and mental illnesses and improves health outcomes. For many individuals, in particular those with long-term conditions such as mental health problems, musculoskeletal conditions and disabilities, health issues can be a barrier to gaining and retaining employment.
- 5.82 Changes in the availability of access to work and training has the potential to differentially effect the following vulnerable groups:
- **People of low income and unemployed residents:** individuals benefit to a greater extent from securing employment opportunities, which would result in positive health impacts.
 - **Ethnic minority groups:** individuals face exclusion from labour markets and difficulties accessing employment and training opportunities. Changes in access to work and training addressing these constraints would result in larger health impacts for this group.
 - **Individuals with long term illness or disability:** individuals who suffer from long term illness or disability find it harder to gain access to work for several reasons such as employer bias. A change in the provision of accessible employment would have a large impact on health outcomes for this group.
 - **Single parents:** single parents face the double burden of work and childcare. Therefore, this group is particularly vulnerable to a change in access to work and training.
 - **Homeless people:** homeless people are notorious for struggling to access work and training due to their living situation. This further effects health of this group.
 - **Care Leavers:** poor education and employment outcomes have been associated with care leavers due to poor access to work and training.⁴⁶ Therefore, this group is particularly vulnerable to a change in access to work and training.

Baseline conditions

- 5.83 The Site is a mid-sized retail park with mixed uses and associated ground level car park. The total Site area is 7.58 hectares (ha), which supports approximately 21,791 sqm (NIA), predominantly retail floorspace.
- 5.84 As shown in **Table 5.9**, there are 17 units within the Beehive Centre. The table presents two estimates for the number of jobs at the stores, one from JLL provided by the Applicant and estimates which HCA (2015) employment densities to VOA (2023) floorspaces for units at the Proposed Development. The latter method results in an estimated 855 jobs, which is higher than the JLL estimates of 730 jobs. The largest discrepancy is due to employment in the Asda. To ensure a reasonable worst-case assessment of the loss of jobs, this assessment uses the higher estimate of 855 jobs to assess this impact.

⁴⁵ NHS London HUDU, 2017. Rapid Health Impact Assessment Tool

⁴⁶ Rosemary Furey, Jean Harris-Evans, 2021. Work and resilience: Care leavers' experiences of navigating towards employment and independence

Table 5.9 - employment estimates for existing businesses on Site

Tenant name	Floorspace type	Jobs (Volterra estimates)	Jobs (JLL estimates)
Subway	Food and Beverage (F&B)	5	10
Everlast Fitness	Gym/leisure	25	25
Gymfinity Kids	Gym/leisure	30	30
Dreams	Retail Warehouse	15	10
Tapi Carpets & Floors	Retail Warehouse	10	10
Carpetright	Retail Warehouse	15	15
Next Home	Retail Warehouse	25	30
Go Outdoors	Retail Warehouse	25	40
B&M	Retail Warehouse	45	50
Hobbycraft	Retail Warehouse	15	30
Pets at Home	Retail Warehouse	25	30
Costa Coffee	F&B	10	15
M&S food	Retail Foodstore	85	100
Asda	Retail Foodstore	415	200
Homesense TK Maxx	Retail Warehouse	50	80
Wren Kitchens	Retail Warehouse	35	30
Porcelenosa	Retail Warehouse	15	15
G4S Security	Security	5	5
Total		855	730

Source: HCA, 2015, *Employment Density Guide*; NB: Figures may not sum due to rounding

- 5.85 The Indices of Multiple Deprivations (IMD) is a measure of deprivation based on several 'domains' of deprivation. The education, skills, and training domain of the IMD measures the lack of attaining and skills in the local population. The indicators fall into two sub-domains. One of these indicators relates to children and young people and one relates to adult skills.⁴⁷ The LSOA which the Site falls within is located in the top 10% least deprived LSOA for education, skills, and training in the UK. For comparison, Cambridge sits in the top 40% least deprived for education, skills, and training of all local authorities in the UK. However, there are areas within Cambridge, particularly in the north east, which display higher deprivation.
- 5.86 The **Employment and Skills Strategy** summarises the key employment and skills issues at the district (Cambridge and South Cambridgeshire) level. The key issues are outlined in a topic paper, which sets out

⁴⁷ IMD, 2019. English Indices of multiple deprivations

Cambridge's and South Cambridgeshire's joint commitments to ensuring there are opportunities to access skills, training and local employment within Cambridgeshire.⁴⁸

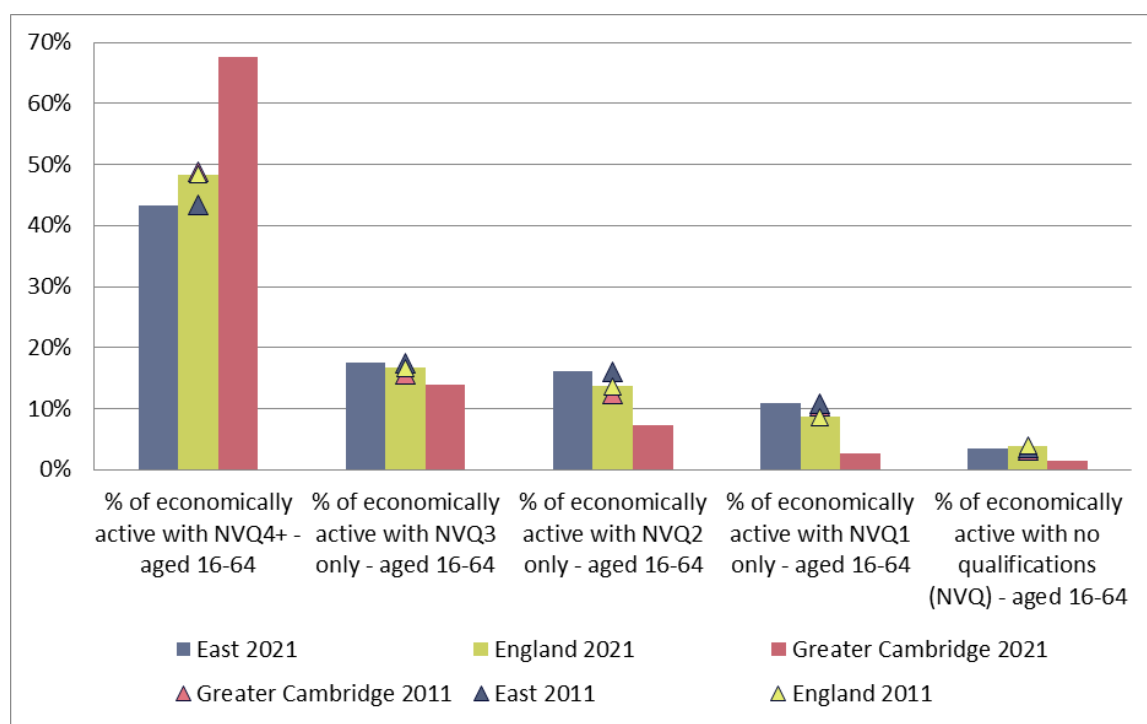
5.87

The following list outlines the key issues within the district and provides supporting baseline information:

- **A significant and growing proportion of jobs paid below the living wage** – a small but significant proportion of the jobs in the city are paid below the real living wage of £10.90. According to the data, 11% of Cambridge residents are paid below the real living wage. This has grown from 9% in 2020;
- **Increasing demand for higher qualified workers** – Figure 5.4 shows the growth in the qualification level of economically active resident in Greater Cambridge.⁴⁹ Since 2011, Greater Cambridge has seen an increase of 19% in the proportion of economically active residents with NVQ4+ qualifications. This is significantly higher than the regional growth of 11% and national growth of 12%.

Figure 5.4 – Greater Cambridge has seen a greater increase in the proportion of economically active residents with NVQ4+ residents than geographical comparators

Change in qualification level of economically active residents from 2011 to 2021



Source: ONS, 2022. Census 2021 TS066- economic activity status

- **Lack of mid-skilled opportunities** – there is a lack of opportunities for mid-level skilled occupations such as: administrative and secretarial occupations; skilled trades occupations; caring, leisure and other service occupations. In Greater Cambridge, there has been a reduction of 3% (5,000 jobs) in the

⁴⁸ CCC and SCDC. 2020. Appendix C7: Skills, Training & Local Employment Topic Paper

⁴⁹ ONS, 2022. Census 2021 TS066- economic activity status

proportion of workers in mid-skilled roles from 2011 to 2021.⁵⁰ This is in line with national reduction, but higher than the 1% reduction across the East; and

- **Addressing the educational attainment and adult skills gap** – the high skilled nature of jobs and high level of educational attainment for Greater Cambridge residents has resulted in an educational attainment gap. Opportunities for young people from low income households are reduced as their educational attainment is often lower than children in higher income households. In 2021, across the nation, children on free school meals were 57% less likely to achieve a top grade. In 2019, the Social Mobility Commission reported that education and training initiatives have focused on young people. However, there is a requirement for focus on adult education to reduce the skills gap, particularly for adults on low incomes. The SMC found that 47% of the poorest adults have not received training since leaving school and they are more at risk of losing their jobs due to increased use of technology in low-skilled roles.⁵¹

5.88

The Cambridge and Peterborough Combined Authority (CPCA) also produced a Skills Strategy which has focus on life sciences, this provides the following recommendations to address employment and skills issues in this sector:

- **Create a new technical education programme to support skills required by life sciences firms;**
- **Support for alternative routes into life sciences employment** – apprenticeships and other pathways should be improved within the sector. Apprenticeships take up is low in Greater Cambridge. In 2021/22 there were 4.3 apprenticeships starts per 1,000 workers in 2021/22 in Greater Cambridge.⁵² This is significantly lower than the regional and national rates of 12 and 13 starts per 1,000 workers respectively; and
- **Improve diversity and inclusion in the sector** – diversity and inclusion in the life sciences sector is poor. According to a recent study, just 14.8% of the of directors across 132 public and private sector life sciences firms were female, with 40% of the companies having no women on the board of directors.⁵³ Just 7.3% of the total directors were from ethnic minority backgrounds and 70% of companies were found to have no ethnic minorities as their board members.

Assessment of impact

Construction phase

5.89

The **Economic Impact Assessment** outlines that during the construction phase the Proposed Development would support an average of 990 jobs per year in the 96-month construction period.

5.90

The **Employment and Skills Strategy** outlines the following measures that the Applicant would do during the operational phase of the Proposed Development:

- The Applicant would work with top tier contractors who are experienced at targeting and training local people for employment. The Applicant is committed to working with a contractor(s) with a commitment to providing apprenticeships and working with the council to support the employment and skills aims outlined in this document. These commitments would be passed down contractually through the supply chain;
- The Applicant would ensure that contractors and tenants provide apprenticeships during the construction phase. They should consider working with local bodies to ensure these are provided to learners from a variety of socio-economic backgrounds.

⁵⁰ ONS. 2022. Annual Survey of Hours and Earnings

⁵¹ Ofqual. 2021. KS4 performance: Attainment by disadvantaged status

⁵² DfE. 2021. Apprenticeships and traineeship data

⁵³ Liftstream, 2020. UK life sciences board diversity

- At this stage, the Applicant would encourage the Principal Contractor to commit to a minimum number of apprenticeship schemes. This would include engagement with the local community regarding educational sessions and workshops for schools and colleges near the Site.

5.91 The Applicant would also produce an employment strategy for the construction period. During this period, buildings and spaces would become available to be used which could potentially support meanwhile uses.

Operational phase

5.92 The **Economic Impact Assessment** outlines that the breakdown of employment estimates by type of floorspace. It is estimated that the Proposed Development would support 6,450 jobs, equivalent to 5,755 FTEs. When compared to the existing site, this equates to 5,590 gross additional jobs (5,080 FTEs). The gross additional jobs supports 25% of Cambridge's job target to 2031 (22,100 net additional jobs between 2011 and 2031), outlined in the Cambridge local plan.

5.93 Additionally, **Table 5.10** shows that the Proposed Development would result in an uplift for jobs across all levels. In total, the uplift in high-level jobs would be around 4,010 jobs, for mid-level jobs an additional 1,070 jobs, and there would be an additional 520 entry level jobs.

Table 5.10 – skills distribution, existing site and the Proposed Development

	Occupation	Existing site	Proposed Development	Uplift
High-level	Managers, directors and senior officials	130	965	4,010
	Professional occupations	75	2,035	
	Associate professional and technical	95	1,315	
Mid-level	Skilled trades occupations	65	240	1,070
	Administrative and secretarial	80	790	
	Caring, leisure and other service	5	195	
Entry level	Sales and customer service	265	355	520
	Process, plant and machine operatives	50	110	
	Elementary occupations	85	440	
Total		855	6,450	5,595

Source: UK Commission for Employment and Skills, 2015. Working futures: Data for all industries East of England; Volterra Calculations;
Note: figures may not sum due to rounding.

5.94 The **Employment and Skills Strategy** outlines the following measures that the Applicant would do during the operational phase of the Proposed Development:

- The Applicant would use reasonable endeavours to encourage all tenants at the Proposed Development to become a Cambridge living wage employer. This would ensure that future employees,

across all skill levels, at the Proposed Development have financial security over the course of their employment.

- The Applicant has committed to ensuring tenants would engage with local primary and secondary schools. It is recommended that the Applicant works with the local authority and partners such as the Form the Future to identify schools in deprived areas or with limited existing help. School engagement would help improve knowledge of the pathways to the life sciences sector, which is often a barrier for many students.
- The Applicant would encourage tenants to provide training and opportunities for both younger and older generations. This could be achieved through partnership with the CPCA Adult Education Budget, which provides training to adults that lack qualifications helping to improve employment prospects in areas where levels of educational attainment are low, such as north east Cambridge.

- 5.95 Prior to operation of the Proposed Development, once more is known about the tenants, the Applicant would produce an Employment and Skills Delivery Plan which would provide more detail on the specific measures to support these objectives. The Applicant would work with CCC to identify potential opportunities for local people and maximise the skills opportunities arising from the Proposed Development.
- 5.96 The **Employment and Skills Strategy**, which provides more details on the proposals, shows that the Applicant is committed to a coordinated strategy to increase local skills, pay and opportunities in the labour market.
- 5.97 The current Site offers a pharmacy within the ASDA complex. The development will retain the opportunity to relocate Asda to the adjacent Cambridge Retail Park, Newmarket Road, which is also in ownership of the Applicant. However, this is dependent on the outcome of a separate planning application. If the pharmacy is relocated then there would not be a significant health impact, but this cannot be relied on as the planning application is not certain. Cambridge County Council's health team note that any loss of pharmacy space could result in negative health impacts so there is a potential for a negative health impact if this is not provided.
- 5.98 Furthermore, the Proposed Development would result in the loss of some existing retail space onsite. As discussed in **Chapter 12 of the Environmental Statement, Socio-economics**, there would be a loss of jobs and a loss of retail space as a result of the Proposed Development. This has the potential to have negative health impacts as workers could suffer from mental health problems due to losing their job. Additionally, local residents may need to travel further for their shopping which could impact residents which have mobility issues. The existing Site offers affordable retail options for the community, as identified by Social Life, so the loss of these spaces could result in negative impacts for these residents. However, **Chapter 12 of the Environmental Statement, Socio-economics** shows that there are alternative affordable shops nearby.
- 5.99 One of the key principles for the new local centre is to curate an affordable place for locals and workers alike. This will be done through looking to keep or relocate key affordable retailers, curating affordable restaurants or cafes, allowing a proportion of units to be let at affordable rents, making the community pavilion free to access through a commercial levy from the workplace occupiers and providing an affordable gym.

Health impact

- 5.100 Based on the known positive links between employment and health outcomes, the creation of new employment opportunities at the Proposed Development during the construction and operational phases would have a positive impact on health. These benefits would be tailored for local residents through the provision of additional employment and training measures that would be secured in the planning application. However, the loss of commercial floorspace located on the existing Site may result in a negative impact on health. It has been shown that workers who lose their jobs experience a negative health impact.

Table 5.11 – access to work and training

Assessment criteria	Relevant?	Details/evidence	Potential health impact?	Recommended mitigation or enhancement actions
Does the proposal provide access to local employment and training opportunities, including temporary construction and permanent 'end-use' jobs?	☒ Yes ☐ No ☐ N/A	The Proposed Development is expected to support employment for Cambridge residents and provide training opportunities in both the construction and operational phase.	☒ Positive ☐ Negative ☐ Neutral ☐ Uncertain	Continue to develop employment and training opportunities in collaboration with local stakeholders, such as opportunities to continue delivering training with the nearby schools. Secure enhancement measures in the s106.
Does the proposal provide childcare facilities?	☐ Yes ☐ No ☒ N/A	The Proposed Development does not have any residential aspects so does not impact educational needs. It is expected that any childcare requirements resulting from the new workers would be minimal.	☐ Positive ☐ Negative ☒ Neutral ☐ Uncertain	
Does the proposal include managed and affordable workspace for local businesses?	☐ Yes ☒ No ☐ N/A	-	☐ Positive ☐ Negative ☒ Neutral ☐ Uncertain	
Does the proposal include opportunities for work for local people via local procurement arrangements?	☒ Yes ☐ No ☐ N/A	The Applicant is committed to providing opportunities for local people, as outlined in the comprehensive Employment and Skills Strategy .	☒ Positive ☐ Negative ☐ Neutral ☐ Uncertain	Secure measures in the Employment and Skills Strategy .

Social cohesion and inclusive design

Pathways for health impact

- 5.101 Friendship and supportive networks in a community can help to reduce depression and levels of chronic illness as well as speed recovery after illness and improve wellbeing. Fragmentation of social structures can lead to communities demarcated by socio-economic status, age and/or ethnicity, which can lead to isolation, insecurity, and a lack of cohesion.⁵⁴
- 5.102 Voluntary and community groups, properly supported, can help to build networks for people who are isolated and disconnected, and to provide meaningful interaction to improve mental wellbeing. Planning proposals should be developed in consultation with differentiated community groups (such as children, young people, residents, families, businesses, faith groups, community organisations). They should be involved in the planning of the project from the beginning and throughout the lifecycle of the project. Opportunities for post-planning qualitative consultations should be considered with these different groups to explore a range of social, emotional, and health needs.
- 5.103 Inclusive design can make public spaces more accessible and welcoming for people with disabilities, improving their ability to participate in their communities and reducing social isolation. Social cohesion can also help to reduce the stigma and discrimination faced by people with disabilities, promoting greater acceptance and understanding. Inclusive design can help to create safe and welcoming spaces for LGBTQ+ individuals, including gender-neutral bathrooms, accessible health care facilities, and public spaces that are free from discrimination and harassment. Additionally, making public spaces more accessible and welcoming for low-income families, including affordable housing, safe and accessible parks and playgrounds, and community centres. Social cohesion can also promote greater access to resources and support for low-income families, reducing feelings of isolation and promoting social and economic mobility.
- 5.104 Changes to social cohesion and inclusive design elements has the potential to differentially impact the following vulnerable population groups:
- **Younger people (0-24):** younger people must be considered regarding inclusive design. It is important that the needs of children are considered, such as providing welcoming play space.
 - **Older people (65+):** accessibility concerns for older people must be considered in the design of developments. There is a greater risk of injury for older people for example in the event of a fall. Additionally, the elderly population are more at risk of social isolation. Therefore, there is a large health impact for this vulnerable group.
 - **Low income and unemployed residents:** this population group often experience social exclusion and marginalisation, as they cannot access things such as clubs or leisure centres. Therefore, social cohesion measures are crucial for this population group.
 - **Ethnic minority groups:** people from ethnic minority groups are more likely to feel excluded from the wider population. Therefore, health impacts resulting from social cohesion would be larger for this vulnerable group.
 - **Individuals with long term illness or disability:** inclusive design is critical for those with long term illness or disabilities. This vulnerable population group relies heavily on accessibility in design. Therefore, in this determinant can have large health impacts for this vulnerable group.

⁵⁴ NHS London HUDU, 2017. Rapid Health Impact Assessment Tool

Baseline conditions

- 5.105 While no direct data on the strength of community cohesion is available for the Local Area, South Cambridgeshire, or Cambridge. The Community Life Survey indicates that only 64% of individuals from the East of England meet up with friends or family at least once a week.⁵⁵ This figure compares negatively to the national average of 67%. However, on social support measures, the East of England performs marginally better than the national average with 96% of respondents agreeing that there are people who would be there for them if they needed help, compared to 95% of respondents nationally.
- 5.106 The Cambridgeshire & Peterborough JSNA (2020) identifies that mental health issues are rising across Cambridgeshire, with the proportion of individuals claiming Employment Support Allowance as a result of mental health issues rising by more than three times between 2012 and 2018.⁵⁶ The JSNA highlights enhanced community involvement as one potential solution to addressing these issues across the county.

Assessment of impact

Operational phase

- 5.107 To date, the Applicant has undertaken a range of community and stakeholder consultation to inform the design and use of the Proposed Development. Particular focus has been placed on promoting opportunities to involve community input into the projects design.
- 5.108 Details from consultation process is outlined in the **Design and Access Statement**. The below outlines the following issues founds from the consultation process and how the Applicant and the Proposed Development will deal with it:
- **Sustainability** – Created a sustainability charter for the development which sets baseline and aspirational targets for sustainability including achieving BREEAM Outstanding;
 - **Safety of entrances** – Entrances to the Site would be greatly improved and provide a safe space for all travellers coming to the Site;
 - **Parking** – The Proposed Development aims to encourage users of the Site to find alternative methods of travel;
 - **Community use** – The ground floor plane has been developed to incorporate a variety of uses for all ages and throughout the week and day and night. The consultation continued to engage stakeholders such as Make Space for Girls to determine the likely users and their needs and how the community facilities may be managed;
 - **Green space** – The character area zones were developed to ensure each space has its own identity whilst working as a united landscape; and
 - **Coldham's Lane Roundabout** – The roundabout will become more user friendly and be accessible for all as discussed in **paragraph 5.31**.
- 5.109 A report by Social Life explored the social infrastructure around the Beehive Shopping Centre. They produced a survey to understand the needs of the community around the Site. The survey received responses from residents close to the Site and those within the three wards around the Site. Among the residents surveyed 38% believed nothing was missing in the Local Area. Those who thought otherwise agree that the following social infrastructure is missing, greenspaces/ trees, community spaces and children's facilities.

⁵⁵ Department for Digital, Culture, Media, and Sport, 2021. Community Life Survey 2020/21

⁵⁶ Cambridgeshire County Council, 2020. Cambridgeshire and Peterborough JSNA Core Dataset 2020.

- 5.110 Based on the responses from the stakeholders and the consultation process, a new local centre would be developed as part of the Proposed Development. The **Design and Access Statement** outlines how the community hub is being developed in partnership with Abbey People, Romsey Mill and Cambs Youth Panel. The space itself will be extremely flexible and will be informed by continued engagement with these groups. The community hub would also be available for hire with discounted rates for local residents and community groups. The centre would also be a unique place that does not replicate what works locally. It would create a new cultural venue, a health and wellbeing facility to bring locals and wider public to the Site, social food and beverage options, and establish a unique model for community space.
- 5.111 The space would be designed with safety in mind though continuous and active uses. This would be achieved through activating open space through an active two-way management mechanism, activate ground floor uses on all corners of the Site, and curate uses that can offer some night-time activity across the Site. The centre would also be created to be an interactive place where people can meet and learn from each other. This would be achieved by allowing public access to roof terraces for specific events, set up internship and work experience programmes with office tenants, and position facilities for local community at the centre of the Site.
- 5.112 The **Design and Access Statement** also outlines further designs which would be implemented for social cohesion and inclusive design:
- Open space around the Site which would be accessible and open for all people, workers and residents. The open space has been designed to allow for local community groups to use the Site. The Site is flexible to be able to host a market, a cinema screen showing or provide space for a group meeting;
 - The community hub will offer a range of programmes and activities for all ages. The community hub would be affordable and bring people together to help, learn, exchange skills and fix / make things.
 - There would be 43 accessible car parking bays; and
 - The site provides all-inclusive access routes from the adjacent boundary and provides step free access throughout the site.
- 5.113 More detail on the inclusive design of the buildings will be provided as the design progresses. The Applicant is committed to engaging with Red2Green – a Cambridge-based charity who supports people aged 16+ with learning disabilities and autism towards achieving independence, education and employment – during the design process.
- 5.114 The Site provides all-inclusive access routes from the adjacent boundary and provides step free access throughout the site. The Site is accessible for pedestrians and cycles from the south, north and west and vehicles from the north off Coldhams Lane only.
- 5.115 The CCC public health team noted that this HIA should consider how the public realm and open space is designed with individuals with dementia in mind. A study by Halsall and MacDonald discuss the design for people with dementia. Within this study they provide designs which would help people with dementia.⁵⁷ People living with dementia relate to their environment through familiar places, objects, or landmarks. Additionally, they need space to be able to move freely and be in a space which they could feel as home, and all public realm and open space need to be legible and accessible. The Proposed Development would provide all of this through the design of the public realm and open space through ensuring that:
- All active paths have been designed for pedestrian uses, and will be all-inclusive and provide step free access throughout the Site;
 - Maple Square would provide flexible open space which would provide all visitors and most specifically people with dementia a homely feeling; and
 - Hive Park would also contain vegetation and promote wildlife which has found to have an important health impact on people with dementia.

⁵⁷ Halsall, Bill, MacDonald, Rob, (no date). Design for dementia volume 1 - a guide

Health impact

5.116

Based on the known positive links between social cohesion and health outcomes, the provision of inclusive design at the Proposed Development would have a positive impact on health during the operational phase. Local community groups would be encouraged to use the Site for all community activities. This would help to unite the local community which would reduce loneliness and provide the community with a sense of belonging, which would ultimately have a beneficial impact on health.

Table 5.12 – social cohesion and inclusive design

Assessment criteria	Relevant?	Details/evidence	Potential health impact?	Recommended mitigation or enhancement actions
Does the proposal consider health inequalities by addressing local needs through community engagement?	☒ Yes ☐ No ☐ N/A	The proposal addresses local needs which are considered in detail in both the Social Life work as well as the wider project engagement. Key themes that have emerged from that research include: curate an affordable place for locals and workers alike, design a safe space through continuous and active use, make a unique space that does not replicate what works locally, and create an interactive place where people can meet and learn from each other.	☒ Positive ☐ Negative ☐ Neutral ☐ Uncertain	Continue consultation with community groups to understand the needs of the community and to offer the space for local groups who may need it.
Does the proposal connect with existing communities, i.e., layout and movement which avoids physical barriers and severance, and land uses and spaces which encourage social interaction?	☒ Yes ☐ No ☐ N/A	The Proposed Development would provide fully accessible and inclusive space for all workers and the community. This encourages social interaction between everyone and provides space for all users to meet.	☒ Positive ☐ Negative ☐ Neutral ☐ Uncertain	

Assessment criteria	Relevant?	Details/evidence	Potential health impact?	Recommended mitigation or enhancement actions
Does the proposal include a mix of uses and a range of community facilities?	☒ Yes ☐ No ☐ N/A	The Proposed Development would provide a range of community spaces and different types of open space which would provide space for activities and events for residents and workers to use which would encourage social interaction.	☒ Positive ☐ Negative ☐ Neutral ☐ Uncertain	
Does the proposal provide opportunities for the voluntary and community sectors?	☒ Yes ☐ No ☐ N/A	The Proposed Development would provide a community space and different types of open space which would provide space for activities and events for residents and workers to use which would encourage social interaction.	☒ Positive ☐ Negative ☐ Neutral ☐ Uncertain	Explore opportunities for locating community events in the community space and open space located in the Proposed Development.
Does the proposal take into account issues and principles of inclusive and age-friendly design?	☒ Yes ☐ No ☐ N/A	The Proposed Development has designed the Site following these five principles: • Place people at the heart of the design process • Acknowledge diversity and difference. • Offer choice where a single design solution cannot accommodate all users. • Provide for flexibility in use. • Provide buildings and environments that are convenient and enjoyable for everyone to use.	☒ Positive ☐ Negative ☐ Neutral ☐ Uncertain	

Climate change

Pathway for health impact

- 5.117 There is a clear link between climate change and health. Local areas should prioritise policies and interventions that ‘reduce both health inequalities and mitigate climate change’ because of the likelihood that people with the poorest health would be hit hardest by the impacts of climate change.⁵⁸
- 5.118 Climate change is potentially a significant threat to public health and may widen inequalities in health. SCDC’s Zero Carbon Strategy sets out a range of climate change mitigation and adaptation approaches for the area.⁵⁹ It focuses on reducing the risk of climate change impacts through changing behaviours, as well as increasing their resilience so that they can recover more quickly when those impacts do occur.
- 5.119 Planning is at the forefront of both trying to reduce carbon emissions and to adapt urban environments to cope with higher temperatures, more uncertain rainfall, and more extreme weather events and their impacts such as flooding. Poorly designed homes can lead to fuel poverty in winter and overheating in the summer contributing to excess winter and summer deaths. Developments that take advantage of sunlight, tree planning, and accessible green/brown roofs also have the potential to contribute towards the mental wellbeing of residents.
- 5.120 Children and the elderly are among the most vulnerable to the health impacts of climate change, such as increased heat-related illnesses and respiratory problems resulting from air pollution. Climate change can also have long-term impacts on the mental health and well-being of these populations.
- 5.121 The long-term impacts of climate change have the potential to differentially impact the following vulnerable population groups:
- **Younger people (0-24):** younger people will endure the negative long-term impacts of climate change for the duration of their life, leaving them more likely to experience the associated health impacts.
 - **Older people (65+):** older people are more likely to have underlying health conditions which makes them more sensitive to climate hazards. Additionally, as people age, they are less able to compensate for the effects of environmental hazards, such as air pollution.
 - **Individuals with long term illness or disability:** those who have a disability or long-term illness are more likely to face exacerbation of these issues as a result of climate change.

Baseline conditions

- 5.122 The UK Government recently announced its commitment for the country to achieve net zero carbon by 2050 by amending the 2008 Climate Change Act which previously had a target to reduce greenhouse gas emissions by at least 80% (compared to 1990 levels). There is a wealth of evidence which demonstrates that meeting this target requires effective spatial planning at a range of scales.
- 5.123 A set of environmental principles has been developed to ensure that the environment is at the heart of decision making on development within the Oxford-Cambridge Arc. The following principles are of relevance to net zero carbon:
- Work towards a target of net zero carbon at an Arc level by 2040; and

⁵⁸ NHS London HUDU, 2017. Rapid Health Impact Assessment Tool

⁵⁹ SCDC, 2020. Zero Carbon Strategy

- Be an exemplar for environmentally sustainable development, in line with the ambitions set out in the government's 25-year plan. This would incorporate a systems-based approach and integrated assessment and implementation approach and would fully recognise the associated health and wellbeing benefits. Greater Cambridge would aim to go beyond the minimum legislated requirements for development.
- 5.124 The effects of climate change are already being felt in Cambridge. For example, Cambridge experienced the highest temperature ever recorded in the UK of 38.7°C during the July 2019 heatwave. The three most likely effects of climate change for Cambridge include: increases in flood events, water shortages and droughts, and increased summer temperatures.⁶⁰
- 5.125 The likely impacts of these changes include decreases in human and non-human health and wellbeing and creates an imperative for action on the part of all those who have agency over energy consumption production and distribution, carbon emissions, and mitigation and adaptation intervention.

Assessment of impact

Construction phase

- 5.126 As a result of construction activity, the Proposed Development contributes to the generation of embodied carbon during the construction phase. Construction activities typically require significant amounts of energy for site preparation, excavation, material transportation, and equipment operation. This can lead to increased greenhouse gas emissions from the burning of fossil fuels, contributing to the impacts of climate change.
- 5.127 The Proposed Development would result in the demolition and redevelopment of the existing building onsite. This would result in the creation of embodied carbon through the disposal of the existing building structure and the construction of the new building. This approach to development has been deemed relatively less carbon intensive than the repurposing of the existing building structure as a result of the level of renovation works required. The selection of construction materials used at the Proposed Development aim to minimise its climate impact.
- 5.128 The Applicant would commit to a pre demolition audit. This would take into account materials that could be re-used from the current Site and would minimise the embodied carbon. This would therefore minimise the impact of climate change on health.

Operational phase

- 5.129 The **Design and Access Statement** states that the Proposed Development would deliver an all-electric scheme with low embodied and operational carbon emissions. Additionally, the Proposed Development aims to target 100% biodiversity net gain, through the retention of 53 trees and planting a future 212 new ones. New climate resilient habitat types would be introduced to the Site and existing ones would be strengthened. The Applicant is targeting BREEAM Excellent and EPC A rating as a minimum for the Proposed Development, whilst exploring opportunities to reach BREEAM Outstanding. The lab buildings will achieve four energy credits and therefore Excellent, with a push target to achieve six credits and Outstanding.
- 5.130 The **Sustainability Statement** states that the Proposed Development would achieve energy efficiency through a fabric first approach and maximisation of the use of renewable energy, particularly PV panels and air source heat pumps. This would also be achieved through energy modelling and efficient metering in

⁶⁰ Cambridge City Council, 2021. Climate Change strategy

order to gain a better understanding of the energy demand in the building. The Proposed Development would deploy building fabric with a high thermal performance, built to rigorous standards to minimise heat loss whilst being considerate to cooling demand within the space. The façade of the buildings would be carefully refined to maximise passive design features including external shading, and thermally efficient insulation. This shows that the workers' health has been a key consideration in the design of the building.

- 5.131 The **Energy Strategy** shows that the Proposed Development would result in a highly efficient, low-carbon scheme. New, high efficiency servicing equipment and efficient façades would minimise the energy usage of the building. Additionally, using the energy hierarchy, the strategy has been developed to ensure that the Proposed Development is efficient and economical. The Proposed Development would use air source heat pumps which would provide space heating, cooling, and hot water for the tenant areas, and solar photovoltaic array is proposed at roof level for the blocks. It also states that opportunities to expose thermal mass to help to further regulate internal temperatures would be explored where possible.
- 5.132 The Proposed Development would implement the following measures to minimise internal heat gains:
- Energy efficient lighting (i.e., LED) with low heat output;
 - Insulation to heating and hot water pipework and minimisation of dead-legs to avoid standing heat loss; and
 - Energy efficient equipment with low heat output to reduce unnecessary heat gain.
- 5.133 Additionally, the Proposed Development would provide the following mitigation to reduce the amount of heat entering the building in summer:
- Facades have been developed with suitable glazing-to-solid ratios, with particular focus on south facing orientations. Glazing ratios for the development are provided in Appendix A.
 - Suitable g-values would be specified to further control solar heat gains as required; and
 - Buildings would have the capability for internal blinds to be installed to improve occupant comfort.
- 5.134 The Proposed Development would fall under the Applicant's corporate sustainability monitoring and reporting regime. The developed strategy would allow for an exhaustive metering of all the various energy usage in the facility. This would enable energy intensity and carbon emissions to be monitored, and the data included within the annual sustainability reports.
- 5.135 The **Design and Access Statement** outlines that the Proposed Development would exceed current sustainability standards by maximising use of an "all electric" strategy and sustainable water management systems. Whilst putting people at the heart of the sustainability strategy, providing excellent internal environments and thriving open spaces. The Site would be greener, cleaner and more sustainable.
- 5.136 Additionally, the Proposed Development is promoting the use of active travel and reducing the number of car parking spaces, it is expected that the amount of carbon released into the atmosphere would be minimised. Additionally, with the sustainable modes of travel, the improved public realm would reduce travel distances.
- 5.137 The Proposed Development would also provide strategic tree planting. This approach reduces both noise and air pollution and improves air quality and wellbeing. The planting strategy would bolster and strengthen existing boundary vegetation with native tree and shrub species.

Health impact

- 5.138 It is expected that there would be a neutral impact on health during the construction phase due to the impacts of construction on the Site. Where possible mitigation would be implemented in order to reduce the impact that this would have on vulnerable groups.

5.139

Based on the known positive links between climate change and health outcomes, the provision of sustainability designs at the Proposed Development would have a positive impact on health. The improved air quality around the Site with the addition of temperature control within the building would help to maintain a cool temperature which would improve productivity in the workplace.

Table 5.13 – climate change

Assessment criteria	Relevant?	Details/evidence	Potential health impact?	Recommended mitigation or enhancement actions
Does the proposal incorporate renewable energy?	☒ Yes ☐ No ☐ N/A	The Proposed Development would use air source heat pumps which would provide space heating, cooling, and hot water for the tenant areas, and solar photovoltaic array is proposed at roof level for the blocks.	☒ Positive ☐ Negative ☐ Neutral ☐ Uncertain	Deliver the measures identified in the Design and Access Statement, Sustainability Strategy, and Energy Strategy to determine the best strategy for the Proposed Development.
Does the proposal ensure that buildings and public spaces are designed to respond to winter and summer temperatures, for example ventilation, shading and landscaping?	☒ Yes ☐ No ☐ N/A	The Proposed Development would deploy building fabric with a high thermal performance, built to rigorous standards to minimise heat loss whilst being considerate to cooling demand within the space. The façade of the buildings would be carefully refined to maximise passive design features including external shading, and thermally efficient insulation. The open spaces would provide cool shade during the summer and provide an open space for workers and residents to use to help respond to the changes in temperature during the year.	☒ Positive ☐ Negative ☐ Neutral ☐ Uncertain	
Does the proposal maintain or enhance biodiversity?	☒ Yes ☐ No ☐ N/A	The Proposed Development would enhance the biodiversity of the Site through a variety of measures including wildlife areas. The Proposed Development would aim for a	☒ Positive ☐ Negative ☐ Neutral ☐ Uncertain	

Assessment criteria	Relevant?	Details/evidence	Potential health impact?	Recommended mitigation or enhancement actions
		biodiversity net gain target of 100%.		
Does the proposal incorporate sustainable urban drainage techniques?	☒ Yes ☐ No ☐ N/A	The Proposed Development would have a drainage strategy to cater for climate change allowances (40% uplift in rainfall intensity). The Proposed Development would provide a surface water attenuation strategy and a SuDS integration scheme.	☒ Positive ☐ Negative ☐ Neutral ☐ Uncertain	



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