Planning and Development

David Peckford, Assistant Director – Planning and Development

Cherwell DISTRICT COUNCIL NORTH OXFORDSHIRE

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04 June 2025

BY EMAIL ONLY

Dear Sir/ Madam

LOCAL IMPACT REPORT / WRITTEN REPRESENTATION

Project:	Botley West Solar Farm
Applicant's Name:	Photovolt Development Partners and SolarFive Ltd
Registration ID number:	20055053
Our ref:	22/03407/DCO

This letter is Cherwell District Council's (CDC) individual **Local Impact Report/Written Representation** and provides our opinion on the acceptability of the proposals. A separate, joint Local Impact Report (LIR) will also be submitted in liaison with the other Oxfordshire Host Authorities (OHAs) (i.e. West Oxfordshire District Council, Vale of the White Horse District Council and Oxfordshire County Council). This LIR is not intended to repeat the information and assessments provided in the joint LIR but is to offer Cherwell's individual view on the application as agreed by its Planning Committee.

SUMMARY
Cherwell District Council has **NO OBJECTION IN PRINCIPLE SUBJECT TO a robust assessment of impacts, the provision of adequate mitigation measures and the amendment of the site area to exclude part of the Central Site.**

In the event that these matters are not adequately addressed Cherwell District Council would OBJECT to the application.

PRINCIPLE
The Council accepts that there is a compelling need, as a matter of principle, to increase renewable energy generation and consumption to support the Government's national agenda to reach net zero carbon by 2050.

Cherwell District Council declared a Climate Emergency in 2019 setting a target to be a carbon net zero organisation by 2030. The Council have pledged to support the district to reduce its emissions and recognise that this involves decarbonising the electricity supply in the UK, largely by deploying significantly more renewable energy. CDC recently published a Solar PV Strategy (16th April 2025) (see Appendix 1). Although this is not an adopted planning policy, the purpose of this strategy is to assess the importance of solar energy as a technology in supporting the Council in meeting both its own climate targets and in supporting area-wide decarbonisation and is a material planning consideration. In doing this, the Council seeks to identify a target range of solar for the area that is consistent with its own aims and supports decarbonisation national targets. Whilst this strategy acknowledges that there is a role for roof-mounted solar it accepts that ground mounted options will be required. Taking account of the current deployment of pv and the capacity for roof top pv in Cherwell, the Strategy concludes that a reasonable target for the district for ground mounted Solar PV is an additional 125MW by 2030. This strategy does not take BWSF into account.

Therefore, CDC does not raise objection to the principle of large-scale solar photovoltaic generation developments within the District subject to:
(i) the appropriate siting of such schemes,
(ii) the provision of appropriate mitigation to deal with any significantly harmful impacts that would arise, and
(iii) such mitigation being tailored specifically and sensitively to matters of location and related context.

This is reflected in policy ESD5 of the Cherwell Local Plan 2011-2031 (CLP) which states that renewable energy developments will be supported provided they do not have a significantly adverse impact, including cumulatively, on:

- Landscape and biodiversity including designations, protected habitats and species, and Conservation Target Areas;
- Visual impacts on local landscapes;
- The historic environment including designated and non-designated assets and their settings;
- The Green Belt, particularly visual impacts on openness;
- Aviation activities;
- Highways and access issues, and
- Residential amenity.

The acceptability of the proposal is therefore intrinsically linked with the impacts of the development.

Whilst CDC acknowledges that the proposed development would make a positive contribution to reducing carbon emissions over its proposed life span, there will be adverse effects that need to be balanced against the benefits. In order to fairly weigh up the planning balance, CDC consider that it is crucial to independently assess the robustness of the assertion that 840MW per annum (enough to power 330,000 homes) can be achieved. The amount of renewable energy that can be produced should be reflected in the weight that is applied to this key benefit.

CDC respectfully requests that the examining authority and the Secretary of State are completely satisfied that the evidence and technical reviews that underpin the various topics in the environmental statement are sufficiently robust to enable an accurate assessment of the relevant impacts prior to making a recommendation or deciding whether to issue the Development Consent Order (DCO).

Similarly, CDC respectfully requests that the examining authority and SoS ensure that adequate mitigation measures can be secured to ameliorate or reduce harmful impacts.

<u>REMOVAL OF PART OF THE CENTRAL SITE FROM THE DCO.</u>
CDC objects to the erection of solar panels and associated equipment on part of the Central Site; namely the field south of London-Oxford Airport and east of the A44. The development of this parcel of land would result in:

- Unrestricted sprawl of a large urban area into the Green Belt in conflict with the NPPF;
- The coalescence of Kidlington and Begbroke in conflict with Policy ESD14 of CLP and saved Policy C15 of the Cherwell Local Plan 1996;
- Harm to aviation activities associated with London-Oxford Airport (namely the need to preserve emergency landing areas in the event of engine failure after take-off) in conflict with Policy ESD5 of the CLP; AND
- The loss of land identified as Grade 2 quality agricultural land.

CDC would like to address the first two reasons in more detail here. Please note that harm to aviation activities and the loss of Grade 2 agricultural land are dealt with in the joint LIR.

For this part of the Central Site it is considered that the proposals conflict with Green Belt purpose (a) of checking the unrestricted sprawl of large built-up areas. The applicant refers to the proximity of Begbroke and Bladon in paragraphs 8.4.10 to 8.4.16 of Appendix 8 to the Planning Supporting Statement **[APP-225]**, which deals with the 'Very Special Circumstances Case', but has not considered the much smaller gap between Begbroke and Kidlington. The development of this last remaining green field on the corner of A44 and Langford Lane between Begbroke and Kidlington would result in allowing Kidlington to expand further into the countryside and the coalescence of these two settlements in conflict with both Green Belt policies and saved Policy C15 of the CLP 1996.

Planning Practice Guidance (PPG) on Green Belts (dated 27 February 2025) states that "Villages should not be considered large built-up areas". Although, technically, Kidlington is described as a village it is contended that it is, to all intents and purposes, a town. In arriving at this view it is noted that Kidlington is the second largest village in England with a population of circa 15,000 (Census data from 2021 stated a population of 14,644), it has extensive amenities commensurate with a town (including an airport) and consists of built-up, urban and suburban development over an area much larger than almost every other village in the country and larger than some towns. An appeal decision from January 2024 found that a large village with a population of circa 10,000 was a large built-up area for the purposes of assessing the Green Belt impacts (Planning appeal reference: APP/N1920/W/23/3320599). Therefore, retaining this undeveloped parcel of land strongly serves purpose (a) of Green Belts; to check the unrestricted sprawl of large built-up areas.

The Cherwell Green Belt Study: Additional Green Belt Site Assessments 2023 (see Appendix 2), was produced in support of the emerging Cherwell Local Plan and includes a review of the Kidlington 1A policy area: Accommodating High Value Employment Needs at (A) Langford Lane /Oxford Technology Park/ London-Oxford Airport. This area lies immediately adjacent and to the east of the central application site where it straddles the A44 at Begbroke. Assessing the contribution of this area to Green Belt purposes it concludes that in the context of purpose b) preventing neighbouring towns merging; "Development in this parcel could result in coalescence between the inset industrial estate at the north-western edge of Kidlington and the inset village of Begbroke, and would also result in greater isolation of land to the west, east and south, which have limited connectivity to the wider Green Belt given the presence of Langford Lane and the A44 and the railway line."

The 2023 Cherwell Green Belt Study goes on to conclude that the release of this area (defined as GB3a and which adjoins the central application site) from the Green Belt "would result in the coalescence of two settlements and would weaken the remaining strips of Green Belt around it, within the area contained by the A44, Begbroke, Kidlington and Langford Lane." The harm to the purposes of the Green Belt in developing this area is deemed to be high. This adds weight to the concern that the development of the field immediately adjacent and to the west of GB3a and east of the A44 would result in the coalescence of Begbroke and Kidlington in conflict with national and local Green Belt policies. This assessment further reinforces the importance of preserving this undeveloped parcel of land for the Green Belt.

CDC estimates that 161ha of solar pv are proposed within Cherwell district which, based on the applicant's assumption of 0.84MW per ha, would generate a total of approximately 135.4MW. The parcel to the east of the A44 would amount to circa 15ha so its removal would result in an estimated reduction of around 12.5MW. Therefore, the Council observes that if the parcel south of London-Oxford Airport were removed from the development the overall energy production within Cherwell from BWSF would still be in the region of 122.5MW; i.e. only just under the 125MW target by 2030 set out in our Solar PV Strategy.

COMMUNITY BENEFITS

Acknowledging that Community Benefits are not a material planning consideration, CDC wishes to reiterate the importance of securing a suitable mechanism for collecting and implementing a community benefit fund and to ensure the creation of a retail energy company to sell part of the energy generated by Botley West at a discounted rate to the local community.

RESOURCE EFFICIENCY/SUSTAINABILITY

In the event that this development is approved, CDC would wish to ensure that the necessary resources (such as the solar panels, cables and fencing etcetera) are sourced as locally as possible. It is observed that commitment 14.14 in the Climate Change chapter **[APP-051]** states that this will be achieved via the

Outline Operational Management Plan (OOMP) **[APP-234]**. Table 3.1 of the OOMP lists proposed mitigation/enhancement measures and, in respect of Climate Change, point c. states that the project will be operated to "maximise the use of alternative materials with lower embodied carbon such as locally sourced products". CDC notes that this is also referenced in paragraph 1.10.40 in the Outline Code of Construction Practice Part 1 **[APP-232]** covering Climate Change and, in particular, measures to minimise vehicle trips.

Thank you for this opportunity to comment on the application and for your time in considering this representation. CDC looks forward to continuing to engage positively with the examination of BWSF project and working with applicants to progress this scheme.

Yours faithfully

David Peckford
Assistant Director – Planning and Development

Attachments to the email with this letter:

Appendix 1: Cherwell District Council Solar PV Strategy 16th April 2025
Appendix 2: Cherwell Green Belt Study: Additional Green Belt Site Assessments 2023

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Cherwell District Council – Solar PV Strategy

Version No: Final

Issue Date: 16th April 2025

Contents

1 Executive Summary

Cherwell District Council (the Council) declared a Climate Emergency in 2019 setting a target to be a carbon net zero organisation by 2030. The Council have also pledged to support the district to reduce its emissions. It recognises that this involves decarbonising the electricity supply in the UK, largely by deploying significantly more renewable energy.

A study into wind energy in the district in 2019 concluded that whilst there was some potential it was unlikely that most of this would come to fruition. Recent changes in government policy on wind however, may mean that wind *could* have a role to play, although this will still have to be economically viable.

Solar PV is a cheap and reliable technology – deployed at scale and pace across the world. The technology is a simple and effective means of converting daylight into electricity and provides the opportunity to decarbonise the power supply and provide cheaper electricity through breaking the link between the price of electricity and the global price of gas.

To achieve the Government's target of Clean Power by 2030 the UK needs to deploy around **50GW** of solar panels, around half of which are currently either operational or at an advanced stage of development or construction, meaning we need more new solar in the next five years than we have delivered in the last fifteen.

The amount will need to increase to **70GW – 108GW** by 2050 to accommodate the increase in electricity demand as heat and transport move from fossil fuels to electricity.

1.1 Locally determined contribution

A locally determined contribution has been developed for Cherwell through: reviewing the need for power in Cherwell and the proportion of this that may need to come from solar PV; the capacity of the grid to accommodate new generation; impacts on agricultural land and production, and how well-placed Cherwell is when compared to others to accommodate solar PV generation.

We have developed two ranges for a local contribution – one for 2030, which recognises the UK Government's Clean Power 2030 target and another for 2050, which reflects the additional demand for electricity to achieve net zero.

- **2030** – a 95% decarbonisation of the electricity supply for the UK. The potential locally determined contribution for Cherwell would be between **225MW** and **300MW**, of which 90MW has already been deployed.

- **2050** –accounts for the transition of heat and transport away from fossil fuels, and it is potentially also less constrained by the existing electricity network as there is time to bring new infrastructure forward, should that be required. A reasonable locally determined range for Cherwell is **650MW** to **1 GW**.

Cherwell is relatively well suited to solar PV generation, benefiting from above-average sunlight levels compared to the UK, while the area may be less suitable for wind generation due to relatively low wind speeds. On that basis the above ranges should be considered as a *minimum contribution* for solar PV as that is likely to be the predominant technology in the area. Current rates of deployment will need to increase fourfold to achieve even the lower end of the 2030 range.

1.2 Progress against the 2030 range

Cherwell currently has 83MW of ground-mounted solar PV and 6.65MW of rooftop PV operational. This represents around 40% of the lower end of the range for 2030 and significant improvements will need to be made to the speed of deployment if the range is to be achieved.

A minimum of an additional 135MW will be required to achieve the target of which around 38MW is currently identified and either awaiting or undergoing construction.

1.3 Where should solar be deployed – rooftop or ground mount

Solar PV can either be mounted on rooftops or directly ground-mounted, and there is a need for both in a locally defined contribution. Ground-mounted solar PV is significantly cheaper and faster to deploy than rooftop systems and currently, only around 5% of PV in the area is roof-mounted.

Concerns over loss of agricultural land to ground-mounted solar PV should be balanced against the significant biodiversity gains that can be achieved with solar PV and its significantly more efficient production of energy than crops grown for biofuels. Deployment of the 300MW target of ground-mounted solar PV would use **around 600ha of land which is equivalent to around 1.1% of all agricultural land area in the district**.

Project LEO has identified significant potential for rooftop solar PV, but this does not account for the complexity of delivering huge numbers of small individual schemes. Progress to date has been slow and considering the forecast rates of deployment for rooftop PV in the UK over the next five years, it would not be reasonable to expect more than around 10MW of new capacity to come forward on rooftops.

1.4 Actions the Council should prioritise

Beyond agreeing this strategy and adopting a locally determined contribution, the Council can undertake the following proactive measures which will speed up decarbonisation, increase the speed of deployment of solar PV and reduce the overall demand for electricity across the District:

1. Accept that a reasonable minimum contribution for solar PV in Cherwell by 2030 is between 225MW and 300MW. This range will require new ground-mounted solar systems, but not to the extent that they threaten food security.

2. Recognise the need to significantly increase the speed of deployment and use appropriate planning policy and proactive measures to promote more rapid deployment of solar PV in the district in locations where it is appropriate and on rooftops.

3. Develop a balanced approach to accepting both rooftop and ground-mounted solar PV, recognising the significant benefits of scale, pace, and biodiversity gains the latter can bring.

4. Focus on decarbonising all public sector estate in Cherwell and lead by example with the Council's buildings. This can be supplemented with measures to support other public sector bodies in their energy efficiency programmes and deployment

of solar PV.

5. Community energy has the potential to deliver significant long-term benefits to local communities within the district, including reduced energy bills and increased energy sustainability and security. The Council should continue to support renewable energy developments that are genuinely led by or meet the needs of local communities within the district.

6. Review this document when the LAEP is received and revise estimates around the speed of deployment and overall energy consumption/ need for solar in the district.

2 Introduction & Background

2.1 Purpose

The purpose of this strategy is to assess the importance of solar energy as a technology in supporting the Council in meeting both its own climate targets and in supporting area-wide decarbonisation. In doing this, the Council seeks to identify a target range of solar for the area which is consistent with its own aims and supports decarbonisation national targets.

2.2 Background – Climate Emergency

The Council declared a Climate Emergency in July 2019 and is now aiming to be net zero carbon by 2030. Further, more detailed targets are articulated in the Council's 2020 Climate Action Framework[1] (the Framework).

In addition to its legally binding commitments to achieve net zero emissions by 2050, the UK Government has declared its ambition to achieve Clean Power[2] by 2030. In November 2024, the UK Prime Minister declared at COP29 that the UK would reach an emissions reduction of 81% against 1990 levels by 2035 (the UK had achieved a 53% reduction by 2023).

There are two separate commitments made by the **Government**; the first is **Clean Power by 2030**, and the second will entail transitioning heat and power away from fossil fuels. This second commitment will require a 2.4-fold increase in electricity supply by **2050 to achieve Net Zero emissions**. This strategy, therefore, looks at an initial 2030 target range in line with the decarbonisation of the electricity supply as of 2030 and then makes suggestions for future target ranges to achieve the more stretching 2050 target.

2.3 Solar PV

Solar PV is a tried and tested technology widely adopted in the UK and worldwide. Solar panels provide the means to convert daylight into electricity.

Solar PV has been deployed at scale and pace in the UK since 2010, and once the up-front capital costs have been paid, the technology is cheap and reliable, and its fuel source is free. Investment in large-scale solar PV has become a staple for pension and investment funds due to its reliability and predictability. Along with wind turbines and other sources of renewable energy, solar provides the opportunity for the UK to decarbonise its power supply and break the link between the cost of electricity and the global price of gas. Solar is already one of the cheapest forms of electricity in the UK.

Both rooftop and ground-mounted solar PV provide a valuable contribution to the UK's energy supply which needs to grow over the coming decades. The technology is very quiet in operation and has high rates of reliability.

Maintenance operations are relatively straightforward, largely comprising of cleaning the panels and managing vegetation to avoid shading. Inverters and transformers (required to convert the electricity produced from DC to AC and match its voltage to the grid) will

[1] Climate_Action_Framework_August_2020.pdf

[2] Clean Power means that by 2030, Great Britain will generate enough clean power to meet our total annual electricity demand, backed up by unabated gas supply to be used only when essential.

require periodic replacement – but these units are modular, so the process is relatively simple and quick.

2.4 UK Electricity Supply – how much PV do we need?

Source data for this report includes area-wide emissions data produced by the Department for Energy Security and Net Zero (DESNZ) and various other sources, including the Future Energy Scenarios (FES) produced by the National Energy Systems Operator (NESO). NESO produce scenarios annually, setting out the likely changes required to achieve net zero emissions from power by 2050, which are a combination of behavioural change and technology development. The scenarios also outline the likely amounts of key technologies needed, such as solar PV.

Electricity generated by renewables and nuclear power will be the backbone of a clean energy system. The Labour Manifesto[3] articulates the following ambitions for **Clean Power 2030**:

- 60 GW offshore wind (including 5 GW of floating offshore wind)
- 50 GW solar PV
- 35 GW onshore wind

The graphic in figure 1 shows that the UK has either built or is constructing around 24MW, or nearly half of the solar PV needed for Clean Power 2030.

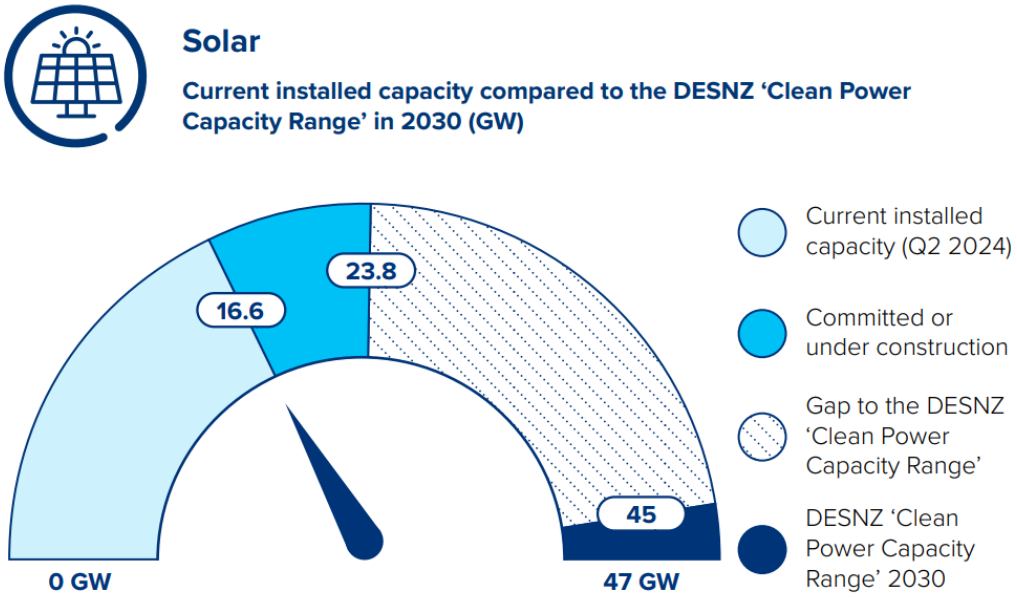

Figure 1: Currently installed solar PV capacity v capacity required to achieve clean power by 2030

The UK needs to install more solar PV in the five years to 2030 than it has in the fifteen years since 2010

[3] Make Britian a Clean Energy Superpower

After 2030, the transition of heat and transport to electricity will lead to a significant additional requirement – with the target range of solar PV in the UK being between 70 and 108GW.

Quick explainer: Units of Power and electricity demand or supply

At home you will consumer power in Watts or kilowatts (kW). A typical household solar system is around 4kW and produces around 4,100kWh* (kilowatt hours) of electricity a year. A normal kettle takes around 0.25kWh to boil.

The size of a system is described in watts, kW, MW or even GW – whereas power produced or required has a time factor and is described as kilowatt hours, kWh, MWh or GWh.

As solar farms are much larger they are normally described in MW, where a MW is 1,000 kW. A mid-sized solar farm might be 40MW and this might produce around 4,100MWh – or 4.1GWh or electricity per year (enough to boil around 16.4 million kettles).

*In Cherwell each kW of solar PV installed should produce around 1,025kWh or electricity a year.

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2.5 Local Area Energy Plan (LAEP)

Oxfordshire County Council and CDC will commission a LAEP for the Cherwell district – this is a strategic document which examines the available energy supply against future demand and aims to balance this in a low-carbon way. This solar report is being produced in advance of the LAEP and is therefore based on a series of assumptions which will need to be verified by the more detailed work undertaken as part of the LAEP. The figures in this report will have scope to be changed during the LAEP process but should provide a sufficiently robust analysis to enable the scale of requirement to be understood in the context of current progress.

Key Points – a reliable power source helping to deliver on National Targets

Solar PV is a cheap and reliable technology – deployed at scale and pace across the world. The technology is a simple and effective means of converting daylight into electricity and provides the opportunity to decarbonise the power supply and provide cheaper electricity through breaking the link between the price of electricity and the global price of gas.

To achieve the Government's target of Clean Power by 2030 the UK needs to deploy around 50GW of solar panels, around half of which are currently either operational or at an advanced stage of development or construction.

This amount will need to increase to 70GW – 108GW by 2050 to accommodate the increase in electricity demand as heat and transport move from fossil fuels to electricity.

3 Assessing a Locally Defined Contribution

3.1 What is a locally defined contribution, and why do we need one?

The UK has significant targets for renewable energy generation and for deployment of solar PV. A locally defined contribution, however, is a way of taking that national target and expressing it fairly for a particular area or district. In this chapter, we will look at methods that can be used to estimate a reasonable share for Cherwell and develop a range for a locally defined contribution.

Cherwell is Oxfordshire's second largest renewable energy producer, and except for a small dip in 2019, renewable energy generation in the district has increased every year since 2015. The Council recognises the need to provide a positive framework for renewable and low-carbon energy generation and acknowledges that national policy makes clear the overarching need. However, the Council considers that development needs to be managed carefully to ensure that the important characteristics of Cherwell's environment and landscape are not unacceptably harmed.

To further develop suitable policies and support for solar PV, the Council first needs to establish what would be a fair and appropriate quantity of solar PV for the district.

3.2 Defining the need in Cherwell

There is no set methodology for determining the amount of solar PV which would be appropriate for an area to generate, so we have adopted the approach of a locally defined contribution.

In determining that locally defined contribution for 2030, we will consider the following:

- Electricity consumption in Cherwell
- The split between electricity and other fuel sources – and therefore the likely requirement to expand electricity supplies between 2030 and 2050.
- What can be delivered in Cherwell by 2030, accounting for grid constraints, rooftop potential and fair use of land.

This document will set out a fair and achievable range for solar PV deployment in Cherwell by 2030 and describe the potential level of further deployment between 2030 and 2050.

3.3 A proportion of the Cherwell energy demand

This assessment is in two phases and looks both at electrical consumption in 2022 and the total electrical consumption in the area after the transition of heat and transport to net zero fuel sources.

The assessment seeks to balance power demand and supply across the district but does not fully account for the contribution that rural areas may need to make to the wider UK demand as the opportunities for electricity generation in urban areas are more constrained. Cherwell will also need to consider the relative balance of solar PV (which has good natural resource) and onshore wind (which has lower than UK average natural resource).

3.3.1 2022 Demand assessment for Cherwell

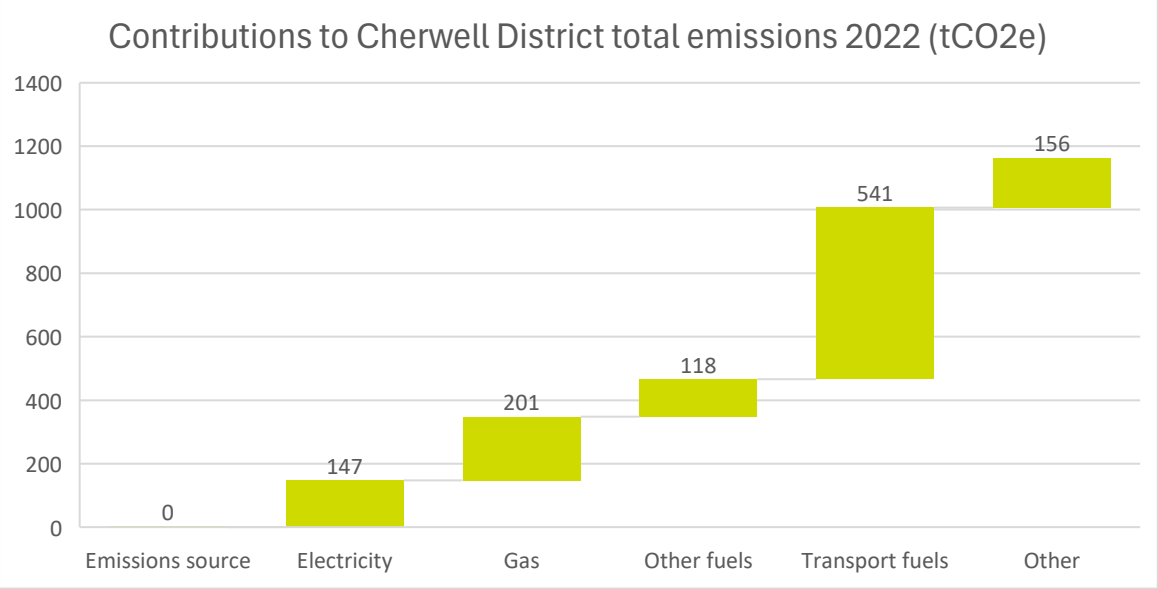
The UK Local Authority and Regional Greenhouse Gas Emissions Statistics: 2005-2022[4] published in June 2024 by DESNZ presents the latest estimates of greenhouse gas emissions for local authorities in the UK - Table 1 provides the breakdown for Cherwell.

Table 1 – 2022 estimate of greenhouse gas emissions produced within Cherwell

Emissions Source	Electricity only (KtCO2e)	All Sources (KtCO2e)
Industry	41.2	149.2
Commercial	42.4	68.0
Public sector	7.3	34.1
Domestic	54.1	208.9
Transport	n/a	541.0
Land Use (including removals)	n/a	-7.6
Agriculture	2.1	119.2
Waste (includes methane emissions)	n/a	50.1
Total	**147.1**	**1162.9**

Figure 2 demonstrates that nearly half of all Cherwell emissions come from transport. For the energy calculations we have discounted the 13% of emissions from 'other' sources as these comprise emissions from land and farming and from landfill and waste which cannot be mitigated by a transition to an alternative power source.

Figure 2 – Proportion of emissions from different energy sources: Cherwell District 2022



3.3.2 Total electricity demand in Cherwell by 2050

[4] UK local authority and regional greenhouse gas emissions statistics, 2005 to 2022 - GOV.UK (www.gov.uk)

3.3.3 2050 demand assessment for Cherwell

The total energy demands set out in table 1 have been converted to electrical equivalents in table 2 on page 12. The assumptions behind these calculations are set out in Appendix 1.

Table 2 – Source of energy demand: Cherwell district

Source of Demand	GWh
Current electrical consumption	761
Additional for gas and oil conversion	613
Additional for transport conversion	724
Total	**2,098**

Total requirement for the district area by 2050 is, therefore, approximately 2.05 GWh, of which approximately 700 MWh is required for transport.

The Energy Systems Operator estimates that electricity consumption in the UK will increase from current levels by a factor of around 2.4 times to achieve net zero by 2050. The increase across Cherwell (on the assumptions set out above) is an increase of 2.75 times existing electricity consumption, which reflects the larger-than-average contribution made by transport emissions.

Around half of all emissions in Cherwell are from transport, with another quarter coming from heating – all of this will need to be supplied by electricity by 2050

What might change demand between now and 2050

The analysis above sets out what would happen if demand remained static over time, however, there will be additional demand from new buildings and the opportunity for the Council to influence demand in existing buildings through energy efficiency advice and support programmes. In the remainder of this section we examine how material these changes could be by 2050 and use that to refine the estimate for energy demand in 2050.

Energy efficiency for new buildings

It is to be anticipated that there will be new housing growth and new commercial buildings in Cherwell over the coming decades.

Even an efficient band A property will have a power demand, and 2.5 MWh p/a would be a reasonable proxy figure. With 20,042 new houses planned between 2024 and 2042 in Cherwell[5] this would equate to an additional power demand of around 50 GWh pa by 2042.

Current wording proposed by the emerging Cherwell local plan states *"deliver sufficient renewable electricity generation capacity on-site (or near-site with a private supply to site) to at least equal the development's estimated total annual energy demand*

[5] https://modgov.cherwell.gov.uk/mgConvert2PDF.aspx?ID=57609

(regulated and unregulated energy), or 120kWh/m2 footprint/year.." and if this plan is adopted this could reduce additional net demand from new building below 50 GWh pa.

Energy efficiency in existing buildings

We know that around a quarter of Cherwell's existing energy demand is oil and gas, largely used for heating buildings. So, what impact could better energy efficiency have on that demand?

Currently, the average residential property in Cherwell has an EPC rating of C, which is better than the national average and most properties will therefore have undertaken the easier and cost-effective measures such as double glazed windows, loft insulation and more efficient gas and oil boilers.

With 65,000 houses and around 5,700 commercial and other buildings in Cherwell, more complex and harder to implement **'deep' retrofit** measures (such as underfloor insulation and external wall insulation) would need to be undertaken for around **2,600 homes and 228 commercial properties per year** to improve the energy efficiency of all the stock by 2050. Indicatively, homes in Cherwell each use around 11.9 MWh of oil and gas per annum for heating, and by taking energy efficiency measures such as insulation and heating controls, they could save up to 5.5 MWh, a reduction of around 46%. The Council should consider how it can lend it's support to building owners and other local initiatives to increase take up of energy efficiency measures.

On this basis, it would be reasonable to assume that energy efficiency measures across all buildings in the district could reduce the overall additional demand for electricity from displaced gas and oil from 613 GWh to around 331 GWh by 2050. Energy efficiency measures could lead to **a reduction in overall power demand of around 275 GWh by 2050, but this is entirely dependent on this retrofit work taking place.**

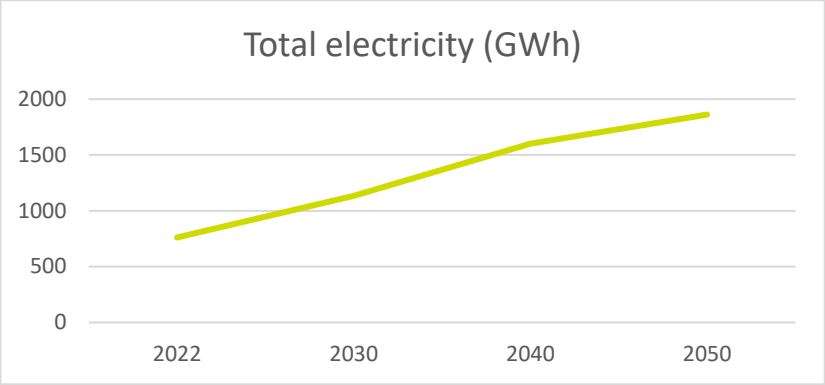
Transitioning heat and transport to electricity (without any associated energy efficiency measures) will increase demand from around 750GWh pa to 2,000GWh pa by 2050. There will around 50GWh of additional demand from new buildings and a potential reduction of around 275GWh from energy efficiency.

Overall growth in electricity demand over the period to 2050 is around 2.5 times which is in line with the average forecast for the UK by the Energy Systems Operator.

Developing a transition trajectory

The transition of heat and transport to electricity, the delivery of energy efficiency measures and the development of new buildings will happen over time. The chart at Figure 3 on page 14 provides an indication of how electricity demand is likely to increase over the period from 2022 to 2050.

Figure 3 – Cherwell forecast electricity demand over time

Year	GWh (total)	Graph
2022	716	
2030	1,134	
2040	1,600	
2050	1,862	

3.3.4 Translating overall demand into a need for solar PV

The Government effectively has two targets for decarbonisation of the electricity supply; the first is the Clean Power target for 2030 – which largely decarbonises the UK's electricity supply, and the second is a net zero 2050 target, which requires a significant increase in electricity generation to allow for the transition of heat and transport to electricity.

How much of total energy demand will need to be from solar PV?

We have used data from the Energy System's Operator's Future Energy Scenarios data workbook[6] to estimate that by:

- **2030: 19%** of the UK's electricity generating capacity will be by solar PV, and 50% will need to be solar and wind.
- **2050: 37%** of the UK's electricity generating capacity will need to be solar PV, and 80% will need to be solar and wind.

Cherwell's electricity demand in 2030

Electricity demand for Cherwell by 2030 is expected to be around 1,134GWh, of which around 215MWh would represent a proportion of solar PV generation in line with national need. With each MW of solar PV producing 1,025 MWh of electricity, this would equate to around **210MW of solar PV in the district by 2030.**

Cherwell's electricity demand in 2050

Electricity demand for Cherwell by 2050 is expected to be around 1,862GWh, of which around 689MWh would represent a proportion of solar PV generation in line with national need. With each MW of solar PV producing 1,025 MWh of electricity, this would equate to around **672MW of solar PV in the district by 2050.**

[6] Future Energy Scenarios data workbook 2024 – using the holistic transition and electric evolution pathways data

Based purely on electricity consumption in the district a fair proportion of solar PV would be 210MW by 2030, increasing to 672MW by 2050.

But Cherwell may be less suited to other forms of renewable generation, so these figures are likely to be a minimum requirement.

3.4 Grid availability

This is based on the available capacity for grid connections in the area. Information is available for the distribution networks, however capacity at transmission network level is less clear. For this assessment, we have assumed that the Botley West Solar Farm has identified the likely capacity that will come forward at transmission level before 2030.

The most significant barrier to the expansion of renewables is difficulties in securing grid connections. Understanding the current grid status in the Cherwell is therefore essential for effective strategy development and planning. It can take many years to build new grid infrastructure, so for any 2030 ambitions, consideration needs to be given to the capacity that can actually be connected in the area before that date. However, beyond 2030, there is scope for further upgrades, so any 2050 range should be less constrained by existing infrastructure.

The National Energy Systems Operator introduced proposals for very significant reforms to the process of allocating grid connections in November 2024, aimed at speeding up connections and changing the current connection queue from a “first come, first served” model to a "first needed, first ready, first connected" connecting first. New arrangements will be finalised in summer 2025, and the comments below relate to grid availability under the existing queue management systems.

The grid in the UK is operated at lower voltages by the local distribution network operators (DNO) – this is known as the **‘distribution network’** and the higher voltages and more strategic infrastructure by National Grid – this is known as the ‘**transmission network’**.

It is possible to connect renewables to either network – but the scale of projects on the transmission network tends to be significantly larger.

3.4.1 Electricity network connections at **distribution** level

This section sets out more detail on where the electrical substations are in the district and therefore the locations which will be focus for development pressure.

Cherwell is served by two DNOs, Scottish and Southern Electricity Networks (SSEN), who cover the south of the district and National Grid Electricity Distribution (NGED), who cover the north. Further details are provided in Appendix 2, which explores the existing network conditions and constraints.

Figure 4 on page 16 shows the DNO areas and locations of the main substations and bulk supply points in the District.

Figure 4 – DNO infrastructure in Cherwell

From our analysis (see Appendix 1), there is currently **almost no capacity** available in the BSPs and substations around Cherwell that has **not already been contracted**.

The difference between DC and AC capacity

The size of a solar system is usually described in dc electricity. Where systems export on to the (ac) electricity grid it is more efficient to oversize the dc when compared to the ac value by a factor of around 1.25 to allow for system losses and make the most efficient use of the inverters.

Therefore a 44 MW (dc) solar farm needs around 35MW (ac) in the substation.

The contracted generation across all substations in the district is around 188 MW (ac) and is likely to be all that is available before 2030. The data available does not allow us to see how much of the contracted generation is solar PV, but it is fair to assume that the vast majority will be. This ac capacity equates to around **235MW of solar panels**

The DESNZ Renewable Energy Planning Database (REPD)[7] identifies **121 MW** of ground-mounted solar PV projects in Cherwell District that are either operational, under construction, or awaiting construction, of which **83 MW** is already **operational.**

This leaves around 152 MW of contracted capacity to be constructed before 2030, of which 38MW already has planning consent. In July 2024, planning consent was refused for two large solar schemes at Otmoor (44MW (dc)) and Godington (45MW (dc)). These schemes are likely to be the majority of the contracted capacity at Headington and Bicester North, respectively. If these schemes do not come forward through planning appeal, then it is likely that an alternative will be sought within reasonable distance of the point of connection (max 4-5km).

The distribution networks in the district can accommodate around a further 152 MW of solar panels before 2030, or which around 38MW already has planning consent.

3.4.2 Available capacity for connection at **transmission** level

In addition to electrical connections to the distribution network some very large connections are now being made directly on to the transmission network. For Cherwell this means that there may be additional connection capacity in addition to the 152MW identified above. It's more difficult to assess the contracted capacity at transmission level across the district as the connection infrastructure covers a much wider area.

An application has been received by the Planning Inspectorate for the connection of an 840 MW solar scheme connecting to a new National Grid substation near Farmoor. A proportion of this scheme will be in Cherwell if the scheme achieves planning consent.

Panels for the scheme would cover around 890 ha, with around 128 ha being located in Cherwell. **The proportion of the scheme in Cherwell equates to around 121 MW**

Total Potential to connect solar PV to the grid before 2030

A total of 235MW of solar can be connected to the distribution network, of which 83MW is already connected. A further 121MW could be connected to the transmission network via the Botley West Solar Farm scheme. The total solar PV which could therefore connected to the grid in Cherwell before 2030 is 356MW.

This would represent around 31% of the forecast electricity consumption in the district in 2030.

[7] Renewable Energy Planning Database: quarterly extract - GOV.UK (www.gov.uk) – includes schemes >150kW submitted after 2021 and schemes >1MW submitted before 2021.

3.5 Land area assessment

3.5.1 Distribution and scale of UK ground-mounted solar PV

This assessment looks at the proportion of solar PV that is likely to be required as ground-mounted and then looks at a fair proportion for Cherwell based on land area.

Figure 5 – UK distribution of wind and solar

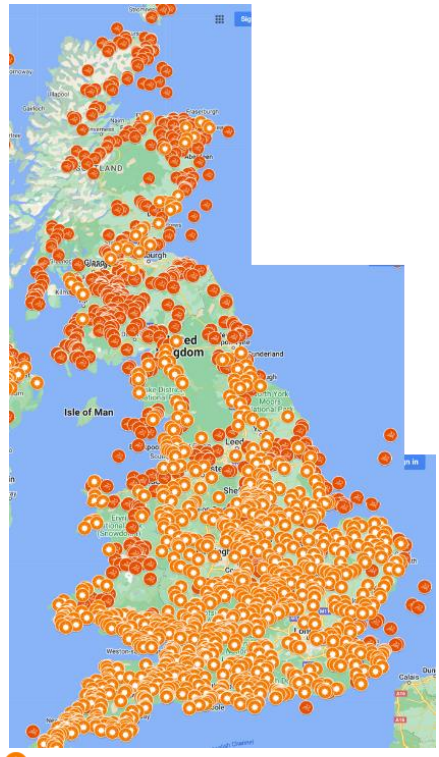


Figure 5 shows the deployment of wind and solar in the UK. Cherwell and the surrounding districts are heavily dominated by solar PV. This is because of both relatively poor wind resource and Government policy between 2015 and 2024.

Around 68% of installed solar PV by capacity is in southern England, east Anglia and the east midlands. By contrast, only 14% is located north of the Humber.

Government appetite for onshore wind has increased in recent years, however, wind resource is fixed, and it is likely that **Cherwell's contribution will largely be solar**.

Looking at the UK distribution of solar it would be fair to assume that locations in southern England should expect to accommodate significantly more solar PV than their land area alone would suggest.

Historically, around 55% of solar PV is ground-mounted, with the remainder being on rooftops. Over the last fifteen years, some of the more straightforward rooftop schemes have been delivered, and ground-mounted solar PV systems have become significantly larger; it would therefore be fair to assume that of the 50GW required by 2030, at least 27.5GW will be ground-mounted and of the 70GW+ required by 2050 at least 38.5GW will be ground-mounted.

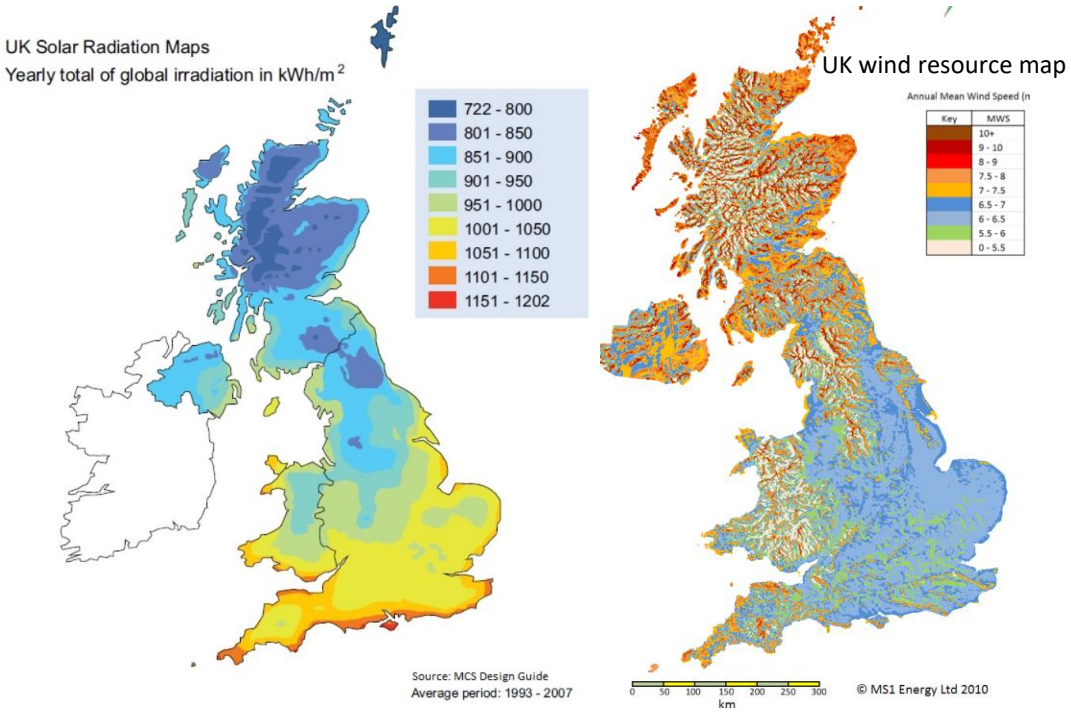
Chapter 5 will provide further analysis on the type of land that might be used and the opportunities for rooftop deployment in the district.

The land area of England and Wales is around 166,476 sq km, of which Cherwell represents around 0.35%. (Scotland has been excluded due to expected low rates of Solar deployment) Cherwell should, therefore, expect to host at least **176MW of ground mount PV by 2030 (to meet the Clean Power goal)** and **248MW by 2050 (to achieve overall net zero)**. Looking at land area alone is far too simplistic as it does not allow for significant factors, which will mean that rural areas like Cherwell will need to take a larger proportion of what is needed. These factors include:

Rurality – On average, in the UK, there are 277 people per sq km; in Cherwell, this number is 278 people per sq km. There is, therefore, no strong argument that Cherwell has a high population density and should, therefore, take less of a share.

Mix of wind and solar - The majority of the solar development in England will be in the south, as Wales and northern England have better wind resource and less suitable land (see figure 6).

Figure 6 – Comparison of UK solar and wind resources



Solar irradiance in Cherwell exceeds the UK average, while the area's wind resource falls below the national average. Generally, wind speeds of less than 7 m/s (i.e. green and blue) are not considered viable without subsidy.

Due to its good solar resource and relatively poor wind resource Cherwell should expect to take more than an average proportion of the UK's solar PV requirement by land area

3.6 Locally determined contribution to UK solar PV

We have examined three different aspects which could be considered when defining a local contribution for solar PV. Table 3 (on page 20) sets out the parameters for each of these in both 2030 and 2050.

Table 3 - potential contributions to solar PV in Cherwell

Parameter	2030 (MW)	2050 (MW)	Comments
Solar as a proportion of area-wide electricity consumption	210	672	This may be an underestimate, as Cherwell is unlikely to accommodate any wind generation. Cherwell's total renewables contribution in 2030 could be nearer 560MW in 2030 and 1.5GW in 2050. Need to consider that heavily urban areas will be unable to fulfil their own demand, with the balance being made up from rural areas and offshore wind.
Grid constraints	356	n/a	This assumes that 121 MW associated with the Botley West transmission connected system are possible by 2030. If that is not the case, then the 2030 maximum would be 235MW.
Land area	176	248	This is likely to be a significant underestimate as most ground-mount solar PV will need to be in southern England and the Midlands. It also represents significantly less than 19% of the area's supply requirements by 2030 or 37% by 2050. This does not take account of the balance between rooftop and ground-mounted solar.

The land area assessment does not appear to produce a fair contribution, as it would mean that Cherwell is producing significantly less energy from solar PV than the UK average, whereas its population density and solar resource suggest it should produce more than average.

Balancing area wide consumption, renewable potential and available grid connections **225-300 MW of solar PV by 2030** would be a fair and realistic minimum contribution. Beyond that, if Cherwell is to make its full contribution to the decarbonisation of the UK, then between **650 MW and 1GW by 2050** are likely to be necessary.

A reasonable amount of solar PV deployment for Cherwell

An initial range should be identified for 2030 to align with the Government's Clean Power ambitions, with a more ambitious range identified for 2050 to reflect the need to increase UK renewables generation by a factor of 2.4 to decarbonise heat and transport and achieve net zero by 2050.

Cherwell has an average population density for the UK, good solar irradiance and relatively poor wind resource. Based on triangulating the Cherwell energy demand, the available grid capacity and land constraints the following are considered reasonable **minimum** contributions from Cherwell to the national need for solar PV:

By 2030 – between **225MW** and **300 MW**
By 2050 – between **650MW** and **1GW**

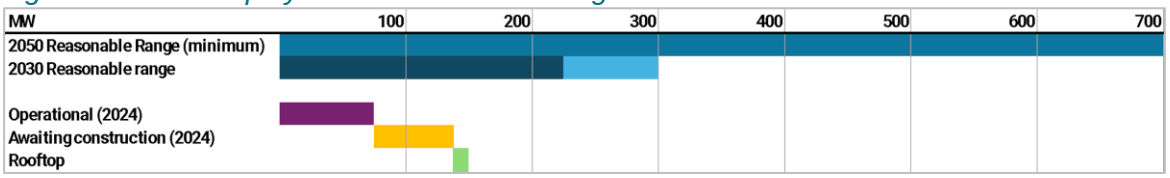
Atmospheric carbon emissions are cumulative – so early action has a greater impact on combatting climate change – so available grid connections should be utilised.

4 Cherwell Progress against target

Currently, there are around 128MW of operational or soon-to-be operational solar PV assets in Cherwell. Of this total, around 6.65MW is rooftop and the remainder is ground-mounted – see figure 7.

This represents around 57% of the lower end of a reasonable range for 2030 and around 17% of what might be necessary by 2050.

Figure 7 – solar deployment v reasonable range in Cherwell



Solar PV in the UK started to be deployed at scale from around 2010 onwards, meaning that, on average, the district has installed around 6MW pa – of which around 7.5% is rooftop.

If the district is to achieve even the lower end of the desirable range by 2030, then deployment between 2025 and 2030 needs to be closer to 20-25MW pa. The time taken to develop and deliver projects varies depending on scale and whether they are rooftop or ground mounted – but it is fair to assume that anything other than small domestic schemes will take 6-12 months minimum from inception to completion.

Progress in deploying solar PV needs to increase around four-fold if Cherwell are to achieve even the lower end of a reasonable range for 2030.

Section Summary – Progress and rate of deployment

Cherwell currently has operational solar PV of around 90MW of solar, of which nearly 7MW is on rooftops. There is a further 38MW either in construction or awaiting construction.

To achieve the lower end of a reasonable contribution to UK solar PV by 2030 at least a further 135MW will be required and the average speed of deployment will need to quadruple.

5 Where could the solar be installed?

Solar PV can be mounted on existing buildings (rooftop) or ground-mounted (including carport arrays). In this chapter, we explore where an appropriate balance might be between rooftop and ground-mounted solar for Cherwell.

5.1 Advantages and challenges of rooftop and ground-mounted solar

This section sets out the pros and cons of both rooftop and ground-mounted solar; the subsequent sections of this chapter will go on to explore a suitable balance for Cherwell and provide supplementary information in support of the information in table 4.

Table 4 – advantages and challenges of different types of solar system

Solar Type	Advantages	Challenges
Rooftop	Provides electricity directly to the customer Broadens access to cheap electricity Doesn't need to take farmland out of production Small domestic schemes (4kW) generally don't require lengthy grid application process or costs	Expensive Slow to deploy as it depends on lots of individual decisions Not possible/suitable for all roofs due to structural stability, roof covering type, overshading, poor orientation, protected planning status Can be considered unsightly
Ground-mounted	Meets need at scale and pace Most forms are cheap to deploy (carports are not) Land on ground-mounted solar farms can be used for significant bio-diversity enhancement	Generally needs farmland for larger scale developments – taking land out of farming use (although not necessarily out of food production). Profits from generation not retained in the local economy Large schemes can be visible across a wide area

5.2 How common are rooftop and ground-mounted solar?

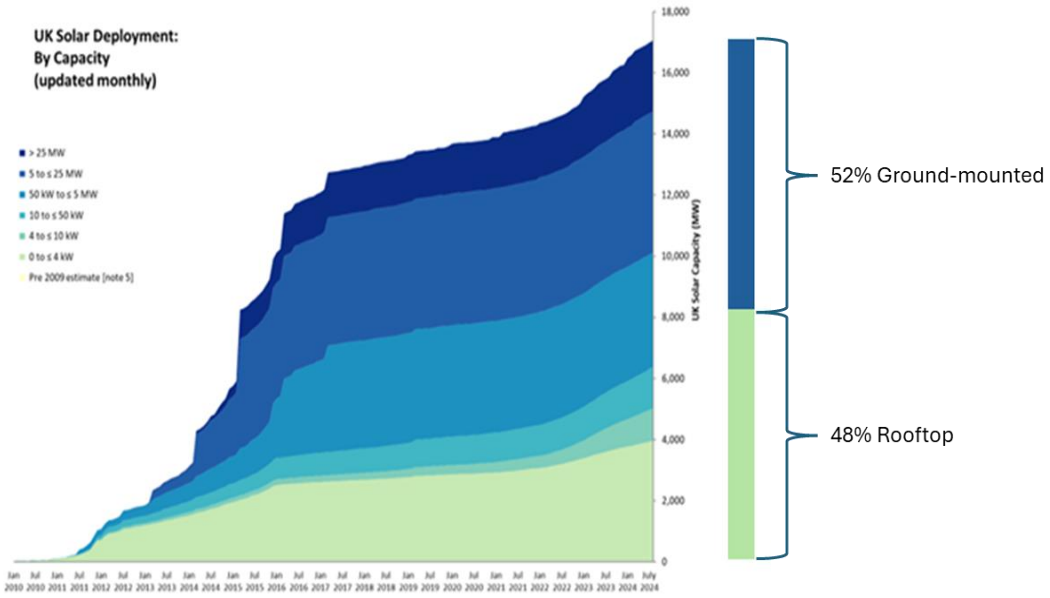
How is solar split between rooftop and ground-mounted in the UK?

The Microgeneration Certification Scheme (MCS) reported in May 2024 that more than 1.5 million smaller installations under 50kW had been installed across the UK since 2008. This represents around 10GW of capacity and makes the average size of these systems around 6.7kW, indicating that these are mostly small domestic installations (4kW or less). Around 5-6% of UK homes currently have a solar system.

Solar Energy UK predicts 2 million installs will be reached in three years' time, an average of around 167,000 installations per year. If you assume that 90% of these will be domestic, then around 0.6% of the housing stock is installing a solar system each year.

Figure 8 shows the split between ground-mounted and rooftop solar in the UK.

Figure 8 – UK Solar Deployment: By Capacity[8]



What are the proportions in Cherwell, and why are they different from the UK average?

In Cherwell, around 7.5% of the solar PV is rooftop, with the remaining 82.5% being ground mounted. Rooftop solar PV systems are a combination of small residential scale schemes (generally <4kW) and larger commercial schemes. It is likely there are two factors determining a relatively low proportion of rooftop solar:

1. Dense urban areas rarely have the space for any ground-mounted solar – so systems in these areas are almost all roof-mounted, which will drive a higher proportion of rooftop systems (i.e. significantly more than 48%) in these areas.

2. The commercial rooftop installations are a combination of agricultural buildings and larger commercial buildings. While Cherwell should have an average density of agricultural buildings, there may be a lower density of commercial buildings than in other areas, or more of these may be tenanted. Buildings with a landlord/ tenant relationship can be more problematic for rooftop solar PV due to the additional complexity and the short-term nature of some tenancy agreements, particularly in sectors such as logistics. Really big rooftop solar PV systems tend to be on much larger owner-occupied roofs, such as the Rolls Royce 3.4MW system or the schemes recently delivered at Peel Ports.

[8] Solar_photovoltaics_deployment_August_2024.xlsx (live.com)

Currently, **installed rooftop** capacity in Cherwell is around **6.65 MW**.

Data from Project Leo[9] suggests that further suitable rooftop capacity could provide around 550 MW of solar PV (325 MW of domestic and 230 MW of non-domestic). These figures do not necessarily account for all relevant factors, such as tenure, the structural ability of the roof to support the load or whether larger commercial schemes could secure a grid connection and is therefore potentially a significant overestimate.

Assuming that rooftop solar PV has been installed since 2010, the 6.65 MW represents around 0.475MW each year, although Figure 8 above shows that this is not linear. If Cherwell were to deploy rooftop solar PV at the rate forecast by Solar Energy UK (i.e. around 0.6% of housing stock per year), this would equate to around 400 installs per year (and around 1.5MW of capacity).

Counting 2025 and 2030 you could credibly expect to install around a further 9-10MW of rooftop solar at UK forecast rates of deployment. This is around 3.5 times faster than the historic rate since 2010.

Project Leo suggests there is very significant potential for rooftop solar in Cherwell, but this optimism is not matched by current rates of deployment. By 2030 it would be credible to expect around 17MW of rooftop solar in Cherwell.

5.3 Ground-mounted solar and the use of agricultural land

Policy Context

In 2019, the UK Government set a legally binding target to reduce the UK's greenhouse gas emissions by 100% by 2050, compared with 1990 levels, and since October 2021 have introduced a raft of further supportive policies (Ten Point Plan for a Green Industrial Revolution[10], Net Zero Strategy: Build Back Greener[11], British Energy Security Strategy[12], Mission Zero[13], Powering Up Britain – Energy Security Plan[14], Great British Energy[15] and Clean Power 2030[16]). All these policies are supportive of a significant increase in renewables including solar PV.

5.4 National Planning Policy

Competing pressures for land from energy, housing, biodiversity, food, water and transport are balanced in policy terms through the National Planning Policy Framework (NPPF).

The NPPF has a presumption in favour of sustainable development – which includes all renewables and goes on to encourage local authorities to identify criteria for suitable land allocation, but also recognises the economic benefits of Best and Most Versatile

[9] Project Leo
[10] The ten point plan for a green industrial revolution - GOV.UK (www.gov.uk)
[11] https://www.gov.uk/government/publications/net-zero-strategy
[12] https://www.gov.uk/government/publications/british-energy-security-strategy/british-energy-security-strategy
[13] MISSION ZERO - Independent Review of Net Zero (publishing.service.gov.uk)
[14] Powering Up Britain - Joint Overview (publishing.service.gov.uk)
[15] Great British Energy founding statement - GOV.UK (www.gov.uk)
[16]

Agricultural Land (BMVAL),[17] advising that where significant development of agricultural land is involved, poorer quality land should be used in preference.

The National Planning Statement EN-3 outlines how solar and agriculture can be complementary. EN-3 sets out that land type should not be a predominating factor in determining the suitability of a site for solar development. Consequently, a developer must instead identify why the use of BMVAL is necessary and then whether it is possible or feasible to locate the scheme on poorer over higher-grade agricultural land.

For schemes that could potentially affect BMVAL land of more than 20 hectares (ha), Natural England are a statutory consultee and should be relied upon to make an informed judgement on whether a proposed development would result in unnecessary loss.

Balanced against this will always be the need to construct solar farms in locations that can connect to the grid at an affordable price. Where there is a prevailing land quality near a suitable grid connection, developers can use a sequential test to demonstrate that there is no suitable lower-grade land available.

The Cherwell Local Plan will seek to balance the need for new infrastructure against other considerations, such as landscape, and the impact of each scheme will need to be considered in line with local and national planning policy.

5.5 Use of agricultural land

Food security is often cited as a reason not to develop ground-mounted solar PV systems. This section examines the substance of that argument and how it applies to Cherwell.

The Department for Environment Food and Rural Affairs published its Food Security Report[18] in 2021, which highlighted that the 'biggest medium to long term risk to the UK's domestic production comes from climate change and other environmental pressures like soil degradation, water quality and biodiversity'. Under a medium emissions scenario, climate change could reduce BMVAL from a baseline of 38.1% to 11.4% by 2050.

Whilst food production is important, agricultural land in the UK is used for a variety of uses that are not for food production; these include leisure uses, e.g. golf courses or pony paddocks and the cultivation of non-food crops, e.g. pumpkins or flowers, and biofuels.

Total agricultural land in the UK amounts to around 17 million hectares, of which around 6 million ha are cropped[19], and some cropped land is indirectly used for food production; for example, around 40% of wheat and barley produced are used as animal feed, rather than for direct consumption.

According to Government sources[20], around 133,000 ha (2.2%) of arable land in the UK was used in 2023 to grow biofuels. Table 5 below sets out the crops grown and land areas required – together with the energy density per ha.

Table 5 – Land area used for energy crops or solar PV

[17] FactSheet: Solar Farms and Agricultural Land 2024 | Final (solarenergyuk.org)
[18] United Kingdom Food Security Report 2021 - GOV.UK (www.gov.uk)
[19] Defra UK land use statistics 2023
[20] Bio energy crops in England

Crop	Hectares grown	Main use	Energy density (MWh/ha)
Wheat	45,000	Biodiesel	32
Sugar beet	2,600	Biodiesel	4.5- 7.25
Maize	73,000	Anaerobic digestion	10.5
Short rotation coppice	3,800	Wood chip/ pellet	n/a
Miscanthus	8,800	Pellets	43
Solar PV	n/a	Solar PV	480

Solar PV yields more than ten times as much energy per hectare than any crop grown as biofuel.

Using land for solar PV yields significantly more energy per hectare than growing any form of crop for energy without the additional benefits of not releasing additional carbon from the soil during the cultivation process. Ground-mounted solar PV is an efficient way of producing energy from land and requires around 2 ha per MW. If all the 70GW of solar PV the UK needs as part of its decarbonisation needs were on agricultural land (i.e. none on rooftops), this would only require around 140,000 ha – around 0.8% of total agricultural land. Even if all of this was on arable land, it would only amount to around 2.3% of that land (similar to current biofuel production). By comparison, England has over 250,000 ha of golf courses.

The UK could meet all it's solar needs by utilising around 60% of the land currently occupied by golf courses. Solar PV does not therefore represent an undue pressure on food production nationally.

The faster that transport and heat are transitioned to an electrical power source, the less the demand will be for biofuels. Conversely, using agricultural land for solar PV could actually reduce pressure to use agricultural land for biofuel production.

There are around 53,000 ha of agricultural land in Cherwell. If 300MW of ground-mounted solar PV were deployed in Cherwell this would require around 600ha of land and represent around 1.1% of all agricultural land area in the district.

Solar PV deployment at the scale discussed in this report does not, therefore, represent an undue pressure on food production, either nationally or within the district. If the UK does face pressure on agricultural land for food production, then there are other things it could do before restricting efficient energy production, such as moving to more plant-based diets or moving to modern methods of farming, such as vertical farming.

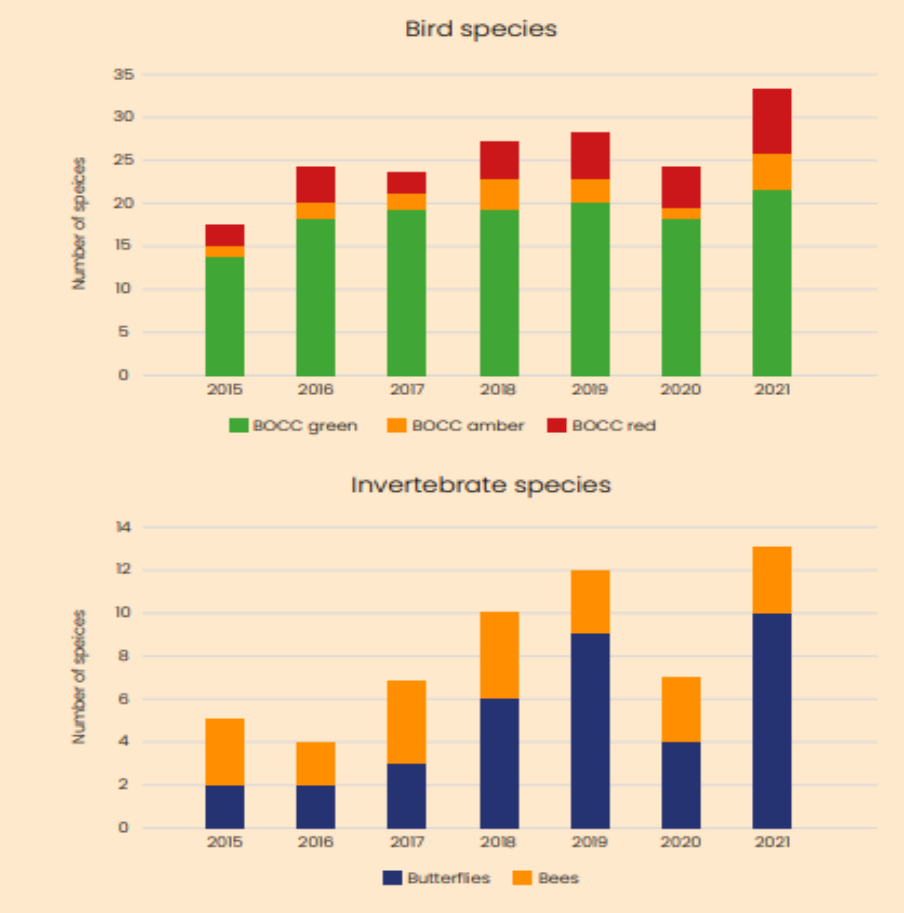
Some land around solar farms is kept in farming use through grazing sheep to manage the grassland around the panels, although this tends to lead to lower biodiversity net gain than growing wildflower meadow.

Some emerging research suggests that agrivoltaic farming (the practice of growing crops underneath solar panels) could become a reality. The potential benefits include reduced water consumption and improved crop protection from extreme weather. However, this practice has yet to be commercially adopted due to potentially significant operational challenges such as protecting plants and equipment from damage (e.g. from vehicles) and ensuring that all personnel on site are familiar with safe working practices in the vicinity of high voltage electrical equipment.

5.6 Impact of solar PV on biodiversity

Solar farms can also provide opportunities to improve natural capital and biodiversity net gain. These are achieved in a variety of ways, including the introduction of species-rich grassland to support pollinators. Figure 9 below is an extract from Solar Energy UK's Natural Capital Best Practice Guidance[21] and shows study-based increases in butterfly and bee populations across the Sawmills solar farm in Devon.

Figure 9 – Extract from the Solar Energy UK Natural Capital Best Practice Guidance – tracking recorded sightings of species at the solar farm over a seven-year period post construction



Intensive arable farming can be damaging to soil health, and taking fields out of agricultural production for a period allows the soil time to recover.

[21] Natural Capital Best Practice Guidance

The landscaping around a solar farm also allows for further habitat improvement, including new tree and hedge planting and, in many instances, the introduction of new wetlands or drying areas. Further information in relation to biodiversity enhancement can be found in Solar Energy UK's (SEUK) Natural Capital Best Practice Guidance.

There is good evidence to suggest that areas of ground-mounted solar PV can be good for biodiversity

5.7 Financial and speed to market considerations

When considering a balance between rooftop and ground-mounted solar PV, the considerations of how fast you can achieve your aim and what it will cost must be carefully considered. It is significantly cheaper and faster to deploy ground-mounted solar PV than rooftop, meaning faster and more cost-effective delivery of Clean Power by 2030 can be achieved if there is a reasonable proportion of ground-mounted solar PV.

The economics of ground-mounted solar PV are insufficient to support the high land values generally associated with sites with prospects for redevelopment for either residential or commercial use.

Capital Costs

Ground-mounted systems' overall size can drive economies of scale, making larger schemes more financially attractive due to the nature of some fixed (or largely fixed) costs such as grid connection, switchgear and CCTV infrastructure. Beyond that, costs are modular and linked directly to the capacity installed.

By contrast, the costs of roof-mounted schemes are higher and very dependent on the extent of scaffolding and structural work required. Similarly, carport installations are expensive when installed in existing car parks due to the need to disrupt the parking surface and the relatively expensive nature of carport structures. Table 6 below sets out typical costs per MW for installation.

Table 6 – typical installation costs for different types of solar system

Type of Installation	Cost per kW	Exclusions
Ground-mounted (20MW+)	£ 520	Grid connection (typically up to £ 100/kW)
Ground mounted (1-3 MW)	£ 850	Grid connection (typically up to £ 100/kW)
Rooftop	£ 875	Scaffolding, upgrades to building electrical system, structural surveys and structural strengthening
Carport (existing car park)	£ 1,500	Grid connection (typically up to £ 100.kW)

The cost of solar schemes varies by a factor of up to 300% depending on where it is located. Large ground-mounted schemes are the most economic form of deployment.

Financial returns on investment

The cost of a system is only part of the consideration in relation to whether or not a scheme is financially viable – with the other part being the value that can be generated by the electricity produced. Large-scale ground-mounted solar systems typically connect directly to the grid and export electricity via a Power Purchase Agreement (PPA) to large suppliers at or around the prevailing rate for wholesale power (for argument's sake, around 8p/kWh).

Any solar system connected directly to a customer via a 'private wire' can potentially charge more for its electricity than a grid-connected scheme because customers pay additional charges for use of the grid network – typically up to 2/3 of any bill. Where the system owner is also the customer, they can also avoid VAT on the electricity payments. This generally benefits smaller rooftop schemes and some small ground-mounted schemes. Private wire PPAs to an external customer should achieve around twice the wholesale price, and a scheme where the customer owns the system might save three times the wholesale price.

Speed of deployment

Speed of deployment is important as carbon released into the atmosphere is cumulative, so carbon savings made in earlier years result in a bigger overall impact than those built out later. When compared with other new energy projects, solar projects are quick to deploy and offer a path to rapid decarbonisation of the energy supply.

Ground-mounted schemes are very fast to build and can connect MWs of power in a matter of weeks. It is significantly faster to build out MWs of power at field scale than it is via individual rooftop projects.

Section Summary – The balance between rooftop and ground-mounted solar

If Cherwell is to make a reasonable and fair contribution to the decarbonisation of the UK's energy system, it will need to deploy both rooftop and ground-mounted solar projects at scale and pace.

The potential for rooftop solar PV is significant, but current industry installation capacity and speed of take up suggest that a target of more than and additional 10MW of rooftop solar by 2030 would be unlikely to be deliverable.

As Cherwell already has around 128MW of solar and rooftop solar could yield a further 10MW by 2030 this would leave a shortfall of between 87MW and 162MW which would need to be ground-mounted. Solar of this scale would represent less than 0.15% of the land area in Cherwell and would therefore not have a material impact on food production.

Ground-mounted solar is more than 10 times as efficient at producing energy per hectare than any other form of biofuel and comes with the added benefit of increased biodiversity.

6 Cherwell District Council contribution and actions

6.1 Introduction

This section will consider the actions that the Council and other public sector bodies in the district can take to increase the deployment of solar PV to achieve the target range whilst also improving energy efficiency in the public estate to reduce demand. Further information on the methodology of public estate energy efficiency can be found in Appendix 3.

6.2 Community Energy

There is strong backing from the new Government for community led development and ownership of solar PV, either on rooftop or ground mounted. Policy support yet to match stated aspirations, but the recognition of the value of local involvement and ownership is clear and we are expecting policy developments as Great British Energy starts to operate. Capturing the financial benefits of renewable energy generation in the local area can boost the local economy and increase local acceptance of solar panels.

The Low Carbon Hub operates in Oxfordshire and presents the Council with opportunities to develop and support community energy development and ownership in the area.

6.3 Planning Policy

At the time of writing, Cherwell's Local Plan is being redrafted. Although it doesn't specifically allocate sites for new solar PV, it does include a criteria-based policy (CSD6), which provides a positive framework for the assessment of future planning proposals for renewable schemes.

Proactive consideration of solar PV at the plan-making stage will enable the Council to have more input into potentially suitable locations and the size and scale of schemes.

6.4 Taking a balanced view

In 2023, the Campaign for the Preservation of Rural England (CPRE) published a study (Shout from the Rooftops[22]) produced for them by UCL, setting out the potential for rooftop solar PV in the UK. Broadly, the report concludes that almost all the solar capacity required by the UK could be accommodated on rooftops but went on to concede that this would be both significantly slower and more expensive than taking a balanced approach between rooftop and ground-mounted solar PV.

Carbon emissions into the atmosphere are cumulative, and early action to reduce emissions has a significantly greater impact on overall emissions between now and 2050 than measures which occur later.

The Council needs to balance the impact on the area of ground-mounted solar PV with the improvements to the deliverability and the speed of carbon reduction in its decision-making.

[22] Shout from the rooftops

6.5 Proactive support for small-scale and rooftop solar PV

The Council already has a supportive planning policy in relation to small-scale and community-owned projects, but this could be supplemented with two forms of more direct action:

Introduction of a support programme for domestic solar PV

Appendix 3 sets out how Solar Together[23] has been used by the West of England combined authority to increase the take-up rates for domestic solar PV systems in the able-to-pay market. The scheme (run by partner iChoosr) uses bulk buying to provide quality assurance and drive down costs by aggregating demand for new rooftop systems.

Support rent a roof scheme for public sector and commercial buildings

A key recommendation from our analysis of the energy efficiency in public buildings in Cherwell is the deployment of more roof-mounted solar systems. These provide a cheap source of electricity to the building's occupiers as well as providing income to the system owner.

Appendix 3 sets out the example of West Suffolk Council, who are currently rolling out a programme of rooftop solar PV across the public estate and some commercial occupiers in their area. The scheme works by the Council installing a solar system on the roof of the customer's property and then charging for the sale of electricity through a Power Purchase Agreement. The Council should review whether it could either develop a similar scheme or how it could leverage its trusted position to promote the existing scheme run by the Low Carbon Hub[24].

6.6 The role of private wire systems

The term 'private wire' is commonly used to describe a solar system which is directly connected to a customer. Whilst this is common for rooftop systems, it is less common but still useful with some ground-mounted systems.

Appendix 3 sets out the case study of the Lamby Way solar farm in Cardiff – where the Council has installed a 9MW solar farm on a former landfill site. The solar farm exports around two-thirds of its electricity to a local wastewater treatment plant via a private wire. This arrangement has been beneficial to the council in generating a strong income stream and beneficial to the customer (Welsh Water) in providing decarbonised electricity at an affordable and predictable price.

The Council should consider whether it has any opportunities in the area to pursue similar arrangements.

6.7 Demand reduction in public buildings

These findings are based on a detailed analysis undertaken on Display Energy Certificates for all public buildings in the District; more detail and the methodology are presented in Appendix 3.

Key findings from the analysis include:

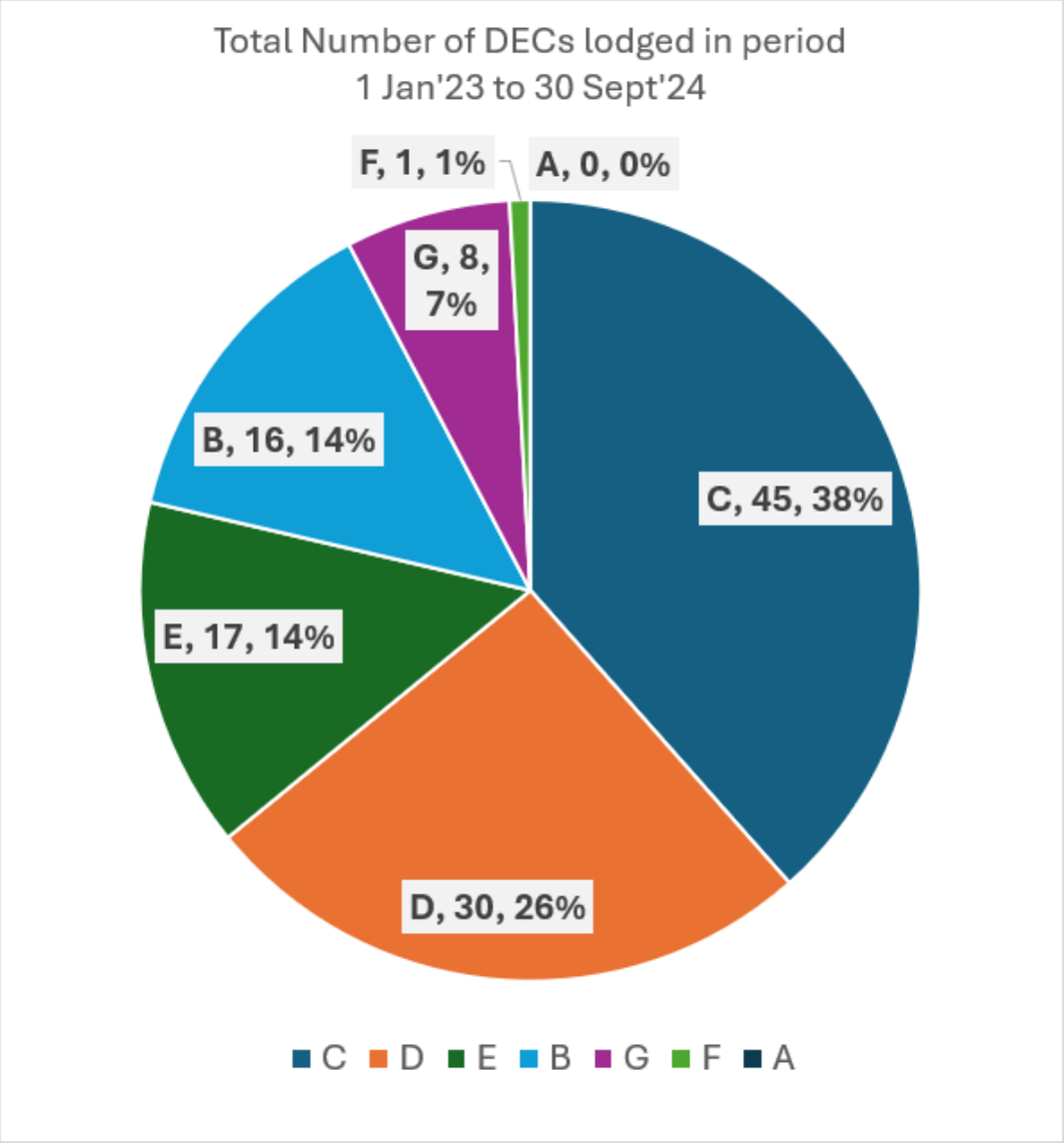
[23] Solar Together West of England
[24] Low Carbon Hub

1. Only around 4% of the buildings had decarbonised heating and hot water solutions. The vast majority of the other buildings analysed were heated by mains gas, with a handful relying on LPG or oil.

2. Of the 117 buildings analysed, 19% generate electricity from solar PV. A priority recommendation of the advisory reports reviewed was the installation of solar PV (and, in many cases, solar thermal).

3. The energy performance rating of public buildings in Cherwell is in line with national averages, however, around 22% of buildings fall in the very poor ratings F and G (Fig 10) and further analysis suggests that very few improvements have been made to any of the buildings over the last decade.

Figure 10 energy performance ratings for public buildings in Cherwell



The Council should work with other public sector bodies in the area to improve the energy performance of the public estate – with particular emphasis on a transition to low carbon heat sources, improving the energy efficiency of the worst performing buildings (22%) and installation of solar PV.

Cherwell District Council – options for action

In addition to the development of appropriate and supportive planning policy for both rooftop and ground mounted solar PV the Council could take the following proactive steps to try to speed deployment of solar PV in the district and reduce demand for power. These steps include:

Development of appropriate planning policy

Maintaining a balanced view on the overall need for solar PV and that this will mean both new rooftop and new ground-mounted systems in the district

Support to new rooftop schemes either through rent a roof or bulk buying models

Review and identification of any opportunities to develop new solar capacity directly wired to a customer

7 Conclusions and Next Steps

7.1 Conclusions

The UK needs to install more solar PV in the five years to 2030 than it has in the fifteen years since 2010. The Council recognises the need for additional solar PV capacity in its area and has commissioned this report to understand what a reasonable locally defined contribution to the UK's solar PV generation might be.

In setting the locally defined contribution, the Council has considered the following factors:

1. The overall proportion of the UK's target, which it would be reasonable for Cherwell to accept.

2. That two ranges are necessary - the first is a range for 2030 to align with Government policy on Clean Power, which largely supports decarbonisation of the existing electricity supply. The second is a longer-term 2050 target, which underpins the transition of heat and transport from fossil fuels.

3. The Council would like to see as much of the required solar PV as possible deployed on rooftops to manage the pressure on land supply in the area.

4. The Council recognises that there is a balance to be struck between early delivery of carbon savings, cost and achieving a higher rate of rooftop deployment.

7.2 Locally defined contribution

Setting a locally defined contribution allows Cherwell to assess what is fair for them in a local context and what can be delivered within the timescale.

This report recommends that Cherwell Council accepts the following as locally determined contributions to the UK solar PV target:

- **2030 - between 225-300 MW**
- **2050 - between 650 MW and 1GW**

7.3 Current deployment and progress against the 2030 target

The current deployment of solar PV in the District is around 90 MW, of which 6.65 MW is currently rooftop solar.

This represents around 40% of what is reasonably necessary by 2030, and even achieving the lower end of the range will require a fourfold increase in the speed of deployment. As early deployment is beneficial in securing less carbon emissions, then any over-achievement by 2030 should be viewed as a bonus.

7.4 Balancing rooftop and ground-mounted solar PV

Currently, around 5% of solar PV in the District is roof-mounted, and the average deployment rate over the last decade has been around 475 kW pa. The Solar Together example shows that this can potentially be increased over the coming years but that it is

highly unlikely to achieve all of the additional 100 MW+ required by 2030, so additional ground-mounted solar PV will be required.

When the national rate of deployment of rooftop solar systems is taken into account, an aggressive target for rooftop PV by 2030 would be 17MW (of which nearly 7MW is already deployed.

This would leave a balancing target for ground-mounted solar PV of at least an additional 125 MW by 2030.

7.5 Actions the Council should prioritise

Beyond agreeing this strategy and adopting a locally determined contribution, the Council can undertake the following proactive measures which will speed up decarbonisation, increase the speed of deployment of solar PV and reduce the overall demand for electricity across the District:

7. Accept that a reasonable contribution for solar PV in Cherwell by 2030 is between 225MW and 300MW. This range will require new ground-mounted solar systems, but not to the extent that they threaten food security.

8. Recognise the need to significantly increase the speed of deployment and use planning policy and proactive measures to promote more rapid deployment of solar PV in the district.

9. Develop a balanced approach to accepting both rooftop and ground-mounted solar PV, recognising the significant benefits of scale, pace, and biodiversity gains the latter can bring.

10. Focus on decarbonising all public sector estate in Cherwell and lead by example with the Council's buildings. This can be supplemented with measures to support other public sector bodies in their energy efficiency programmes and deployment of solar PV.

11. Community energy has the potential to deliver significant long-term benefits to local communities within the district, including reduced energy bills and increased energy sustainability and security. The Council should continue to support renewable energy developments that are genuinely led by or meet the needs of local communities within the district.

12. Review this document when the LAEP is received and revise estimates around the speed of deployment and overall energy consumption/ need for solar in the district.

Appendix 1 – Assumptions for calculation of energy need in Cherwell

Area wide emissions factors have been used as the basis of our analysis and we have then converted the emissions from oil and gas into an equivalent electrical consumption. Our assumptions in doing this are set out below:

To understand the total electricity demand for the district, it is necessary to first understand both the existing fuel sources and how these will need to change over time to achieve net zero.

Currently, around 27% of district emissions are produced from burning gas and oil, with a further 46% of emissions coming from transport. If Cherwell is to become net zero, then these energy demands will need to be met from carbon-free fuels.

In making our assessments, we have made the following high-level assumptions:

1. The replacement low-carbon fuel will be electricity for all uses. Even if this is not wholly correct, the other replacement is likely to be hydrogen, which will require carbon-neutral electricity in its production. Any functions which are fuelled by hydrogen are likely to be a very small proportion of the Cherwell emissions.

2. The Gas and Oil (other than the Industry 'other') category is largely burned for heating, and this will be replaced with heat pumps. This assumption then accounts for the greater efficiency (in kWh) of heat pumps when compared with burning gas (3:1 efficiency improvement).

3. We have assumed Gas (Industry 'other') is part of industrial processes and will be at a 1:1 conversion rate on kWh. As gas for heating is accounted for under another heading, this is likely to be fuel burned directly as part of a manufacturing process, and we cannot, therefore, assume that there will be a correlating efficiency saving by converting to electricity.

4. Transport emissions have assumed a split between cars, vans and HGVs. For this exercise, we have assumed it is consistent across all road networks. We have allowed for the greater efficiency of electric vehicles in calculating the necessary kWh.

5. We have not included emissions from diesel trains as we have been unable to find suitable data sets for conversion. These represent around 1.8% of power demand in the district.

Appendix 2 – Grid Connections in Cherwell

Understanding of the current grid status within the Cherwell

One of the major barriers to the expansion of solar power are difficulties in securing grid connections (in part because of a lack of grid capacity). To supply power to consumers, energy generators need to be connected to either the transmission or the distribution network, or directly to the customer. This requires approval from Distribution Network Operators (DNOs), National Grid or both. Understanding the current grid status within the Cherwell district is therefore essential for effective strategy development and planning.

Cherwell is served by two DNOs, Scottish and Southern Electricity Networks (SSEN) and National Grid Electricity Distribution (NGED). This section provides an overview of the district's electricity infrastructure, focusing on the role of the two DNOs and explores the existing network conditions and constraints. Engagement discussions with both DNOs have been crucial to understanding their respective network capacities, constraints, and future development plans.

The split of Cherwell's district occurs geographically, with the northern parts of the district primarily served by SSEN and the southern regions by NGED. This division has implications for the district's energy infrastructure and planning, as each DNO operates under different frameworks and capabilities.

SSE**N: Current Grid Status**

Figure 11 – Cherwell district DNO split

The grid's capacity to handle electricity generation, including from renewable sources like solar, is influenced by several factors. SSEN has been working to enhance the network's flexibility and resilience to accommodate the increasing integration of distributed generation, such as solar panels on homes and businesses. However, the grid's capacity is not unlimited, and there are several existing limitations and constraints.

One key constraint is the thermal capacity of the network, which refers to the maximum amount of electricity that the cables and transformers can carry without overheating. In some areas of Cherwell, the network is nearing its thermal limits, especially in parts where there is already significant distributed generation or high demand. This can limit the ability to connect new renewable generation sources without upgrades to the infrastructure.

Another limitation is related to voltage management. The introduction of large amounts of distributed generation, particularly from intermittent renewable sources like solar, can cause fluctuations in voltage levels, which can affect the stability and reliability of the grid. SSEN has implemented some voltage control technologies, but in areas where the grid is weaker, this remains a challenge.

Finally, grid congestion is a concern, where the existing infrastructure may not be able to transport all the generated electricity to where it is needed, particularly during peak generation periods (e.g., sunny days with high solar output and strong wind). This can lead to constraints on connecting new renewable energy projects unless significant network reinforcements are made.

Overall, while the SSEN grid in Cherwell is capable of supporting some further renewable generation, there are capacity constraints and technical limitations that must be addressed to fully unlock the potential for increased solar and other renewable energy installations. These challenges highlight the need for ongoing investment in grid infrastructure and innovative solutions to manage the evolving demands of a more decentralized energy system.

Bicester North Bulk Supply point

This Bulk Supply Point (BSP), which steps down 132kV lines to either 33kV or 66kV, faces constraints both upstream and downstream. In electrical distribution, upstream and downstream refers to "Incoming" and "outgoing" circuit breakers. At the time of writing this report Bicester North BSP had 108.11 MVA of contracted generation and 39.105 MVA of quoted generation and is also constrained by a 132kV thermal limitation under Fault Current Overload (FCO).

The BSP supplies three substations: Bicester, Cottisford, and Upper Heyford.

Bicester: This substation is constrained both upstream and downstream. It has a transformer rated at 60 MVA, with 33.51 MVA of contracted generation and 50% reverse power flow capacity. It is also affected by upstream thermal limitations.

Upper Heyford: Upper Heyford is constrained both upstream and downstream. Its transformer is rated at 15 MVA, with 5.82 MVA of contracted generation and 50% reverse power flow capacity. The substation is also limited by upstream thermal constraints and has limited physical space for expansion, particularly for circuit breaker connections.

Cottisford: Cottisford is constrained upstream but unconstrained downstream. The transformer here is rated at 2.5 MVA, with no connected generation and 50% reverse

power flow capacity. Like the others, it faces upstream constraints due to thermal limitations.

Figure 12 – Bicester North Bulk Supply point

Headington North Bulk Supply point

The Headington Bulk Supply Point feeds the Arncott substation, located in the southern part of the Cherwell district. The Arncott substation faces upstream constraints due to voltage and thermal limitations, but it remains unconstrained downstream. The transformer at this substation is rated at 15 MVA, with 12.2 MVA of contracted generation connected.

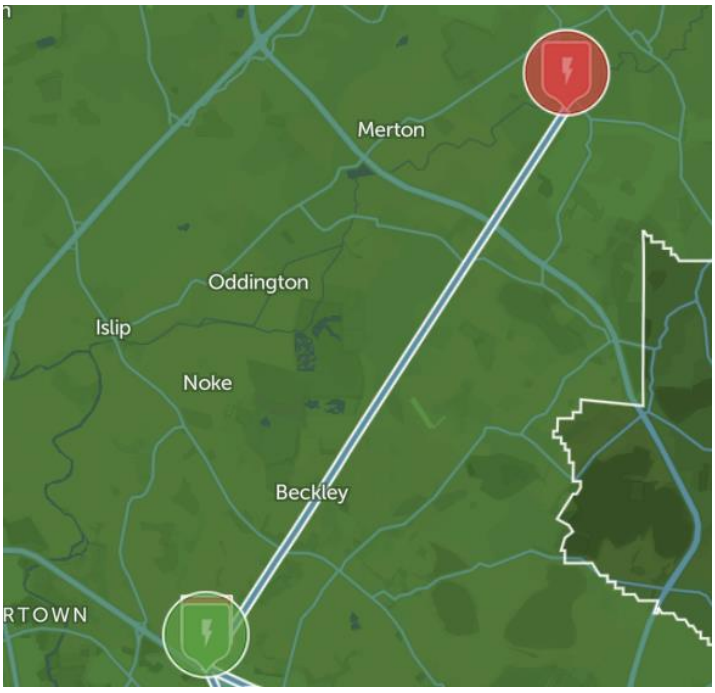


Figure 13 – Headington North Bulk Supply point

NGED: Current Grid Status

NGED's grid network has been progressively upgraded to enhance its capacity to handle distributed generation, particularly from renewable sources such as solar. This includes the implementation of smart grid technologies, which allow for better monitoring and management of the grid, enabling it to integrate more renewable energy sources. However, the capacity to connect new renewable generation varies by location within the Cherwell district. In some areas, there is available capacity for additional solar generation, while in others, the grid may be approaching its limits.

Similar to the SSEN area, one of the primary constraints is the thermal capacity of the network. As the amount of electricity generated by solar and other renewables increases, the grid infrastructure must be capable of carrying this additional load without overheating. In parts of the district, the thermal capacity is close to being fully utilised, which can restrict the connection of new generation sources unless upgrades are made.

High deployment of solar power can lead to voltage fluctuations, particularly during periods of high generation and low demand (e.g., sunny days with little electricity consumption). NGED has implemented various voltage control measures, such as automatic voltage regulators and reactive power management systems, but voltage stability remains a challenge in areas with high levels of distributed generation.

Grid congestion occurs when the existing infrastructure is unable to transport all the generated electricity to where it is needed, particularly during peak generation times. This is a significant issue in regions with extensive solar installations, as the grid was originally designed to handle power flow from large, centralised power plants rather than many smaller, distributed generators.

In areas where the grid is already heavily utilised, there are connection constraints that can delay or limit the ability to connect new solar projects. Developers in these areas may need to wait for network upgrades and may be required to fund part of the upgrade costs, which can be a barrier to expanding renewable energy capacity.

NGED has invested in the Worcester and Banbury areas through their Extra High Voltage (EHV) Reinforcement project. This project involved the installation of a new 66 kV cable between primary substations, impacting 30,000 customers. The project provided significant benefits, including improved network resilience and reinforcement, benefiting both the local area and the wider community. The total project cost was £5 million, and it was completed in 2022.

Epwell 66/11kV Substation

The Epwell substation, a primary station located in the northwest part of the Cherwell district, is situated within an Active Network Management (ANM) Zone which means that connections within this zone may be offered a more cost-effective solution through ANM, potentially eliminating the need for network reinforcement. An ANM system continually monitors all the constraints on an area of the network, in real-time, and allocates the maximum amount of capacity available to customers in that area based on the date their connection was accepted.

This substation is heavily constrained, with a reverse power headroom of -2.12 MVA. It has a reverse power capability of 7.23 MVA, but with 12.08 MVA of connected generation, the amount of electricity being fed back into the substation exceeds its ability

to manage or safely handle reverse power flow. This excess generation is primarily from local sources like solar farms, wind turbines, or other distributed energy resources, which can push power back from the distribution network into the transmission network or even further upstream.

Additionally, the substation has accepted 0.04 MVA of generation that is yet to be connected, with an additional 0.16 MVA offered but not yet accepted.

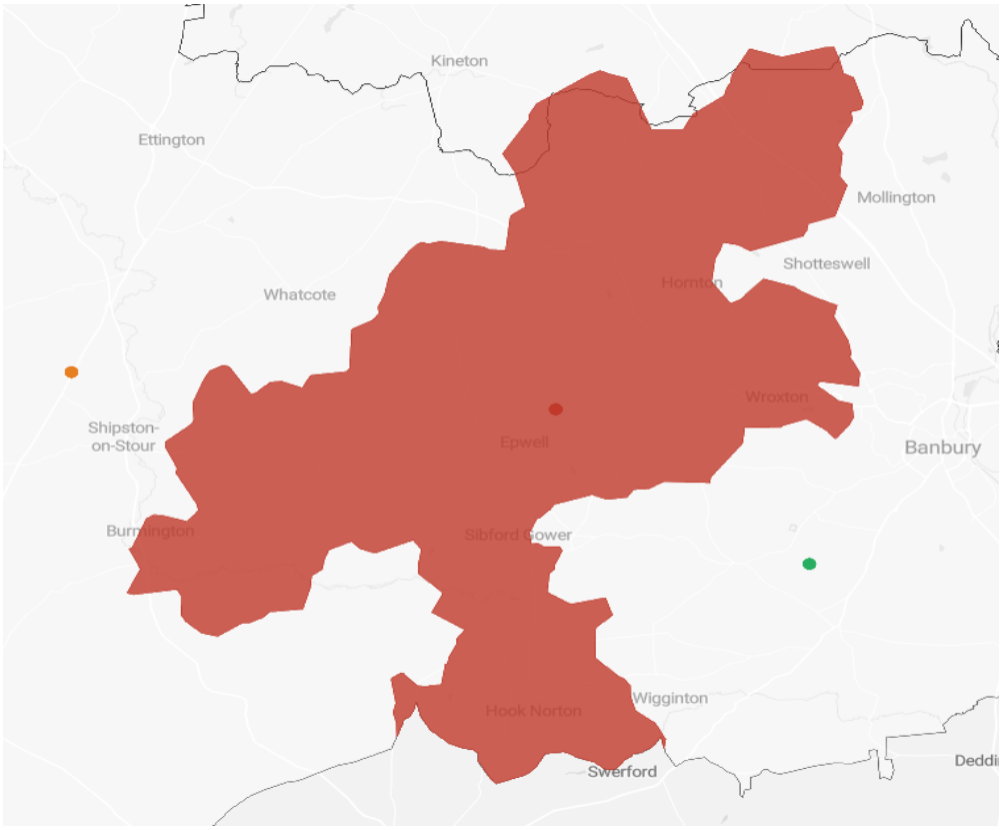


Figure 14 – Epwell 66/11 kV Substation area

Bloxham 66/11kV Substation

The Bloxham substation, a primary station located in the northern part of the Cherwell District, is also within an ANM Zone.

This substation is not constrained, with a demand headroom of 7.35 MVA and a reverse power headroom of 2.18 MVA. It has a reverse power capability of 4.6 MVA, with only 3.31 MVA of connected generation. Additionally, 0.06 MVA of generation has been accepted but is not yet connected.

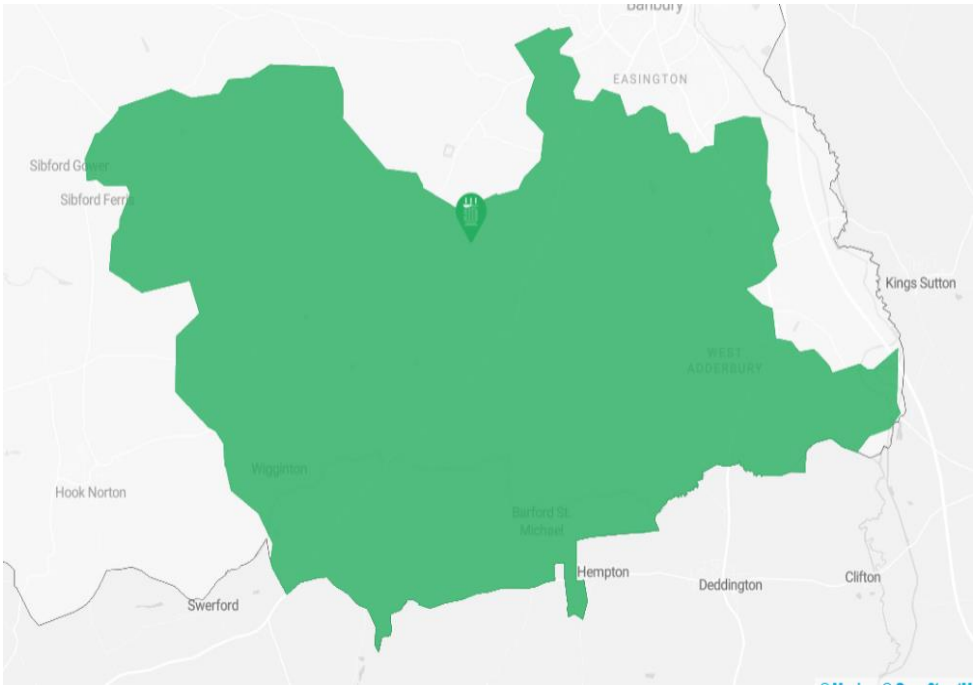


Figure 15 – Bloxham 66/11 kV Substation

Engagement discussions with both DNOs have been crucial to understanding their respective network capacities, constraints, and future development plans.

