



Balmoral Avenue, Banbury (Phase 2)
Letter Report for the Discharge of Planning Conditions
August 2023
Our Ref: 27526 -GEO-0401

Introduction

M-EC Development Technical Consultants Limited (M-EC) has been commissioned by Orbit Homes Limited (hereafter referred to as 'the Client') to prepare a report, detailing how previous investigations undertaken by BWB Consulting Ltd are sufficient to support the discharge of pre-commencement planning conditions for a proposed residential development scheme at Balmoral Avenue, Banbury (hereafter referred to as 'the Site'). A site location plan is presented in **Appendix A**.

The report also clarifies the radon classification of the site, following updates to the guidance by the UK Health Security Agency (UKHSA) in December 2022.

Disclaimer

M-EC has completed this report for the benefit of the Client and any relevant statutory authority which may require reference in relation to approvals for the proposed development. Other third parties should not use or rely upon the contents of this survey unless explicit written approval has been gained from M-EC.

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Document Review

Planning Application

The planning application held by Cherwell District Council, ref: 21/03644/OUT, is for the erection of up to 49 dwellings, associated open space, sustainable urban drainage system, and access from Balmoral Avenue. This report addresses pre-commencement planning Conditions 6 to 9 relating to the potential environmental risks associated with ground contamination.

Previous Report

A Phase 1 and 2 Ground Investigation was completed by BWB Consulting Ltd in 2021 under the following report title:

- 'Broughton Road, Banbury, Oxfordshire – Phase 1 and 2 Geo-Environmental Assessment', ref: BP2-BWB-ZZ-XX-RP-YE-0001_Ph1&Ph2, Dated November 2021.

Planning Condition Discharge

Pre-commencement planning Condition 6 addresses the requirement for the completion of a desk study and site walkover to inform the production of a conceptual site model to identify any potential ground and water contamination that may affect the proposed development. It was specified that this should be in accordance with the Environment Agency's 'Model Procedures for the Management of Land Contamination, CLR11' guidance. This guidance was superseded by the 'Land Contamination: Risk Management' (LC:RM) guidance in 2020. Condition 7 addresses the requirement for the completion of a comprehensive intrusive investigation designed based on the findings of the desk study completed as part of Condition 6.

The report prepared by BWB included an initial desk study assessment which identified potential contaminant sources including Made Ground associated with farm buildings and the general agricultural usage of the site. A site investigation was completed by BWB in 2021, which included characterisation of ground conditions, and assessment



of land contamination and potential pollution of controlled waters. The results of the investigation were utilised to refine the preliminary conceptual site model presented in Section 6 of the report, which outlined pollutant linkages through the Source-Pathway-Receptor principle, in accordance with LC:RM guidance. This report therefore meets the requirements of Conditions 6 and 7.

Unacceptable contamination risks to human health or controlled waters receptors were not identified from the investigation, therefore Conditions 8-9, relating to development and implementation of remedial measures, are not applicable, and consequently can be discharged.

Re-Assessment of Radon Protection Requirement

The Phase 1 and 2 Geo-Environmental Assessment concluded that the site was within an area where between 5-10% of properties are above the Radon Action Level, and that basic Radon gas protection measures would be necessary. In December 2022, the UKHSA updated their guidance on Radon gas potential, and the BGS Radon Report is presented in **Appendix B**. An updated plan showing the most recent Radon gas potential is presented in **Appendix C**, with the current proposed layout overlaid.

The data indicates that the south of the site is within an area where 10-30% of properties are above the Radon action level, indicating that full protection measures will be required for plots in this area.

The centre and north of site are within an area where 5-10% of properties are above the Radon action level. It is therefore considered that basic radon protective measures are recommended to be implemented for plots in this area.

REGISTRATION OF AMENDMENTS

Date	Rev	Comment	Prepared By	Checked By	Approved By
August 2023	-	First issue	Jimesh Mistry MSci MSc FGS Geo-Environmental Engineer	Christopher Wall MSc BSc (Hons) AMIEEnvSc Senior Geo Environmental Engineer	David Torrance BSc (Hons) CGeol FGS Associate Director Geo-Environmental

Appendices

- A. Site Location Plan
- B. BGS Radon Report
- C. Updated Radon Plan

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APPENDICES



APPENDIX A

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SITE LOCATION PLAN

Project: Balmoral Avenue, Banbury (Phase 2)

File Ref: 27526

O.S. Grid Ref: 443694 239970

Postcode: OX16 0JS





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APPENDICES



APPENDIX B

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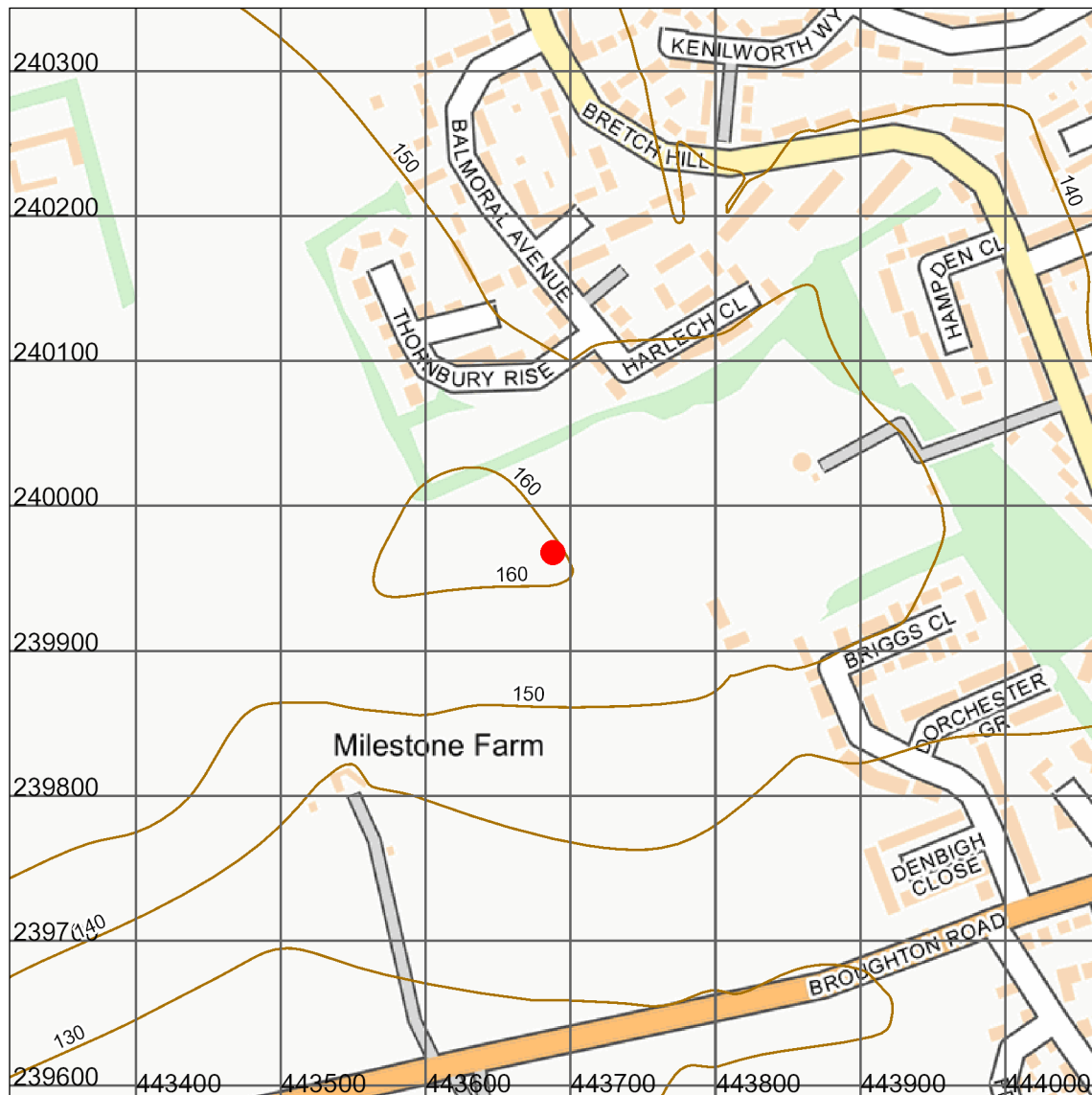
Radon Report

Advisory report on the requirement for radon protective measures in new buildings, conversions and extensions to existing buildings. The report also indicates whether a site is located within a radon Affected Area

Report Id: *BGS_334144/47196*

Client reference: 27526

Search location



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Search location indicated in red

Point centred at: 443688,239968

Radon Report: UK

When extensions are made to existing buildings in high radon areas, or new buildings are constructed in these areas, the Building Regulations for England, Wales, Scotland and Northern Ireland require that protective measures are taken against radon entering the building.

This report provides information on whether radon protective measures are required. Depending on the probability of buildings having high radon levels, the Regulations may require either:

1. No protective measures
2. