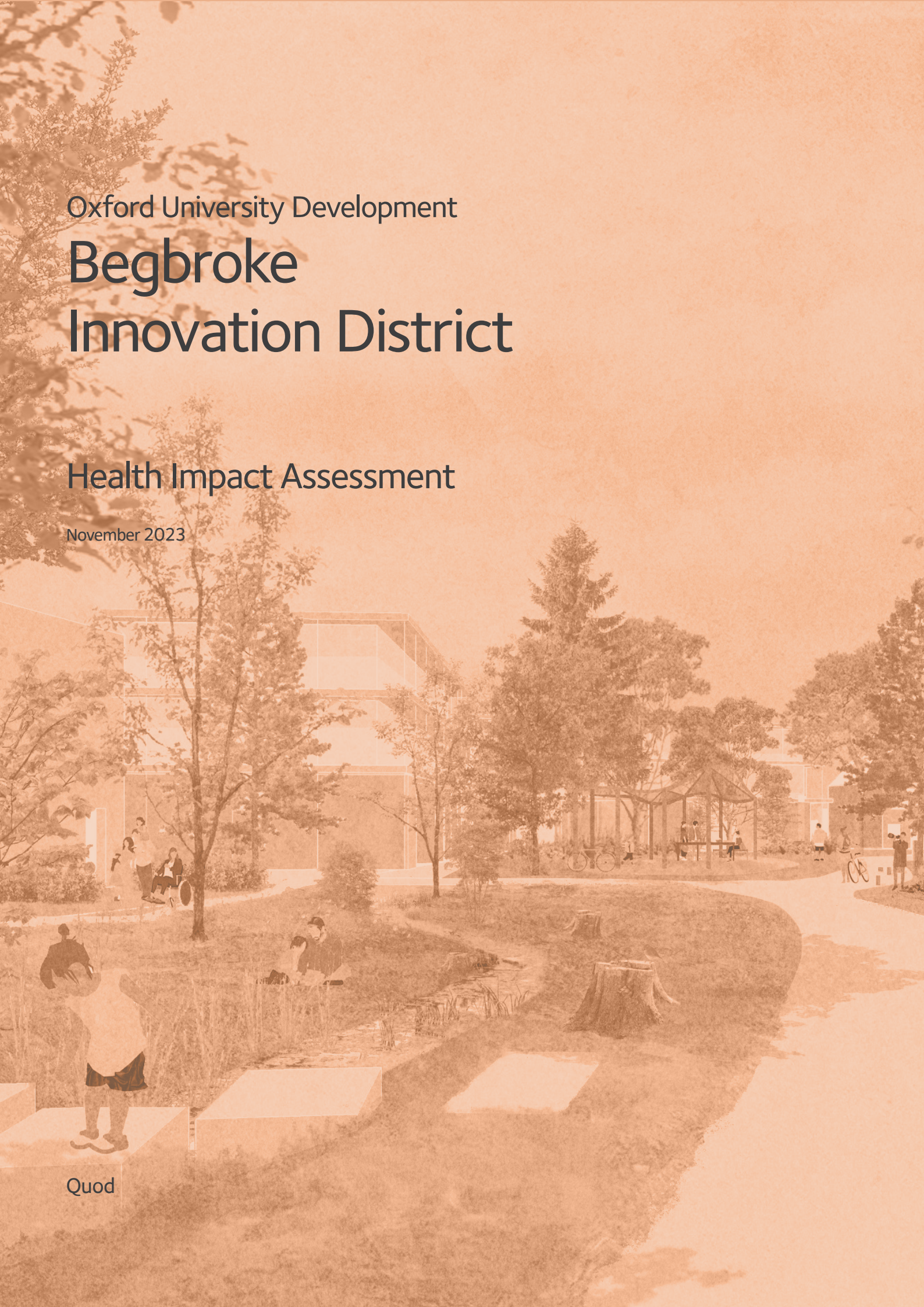


Oxford University Development

# Begbroke Innovation District

## Health Impact Assessment

November 2023



Quod

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# 1 Introduction

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This Health Impact Assessment considers the potential impacts on human health in relation to the planning application for the mixed-use development known as Begbroke Innovation District.

This document compiles an analysis of technical and design considerations of the Development. Quod has prepared this Health Impact Assessment on behalf of Oxford University Development ('the Applicant') to be submitted as part of the Outline planning application.

## Proposed Development Description and Planning Approach

- 1.1 The site of the proposals comprises approximately 170 hectares (ha) of largely agricultural land and Begbroke Science Park to the east of the villages of Yarnton/Begbroke, within the administrative area of Cherwell District Council (CDC) in the county of Oxfordshire (the 'Site').
- 1.2 The description of the Proposed Development in the planning application is as follows:

*Outline application, with all matters reserved, for a comprehensive residential-led mixed use development comprising:*

- *Up to 215,000 square metres gross external area of residential floorspace within Use Class C3/C4 and large houses of multiple occupation (Sui Generis);*
- *Supporting social infrastructure including secondary school/primary school(s) (Use Class F1); health, indoor sport and recreation, emergency and nursery facilities (Class E(d)-(f))*
- *Supporting retail, leisure and community uses, including retail (Class E(a)), cafes and restaurants (Class E(b)), commercial and professional services (Class E(c)), local community uses (Class F2), and other local centre uses within a Sui Generis use including public houses, bars and drinking establishments (including with expanded food provision), hot food takeaways, venues for live music performance, theatre, and cinema.*
- *Up to 155,000 square metres gross external area of flexible employment uses including research and development, office and workspace and associated uses (Use E(g)), industrial (Use Class B2) and storage (Use Class B8) in connection with the expansion of Begbroke Science Park;*
- *Highway works, including new vehicular, cyclist and pedestrian roads and paths, improvements to the existing Sandy Lane and Begbroke Hill road, a bridge over the Oxford Canal, safeguarded land for a rail halt, and car and cycle parking with associated electric vehicle charging infrastructure;*

- *Landscape and public realm, including areas for sustainable urban drainage systems, allotments, biodiversity areas, outdoor play and sports facilities (Use Class F2(c));*
- *Utility, energy, water, and waste water facilities and infrastructure;*
- *Together with enabling and associated works, including temporary meanwhile uses.*

1.3 The planning application is submitted in outline with all matters reserved (Tier 1). Detail will be added incrementally in “Tiers” as follows:

#### *Development Principles (Tier 1)*

1.4 The Development Specification contains Development Principles that would inform the design proposals set out within future reserved matters applications (‘RMAs’). It is expected that a planning condition will prevent development from coming forward other than in accordance with the Development Principles, and that compliance with those Development Principles would be demonstrated in a statement of compliance submitted to the LPA.

#### *Strategic Design Guide (Tier 1)*

1.5 A Strategic Design Guide (‘SDG’) for the whole Site has been prepared to guide the preparation of Development Area Briefs (‘DABs’) and RMAs. It sets out a commitment to embedding high quality design within the masterplan as it emerges over time. It is anticipated that a condition would be attached to the grant of outline planning permission requiring such future submissions to be demonstrably in accordance with the SDG.

#### *Development Area Briefs (Tier 2 & 3)*

1.6 Following the grant of Outline Planning Permission, a Development Area Brief (‘DAB’) for each Development Area (or for an area defined in agreement with CDC) would be prepared (Tier 2). These would help to define more precise requirements and parameters for subsequent RMAs (Tier 3).

#### *Implications of “tiered” design process on HIA*

1.7 As described above, detail for the Development Areas, and then individual plots, will be proposed and then agreed incrementally. This means that some of the specific detail that could be relevant to an HIA (for example, the design of an individual home) is not yet known and will not be known for some time. This HIA has been scoped and undertaken with a methodology proportionate to the type of development and the level of detail included in an Outline Planning Application.

### **Purpose of the Health Impact Assessment**

1.8 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. These are recognised as the ‘wider determinants of health’ and include:

- General socio-economic, cultural and environmental conditions;

- Living and working conditions;
- Social and community influences; and
- Individual lifestyle factors.

1.9 Planning and development can play a key role within these wider determinants of health, as detailed below.

# Health and Planning

The World Health Organisation (WHO) defines health as a state of complete physical, mental and social well-being and not the absence of disease or infirmity.

An ever-growing body of research indicates that the environment in which we live is inextricably linked to our health, and whilst the causal links between the built environment and health are often complex, research consistently reports that most health outcomes are influenced by factors other than genetics and healthcare<sup>1</sup>.



Barton and Grant's health map<sup>2</sup> (shown above) highlights the relationship between health and these wider physical, social, economic, and environmental factors (the 'wider determinants of health'). The direct process of planning and development is highlighted within one sphere, the 'built environment', however development can have wider reaching effects on health with direct or indirect effects on wider spheres of life and society. For example, the design of neighbourhoods can influence physical activity levels, travel patterns, social connectivity and mental and physical health outcomes.

1 Public Health England, 2017. Spatial Planning for Health: An evidence resource for planning and designing healthier places.

2 Barton, H., and Grant, M. 2006. A health map for the local human habitat. The Journal of the Royal Society for the Promotion of Health, 126 (6). Pp. 252-253 (modified from Dahlgren and Whitehead (1991)).

## 2 Planning Policy Framework

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2.1 This section presents a summary of policy which is of relevance to human health.

### National Policy and Guidance

2.2 Chapter 8 'Promoting Healthy and Safe Communities' of the **National Planning Policy Framework (NPPF)**, 2021<sup>3</sup> sets out a planning framework relevant to human health. It emphasises that planning and development should "aim to achieve healthy, inclusive and safe places" (para. 92).

2.3 The **Planning Practice Guidance (PPG)**<sup>4</sup> further highlights the role of planning in promoting or supporting health, setting out the role of Local Planning Authorities (LPAs) to identify local health needs and to plan effectively for the future. This includes working closely with other public health organisations and providers to support delivery of health infrastructure and promote healthy communities.

2.4 **Fair Society, Healthy Lives: The Marmot Review**<sup>5</sup> identifies contributors to health inequalities across England and provides guidance on how these could be addressed in relation to the social determinants of health. It sets out six policy objectives that contribute to a healthy environment and reduce unfair and unjust inequalities in health:

- 1) Give every child the best start in life;
- 2) Enable all children, young people and adults to maximise their capabilities and have control over their lives;
- 3) Create fair employment and good work for all;
- 4) Ensure a healthy standard of living for all;
- 5) Create and develop healthy and sustainable places and communities; and
- 6) Strengthen the role and impact of ill health prevention.

2.5 While these policies should be applied universally across England, to best address the social gradient in health, the Review states that the scale and intensity by which they are applied should be proportional to each area's level of disadvantage.

2.6 Following The Marmot Review, **Health Equity in England: The Marmot Review 10 Years On**<sup>6</sup> was published in 2020. It identified widened inequalities in health across England in the period since the 2010 Review. It notes that the decade to 2020 has been marked by deteriorating health and widening health inequalities.

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<sup>3</sup> Ministry of Housing, Communities and Local Government (2021) National Planning Policy Framework. London. HMSO.

<sup>4</sup> Ministry of Housing, Communities and Local Government (Live Document) Planning Practice Guidance [online] Available: <http://planningguidance.communities.gov.uk/>.

<sup>5</sup> Marmot, M. (2010) Fair Society, Healthy Lives: The Marmot Review.

<sup>6</sup> Institute of Health Equity (2020) Health Equity in England: The Marmot Review 10 Years On.

- 2.7 The **National Design Guide**<sup>7</sup> (2021) establishes the government's priorities for well-designed places and establishes placemaking as a key national priority in delivering healthy places. Population health can be influenced by housing design (especially good ventilation and light), access to services (e.g. healthcare), and access to public / open space to promote physical activity.

## Oxfordshire Policy

- 2.8 The Oxfordshire Health and Wellbeing Board published the **Oxfordshire Joint Health and Wellbeing Strategy (2018-2023)**<sup>8</sup> in 2019. The document establishes three key objectives for maintaining good population health across Oxfordshire: preventing illness, reducing the need for treatment and delaying the need for care. It sets out the following priorities to achieve this:

- Preventing ill health before it starts;
- Giving patients and services users a high-quality experience as they use services; and
- Working on re-shaping local services and tackling chronic workforce shortages.

- 2.9 In 2018, chief executive officers of Cherwell District Council (CDC) and Oxfordshire County Council (OCC), among others, published **Oxfordshire Growth Board: Healthy Place-shaping in the Wider Growth Agenda**<sup>9</sup> which suggested inserting healthy place-shaping (HPS) into the mission of county's Growth Board. HPS is defined as:

*“a collaborative process which aims to create sustainable, well-designed communities where healthy behaviours are the norm and which provide a sense of belonging and safety, a sense of identity and a sense of community.”*

- 2.10 HPS combines planning for housing, infrastructure and the economy with planning for residents' health and wellbeing so as to maximise the social benefits of both. The overall aim is to create places which encourage healthy behaviours and choices, such as active travel and physical activity.

- 2.11 The **Oxfordshire Prevention Framework 2019-2024**<sup>10</sup> (2019) suggests seven system-wide priorities for the five-year period:

- 1) Establishment of local cross-organisational leadership for prevention.
- 2) Optimise the first 1000 days of life, including reducing smoking in pregnancy and increasing immunisation of children.
- 3) Promote and create emotional wellbeing, including the '5 ways to wellbeing' and the 'CLANGERS' approach to wellbeing, for children, young people, adults and families.
- 4) Shape Healthy Places throughout Oxfordshire, including the physical environment and building communities.
- 5) Address priority socio-economic factors – loneliness and the impact of debt.
- 6) Tackle the growing problem of obesity through prevention and weight management.

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<sup>7</sup> Ministry of Housing, Communities and Local Government (2021) National Design Guide. London. OGL.

<sup>8</sup> Oxfordshire Health and Wellbeing Board (2019) Oxfordshire Joint Health and Wellbeing Strategy (2018-2023) [

<sup>9</sup> Oxfordshire County Council (2018) Oxfordshire Growth Board: Healthy Place-shaping in the Wider Growth Agenda [

<sup>10</sup> Oxfordshire County Council (2019) Oxfordshire Prevention Framework 2019-2024



- 7) Improve early detection, self-care and clinical management of long term conditions, particularly Cardiovascular Disease, Respiratory Disease, Diabetes, Mental health and Cancer.

## Cherwell Planning Policy

- 2.12 The **Cherwell Local Plan**<sup>11</sup> was adopted in 2015. Its vision is for those who live and work in Cherwell to be happier, healthier and feel safer, as well as addressing inequalities and maximising wellbeing. The following policies are most relevant to health considerations and the Proposed Development:
- **BSC8 ‘Securing Health and Well-being’** supports provision of health facilities in sustainable locations which contribute towards health and well-being as well as providing open space to encourage physical activity and healthy lifestyles. The Council will work with healthcare providers, partners and the NHS across its delivery bodies to ensure healthcare provision anticipates and meets the needs of local communities.
  - **ESD17 ‘Green Infrastructure’** aims to secure green infrastructure through protection and enhancement of existing as well as including in new development – to deliver social benefits such as health and wellbeing e.g. by providing space for walking, cycling and horse riding.
- 2.13 CDC’s **Active Community Strategy**<sup>12</sup> (2019) sets out recommendations for contributing to the District Council’s vision of *“Ensuring that Cherwell continues to be a great place to live, work and visit”* through tackling health inequalities.
- 2.14 The Strategy identifies inequalities in access to sport and physical activity. To address this, it suggests focussing council investment in sports, recreation and physical activity opportunities – including high quality leisure centres and fitness programmes – so as to reduce the occurrence of preventable health conditions.
- 2.15 Cherwell Community Planning Partnership published **Cherwell Sustainable Community Strategy**<sup>13</sup> to provide community objectives and policies to achieve sustainable communities. The Strategy identifies Cherwell residents as having good health relative to the national averages but that inequalities, associated with location, gender and ethnicity, are prevalent. The need to address these inequalities is reflected in the Strategy’s community objectives and priorities:
- Maintain and develop health services, including preventive health programmes, that directly address health inequality and which enable residents to access services and information in order to lead healthy lives.
  - Support older people to remain healthy and live independently.
  - Ensure that healthcare is accessible to people, particularly people without transport or people who have difficulty getting around.

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<sup>11</sup> Cherwell District Council (2015) Cherwell Local Plan 2011-2031 [

<sup>12</sup> Cherwell District Council (2019) Active Community Strategy

<sup>13</sup> Cherwell Community Planning Partnership (nd) Cherwell Sustainable Community Strategy

- Undertake a health inequalities programme that narrows the gap in life expectancy across the district.
  - Improve levels of health and wellbeing in areas where there are identified health issues.
- 2.16 CDC's **Planning for Cherwell 2040**<sup>14</sup> (2020) identifies healthy place-shaping as a key theme for Cherwell's future. Combining planning for housing, infrastructure and the economy with planning for residents' health and wellbeing is a key priority of the CDC.
- 2.17 The report made recommendations as part of the Local Plan Review process to address key local issues, such as including policies which:
- Plan positively for an ageing population;
  - Encourage physical activity and healthy lifestyles;
  - Address air pollution;
  - Prioritise and encourage active travel;
  - Ensure the provision of good quality affordable housing (known to have mental and physical health benefits);
  - Ensure the provision of healthcare facilities that meet the needs of the growing population; and
  - Ensure access to high quality public space, green infrastructure and sports / recreation facilities.

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<sup>14</sup> Cherwell District Council (2020) Planning for Cherwell 2040.

## 3 Assessment Methodology

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- 3.1 The methodology for the HIA has been informed by **Oxfordshire Health Impact Assessment Toolkit**<sup>15</sup>. The toolkit sets out the following methodology to carry out the assessment:
- Description of the proposed development;
  - Identification of population groups affected by the development;
  - Identification of geographical area and associated health needs and priorities;
  - Assessment of health and recommendations; and
  - Monitoring.
- 3.2 This is an Outline Planning Application. Under the proposed planning strategy, there will be a three tier planning approval process. Some detail relevant to the assessment of likely health impacts will only be determined at Tier 2 (Development Area Brief<sup>16</sup>) and Tier 3 (Reserved Matters approval). Examples of this include the exact tenure and mix of homes in a phase, or specific design details for homes, employment space or streets. This assessment is proportionate to and appropriate for that planning stage, and makes clear where information is not available and when that information is expected to become available.
- 3.3 Quod has analysed the baseline data to identify local health priorities and vulnerable groups for consideration within this assessment, alongside a summary of consultation responses relevant to health raised as part of the pre-application engagement process. This is presented in the **Baseline Profile & Health Priorities Section**.
- 3.4 The baseline sets out relevant health statistics for Cherwell, based on data from the Office for National Statistics (ONS), Office for Health Improvement and Disparities<sup>17</sup>, the Oxfordshire Joint Strategic Needs Assessment (JSNA)<sup>18</sup> and other data as referenced.
- 3.5 The **Assessment Section** presents the likely impacts of the Development against the following health determinants, as outlined in the Oxfordshire HIA Toolkit:
- Housing
  - Physical activity
  - Healthy food environment
  - Air quality and noise
  - Traffic and Transportation
  - Crime and anti-social behaviour
  - Economy and employment
  - Education and skills
  - Local natural environment and access to green spaces

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<sup>15</sup> Future Oxfordshire Partnership (2021) Oxfordshire Health Impact Assessment Toolkit.

<sup>16</sup> Or similarly named document .

<sup>17</sup> Office for Health Improvement and Disparities (various years). Available online: <https://fingertips.phe.org.uk/>

<sup>18</sup> Oxfordshire County Council (2022) Oxfordshire Joint Strategic Needs Assessment.

- Access to Services.
- 3.6 For each theme, this assessment identifies and explains the relevant health “pathways”. Health pathways are the mechanisms through which planning and development can affect health for example, a night time noise effect has a pathway to potential health effects through sleep disturbance. The pathways presented in this assessment have been informed by an extensive literature review - the most significant being the Marmot Review into Health Inequalities<sup>19</sup> and Public Health England’s Spatial Planning for Health evidence resource<sup>20</sup> (Note Public Health England is now the Office for Health Improvement and Disparities).
- 3.7 HIA is a multi-disciplinary process and as such the assessment of the Development’s potential health impacts has been undertaken through engagement with the design and technical teams involved in the project to thoroughly consider how the Development may result in likely health impacts (if any) (both positive and negative). Technical assessments have been used to inform this Health Impact Assessment including:
- Design and Access Statement;
  - Planning Statement;
  - Framework Energy and Sustainability Strategy;
  - ES Chapter: Socio-Economics;
  - ES Chapter: Noise and Vibration;
  - ES Chapter: Air Quality;
  - ES Chapter: Transport and Access;
  - Framework Lighting Strategy;
  - Outline Landscape and Ecology Management Plan.
- 3.8 These documents should be referred to where more technical detail on methodology or assessment assumptions is required.
- 3.9 Where this assessment identifies likely negative effects, it also includes potential mitigation measures and recommendations that could reasonably be undertaken to minimise negative effects or maximise positive effects.
- 3.10 The Oxfordshire HIA Toolkit requires that these health recommendations be monitored by the Local Planning Authority and the extent to which the HIA has influenced the decision making process should be presented as part of the decisions making process (for example, through the Committee Report).

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<sup>19</sup> The Marmot Review (2010) Fair Society, Healthy Lives. Strategic Review of Health Inequalities in England Post-2010.

<sup>20</sup> Public Health England (2017) Spatial Planning for Health: An evidence resource for planning and designing healthier places.

## 4 Baseline Profile & Health Priorities

4.1 This section sets out the current health baseline conditions of Cherwell, where data is available, Oxfordshire, the South East of England and England. The baseline information, together with the health policy context, provide context for this HIA.

### Health Profile

4.2 **Table 4.1** provides a health profile summary for residents of Cherwell and Oxfordshire, alongside the South East and England averages for comparison purposes.

4.3 Data is drawn from the Office for Health Improvements & Disparities (OHID) Local Health<sup>21</sup>, OHID Cherwell Health Profile<sup>22</sup> and OHID Public Health Outcomes Framework<sup>23</sup>. The underlying data is compiled from ONS, NHS and Annual Population Survey<sup>24</sup>.

4.4 Indicators are expressed by a standardised population number (generally per 100,000 population), or as a proportion (%) of the whole population. In each case, the measure is specified in the table.

Table 4.1 – Health Profile Summary

Health Indicator		Cherwell	Oxfordshire	South East	England
Health outcomes					
Life Expectancy at Birth (years) (2018/2020)	Male	81.2	81.5	80.6	79.4
	Female	83.9	84.9	84.1	83.1
Healthy Life Expectancy at Birth (years) (2018/2020)	Male	N/A*	68.0	65.5	63.1
	Female	N/A*	69.4	65.9	63.9
Under 75 mortality rate from causes considered preventable (2016/2028)	Per 100,000	157.2	138.7	158.0	180.8
Under 75 mortality rate: cancer (2021)	Per 100,000	123.5	106.9	112.9	121.5
Under 75 mortality rate: liver disease (2021)	Per 100,000	18.6	13.4	17.5	21.1

21 Office for Health Improvement and Disparities (OHID) (2022) Local Health. Available at: <https://fingertips.phe.org.uk/profile/local-health>.

22 OHID (2022) Cherwell Health Profile. Available at: <https://fingertips.phe.org.uk/profile/health-profiles>.

23 OHID,(2022) Public Health Outcomes Framework. Available at: <https://fingertips.phe.org.uk/profile/public-health-outcomes-framework>.

Health Indicator		Cherwell	Oxfordshire	South East	England
Under 75 mortality rate: cardiovascular disease (2021)	Per 100,000	61.6	52.1	63.1	76.0
Under 75 mortality rate: respiratory disease (2021)	Per 100,000	21.0	17.2	21.4	26.5
Self-Reported Health (2021)	'Very Good' and 'Good'	85%	86%	84%	82%
	'Fair'	11%	11%	12%	13%
	'Bad' and 'Very Bad'	4%	3%	4%	5%
Long Term Health Problem/Disability – percentage of people disabled as defined under the Equality Act (2021)		15%	15%	17%	16%
Depression: Recorded Prevalence in adults (2021/22)		13.4%	12.5%	13.2%	12.7%
Suicide rate, per 100,000 population (2019/21)		N/A*	10.0	10.6	10.4

### Hospital admissions

A wide variety of hospital admissions statistics are available. This is a selection where local statistics are close to or higher than the England average, to help inform the assessment of local health priorities or vulnerable groups. For most types of illness/health risks Oxfordshire has lower admissions rates than the England average<sup>25</sup>

Heart failure hospital admissions standardised per 100,000		Oxfordshire CCG <sup>26</sup> : 163.9	146.7
Hospital admissions for mental health conditions for children aged 0-17 standardised per 100,000		Oxfordshire CCG: 101.2	86.6
Hospital admissions for intentional self harm standardised per 100,00		Oxfordshire CCG: 99.3	100.0
Emergency hospital admissions for hip fracture 65 years +		Oxfordshire CCG: 99.3	100.0
Admission episodes for alcohol-specific conditions - Under 18s		Oxfordshire CCG: 32.0	29.0
Emergency readmissions within 30 days of discharge from hospital (2020/21)	18.3%	N/A*	15.7%

<sup>25</sup><https://fingertips.phe.org.uk/search/hospital%20admissions#page/1/gid/1/pat/15/ati/167/are/E38000136/iid/90986/age/1/sex/4/cat/-1/ctp/-1/yrr/1/cid/4/tbm/1>

<sup>26</sup> As of 2021

Health Indicator	Cherwell	Oxfordshire	South East	England
<b>Risk Factors</b>				
Prevalence of adults classified as overweight or obese (2021/22)	64.6%	60.0%	62.7%	63.8%
Prevalence of obesity in children at Year 6 (2021/22)	21.0%	19.5%	20.0%	23.4%
Prevalence of physically inactive adults (2021/2022)	20.6%	16.7%	18.8%	22.3%
Smoking prevalence in adults (2022) <sup>27</sup>	13.5%	11.2%	11.5%	12.7%
<b>Wider Determinants</b>				
Prevalence of child poverty (children in low income families, all dependent children under age 16) <sup>28</sup> (2020/21)	13.1%	11.2%	14.3%	18.5%
Older people in deprivation (prevalence, age 60+ years) (2019)	8.8%	8.1%	N/A*	14.2%
Proportion of households living in fuel poverty (2020)	7.8%	8.1%	8.6%	13.2%
Violent Crime (violent offences per 1,000 population) (2021/22)	29.9	24.9	32.3	34.9
Killed or seriously injured on roads (per 100,000 resident population) (2020)	N/A*	72.8	95.4	86.1
Statutory homelessness: households in temporary accommodation (per 1,000 population) (2021/22)	0.4	0.7	2.8	4.0
Pollution: fine particulate matter ( $\mu\text{g}/\text{m}^3$ ) (2020)	7.9	7.8	8.1	7.5
Mortality attributable to particulate air pollution (2014) <sup>29</sup>	5.6%	5.6%	5.5%	5.6%
The percentage of the population exposed to road, rail and air transport noise of 65dB(A) or more during daytime (2016)	N/A*	N/A*	4.9%	5.5%
The percentage of the population exposed to road, rail and air transport noise of 55dB(A) or more during the night-time (2016)	N/A*	N/A*	8.6%	8.5%

<sup>27</sup> This dataset has been included for information but is not referred to again in this assessment or considered further in the HIA because levels of smoking/chances of quitting are very unlikely to be affected by planning or land use.

<sup>28</sup> The proportion of children living in families in receipt of out-of-work (means-tested) benefits or in receipt of tax credits where their reported income is less than 60 per cent of UK median income.

<sup>29</sup>Public Health England (2014) 'Estimating Local Mortality Burdens associated with Particulate Air Pollution' Report

\* Data not available at this spatial level.

## Health Outcomes

- 4.5 Cherwell's Local Plan (2015) notes that the population in the district experiences relatively good health. As shown in **Table 4.1**, in general across most indicators, Cherwell performs better than the England average but not as well as the Oxfordshire average.
- 4.6 The 2021 Census asked individuals to report their health using one of five categories: very good, good, fair, bad and very bad health. The majority of the residents in Cherwell and Oxfordshire reported experiencing 'very good' and 'good' health, with higher proportions than in the South East and England.
- 4.7 The **Oxfordshire Health and Wellbeing Joint Strategic Needs Assessment**<sup>30</sup> (JSNA) (2022) provides an overview of the county's health levels. Despite the population being relatively healthy – life expectancy being higher than national and regional averages – the JSNA highlights an important issue around mental health.
- 4.8 The JSNA also highlights inequalities in health across Oxfordshire between those living in the most versus the least deprived areas in Oxfordshire and reports a gap in life expectancy of 11 years for men and 12 years for women<sup>30</sup>. People with a learning disability have a lower life expectancy than average and are likely to have much higher rates of certain health conditions than the general population.
- 4.9 **Oxfordshire Prevention Framework 2019-2024**<sup>31</sup> states that the top four causes of death for under 75s in Oxfordshire are: cancer, cardiovascular disease, respiratory disease and liver disease, and that half of these are considered "preventable" in the sense that lifestyle factors or environmental factors could have played a significant part in the illness. However, as shown in **Table 4.1**, rates are lower than in South East and England. A higher proportion of deaths from "preventable" illness occurred in areas of deprivation, highlighting potential issues of health inequity.
- 4.10 The **Oxfordshire Local Area Inequalities Dashboard**<sup>32</sup> presents health data at ward level. The wards covering the Local Area are Kidlington East and Kidlington West (in line with the socio-economics ES Chapter). These cover the areas of Begbroke, Yarnton & Water Eton, Kidlington North and Kidlington South areas presented in this dataset.
- 4.11 Overall, the population in the Local Area experiences similar health outcomes to the Oxfordshire average and better health outcomes than the England average. The child obesity rate in Begbroke, Yarnton & Water Eton is higher than at the other spatial levels, at a rate of 27%. The Standardised Admission Ratios (SARs) for emergency hospital admissions across all causes, self-harm, alcohol-related conditions, and injury for those between 5 to 24 years of age are higher in Kidlington South than across Oxfordshire.

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<sup>30</sup> JSNA Steering Group (2022) Oxfordshire Health and Wellbeing Joint Strategic Needs Assessment

<sup>31</sup> Oxfordshire Clinical Commissioning Group and Oxfordshire County Council (nd) Oxfordshire Prevention Framework 2019-2024.

<sup>32</sup> Oxfordshire Local Area Inequalities Dashboard. Available at:

[https://public.tableau.com/views/OxfordshireLocalAreaInequalitiesDashboard/Areaprofiles?embed=y:display\\_count&:showVizHome=no](https://public.tableau.com/views/OxfordshireLocalAreaInequalitiesDashboard/Areaprofiles?embed=y:display_count&:showVizHome=no) Accessed 27/09/2023.



## Risk Factors

- 4.12 The proportion of adults classified as overweight and obese is higher in Cherwell than across all spatial levels. The proportion of adults who are physically inactive (undertaking less than 30 minutes of moderate intensity activity each week) is lower than the national average, but higher than in Oxfordshire and the region. The JSNA notes that 1 in 4 Oxfordshire adults do not meet the Chief Medical Officer physical activity guidelines (150 minutes of moderate intensity activity per week or 75 minutes of vigorous activity per week).
- 4.13 The rate for excess weight in children in Year 6 in Cherwell and Oxfordshire is higher than in the South East but lower than England overall at just over 1 in 5 of all Year 6 children. The **Oxfordshire Healthy Weight Story Maps**<sup>33</sup> dataset also notes that in Oxfordshire, children from Black and Asian ethnic groups experience a significantly higher prevalence of obesity than children from White groups.
- 4.14 Tackling obesity and its underlying causes are part of the system-wide priorities suggested by the **Oxfordshire Prevention Framework 2019-2024**<sup>34</sup> and **OCC's Strategic Plan 2023-2025**<sup>35</sup>.

## Mental Health

- 4.15 Mental health and physical health are inextricably linked: poor physical health can cause mental health problems and vice versa. Those that suffer from obesity, substance misuse, smoking, cancer and cardiovascular disease are particularly likely to experience mental health problems.
- 4.16 Poor mental health is also strongly linked with poverty and socio-economic disadvantage. Individuals in homelessness and institutional settings (such as care homes and prisons) are more vulnerable to poor mental health. **Planning for Cherwell 2040**<sup>36</sup> emphasises the importance of providing access to affordable housing and open space to improve the mental health and wellbeing of the residents.
- 4.17 **Oxfordshire Health and Wellbeing JSNA**<sup>37</sup> identifies mental health as a key local issue across the county, with a higher than national average prevalence of depression and increasing mental health referrals for young people. There is a higher prevalence of depression across Oxfordshire than the national average – with a decline in reported happiness and an increase in anxiety across the county.
- 4.18 Suicide is a significant cause of death in young adults and is an indicator of underlying rates of mental ill-health. Suicide rates in Oxfordshire are slightly lower than in the South East and the national average (as set out in **Table 4.1**).

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<sup>33</sup> Oxfordshire Healthy Weight Story Maps. Available at: <https://storymaps.arcgis.com/collections/e73fd31a35d4436d89711213d7a6c954?item=1> Accessed 27/09/2023.

<sup>34</sup> Oxfordshire County Council (2019) Oxfordshire Prevention Framework 2019-2024

<sup>35</sup> Oxfordshire County Council (nd) Strategic Plan 2023-2025.

<sup>36</sup> Cherwell District Council (2020) Planning for Cherwell 2040.

<sup>37</sup> Oxfordshire Health and Wellbeing Board (2019) Oxfordshire Joint Health and Wellbeing Strategy (2018-2023)

- 4.19 According to data from OHID<sup>38</sup>, in 2021/22 depression was recorded in 13.4% of Cherwell's adult population, slightly higher than across all other spatial levels.
- 4.20 The JSNA notes that the rate of adults in Oxfordshire who feel lonely "always / often" or "some of the time" was above the national average (24% vs 22%). Cherwell had the highest rate of loneliness of all Oxford districts, 27%. Social isolation and loneliness increase the risk of mental and physical health conditions.

### Wider Determinants of Health

- 4.21 Data presented in **Table 4.1** shows that residents in Cherwell and Oxfordshire experience a better quality of living environment than those in South East and England on average.
- 4.22 The JSNA highlights that the population in Oxfordshire is ageing. Between 2000 and 2020, the number of people aged 65 years and above increased by 50%. An ageing population is likely to increase pressure on the health services.

### Health Deprivation

- 4.23 The Government's Index of Multiple Deprivation (IMD) (2019) measures relative deprivation by combining indicators including a range of social, economic and housing factors, to establish a single deprivation score for each small area<sup>39</sup> across England. These factors are:
- Income deprivation;
  - Employment deprivation;
  - Education, skills, and training deprivation;
  - Health deprivation and disability;
  - Crime;
  - Barriers to housing and services; and
  - Living environment deprivation.
- 4.24 Health deprivation and disability measures "the risk of premature death and the impairment of quality of life through poor physical or mental health"<sup>40</sup>. Measures of health include morbidity, disability and premature mortality. There are few areas in Cherwell where residents experience health deprivation..

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<sup>38</sup> OHID (2023) Public Health Profiles – Depression Prevalence 2021/22.

<sup>39</sup> At Lower-layer Super Output Area (LSOA)) level. LSOAs are statistical geographic areas based on population size. The minimum population for a LSOA is 1,000 residents or 400 households. All LSOAs are ranked relative to one another according to their level of deprivation.

<sup>40</sup> Ministry of Housing, Communities and Local Government (2019) The English Indices of Deprivation 2019: Statistical Release

## Health Priorities

Based on the baseline profile set out above and the existing policy and strategic objectives in Cherwell and Oxfordshire (which have been reviewed in **Section 2**), the following have been identified as key health priorities for consideration within this assessment:

- Tackling health inequality across Oxfordshire;
- Reducing occurrences of preventable health conditions through lifestyle and environmental factors;
- Improve the early detection, self-care and clinical management of long-term conditions, particularly cardiovascular disease, respiratory disease, diabetes, mental health and cancer;
- Encouraging healthy lifestyle choices among children and adults to prevent obesity;
- Improving the physical environment especially access to high quality open space and affordable housing; and
- Supporting mental health and wellbeing, especially for children and young people.

These priorities are specific to the Site and in line with wider strategies and actions that Cherwell Council has set in its local policies for improving the population health in the district.

4.25 The priorities relate to the Health Pathways set out in **Section 5** in a range of interconnected ways. **Table 4.2** summarises the most relevant health pathways for each priority, as well as groups that are most vulnerable in each case.

Table 4.2 – Health Priorities, Health Pathways and potentially vulnerable population groups

Health Priority	Relevant Health Pathway ( <i>Oxford Toolkit determinant</i> )	Potentially vulnerable population groups
Tackling health inequality	Housing Economy and employment Education and skills Access to Services.	People or households who may experience systematic challenges in accessing services due to their age, mobility, ethnicity (including language), income or existing chronic conditions.
Reducing occurrences of preventable health conditions through lifestyle and environmental factors & Encouraging healthy lifestyle choices	All health pathways	People or households who may experience systematic challenges in making healthy choices due to income, education, availability of services and opportunities to take healthy choices and exposure through environment

Health Priority	Relevant Health Pathway ( <i>Oxford Toolkit determinant</i> )	Potentially vulnerable population groups
among children and adults.		
Improve the early detection, self-care and clinical management of long-term conditions	Education and skills Access to Services.	<p>People or households who may experience systematic challenges in getting early diagnosis or treatment due to, for example, education and awareness and barriers to accessing services which could be geographical or other including income, disability or ethnicity (and language).</p> <p>Note that this priority is not directly related to the Proposed Development as it is most relevant to the provision of public services.</p>
Improving the physical environment especially access to high quality open space and affordable housing	Housing Local natural environment and access to green space	People or households who may experience systematic challenges in accessing open space or housing including low income families and those with disabilities or long term limiting illnesses which affect mobility.
Supporting good mental health and wellbeing	All health determinants	People or households who may experience systematic exclusion from services and opportunities for a wide range of reasons, as outlined above.

4.26 Where a potential negative health effect has been identified in the assessment section that has the potential to differentially impact those who belong to vulnerable groups, it has been identified in the assessment section.

# 5 Assessment

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## Population Groups Affected by the Proposed Development

- 5.1 No relevant adverse or beneficial impacts have been identified outside the Local Area or the Local Authority. Therefore it is appropriate to consider the relevant Population Groups for this assessment to be those within those areas (as identified in the Baseline section of this Assessment and the **ES Volume 1, Chapter 7: Socio-economics** and in the baseline of this Impact Assessment.)

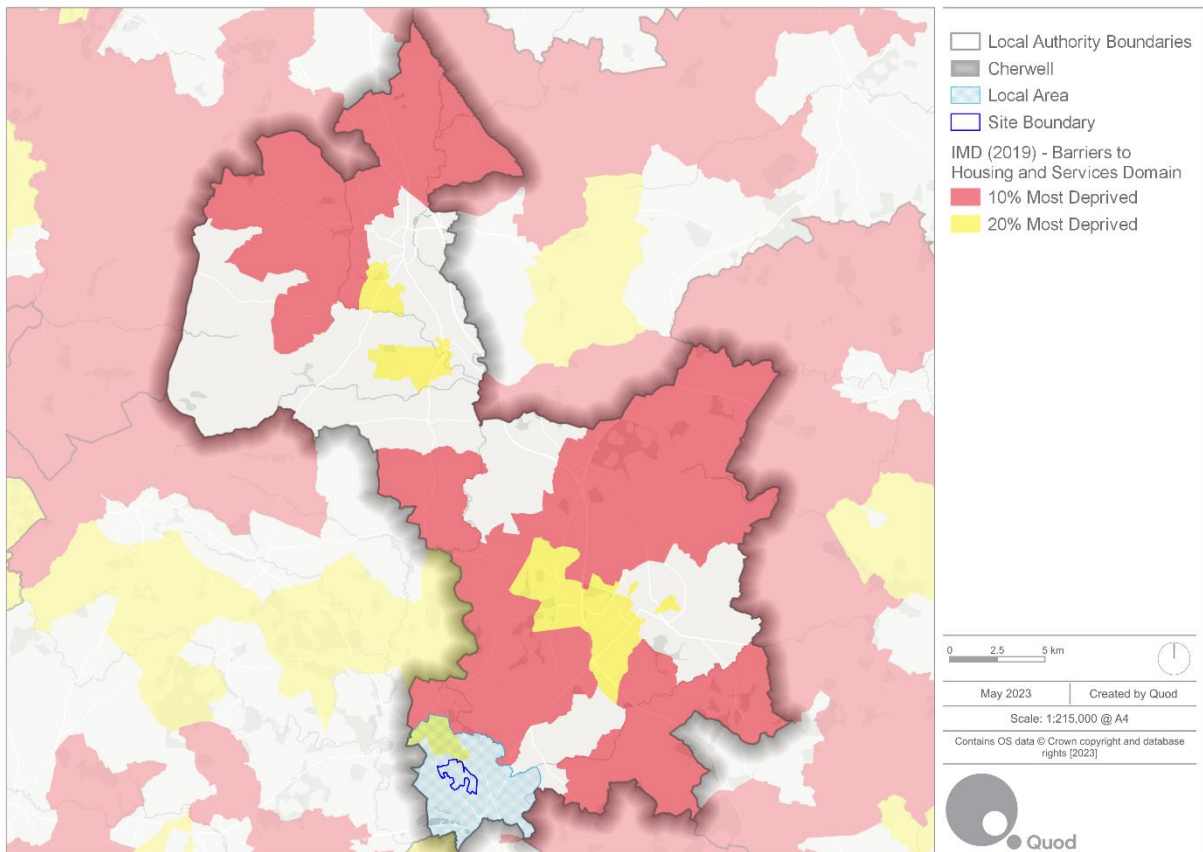
## Health Impact Assessment

### Housing

- 5.2 Access to good quality housing is essential for public health, particularly for vulnerable groups such as the elderly or young people. The Marmot Review (2010) identified that poor housing conditions – which also include factors such as homelessness, temporary accommodation, overcrowding, insecurity and housing in poor physical conditions – constitute a risk to health, and this is most likely to affect the more vulnerable groups in society.
- 5.3 The Marmot Review 10 Years On (2020) report also notes the direct impact of poor-quality housing on mental health including stress resulting from financial strain associated with housing costs.
- 5.4 Several housing factors can impact on health:
- Poor choice of housing location (poor access to local services);
  - Design and orientation;
  - Poor sanitation;
  - Unfit living conditions such as excessive damp, poor insulation;
  - Unhealthy environmental quality; and
  - Overcrowding.
- 5.5 The IMD (2019) “Barriers to Housing and Services” domain indicates the accessibility of housing and local services. Indicators fall into two categories: ‘geographical barriers’ – relating to the physical proximity of local services – and ‘wider barriers’, which include issues relating to access to housing such as affordability and homelessness.

5.6 Figure 5.1 shows the relative levels of deprivation associated with access to housing and services. Areas in red are within the 10% most deprived areas in England, and those in yellow are within the 10-20% most deprived areas in England. A large proportion of Cherwell residents experience housing and services deprivation. It is worth noting that it is quite typical for rural areas to rank poorly on this measure. Rural areas with high house prices, even more so – and this is what is reflected here.

Figure 5.1 – IMD Barriers to Housing and Services Domain (2019)



5.7 The HENA notes that house prices in Oxfordshire have grown significantly in the past 20 years (to 2021), increasing in value by a factor of 2.6, with higher prices than in South East and England overall. This trend is exacerbated by a sustained undersupply of homes. At a district level, the higher relative house prices are in Oxford and South Oxfordshire; with Cherwell being the only authority in which prices are to any significant degree below the South East average but still well above the national average.

5.8 The **ES Volume 1, Chapter 7: Socio-Economics** reports that overcrowding rates in Cherwell are similar to the other spatial levels.

5.9 In Cherwell, 7.8% of households live in fuel poverty (as shown in Table 4.1). The proportion is lower than across Oxfordshire and England.

5.10 The **ES Volume 1, Chapter 7: Socio-Economics** notes that the majority of houses in Cherwell are owner-occupied – 70%. This is significantly higher than all other spatial levels, with Oxfordshire having an average of 56%. In contrast, the proportion of rented

accommodation (both social and private) is smaller in Cherwell (10% and 19%, respectively) than in Oxfordshire (17% and 25%, respectively).

- 5.11 The Department for Levelling Up, Housing and Communities (DLUHC) provides data on statutory homelessness<sup>41</sup>. Oxford has a much higher rate of households in temporary accommodation than the Oxfordshire average (but lower than the national average). This data is a useful indicator but only shows one aspect of housing need, much of which is masked by people living in unsuitable accommodation but not meeting the test of statutory homelessness. The median house prices to the median resident-based income ratio in Cherwell is 9.56. In Oxford, it is 12.15<sup>42</sup>. A ratio of below 5 is generally considered affordable.

Table 5. 1 – Households in temporary accommodation or threatened with homelessness (October to December 2022)

Area	Number of households in temporary accommodation per 1,000	Number of households threatened with homelessness per 1,000
Cherwell	0.61	0.65
Oxford	2.01	0.83
Oxfordshire	0.94	1.11
South East	3.10	1.26
England	4.24	1.33

- 5.12 The HENA outlines that the Cherwell and Oxford districts have the greatest housing need within Oxfordshire. Cherwell Local Plan 2011-2031 Partial Review - *Oxford's Unmet Housing Need* sets out the planned delivery of homes in Cherwell District: 4,400 homes are planned to be delivered to 2031 in order to meet Oxford's unmet needs. The Site is part of the largest allocation under Policy PR8 required to meet the target of 1,950 homes.

#### Health Impact Assessment: Housing

- 5.13 Housing is a health pathway given priority in Table 4.2.
- 5.14 The Proposed Development will deliver 1,800 homes in line with the policy target for PR8. The Site does not occupy the entire PR8 site allocation but, together with the remaining part of the allocation to be delivered by Hallam Land, the Policy PR8 allocation housing target will be met.
- 5.15 This application is submitted in Outline. A detailed unit and tenure mix has not been established at this stage. The Proposed Development is expected to provide both houses and flats, including shared accommodation homes. The details of provision will be defined through the tiered submission of a Development Area Brief, and confirmed through the submission of relevant Reserved Matters Applications (RMAs). The **Strategic Design**

<sup>41</sup> Department for Levelling Up, Housing and Communities (2022) Statutory homelessness in England. Available at: <https://www.gov.uk/government/statistics/statutory-homelessness-in-england-october-to-december-2022>

<sup>42</sup> ONS, 2023. Table 5a - Median house price by local authority district, England and Wales, year ending September 2002 to year ending September 2022 (£)

**Guide**, submitted with this application sets out the site-wide design principles to guide future master planning.

- 5.16 The Proposed Development is expected to deliver 50% of housing on the Site as affordable housing, in accordance with Policy PR8. The make-up of this provision will include social rent, discount market rent and key worker housing. This is in line with the expectations of Policy PR2 which in particular allows for key worker housing to be delivered as a component of the overall affordable housing offer. The **Housing Statement** provides further detail on the proposed housing offer. It is anticipated that the housing offer would be finalised and set out in a section 106 agreement made between the Applicant and CDC. The Proposed Development will create four neighbourhoods which have been designed to prioritise well-being, community cohesion and biodiversity. The masterplan has prioritised active streets and communal spaces. It is the intention to deliver high quality homes in line with national guidance. Specific detail of building design, tenure and specialist older people housing will be decided at Tier 2, most likely Tier 3.
- 5.17 The delivery of housing, including affordable housing, will have a positive health impact by addressing barriers to housing (through increasing provision) and creating healthy living environments.

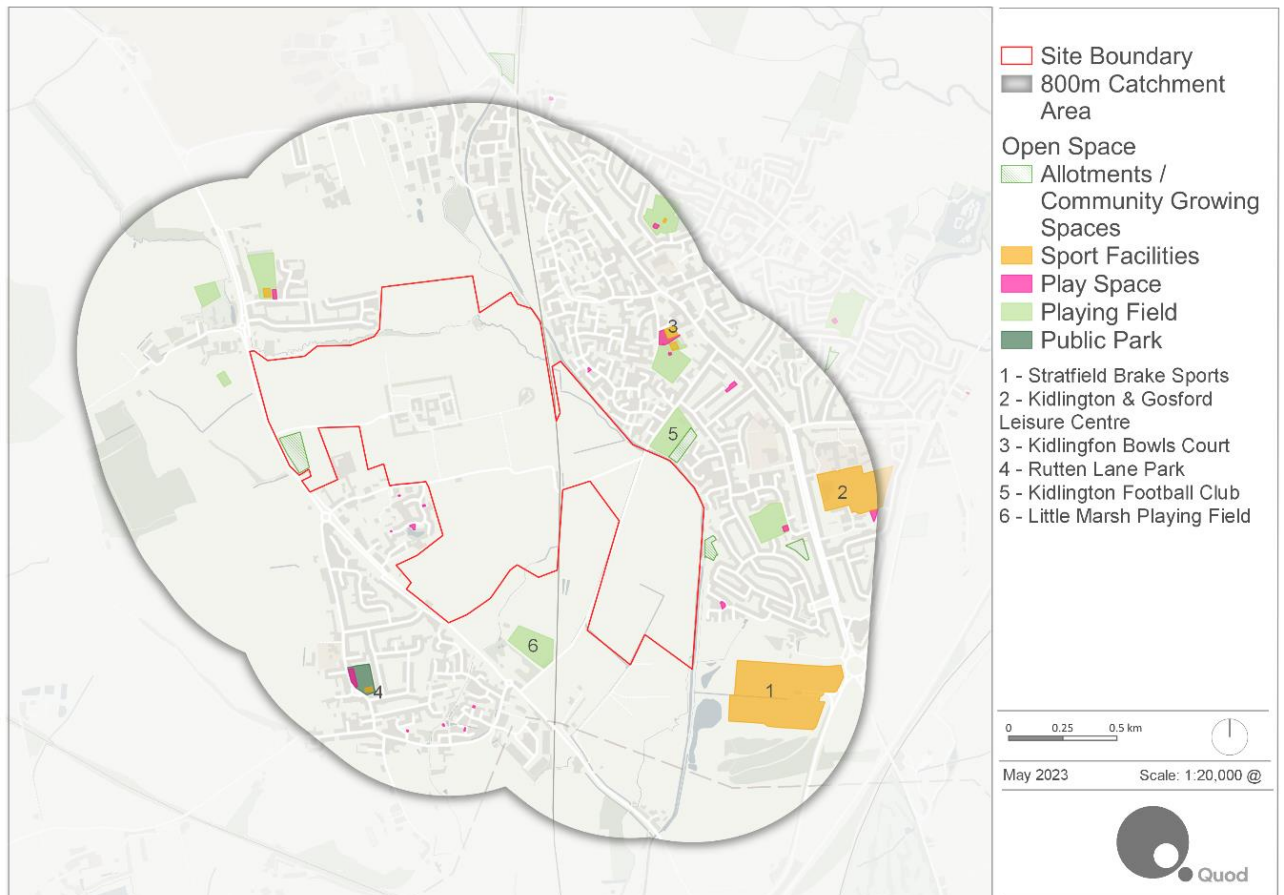
### Physical activity

- 5.18 Apart from directly providing sports facilities, the design of new buildings and spaces can reinforce or enhance the character, legibility, permeability and accessibility of the neighbourhood and therefore encourage physical activity. Development should also maximise the opportunity for community inclusion and cohesion and enable people to live healthy, active lives. Development may provide or remove access to public transport, walking and cycling routes that support active lifestyles.
- 5.19 Increased traffic from large vehicles associated with demolition and construction may dissuade individuals people from walking or cycling.
- 5.20 Traffic volumes and road design could potentially have a detrimental effect on highway safety through increased opportunities for conflict.
- 5.21 Promoting active travel is important to deliver a 'modal shift'. Less reliance on cars and more reliance on cycling and walking can help to tackle multiple health outcomes – including those related to air quality and inactivity.
- 5.22 Oxfordshire as a whole has a lower proportion of physically inactive adults than the South East and England. Cherwell has a less active adult population than Oxfordshire, but more active than the national average (as outlined in Table 4.1).
- 5.23 There are 18 playspace facilities, four allotment sites, one public park, eight playing fields and four sport facilities (football grounds, outdoor gyms and sport centres) within 800m of the Site, shown in Figure 5.2. The majority of the open space facilities are located east of the Site and are separated by a railway line but are accessible via a level crossing.



- 5.24 The closest playing field is Little Marsh Playing Field (Map Ref. 6) and the closest public park is Rutten Lane Park (Map Ref. 4). Further details on open space accessibility are provided in **ES Volume 1, Chapter 7: Socio-economics**.
- 5.25 The Council runs Stratfield Brake Sports Ground and Kidlington & Gosford Leisure Centre. Kidlington Bowls Court, Kidlington Football Club and Little Marsh Playing Field are run by the local community.

Figure 5.2 – Public Open Space, Playspace and Sports Facilities within 800m of the Site



### Health Impact Assessment: Physical activity

- 5.26 The Proposed Development provides parameters that could deliver up to 83.95 ha of open space, sports provision, natural and semi-natural greenspace and playspace. This allows for sufficient flexibility for a wide variety of typologies to meet the policy standards, the specifics of which will be determined at Tier 2 and Tier 3 design stages.
- 5.27 Flexible non-residential space and the school sports halls will provide the opportunity for a wide range of indoor physical activity. Policy PR8 requires the secondary school on-site to deliver a four court sports hall with access for the community, and this has been included in the Development Specification.

- 5.28 Streets will be designed to prioritise active travel (walking, cycling) and discourage car use. Streets will be lined with trees to encourage walking and create dwelling spaces. Each neighbourhood will have access to open and green space.
- 5.29 The Proposed Development includes plans to modify Yarnton Lane Bridge to allow access for pedestrians, cyclists and public transport services only and create a safe and welcoming walking environment between the Site and Kidlington – for residents on both sides to benefit.
- 5.30 The Proposed Development includes allotments and a Community Farm with physical and social benefits.
- 5.31 Provision of indoor and outdoor sports facilities and interconnected green spaces would support a safe and inviting environment for walking and cycling, and support physical activity among residents, which has also been identified as a health priority.

## Healthy Food Environments

- 5.32 The Marmot Review (2020) identifies “widespread concern at food insecurity and poor nutritional intake and impacts on health and wellbeing; likely contributing to inequalities in cancer, diabetes and coronary heart disease<sup>43</sup>”. While physical access to healthy food options is important, the Marmot Review identifies that the most significant reason for food insecurity or poor diet is income related.
- 5.33 OHID provides data on the density of fast food outlets. In 2014, there were 74.7 fast food outlets per 100,000 people in Cherwell. Despite this being higher than the regional average (70.6 outlets per 100,000 people across the South East) it is still notably lower than England’s average (88.2 outlets per 100,000 people)<sup>44</sup>.
- 5.34 More adults and children are classified as overweight or obese in Cherwell than at the county and regional levels. At the national level, however, Cherwell has a slightly lower prevalence of obesity in Year 6 children (as shown in Table 4.1).
- 5.35 As shown in Figure 5.2, there is one allotment currently on Site. This will be reprovided. The majority of the Site is currently active agricultural land, 12ha which will be retained.

## Health Impact Assessment: Healthy Food Environments

- 5.36 Space for allotments has been included towards the north of the Site, with a total provision of 3.2ha:
- Parker’s Farm Allotment – Main new allotment area of development embedded within Rowel Brook Park.
  - Community Farm Allotment – re-located allotments co-located with a community farm.

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<sup>43</sup> Ibid. page 85

<sup>44</sup> <https://fingertips.phe.org.uk/search/fast%20food#page/4/gid/1/pat/6/ati/401/are/E07000177/iid/92937/age/-1/sex/-1/cat/-1/ctp/-1/yrr/1/cid/4/tbm/1>

- Neighbourhood Allotments – urban allotments within each neighbourhood on raised planter beds.
- 5.37 In accordance with Policy PR8, 12ha of land has been retained as within agricultural use. The land provided has, however, been split into two parcels: 7ha would be provided on the land north of Rowel Brook. This land would be used as a community farm to provide opportunities for learning and working with one another to produce food and build skills, promote environmental awareness and wellbeing, and provide a source of locally grown food that could be sold within the Site. The location north of Rowel Brook provides a more accessible location for this use, closer to existing and planned dwellings which will help increase its use and viability as a social enterprise.
- 5.38 The Proposed Development includes flexible commercial floorspace that could include small-scale food retail.
- 5.39 OCC has requested that that the Applicant considers a limitation on the provision of hot food takeaways within 600m of a school site, youth facility or other location where young people gather. This would be considered as a part of the Development Area Briefs and Reserved Matters applications (Tier 2 & 3).
- 5.40 CDC and OCC have indicated the benefits of schools having strong spatial links to the commercial and academic floorspace of the Innovation District. As such, there may be trade-offs between locating the schools close to the centre (where food outlets will be provided) and limiting children’s access to these outlets.
- 5.41 OCC has expressed concern about the potential for hot food takeaways to be new schools. It is not appropriate to limit the use classes in this development at this Outline stage but further consideration can be given to this suggestion at Tier 3.

## Air Quality and Noise

- 5.42 Air quality has implications for long-term health. Dust and emissions from transport and construction processes are the main potential source of pollutants associated with development. Poor air quality is associated with negative health outcomes, such as chronic lung disease, heart conditions and asthma, particularly among children.
- 5.43 In Cherwell, under 75 mortality rate from respiratory disease was 21 people per 100,000 in 2021 (see Table 4.1). Whilst this is higher than the county average, it is notably lower than national averages (26.5 per 100,000).
- 5.44 Chronic obstructive pulmonary disease (COPD) is one of the major respiratory diseases. OHID’s data from 2021/22<sup>45</sup> shows that 1.4% of Cherwell residents were recorded as patients with COPD. This is lower than both regional (1.7%) and national averages (1.9%).
- 5.45 Planning and development influence land use and, therefore, may influence the quantity and types of emissions produced (either reducing or increasing them). Mitigation measures,

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<sup>45</sup> <https://fingertips.phe.org.uk/search/COPD#page/4/gid/1/pat/6/ati/401/are/E07000177/iid/253/age/1/sex/4/cat/-1/ctp/-1/yr/1/cid/4/tbm/1>

including the design of open spaces and the use of technology to reduce or monitor emissions, may be used where appropriate. Excessive noise and vibration may lead to mental health issues, stress-related illness and sleep disturbance.

- 5.46 The Site is not within or close to an Air Quality Management Area.
- 5.47 The **ES Volume 1, Chapter 9: Transport and Access** presents a baseline of the current traffic conditions of the roads surrounding the Site. The assessment presents an overview of the traffic flows, volumes and existing links. The **Transport Assessment** submitted with this planning application analyses current commuting patterns within Cherwell and Oxfordshire and the cycling, walking, and public transport connecting from the Site to the surrounding areas – Yarnton, Kidlington, Oxford.
- 5.48 As set out in **ES Volume 1, Chapter 10: Noise and Vibration**, the dominant source of noise is road traffic noise from A44 and from the railway line. Low levels of vibration from trains were recorded, but these are expected to be imperceptible to people.

### Health Impact Assessment: Air Quality and Noise

#### Construction Phase

- 5.49 Prior to construction, a **Construction Environment Management Plan** ('CEMP') will be agreed with the Council which will outline the planned measures to minimise environmental impacts during the construction phase. The **ES Volume 1, Chapter 10: Noise and Vibration** sets out the measures to be included in the outline CEMP in relation to noise and vibration. With the use of Best Practicable Means (BPM), the noise from these activities would be mitigated and managed as far as is practicable.
- 5.50 Construction traffic is expected to be negligible; temporary, short term and not significant effects are expected at all receptors.
- 5.51 As identified in the **ES Volume 1, Chapter 10: Noise and Vibration**, construction noise levels are anticipated to exceed the SOAEL (Significant Observed Adverse Effect Level - This is the level above which significant adverse effects on health and quality of life occur) and therefore would result in significant adverse effects at the following receptors:
- 226 Woodstock Road (residential) during the Begbroke Hill groundworks and earthworks phases,
  - 31 Sandy Lane (residential) during the Begbroke Science Park earthworks phase only.
  - At all three Science Park receptors (education/commercial) during the Begbroke Science Park earthworks and groundworks phases.
  - Science Park 1 (education/commercial) receptor during the Begbroke Science Park paving phase and during the Parkers Farm groundworks phase.
  - 88 Sandy Lane (residential) during the Parkers Farm earthworks, groundworks and paving phases.
  - Caravans at Sandy Lane and Crossing Cottage, 23 Gravel Pits Lane, 4 Ryder Close, 3 Ryder Close and 88 Sandy Lane (residential) during the Foxes Cover earthworks and groundworks phases.

- Caravans at Sandy Lane and 88 Sandy Lane (residential) during the Foxes Cover paving phase.

5.52 The impacts associated with construction would be temporary and the vast majority of construction activity will take place during weekday working hours. The noise impacts will not be uniform across the Site for the full duration of the construction programme, and will only significantly affect the above receptors during specific phases – as set out.

5.53 The ES Chapter assessment presents a recommendation that localised barriers be adopted along the boundary of the Site for the following locations: Caravans at Sandy Lane, Crossing Cottage, 88 Sandy Lane, 226 Woodstock Road to reduce the predicted noise levels to below the SOAEL threshold at this receptor.

5.54 No significant adverse vibration effects have been identified from piling. The ES Chapter assessment presents a recommendation that vibration monitoring be undertaken if there is “vibratory ground compaction within 30m of existing receptors” as the resulting vibration could, in those circumstances, exceed the SOAEL.

5.55 Very high noise levels can have direct impacts on health (hearing loss or tinnitus) but there “should be no risk” of these levels of noise from environmental factors<sup>46</sup>. Lower levels (nuisance or annoyance levels) have indirect effects including through stress-related illness and disturbances in sleep. These nuisance levels do not affect people equally. Nuisance and annoyance can have higher or lower relative importance assigned by those affected by them. Such importance varies within and across populations, and this importance or variability can be uncertain<sup>47</sup>. As such it is challenging to predict with any certainty the degree to which nuisance and annoyance from noise will affect people at an individual level. Where noise is a potential factor in a health impact assessment it is appropriate to consider effects at a population level separately to those at an individual level.

5.56 Given the number of receptors affected; the potential for differential outcomes between individuals; higher or lower relative importance assigned by those affected to nuisance or annoyance; and the duration of effects (discussed in the previous paragraphs), the health impact at a population level is likely to be neutral. Effects of this magnitude would not significantly change the health outcomes at a population level.

5.57 **ES Volume 1, Chapter 11: Air Quality** recommends best practice mitigation measures to be implemented within an Air Quality and Dust Management Plan, in line with IAQM guidance. These measures will ensure construction emissions (e.g. dust) are minimised and any residual impact on air quality will likely be not significant. Construction traffic has not been found to have a significant impact on air quality either.

5.58 Users of the canal towpaths and other Public Rights of Ways are considered to be low sensitivity receptors because their exposure is transient, in line with Institute for Air Quality Management guidance on the assessment of dust from demolition and construction. The **ES**

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<sup>46</sup> Noise exposure level beyond 80 dB during 40 years of working a 40 hour work week can give rise to permanent hearing impairment. Given that environmental exposure to noise is much lower than these levels and that noise-related hearing impairments are not reversible, the GDG considered that there should be no risk of hearing impairment due to environmental noise and considered any increased risk of hearing impairment relevant. WHO, 2018, Environmental Noise Guidelines for the European Region p. 23

<sup>47</sup> WHO, 2018, Environmental Noise Guidelines for the European Region p. 24

**Volume 1, Chapter 11: Air Quality** considered moored boats on the canal as high sensitivity receptors to dust and particulate matter during construction, and to air pollution due to traffic generated by the Proposed Development. Therefore, the most sensitive users of the canal have been considered in the assessment. As the impact at these high sensitivity receptors is not significant, the impact at the low sensitivity use in the same area (for example those walking and cycling on the towpath) will also be not significant. The ES chapter has considered the impacts at the higher sensitivity use and therefore, it was not deemed necessary to also state this for the lower sensitivity use.

- 5.59 Ground investigations found asbestos at the former landfill site. Therefore, the Chapter recommends that additional mitigation should be applied during earthworks and remediation in this area and mitigation measures should be enforced to prevent adverse impacts during this process. These measures should be outlined in a Remediation Method Statement, informed by a Geoenvironmental Interpretive Report.

### *Operation of the Proposed Development*

- 5.60 **ES Volume 1, Chapter 10: Noise and Vibration** sets out that, given the application is submitted in Outline, a detailed assessment of noise arising from fixed plant and other commercial noise sources cannot be undertaken at this stage. Target levels have been assessed with no significant impact identified.
- 5.61 The impact of noise from school sports pitches has been assessed. The noise is expected to be permanent and significant when compared to the ambient noise level - although intermittent (and not nighttime). Barriers between existing residential receptors and playgrounds could be provided if the final school layout indicates this is needed. A detail assessment will be carried out as part of the RMAs when a detailed design of the school layout will be available.
- 5.62 The noise assessment is accompanied by a site suitability assessment which is presented in **ES Volume 3, Appendix 10.3**. The assessment concludes that, with appropriate mitigation measures, the levels in outdoor spaces at the school can be reduced such that a good proportion of the space is below the 50 dB LAeq,T, in line with OCC recommendations, at the boundary of school sites. Some of the outdoor space will exceed this level. However, the higher residual levels are generally between 50 – 55 dB LAeq,T and therefore to a level which complies with the Acoustics of Schools Design Guide recommendations and would be suitable for outdoor teaching.
- 5.63 From an air quality perspective, the impact of operational traffic emissions associated with the Proposed Development is predicted to be negligible at all existing receptor locations and across all human receptors.

### **Traffic and Transport**

- 5.64 Traffic or transport impacts may have positive or negative effects on health. Planning and development may result in effects that improve or reduce access to services, including health services, and to employment. It may provide or remove access to public transport, walking and cycling routes that support active lifestyles.

- 5.65 Increased traffic from large vehicles associated with demolition and construction may also pose indirect health effects through fear and intimidation to pedestrians and cyclists. Fear would impact on health by increasing stress, while intimidation may dissuade individuals from walking or cycling and thus making healthy lifestyle choices.
- 5.66 Accidents and road safety directly impact health, where traffic volumes could potentially have a detrimental effect on highway safety through increased opportunities for conflict.
- 5.67 The **ES Volume 1, Chapter 9: Transport and Access** presents an overview of the existing connections to and from the Site. This includes a baseline for the pedestrian network, cycle network, Public Rights of Way (PRoWs), bus routes, the railway network, and the highway network.
- 5.68 Footway connections link the Site to local amenities and services. Footways also connect to Oxford, Woodstock and Kidlington, provided along the highway network (A44 and A4260). Limited east-west crossing opportunities are provided across the A44. The Site is traversed by Public Rights of Way which connect it to Begbroke, Yarnton and Kidlington.
- 5.69 There are two relevant National Cycle Routes (NRCs) – NCR5 which connects to Reading to the west of Oxford, and NCR 51 which connects Oxford to Bedford. The towpath of the Oxford Canal is used by cyclists and passes through the west of the Site, linking to Oxford to the south.
- 5.70 Table 5.2 provides a breakdown of car and van availability by household according to the 2021 Census. Car ownership in Cherwell is similar to Oxfordshire and the South East but higher than the national average.

**Table 5.2 – Car or van accessibility, Census 2021**

Number of cars or vans	Cherwell	Oxfordshire	South East	England
No cars or vans in household	15%	16%	17%	24%
1 car or van in household	40%	41%	41%	41%
2 cars or vans in household	33%	31%	31%	26%
3 or more cars or vans in household	12%	12%	12%	9%

*Source: 2021 Census.*

- 5.71 Data on the number of people killed or seriously injured on roads is not available at the district level. Table 4.1 provides data on this topic for the other spatial levels, showing that Oxfordshire has fewer road deaths or serious injuries per 100,000 residents than the region and England overall, indicating better road safety.
- 5.72 The **Transport Statement** presents an overview of existing travel patterns for the Middle Super Output Area (MSOA) Cherwell 019 and compares it with Cherwell and Oxfordshire. Approximately 30% of the trips to work of residents in the Cherwell 019 MSOA are made on sustainable means of transport, in line with Cherwell and Oxfordshire proportion rates. On contrast (based on 2011 Census data) 15% of employee trips to the MSOA are made on sustainable modes.

- 5.73 A travel survey was undertaken for employees at the existing Begbroke Science Park to determine their mode share for the journey to work and the results are summarised in the **Transport Assessment**. A lower proportion of employees travel to work by car than seen at the Cherwell 019 MSOA level.

### Health Impact Assessment: Traffic and Transport

#### Construction Phase

- 5.74 The **ES Volume 1, Chapter 9: Transport and Access** assesses the impact of construction traffic arising from the Proposed Development (which includes closing Sandy Lane) Network Rail is currently progressing an application which proposes the closure of the level crossings to traffic to allow for pedestrian and cycling access only. This assumption has fed into the assessment.
- 5.75 No significant impacts with respect to severance, pedestrian delay, amenity, fear or intimidation, diver delay and road safety have been found during the construction phase,. The following links have been considered in the assessment:
- A44 Woodstock Road, near Begbroke Hill;
  - A44 Woodstock Road, near Rutten Lane;
  - A44 Woodstock Road, near Cassington Road; and
  - A44 Woodstock Road, near Frieze Way.
- 5.76 A series of measures have been outlined in the **Framework Construction Traffic Management Plan** (CTMP) submitted with the planning application to minimise the disturbance which could arise from the construction expected on-site. The following measures have been proposed:
- Routing traffic to the Site in order to maintain heavy construction traffic on the SRN so far as possible and thereby minimise the impact of construction traffic on local communities;
  - Signage to identify access routes and to inform motorists that the local roads are accommodating construction traffic;
  - Scheduling of construction traffic movements (equipment and materials), when possible, to avoid the peak traffic periods at the beginning and end of each working day and other sensitive periods, in order to minimise potential disturbance to local residents, users or visitors at BSP or safety impacts at junctions;
  - Ensuring Public Rights of Ways are maintained open and where a temporary closure is required, an appropriate diversion is provided;
  - Wheel cleaning on-site to keep the local highway clear of mud and debris;
  - Implementation of driver rules; and
  - The principal contractor to liaise with stakeholders prior to commencing construction of the Proposed Development and throughout work on-site.

#### Operation of the Proposed Development

- 5.77 The primary access routes are secured through Parameter Plan 4: Access and Movement.



- 5.78 As established in the Strategic Design Guide, (3.1.7): “Existing Public Rights of Way (‘PRoW’) within the Site should be retained or re-provided, alongside the creation of new informal pathways.”
- 5.79 Schools within the Proposed Development are likely to serve an area beyond the Site in all directions (they will be delivered to serve all of the PR sites, particularly PR9, PR7b and the Hallam Land parcel). The employment space will attract workers from a wide catchment, including requiring connections from Oxford Parkway. Similarly, residents will require strong connections to Kidlington, Oxford Parkway and Oxford. As such connections within the site and outside the site will be important to ensure access to work, leisure and services for a healthy life. In keeping with the “car is a guest” principle (See Section 2.3 of the Strategic Design Guide and Section 4.4 of the DAS).
- 5.80 The Transport Assessment sets out the commitments made through the Kidlington Local Cycling and Walking Infrastructure Plan (LCWIP) (2021). Tables 4.1 and Table 4.2 of the Transport Assessment summarise the LCWIP measures related to walking and cycling respectively and of relevance to the walk/cycle catchment of the Site. Many of these improvements are either being incorporated into the masterplans for the PR sites or are included in the IDP in Appendix 4 of the Partial Review Local Plan, which is proposed to be funded by the PR sites.
- 5.81 With respect to the A44, the following new or improved signal-controlled pedestrian/cycle crossings across the A44 are proposed to be provided by either OCC or the PR sites:
- Begbroke village: Currently there is no signal-controlled crossing over the A44 connecting the eastern and western parts of Begbroke village. Pedestrians are required to cross the corridor uncontrolled via sub-standard facilities. We understand that OCC is currently designing a signal-controlled crossing across the A44 at Begbroke village to provide a safe crossing across the A44.
  - Begbroke Hill: as part of the PR9 development proposals, a fourth arm is to be provided to the existing Begbroke Hill signal-controlled junction and direct (i.e. not staggered) pedestrian and cycle crossing facilities provided across all arms of the junction to provide safe access between PR9 and PR8 and bus stops on the A44.
  - South of Begbroke Hill: as part of the PR9 development proposals, a signal controlled direct (i.e. not staggered) pedestrian crossing is proposed to be provided across the A44 mid-way between Begbroke Hill and Sandy Lane.
  - Sandy Lane: as part of the improvements to the A44, it is proposed to provide a signal controlled crossing across the A44 at the junction with Sandy Lane. This would connect the Site to Yarnton.
  - Southern PR8 access: as part of the proposed development of part of the PR8 site being brought forward by Hallam Land (referred to as the southern PR8 access), a signal controlled access is proposed with the A44, which includes signal controlled pedestrian and cycle crossings.
  - Cassington roundabout: as part of the North Oxford Corridor Improvements currently being implemented by OCC, a signal-controlled pedestrian and cycle crossing is proposed immediately to the north of the Cassington roundabout at the junction of A44 with Cassington road.

5.82 Pedestrians and cyclists travelling to Yarnton and PR9 would be able to route via the following:

- Begbroke Hill would be upgraded to provide upgraded pedestrian and cycle routes along both sides of the road. Pedestrians and cyclists would be able to travel along Begbroke Hill to the junction with the A44 and cross at the proposed signal-controlled crossings to access PR9 and Yarnton.
- route through the site to Sandy Lane and cross the A44 at the proposed signal-controlled crossing at Sandy Lane.
- travel through the site along the green artery through the Foxes Cover neighbourhood to the southern PR8 access and cross the A44 at the proposed signal-controlled junction to access Yarnton.

5.83 Pedestrians and cyclists travelling to Kidlington would be able to route via the following:

- Along the upgraded and new traffic free routes through the Parker's Farm neighbourhood to access Roundham lock and onwards to Lyne Road, which connects to the local centre at High Street, Kidlington.
- Along Begbroke Hill or Sandy Lane and over the new Network Rail bridge (ped/cycle) and onwards to the existing Yarnton Lane canal bridge.
- Along the pedestrian/cycle route that will connect to the proposed bridge over the canal to PR7b and onwards to the southern part of Kidlington, Oxford Parkway and the wider city.

5.84 Cyclists travelling to/from Oxford city would have a number of route options:

- Along the A44 and Woodstock Road via the upgraded active travel facilities.
- Along the canal, which the Canal and River Trust is proposed to upgrade along the Site boundary through developer funding, to connect into the already upgraded towpath to the south of the Site.
- Along the pedestrian/cycle route that will connect to the proposed bridge over the canal to PR7b and onwards to the city centre via the A4260, which is proposed to have active travel improvements along the corridor.

5.85 As part of the Infrastructure Delivery Plan, the County Council is seeking to develop a mobility hub at Oxford airport, which would intercept traffic further north along the A44 and transfer them to a range of sustainable transport at the proposed mobility hub. The County is seeking joint contributions from the PR sites and other relevant consented development to fund the Airport mobility hub.

5.86 Internal roads will be designed to be 'living streets' to deprioritise cars and create safe and welcoming walking and cycling environment. Walking and cycling have been fundamental to the design. The following principles have been adopted by the design team:

- The **Strategic Design Guide** outlines that the existing PRowS within the Site would be retained or reprovided to accommodate development should there be necessary, and that new informal pathways would be created to support connectivity and active travel.

- Streets within the Proposed Development are designed for 20mph to create a calm walking and cycling environment;
- A network of car-free streets;
- Provision of an east-west active travel route through the Proposed Development along Sandy Lane connecting Yarnton to Kidlington;
- A PRoW strategy to enhance existing routes; and
- Safeguarding the land to make provision for a walk/cycle bridge over the Oxford Canal to provide a route from the Proposed Development to Oxford Parkway.

5.87 All schools will be integrated into the pedestrian and cycle network.

5.88 A mobility hub is proposed on the Site linked to the local centre. It will include bus stops, cycle parking, EV charging spaces and car club spaces.

5.89 The existing bus route S3 will increase its frequency. A new bus route would connect the Site to Oxford Parkway and Oxford. A community bus service will connect Yarnton, the Proposed Development and Kidlington, a route which currently has no service. These proposals would improve the connectivity and public transport accessibility in the Local Area and connect existing and future communities.

5.90 A Framework Site-Wide Travel Plan, submitted in **Appendix 9.2 of the ES Volume 2**, sets out the initiatives to be undertaken to encourage sustainable travel to and from the Site, aiming to reduce the number of single occupancy vehicle trips and encourage a modal shift.

5.91 **Chapter 11: Access** in the **DAS** outlines the inclusive design principles and intentions which ensure the accessibility in the Proposed Development. The intention is to create spaces that everyone can use easily and with dignity, regardless of their ability, age, gender or ethnicity. The design has been informed by various national and regional design guidelines. These principles will be applied to the external landscaped areas, public realm, non-residential and residential uses.

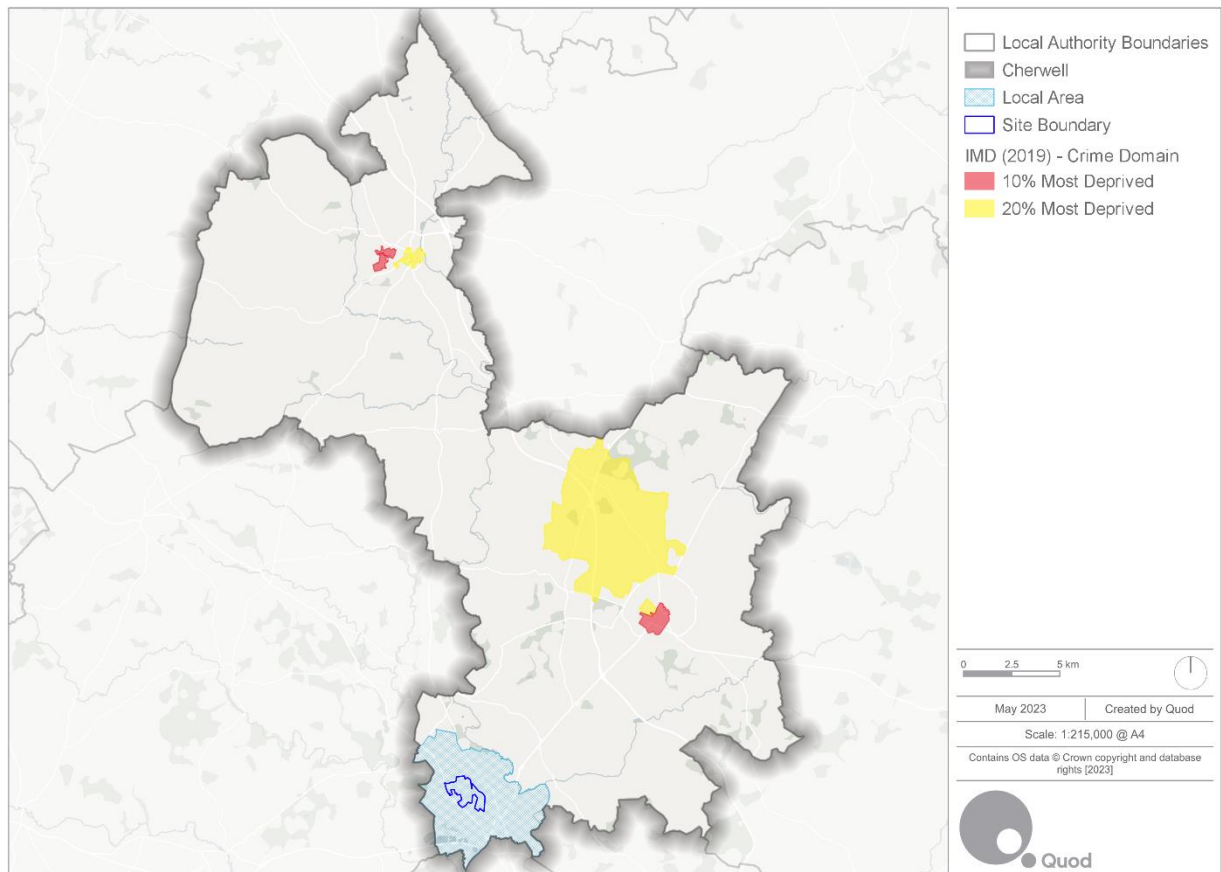
5.92 Landscape amenity spaces, both private and public, will reflect the following inclusive design features:

- Route widths sufficient for all users, including wheelchair users, to pass others travelling in the opposite direction.
- Resting places with seating are provided at regular intervals as required.
- Suitable seating design for all – some with arm and back rests.
- Routes will be level or a very shallow gradient of 1:60 or shallower wherever practicably possible.
- Where stepped routes are necessary, these will have an alternative step free route and steps will be designed to be easy going and accessible for as many people as possible.
- Landscaping materials will be specified to maximise independent use by people with visual impairment.
- Where vehicle routes require pedestrian crossings, these will be clearly demarcated and have suitable tactile warning surfaces as required.

## Crime and Anti-social Behaviour

- 5.93 Crime and fear of crime can reduce social solidarity and can impact on mental and physical health at an individual level – in particular if it prevents people from being active.
- 5.94 Construction sites create chances for criminal activities such as vandalism and theft of construction materials. Additionally, inadequate lighting and a lack of activity during non-working hours can contribute to heightened fear of crime.
- 5.95 The IMD crime domain measures the risk of personal and material victimisation at local level<sup>48</sup>. Figure 5.3 shows that Cherwell has a relatively low risk of crime in the national context. The rate of recorded crime is lower in Cherwell and Oxfordshire than the averages for the South East and England.

Figure 5.3 – IMD Crime Domain (2019)



## Health Impact Assessment: Crime and Anti-social Behaviour

- 5.96 Planning and development cannot control individual behaviour but can create environments where crime is less likely to happen through design, in particular around animation, passive surveillance and streetscape.

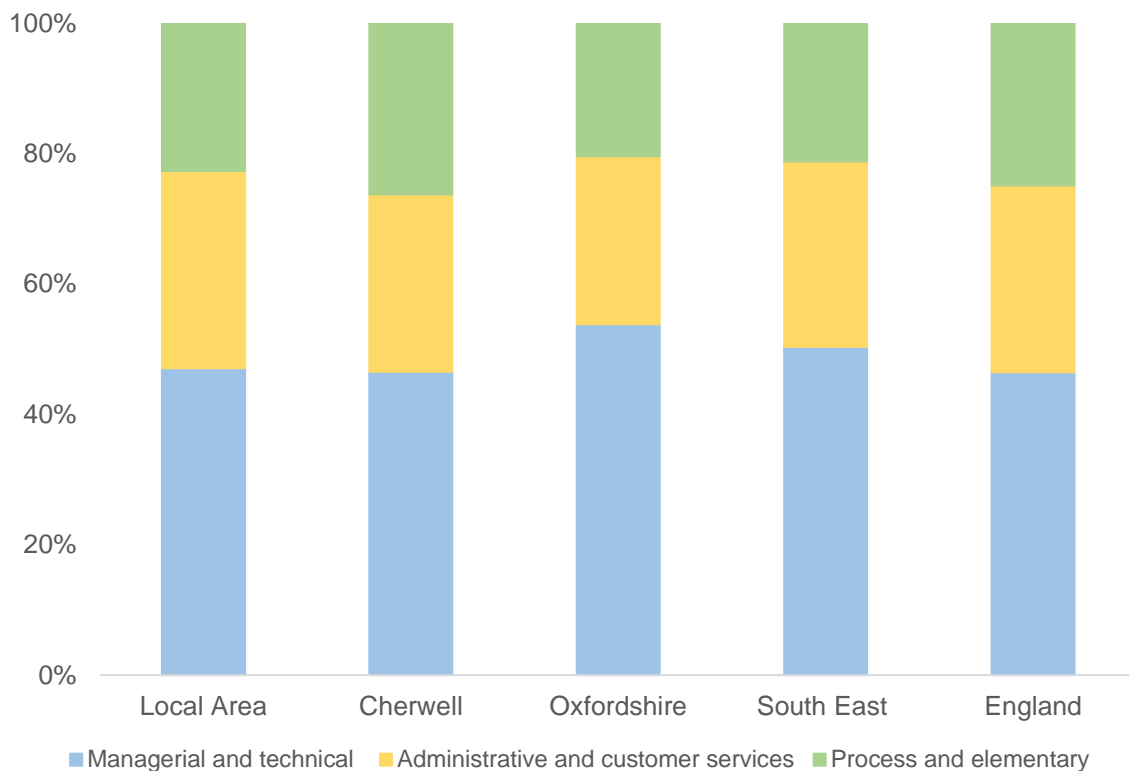
<sup>48</sup> Ministry of Housing, Communities and Local Government (2019) The English Indices of Deprivation 2019: Statistical Release, London, UK.

- 5.97 **Framework Lighting Strategy** sets out the principles by which the lighting will be designed, including safety considerations. Design of the streetscapes and buildings will be dealt with at Tier 3.
- 5.98 The Proposed Development will provide a wide range of community and local centre facilities, (sports provision, community farm, parks) that could serve to increase community cohesion and reduce anti-social behaviour.

## Economy and Employment

- 5.99 Economy and employment is a health pathway given priority in Table 4.2.
- 5.100 Access to employment can be a significant contributing factor to health. Being in work can make it easier to pursue a healthy lifestyle, with income being one of the most significant influences on health and the prevalence of disease in public health research.
- 5.101 Unemployment is often related to an increased risk of poor physical and mental health, and premature death. There are three core ways in which unemployment affects levels of morbidity and mortality:
- Financial challenges due to unemployment can result in fewer social opportunities and poorer housing quality;
  - Unemployment can trigger distress, anxiety and depression; and
  - Unemployment can affect health behaviours through increased risk of smoking and alcohol consumption, and reduced levels of physical exercise.
- 5.102 The **ES Volume 1, Chapter 7: Socio-Economics** provides labour market and employment context. The economic activity rate in the Local Area is high but in line with all other spatial comparators. The rate of unemployment is low and fewer residents in the Local Area claim unemployment-related benefits than across all other spatial levels.
- 5.103 There are 11,000 jobs in the Local Area. The largest sector is “Public administration and defence”, accounting for 15% of the total employment, which is higher than the sector prevalence across the other spatial levels. The majority of these jobs are in public order, safety activities and fire service because of the Thames Valley Police HQ (it is possible that not all of these employees work directly from this site). **ES Volume 1, Chapter 7: Socio-Economics** provides a detailed breakdown of local employment.
- 5.104 Comparative occupation profiles (see Figure 5.4) show broad alignment between spatial scales although, as expected, Oxford has a higher rate of managerial and technical roles.

Figure 5.4 – Residents Occupation, 2021 Census



5.105 Data at the national level indicates that 3.4% of people aged 16 in the UK and over were employed in zero hours contracts between January and March 2023<sup>49</sup>. This data is not available at local authority level. A zero hours contract is a flexible working contract in which the employer does not guarantee the individual any hours of work.

#### Health Impact Assessment: Employment and Economy

5.106 The **ES Volume 1, Chapter 7: Socio Economics** assess the impact of the Proposed Development on the economy and employment. The Proposed Development will deliver 176,000 sqm GEA employment floorspace, schools and shops/services creating between 6,260 and 6,310 direct jobs. Construction works would support an average of 1,600 FTE jobs over the c. eight years construction period. This is a significant beneficial impact on the economy of Cherwell and Oxford, delivering a 3% increase in the number of jobs across the two districts.

5.107 The majority of these jobs would be in R&D facilitating the expansion of Begbroke Science Park. The R&D floorspace would be linked to the University of Oxford and would allow expansion of the existing science park as well as the university’s ambitions for training, research and innovation. It would benefit from in-perpetuity stewardship and links to the university. This would allow for reliable and continuous support of business start-up and development and presents a unique opportunity for growth. For further detail please refer to the **Innovation Research and Employment Strategy**.

<sup>49</sup> ONS (2023) EMP17: People in employment on zero hours contracts – May 2023.

- 5.108 It would benefit from access to a large and highly skilled labour market and excellent links to other business and education. This has the potential to establish a world class economic environment making a significant positive contribution to the economy of Oxfordshire, as assessed in the **ES Volume 1, Chapter 7: Socio Economics** and potential to generate social and economic benefits that at national or international scales.
- 5.109 The economic activity at the Begbroke Science Park currently includes world-leading research on health including medical imaging and diagnostics. Such innovations have the potential for global reach and global health benefits.
- 5.110 Further details on the potential social and economic impacts of the Proposed Development are provided in the **Innovation, Research and Employment Strategy** document which forms part of the planning application.
- 5.111 A **Strategic Design Guidelines** presents the overarching design principles envisioned for the employment floorspace including its relationship to the natural landscape, landscaped corridors and green neighbourhoods aimed at both resident and worker wellbeing and health.
- 5.112 The proposals could have positive health effects for the existing and future resident population by significantly increasing local opportunities for work.

## Education and skills

- 5.113 Education and skills is a health pathway given priority in Table 4.2.
- 5.114 Table 5.3 provides data from the 2021 Census on residents' level of qualifications. As would be expected, Oxford has a very high level of degreed residents. Cherwell has a slightly higher uptake of apprentices.

Table 5.3 – Highest level of qualification (2021)

Highest level of qualification	Local Area	Cherwell	Oxfordshire	South East	England
No qualifications	16%	16%	14%	15%	18%
Level 1 and entry level qualifications	10%	11%	9%	10%	10%
Level 2 qualifications	12%	14%	12%	14%	13%
Apprenticeship	7%	6%	5%	5%	5%
Level 3 qualifications	15%	16%	17%	17%	17%
Level 4 qualifications or above	37%	35%	42%	36%	34%
Other qualifications	3%	3%	2%	3%	3%

- 5.115 The **ES Volume 1, Chapter 7: Socio-Economic** provides information on local schools. The closest primary schools are St Thomas More Catholic Primary School, Kidlington and West Kidlington Primary and Nursery School. At St Thomas More Catholic Primary School, Kidlington, 86% of pupils met expected standards in reading, writing and maths in 2019 (the most recent data)<sup>50</sup>. This is significantly higher than local authority and national averages (both 65%). In contrast, West Kidlington Primary and Nursery School’s pupils performed slightly below local authority and national averages, at 62%<sup>51</sup>.
- 5.116 The closest secondary schools are Gosford Hill School and the Marlborough CofE School. Gosford Hill School’s “Attainment 8 Score” – a score based on how well pupils have performed in up to eight Key Stage 4 qualifications – is 54.1. This is higher than the local authority (49.7) and national averages (48.8)<sup>52</sup>. The Marlborough CofE School also has a high Attainment 8 Score: 55.2<sup>53</sup>.
- 5.117 The two closest primary and two closest secondary schools are rated ‘good’ by Ofsted<sup>54</sup>.
- 5.118 The IMD domain Education, Skills and Training presents relative levels of educational attainment and skills in the local population<sup>55</sup>. Figure 5.5 shows the relative levels of this domain across Cherwell.

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<sup>50</sup> <https://www.find-school-performance-data.service.gov.uk/school/139530/st-thomas-more-catholic-primary-school%2c-kidlington/primary>

<sup>51</sup> <https://www.find-school-performance-data.service.gov.uk/school/144398/west-kidlington-primary-and-nursery-school/primary>

<sup>52</sup> <https://www.find-school-performance-data.service.gov.uk/school/138897/gosford-hill-school/secondary>

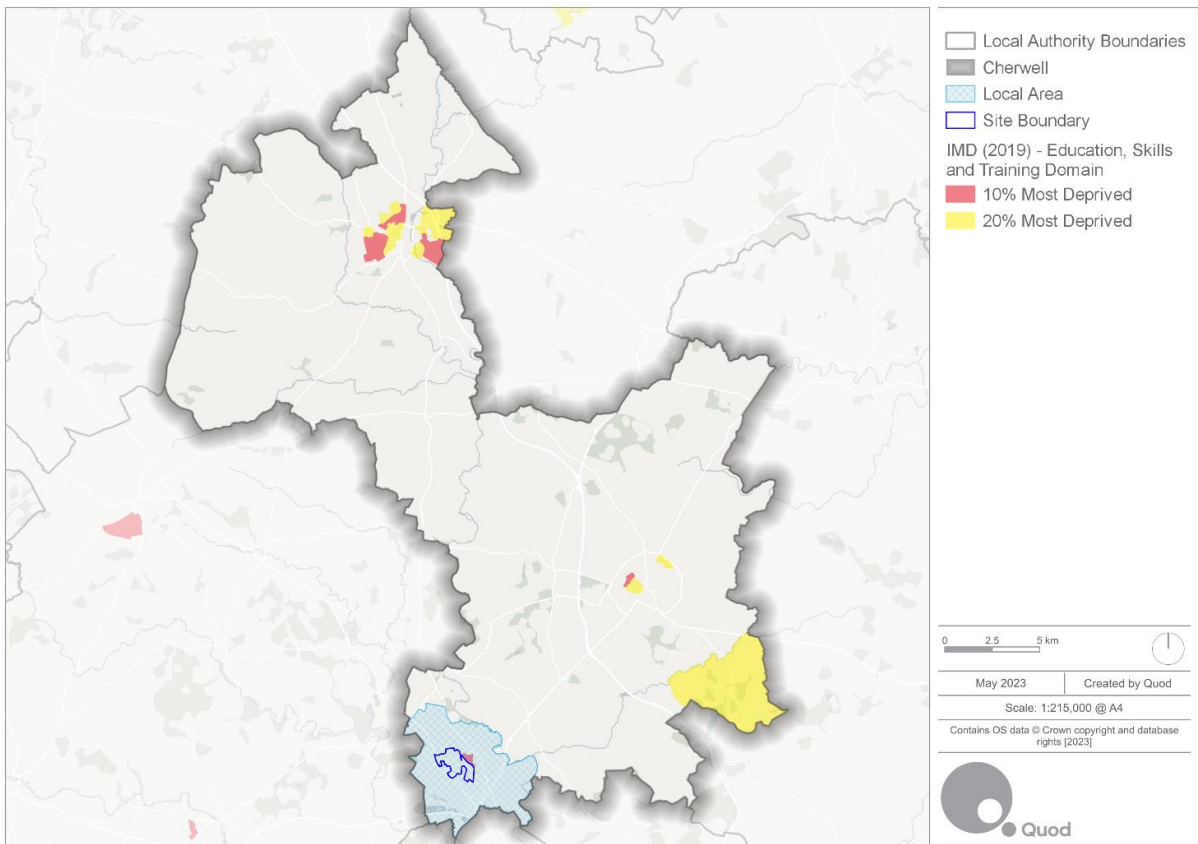
<sup>53</sup> <https://www.find-school-performance-data.service.gov.uk/school/138817/the-marlborough-church-of-england-school/secondary>

<sup>54</sup> <https://www.find-school-performance-data.service.gov.uk/find-a-school-in-england>

<sup>55</sup> Ministry of Housing, Communities and Local Government (2019) The English Indices of Deprivation 2019: Statistical Release, London, UK.



Figure 5.5 – IMD Education, Skills and Training Domain (2019)



5.119 As can be seen in Table 5.4, seven of the eight primary schools within two miles of the Site offer Special Educational Needs and Disability (SEND) places, as do six of the seven secondary schools within three miles of the Site.

Table 5.4 – Schools Offering SEND Places

School Type	School Name	SEND Places Offered?
Primary	Bladon CofE Primary School	Yes
	Cotteslowe Primary School	No
	Edward Field Primary School	Yes
	North Kidlington Primary School	Yes
	St Peter's CofE Primary School	Yes
	St Thomas More Catholic Primary School	Yes
	West Kidlington Primary and Nursery School	Yes
	William Fletcher Primary School	Yes
Wolvercote Primary School	Yes	
Secondary	Bartholomew School	Yes

School Type	School Name	SEND Places Offered?
	Cheney School	Yes
	Gosford Hill School	Yes
	Matthew Arnold School	Yes
	The Cherwell School	Yes
	The Marlborough CofE School	No
	The Swan School	Yes

### Health Impact Assessment: Education and skills

- 5.120 The **ES Volume 1, Chapter 7 : Socio-Economics** assesses potential demand for primary and secondary school places and confirms those needs will be met.
- 5.121 The Proposed Development includes land for two primary schools, in line with the site allocation in the Local Plan under Policy PR8, one which would be 2 FE (Forms of Entry) and one of 3 FE – a total of 5 FE. These are expected to provide sufficient places to meet the need generated from the Proposed Development and provide additional capacity to meet the needs of the neighbouring sites as required in the Cherwell LPPR.
- 5.122 The Proposed Development includes land for a 6FE to 8FE secondary school with sixth form. This would provide more than enough places to meet the need generated from the Proposed Development and would provide additional capacity to meet the needs of neighbouring allocated sites in Cherwell LPPR.
- 5.123 As shown in the baseline section, the pupils at the primary and secondary schools closest to the Site have high performance at key stages. It is not possible to project future attainment.
- 5.124 The schools, which will be designed to meet the principles set out in the Design Guide, are expected to provide a healthy studying environment for pupils, although that detail is a Tier 3 matter.
- 5.125 Walking and cycling to school will be an integral part of the movement strategy for the development. The details of the movement strategy will be confirmed as part of the Tier 2 and Tier 3 design process, but the principles are established in pages 184-187 of the **DAS showing that all three school sites are bounded by walking and cycling routes**. Further details on the connections to neighbouring settlements outside the Site are set out in the in the Traffic and Transport section above.

### Local Natural Environment and Access to Green Space

- 5.126 Local Natural Environment and Access to Green Space is a health pathway given priority in Table 4.2.
- 5.127 Long-standing research suggests that natural green spaces offer mental and physical health benefits. The World Health Organization encourages green interventions in future urban

developments to improve the quality of life in cities<sup>56</sup>. Open space has indirect benefits by encouraging social interaction and providing space for physical activities.

- 5.128 Physical activity is more likely if open space and good, green links are provided. As set out within **Section 3** of this document, access to open space and nature is closely linked to the health priority of 'healthy lifestyles'.

#### Health Impact Assessment: Local Natural Environment and Access to Green Space

- 5.129 The Proposed Development has been landscape led.
- 5.130 As presented in the **ES Volume 1, Chapter 7: Socio-Economics**, the parameters allow for up to 83.96 ha of open space, with flexibility to meet the full Policy PR8 requirement.
- 5.131 The three development areas will be connected to the core of the Site by green corridors for play, access and travel. The green corridors connect to homes to the strategic open space provision and parks. Parks will be publicly accessible and free to use.
- 5.132 The **DAS** provides the location of the open spaces and the guiding design principles for their design. To the north of the Site, Rowel Brook Park will be a natural and semi-natural environment to include woodland, wetland, community orchard and marsh habitats. Central Park will provide space for organised sports and community events. To the east, Railway Marshes will be established as a nature conservation area embedded in the Oxford Canal Corridor. To the southeast, the Proposed Development will provide sport fields. Signage and wayfinding, to promote accessibility of the network, will be addressed at Tier 2 and 3 design stage.
- 5.133 The Government's 2023 Environmental Improvement Plan and Green Infrastructure Framework provide guidance that that everyone should live within 15 minutes' walk of a green or blue space. OCC's public health team has highlighted the need for this to be considered at detailed design stage, including equitable connections to greenspace for people in all tenures. Parameter Plan 3: Green Infrastructure confirms that no residential part of the site is more than 1km (15 mins' walk) from major green infrastructure (numbers 1, 2, 3, and 4 in Figure 5.6 below) and there would be many closer, smaller scale links and spaces in addition as the figure demonstrates.

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<sup>56</sup> World Health Organisation – Regional Office for Europe (2017) Urban green spaces: a brief for action.

Figure 5.6: Local on Proposed Open Spaces (Source: DAS)



5.134 The Proposed Development is expected to reach the Biodiversity Net Gain (BNG) target of 10% on-site. Please refer to the **Outline Landscape and Ecology Management Plan**.

5.135 Detail on the breakdown and location of the open spaces provided will be agreed at Tier 2 and Tier 3 design stages. The Applicant’s commitment to long term ownership and management of these spaces has influenced the open space provision and design. Stewardship of the green infrastructure will be essential to its long term maintenance. Measures for the management of landscape and ecology are put forward in the Outline Landscape and Ecological Management Plan. More detail on the stewardship strategy for open and public spaces is expected to be required as an obligation in the Section 106 agreement or through the detailed design process.

### Access to Services

5.136 Access to services is a health pathway given priority in Table 4.2

5.137 Public services and community infrastructure are important to build strong, sustainable and cohesive communities. Good access to public services including health services, education and community facilities has a positive effect on human health, without which people can be at risk of isolation and can lack the support required to maintain a healthy lifestyle. Under-provision can also lead to longer travel times, increasing transport requirements and potentially increasing local pollution.

5.138 The **ES Volume 1, Chapter 7: Socio-Economics** assesses healthcare and community facilities within 1km of the Begbroke Site. There are two GP surgeries within 1km of the Site, the locations of which are shown in **Error! Reference source not found.** of the ES Volume 1. The local Primary Care Network (PCN) is Kidlington, Islip, Woodstock and Yarnton PCN, part of Buckinghamshire, Oxfordshire and Berkshire West Integrated Care Board (ICB).

5.139 The two GP surgeries have an average of 2,152 registered patients per FTE GP, as set out in **Error! Reference source not found.**, which is lower than the current England average provision of 1 FTE GP per 2,300 patients, but higher than the national benchmark of 2,000 patients per GP<sup>57</sup>.

**Table 5.1 – GP Capacity within 1km of the Site**

Map Ref.	Practice Name	Patient List Size	FTE GPs (Fully Qualified)	GPs in Training	Patients per Fully Qualified GP	Patients per GP
1	Gosford Hill Medical Centre	7,347	4.1	2.1	1,783	1,175
2	The Key Medical Practice	13,166	5.4	1.7	2,432	1,849
<b>Total</b>		<b>20,513</b>	<b>9.6</b>	<b>3.8</b>	<b>2,152</b>	<b>1,534</b>
Kidlington, Islip, Woodstock and Yarnton PCN					2,126	1,652
Buckinghamshire, Oxfordshire and Berkshire West ICB					2,261	1,805
England					2,216	1,769

Source: NHS England 2023. Note: Figures might not sum due to rounding.

5.140 The number of FTE GPs set out in Table 5.1 includes fully qualified GPs and those in training. GPs in training also provide clinical services to varying degrees. Therefore, they provide some additional patient capacity.

5.141 The PCN has an average of 1,534 patients per 1 FTE GP, which is lower than across the two GPs within 1km of the Site. There is a strong pipeline of GPs in training – 4.9 FTE with the PCN and 219 across the ICB.

5.142 PCNs require GP practices to come together and deliver a wider range of services including pharmacists, physiotherapists, paramedics and social prescribing support works between each other. The aim is to reduce pressure on GPs and respond to increasing demands

<sup>57</sup> This benchmark has been informed by Quod’s research into national GP capacity and healthcare services provision and it has been based on previous experience and professional judgment.

associated with population growth by combining and sharing resources, including staff and facilities.

- 5.143 Primary healthcare provided by the NHS is funded by government tax revenue as allocated to Primary Care Networks through Integrated Care Boards (ICBs). Should funding not be forthcoming via the ICB, there is potential for new residents to put pressure on existing services with adverse effects on their capacity to meet needs. ICBs block funding for revenue spending is updated annually and services can therefore adjust to changes in population relatively quickly reducing the sensitivity of primary healthcare provision to population change. As such the ES identified that GP provision was a low sensitivity receptor at a local level.
- 5.144 There are seven places of worship (all of which are of Christian denomination) and three community centres within 1km of the Site. The closest existing community centre is Begbroke Village Hall located in Yarnton. **Chapter 7: Socio-Economics** (Table 7.14) provides details on the facilities available in each of the community centres.

#### Health Impact Assessment: Access to Services

- 5.145 The Proposed Development would have an estimated 4,200 residents (See the ES **Volume 1, Chapter 7: Socio-Economics**).
- 5.146 This would equate to an increase in need of 2 full time GPs based on a benchmark of 2,000 registered patients per GP. Given the low sensitivity baseline (reflective of the list size of local GPs and their pipeline of GPs in training), this low magnitude effect was identified as being negligible.
- 5.147 A new local centre is proposed to be located in the heart of the Site, set around the Grade II listed Begbroke Farmhouse. The range of use classes proposed will provide for retail, amenity and community uses.
- 5.148 The quantity of this floorspace reflects the anticipated resident and working populations of the Site. The location of the local centre will ensure that it receives footfall both components of the Site's population. This will help the long term success, vitality, and viability of it as a retail location. This has been discussed with officers at CDC through the pre-application process who have agreed that the location and provision of such uses would be beneficial.
- 5.149 In accordance with Policy SLE2, a **Retail & Town Centre Impact Assessment** ('RTCIA') has been carried out (**Appendix D**). The RTCIA is based on a worst-case assessment for each proposed use to ensure a wholly robust approach has been taken. Even in this absolute worst-case scenario, there would not be any significant adverse impacts on the investment or vitality and viability of nearby centres (including Kidlington Village). The impact on existing centres would be extremely limited. Instead, the overall proposals will enhance the retail and town centre offer in the local area, improve choice and encourage sustainable shopping patterns.
- 5.150 This satisfies the tests set out in the NPPF and the Local Plan. The Proposed Development will deliver on the objective of providing a vibrant new local centre that improves the retail and amenity offer in the area. Whilst it exceeds the maximum floorspace set out in Policy PR8, it is considered appropriate with regard to material considerations.

5.151 Ensuring adequate access to public services, such as healthcare, education, and community facilities and shops can positively affect health. Without such access, residents may face isolation and a lack of support necessary to sustain a healthy way of life or identify or treat ill-health. The precise location and type of non-residential uses is not fixed at this Outline planning stage, but there is significant flexibility to deliver the types of facilities and services to support good health on-site.

## 6 Summary

- 6.1 Quod has assessed the Proposed Development’s potential health impact based on the OCC HIA Toolkit (with supplementary information from the Healthy Urban Development toolkit). This assessment has considered and identified local health priorities based on local policies and baseline characteristics.
- 6.2 The HIA presents the potential impacts, and some suggested or necessary mitigation. The table below summarises those matters most relevant to the identified Health Priorities:

Table 6.1 – Health Priorities, Health Pathways and potential effects

Health Priority	Relevant Health Pathway ( <i>Oxford Toolkit determinant</i> )	Potentially vulnerable population groups	Potential health effect from the Proposed Development
Tackling health inequality	Housing Economy & employment Education & skills Access to Services.	People or households who may experience systematic challenges in accessing services due to their age, mobility, ethnicity (including language), income or existing chronic conditions.	<ul style="list-style-type: none"> <li>• Beneficial:               <ul style="list-style-type: none"> <li>○ 1,800 new homes in line with policy and site allocation, including 50% affordable, to meet housing need</li> <li>○ Up to 6,310 jobs during operation</li> <li>○ Construction jobs</li> <li>○ Up to 3 new maintained schools</li> <li>○ Free, publicly accessible parks and open space for existing and new residents</li> <li>○ A new local centre is proposed to be located in the heart of the Site, to include community and retail uses.</li> </ul> </li> </ul>
Reducing occurrences of preventable health conditions through lifestyle and	All health pathways	People or households who may experience systematic challenges in making healthy choices due to income, education, availability of services and opportunities to take healthy choices and	<ul style="list-style-type: none"> <li>• Benefits               <ul style="list-style-type: none"> <li>○ New homes</li> <li>○ Physical activity and active travel through the design and provision of open space</li> </ul> </li> </ul>



Health Priority	Relevant Health Pathway ( <i>Oxford Toolkit determinant</i> )	Potentially vulnerable population groups	Potential health effect from the Proposed Development
<p>environmental factors &amp; Encouraging healthy lifestyle choices among children and adults.</p>		<p>exposure through environment</p>	<ul style="list-style-type: none"> <li>• Potential adverse effects and suggested or necessary mitigation:               <ul style="list-style-type: none"> <li>○ Noise monitoring and mitigation</li> </ul> </li> </ul>
<p>Improve the early detection, self-care and clinical management of long-term conditions</p>	<p>Education &amp; skills Access to Services.</p>	<p>People or households who may experience systematic challenges in getting early diagnosis or treatment due to, for example, education and awareness and barriers to accessing services which could be geographical or other including income, disability or ethnicity (and language).</p> <p>Note that this priority is not directly related to the Proposed Development as it is most relevant to the provision of public services.</p>	<ul style="list-style-type: none"> <li>• Benefits               <ul style="list-style-type: none"> <li>○ Connectivity to services (including through walking and public transport) is an integral part of the design</li> <li>○ Provision of diverse spaces and services (shops, schools, community meeting places) supports with prevention, early detection of illness and signposting to other services (e.g. schools play a key role in identifying mental and physical health challenges in children)</li> </ul> </li> </ul>
<p>Improving the physical environment especially access to high quality open space and affordable housing</p>	<p>Housing Local natural environment &amp; access to green space</p>	<p>People or households who may experience systematic challenges in accessing open space or housing including low income families and those with disabilities or long term limiting illnesses which affect mobility.</p>	<ul style="list-style-type: none"> <li>• Benefits               <ul style="list-style-type: none"> <li>○ 1,800 new homes in line with policy and site allocation, to meet housing need, including 50% affordable</li> <li>○ Up to 83.96 ha of open space with varied design/typology/setting</li> </ul> </li> </ul>

Health Priority	Relevant Health Pathway ( <i><b>Oxford Toolkit determinant</b></i> )	Potentially vulnerable population groups	Potential health effect from the Proposed Development
Supporting good mental health and wellbeing, especially for children and young people under 24	All health determinants	People or households who may experience systematic exclusion from services and opportunities for a wide range of reasons, as outlined above.	<ul style="list-style-type: none"> <li>• Benefits <ul style="list-style-type: none"> <li>○ Comprehensive masterplanning and long term stewardship to include housing, employment space and a wide range of facilities, services, settings and social/economic opportunities.</li> </ul> </li> </ul>

6.3 The Oxfordshire HIA Toolkit requires that these health recommendations be monitored by the Local Planning Authority and the extent to which the HIA has influenced the decision making process should be presented as part of the decisions making process (for example, through the Committee Report). The Applicant will work with Officers through this process to identify and monitor outcomes as part of the agreement of Heads of Terms for the Section 106.

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