Available capacity for connections to the distribution networks

Both the SSEN and NGED networks are congested, and further connections (which have not already been contracted) are not currently available, and connection dates extend to 2030 and beyond.

Table 7 below sets out the available and connected capacity in each of the substations in the area:

Table 7 – Substation capacity in Cherwell

DNO	Substation	Generation Capacity (MVA)	Contracted Capacity (MVA)	Available
SSE	Cottisford	1.25	0	Nil (due to constraint at BSP)
SSE	Upper Heyford	7.5	5.82	Nil (due to constraint at BSP)
SSE	Bicester	30	33.51	Nil
SSE	Bicester North BSP	-	108.11	Nil
SSE	Arncott	7.5	12.2	Nil
SSE	Headington	20	3.6	Nil (due to constraint at the BSP)
SSE	Headington BSP	-	76.26	Nil
NGED	Epwell	7.23	12.12	Nil
NGED	Bloxham	4.6	3.37	1.23

The West Midlands licence area

The West Midlands license area, which Cherwell falls within, has historically experienced relatively low levels of large-scale solar PV deployment compared to neighbouring regions, with 563 MW of capacity currently connected to the network[25]. In recent years, deployment has slowed, but there is renewed interest from developers, as evidenced by the 129 sites totalling 4.4 GW in various stages of development. This surge in pipeline projects is notably high compared to previous levels, highlighting a growing focus on developing solar projects in regions of the UK that have seen less activity in the past.

SSEN

Although the growth in installed solar capacity has slowed since 2018, the region still has a strong pipeline of projects totalling 5.6 GW. These projects are either in the process of accepting connection offers or are in the quoting stage. As of August 2023, 32% of this capacity is operational, under construction, or has received planning approval.

SSE is also enhancing the electrical infrastructure in this area, including the Cherwell district, through the Witney Green Recovery Project. This £5 million investment in Witney, Oxfordshire, will benefit surrounding areas, including Cherwell, by supporting the transition to low-carbon technologies with an additional 14.2 MW of capacity.

Operational PV schemes

Operational schemes and those awaiting or under construction in Cherwell are set out in table 8 below.

Table 8 – Solar project developments in Cherwell

Site Name	Development Status	Size (MW)
Land South West Of Apollo Business Park	Operational (2014)	1.7
Epwell Grounds Farm solar park	Operational (2014)	7
North Of Field Barn	Operational (2014)	1
Rickfield Farm solar park	Operational (2014)	1
Hill Farm	Operational (2017)	5
Shelswell Park Solar Farm	Operational (2013)	5
The Flit	Operational (2015)	10.5
Rowles Farm solar park	Operational (2015)	13
Brooks Farm Solar Park	Operational (2015)	8
Home Farm (Merton - solar)	Operational (2013)	18.3
New Stone House	Operational (2015)	12.5
Tesco Superstore Bicester	Under Construction	0.6
Leadenporch Farm	Awaiting Construction	0.5
Land North of Hill Farm	Awaiting Construction	8.9
H M Prison Leyhill, Tortworth	Awaiting Construction	0.2
British Bakels, Granville Way	Awaiting Construction	0.8
Bicester Park, Charbridge Lane	Awaiting Construction	0.3
Bicester Avenue Garden Centre, Oxford Road	Awaiting Construction	0.6
Brook Farm	Awaiting Construction	25
Essentra Components, Langford Lane	Awaiting Construction	1.2

[25] 654888 (nationalgrid.co.uk)

Appendix 3 - Existing initiatives in Oxfordshire and case studies from other areas

Project LEO (Local Energy Oxfordshire)

Oxfordshire is in the enviable position of hosting two national demonstrator projects:

- Project LEO – wide ranging and innovative energy trails – seeking to accelerate the UK's transition to a zero-carbon energy system
- Energy Superhub Oxford – an ambitious urban decarbonisation project, pioneering and integrated approach to decarbonising power, transport and heat to help Oxford reach net zero by 2040.

Over the four years to 2023, Project LEO integrated a range of local technical trials (e.g integration of solar and hydro installations, low-carbon heating, and flexibility aggregation platforms) with "smart and fair neighbourhood" projects that focused on community engagement and involvement and focussed on three key areas:

- Creating a viable commercial marketplace for trading energy flexibly.
- Test how energy systems and networks need to adapt to make the most of the flexibility and make them ready for the transition to a Smart Local Energy Systems.
- Working with communities to see how households, businesses and local institutions could benefit from energy flexibility.

Important messages for policymakers

The final report published in February 2023[26], identifies thirteen key messages for policymakers to support the transition to Net Zero, but highlights five of these as the most important. These are set out in Table 9.

Table 9 – Project LEO five most important messages for policymakers

Key Message	Commentary
Local Area Energy Plans are vital to achieving Net Zero	Project LEO has shown how collaborative, Local Area Energy Planning is necessary to get to Net Zero and recommends the development of a body to create the required planning and toolkits and offer advice and guidance for Local Authorities.
Aggregators in the broadest sense are key to enabling flexibility systems	The report finds that aggregators are essential for plugging the specialist expertise gap enabling flexibility providers who are not 'energy experts' to create Smart and Fair Neighbourhoods, flex at the grid edge and organising many Distributed Energy Resources.
Optimisation behind the secondary substation brings a wide range of benefits	Project LEO showed that there is significant potential associated with optimising energy systems at the local level, rather than relying primarily on the Transmission network to import and export power.

[26] Project LEO Final Report: A digest of key learnings - Project LEO (project-leo.co.uk)

Investment in data and digital is key to enabling efficient and smarter local area networks.	Project LEO has shown that strategic investment in the network can deliver significant benefits for the energy network and local communities and this investment is essential to meet Net Zero timelines. However, it needs to be justified on the basis of robust data, mapping and planning processes.
Innovation funding is improving but must adapt to help deliver Net Zero	Funding for innovation projects (capital and revenue R&D) must become more flexible to encourage cross-sectoral investment to accelerate, at scale, real-world innovation that delivers a benchmark for rapid change to deliver Net Zero ambitions.

Case study examples

Kings Hill Solar Farm, Kent County Council

The 3 MW, 12 acre Kings Hill Solar Farm, owned by Kent County Council and is forecast to generate 3 GWh of renewable electricity each year, enough to power 750 homes and avoiding 621 tCO2e pa and reducing Kent County Council's electricity bills. The construction cost was £5m with revenue estimated at £13m over the lifetime of the farm.

The solar farm will be removed following its 30 year operational life, with the aim that the land will become a nature reserve. On site mitigation includes tree planting, a new wildflower meadow, bat and bird boxes and winter shelter areas for animals.

Lamby Way solar farm Cardiff Council

The solar farm comprises 9MW of panels surface mounted on a closed and capped landfill site. The scheme connects 3 MW of capacity for direct grid export, 3MW of directly connected to a waste-water treatment plant (WWTP) approximately 2km from the site and the remaining 3 MW can be switched between export and the WWTP.

The scheme returned over £ 0.5m of profit in excess of the business case in its first year of operation due to the sharp increase in energy prices following the invasion of Ukraine.

Solar schools and community buildings in North Lincolnshire

North Lincolnshire Community Energy (NLCE) installed 1.4 MW of panels on 14 schools and colleges, a community hub, a museum and a community council building, generating 1.1 GWh pa and saving 68 tCO2e pa. NLCE raised £576,000 through a community share offer, which has saved £100,000 in electricity costs since the project began in 2023.

Alongside the financial and environmental benefits NLCE, North Lincolnshire Council and the installer Joju ran a series of workshops at schools and , and free, interactive community events showcasing the benefits of solar and sustainability.

Solar Together West of England

Solar Together West of England (covering four councils: Bath and North East Somerset, Bristol, North Somerset and South Gloucestershire) has installed around 120 individual systems to resident's properties since its first round in 2021. In two rounds a total of 6.5 MW solar PV has been installed saving an estimated 33,000 tCO2e over 25 years.

Solar Together is a group buying scheme that helps to reduce the costs for residents in local authority areas. The scheme is usually established locally using a concession agreement between the local authority and iChoosr, which runs the scheme. Local authorities using the scheme work with the company to promote the scheme to residents and eligible small and medium sized businesses and once enough have signed up a reverse auction is held where the collective buying power is used to appoint the lowest priced supplier. All installers are pre-vetted and must comply with iChoosr's criteria to guarantee quality. Participating residents will pay the installer directly, with iChoosr providing scheme oversight.

The West of England group buying approach resulted in a 22% discount in Round 1 (2021) and a 34% discount in Round 2 (2023) based on the typical market price for an average 14 panel system at the time. In addition to the solar panels, the West of England scheme also offers optional battery storage and electric vehicle charge points.

Appendix 3 – Public Sector estate methodology

DEC Background

In the UK, DECs have been stored in a central database since the implementation of the Energy Performance of Buildings Directive[27] in 2008. A DEC and Advisory Report are required for buildings with a total useful floor area over 250m^2 that are occupied, in whole or part, by public authorities and frequently visited by the public. There is a key requirement within the Directive for certificates to be lodged on an annual basis (for buildings over 1000m^2). This means that empirical data on the energy performance of public sector, non-domestic buildings, has been collected regularly over the course of the last fourteen years.

A DEC shows the energy performance of a building based on actual energy consumption, as recorded over the last 12 months, within the validity period of the DEC (the operational rating). The operational rating is a numerical indicator of the actual annual carbon dioxide emissions from the building. The various types of energy consumption, from occupying a building, must be brought together on a common basis so that the performance of one building can be compared with that of another. The UK has decided that the common unit should be CO_2 emissions, since this is a key driver for energy policy.

This rating is shown on a scale from A to G, where A is the lowest CO_2 emissions (best), and G is the highest CO_2 emissions (worst). DECs for buildings larger than 1,000m^2 also show the operational ratings for the previous 2 years, where available.

The operational rating is based on the amount of energy consumed during the occupation of the building, over a period of 12 months. This information is taken from meter readings and is compared to a hypothetical building with performance equal to one typical of its type (the benchmark). Typical performance for that type of building would have an operational rating of 100. A building that resulted in zero CO_2 emissions would have an operational rating of zero, and a building that resulted in twice the typical CO_2 emissions would have an operational rating of 200. If the building is a net energy generator, it would still be given an operational rating of zero.

The operational rating must be calculated according to the methodology[28] approved by the Secretary of State. This is done by an accredited energy assessor using a software tool for the calculation which has been approved by the Secretary of State.

A DEC must be accompanied by an advisory report and the owner of the building must have a valid report available (see time frame below). The advisory report highlights recommendations to improve the energy performance of the building (i.e. its fabric and associated services such as heating, ventilation and lighting).

Where the building has a total useful floor area of more than 1,000m^2, the DEC is valid for 12 months. The accompanying advisory report is valid for 7 years. Where the building has a total useful floor area of between 250m2 and 1000m^2, the DEC and advisory report are valid for 10 years.

[27] Energy Performance of Buildings Regulations 2008: circular 06/2008 - GOV.UK (www.gov.uk)
[28] Government methodology for producing operational ratings, display energy certificates and advisory reports

Our approach to the analysis involved use of the open DEC data published on the Governments Energy Performance of Buildings Register[29] to derive the current energy performance of the public sector buildings within the Cherwell district area.

DEC certificate data was obtained from the Open Data Communities website where the Department of Levelling Up, Housing and Communities (DLUHC) have published all DEC records lodged from January 2008. The records were filtered to ensure that only those buildings located within the Cherwell district area were included. This dataset comprised 117 buildings (or sites).

The advantages of using the most recent annual lodgement period are as follows:

- DECs submitted should include the benefit of Public Sector Decarbonisation Scheme (PSDS) Phase 1 – 3b delivery. As part of Phase 1 the Council upgraded 8 of its sites, including its 4 main leisure centres. Air source heat pumps, solar panels with battery storage, LED lighting and a solar thermal system were installed across the sites. Insulation across the buildings was also improved.

  We understand from the Council's Climate Change Action Plan 2023 – 2024[30] that other corporate sites have received investments too, and further work is planned to expand the amount of solar PV across the corporate estate.

- DECs submitted should also include the benefit of energy efficiency improvements post COVID-19.

- Using the most recent data should provide an understanding of:
  - Where the public sector estate in the Cherwell district is currently positioned in relation to net zero.
  - Identification of the requirements needed to reach net zero.

The public estate, within the Cherwell district area, supports the delivery of public services using a diverse range of properties. To aid comparison of performance across the whole estate, buildings were split into the following sectors:

- Blue Light
- Heath and Care
- Retail and Hospitality
- Schools
- Universities
- Other (which includes workshops and storage facilities)

Please note that there were no DECs lodged in the period from the Local Authority Office sector. Table 10 (p49) below shows the number of buildings (or sites) and floor area within the 117 DEC sample, grouped by sector.

[29] Energy Performance of Buildings Search Results (opendatacommunities.org)
[30] Cherwell_District_Council_Action_Plan_2023_24.pdf

Table 10 – Number and floor area of buildings (or sites) within the DEC sample grouped by sector

Sector Category	Number of Buildings	% of All Buildings	Total Floor Area (m^2)	% of All Floor Area
Blue Light	1	0.85%	3,499	1.22%
Health and Care	6	5.13%	34,454	12.19%
Leisure and Culture	13	11.11%	32,484	11.49%
Schools	79	67.52%	171,806	60.78%
Universities	7	5.98%	14,267	5.05%
Other	11	9.40%	26,191	9.27%
Total	117	100.00%	282,654	100.00%

Once filtered and downloaded, the data set contains a series of numeric variables which were then used to complete the analysis presented in this report. Key numeric variables are summarised in Table 11.

Table 11 – Key numeric variables used in the analysis

Numeric Variable	Comment
ANNUAL_ELECTRICAL_FUEL_USAGE	Used to calculate the total kWh of electricity used in each building.
ANNUAL_THERMAL_FUEL_USAGE	Used to calculate the total kWh of thermal used in each building.
MAIN_BENCHMARK	Used to categorise building types into sectors.
MAIN_HEATING_FUEL	Used to calculate the number of buildings using different fuel types (e.g. mains gas, LPG, oil etc).
OPERATIONAL_RATING_BAND	Used to calculate the distribution of DECs by Energy Performance Operational Ratings.
RENEWABLES_ELECTRICAL	Used to calculate the number of buildings that use on site renewable sources for electricity.
RENEWABLES_FUEL_THERMAL	Used to calculate the number of buildings that use on site renewable sources for heating.
TOTAL_FLOOR_AREA	Used to calculate the total floor area for different sector categories.

Key Findings and Conclusions

Heating fuel type analysis

Table 12 below shows the fuel type used by the 117 buildings for which DECs were lodged. Of these buildings, 5 (4.27%) already used decarbonised heating and hot water solutions. This is broken down as follows:

- Biomass – 1 (0.85%) building
- District Heating – 1 (0.85%) building
- Mains Electricity – 3 (2.56%) buildings

There are no buildings that use coal, anthracite or bio gas for their heating. 109 (93.16%) of the buildings are heated by mains gas. There is 1 (0.85%) LPG building and 2 (1.71%) buildings which use oil to fuel their heating systems. Achieving net zero will therefore require almost 96% of public sector buildings within the Cherwell district area to transition to low carbon heating.

Table 12 – Heating fuel type analysis

Fuel Type	Number of Buildings	% of Buildings
Biomass	1	0.85%
District Heating	1	0.85%
Electric Heating	3	2.56%
LPG	1	0.85%
Oil	2	1.71%
Mains Gas	109	93.16%
Total	**117**	**100.00%**

On Site Renewable Sources

DECs also contain information relating to energy obtained from On Site Renewable (OSR) sources for both heating and for electricity. OSR include technologies that generate heat or electricity from ambient sources and have zero (or near zero) CO_2 emissions. Where a building makes use of OSR to provide electricity or heat for use in the building, the DEC acknowledges how these have contributed towards reducing the carbon dioxide emissions of the building (on a % basis).

There are a number of technologies that can be used to provide heat for a building, emitting low or no net CO_2 emissions.

- Solar hot water
- Air source heat pumps
- Ground source heat pump
- Biomass heating
- Solar photovoltaics (PV)
- Wind turbines

DECs do not provide technology granularity regarding OSR therefore our working assumption is that heat pumps are a Low and Zero Carbon (LZC) technology and not renewables. Therefore, the only feasible renewables on a built estate is likely to be solar PV.

Of the 117 DECs lodged, 22 (18.80%) of the buildings use OSR for electricity. There are no buildings currently using OSR for thermal purposes.

Advisory Reports

The advisory report which accompanies the DEC contains recommendations for improving the energy performance of the building. The advisory report may contain a range of possible improvements, including cost effective measures that may be implemented to improve the energy performance of the property. The report includes zero and low cost operational and management improvements, possible upgrades to the

building fabric or services, and opportunities for the installation of low and zero carbon (LZC) technologies.

The report enables the occupier to identify what may be done to improve, for example, building energy management, building services, etc. therefore reducing energy consumption and CO_2 emissions. The advisory report categorises the list of recommendations, by payback period as follows:

- Short term payback (up to 3 years), for example building energy management measures.
- Medium term payback (3 to 7 years), for example upgrading building services.
- Long term payback (more than 7 years), for example low and zero carbon technologies.

Each category includes the energy assessor's selection of the most suitable improvement measures for the building, generally between 5 and 10 measures. The advisory report also includes the energy assessor's recommendations, which may include additional improvement measures, for example measures recommended by a previous energy audit.

The advice provided in the advisory report is intended to be for information only. Occupiers receiving an advisory report are advised to seek further detailed professional advice before reaching any decision on how to improve the energy performance of the building.

Of the 117 DECs lodged, 26 of the buildings had accompanying advisory reports. A total of 359 individual recommendations (an average of 13.8 recommendations per advisory report) across 62 different recommendations. The 26 buildings that have accompanying advisory reports are:

- B BLOCK, BANBURY CAMPUS, Broughton Road OX16 9QA
- B BLOCK, The Warriner School, Bloxham OX15 4LJ
- Banbury Library, Marlborough Road OX16 5DB
- Banbury Museum Heritage Centre, Cafe Quay, Spiceball Park Road OX16 2PQ
- Bicester Day Centre, Launton Road OX26 6DJ
- Bishop Carpenter C of E Primary School, School Lane, North Newington OX15 6AQ
- Brookside Primary School, Bucknell Road OX26 2DB
- Cropredy C of E School, Station Road, Cropredy OX17 1PU
- D BLOCK, The Warriner School, Bloxham OX15 4LJ
- Elms Clinic, Oxford Road OX16 9AL
- Fritwell C of E School, East Street, Fritwell OX27 7PX
- Hanwell Fields Community School, Rotary Way OX16 1ER
- Hook Norton C of E Primary School, Sibford Road, Hook Norton OX15 5JS
- Horton General Hospital, Oxford Road OX16 9AL
- HUMANITIES BLOCK, The Warriner School, Bloxham OX15 4LJ
- Kidlington & Gosford Leisure Centre, Oxford Road OX5 2NU
- Longford Park Community Centre, Hobby Road OX15 4GJ
- Maternity Unit, Horton General Hospital, Oxford Road OX16 9AL
- MATHS BLOCK (NEW), The Warriner School, Bloxham OX15 4LJ
- Ruscote Community Hall, Ruscote Arcade, Longelandes Way OX16 1PH
- St Marys Catholic Primary School, Queens Avenue OX26 2NX

- St. Thomas More RC School, Oxford Road OX5 1EA
- Thames Valley Police, Banbury Police Station, Warwick Road OX16 2AE
- The Grange CP School, Avocet Way, Banbury OX16 9YA
- Unit 2, 9, Castle Quay OX16 5UH
- William Morris Cp School, Bretch Hill OX16 0UZ

Whilst there are a variety of recommendations provided, Table 13, illustrates 8 priority advisory report recommendations on potential energy saving measures which account for 35.7% of the total recommendations. In total there were 39 (10.9%) recommendations which did not have an assigned recommendation code

Table 13 – Priority advisory report recommendations from the 26 buildings which had accompanying advisory reports.

No	Priority Recommendation	Frequency
1	**Consider installing building mounted photovoltaic electricity generating panels.**	**20 buildings**
2	Consider implementing regular inspections of the building fabric to check on the condition of insulation and sealing measures and removal of accidental ventilation paths.	19 buildings
3	Engage experts to review the building lighting strategies and propose alterations and/or upgrades to daylighting provisions, luminaires and their control systems and an implementation plan.	17 buildings
4	Consider installing automated controls and monitoring systems to electrical equipment and portable appliances to minimise electricity waste.	16 buildings
5	It is recommended that energy management techniques are introduced. These could include efforts to gain building users commitment to save energy, allocating responsibility for energy to a specific person (champion), setting targets and monitoring.	16 buildings
6	Consider engaging with building users to economise equipment energy consumption with targets, guidance on their achievement and incentives.	14 buildings
7	**Consider installing building mounted solar water heating.**	**13 buildings**
8	Consider engaging experts to review the condition of the building fabric and propose measures to improve energy performance. This might include building pressure tests for air tightness and thermography tests for insulation continuity.	13 buildings

As can be seen from the table, the installation of photovoltaic electricity generating panels has been recommended for 20 (76.9%), and the installation of buildings mounted solar water heating on 13 (50.0%) of the buildings.

Energy Performance

A DEC shows the energy performance of a building based on actual energy consumption. The rating is an indicator of the annual CO_2 emissions from operating the

building. This rating is shown on a scale from A to G, where A is the lowest CO_2 emissions and represents the best performing buildings.

Table 14 shows the distribution of DECs by Energy Performance Operational Ratings for the 117 public sector buildings which had DECs submitted within the lodgement period. The highest Operational Ratings proportions were in bands C (32.38%) and D (31.94%). Only 2.12% of buildings were in band A.

Table 14 – Energy Performance Operational Ratings: Display Energy Certificates, Cherwell district, 1 January 2023 to 30 September 2024

Energy Performance Rating	Total Number of DECs lodged in period	%
A	0	0.0%
B	16	13.7%
C	45	38.5%
D	30	25.6%
E	17	14.5%
F	1	0.9%
G	8	6.8%

Table 14 shows that none of buildings were given an A rating for operational efficiency. A clustering around the C and D ratings is apparent, with these two grades making up 64.1% of all the certificates available. This is consistent with DLUHC data for the whole of England. The lower grades (E, F and G) make up 22.2% of the certificates available. 6.8% of buildings have the lowest G rating performance.

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Cherwell Green Belt Study

Additional Green Belt Site Assessments

Cherwell District Council

Final report

Prepared by LUC

January 2023

Version	Status	Prepared	Checked	Approved	Date
1	Draft	H Briggs J Allen N Collins	J Allen R Swann C Green	S Young	10/05/2022
2	Draft – updates to include additional Chapter 2.	H Briggs J Allen N Collins R Swann	S Young	S Young	08/11/2022
3	Draft – updates to include additional Chapter 3.	H Briggs R Swann	S Young	S Young	16/12/2022
4	Final	H Briggs R Swann	S Young	S Young	11/1/2023

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Chapter 1
Introduction

Background and scope

1.1 LUC was commissioned by Cherwell District Council (CDC) in 2017 to assess strategic development sites within the District against the five nationally defined purposes of Green Belt set out in the National Planning Policy Framework (NPPF). The study also drew conclusions on the relative Green Belt harm that may result from each site's potential release for development. These Green Belt site assessments informed the preparation of the Cherwell Local Plan Partial Review, providing evidence to support the necessary exceptional circumstances for making alterations to the District's Green Belt boundaries to contribute to meeting Oxford's unmet housing need. The Cherwell Local Plan Partial Review was adopted in 2020 following the successful demonstration of the necessary exceptional circumstances for Green Belt release.

1.2 CDC are now preparing a Local Plan Review 2040 to replace the adopted Cherwell Local Plan (2015) and Cherwell Local Plan Partial Review (2020). LUC were commissioned to prepare an addendum to the 2017 Green Belt site assessment report to confirm whether the findings of the 2017 assessments still apply in 2022 in light of the Cherwell Local Plan Partial Review revised Green Belt boundaries (2020) and some changes to the extent of promoted sites.

1.3 CDC also asked for LUC's recommendations regarding a revised Green Belt boundary around the 'Kidlington 1A' site, which was identified in the 2015 Local Plan Part 1 as having exceptional circumstances for amending the Green Belt boundary.

1.4 Finally, a separate report has been prepared by LUC on behalf of CDC setting out the exceptional circumstances for Green Belt release at The Moors, Kidlington. The Moors site has an allocation for up to 300 houses (on c10ha)

with green infrastructure on the remaining c11ha; including cricket pitches on 3ha (alongside St Mary's Church) as part of the Stratfield Brake relocation necessitated by Oxford United's new stadium. The site totals 21.5ha.

Review of 2017 Green Belt site findings

1.5 The methodology used to assess the revised site options is the same as used in 2017. This addendum report should therefore be read in conjunction with the 2017 report (document reference PR40) available on the Council's website at https://www.cherwell.gov.uk/info/112/evidence-base/369/local-plan-part-1-partial-review---evidence-base.

1.6 LUC were commissioned to review the 2017 assessment findings for the following 12 areas of land illustrated in **Figure 1.1**:

- GB1: the promoted site boundary at Shipton Quarry (HELAA194) was assessed in 2017 as PR19. The promoted site boundary has not changed in 2022 to change the findings of the 2017 assessment. Similarly, the Green Belt boundary changes made through the Cherwell Local Plan Partial Review in 2020 are not in close enough proximity to influence the findings of the 2017 assessment for this site. Therefore the 2017 assessment of PR19 has been duplicated using the new reference GB1.
- GB2: the promoted site boundary at Langford Lane (HELAA417) was assessed in 2017 as PR194. The promoted site boundary has been extended eastwards from a field boundary to Banbury Road (A4260). Therefore the 2017 assessment of PR194 has been updated using the new reference GB2 to consider the harm of releasing the larger site area.
- GB3: the promoted sites in between Begbroke Lane and Langford Lane (HELAA060, HELAA061 and HELAA063) were assessed separately in 2017 as PR23, PR24 and PR74. There are now an additional three promoted sites north and east of PR24 (HELAA060): HELAA336, HELAA362 and HELAA448. Therefore the 2017 assessment of PR24 has been updated using the new reference GB3 to consider the harm of releasing the additional three sites in the area.

Additional Green Belt Site Assessments
Cherwell District Council

LUC

Figure 1.1: Green Belt sites assessed

- Partial review option site
- HELAA Site
- Cherwell District
- Green Belt

HELAA194
GB1
HELAA417
GB2
HELAA148
HELAA448
HELAA153
GB7
HELAA152
HELAA336
HELAA362
HELAA351
GB3
HELAA060
HELAA328
HELAA040
HELAA062
HELAA081
GB4
HELAA297
HELAA046
GB5
GB6
HELAA138
HELAA032
HELAA159
GB9
HELAA172
HELAA151
GB8
HELAA405
HELAA157
HELAA425
HELAA154
HELAA166
HELAA167
GB11
HELAA165
HELAA374
HELAA160
HELAA438
GB10
HELAA155
HELAA161
HELAA326
HELAA450
HELAA427
HELAA144
HELAA145
HELAA331
HELAA452
HELAA146
HELAA454
HELAA147
GB12
HELAA361

0 1 2 km

Map scale 1:35,000 @ A3

CB: SRD EB:Daniels_S LUC 11799_MainReportMaps_A3L_accessible_v1 11/01/2023
Source: CDC, DCLG

- GB4: the large promoted site boundary around Begbroke Science Park and east of the railway line south of Kidlington (HELAA040) was assessed in 2017 as PR20. The majority of this site boundary was subsequently allocated for development and released from the Green Belt through the Cherwell Local Plan Partial Review in 2020. Therefore the 2017 assessment of PR20 has been updated using the new reference GB4 to assess the harm of releasing the remaining Green Belt land within the original promoted site boundary that has remained in the Green Belt.
- GB5: the promoted sites south of promoted site HELAA040 and east of the railway line (HELAA046 and HELAA081) were assessed in 2017 as PR34 and PR92. An additional promoted site (HELAA297) is now located in between the two and includes PR92 (HELAA046). Therefore the 2017 assessment of PR92 has been updated using the new reference GB5 to consider the harm of releasing HELAA297 in its entirety.
- GB6: the large area of promoted sites west of Yarnton and the A44 (HELAA032 and HELAA138) was assessed in 2017 as PR51. A small portion of this area was subsequently allocated for development and released from the Green Belt through the Cherwell Local Plan Partial Review in 2020. Therefore the 2017 assessment of PR51 has been updated using the new reference GB6 to assess the harm of releasing the remaining Green Belt land within the original promoted site boundary that has remained in the Green Belt.
- GB7: the promoted sites north of the Moors and east of Banbury Road (HELAA152 and HELAA153) was assessed in 2017 as PR14 and PR27. The promoted site boundaries have not changed in 2022 to change the findings of the 2017 assessment. Similarly, the Green Belt boundary changes made through the Cherwell Local Plan Partial Review in 2020 are not in close enough proximity to influence the findings of the 2017 assessment for the site. Therefore the 2017 assessment of PR14 and PR27 have been consolidated and duplicated using the new reference GB7.
- GB8: the promoted site boundary south east of Kidlington (HELAA151) was assessed in 2017 as part of the larger site PR178, which was subsequently partially allocated for development and released from the Green Belt through the Cherwell Local Plan Partial Review in 2020.

Therefore the 2017 assessment of PR178 has been updated using the new reference GB8 to assess the harm of releasing the remaining Green Belt land within the original promoted site boundary that has remained in the Green Belt.

- GB9: the promoted site boundary west of Kidlington roundabout (HELAA159) was assessed in 2017 as PR49. Roughly half of this site boundary was subsequently allocated for development and released from the Green Belt through the Cherwell Local Plan Partial Review in 2020. Furthermore, Stratfield Brake Sports Ground to the south is also now being promoted (HELAA172). Therefore the 2017 assessment of PR49 has been updated using the new reference GB9 to assess the harm of releasing the remaining Green Belt land within the original promoted site boundary and the sports ground beyond.
- GB10: the large, promoted site north of Oxford and east of the Oxford Road (HELAA161) was assessed in 2017 across three assessments: PR38, PR50 and PR167. Large portions of these sites were subsequently allocated for development and released from the Green Belt through the Cherwell Local Plan Partial Review in 2020. Therefore the 2017 assessment of PR50 has been updated using the new reference GB10 to assess the harm of releasing the remaining Green Belt land within the original promoted site boundaries of PR38, PR50 and PR167 that has remained in the Green Belt.
- GB11: the promoted sites at Frieze Farm and Peartree Hill (HELAA154, HELAA160 and HELAA166) were assessed in 2017 as PR39, PR41, PR124, PR168 and PR177. The promoted site boundaries have not changed to any sufficient degree in 2022 to change the findings of the 2017 assessment. (The only notable change is a thin strip of land to the south of the A34 was originally assessed as part of PR39 but has since been released from the Green Belt and therefore no longer forms part of GB11.) Similarly, the Green Belt boundary changes made through the Cherwell Local Plan Partial Review in 2020 are located to the south of the A34 and do not influence the findings of the 2017 assessment. Therefore the 2017 assessments of PR39, PR41, PR124, PR168 and PR177 have been consolidated and the original findings duplicated using the new reference GB11.

- GB12: the promoted sites around Islip were assessed separately in 2017 as PR21, PR30, PR55, PR181 and PR209. The area of land being promoted for development around Islip has since been expanded to include a much more extensive area covered by HELAA427 and HELAA452. Therefore the 2017 assessments of PR21, PR30, PR55, PR181 and PR209 have been consolidated and expanded upon using the new reference GB12 to consider the harm of releasing the wider area of land being promoted.

1.7 Appendix A contains the detailed site assessment proforma. The proforma follow the exact same structure as those included in the original 2017 report; however, the format of the proforma has been updated to comply with the Public Sector Bodies (Websites and Mobile Applications) Accessibility Regulations (2018).

Advice on Kidlington 1A Green Belt boundary

1.8 Chapter 2 below sets out LUC's proposal for revising the Green Belt boundary. This draws on the Small-Scale Green Belt Review – Accommodating High Value Employment Needs at Kidlington/Begbroke that LUC were commissioned to carry out in 2016.

Chapter 2

Kidlington 1A Green Belt boundary

Circumstances of proposed Green Belt release

2.1 The Cherwell Local Plan 2011-2031 Part 1 (2015) identified exceptional circumstances for a review of Green Belt land at two locations in the Kidlington area, with a view to the potential release of land to accommodate specific employment needs.

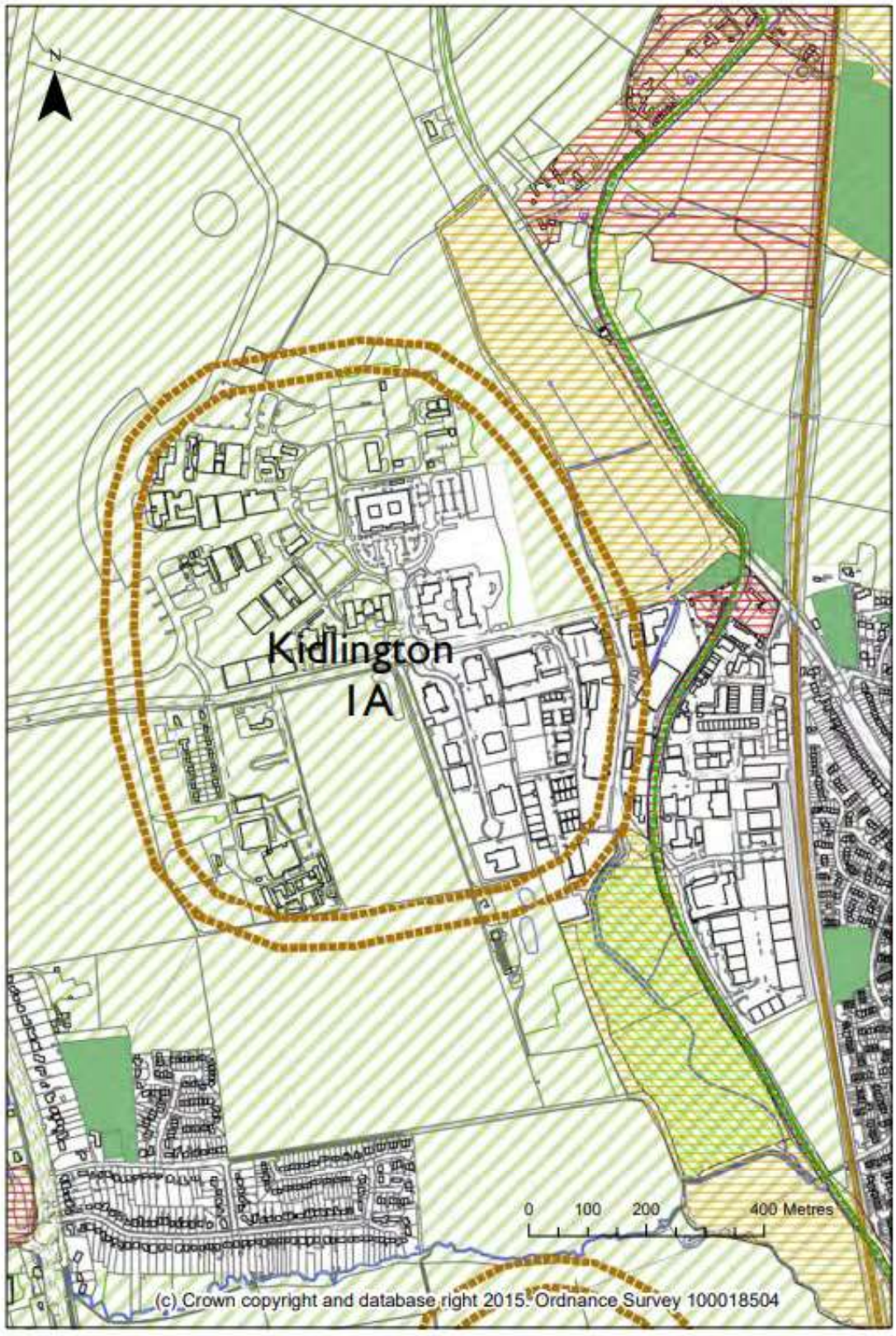
2.2 Policy Kidlington 1 identified two locations to be subject to review: (A) Langford Lane / Oxford Technology Park / London-Oxford Airport, and (B) Begbroke Science Park. The Local Plan Part 1 included a diagram showing the indicative location of the limited Green Belt review – reproduced as **Figure 2.1** below (the green hatching show land currently within the Green Belt). LUC were commissioned to carry out the required small-scale review in 2016.

2.3 The subsequent Cherwell Local Plan 2011-2031 Part 1 Partial Review – Oxford's Unmet Housing Need (2020), citing the Green Belt reviews carried out, concluded that exceptional circumstances for the removal of land from the Oxford Green Belt do exist. The justifications for these exceptional circumstances included reference to the employment area around Langford Lane, and it was noted that a new Technology Park had been granted permission in the Langford Lane area. However, the Partial Review's Green Belt releases (under Policy PR3) did not encompass land within the Kidlington 1A area.

2.4 The Technology Park (located on the only sizeable site within the Kidlington 1A area that that lacked any built development – the central southern space on **Figure 2.1** below), was approved in recognition of the identified development need set out in the Local Plan Part 1 that justified the exceptional circumstances for the small-scale review.

2.5 CDC have stated that they do not see a need for significant further employment space to be provided within what is currently still Green Belt land at Langford Lane, but the current Green Belt boundary does not reflect the extent of existing and approved development that will affect Green Belt openness. The Cherwell Local Plan Review (2040) seeks to address this weakness in the Green Belt boundary by amending it to better reflect the relationship between developed and open land.

Figure 2.1: Kidlington 1A policy area



Factors informing proposed boundary location

2.6 In light of the above, the focus of this chapter is on defining the most appropriate Green Belt boundaries based on development that already exists or has been permitted, and not on any potential future requirements.

2.7 The 2016 Small-Scale Green Belt Review provided an analysis of the harm that would result from the release of land within the Kidlington 1A review area. 10 assessment parcels were defined and assessed in terms of contribution to the Green Belt purposes (which drew on the 2015 Oxford Green Belt Study findings), and potential to mitigate harm to those purposes. The study also looked the environmental considerations which, although not relevant to an assessment of harm to the Green Belt purposes, are an essential consideration when weighing up the overall case for release and development of Green Belt land.

2.8 The environmental considerations included landscape value, visual amenity, land use, ecological value, cultural heritage value and the potential for mitigating harm to any of these. The potential for enhancing the beneficial use of Green Belt land, in line with NPPF paragraph 145, was also considered. See Chapter 3 of the Small-Scale Green Belt Review for more detail on the assessment methodology.

2.9 Figure 5.11 from the Small-Scale Green Belt Review, which illustrated variations in overall harm, is reproduced below (as **Figure 2.2**), followed by a map (**Figure 2.3**) which shows a proposed revised Green Belt boundary within the Kidlington 1A policy area. It should be noted that the map does not reflect subsequent development in progress at Oxford Technology Park (in parcel A6) and a larger structure at the northern end of the grouping of airfield buildings/structures (mostly in parcel A1 but just crossing into A4).

2.10 As noted in paragraph 2.6 above, there is no requirement to include open land for future development within the area of Green Belt release, but the revised Green Belt boundary should follow a logical and clear alignment, so as

to meet the NPPF's requirement (at paragraph 143f) to use "physical features that are readily recognisable and likely to be permanent".

2.11 In terms of the 2016 study, the areas encompassing current built development, or directly adjacent to it, are parcels A1, A3, A4, A6 and A7. The paragraphs below take each of these in turn and consider the most appropriate boundary location, taking into consideration the loss to Green Belt strength of any undeveloped land that might be included within the area of release and the impact that release would have on adjacent retained Green Belt land.

2.12 With reference to the additional site assessments described in Chapter 1 above, and set out in Appendix A, Parcel GB3 includes most of the study area to the south of Langford Lane. The methodology used for the additional site assessments is not exactly the same as that used in the earlier Small-Scale Green Belt Review, but the findings are consistent. Reference to these findings is included after the analysis of boundaries in the Small-Scale Green Belt Review parcels.

Proposed boundary in parcel A1

2.13 Parcel A1 comprises land currently occupied by permitted airport development, including hangars, the terminal building and the control tower. The airfield road/taxiway marks the outer edge of the area.

2.14 The Small-Scale Green Belt Review summarised Green Belt contribution as follows: "The parcel does not play any significant role in contributing to Green Belt purposes 1, 2 and 4. The distinction between the Business Park and functional airfield-related development preserves some contribution to safeguarding the countryside, but the extent of development in the parcel limits the strength of this role." Overall harm was rated as 'low-moderate'.

Figure 2.2: Harm ratings from Small-Scale Green Belt Review 2016

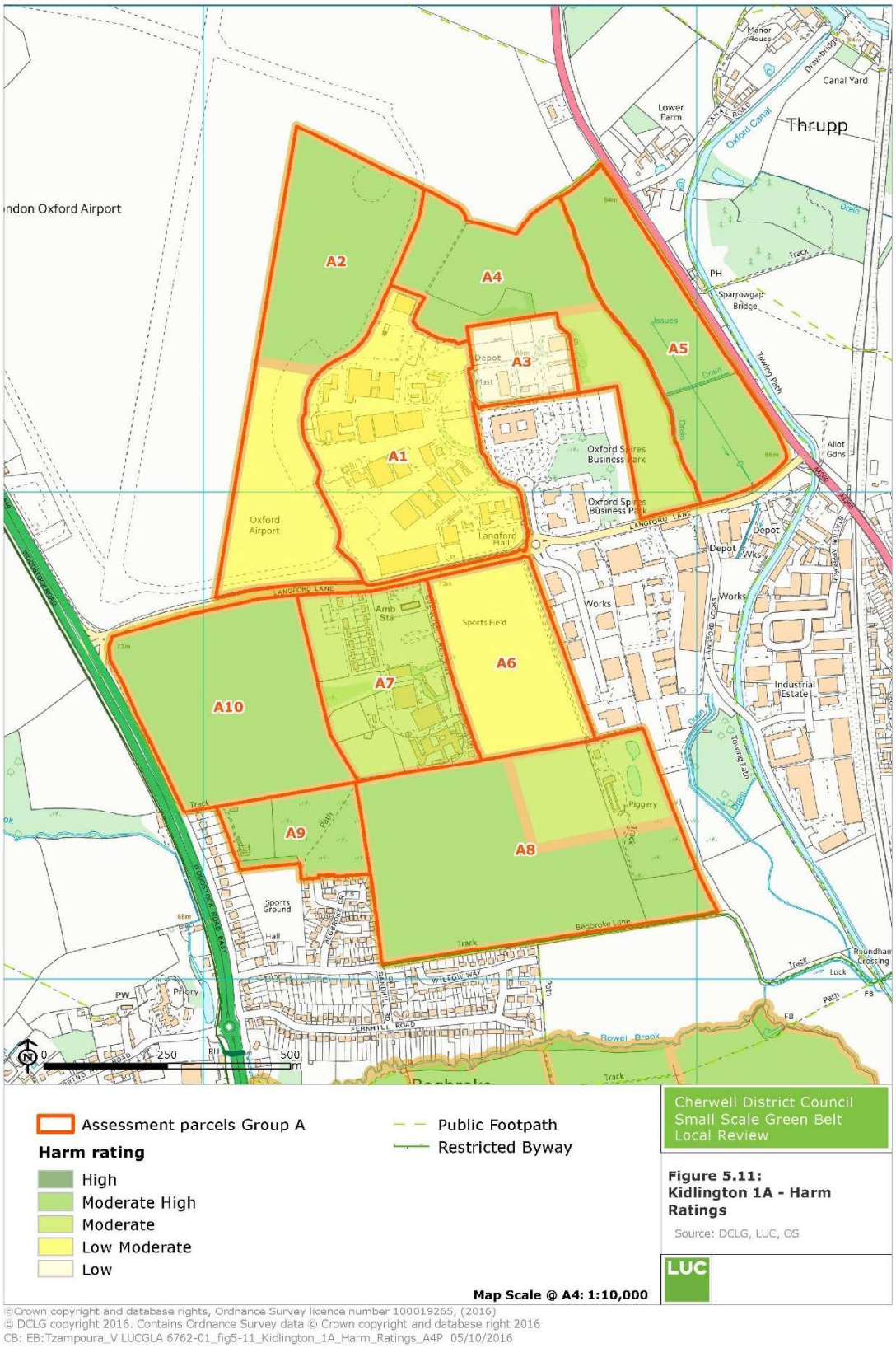
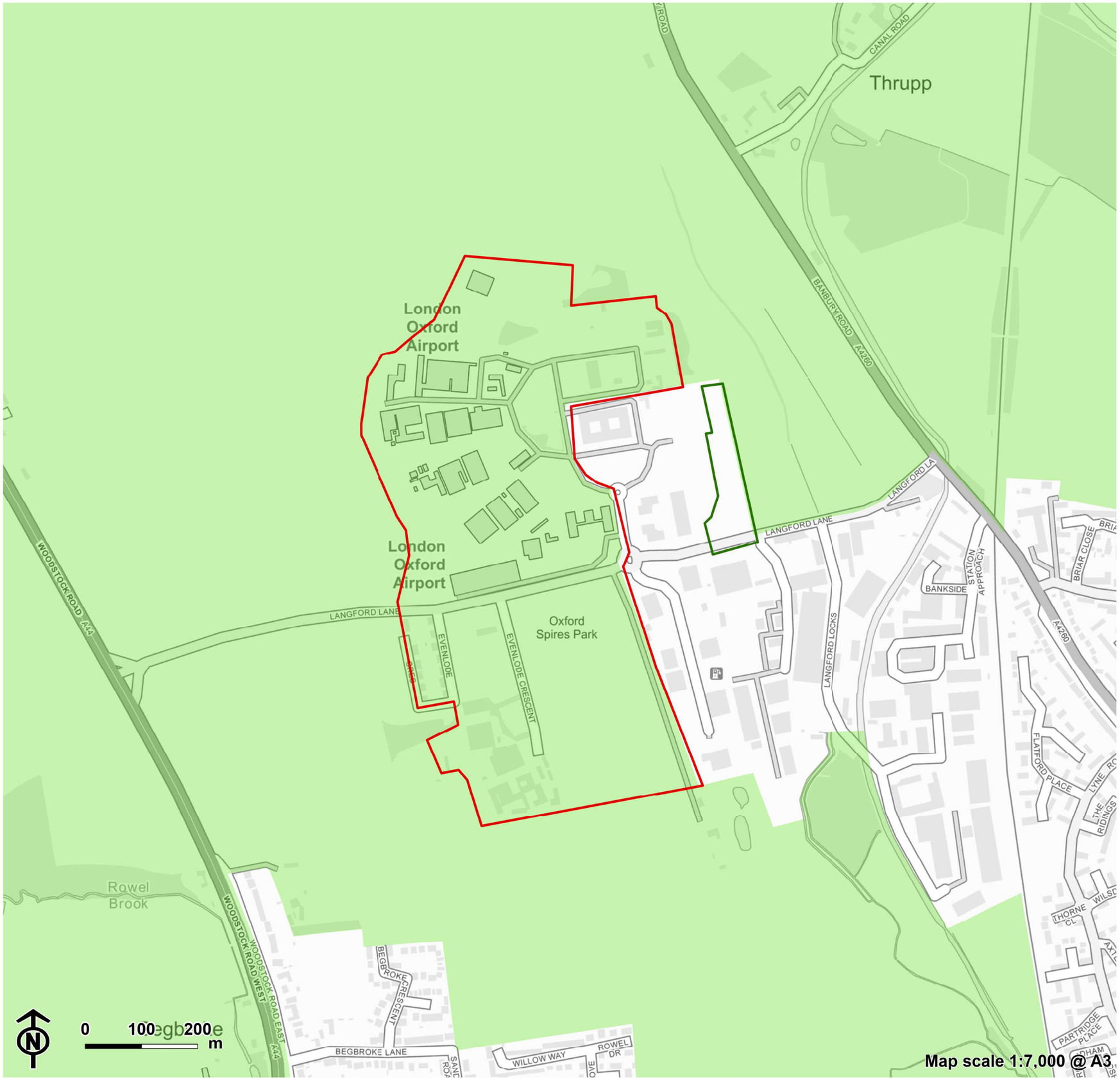


Figure 2.3: Proposed Green Belt boundary in Kidlington 1A policy area

Land to be added to the Green Belt
Land to be released from the Green Belt
Green Belt



CB: SRD EB:Daniels_S LUC 11799_MainReportMaps_ProposedGreenBelt_A3L_accessible_v1 11/01/2023
Source: CDC, DCLG

2.15 Although there could be visual benefits in retaining a lower density of development in this area, to preserve filtered views of trees around the adjacent office developments to the east, the extent of existing development in this parcel is such that the remaining open spaces between buildings are dominated by those structures and so make little contribution to the openness of the wider Green Belt. This means that in terms of harm to the Green Belt purposes there would be no benefit in drawing a convoluted boundary to try and exclude partially contained open spaces from the inset area.

2.16 Although there are some gaps between buildings and the airport road defined as the boundary of parcel A1, much of the intervening space is hardstanding with a strong functional association with those buildings. Therefore, the airport road offers a consistent boundary that can be considered to mark a distinction between open and developed areas. It doesn't offer any visual separation, but its functional association with the airfield makes this impractical.

Proposed boundary in parcel A3

2.17 Parcel A3 comprises the Thames Water Kidlington Depot, on a square of land to the north of the inset settlement boundary. It contains one principal building and a number of smaller structures, but much of the area is open, hard-surfaced space used for materials storage. Some mature vegetation subdivides the area, and trees and hedging mark the boundaries to the east and along the eastern half of the northern boundary.

2.18 The Small-Scale Green Belt Review summarised Green Belt contribution as follows: "The parcel does not play any significant role in contributing to Green Belt purposes 1, 2 and 4. The limited open space within this contained parcel makes a relatively weak contribution to Green Belt purposes." It also noted that "If the parcel was to be released, the retention and enhancement of tree cover within and around it would minimise any change in its relationship

with the wider countryside." Overall harm was rated as 'low', although it is noted that boundary tree cover which in 2016 screened the north-western part of the parcel from views from the north has subsequently been cleared (in association with construction work in the area to the west – see parcel A4 below).

2.19 Despite the tree clearance noted above, parcel A3 has a clear outer boundary and a stronger relationship with development than with open land – with the new development to the west adding further urbanising influence –so it should be included within the inset area. Determining the most appropriate boundary requires consideration of the adjacent land in parcel A4 – see below.

Proposed boundary in parcel A4

2.20 Parcel A4 comprises farmland to east and north of the Oxford Spires Business Park and the Thames Water Kidlington Depot, and also an area to the north-west of the depot which has been subject to some activity associated with the airport. The latter area is largely open but new hangar buildings (erected since 2020) have encroached into a small part of parcel A4 here.

2.21 The Small-Scale Green Belt Review summarised Green Belt contribution as follows: "The parcel does not play any significant role in contributing to Green Belt purposes 1, 2 and 4. The parcel is distinctly separate from the existing inset area of the Oxford Spires Business Park, and makes a contribution to safeguarding the countryside from encroachment, increasingly so towards the northern end". The overall harm of release of land in parcel A4 was rated as 'moderate' for the area to the east of the business park and 'moderate-high' for the area to the north of the Thames Water depot.

2.22 Existing mature trees and shrubs form boundary features to the east of the Thames Water Kidlington Depot and Oxford Spires Business Park. There is a gradual west-east slope down across the depot and the business park but to the east of this, particularly towards the northern end of the parcel, the landform slopes more clearly downhill into the valley of the River Cherwell. The landform change and tree cover create a degree of distinction between developed and

open areas, contributing to safeguarding the countryside from encroachment (purpose 3).

2.23 The existing Green Belt boundary along the eastern side of the business park does not align with the vegetation along the perimeter of the developed area but instead follows a straight line through the open arable field in parcel A4. A boundary that aligns with the existing vegetation, adding a small area back into the Green Belt, would be more logical. This would continue northwards along the eastern edge of parcel A3.

2.24 To the north-west of the Thames Water Kidlington Depot, the recently constructed hangars, associated airport structures and surfacing encroach slightly into parcel A4, negating the 'moderate-high' harm rating for release of land in this location. It is suggested that the new Green Belt boundary should follow the edge of the affected area, as this marks the new distinction between open Green Belt land and land which is dominated by built development. It is recognised that the area immediately to the north of this has been subject to some earth movements associated with the airport development, but as open land with some visual exposure from the north and east it contributes to Green Belt openness and so in the absence of development need should remain in the Green Belt.

2.25 A fence containing the recent airport development joins parcel A3 near its north-western corner. The potential for tree and shrub planting along this new edge, alongside the adjacent edge of the Thames Water Kidlington Depot, and to the north of the new hangars, in order to create a stronger boundary feature over time, should be explored.

Proposed boundary in parcel A6

2.26 Parcel A6 is currently being developed as Oxford Technology Park.

2.27 The Small-Scale Green Belt Review, assuming that the consented development would go ahead, summarised Green Belt contribution as follows:

"The parcel does not play any significant role in contributing to any of the Green Belt purposes. However, release of this parcel from the designation would potentially weaken the Green Belt boundary to the west, where the presence of adjacent development (in parcel A7) would create a blurred edge between settlement and countryside". Overall harm was rated as 'low-moderate'.

2.28 New buildings, roads and parking areas will be located across all of the parcel, such that remaining intervening open spaces will be dominated by the new development, so there is no value in terms of the Green Belt purposes in leaving any land here within the designated area. There is a clear boundary hedgeline along the southern edge of the parcel which links existing inset development at Langford Lane to washed-over development at Campsfield House (see parcel A7 analysis below), so this should form the revised Green Belt boundary.

Proposed boundary in parcel A7

2.29 Parcel A7 comprises residential development on Evenlode Crescent, Kidlington Ambulance Station and the large complex of buildings making up the Campsfield House immigration detention centre. The latter closed in 2018 but in 2022 the Home Office announced its planned redevelopment and reopening. There are areas of open land along the western side of the parcel and in the eastern half between the ambulance station and Campsfield House. Overall harm was rated as 'moderate'.

2.30 The Small-Scale Green Belt Review noted that open land in parcel A7 contributes to separation between Kidlington and Begbroke: "Release of this area from the Green Belt would reduce the already narrow belt of open land between employment development to the north-west of Kidlington and housing at Begbroke. The extent of contribution to Green Belt purposes is dependent on the value attached to the maintenance of a gap between commercial development at the northern end of Kidlington and residential development at Begbroke".

2.31 The development of the Oxford Technology Park means that the remaining open space in the eastern half of the parcel is contained on all sides by urbanising development, and so makes little contribution to the Green Belt purposes either in isolation or as part of the wider Green Belt.

2.32 The open land in the western half of the parcel has a strong visual relationship with adjacent housing (to the north) and the buildings at Campsfield House (to the south), and the well-treed outer boundary hedgerows to the west and south of the parcel limit association between this area and the wider Green Belt. However, although strong tree cover around the field to the north of houses on Begbroke Crescent will retain some separation between Kidlington and Begbroke, any additional visual impact from new development in the western part of parcel A7 would harm the perceived settlement gap.

2.33 Given the lack of requirement to include open land for future development within the area of Green Belt release (see paragraph 2.6 above) it is, therefore, preferable to retain the undeveloped land in the western part of parcel A7 as Green Belt. The road along the western side of the housing, woodland block and Campsfield House perimeter fencing provide suitable physical boundary features.

GB3 assessment findings

2.34 The assessment for GB3, set out in Appendix A, splits the parcel into two sub-areas: GB3a and GB3b. GB3a includes land in the undeveloped western part of Small-Scale Green Belt Review A7 (as well as land further west and south) and assigns it a ‘high’ harm rating, noting impact on settlement separation as the key issue.

2.35 GB3b comprises land in A6 and the developed part of A7. Harm here is rated as ‘low’, with reference made to the extent of existing and approved development.

Chapter 3

Assessment Conclusions

Additional Green Belt site assessments

3.1 This chapter briefly summarises the findings of the Green Belt site harm assessments (detailed in Appendix A) and the suggested Green Belt boundary revision for the Kidlington 1A policy area at Langford Lane / Oxford Technology Park / London-Oxford Airport.

3.2 The review of the 2017 Green Belt assessments was intended to confirm whether the findings of those assessments still apply in 2022, in light of the Cherwell Local Plan Partial Review revised Green Belt boundaries (2020) and some changes to the extent of promoted sites. The findings are summarised in **Table 3.1** below.

3.3 The table shows that there are only three sub-areas within sites where ratings have changed since the 2017 study. Two of these changes, in sites GB4 and GB5, are increases rating for the harm that would result from release, and are associated with Green Belt Purpose 2: preventing the merger of settlements. These are due to the greater importance of land in the remaining gap between Yarnton and Kidlington that has resulted from releases of land in the Local Plan Partial Review.

3.4 The third change, to site GB9, is a reduction in harm to Green Belt Purpose 3 (preventing encroachment on the countryside) as a result of the release of land weakening the contribution of adjacent open land, through increased urban containment.

Proposed Green Belt boundary in Kidlington 1A policy area

3.5 A business need case underpinned the exceptional circumstances set out in the Local Plan Part 1 to justify a limited review of Green Belt boundaries for employment land in the Kidlington area. This need case was judged sufficient to warrant the permitting of the Oxford Technology Park development off Langford Lane in December 2015, rather than delay a planning decision until the small-scale review had been carried out (see officer's report for 14/02067/OUT).

3.6 As a result of this, and of the lack of identified need to release further open land for future employment development, the revised boundary suggested in Chapter 2 encompasses principally land which is already developed or is being developed. Remaining open spaces within the area suggested for release are dominated by nearby development and so make only a very limited contribution to Green Belt openness.

3.7 This lack of contribution to the Green Belt purposes provides the exceptional circumstances required for amending the Green Belt boundary in this location. It also justifies the addition to the Green Belt of a small area of land to the east of the Oxford Spires Business Park that lies outside of the developed area and lacks any boundary to distinguish it from the wider Green Belt.

Table 3.1: Summary of Green Belt Harm Assessment Findings

Site ref	Location	Relationship with 2017 study	2022 harm scenario and rating	Harm change since 2017?
GB1	Shipton Quarry	Assessed in 2017 as site PR19, covering HELAA194. No subsequent change.	Release of GB1a: high	No change.
			Release of all GB1b: high	No change.
			Release of part of GB1b: moderate-high	No change.
			Release of part of GB1b plus boundary amendment: moderate	No change.
			Release of GB1c: high	No change.
GB2	London Oxford Airport	Assessed in 2017 as site PR194, covering HELAA417. Site boundary now extended.	Release of all of GB2: moderate-high	No change to rating for previously assessed area. Rating extended into newly assessed area.
			Release of part of GB2: moderate	No change to rating for previously assessed area. Rating extended into newly assessed area.

Site ref	Location	Relationship with 2017 study	2022 harm scenario and rating	Harm change since 2017?
GB3	North of Begbroke Lane, south of Langford Lane	Assessed in 2017 as site PR24, covering HELAA060. Site now extended to include HELAA336, HELAA362 and HELAA448.	Release of all of GB3a: high	No change.
			Release of part of GB3a: moderate	No change.
			Release of GB3b: low	New assessment.
GB4	East of A44 Science Quarter	Assessed in 2017 as site PR20, covering HELAA040. Mostly released from Green Belt in 2020 Local Plan Partial Review so assessing remainder.	Release of all of GB4a: high	No change
			Release of part of GB4a: moderate-high	No change
			Release of all of GB4b: high	Northern part of parcel was previously rated moderate-high harm. Release of land to west of railway line means that this is now a much narrower settlement gap.
GB5	Land south and east of A44 Science Quarter	Assessed in 2017 as site PR92, covering HELAA046. Site now extended and promoted as HELAA297.	Release of GB5: high	Previously assessed part of parcel was rated moderate-high harm, But subsequent release of land has

Site ref	Location	Relationship with 2017 study	2022 harm scenario and rating	Harm change since 2017?
				increased importance of remainder of Yarnton-Kidlington gap.
GB6	West of A44	Assessed in 2017 as site PR51, covering HELAA032 and HELAA138. Partially released from Green Belt in 2020 Local Plan Partial Review so assessing remainder.	Release of GB6a: high	No change to rating for previously assessed area. Rating extended into small newly assessed area (east of Begbroke Wood).
			Release of GB6b: high	No change.
			Release of GB6c: high	No change.
GB7	North of Kidlington Moors	Assessed in 2017 as sites PR14 and PR27, covering HELAA152 and HELAA153. No subsequent change.	Release of GB7a: moderate	No change.
			Release of GB7b: moderate-high	No change.
			Release of GB7c: moderate	No change.
GB8	SE Kidlington	Assessed in 2017 as site PR178, covering HELAA151. Partially released from Green Belt in 2020 Local Plan Partial Review so assessing remainder.	Release of GB8: high	No change.

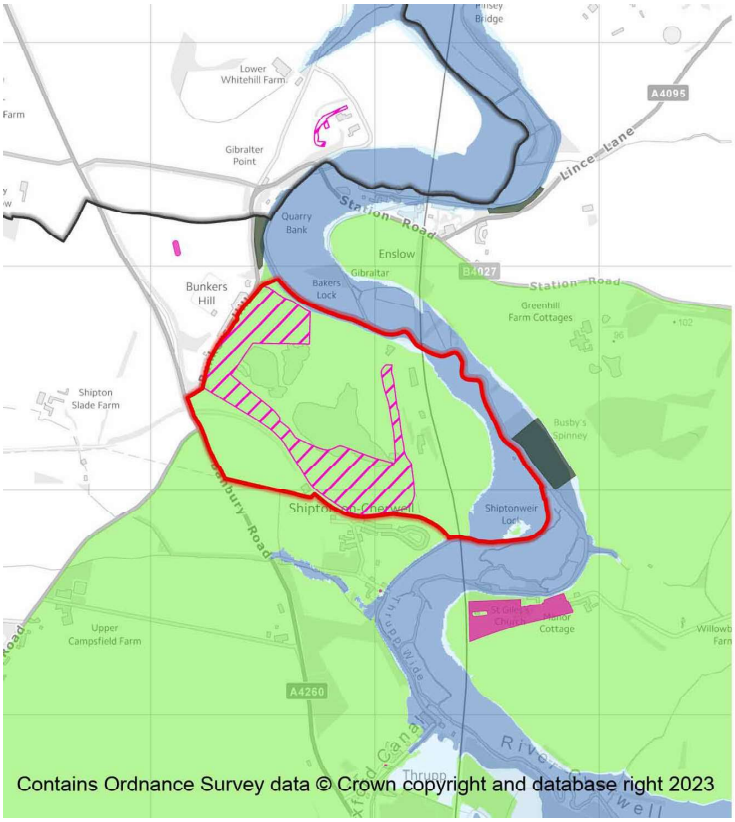
Site ref	Location	Relationship with 2017 study	2022 harm scenario and rating	Harm change since 2017?
GB9	Land west of Kidlington Roundabout south of Garden City, and Stratfield Brake	Assessed in 2017 as site PR49, covering HELAA159. Partially released from Green Belt in 2020 Local Plan Partial Review so assessing remainder, together with additional adjacent land (HELAA172).	Release of all of GB9: moderate-high	Not previously assessed.
			Release of part of GB9: low-moderate	Western part of this parcel was previously rated moderate harm. Subsequent release has increased urbanising containment of this area and so weakened distinction from urban edge.
GB10	North of Oxford	Assessed in 2017 as sites PR38, PR50 and PR167, covering HELAA161. Largely released from Green Belt in 2020 Local Plan Partial Review so assessing remainder.	Release of GB10a: high	No change.
GB11	Loop Farm, Frieze Way and Peartree	Assessed in 2017 as sites PR39, PR41, PR124, PR168 and PR177, covering HELAA154, HELAA160 and HELAA166. A very small part of PR39 has been released but otherwise unchanged.	Release of GB11: high	No change.

Site ref	Location	Relationship with 2017 study	2022 harm scenario and rating	Harm change since 2017?
GB12	Around Islip	Assessed in 2017 as sites PR21, PR30, PR55, PR181 and PR209. Boundaries now extended to cover HELAA247 and HELAA452.	Release of all of GB12: high	No change to rating for previously assessed area. Rating extended into newly assessed area.
			Release of part of GB12: moderate-high	No change to rating for previously assessed area. Rating extended into newly assessed area.

Appendix A

Additional Detailed Site Assessments

Site GB1 – Shipton Quarry



- Partial review option site
- Cherwell District
- Green Belt
- Area of Outstanding Natural Beauty
- Site of Special Scientific Interest
- Special Area of Conservation
- Scheduled Monument
- Ancient woodland
- World Heritage Site
- Registered parks and gardens
- Flood Zone 3
- Flood Zone 2

N

0 540 1,080 m

- Partial review option site
- Cherwell District

N

0 540 1,080 m

Site GB1 – Shipton Quarry – 110.85ha

Site description

3.8 The site consists of:

- A large, central area between the hamlet of Bunkers Hill to the west and the railway line to the east which is being actively quarried. The River Cherwell and a belt of trees form the northern boundary and a former railway line with associated tree cover forms the southern boundary. The small village of Shipton-on-Cherwell lies to the south of the course of the former railway.
- Arable fields to the east of the railway, contained to the east by the Cherwell and the Oxford Canal.
- Another arable field to the south of the former railway line.
- A smaller field to the west of the A4095 (Bunkers Hill). The A4095 marks the outer edge of the Green Belt, so Shipton-on-Cherwell and all of the site except the field to the west of the A4095 is washed-over, but Bunkers Hill is outside of the designated area.

It is noted that the quarry faces within the main area of the site are designated a SSSI for their geological/paleontological interest. The potential impact of this on the viability of built development is not taken into consideration in the assessment.

Relationship between site, settlement and countryside

Strong boundary vegetation and a significant change in landform separate the active workings from both Shipton-on-Cherwell and Bunkers Hill, and both settlements are much smaller than the site. The quarrying operations clearly affect the current quality of the landscape, but in terms of Green Belt purposes

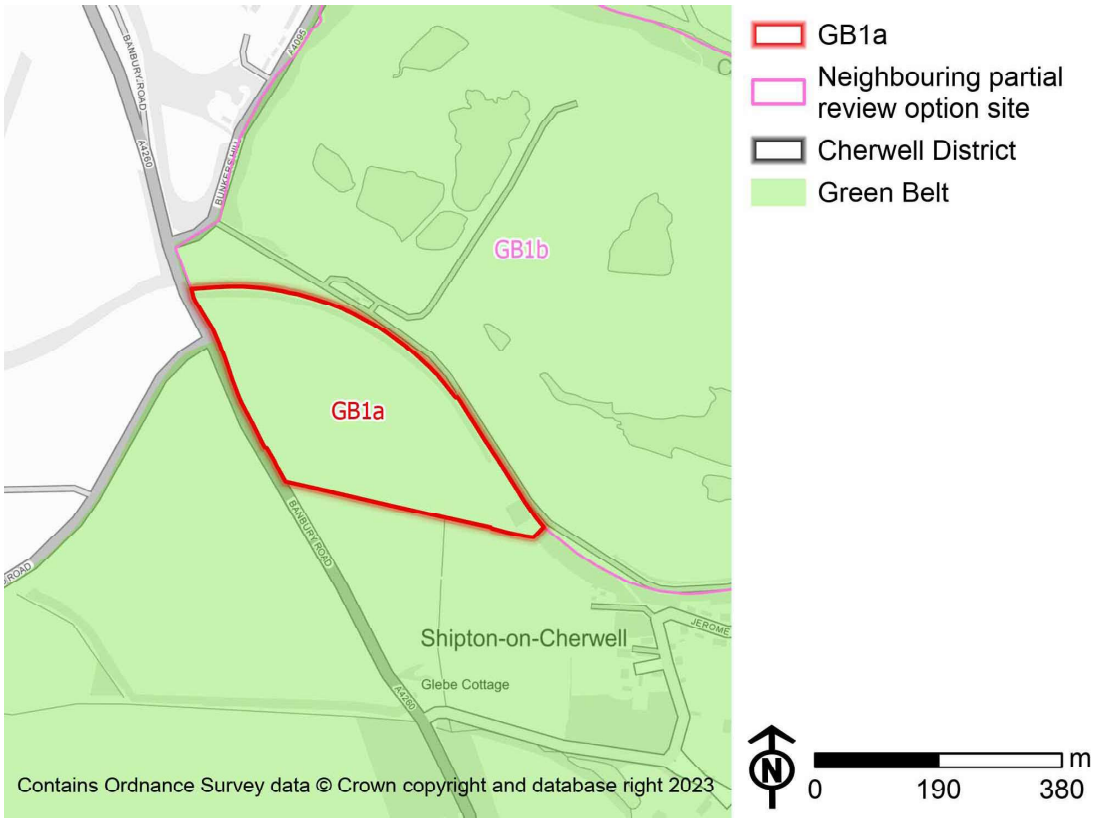
the affected area is open land which is distinct from the existing settlement. The railway line creates further separation from land to the east, and the small field to the west of the A4095 is strongly contained by trees and therefore isolated from any settlement, although it is also contained from open countryside by the A4260 Banbury Road. The field to the south of the former railway line is separated from Shipton-on-Cherwell by other agricultural land, but the ridge-top Banbury Road also gives it a degree of separation from further agricultural land to the west.

Parcels

The site is subdivided into a number of distinct areas:

- GB1a: the field to the south of the former railway line;
- GB1b: the quarried area, together with the small field to the west of the A4095, which by itself is too small to accommodate strategic development;
- GB1c: The fields to the east of the railway line.

Parcel GB1a – 10.53ha



Looking south-east from the A4260 Banbury Road, near the junction with the A4095 Upper Campsfield Road.

Parcel GB1a – 10.53ha

Contribution to Green Belt purposes

Purpose 1: Checking sprawl of Oxford

Development here would either relate to Shipton-on-Cherwell or be considered a new settlement. Therefore the parcel plays no role with respect to this purpose.

Purpose 2: Preventing merger of settlements

The south-western corner of the parcel lies on a ridge crest, giving strong visibility from the A4260 of the London-Oxford Airport buildings which lie at the edge of the inset settlement of Kidlington. The perceived gap between the parcel and Kidlington is therefore relatively small.

Purpose 3: Safeguarding countryside

This arable farmland forms part of a larger area of similar countryside and has a more exposed location than Shipton-on-Cherwell, which is set within a well-treed setting away from the main road.

Purpose 4: Preserving Oxford's setting and special character

The parcel forms part of the wider rural setting of Oxford, but is too distant to make a significant contribution to this purpose.

Purpose 5: Assisting urban regeneration by encouraging the recycling of derelict and other urban land

All parcels are considered to make an equal contribution to this purpose.

Potential alternative Green Belt boundary

The main road would form a strong outer boundary to the west, but there is only weak separation from the arable fields to the south. The raised, tree-covered former railway line makes a relatively strong boundary to the north and east.

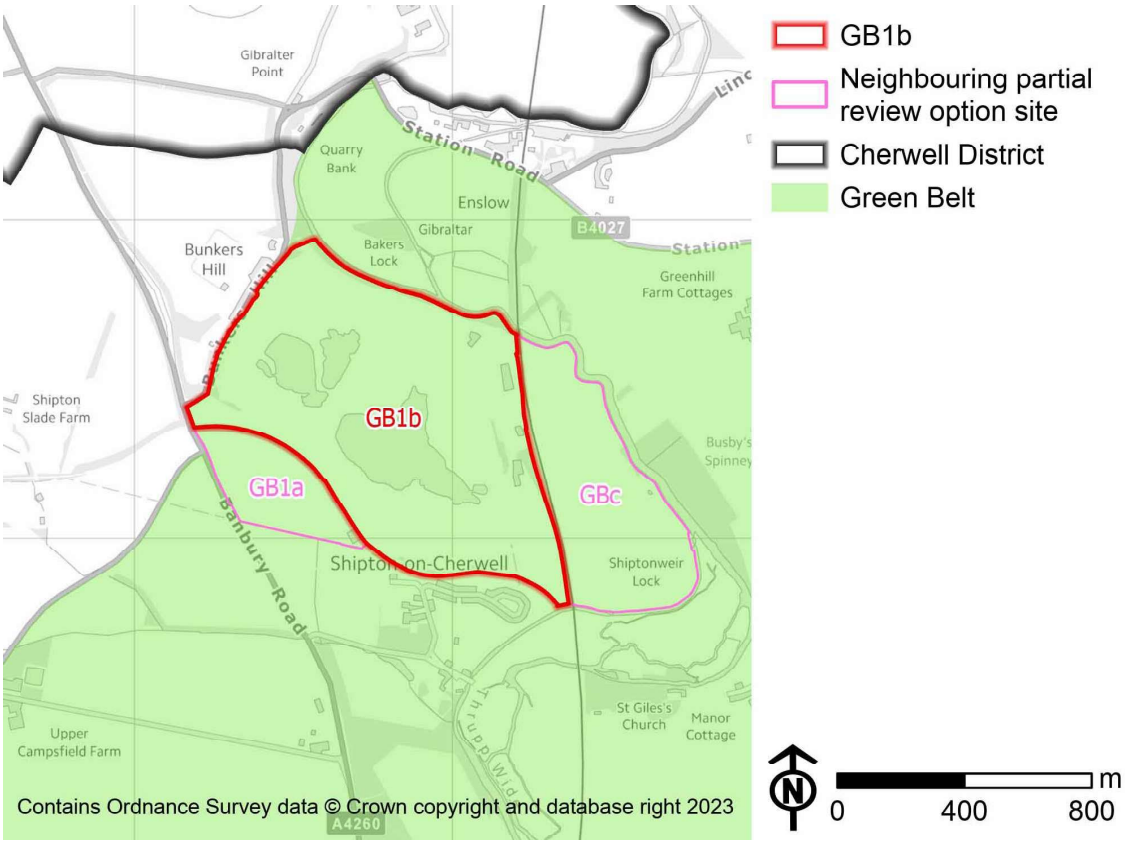
Harm to Green Belt resulting from release

Parcel GB1a - Scenario 1: Release of GB1a

The parcel relates more strongly to the countryside than to Shipton-on-Cherwell, a settlement which itself is too small and too contained to constitute an urbanising influence, and contributes to the retention of a settlement gap to the north of Kidlington. Any release of land here would weaken the Green Belt contribution of the adjacent fields to the south, which in turn would weaken the justification for retaining the Green Belt status of Shipton-on-Cherwell.

High

Parcel GB1b – 73.24ha



Looking west from public footpath to the south-east of Greenhill Farm. The parcel is the disturbed ground in the middle-distance, looked at across GB1c and foreground fields to the east of the River Cherwell.

Parcel GB1b – 73.24ha

Contribution to Green Belt purposes

Purpose 1: Checking sprawl of Oxford

Development here would relate to either Shipton-on-Cherwell or Bunkers Hill, or would constitute a new settlement. Therefore the parcel plays no role with respect to this purpose.

Purpose 2: Preventing merger of settlements

The parcel is close enough to Kidlington to contribute to its separation from any potential development to the north: although the parcel is itself very contained, the countryside in between is visually very open.

Purpose 3: Safeguarding countryside

The parcel is strongly contained in its immediate context, with strong boundary features, but its location within the Cherwell valley also means that it forms part of the wider valley landscape. Its Green Belt role in safeguarding countryside is limited by its location at the edge of the designated area, but the parcel as a whole constitutes a sizeable area of open countryside in its own right. The current condition of the parcel affects its landscape quality but as a temporary state (subject to restoration) this cannot be considered to affect its Green Belt contribution.

Purpose 4: Preserving Oxford's setting and special character

The area is part of the Cherwell valley, which has value as a rural approach to Oxford, but itis too remote from the City to make more than a minor contribution to its historic character.

Purpose 5: Assisting urban regeneration by encouraging the recycling of derelict and other urban land

All parcels are considered to make an equal contribution to this purpose.

Potential alternative Green Belt boundary

The parcel has strong boundary features: the railway line to the east and tree belts marking the courses of former railway lines to the north and south. The A4095 to the west is the current Green belt boundary. There are no defined permanent features within the parcel, which has been almost entirely worked for mineral extraction, but quarry restoration offers the potential to create new boundaries.

Harm to Green Belt resulting from release

Parcel GB1b - Scenario 1: Release of GB1b – 73.24ha

Release of the whole parcel, resulting in effect in creation of a new settlement, would introduce significant harm in terms of settlement separation north of Kidlington, and would affect a large enough area to constitute significant encroachment on countryside, despite being adjacent to the Green Belt boundary. Shipton-on-Cherwell could potentially remain in the Green Belt, with the former railway line marking a boundary between the two.

High

Parcel GB1b - Scenario 2: Release of a smaller part of GB1b, Moderate high associated with expansion of Shipton-on-Cherwell (see ratings map at end of site assessment) – 28.34ha

A smaller Green Belt release, contained by the railway line to the east, would result in less countryside encroachment, but would still have adverse impact on the settlement gap north of Kidlington. There are no features to define a new inset Green Belt edge to the north, but restoration works could remedy this. It is noted however that the SSSI status of much of the parcel could affect the potential to create a new boundary, with consequently greater harm to the Green Belt.

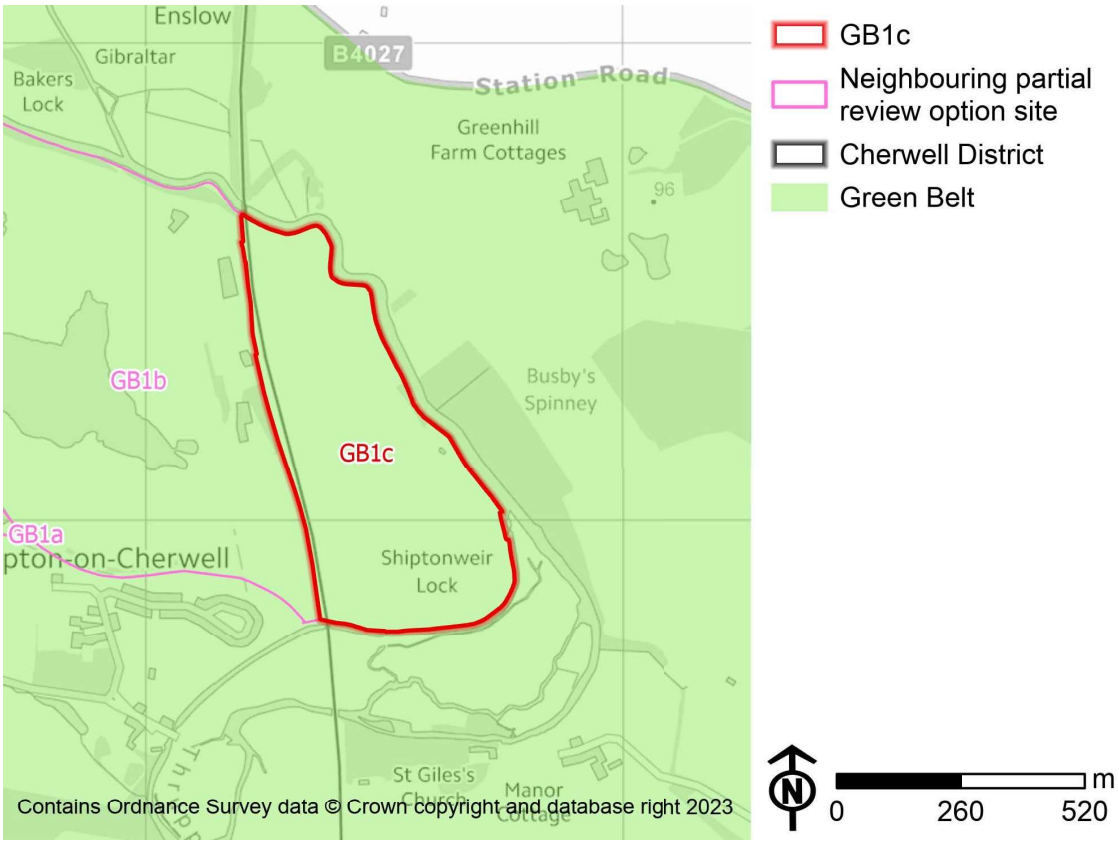
Moderate High

Parcel GB1b - Scenario 3: Release of a smaller part of GB1b, associated with alteration of the outer Green Belt boundary at Bunkers Hill (see ratings map at end of site assessment) – 10.67ha

Bunkers Hill's position outside of the Green Belt means that only a minor alteration of the Green Belt outer boundary would be needed to accommodate an enlargement of the settlement. It is assumed that it would be easier to make a case for minor adjustment to the outer boundary than for the creation of a new inset development. At present there is strong separation between Bunker's Hill and the parcel, and an absence of features to define a new Green Belt edge, but restoration works could remedy this. It is noted however that the SSSI status of much of the parcel could affect the potential to create a new boundary, with consequently greater harm to the Green Belt. Any new development would need to be limited enough in size to avoid significant harm to the settlement gap north of Kidlington.

Moderate

Parcel GB1c – 27.08ha



Looking north-west towards the railway line on the edge of Shipton-on-Cherwell, from the Oxford Canal Walk.

Parcel GB1C – 27.08ha

Contribution to Green Belt purposes

Purpose 1: Checking sprawl of Oxford

Development here would relate to Shipton-on-Cherwell, not Oxford. Therefore the parcel plays no role with respect to this purpose.

Purpose 2: Preventing merger of settlements

The parcel is close enough to Kidlington to contribute to its separation from any potential development to the north, but is too contained for that contribution to be strong. The River Cherwell's meanders strengthen separation.

Purpose 3: Safeguarding countryside

This is low-lying land, in part floodplain, which relates strongly to the wider Cherwell valley and is separated from Shipton-on-Cherwell by both the existing railway and former branch line.

Purpose 4: Preserving Oxford’s setting and special character

The area is part of the Cherwell valley, which has value as a rural approach to Oxford, but it is too remote from the City to make more than a minor contribution to its historic character.

Purpose 5: Assisting urban regeneration by encouraging the recycling of derelict and other urban land

All parcels are considered to make an equal contribution to this purpose.

Potential alternative Green Belt boundary

The river, railway and canal would form strong boundaries.

Harm to Green Belt resulting from release

Parcel GB1c - Scenario 1: Release of GB1c

The parcel is strongly contained by landscape High elements that separate it from Shipton-on-Cherwell but do not lessen its association with the wider countryside. Development here would constitute significant encroachment.

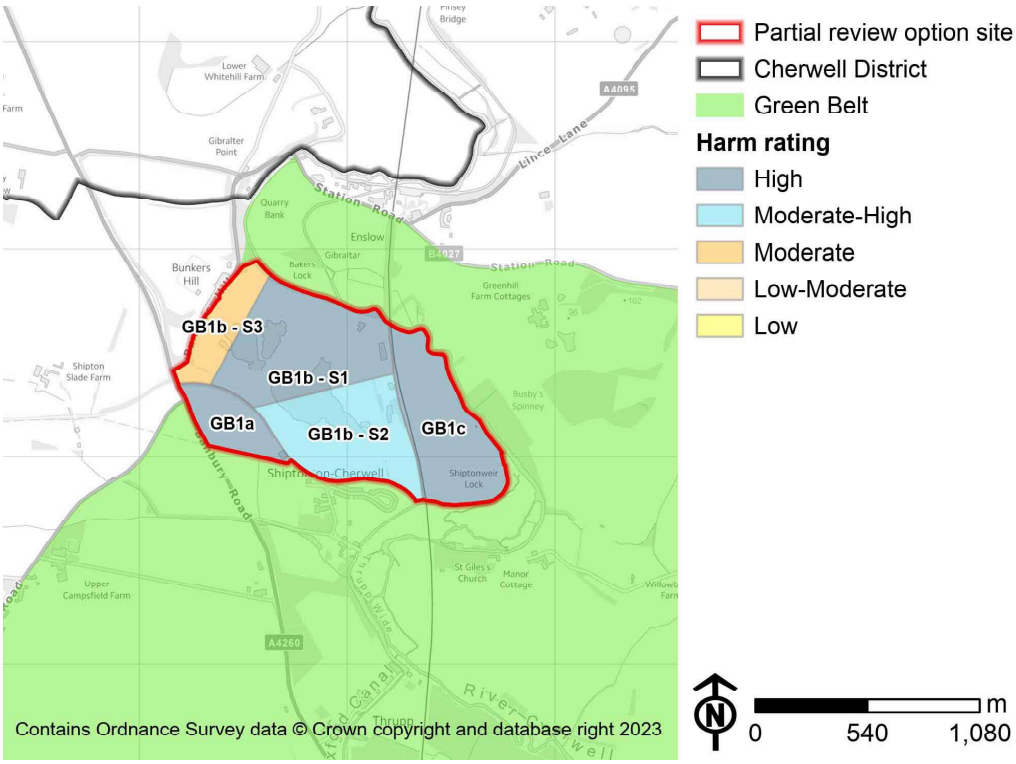
High

Harm to Green Belt resulting from release of site

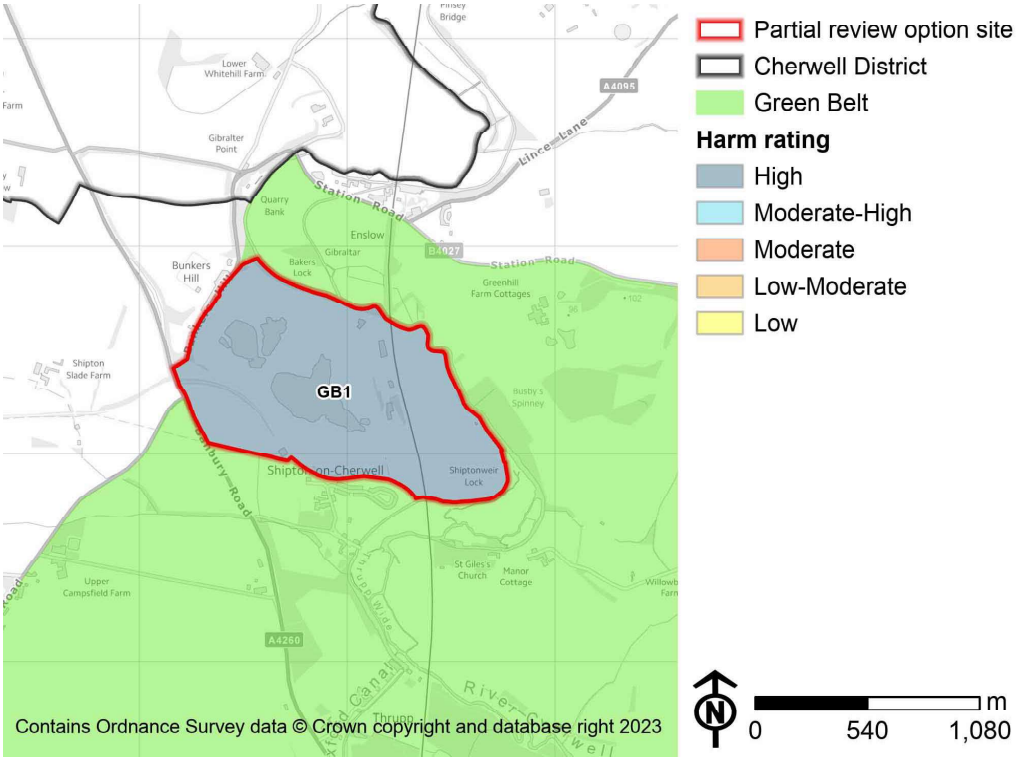
The site as a whole constitutes a large area of open High land which has little connection to the adjacent small settlements, and which as part of the Cherwell Valley can be considered to form part of a distinctive landscape that lacks significant urbanising influence until it reaches Oxford. Its role in protecting against encroachment on the wider countryside is limited by its peripheral location within the Green Belt, but development of the site as a whole would result in a sizeable settlement with a relatively small gap to Kidlington and strong connectivity via the A4260.

High

Harm to Green Belt resulting from partial release of site



Harm to Green Belt resulting from release of whole site



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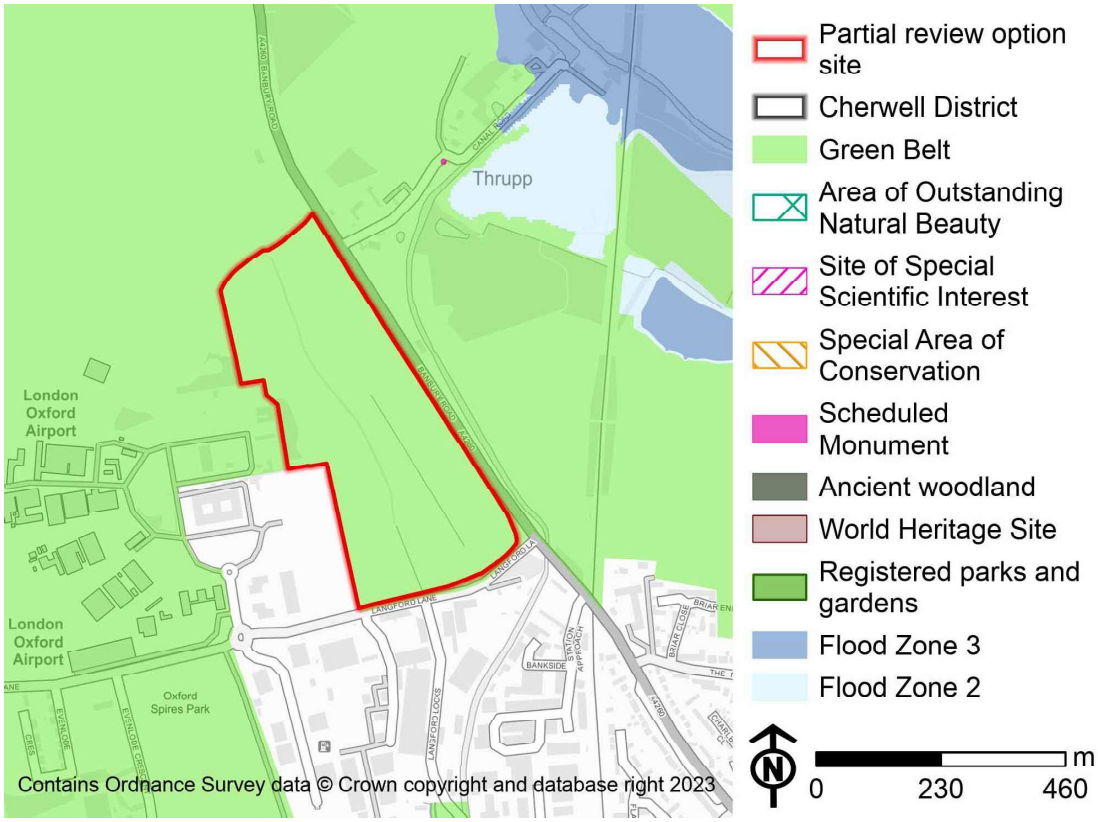
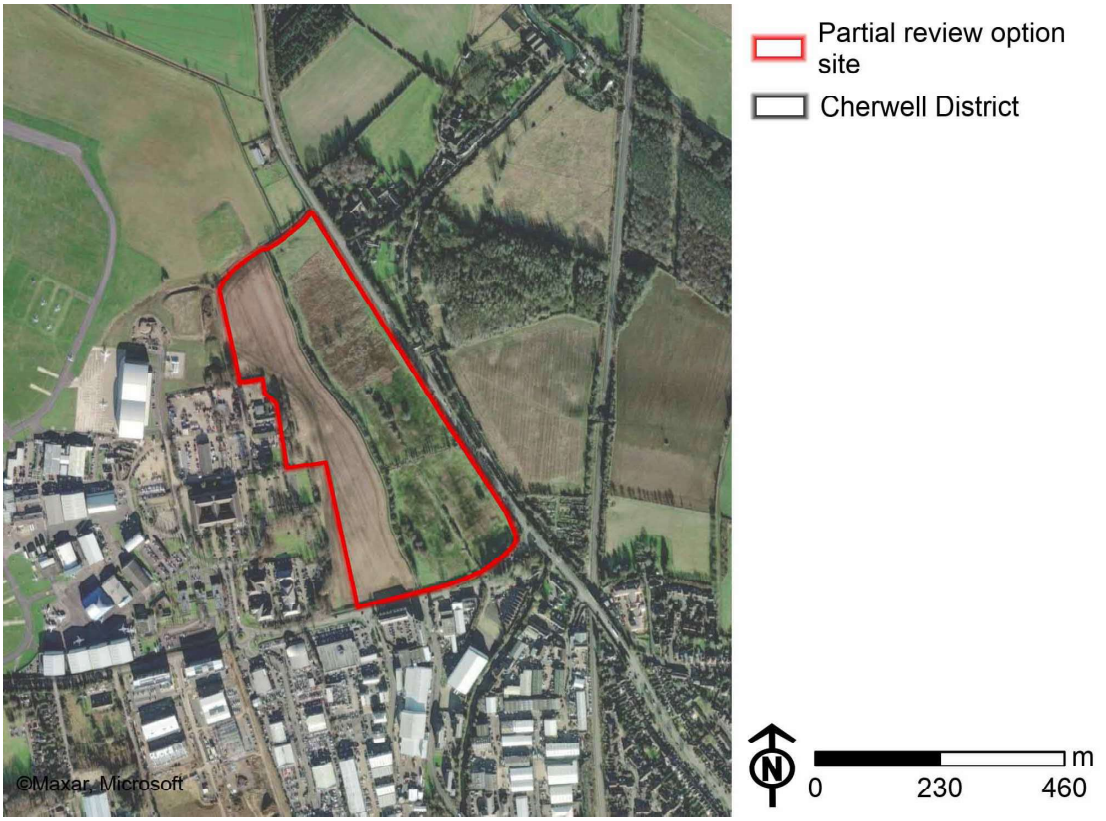
Site GB2 – London Oxford Airport





Site GB2 – London Oxford Airport – 18.44ha

Site description

3.9 The site consists of:

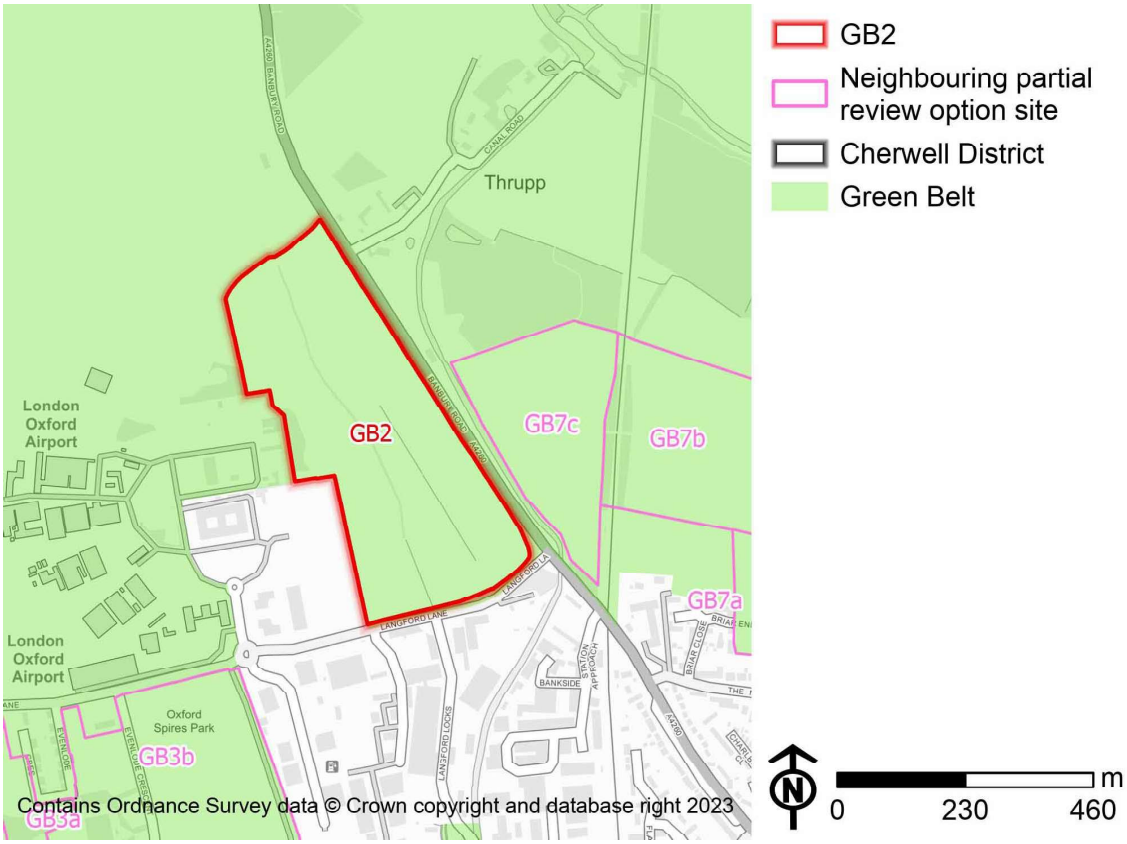
- Narrow fields sloping downhill from west to east. The western field contains arable farmland and the eastern fields contains grassland on more level ground. The parcel is contained by strong vegetated boundaries on its long edges, including Banbury Road to the east, but lower hedges to the north and south. The southern half of the western boundary adjoins the defined urban area, at Oxford Spires Business Park, and to the south along Langford Lane.

Relationship between site, settlement and countryside

3.10 To the south, adjacent offices on the Langford Business Park, Endeavour House and Church House, have an urbanising influence on the parcel. To the west, screening tree cover and the slope of the land create separation from the Oxford Spires Business Park, but the Green Belt boundary to the west is a straight line which does not follow any physical feature, running through the arable field rather than through the perimeter trees. To the east, the parcel is separated from surrounding countryside by Banbury Road. To the north there is no separation between the parcel and further arable farmland, but a fairly sharp slope in the north-western corner creates distinction between the parcel and a smaller area of arable farmland leading up to the edge of London Oxford Airport.

Parcels

The area is assessed as one parcel of land - Parcel GB2



Looking south from public footpath 265. The building visible in the background is Endeavour House, across Langford Lane.

Parcel GB2 – 18.44ha

Contribution to Green Belt purposes

Purpose 1: Checking sprawl of Oxford

3.11 Development here would relate to the expansion of Kidlington, not Oxford. Therefore the parcel plays no role with respect to this purpose.

Purpose 2: Preventing merger of settlements

3.12 This strip of land extends out north from Kidlington but only the northern end of the parcel lies closer to Woodstock than existing airfield development. The extent of containment around the parcel, by vegetation, landform and

Banbury Road , means that development would have a negligible impact on the perception of the size of the gap between settlements.

Purpose 3: Safeguarding countryside

3.13 This area is relatively contained. In landform terms it is part of the Cherwell Valley, but the A4260 and intervening tree cover separate it from the broader valley area to the east. However it is entirely undeveloped and also is distinctly separated from Oxford Spires Business Park, which increases the extent to which development to the north of Langford Lane in this location would appear isolated and therefore encroach on the countryside. The northern end of the parcel has a stronger relationship with the wider countryside and is less influenced by urban development to the south.

Purpose 4: Preserving Oxford's setting and special character

3.14 The area has insufficient relationship with Oxford to be considered to contribute to its historic setting or special character.

Purpose 5: Assisting urban regeneration by encouraging the recycling of derelict and other urban land

3.15 All parcels are considered to make an equal contribution to this purpose.

Potential alternative Green Belt boundary

3.16 The existing straight-edged Green Belt boundary lacks clear definition. Banbury Road along the eastern edge of the parcel is a distinct boundary feature, but a new boundary could be drawn to follow the treed edge of the Oxford Spires Business Park, with additional planting to strengthen it.

Harm to Green Belt resulting from release

Parcel GB2 – Scenario 1: Release of GB2

3.17 The parcel is distinctly separate from the existing inset area of the Oxford Spires Business Park, and makes a contribution to safeguarding the countryside from encroachment, increasingly so towards the northern end.

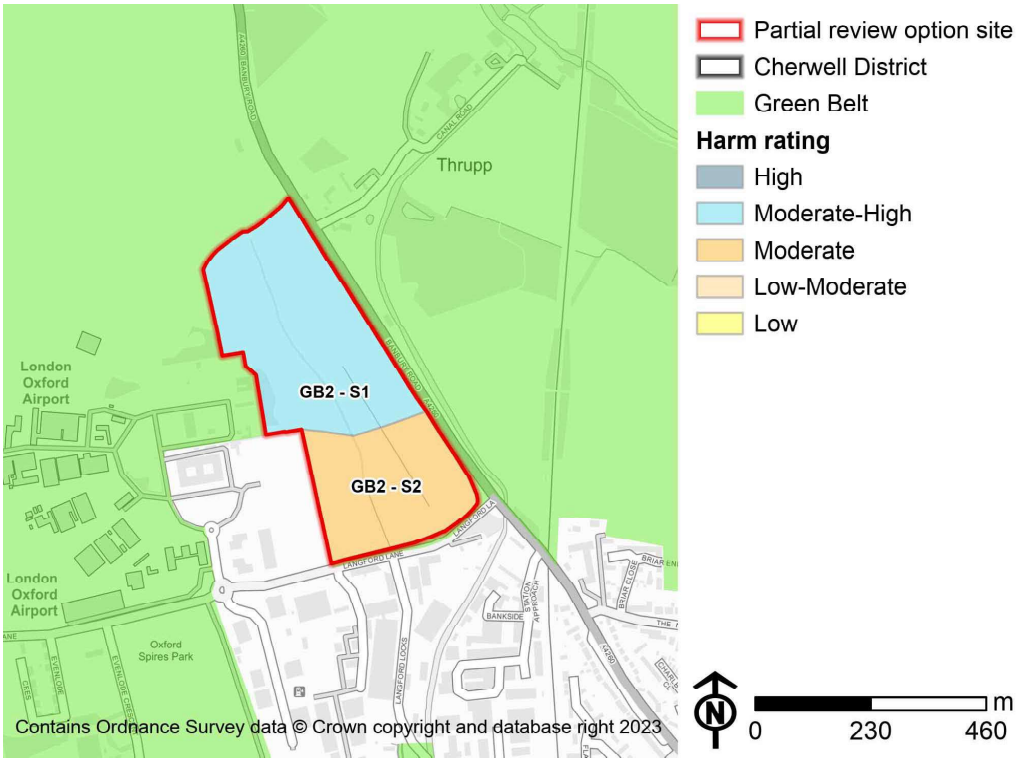
Moderate High

Parcel GB2 – Scenario 2: Release of GB2 as far north as Green Belt edge to west (see ratings map at end of site assessment) – 6.98ha

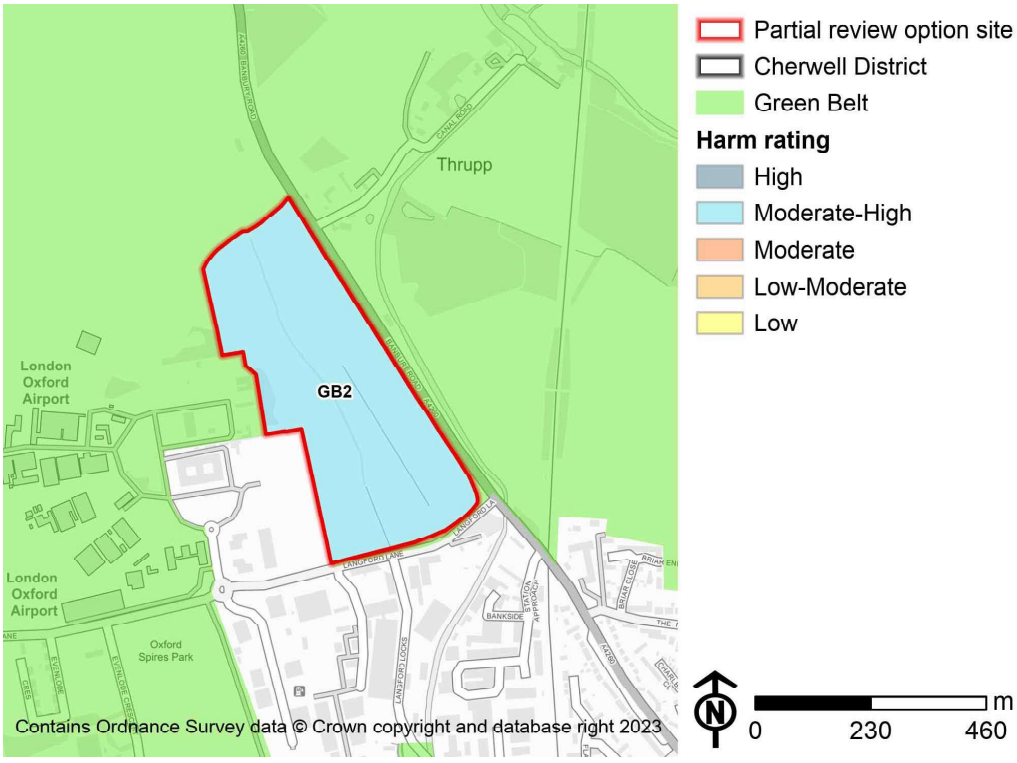
3.18 Encroachment on countryside could be reduced if a new boundary was created across the narrower mid-section of the parcel, to align with either the existing boundary to the north of The Spires Business Park, or a new boundary to the north of Kidlington Depot were that land to be released, leaving the northern part of the parcel within the Green Belt. Tree planting could help to define this boundary.

Moderate

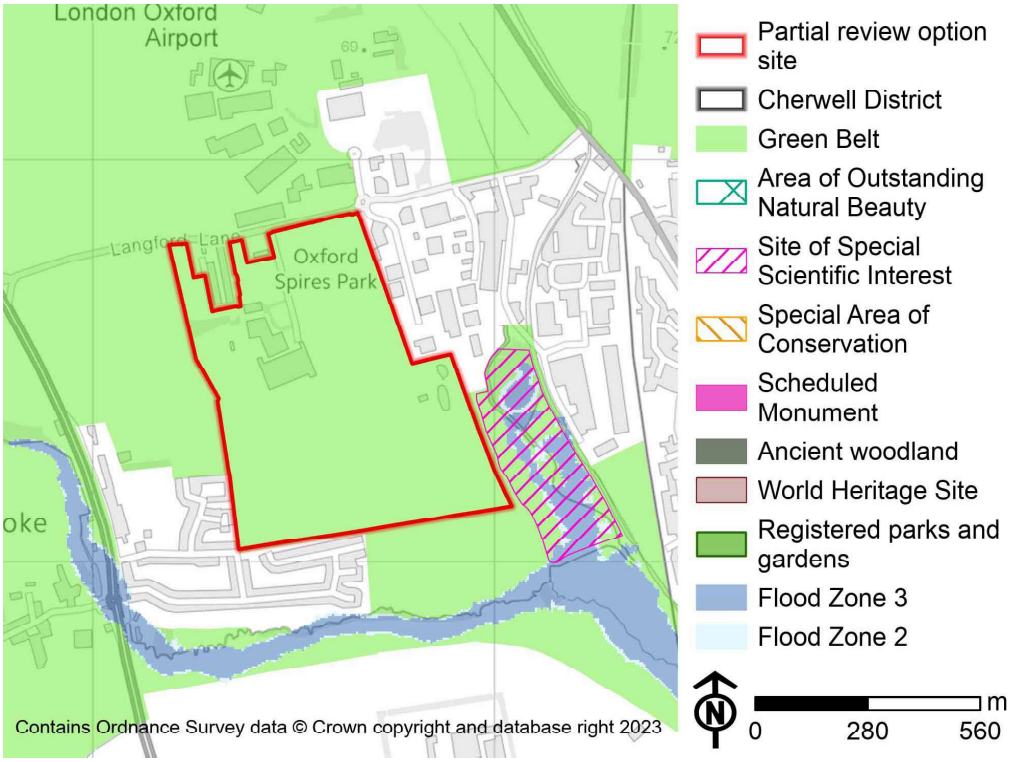
Harm to Green Belt resulting from partial release of site

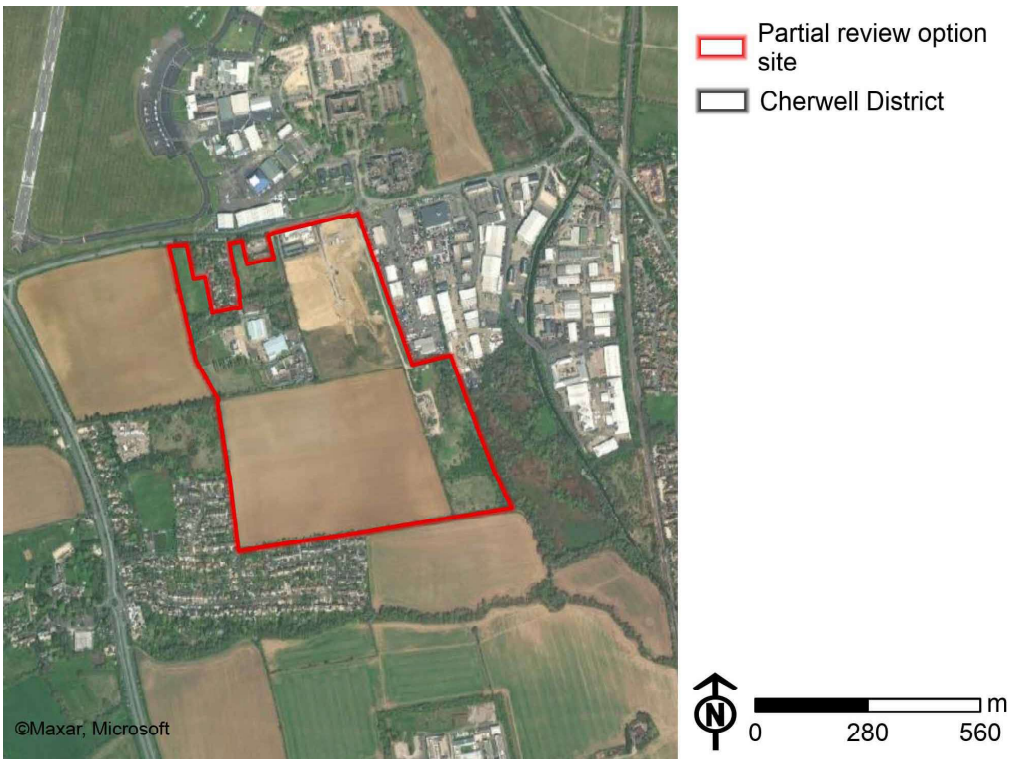


Harm to Green Belt resulting from release of whole site



Site GB3 – North of Begbroke Lane, South of Langford Lane





Site GB3 – North of Begbroke Lane, South of Langford Lane – 41.77ha

Site description

3.19 The site consists of:

- A fairly flat, rectilinear, arable field with hedgerow and tree boundaries which vary in strength. The hedged Begbroke Lane byway forms the southern boundary. The south-western portion of the area adjoins the inset settlement edge of Begbroke, whilst the north-eastern corner of the site is approximately 30m from the urban edge of Kidlington (at Oxford Motor Park).
- Some small pastoral fields and large buildings south of Langford Lane as an extension of the neighbouring industrial estate, including a hotel, Campsfield House Immigration Detention Centre and National Tactical Response Group training centre.
- A scrap area and rough grassland and shrubland to the east.

3.20 It is noted that the southeast of the site faces a SSSI designated for its biological interest. The potential impacts of this on the viability of built development is not taken into consideration in the assessment.

Relationship between site settlement and countryside

3.21 The south west corner of the site abuts the inset settlement edge of Begbroke. Development at London Oxford Airport to the north is separated from the site by Langford Lane. The A44 and Langford Lane create a physical distinction between the site and the wider countryside to the west and north, but there is intervisibility with both. An inset industrial estate development at Oxford Motor Park lies to the north-east and washed-over buildings of the Campsfield

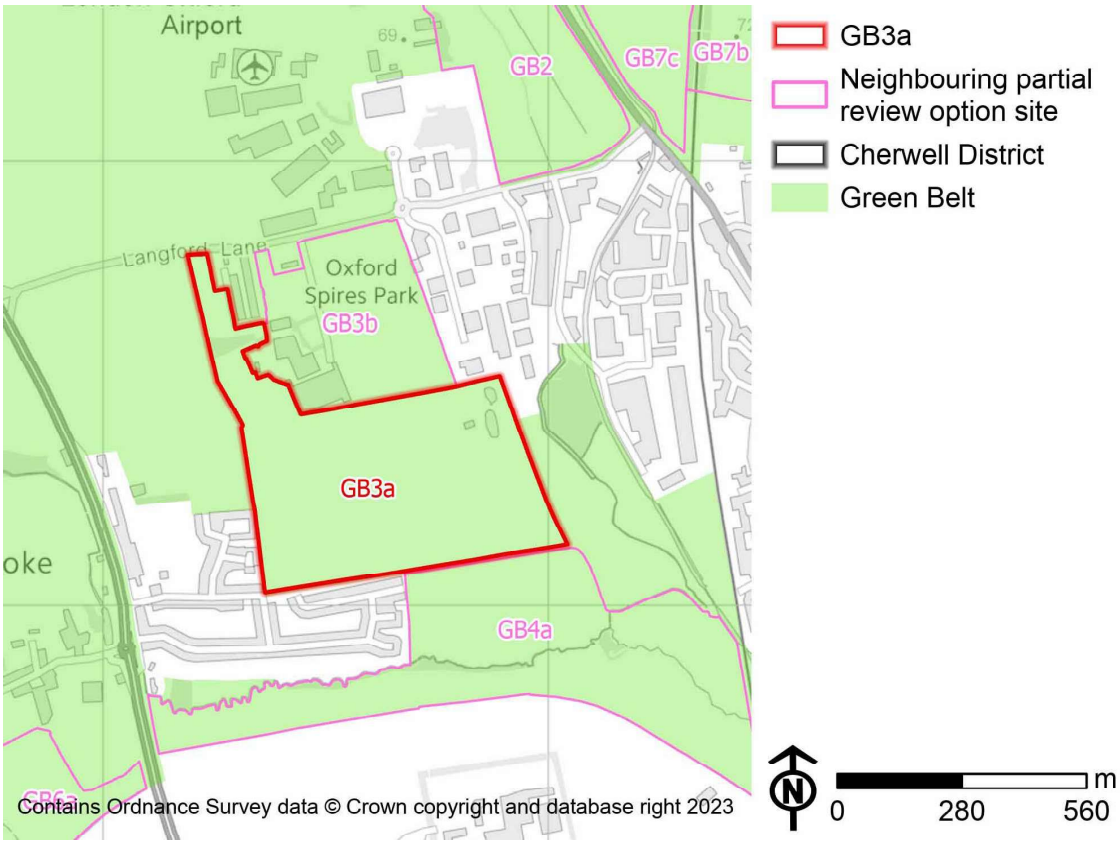
House Immigration Detention Centre and National Tactical Response Group training centre lie within the north of the parcel. The land in between the washed over Detention Centre and the inset industrial estate has been partially developed by a hotel and is being developed further as part of the Oxford Technology Park in the north eastern corner of the site. There is only weak separation between inset development to the northeast and the site and the washed over development. The east of the parcel lies in close proximity to Oxford Canal. The canal and Rowel Brook to the South East represent the strongest link to the wider countryside is to the south-east, where mostly arable farmland forms a narrow continuous belt down to the edge of Oxford.

Parcels

3.22 The site is subdivided into two areas:

- GB3a: the central rectangular agricultural field adjoining Begbroke and the Detention Centre, land to the south of Langford Lane and to the west of the Detention Centre to the north, the open fields to the west of the Detention Centre and a field containing some largely derelict buildings and rough grassland and scrubland in the southeast.
- GB3b: land to the south of Langford Lane containing consented Oxford Technology Park and Immigration Detention Centre;

Parcel GB3a- 28ha



Looking north-west from Begbroke Lane byway over open parcel.

Parcel GB3a – 28ha

Contribution to Green Belt purposes

Purpose 1: Checking sprawl of Oxford

3.23 Development here would relate to the expansion of either Begbroke or Kidlington, not Oxford. Therefore the parcel plays no role with respect to this purpose.

Purpose 2: Preventing merger of settlements

3.24 Development in this parcel could result in coalescence between the inset industrial estate at the north-western edge of Kidlington and the inset village of Begbroke, and would also result in greater isolation of land to the west, east and south, which have limited connectivity to the wider Green Belt given the presence of Langford Lane and the A44 and the railway line.

Purpose 3: Safeguarding countryside

3.25 The extent of built development around this parcel limits its role in preventing encroachment, and development of Oxford Technology Park limits this impact further, but the parcel is nonetheless undeveloped and open in its own right, with a rural land use.

Purpose 4: Preserving Oxford's setting and special character

3.26 The area has insufficient relationship with Oxford to be considered to contribute to its historic setting or special character.

Purpose 5: Assisting urban regeneration by encouraging the recycling of derelict and other urban land

3.27 All parcels are considered to make an equal contribution to this purpose.

Potential alternative Green Belt boundary

3.28 The parcel edges are no weaker than existing boundaries. Extension of the area to include the arable field to the south would provide a stronger southern edge, making Rowel Brook a consistent Green Belt boundary with Begbroke, but this would leave only a narrow Green Belt gap between Begbroke and Kidlington.

Harm to Green Belt resulting from release

Parcel GB3a – Scenario 1: Release of GB3a

3.29 Release of this area from the Green Belt would result in the coalescence of two settlements and would weaken the remaining strips of Green Belt around it, within the area contained by the A44, Begbroke, Kidlington and Langford Lane. The impact on the countryside within the wider Green Belt would be limited, but despite some areas of development, the land in the parcel constitutes a sizeable area of rural land in its own right, in which additional development would represent encroachment on the countryside.

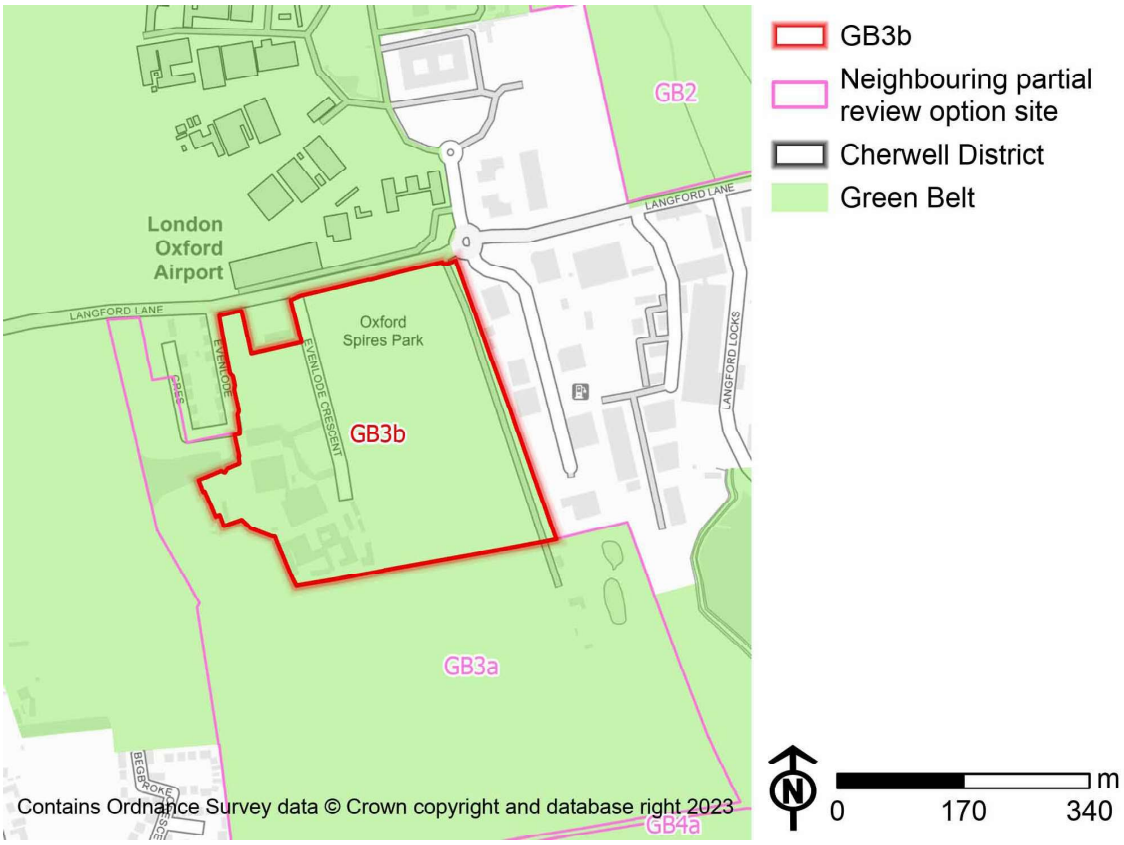
High

Parcel GB3a - Scenario 2: Release of south-western corner of GB3a (see ratings map below) – 5.96ha

3.30 A limited release of land adjacent to the edges of Begbroke but retaining an open corridor to the north would cause less harm to adjacent Green Belt land.

Moderate

Parcel GB3b – 13.78ha



Looking north across the adjacent parcel GB3a towards the Immigration Detention Centre within GB3b

Parcel GB3b – 13.78ha

Purpose 1: Checking sprawl of Oxford

3.31 Development here would either relate to the expansion of Begbroke or Kidlington, not Oxford. Therefore the parcel plays no role with respect to this purpose.

Purpose 2: Preventing merger of settlements

3.32 The parcel contains Oxford Technology Park and, which is under construction, and an Immigration Detention Centre. Therefore, the release of the parcel would not contribute to further coalescence between the settlements of Kidlington and Begbroke given the extent to which it is already and will be developed.

Purpose 3: Safeguarding countryside

3.33 The extent to which this parcel is developed by the consented Oxford Technology Park and an Immigration Detention Centre limits its role in preventing encroachment.

Purpose 4: Preserving Oxford's setting and special character

3.34 The area has insufficient relationship with Oxford to be considered to contribute to its historic setting or special character.

Purpose 5: Assisting urban regeneration by encouraging the recycling of derelict and other urban land

3.35 All parcels are considered to make an equal contribution to this purpose.

Potential alternative Green Belt boundary

Linear tree cover provides some degree of separation between land in the parcel and adjacent Green Belt to the west, but there is only weak separation from agricultural land to the south where only a small hedgerow forms the boundary.

Harm to Green Belt resulting from release

Parcel GB3b – Scenario 1: Release of GB3b

3.36 Oxford Technology Park is currently under construction within the parcel and an Immigration Detention Centre occupies the majority of the remainder of the parcel. Langford Lane and Oxford International Airport to the north, the inset industrial estate to the east and residential development along Evenlode Crescent to the west limit impacts in these directions. Therefore, a release of land here would cause low harm to the Green Belt purposes.

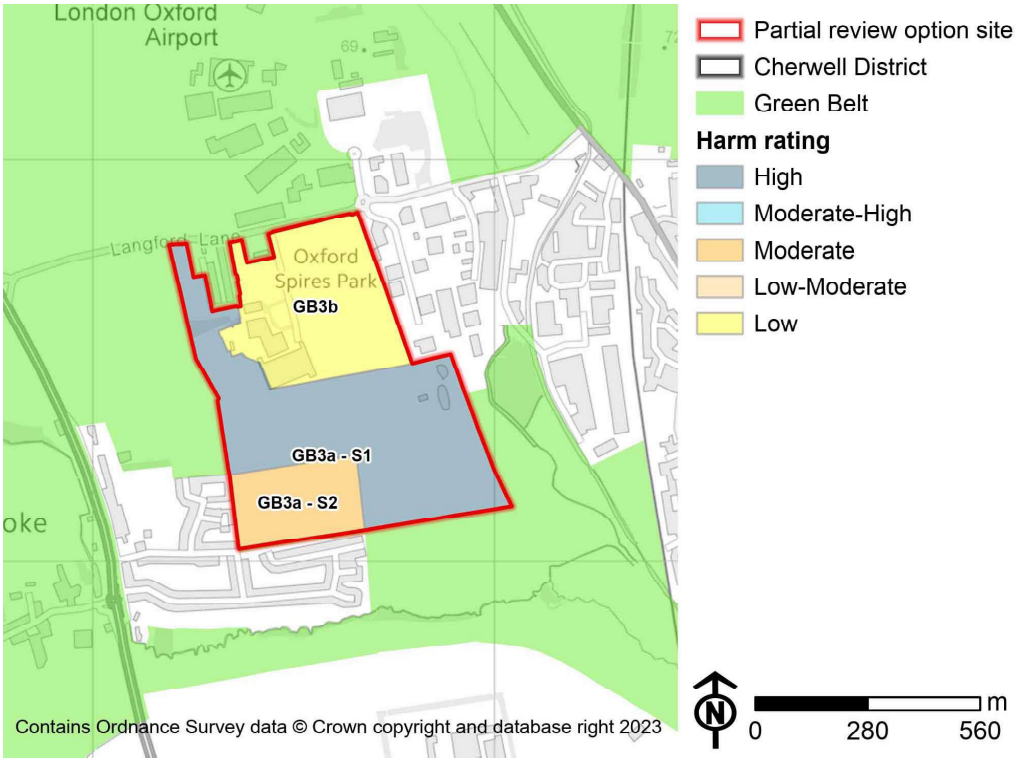
Low

Harm to Green Belt resulting from release of site in its entirety

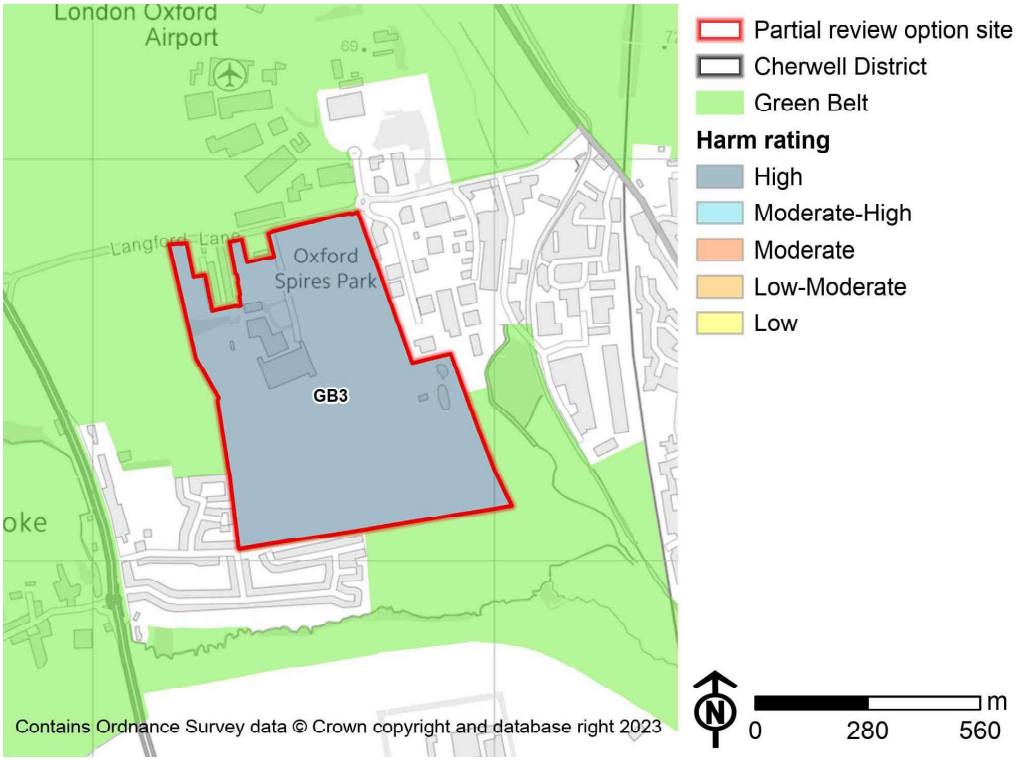
3.37 Release of this area from the Green Belt would result in the coalescence of Kidlington and Begbroke to the south.

High

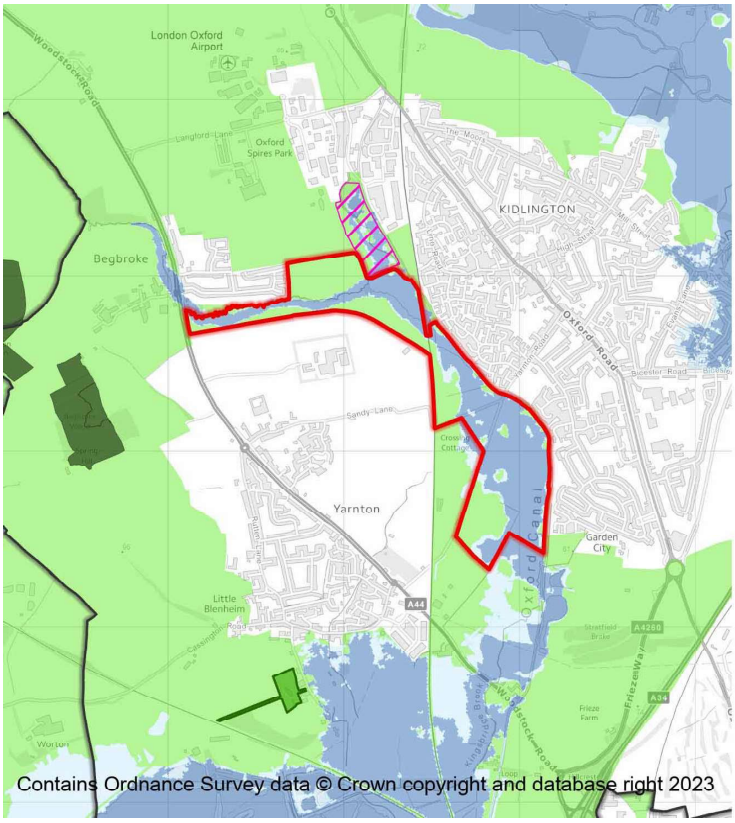
Harm to Green Belt resulting from partial release of site



Harm to Green Belt resulting from release of the whole site



Site GB4 – East of A44 Science Quarter



Partial review option site
Cherwell District
Green Belt
Area of Outstanding Natural Beauty
Site of Special Scientific Interest
Special Area of Conservation
Scheduled Monument
Ancient woodland
World Heritage Site
Registered parks and gardens
Flood Zone 3
Flood Zone 2

N
0 700 1,400 m

Partial review option site
Cherwell District

N
0 700 1,400 m

Site GB4 – East of A44 Science Quarter – 78.11ha

Site description

3.38 The site consists of:

- The majority of the remaining open farmland between Kidlington, Yarnton and Begbroke in the flood plain of Rowel Brook. The majority of the site lies adjacent to Kidlington and the Oxford Canal but there is some land in the northwest that lies adjacent to Begbroke.
- The railway line passes through the centre of the site from north to the south.
- Begbroke Science Park and allocated northern expansion of Yarton lies directly to the west and south of the site.

Relationship between site, settlement and countryside

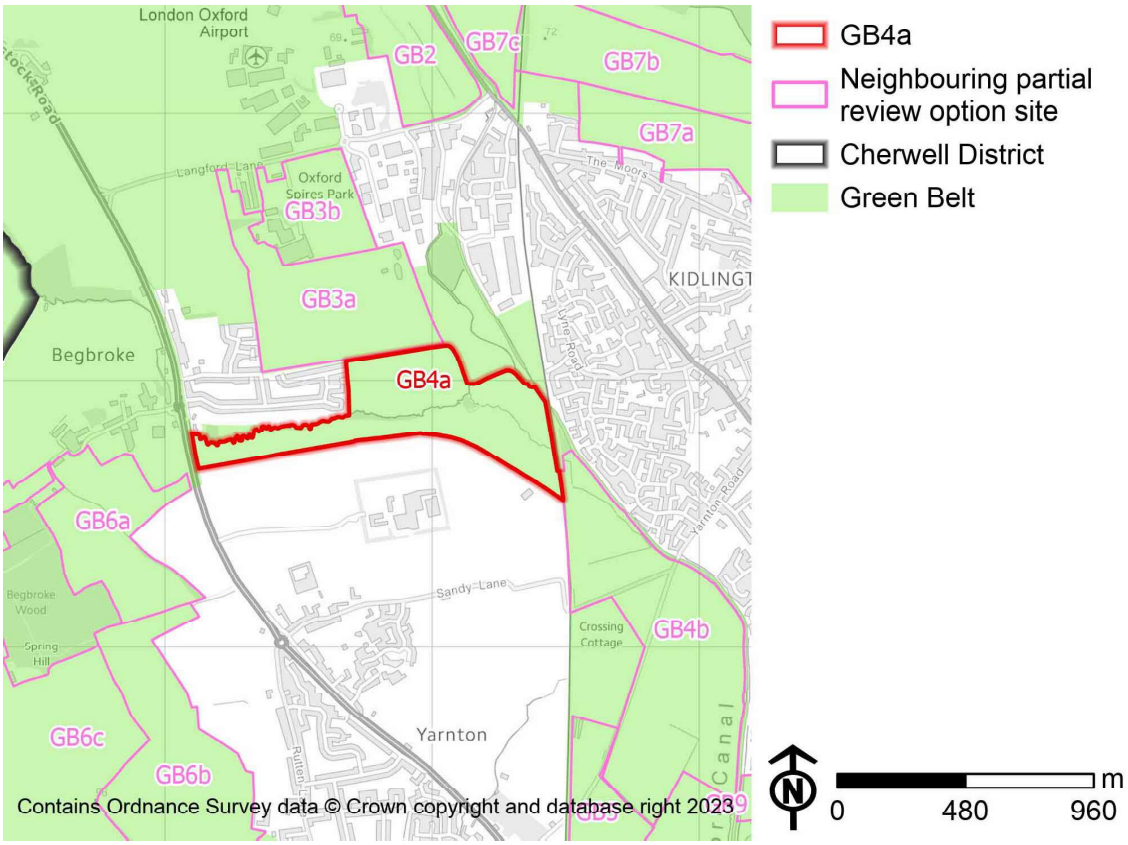
3.39 The site includes the majority of the remaining Green Belt land within the settlement gaps between the inset urban areas of Kidlington, Begbroke and Yarnton. There are relatively weak boundaries with existing and allocated urban areas in the areas of the site west of the railway line. The railway line and mature hedgerows along Kidlington Lane represent stronger boundaries to the site east of the railway line. Kidlington is strongly defined by the Oxford Canal, which forms the western edge of the residential settlement area. The southern side of Begbroke is edged by the well-treed Rowel Brook, although the site extends beyond the brook up to the new northern edge of Yarnton and the Begbroke Science Park.

Parcels

3.40 The site is subdivided into two distinct areas:

- GB4a: agricultural land to the north and south of Rowel Brook;
- GB4b: land to the east of the railway line;

Parcel GB4a – 29.63ha



Looking west from Begbroke Lane right of way towards the north-eastern edge of Begbroke.

Parcel GB4a – 29.63ha

Contribution to Green Belt purposes

Purpose 1: Checking sprawl of Oxford

3.41 Development here would relate to the expansion of Begbroke, Yarnton or Kidlington, not Oxford. Therefore the parcel plays no role with respect to this purpose.

Purpose 2: Preventing merger of settlements

3.42 The parcel occupies the majority of the remaining gap between Begbroke and Kidlington west of the railway line and the entirety of the remaining narrow gap between the allocated northern extension to Yarnton (including Begbroke Science Park) and Begbroke. The canal and railway, and associated

vegetation, form strong barriers which retain a sense of separation between the parcel and Kidlington by limiting views and direct movement between them. However, any open land between the two would be lost. The strong visual boundary of the treelined Rowel Brook would preserve some distinction between development in this parcel and Begbroke. However, this would not be perceived as a settlement gap from the adjacent A44.

Purpose 3: Safeguarding countryside

3.43 The north-easternmost of the fields has strong separation from both Begbroke and Kidlington and lacks urbanising influences, although there is also a degree of separation from the wider countryside, with Rushy Meadows SSSI forming a strong boundary to the north and Rowel Brook a relatively strong edge to the south. The northwesternmost field has a stronger relationship with Begbroke, but also retains a relationship with open land to the north and south. Land to the south of Rowel Brook is contain by allocated land to the south but still forms part of a tree-framed arable landscape which extends towards Kidlington to the east. The parcel therefore provides some protection against encroachment.

Purpose 4: Preserving Oxford's setting and special character

3.44 The parcel adjoins the Oxford Canal, a conservation area which provides an important historic route into the City. Urban development lines the eastern side of the canal in this area, and the presence of built development to both sides of the canal a short distance to the north limits the role that open countryside plays in relation to Oxford's setting in this area, but there is nonetheless some contribution to this purpose.

Purpose 5: Assisting urban regeneration by encouraging the recycling of derelict and other urban land

3.45 All parcels are considered to make an equal contribution to this purpose.

Potential alternative Green Belt boundary

3.46 Begbroke Lane track to the north would form a consistent boundary with Begbroke. The small block of trees at the junction of the two fields north of Rowel Brook could form an alternative boundary that would be stronger than the existing Begbroke inset settlement boundary but weaker than the canal and railway line to the east. There are currently no boundary features between the land south of Rowel Brook and the adjacent land allocated north of Yarnton and Begbroke Science Park.

Harm to Green Belt resulting from release

Parcel GB4a – Scenario 1: Release of GB4a

3.47 Any development representing residential expansion of Kidlington would breach the relatively regular boundaries of the railway line and canal along the majority of the western urban edge of Kidlington. Loss of settlement separation between Kidlington and Begbroke would weaken the remaining gap between Kidlington and Yarnton to the south. Overall, release of parcel GB4a would constitute significant harm to Green Belt purposes.

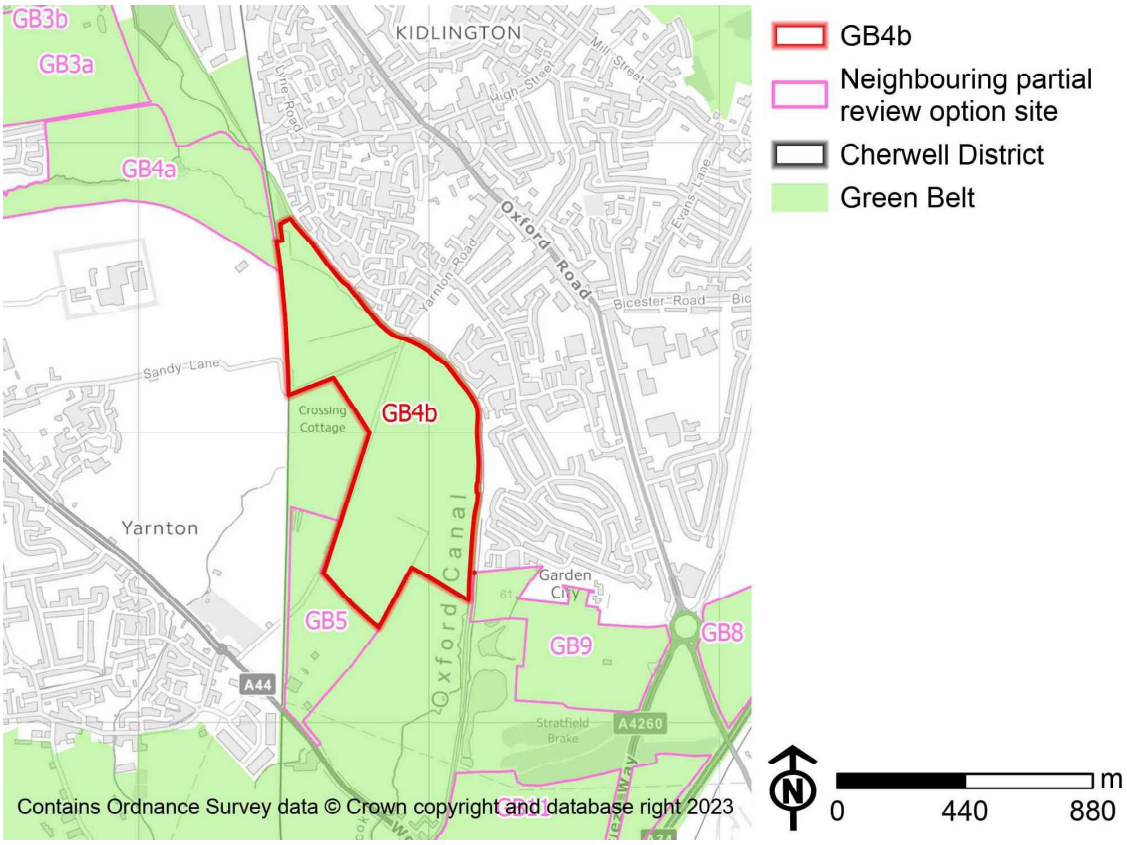
High

Parcel GB4a – Scenario 2: Expansion of Yarnton to treelined Rowel Brook and Begbroke to a new boundary within GB4a, covering no more than 50% of the westernmost field, to preserve a rural north-south link (see ratings map at end of the site assessment) – 12.69ha

3.48 Limited eastward expansion of Begbroke to the north of Rowel Brook would have less impact on the Green Belt, but there are no alternative existing boundary features other than the boundary between the two fields. Expansion of the settlement form this far from its core area around the A44 would still represent significant encroachment on countryside which links north and south to the wider Green Belt, and a reduction of the narrow settlement gap. Similarly, a limited expansion of the allocated northern expansion of Yarnton and the Begbroke Science Park up to the treelined southern bank of Rowel Brook and the exiting eastern edge of Begbroke would result in the loss of what remains of the gap between Begbroke and Yarnton; however, the remaining gap between Begbroke and Yarnton is already very narrow and unlikely to be perceived as a settlement gap from the adjacent A44 limiting the significance of this remaining loss.

Moderate High

Parcel GB4b – 48.48ha



Looking north-west from Sandy Lane, close to the canal bridge.

Parcel GB4b – 48.48ha

Contribution to Green Belt purposes

Purpose 1: Checking sprawl of Oxford

3.49 Development here would relate to the expansion of Kidlington, not Oxford. Therefore, the parcel plays no role with respect to this purpose.

Purpose 2: Preventing merger of settlements

3.50 Any development representing residential expansion of Kidlington across the canal would represent a significant change in the settlement's extents, intruding into Green Belt countryside. Given that the majority of the open land to the west of the railway line has been released, the parcel represents a particularly significant proportion of the gap between Kidlington and Yarnton. Although the railway line and canal would still provide some separation, loss of remaining land in the gap would result in almost complete coalescence of the settlements.

Purpose 3: Safeguarding countryside

3.51 This is open, arable farmland, with the urban edge of Kidlington strongly contained by the Oxford Canal. Connectivity with the wider countryside is limited by the railway line to the west, and by land uses that affect countryside character – a solar farm and a haulage and plant hire contractor's yard (the latter assessed as GB5) – to the south; however the parcel represents a sizeable area of countryside in its own right.

Purpose 4: Preserving Oxford's setting and special character

3.52 Areas which contribute to the setting of the Oxford Canal are considered to make some contribution to Oxford's setting and special character. The parcel abuts a long stretch of the canal which, although adjacent to the urban edge of Kidlington, marks a clear distinction between settlement and countryside which makes some contribution to the historic setting of Oxford, albeit limited by distance.

Purpose 5: Assisting urban regeneration by encouraging the recycling of derelict and other urban land

3.53 All parcels are considered to make an equal contribution to this purpose.

Potential alternative Green Belt boundary

3.54 The railway line is a strong boundary feature at the northern end of the parcel, but would nonetheless represent a less consistent boundary than the canal. The well treed Green Lane is a moderately strong boundary to the south-west, but the railway line beyond it would form a stronger edge. Field boundaries to the south would make a significantly weaker Green Belt edge.

Harm to Green Belt resulting from release

Parcel GB4b – Scenario 1: Release of GB4b

3.55 The parcel is critical to the maintenance of separation between Kidlington and Yarnton, and despite the proximity of urban edges retains a relatively strong countryside character.

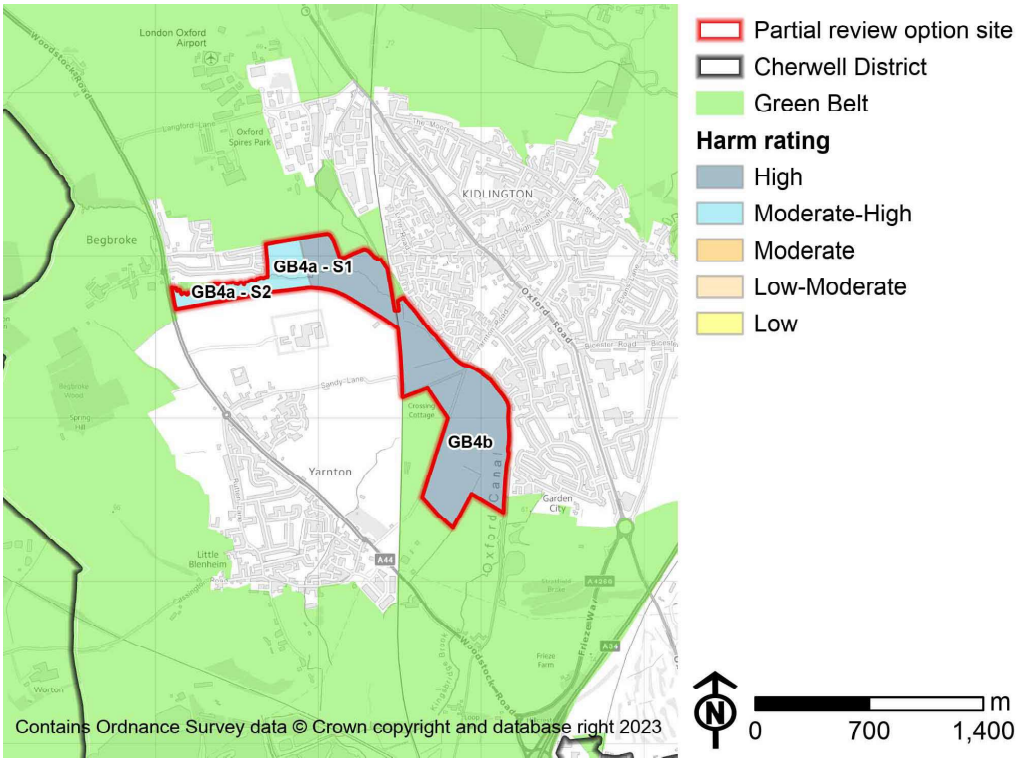
High

Harm to Green Belt resulting from release of site in its entirety

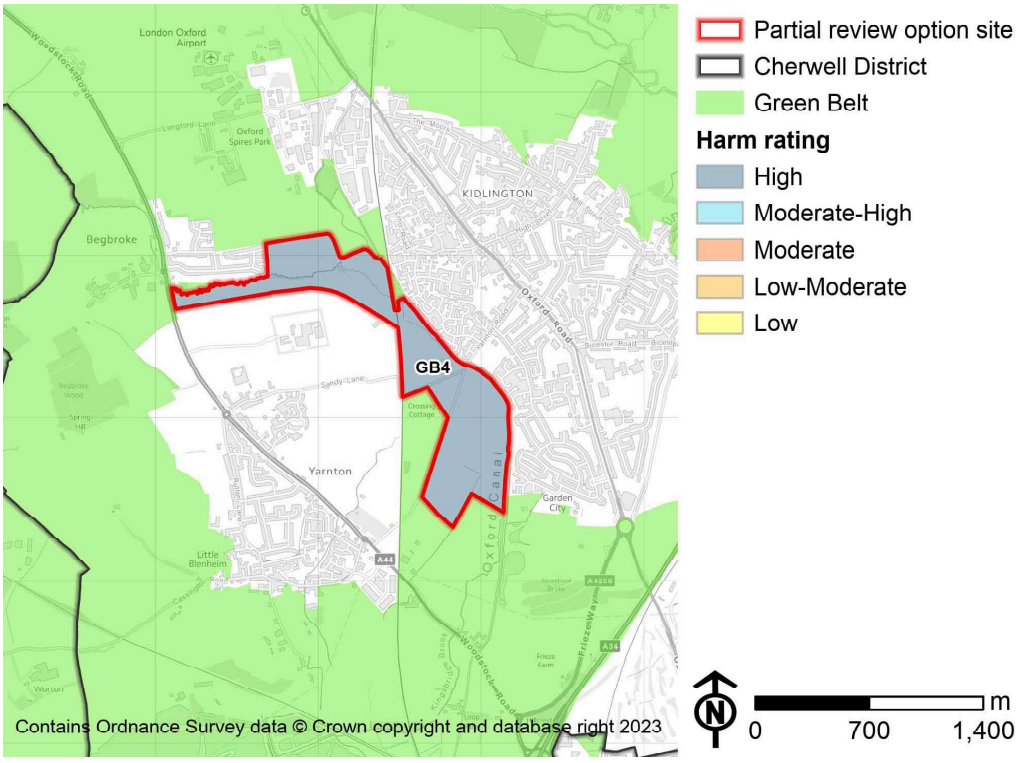
3.56 The railway line maintains separation between Kidlington and Yarnton, and Kidlington and Begbroke. The release of majority of land to the west of the railway line for development increases the role of the remaining land within the site in maintaining separation between settlements. Despite the proximity of urban edges, the area retains a relatively strong countryside character. Therefore, development in the parcel would be considered encroachment on the countryside.

High

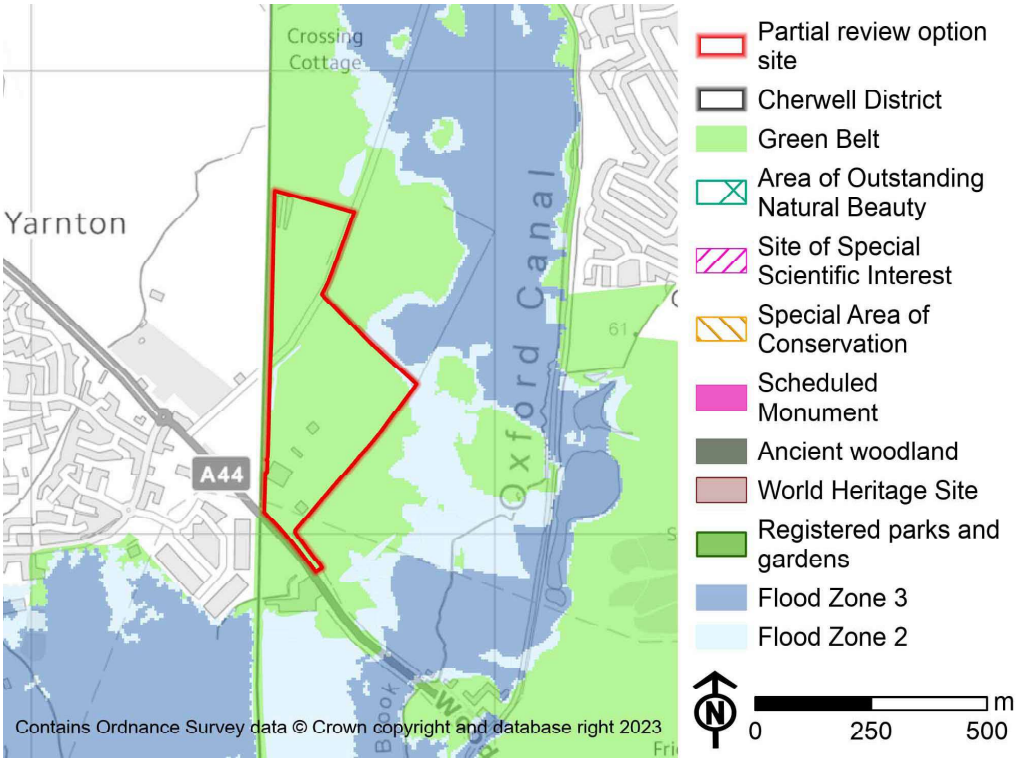
Harm to Green Belt reuslting from partial release of site

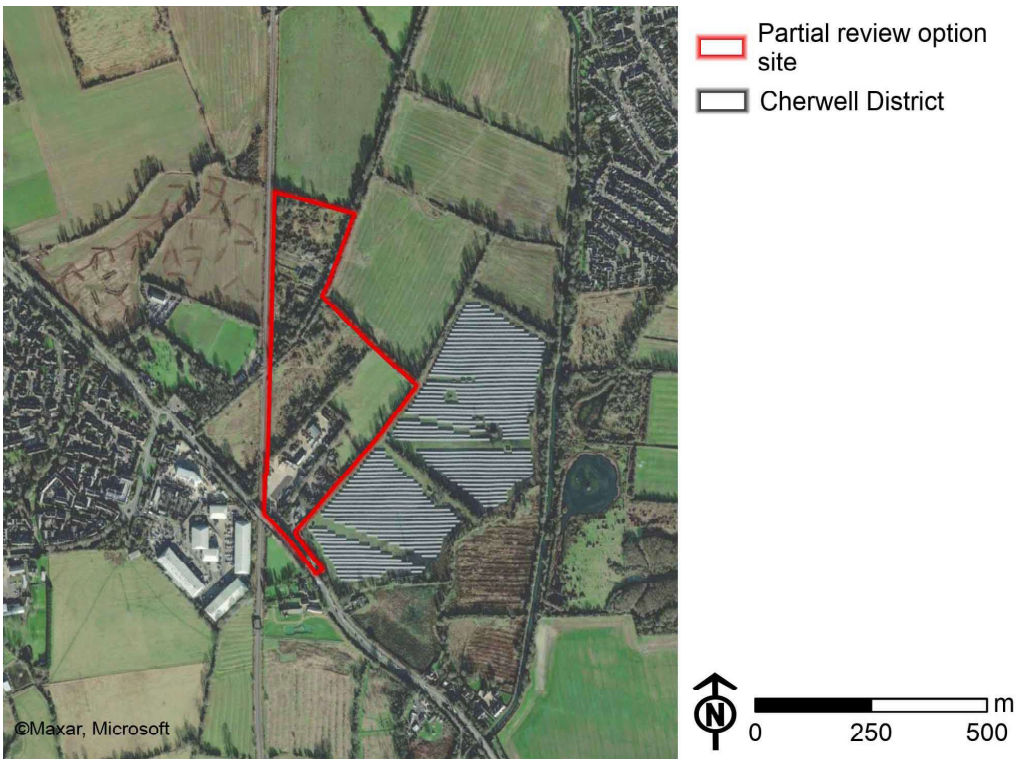


Harm to Green Belt resulting from release of whole site



Site GB5 – Land South and East of A44 Science Quarter





Site GB5 – Land South and East of A44 Science Quarter – 13.22ha

Site description

3.57 The site consists of:

- In the central region, two fields of rough grassland and scrubland, the northern of which contains an area of brownfield land previously used as a sewage treatment works.
- In the south a small area of rough grassland bounded by trees and hedgerows, and reinforced by a small stream along the north eastern and south eastern edges of the site. A haulage and plant hire business takes up approximately 50% of this area. The A44 abuts the site to the south-west and a railway line to the west. A solar farm adjoins the site to the east.

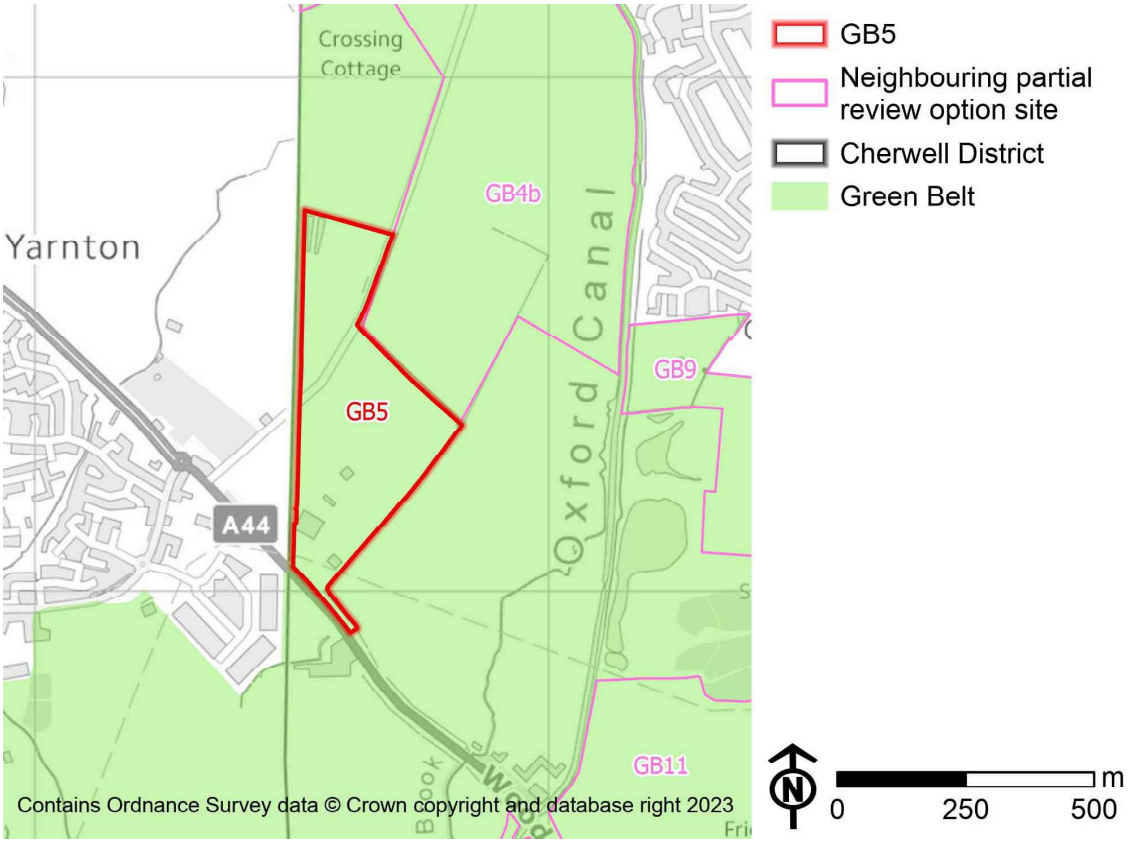
Relationship between site, settlement and countryside

3.58 The site is located at the edge of Yarnton but is separated from it by both the A44 and the railway line. The sense of separation is increased by the industrial character of the eastern end of Yarnton, which forms a buffer between the countryside and the residential edge. However, the railway line now forms the key separating feature between the allocated land to the west of the railway line. The mature hedgerows to the east and south of the site provide some degree of separation from adjacent fields.

Parcels

3.59 The site is assessed as one parcel.

Parcel GB5– 13.22ha



Looking north from railway bridge on A44.

Parcel GB5 – 13.22ha

Contribution to Green Belt purposes

Purpose 1: Checking sprawl of Oxford

3.60 Development here would relate to the expansion of Yarnton, not Oxford. Therefore the parcel plays no role with respect to this purpose.

Purpose 2: Preventing merger of settlements

3.61 The parcel occupies a significant portion of the remaining settlement gap between Yarnton and the south western corner of Kidlington, east of the railway line. Current land uses within the parcel, including a haulage and plant hire business and a disused sewage treatment works, reduce the perceived openness of the gap, but the absence of permanent buildings means that they are not considered to weaken the gap. Release of the parcel would therefore constitute a significant breach of the railway line boundary to Yarnton significantly weakening what remains of the narrow gap between Kidlington and Yarton and contributing to a reduced sense of separation.

Purpose 3: Safeguarding countryside

3.62 The parcel's partial commercial use reduces its countryside character, but only in its immediate vicinity. Open countryside surrounding the site to the east and north ensures that land within the parcel retains a strong connection to the wider countryside. The adjacent solar farm, as a temporary development, is not considered to reduce openness in the long term.

Purpose 4: Preserving Oxford's setting and special character

3.63 The parcel has an insufficient relationship with Oxford to be considered to contribute to its historic setting or special character.

Purpose 5: Assisting urban regeneration by encouraging the recycling of derelict and other urban land

3.64 All parcels are considered to make an equal contribution to this purpose.

Potential alternative Green Belt boundary

3.65 Despite the present use of part of the site, the railway line forms a relatively strong edge to the Green Belt at Yarnton. The parcel's boundaries to the east would constitute weaker Green Belt boundaries.

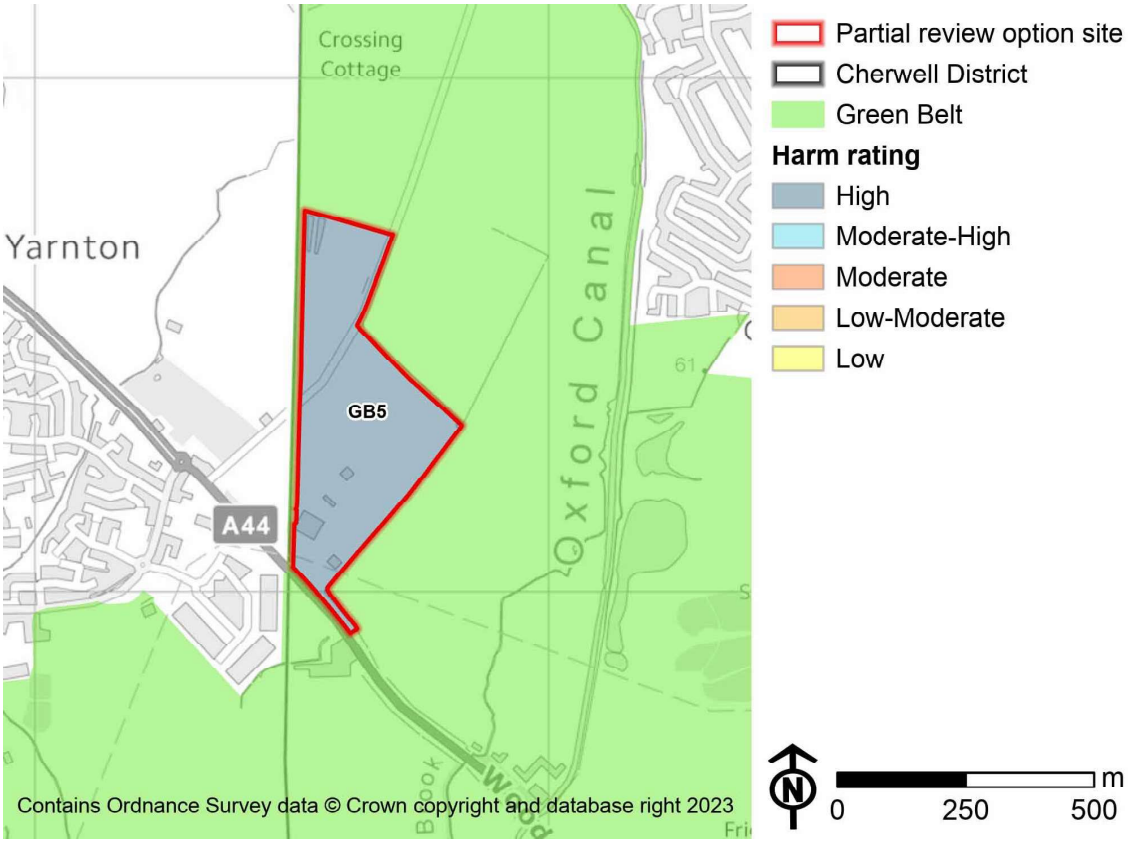
Harm to Green Belt resulting from release

Parcel GB5 – Scenario 1: Release of GB5

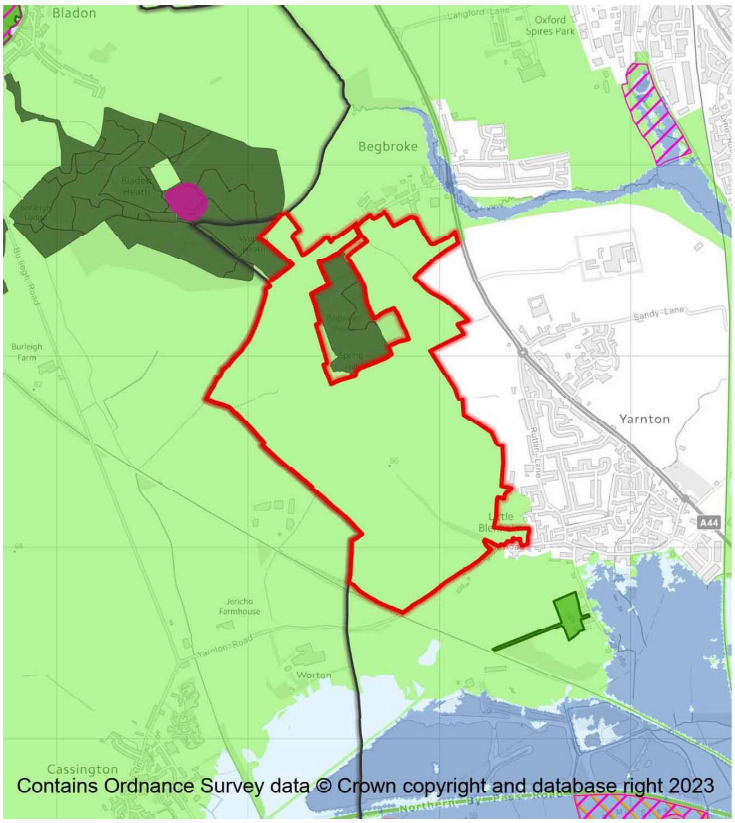
3.66 Given that land to the west of the railway line has now been released, further development east of the railway line in what remains of the narrow gap between Kidlington and Yarnton would significantly weaken the remaining sense of separation between the settlements.

High

Harm to Green Belt resulting from release of the site

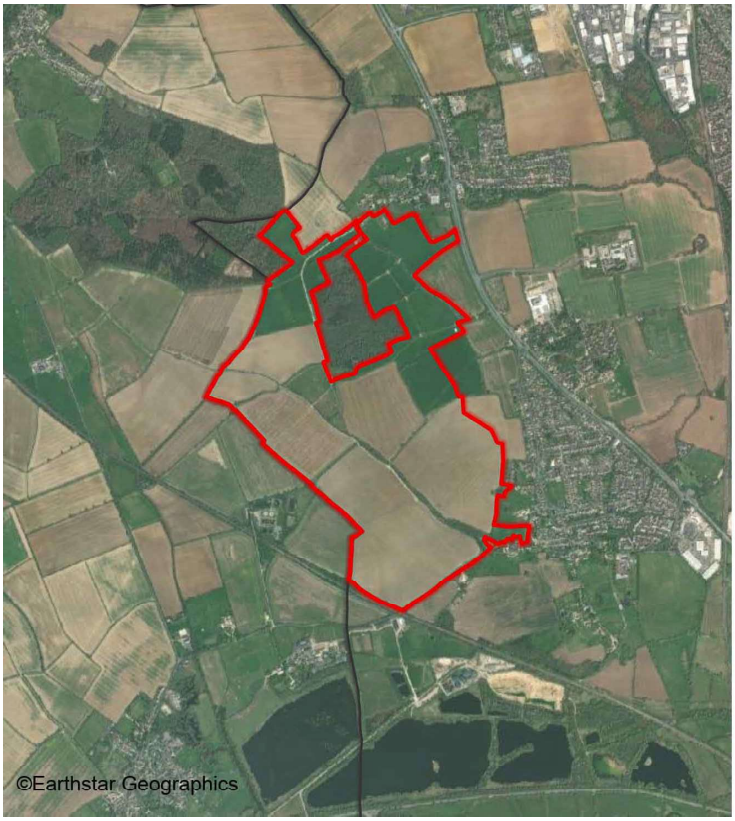


Site GB6 – West of A44



Partial review option site
Cherwell District
Green Belt
Area of Outstanding Natural Beauty
Site of Special Scientific Interest
Special Area of Conservation
Scheduled Monument
Ancient woodland
World Heritage Site
Registered parks and gardens
Flood Zone 3
Flood Zone 2

N
0 640 1,280 m



Partial review option site
Cherwell District

N
0 640 1,280 m

Site GB6 – West of A44 – 166.23ha

Site description

3.67 The site consists of:

- Farmland to the west of the A44 between Yarnton and Begbroke, defined principally by the edge of Yarnton and the A44 to the east and field boundary trees and hedgerows to the north, south and west of the site. The wooded Worton Heath abuts the north-western corner of the site and a railway line borders the south-western corner. Begbroke Wood and an associated residential property (Foresters Lodge), together with one field, are contained by the site (other than an access track) but excluded from it. A large proportion of the site is located on the summit and slopes of a hill.

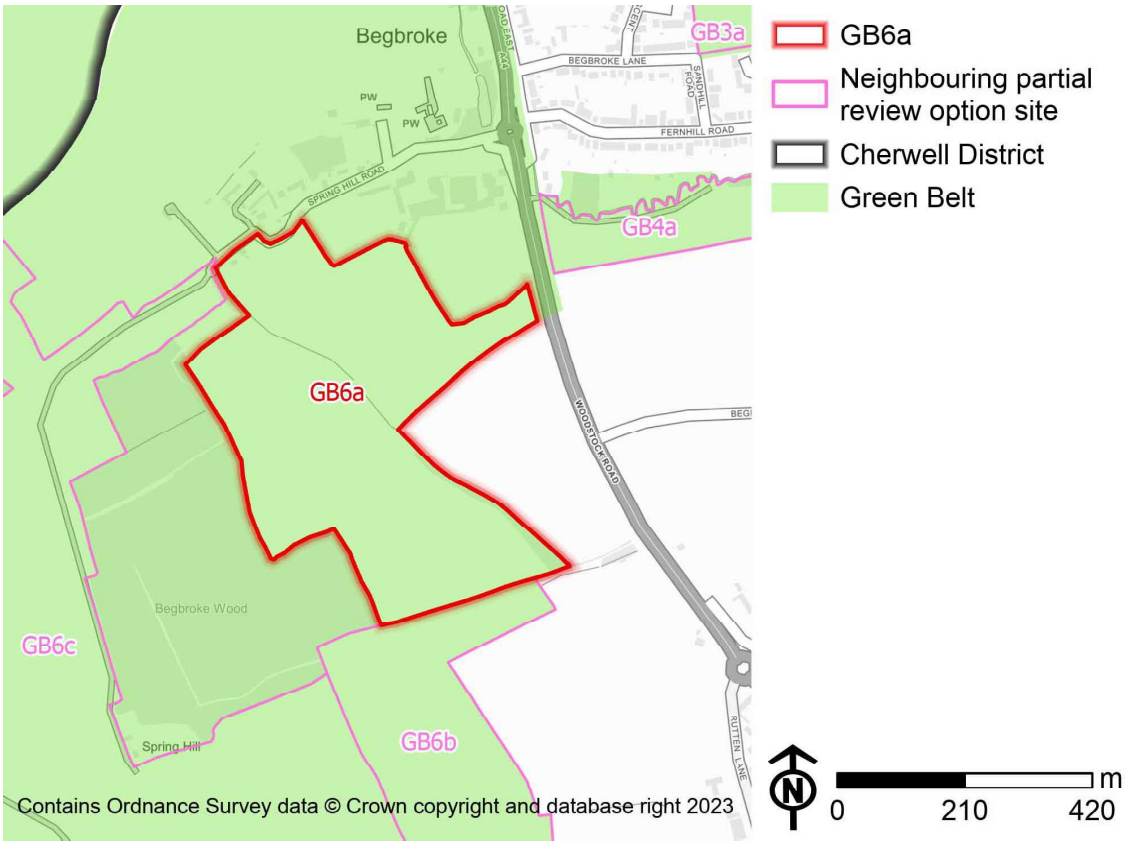
Relationship between site, settlement and countryside

3.68 The site adjoins most of the western edge of the inset village of Yarnton. Its northern edge abuts the village of Begbroke at Hall Farm, but the entire village to the west of the A44 is defined as Green Belt. The site as a whole forms part of the settlement gap between the inset areas of Yarnton and Begbroke, with only allocated land and the A44 intervening. There is a strong sense of distinction between the elevated farmland on the one hand, particularly the ridge top and land sloping down to the west, north and south, and the low-lying settlements to the east, and the site's outer edges mark no significant distinction from the wider countryside. That part of Begbroke adjacent to the site retains a form, character and density of development that is compatible with a Green Belt location, but the settlement edge of Yarnton has no strong boundaries to the site, so there is a stronger relationship with the flatter farmland along the eastern edge.

Parcels

- GB6a: between Begbroke, Begbroke Wood and Yarnton
- GB6b: to the west of Yarnton
- GB6c: the hilltop and sloping away to the west, north and south

Parcel GB6a – 21.76ha



Looking north-west towards the western end of the village of Begbroke from the public footpath passing through the parcel

Parcel GB6a – 21.76ha

Contribution to Green Belt purposes

Purpose 1: Checking sprawl of Oxford

3.69 Development here would relate to the expansion of Begbroke and Yarnton, not Oxford. Therefore the parcel plays no role with respect to this purpose.

Purpose 2: Preventing merger of settlements

3.70 The parcel accounts for a large portion of the remaining gap between Begbroke and Yarnton. Its release would result in almost coalescence between the settlements, as perceived from the A44. Any development is likely to be very exposed in this visually open landscape.

Purpose 3: Safeguarding countryside

3.71 The parcel relates more strongly to the wider countryside than to urban development: the village of Begbroke to the west of the A44 does not have any urbanising influence on the parcel, and the inset settlement areas to the east are separated from the parcel by the main road and some adjacent open farmland. The sloping farmland has a visual relationship with open land to the east between Begbroke and Yarnton, a relationship which strengthens the latter's countryside character.

Purpose 4: Oxford’s setting and special character

3.72 This land lacks a direct visual relationship with Oxford , but its association with higher ground to the west means that it forms part of the rural setting of the City.

Purpose 5: Assisting urban regeneration by encouraging the recycling of derelict and other urban land

3.73 All parcels are considered to make an equal contribution to this purpose.

Potential alternative Green Belt boundary

3.74 Begbroke Wood, an ancient woodland, is a strong landscape element to the west, but the exclusion from the parcel of a field between the wood and Dolton Lane weakens this as an alternative outer edge. Mature hedgerows provide some degree of separation between the parcel and as yet undeveloped, allocated land to the east that lies adjacent to the A44.

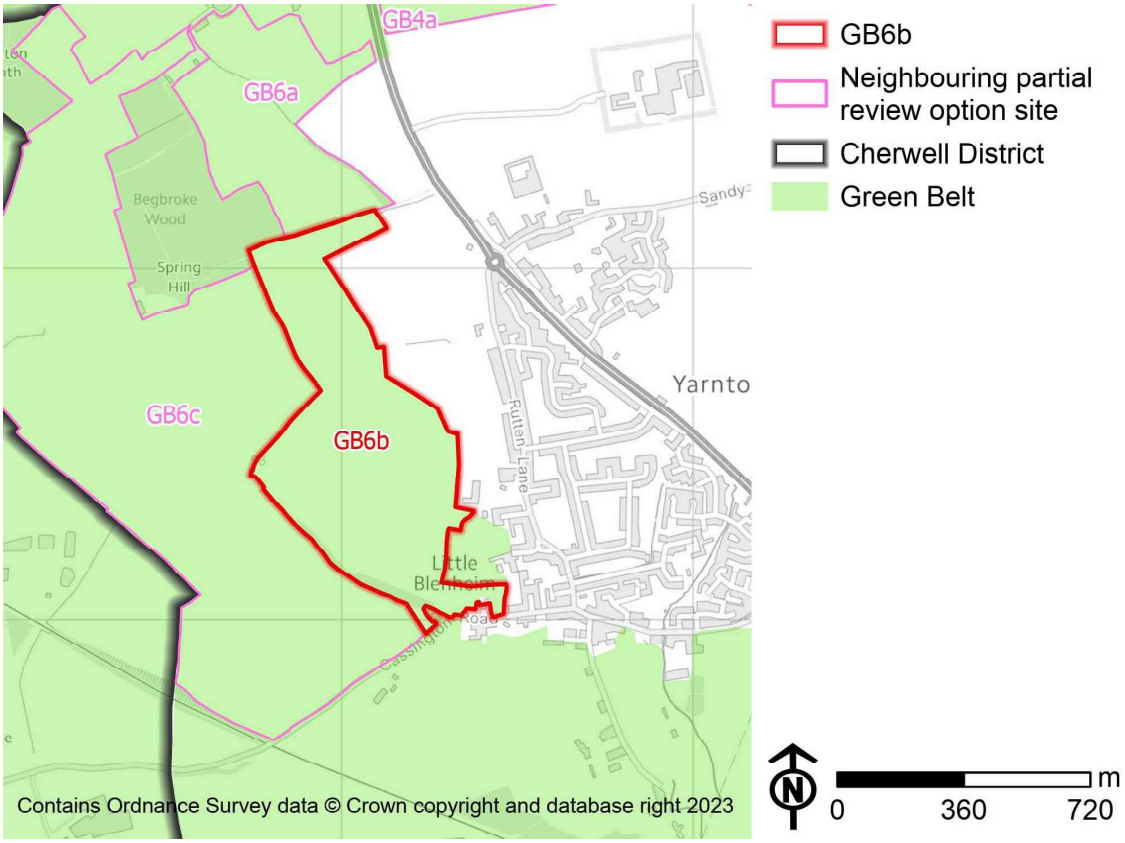
Harm to Green Belt resulting from release

Parcel GB6a – Scenario 1: Release of GB6a

3.75 Release of the parcel would remove a substantial part of the remaining separation between Yarnton and Begbroke, and would encroach on countryside. It would weaken the Green Belt contribution of that part of Begbroke village lying to the west of the A44, and adjacent land between the parcel and the village edge and between the parcel and Begbroke Wood.

High

Parcel GB6b – 38.64ha



Looking northeast towards Yarnton from the Frogwelldown Lane right of way

Parcel GB6b – 38.64ha

Contribution to Green Belt purposes

Purpose 1: Checking sprawl of Oxford

3.76 Development here would relate to the expansion of Yarnton, not Oxford. Therefore the parcel plays no role with respect to this purpose.

Purpose 2: Preventing merger of settlements

3.77 Although the parcel accounts for part of the gap between Begbroke and Yarnton, its release would not significantly reduce the distance between the settlements.

Purpose 3: Safeguarding countryside

3.78 Open countryside to the north, south and west ensures that land within the parcel retains a strong connection to the wider countryside, but some distinction can be made between the sloping topography of most of the parcel, which although creating intervisibility with the settlement edge also creates a strong distinction from the flatter ground on which Yarnton and adjacent allocated land is located.

Purpose 4: Preserving Oxford's setting and special character

3.79 The parcel includes arable farmland on high ground, which contributes to the ring of hills around Oxford that form a key aspect of its distinctive setting. The lower slopes closer to Yarnton are less significant in this respect.

Purpose 5: Assisting urban regeneration by encouraging the recycling of derelict and other urban land

3.80 All parcels are considered to make an equal contribution to this purpose.

Potential alternative Green Belt boundary

3.81 Frogwelldown Lane is a relatively strong landscape feature but other field boundaries are weaker. However the settlement edge and adjacent allocated land does not have any considerable separation from land within the parcel.

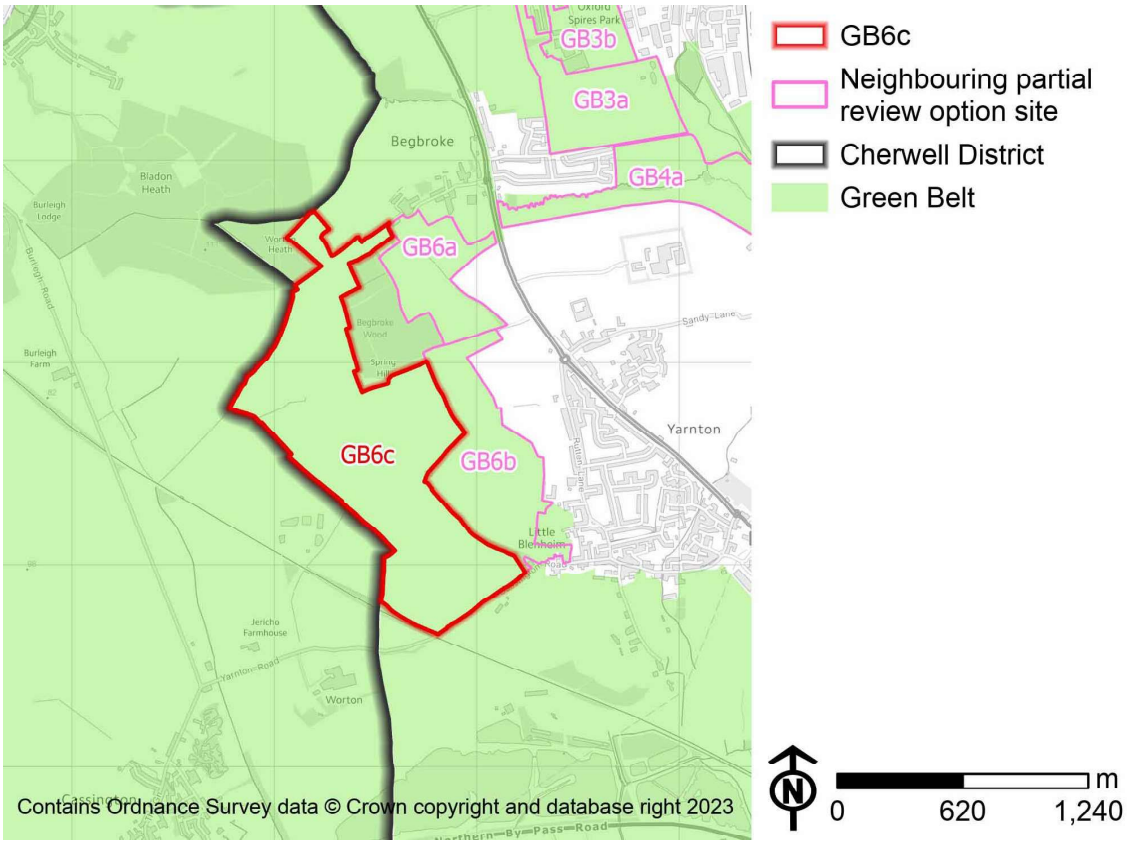
Harm to Green Belt resulting from release

Parcel GB6b – Scenario 1: Release of GB6b

3.82 The parcel is sloping land that is distinct from Yarnton and forms part of a wider landscape of elevated farmland, release of which would constitute significant encroachment on the countryside.

High

Parcel GB6c – 105.83ha



Looking east from the Shakespeare's Way long distance route down over the northern part of the parcel towards Begbroke

Parcel GB6c – 105.83ha

Contribution to Green Belt purposes

Purpose 1: Checking sprawl of Oxford

3.83 Development here would relate to the expansion of Begbroke or Yarnton, not Oxford. Therefore the parcel plays no role with respect to this purpose.

Purpose 2: Preventing merger of settlements

3.84 The parcel is peripheral to the gap between Yarnton and Begbroke. Release of the parcel would significantly narrow the perceived separation between the two settlements. Any development is likely to be very exposed in this visually open landscape.

Purpose 3: Safeguarding countryside

3.85 The landform associated with this parcel gives it a strong sense of separation from both Yarnton and Begbroke, and Begbroke Wood represents an additional barrier at the northern end. That part of Begbroke to the west of the A44 does not represent an urbanising influence.

Purpose 4: Preserving Oxford's setting and special character

3.86 The parcel includes farmland on high ground, which contributes to the ring of hills around Oxford that form a key aspect of its distinctive setting. Development may have an adverse effect on preserving Oxford's setting and special character.

Purpose 5: Assisting urban regeneration by encouraging the recycling of derelict and other urban land

3.87 All parcels are considered to make an equal contribution to this purpose.

Potential alternative Green Belt boundary

3.88 The parcel's boundaries do not represent any strong distinction between the countryside within it and the wider countryside beyond it.

Harm to Green Belt resulting from release

Parcel GB6c – Scenario 1: Release of GB6c

3.89 There is a strong sense of separation from the settlement in the valley to the east. Any release of land, whether extending out from Begbroke or Yarnton to include land within this parcel or representing an isolated release, would constitute significant countryside encroachment.

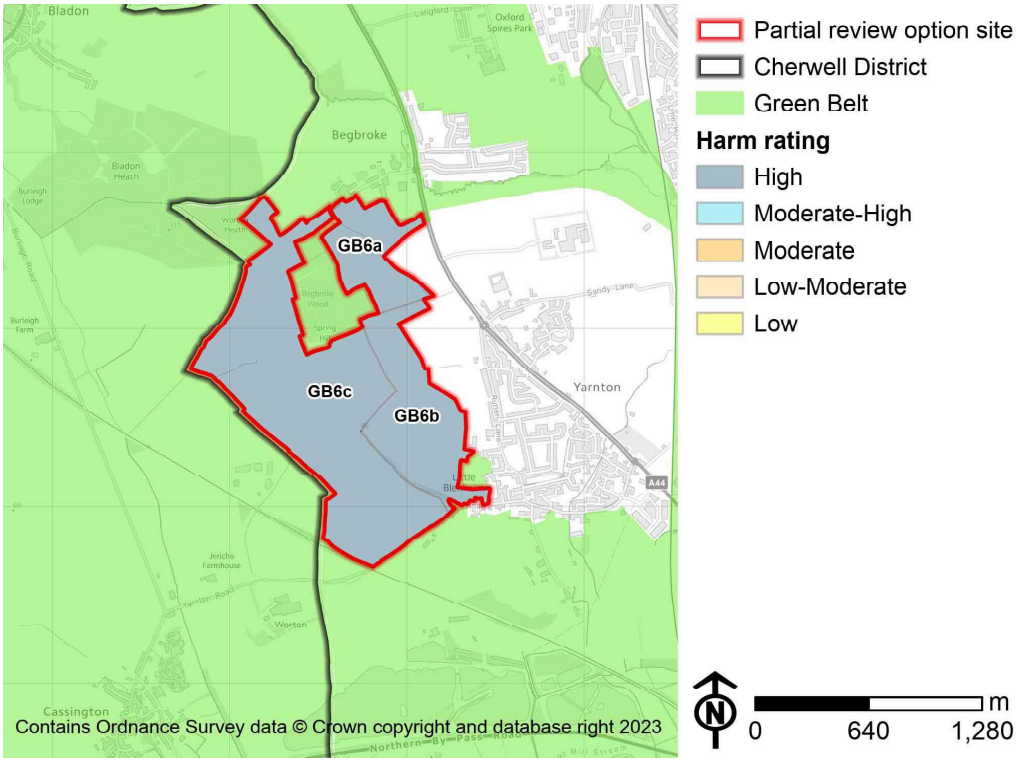
High

Harm to Green Belt resulting from release of the site in its entirety

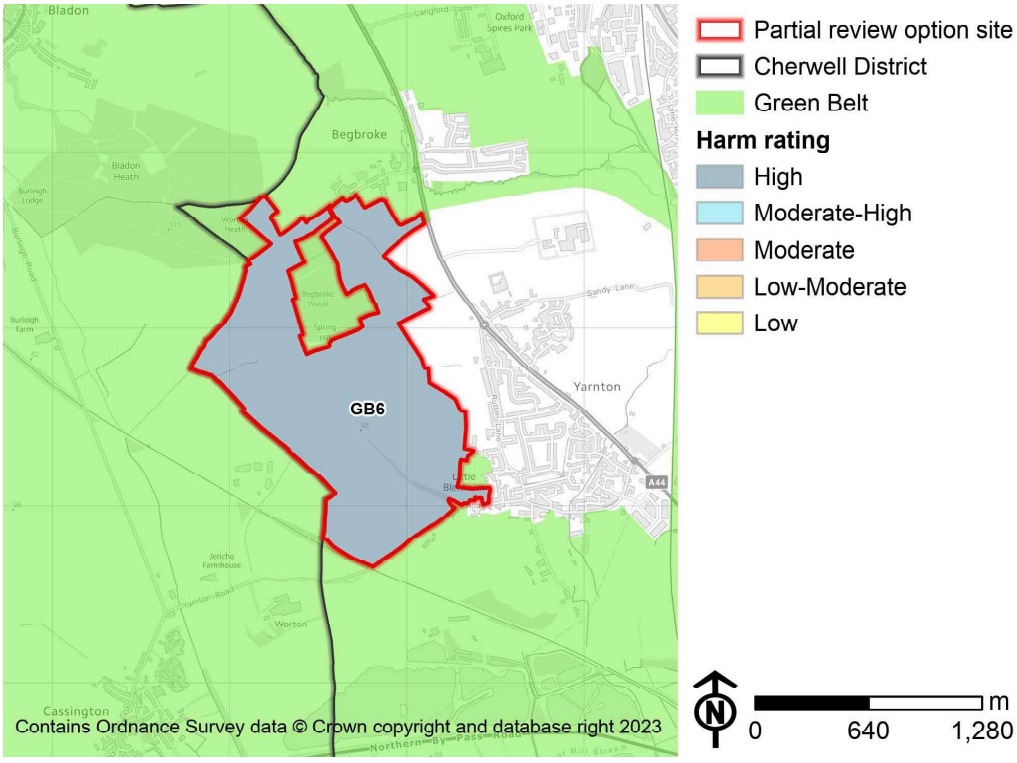
3.90 The site as a whole is critical to the maintenance of separation between Yarnton and Begbroke, and for the most part constitutes open farmland with a strong countryside character, development of which would represent significant encroachment on the countryside and would potentially detract from the generally rural character of the high ground surrounding Oxford.

High

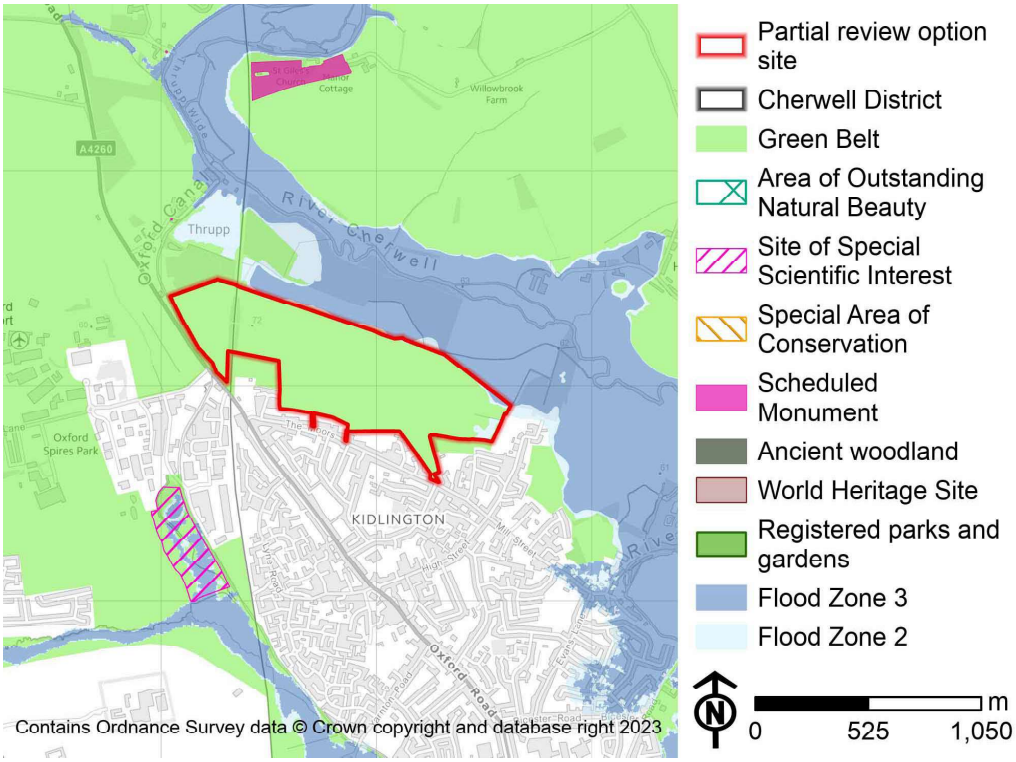
Harm to Green Belt resulting from partial release of the site

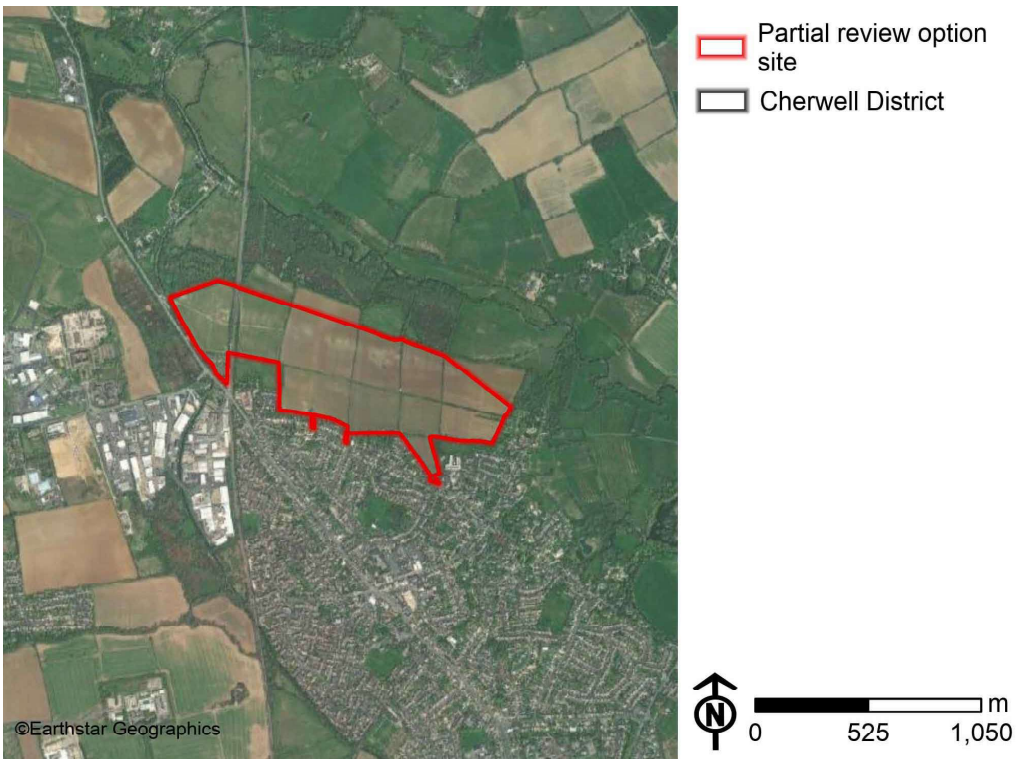


Harm to Green Belt resulting from release of the whole site



Site GB7 – North of the Moors and East of Banbury





Site GB7 – North of the Moors and East of Banbury – 58.75ha

Site description

3.91 The site consists of:

- Arable farmland on the northern edge of Kidlington, on land sloping gently uphill north-westwards, with the valley of the River Cherwell lying beyond. St Mary's church lies just beyond the eastern edge of the site. The majority of the site is contained by a railway line to the west, and by largely tree-covered floodplain to the north. The smaller area in the west lies between the railway and the Oxford Canal, on land sloping downhill to the west.

Relationship between site, settlement and countryside

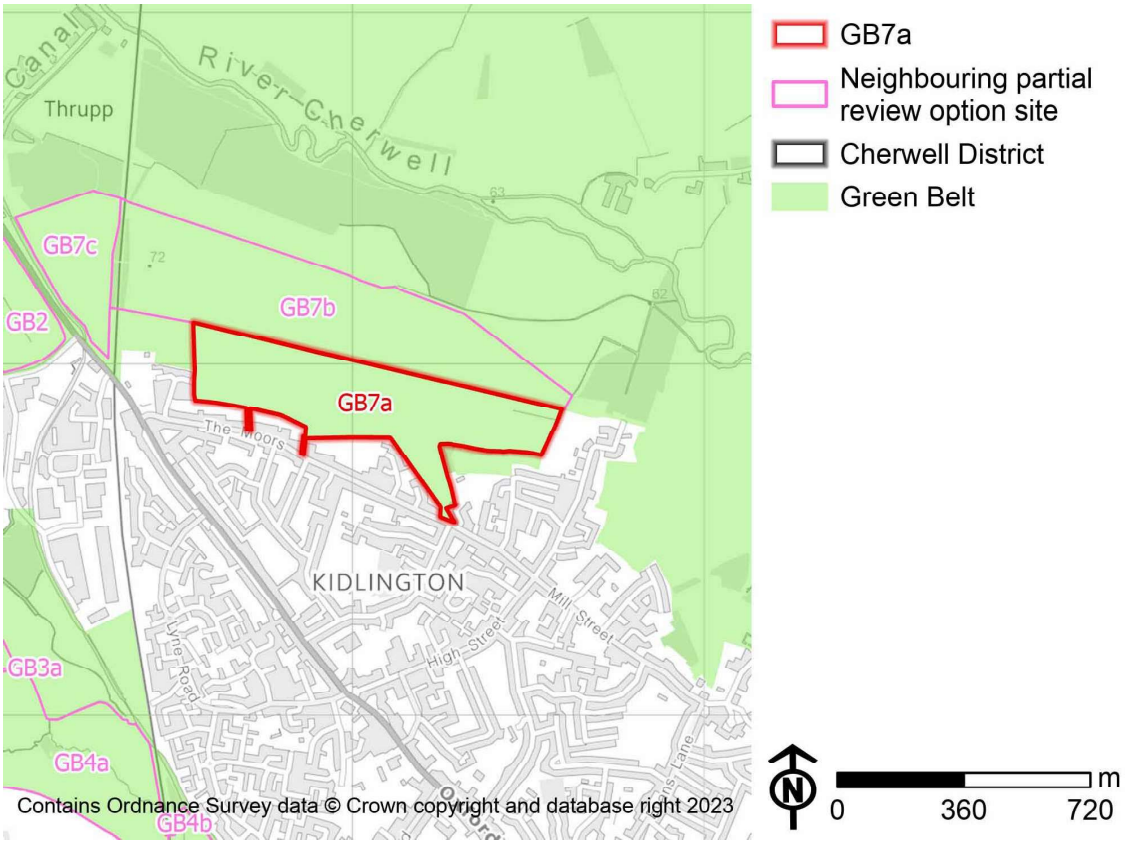
3.92 The site's landform is consistent with the urban area. Majority of the sites southern edge abuts back gardens along a consistent settlement edge. As part of a larger block of visually open farmland, lacking in built development, the site also relates to the countryside. In the western and central section of site the low hill marks some distinction between the parcel and the fields to the north. To the north-west of the County Council Offices on The Moors a smaller area of farmland linking the main body of the site to the road has a stronger relationship with the settlement. East of this a small, well-hedged field separates the site from a recently constructed care home that marks the urban edge. The church to the east is within the defined urban area, but its historic character and the openness of the grounds around does not represent an urbanising influence. In the north western and north sections of the site the slope of the land away from the residential edge of Kidlington combines with the physical farmland gap to create some separation from the urban area. However, visual containment of the site by tree cover reduces its relationship with the rest of the Cherwell

Valley.

Parcels

- GB7a: land in the south of the site.
- GB7b: land in the north of the site, to the east of the railway.
- GB7c: smaller field to the northwest.

Parcel GB7a – 21.58ha



Looking north across parcel from public footpath on settlement edge.

Parcel GB7a – 21.58ha

Contribution to Green Belt purposes

Purpose 1: Checking sprawl of Oxford

3.93 Development here would relate to the expansion of Kidlington. It would not be considered sprawl of Oxford and therefore plays no role with respect to this purpose.

Purpose 2: Preventing merger of settlements

3.94 The parcel is not close to any settlement other than Kidlington, and so plays no role with respect to this purpose. The small villages of Hampton Poyle and Thrupp to the north are separated from the site by woodland and by the River Cherwell and the railway respectively.

Purpose 3: Safeguarding countryside

3.95 Largely sloping towards Kidlington and lacking strong separation from it, the parcel has a relationship with the settlement but also lacks development and forms part of a broader area of farmland. The eastern end of the parcel has a stronger visual relationship with the wider rural area, and stronger screening from the urban edge. The parcel therefore provides protection against encroachment.

Purpose 4: Preserving Oxford's setting and special character

3.96 The area has insufficient relationship with Oxford to be considered to contribute to its historic setting or special character.

Purpose 5: Assisting urban regeneration by encouraging the recycling of derelict and other urban land

3.97 All parcels are considered to make an equal contribution to this purpose.

Potential alternative Green Belt boundary

3.98 A weak hedgerow marks the northern edge of the parcel. Topography adds some distinction from the fields to the north, although not on the flatter eastern end of the parcel. The features that contain the fields to the north, flood-zone woodlands with the River Cherwell beyond, and the railway line to the east, are stronger boundaries.

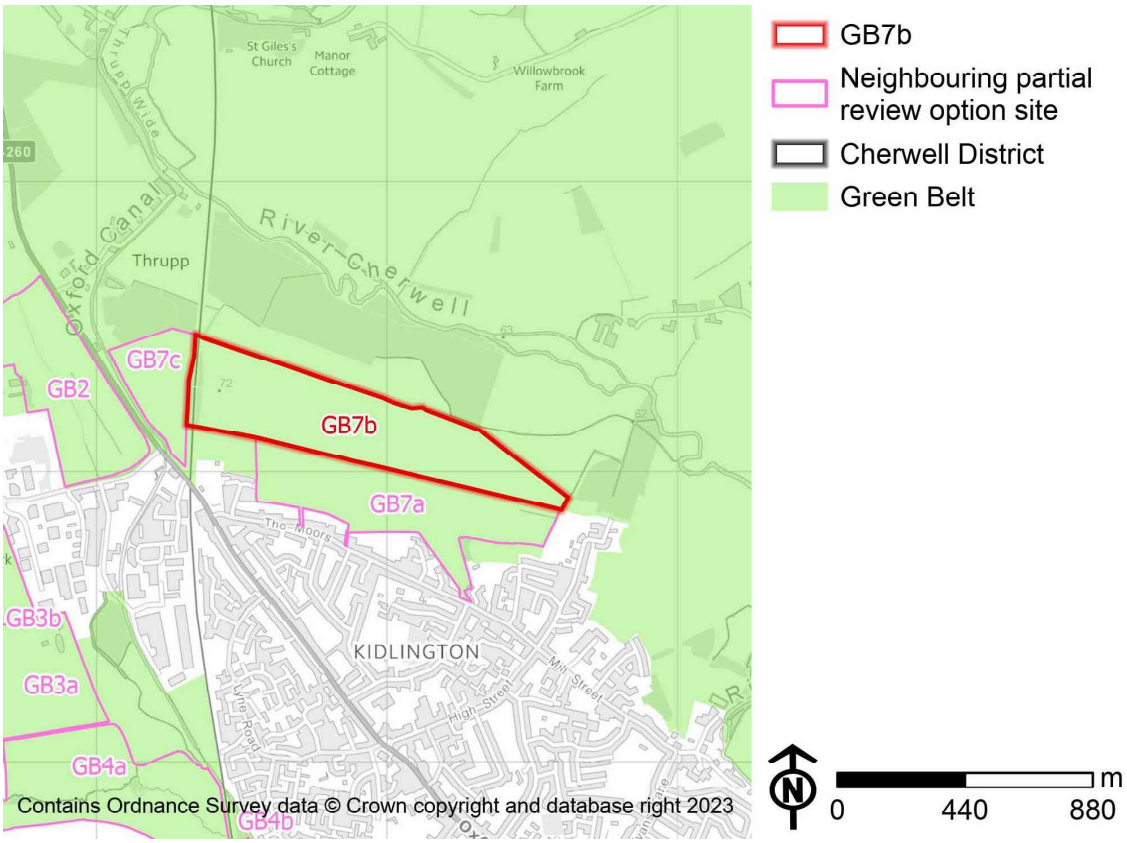
Harm to Green Belt resulting from release

Parcel GB7a – Scenario 1: Release of GB7a

3.99 Release of the parcel would represent an encroachment on countryside and would weaken the contribution of adjacent Green Belt land to the north. However the parcel is contained within stronger edges in the form of the railway line to the west and woodland which lies to the north of the larger site – which would limit harm to the wider Green Belt. The field behind the County Council offices that is more contained within the development edge could be released with less harm but is too small to constitute a strategic site.

Moderate

Parcel GB7b – 29.56ha



Looking west towards St Mary's church, along the hedgerow boundary with GB7a.

Parcel GB7b – 29.56ha

Contribution to Green Belt purposes

Purpose 1: Checking the sprawl of Oxford

3.100 Development here would relate to the expansion of Kidlington. It would not be considered sprawl of Oxford. Therefore the parcel plays no role with respect to this purpose.

Purpose 2: Preventing merger of settlements

3.101 The parcel is not close to any settlement other than Kidlington, and so plays no role with respect to this purpose. The small villages of Hampton Poyle and Thrupp to the north are separated from the parcel by woodland and by the River Cherwell and the railway respectively.

Purpose 3: Safeguarding countryside

3.102 Largely sloping away from Kidlington, and separated from it by further fields, the parcel contains no development and has a rural character. It forms an outer part of the Cherwell valley, but has strong separation from the wider countryside by woodland to the north and east, and the railway line to the west.

Purpose 4: Preserving Oxford's setting and special character

3.103 The parcel makes a minor contribution to rural character of the approach to Oxford along the Cherwell valley area, but is too far from the City to play a significant role.

Purpose 5: Assisting urban regeneration by encouraging the recycling of derelict and other urban land

3.104 All parcels are considered to make an equal contribution to this purpose.

Potential alternative Green Belt boundary

3.105 A weak hedgerow marks the southern edge of the parcel, but topography adds some distinction other than at the flatter eastern end of the parcel. The northern edge of the site is defined by floodplain rather than physical landscape features, but plantation woodland lies just beyond it, with the River Cherwell beyond. The railway line to the west and flood-zone woodland to the east are also strong boundaries.

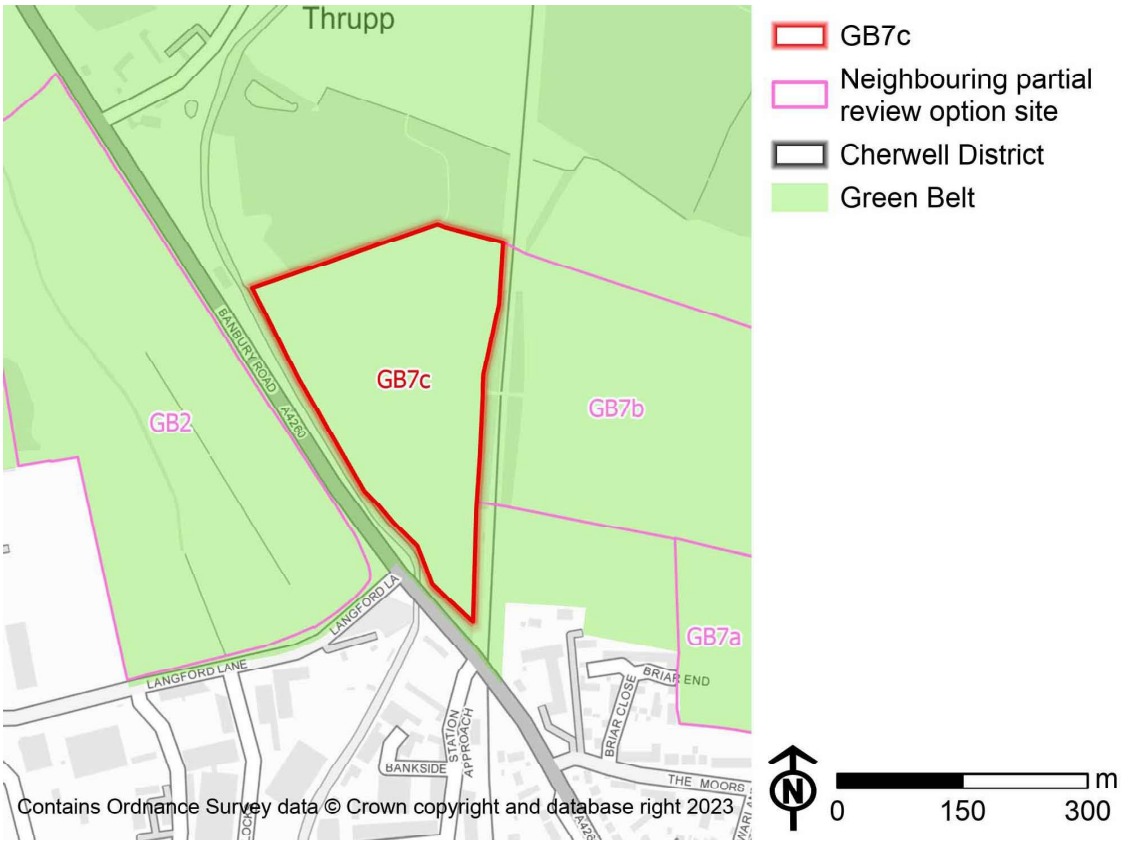
Harm to Green Belt resulting from release

Parcel GB7b – Scenario 1: Release of GB7b, together with GB7a

3.106 Release of the parcel in isolation would enclose the fields to the south within the urban area, so release of GB7b would also necessitate release of site GB7a. Release of any part of GB7b would represent an encroachment on countryside, and GB7b together with GB7a represents a sizeable area of undeveloped countryside, but containment of the area by tree cover, floodplain and the railway line would limit impact on the wider Green Belt, despite the parcel's relationship with the Cherwell valley. Any release of land would be better defined by physical landscape feature than the floodplain edge – i.e. the plantation/field boundaries just beyond.

Moderate High

Parcel GB7c – 7.63ha



Looking south from public footpath in central-eastern part of parcel, towards commercial buildings on the edge of Kidlington.

Parcel GB7c – 7.63ha

Contribution to Green Belt purposes

Purpose 1: Checking the sprawl of Oxford

3.107 Development here would relate to the expansion of Kidlington. It would not be considered sprawl of Oxford. Therefore the parcel plays no role with respect to this purpose.

Purpose 2: Preventing merger of settlements

3.108 The parcel is not close to any settlement other than Kidlington, and so plays no role with respect to this purpose. The small village of Thrupp to the north is separated from the site by woodland and by the Oxford Canal.

Purpose 3: Safeguarding countryside

3.109 The parcel has some visual relationship with commercial development at Oxford Spires Business Park, which forms the northern tip of the Kidlington inset urban area, but is separated from it by the Oxford Canal and A4260. Although its physical boundaries – road, railway and tree cover – create separation from the wider countryside, and the road and railway have some urbanising influence, it is also separated from the urban edge.

Purpose 4: Preserving Oxford's setting and special character

3.110 The parcel adjoins the Oxford Canal, a historic approach to the City, but this area north of Kidlington is too far from the City to play more than a minor role in Oxford's wider setting.

Purpose 5: Assisting urban regeneration by encouraging the recycling of derelict and other urban land

3.111 All parcels are considered to make an equal contribution to this purpose.

Potential alternative Green Belt boundary

3.112 The A4260 to the west and woodland to the north would form strong boundaries to a Green Belt release, and the railway line too if PR27b was released but PR27a was not, but the parcel is also separated from the urban edge by the A4260, which forms a strong boundary at present.

Harm to Green Belt resulting from release

Parcel GB7c – Scenario 1: Release of GB7c

3.113 Development in this area would have a weak relationship with the urban edge, although less so in association with release of GB7b, and would represent encroachment beyond a significant boundary: the railway line. However the parcel's containment by strong landscape elements and the urbanising effects of road and rail, would limit the harm that this would cause to the wider Green Belt.

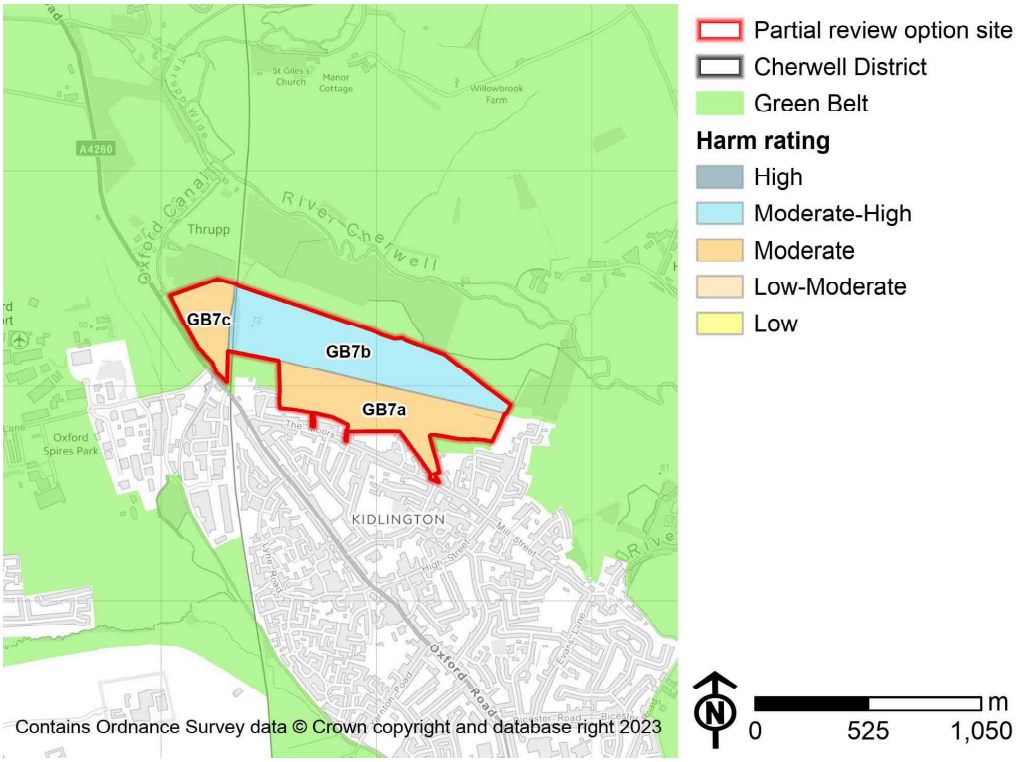
Moderate

Harm to Green Belt resulting from release of site in its entirety

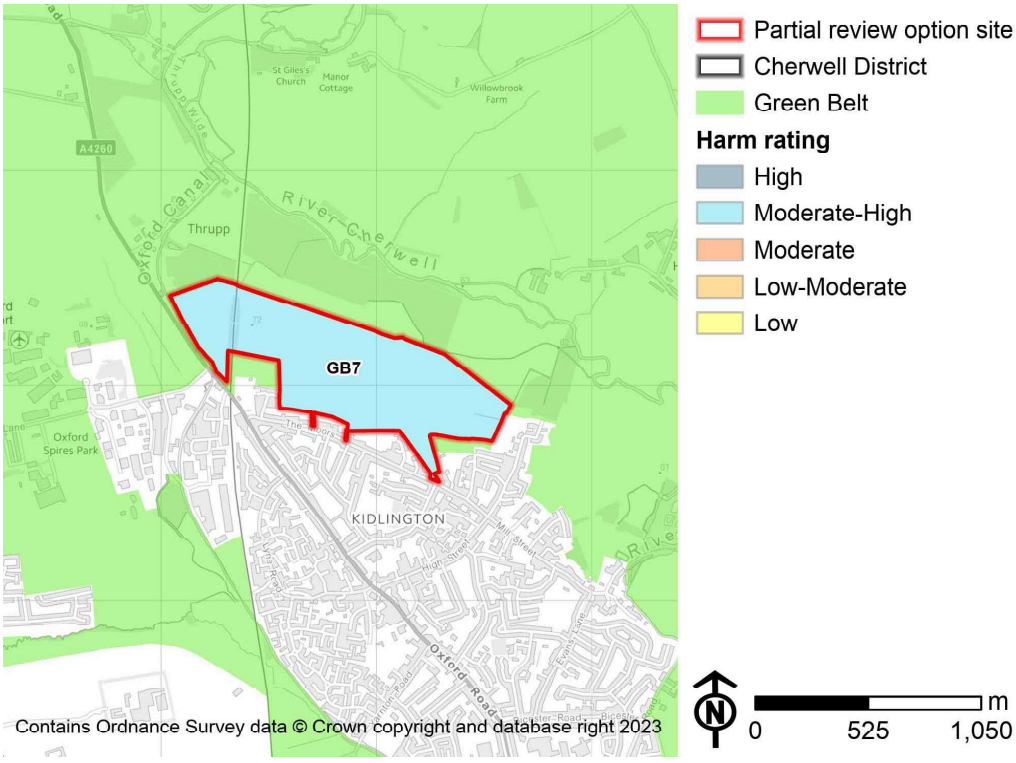
3.114 Release of the parcel in isolation would enclose the fields to the south within the urban area, so release of GB7b would also necessitate release of site GB7a. Release of any part of GB7 would represent an encroachment on countryside, but containment of the area by strong physical boundary features would limit impact on the wider Green Belt.

Moderate High

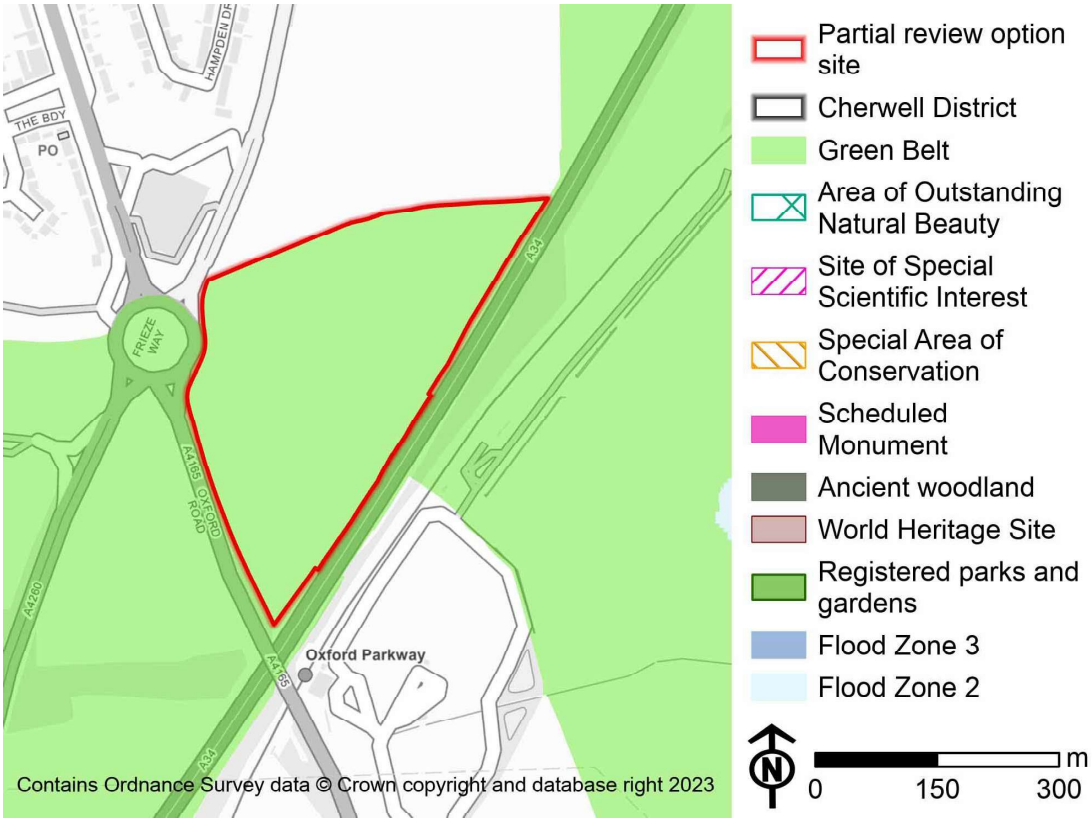
Harm to Green Belt resulting from partial release of the site

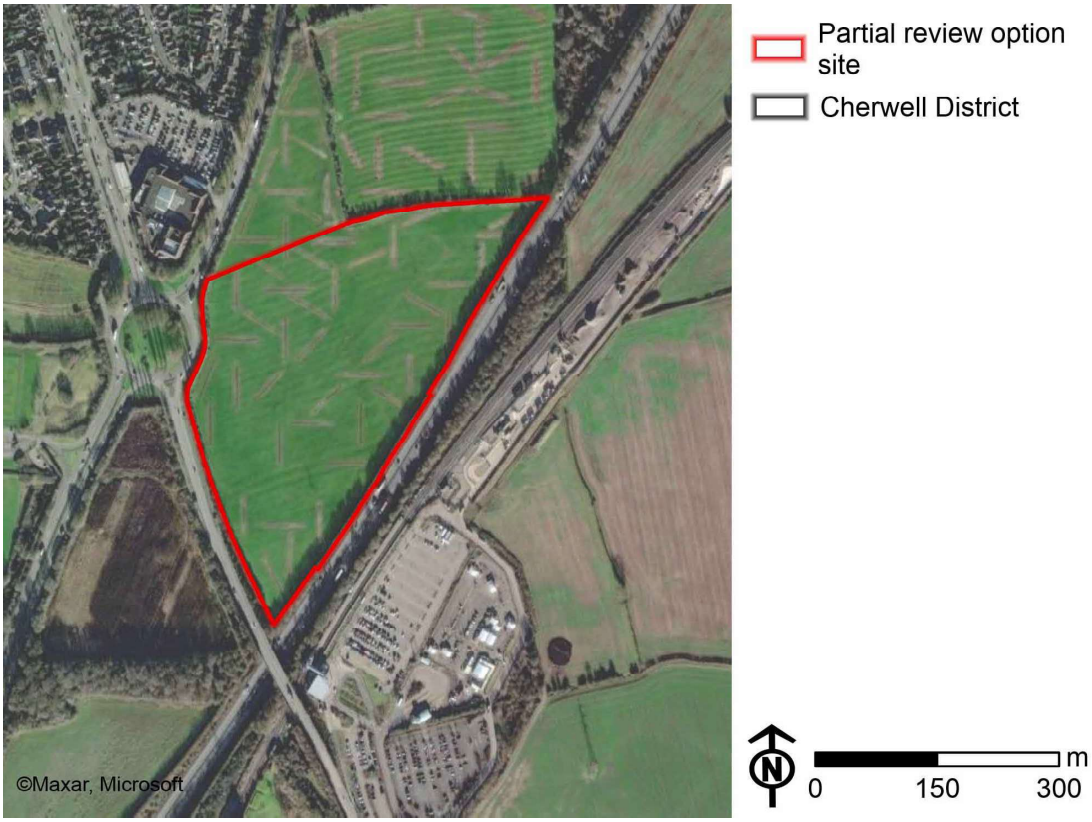


Harm to Green Belt resulting from release of the whole site



Site GB8 – SE Kidlington





Site GB8 – SE Kidlington – 11.58ha

Site description

3.115 The site consists of:

- The site consists an arable field, bounded by the A4165 to the south, the A34 to the east, and allocated land to the north. Bicester Road marks the urban edge of Kidlington.

Relationship between site, settlement and countryside

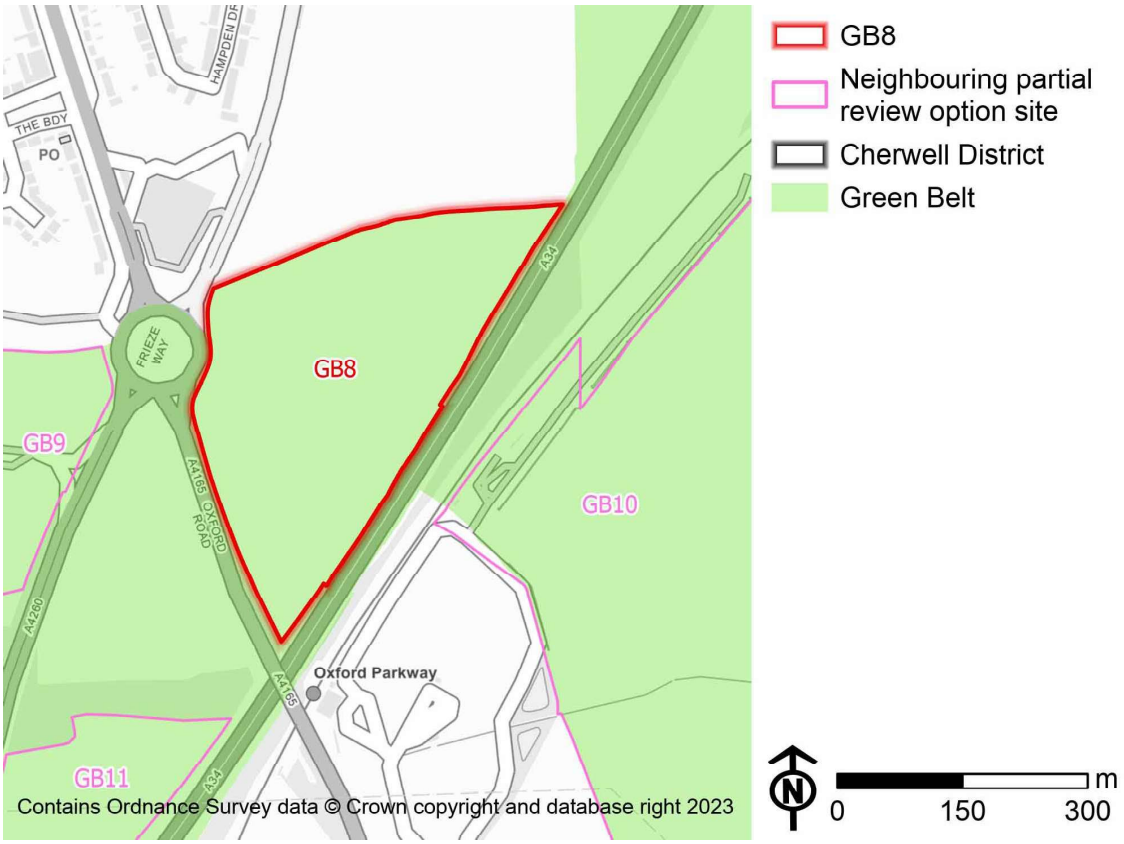
3.116 The A34 and associated tree cover forms a strong outer edge to the site, creating a degree of separation between it and the wider Cherwell valley to the

east. Bicester Road also constitutes a relatively strong boundary between the site and the settlement edge, but urbanising development does cross Bicester Road to the north, at Beagles Close, and there is also built development to the east of the site, on Water Eaton Lane, as well as allocated land to the south of the site over the A34. The site is open farmland which at provides a rural buffer between Kidlington and the Green Belt developments of Oxford Parkway Station and the Water Eaton Park and Ride, just to the east of the A34, and in turn forms a significant part of the gap between Kidlington and Oxford. The Green Belt in this 'Kidlington Gap' area is dominated by, and fragmented by, transport infrastructure, with major connecting roads combining with the development at Water Eaton to reduce the perceived countryside gap between Oxford and Kidlington.

Parcels

3.117 The site is assessed as a single parcel.

Parcel GB8 – 11.58ha



Looking south from Bicester Road.

Parcel GB8 – 11.58ha

Contribution to Green Belt purposes

Purpose 1: Checking the sprawl of Oxford

3.118 Development lies adjacent to Kidlington rather than Oxford, but land to the south of the A34 has now been allocated and released from the Green Belt, increasing the role that land north of the A34 plays in preventing sprawl of Oxford.

Purpose 2: Preventing merger of settlements

3.119 Development within the parcel would in effect link Oxford Parkway and the Park and Ride in north Oxford to Kidlington, reducing the role of the A34 as a barrier feature within the Green Belt and significantly weakening what is already a fragile settlement gap.

Purpose 3: Safeguarding countryside

3.120 Containment by major roads limits the parcel's relationship with the wider countryside – in the event of land release the A34 would still form a significant barrier – but the parcel constitutes a sizeable area of countryside in its own right, and in terms of land use and field pattern it is consistent with land to the east of the A34.

Purpose 4: Preserving Oxford's setting and special character

3.121 The Cherwell valley is an important element in Oxford's historic setting, but the parcel is not close enough to the river to make a strong contribution, with the A34 effectively limiting its relationship with the valley core. However the parcel does contribute to the rural setting of Oxford as perceived from the A34, one of the major approaches to the City.

Purpose 5: Assisting urban regeneration by encouraging the recycling of derelict and other urban land

3.122 All parcels are considered to make an equal contribution to this purpose.

Potential alternative Green Belt boundary

3.123 The A34 would constitute a strong Green Belt boundary to the south and east of the parcel, although development of the parcel in its entirety would effectively merge Oxford with Kidlington. The A4165 constitutes a strong Green Belt boundary to the southwest. There is little separation between the parcel and as yet undeveloped, allocated land to the north and south.

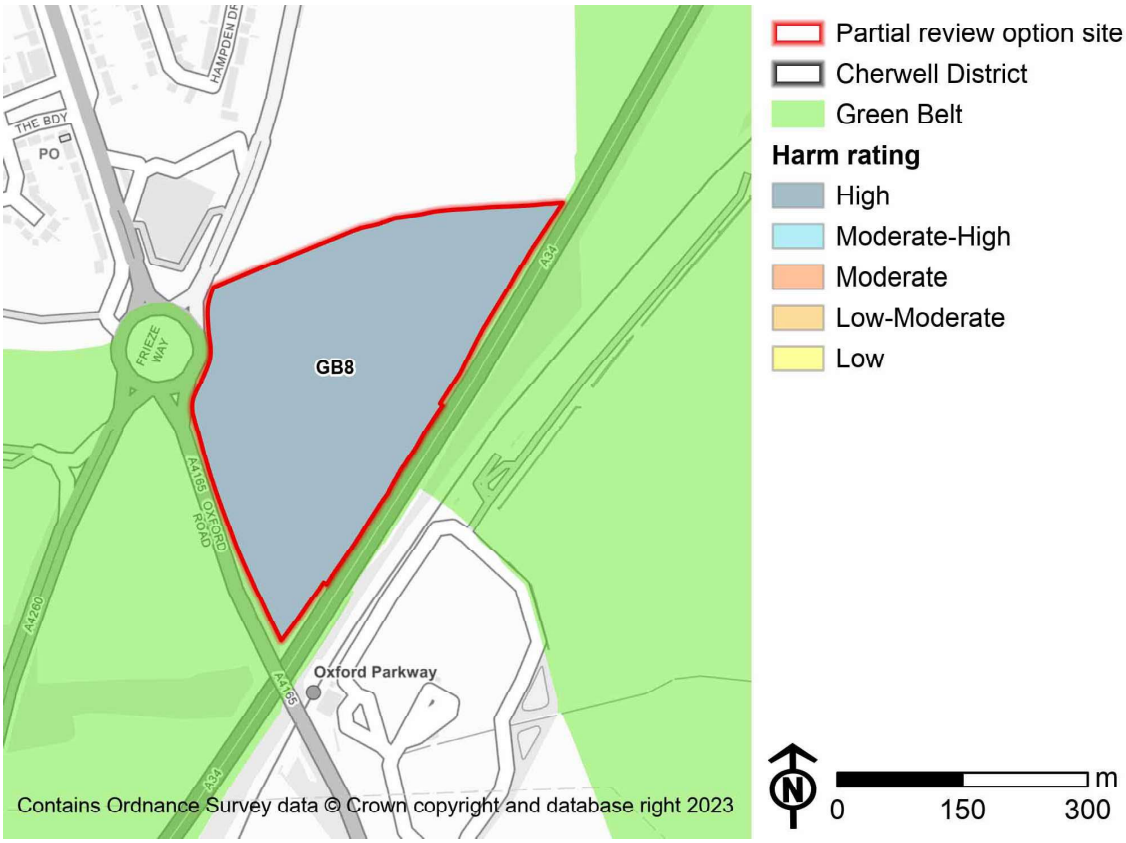
Harm to Green Belt resulting from release

Parcel GB8 – Scenario 1: Release of GB8

3.124 Release of the parcel would have a significant effect, effectively merging Kidlington with Oxford, which has recently been extend north up to the Oxford Parkway and the Park and Ride.

High

Harm to Green Belt resulting from release of the site



Site GB9 – Land west of Kidlington Roundabout south of Garden City Stratfield Brake

Partial review option site
Cherwell District
Green Belt
Area of Outstanding Natural Beauty
Site of Special Scientific Interest
Special Area of Conservation
Scheduled Monument
Ancient woodland
World Heritage Site
Registered parks and gardens
Flood Zone 3
Flood Zone 2

N
0 230 460 m

Partial review option site
Cherwell District

N
0 230 460 m

Site GB9 - Land west of Kidlington Roundabout south of Garden City Stratfield Break– 24.01ha

Site description

3.125 The site consists of:

- Strongly-hedged fields adjacent to the urban edge at Kidlington, between the Oxford Canal and the A4260. The buildings of Stratfield Farm lie to the north of the site.
- Stratfield Brake Sports Ground grass sports pitches lie in the southern half of the site along with the associated clubhouse in the eastern side, with the A4260 lying to the east.

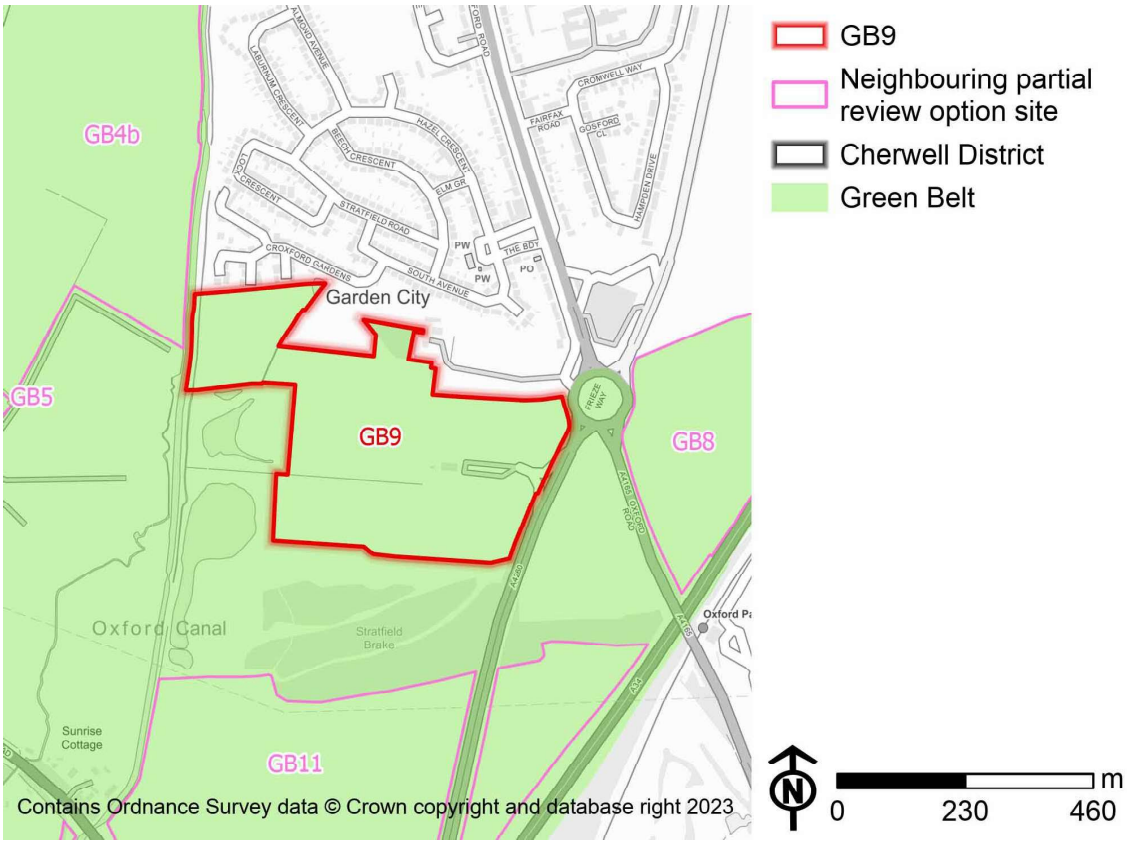
Relationship between site, settlement and countryside

3.126 The site abuts the urban edge, and is similarly contained to the west by the Oxford Canal. There is no distinction in landform between the urban area and the site. Dense tree cover to the south of Stratfield Brake Sports Ground limits connectivity of the site with the wider countryside.

Parcels

3.127 The site is assessed as a single parcel of land.

Parcel GB9 – 24.01ha



Looking north-west along southern edge of Kidlington, from roundabout.

Parcel GB9 – 24.01ha

Contribution to Green Belt purposes

Purpose 1: Checking the sprawl of Oxford

3.128 Development here would relate to the expansion of Kidlington, not Oxford. Therefore the parcel plays no role with respect to this purpose.

Purpose 2: Preventing merger of settlements

3.129 The parcel forms part of the gap between Kidlington and Oxford. The gap is small, so all land within it makes some contribution to this Green Belt purpose. The parcel's release would extend the urban edge beyond the roundabout which marks the south-eastern corner of the settlement, weakening the perceived separation between settlements.

Purpose 3: Safeguarding countryside

3.130 The parcel contains no urbanising development apart from the clubhouse of Stratfield Brake Sports Ground, but the northern section lacks strong separation from the urban edge and the southern half contains recreational uses associated with the urban area. The parcel does not have a strong relationship with the wider countryside, with woodland to the south, the canal to the west and Kidlington Roundabout to the east separate it from farmland.

Purpose 4: Preserving Oxford's setting and special character

3.131 The parcel's relationship with the Oxford Canal, an important historical route into the City, gives it some contribution to Oxford's historic setting, but proximity to the edge of Kidlington, which abuts the canal along all of the western side of the settlement, means that this is a minor role.

Purpose 5: Assisting urban regeneration by encouraging the recycling of derelict and other urban land

3.132 All parcels are considered to make an equal contribution to this purpose.

Potential alternative Green Belt boundary

3.133 The tree cover to the south of Stratford Brake Sports Ground would form a relatively strong, consistent boundary that would be stronger than the existing Green Belt boundary to the north.

Harm to Green Belt resulting from release

Parcel GB9 – Scenario 1: Release of enclosed fields in the northern section of the site north of Stratfield Brake Sports Ground – 5.27ha

3.134 Release of the northern fields contained by the recent allocated expansion of southern Kidlington would represent a limited encroachment on countryside and on the gap between Kidlington and Oxford, rather than any step-change in settlement form or extent.

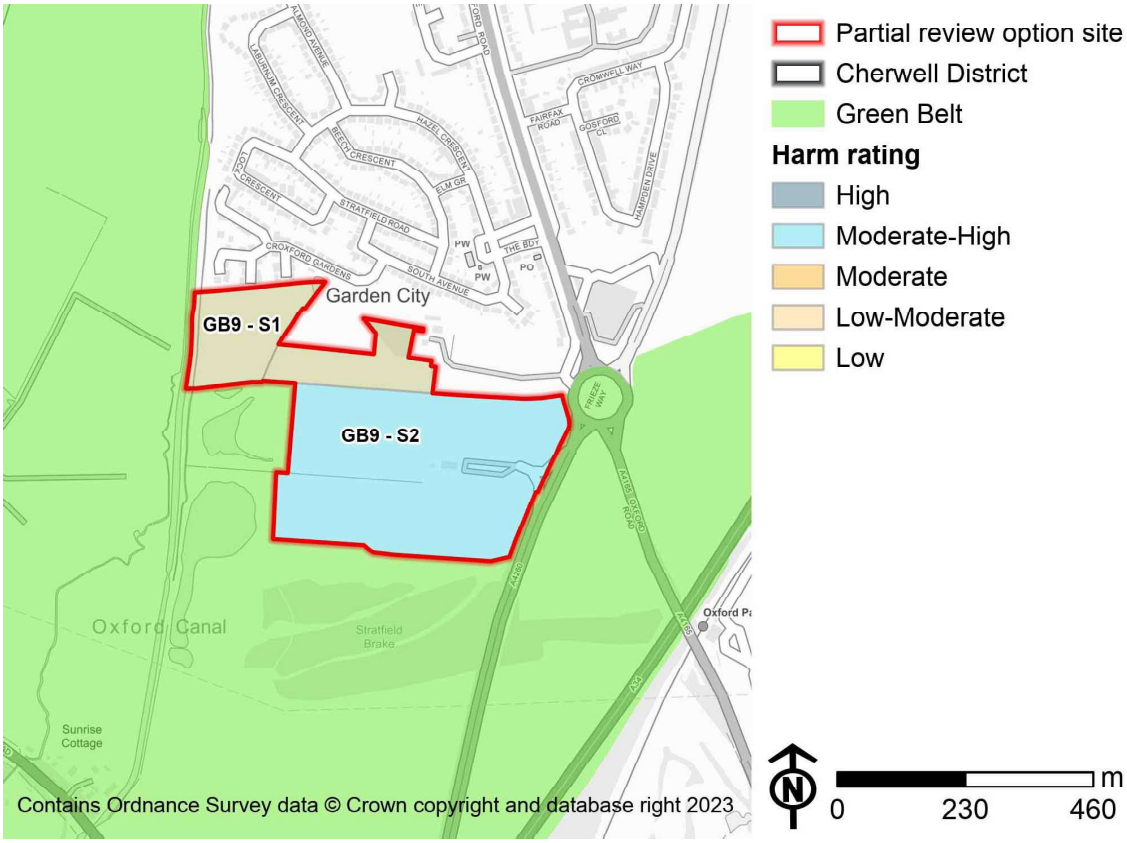
Low - Moderate

Parcel GB9 – Scenario 2: Release of Stratfield Brake Sports Ground, in conjunction with fields adjacent to urban edge in the north of the parcel – 18.74ha

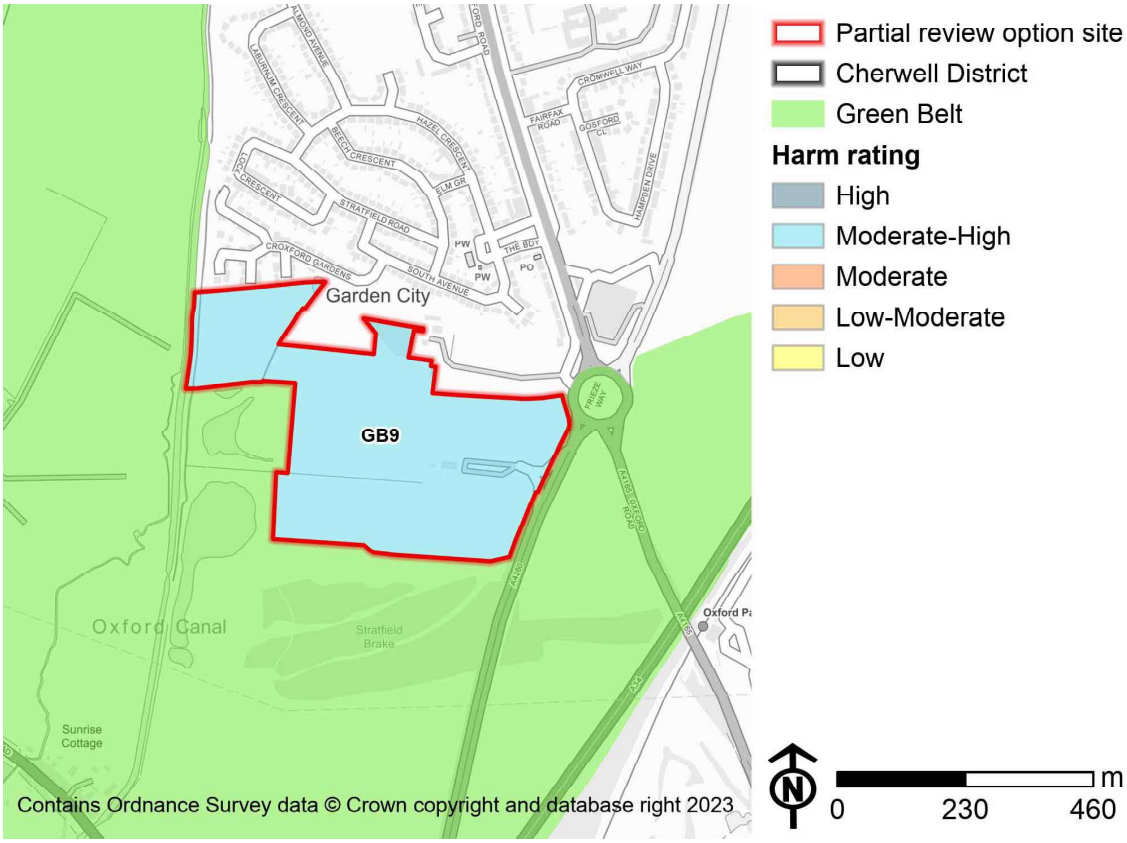
3.135 The release of Stratfield Brake Sports Ground would have greater impact on the settlement gap between Kidlington and Oxford and would be a more significant change in the settlement form of Kidlington given that development would now extend beyond Kidlington roundabout. However, the parcel is comprised of recreational uses, which limit the extent to which a release would be considered encroachment on countryside. The parcel is largely screened by dense tree cover and the A4260, which limit the impact that release would have on adjacent Green Belt. The A4260 and A34 to the southeast maintain separation between Kidlington and Oxford.

Moderate - High

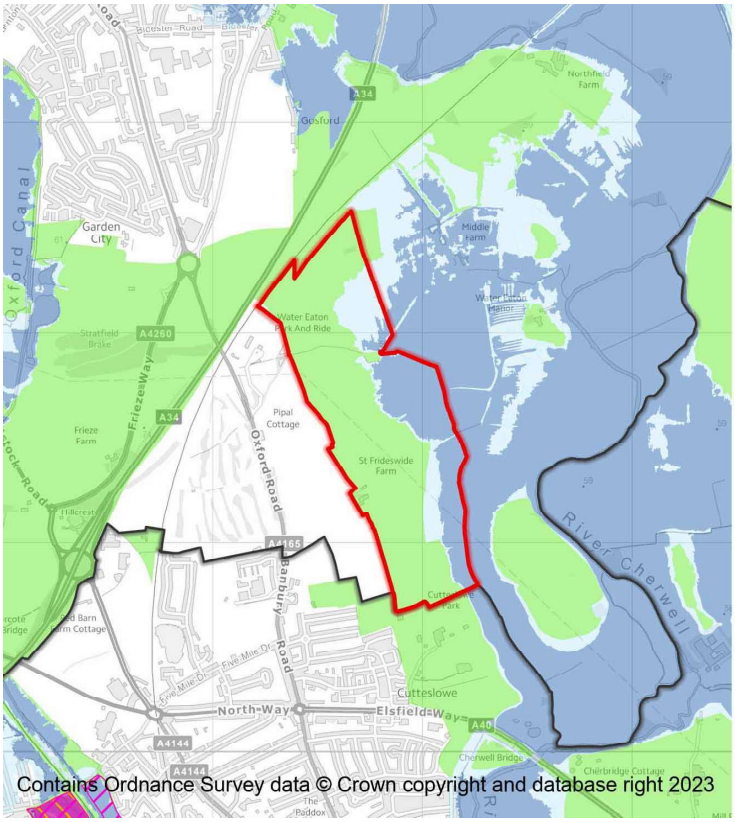
Harm to Green Belt resulting from partial release of the site



Harm to Green Belt resulting from release of the whole site



Site GB10 – Land north of Oxford



- Partial review option site
- Cherwell District
- Green Belt
- Area of Outstanding Natural Beauty
- Site of Special Scientific Interest
- Special Area of Conservation
- Scheduled Monument
- Ancient woodland
- World Heritage Site
- Registered parks and gardens
- Flood Zone 3
- Flood Zone 2

N

0 580 1,160 m

- Partial review option site
- Cherwell District

N

0 580 1,160 m

Site GB10 – Land North of Oxford – 88.04ha

Site description

3.136 The site consists of:

- Farmland to the north, east and south of St Frideswide Farm inbetween Cutteslowe and Sunnymead Park to the south and the railway line to the north. The western side of the site abuts land recently released as a northern extension to Oxford to the to the west. The north-western edge of the site abuts the Water Eaton Park and Ride and Oxford Parkway railway station, which are now merged with the northern extension to Oxford.

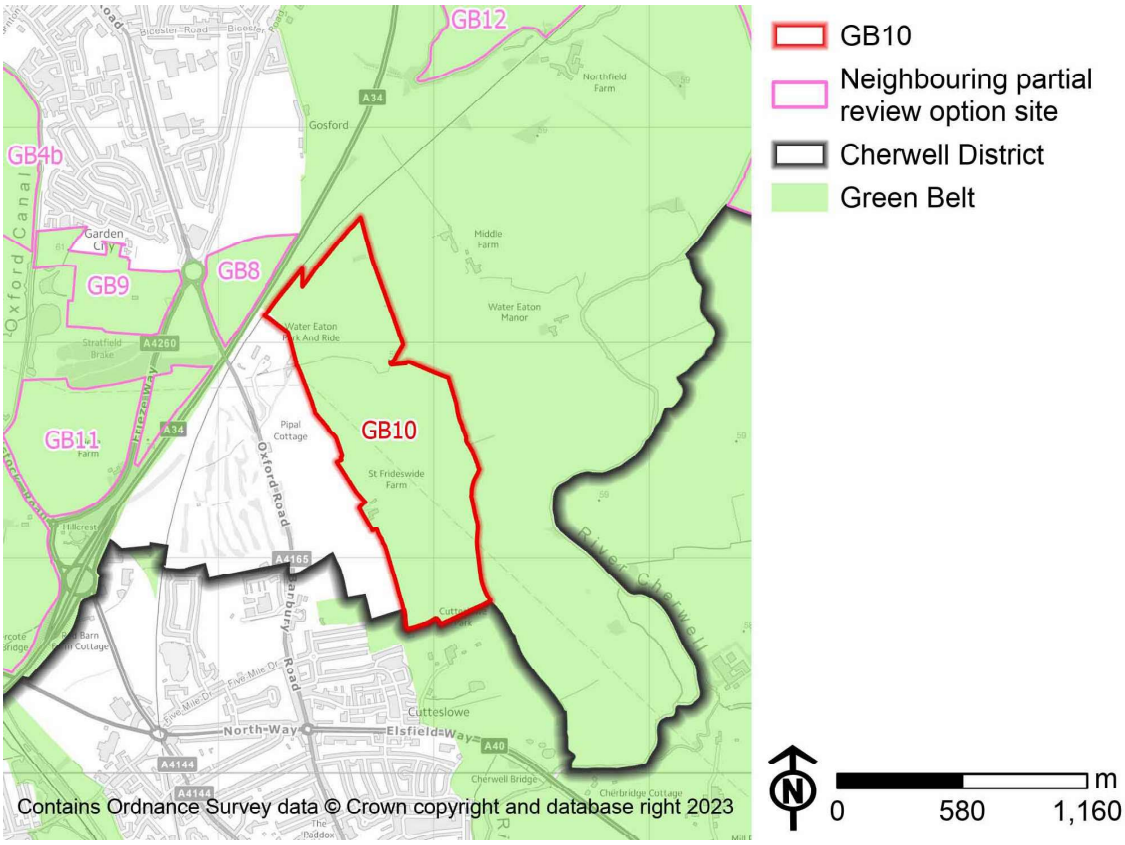
Relationship between site, settlement and countryside

3.137 There is currently little but field hedgerows to separate the site from allocated land to the west, although the Park and Ride is separated from the wider Green Belt by its perimeter access road. The site is topographically, visually and in land-use terms part of the Cherwell valley, a landscape which remains open all the way into the heart of Oxford. The site does not extend as far as the River Cherwell but nonetheless relates strongly to it.

Parcels

3.138 The site is assessed as one parcel of land.

Parcel GB10 – 88.04ha



Looking east from bridleway / access road to Water Eaton Manor, just east of the A4165 Oxford

Parcel GB10 – 88.04ha

Contribution to Green Belt purposes

Purpose 1: Checking the sprawl of Oxford

3.139 There is no strong separation from the adjacent allocated land to the west. Cutteslowe Park to the south provides some transition to the open countryside to the east. There are no strong landscape features to contain development and the site extends a considerable distance to the east as part of the Cherwell Valley. Perception of development as sprawl would increase with distance from the existing settlement edge.

Purpose 2: Preventing merger of settlements

3.140 The parcel is peripheral to what remains of the settlement gap between Oxford and Kidlington north of the A34. Further release and development north east of the Park and Ride would however extend the close proximity of the northern edge of Oxford to Kidlington. However, the parcel's role in preventing coalescence between Oxford and Kidlington is limited given that adjacent land to the west up to the A34 and railway line has now been released.

Purpose 3: Safeguarding countryside

3.141 This parcel forms part of the Cherwell valley, a landscape which remains open all the way into the heart of Oxford, and is comprised of agricultural land uses and large open field patterns. Any development here would encroach on countryside.

Purpose 4: Preserving Oxford's setting and special character

3.142 The Cherwell valley is an important element in Oxford's historic setting, but the contribution of the western side of the parcel is more limited than the contribution of the eastern side, which is closer to the valley floor and river.

Purpose 5: Assisting urban regeneration by encouraging the recycling of derelict and other urban land

3.143 All parcels are considered to make an equal contribution to this purpose.

Potential alternative Green Belt boundary

3.144 The outer edges of the parcel are hedgerows, which do not constitute strong boundary features, but the existing settlement edge at Cutteslowe and adjacent allocated land is not strongly defined either.

Harm to Green Belt resulting from release

GB10 – Scenario 1: Release of GB10

3.145 Release of the parcel would result in significant sprawl of the Oxford large built-up area into the open landscape of the Cherwell Valley, which would be considered significant encroachment on countryside and have an impact on Oxford's historic landscape setting.

3.146 Release of the land to the west has created a continuous and relatively regular new Green Belt boundary running from the Water Eaton Park and Ride in the north to Cutteslowe and Sunnymead Park in the south. Water Eaton Park

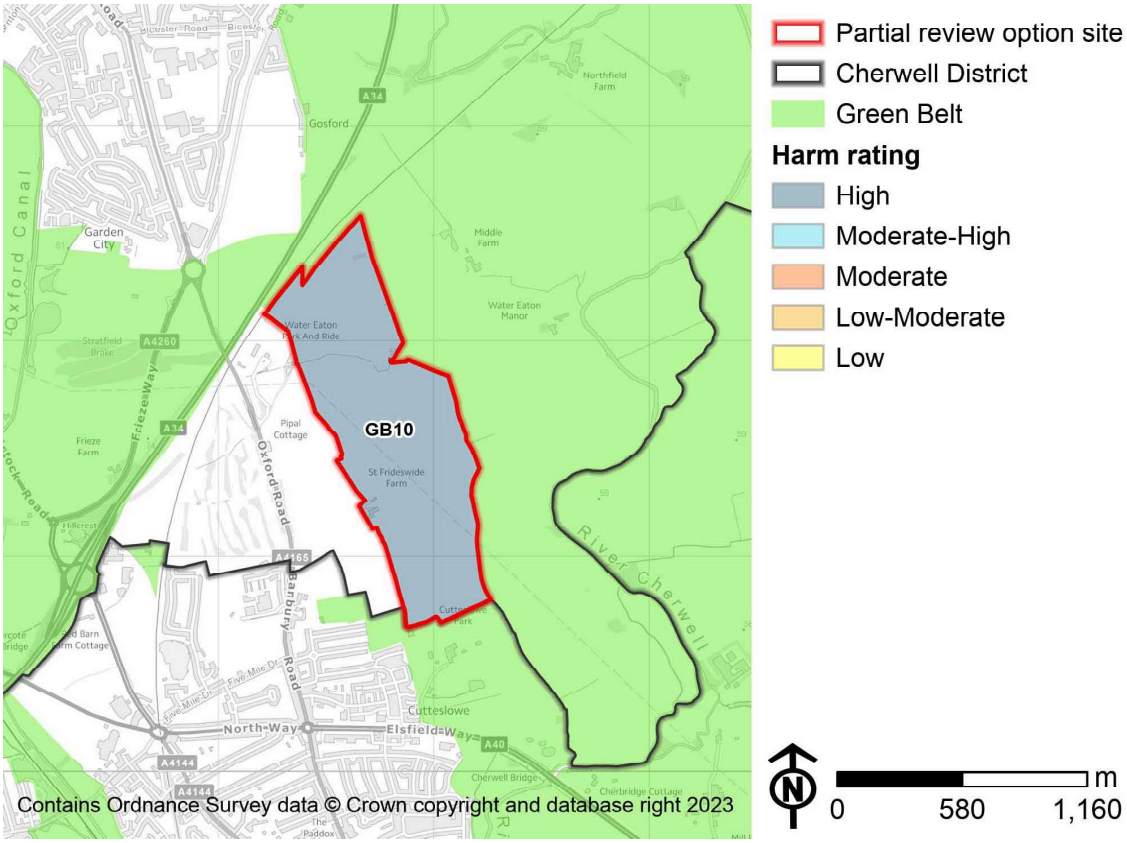
and Ride now forms park of the large built-up area of Oxford. Therefore, the land east of the Park and Ride no longer represents an area that could potentially be released with reduced harm as it would now be considered a further expansion of Oxford into open countryside and increase containment of the land to the south.

Harm to Green Belt resulting from release of the site in its entirety

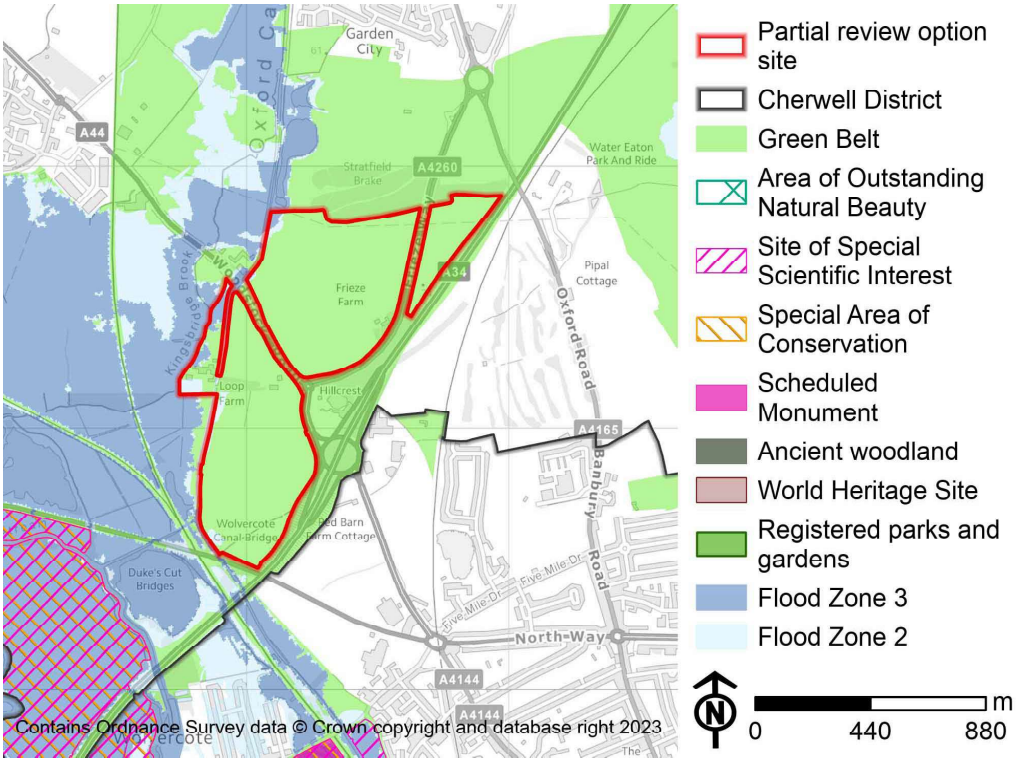
3.147 Release of the site as a whole would represent significant north-eastwards sprawl of the large built-up area of Oxford into the open countryside of the Cherwell Valley and would increase containment of Cutteslowe and Sunnymead Park to the south.

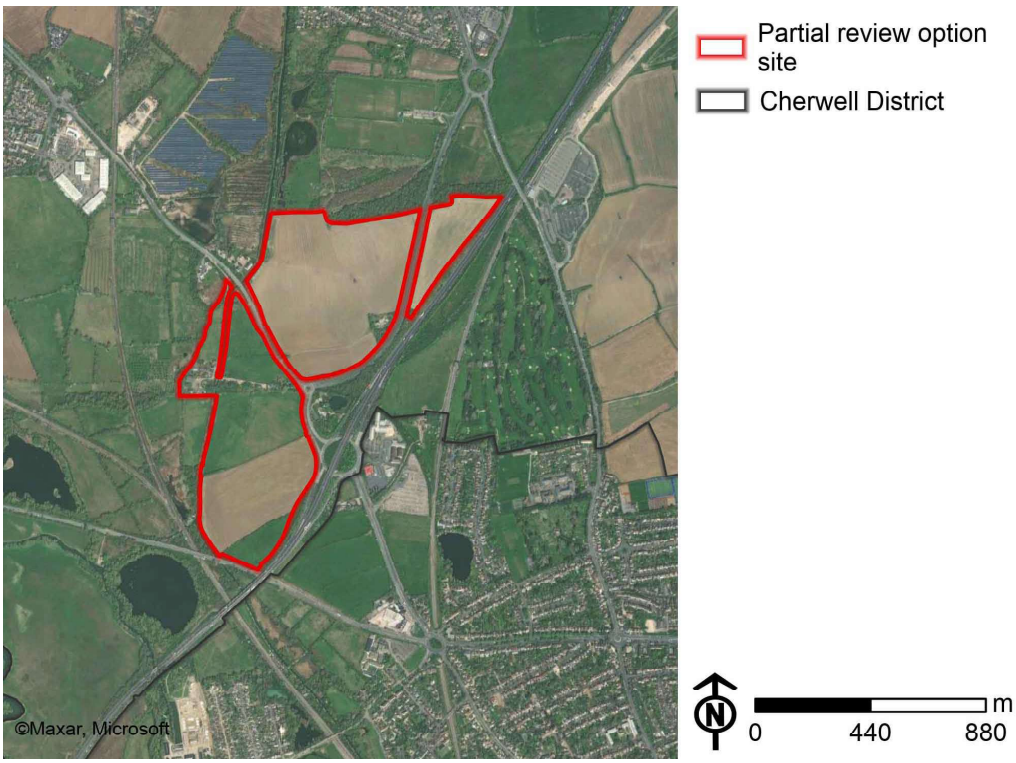
High

Harm to Green Belt resulting from release of the site



Site GB11 – Loop Farm, Frieze Way and Peartree





Site GB11 – Loop Farm Friezeway Peartree – 67.60ha

Site description

3.148 The site consists of:

- The northern part of the site contains a large, arable field, along with the Frieze Farm buildings, which are used as commercial office premises, together with a smaller field and a buffer strip of vegetation. Within this area there is strong separation between the main body of farmland to the west of the A4260 and the narrower field between the A4260 and the A34.
- The south of the site comprises a series of pasture fields contained between the Oxford Canal and three major roads – the A44, A34 and A40 – together with the buildings of Loop Farm located to the west of the rest of the site, between the Oxford Canal and Kingsbridge Brook. There are also two residential dwellings on the eastern edge of the site, to either side of the access road to Loop Farm from the A44.

Relationship between site, settlement and countryside

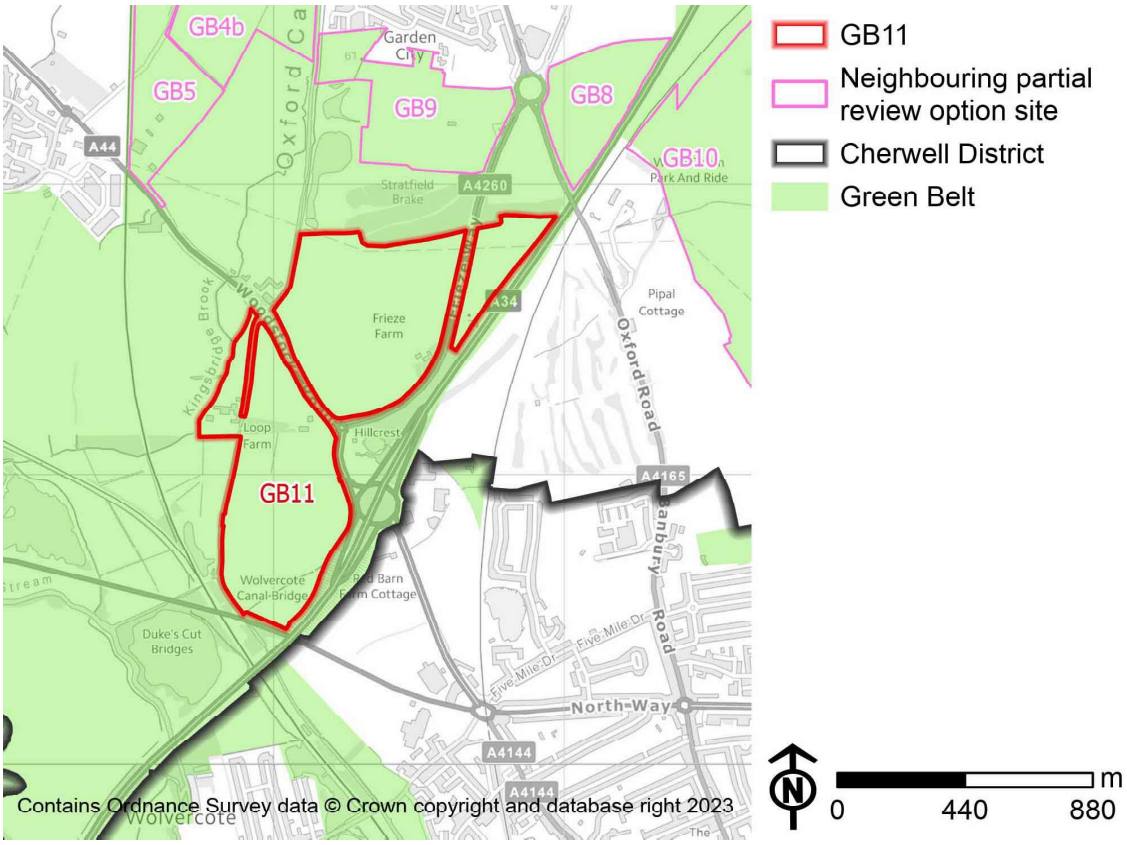
3.149 The north of the site has strong physical containment, by the A44 (south-west), the A4260 (south), the A34 (west), Stratfield Brake woodland (north) and the Oxford Canal (north-west). To the south of the A4260, the A34 and Peartree interchange create strong separation from the urban edge of Oxford (land which has recently been released to create the Oxford Northern Gateway development). Peartree Hill forms a high point at the southern end of this part of the site, adding to the separation between this site and Oxford, the northern extents of which lie on land sloping southwards. Stratfield Brake, a publicly accessible combination of woodland, wetland and meadow managed by the Woodland Trust, forms a strong buffer between the site and Kidlington to the north.

3.150 The south of the site has strong physical containment, by the A44 (to the north-east), the A34 (south-east), A40 (south) and Oxford Canal (to the west, although the Loop Farm buildings lie beyond it, accessed by a swing bridge). The A34 and Peartree interchange create strong separation from the urban edge of Oxford (land which has recently been released to create the Oxford Northern Gateway development). Again Peartree Hill forms a high point to the east, so the site lies on a west-facing slope, adding to its separation from Oxford. Development within the parcel is not considered to constitute an urbanising influence.

Parcels

3.151 The site has been assessed as a single parcel.

Parcel GB11 – 67.60ha



Looking east from Oxford Canal.

Parcel GB11 – 67.60ha

Contribution to Green Belt purposes

Purpose 1: Checking sprawl of Oxford

3.152 The parcel is close to the edge of Oxford but separated from it by major roads and topography. Expansion of Oxford into this area would therefore constitute significant sprawl beyond these barriers.

Purpose 2: Preventing merger of settlements

3.153 The parcel forms a large proportion of the gap between Oxford and Kidlington, and also of the gap between Oxford and Yarnton. The Stratfield Brake Woodland Trust site constitutes a significant separating element, but any

expansion of Oxford beyond the A34 would have a strong impact on the perception of settlement separation.

Purpose 3: Safeguarding countryside

3.154 Major roads create some separation from the wider countryside, but this is to a degree offset by the parcel's elevation and its orientation away from Oxford and towards the rural landscape to the north-west and west. The Frieze Farm buildings, although in non-agricultural use, do not represent an urbanising influence. The site constitutes a sizeable area of countryside in its own right, and any development within it would represent significant encroachment into the countryside.

Purpose 4: Preserving Oxford's setting and special character

3.155 The parcel lacks direct association with the historic city centre, but the openness of this land sloping away from Oxford contributes to the City's rural setting. Its relationship with the Oxford Canal, an important historical route into the City, adds to its contribution to setting.

Purpose 5: Assisting urban regeneration by encouraging the recycling of derelict and other urban land

3.156 All parcels are considered to make an equal contribution to this purpose.

Potential alternative Green Belt boundary

3.157 The parcel has strong boundary features: major roads, a canal and woodland. There are no alternative boundary features within the parcel.

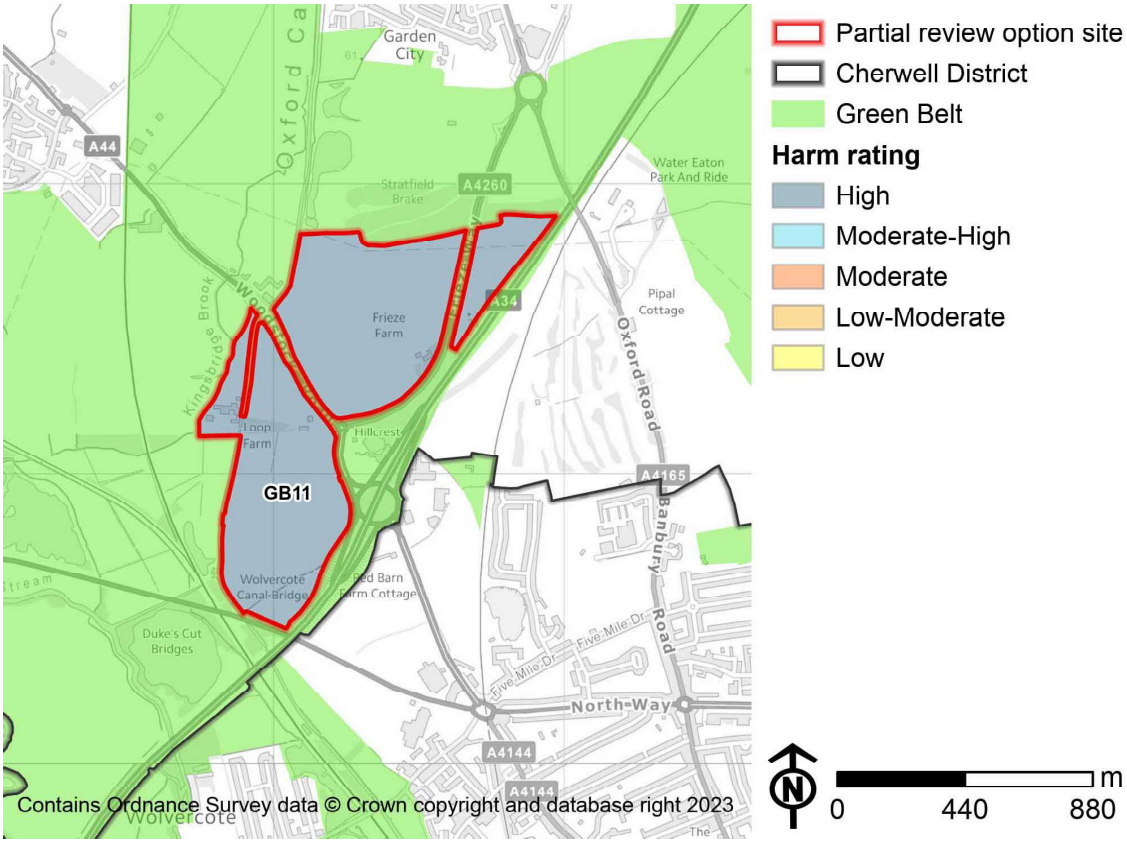
Harm to Green Belt resulting from release

Parcel GB11 – Scenario 1: Release of GB11

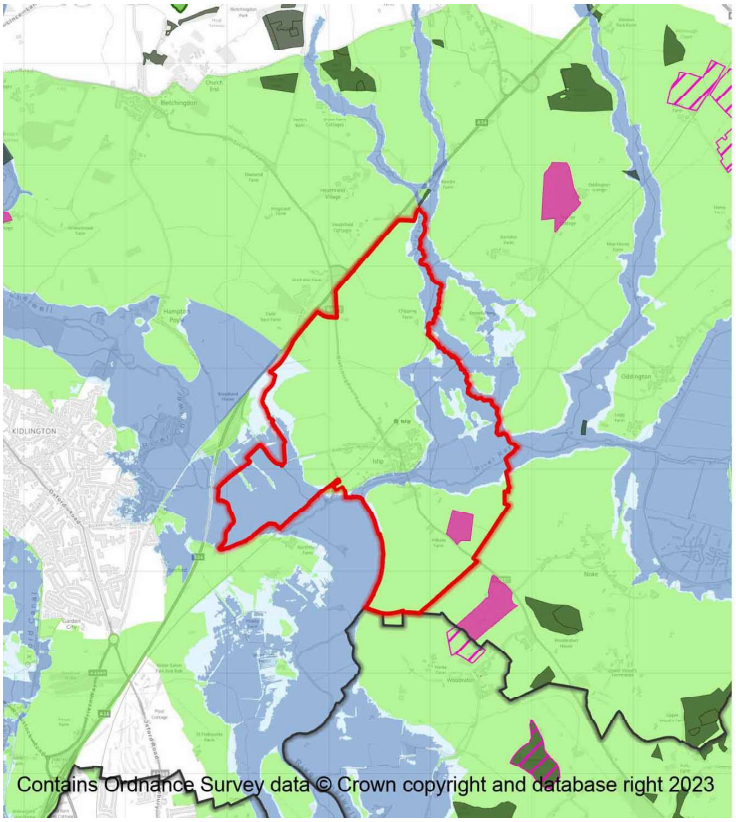
3.158 The parcel lacks relationship with the urban fringe of Oxford but is too close to it to be associated with other settlements. Any development in this area would therefore be considered significant sprawl and an encroachment on countryside that would significantly reduce the gap between Oxford and Kidlington/ Yarnton and would adversely affect the historic setting of the City. Breaching the A34 would also weaken the role of the Green Belt to the southwest, in the area contained by the A34, A40, A44 and Oxford Canal. Partial release of the parcel would not result in significantly less harm to the Green Belt, as crossing the A34 barrier is the key factor.

High

Harm to Green Belt resulting from release of the site

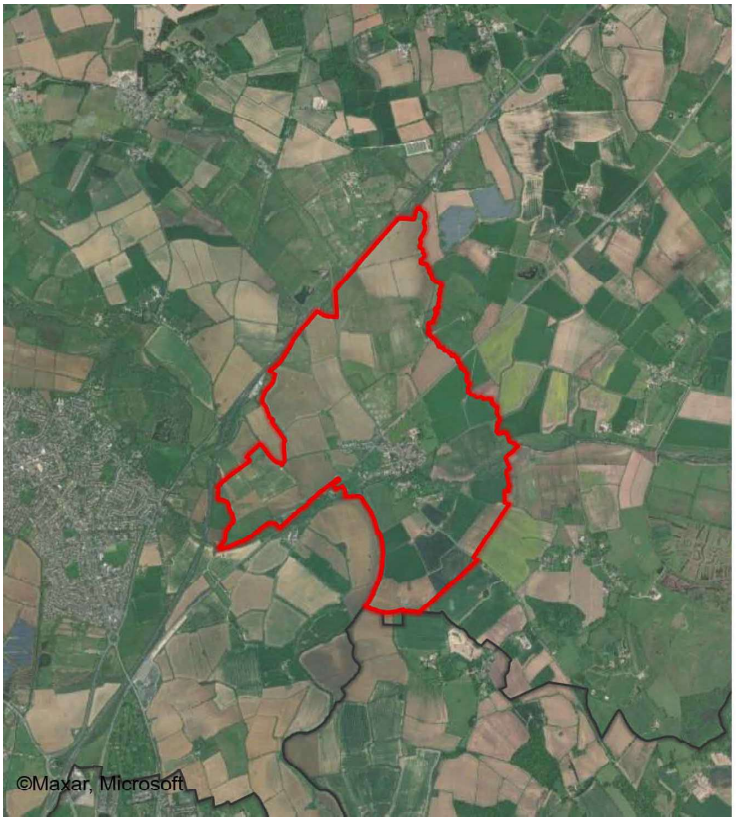


Site GB12 – Islip envelope A34



Partial review option site
Cherwell District
Green Belt
Area of Outstanding Natural Beauty
Site of Special Scientific Interest
Special Area of Conservation
Scheduled Monument
Ancient woodland
World Heritage Site
Registered parks and gardens
Flood Zone 3
Flood Zone 2

N
0 1,000 2,000 m



Partial review option site
Cherwell District

N
0 1,000 2,000 m

Site description

3.159 The site consists of an extensive area of mostly arable farmland surrounding the village of Islip (washed over by the Green Belt), extending farthest to the north, followed by west and south, including:

- A disused fuel dispersal depot on the upper eastern slopes of a low hill to the north of Islip, adjacent to the settlement edge at the southern end of the B4027 Bletchingdon Road and the railway station. Bletchingdon Road and the railway line define the site to the west and south, and field boundaries form the other edges. A number of small dilapidated buildings, lighting towers and other structures are dotted throughout the site, with most being linked by a tarmac road, and there is some small-scale commercial use in the south-western corner.

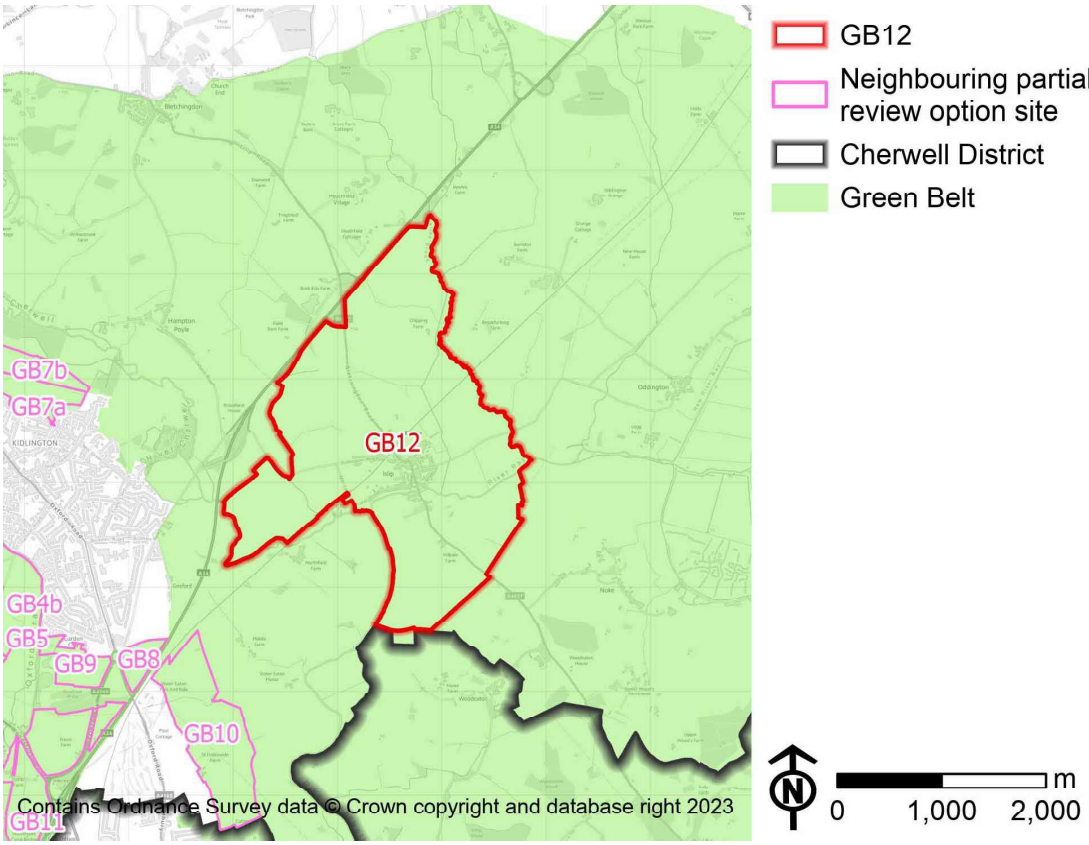
Relationship between site settlement and countryside

3.160 The site covers an extensive area of open countryside surrounding and significantly larger than the village of Islip. This countryside for the most part has a strong relationship with the surrounding arable farmland, with the outer edges of most of the site defined by the edge of the floodplain rather than by any physical landscape features. The River Ray and associated tree cover separate the land to the south of Islip from the village core, and although there is some development off Wheatley Road on Collice Street and Bridge Street this has a well treed, rural setting. The smaller areas to the south of the railway line on the west and east side of Islip have a stronger relationship with the village outskirts, but houses in this area have no urbanising influence. The main body of site is separated from the village core by the railway line, but in places abuts linear development along Kidlington Road and the southern end of Bletchingdon Road, as well as adjacent to Lower Street on the eastern side of the village. The site boundaries extend a significant distance away from Islip, which means that there are large areas that have no relationship with the village.

Parcels

3.161 The site is assessed as a single parcel. Given that the site surrounds but does not include the washed over village of Islip it has been assumed that the release of the site from the Green Belt would also include the release of the existing village to create a clear and regular alternative Green Belt boundary.

Parcel GB12 – 565.07ha



Looking south across the parcel from Bletchingdon Road towards the northern edge of Islip.

Parcel GB12 – 565.07ha

Contribution to Green Belt purposes

Purpose 1: Checking sprawl of Oxford

3.162 Development here would relate to the expansion of Islip, not Oxford. Therefore the parcel plays no role with respect to this purpose.

Purpose 2: Preventing merger of settlements

3.163 Development in the west of the site would represent a significant reduction in the gap to Kidlington, but the parcel lies on the eastern side of the River Cherwell, which together with the A34 further west creates strong separation that would prevent any settlement coalescence.

Purpose 3: Safeguarding countryside

3.164 The majority of the parcel has no strong, physical outer boundary feature, lies a significant distance from development and is considered to relate more strongly to the wider arable countryside than the settlement of Islip. Development within the parcel would therefore represent significant encroachment into the countryside.

Purpose 4: Preserving Oxford's setting and special character

3.165 Islip is some distance from Oxford, but the rural character of the approach to the City along the Cherwell valley still contributes to its historic character. This parcel forms part of that wider rural setting.

Purpose 5: Assisting urban regeneration by encouraging the recycling of derelict and other urban land

3.166 All parcels are considered to make an equal contribution to this purpose.

Potential alternative Green Belt boundary

3.167 The western edge of the site is defined by the edge of the Cherwell floodplain. The northwest of the parcel is defined by the A34, which provides a strong boundary but lies at a significant distance from Islip. To the east and south, there is little separation between the site and surrounding countryside.

Harm to Green Belt resulting from release

Parcel GB12 – Scenario 1: Release of GB12

3.168 Release of the entire site in combination with the existing village of Islip would represent a major change in the form of the village and a significant encroachment on the surrounding countryside, extending out into open farmland.

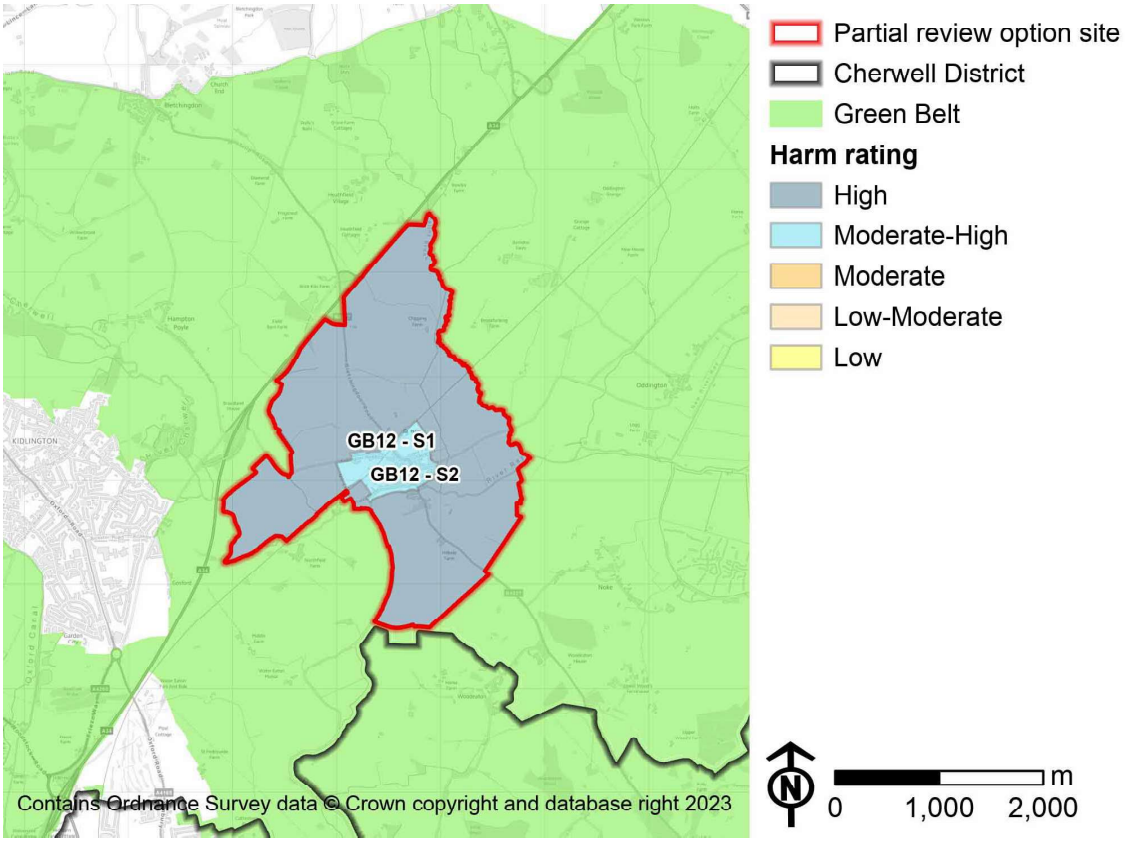
High

Parcel GB12 – Scenario 2: Release of Islip in combination with land to the north and south of the railway line on the western side of Islip and land to the south of the railway line on the eastern side of Islip – 40.55ha

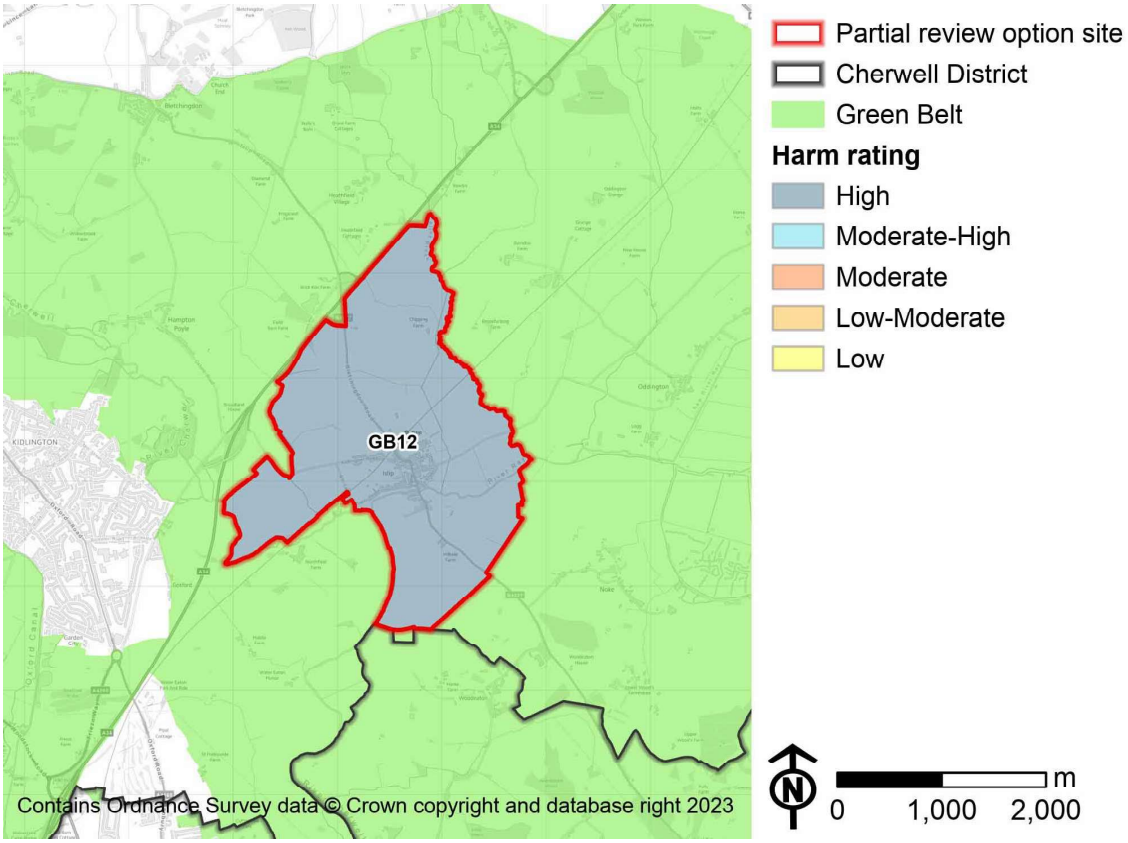
3.169 Development here would represent encroachment on countryside but would not have a strong impact on the contribution of adjacent Green Belt, given that these areas are already contained to an extent by the village. In character, form and density, the core of Islip to the south of the railway line is commensurate with its washed-over status, and the current extent of development to the north of the railway is insufficient to significantly affect this.

Moderate High

Harm to Green Belt resulting from partial release of the site



Harm to Green Belt resulting from release of the whole site



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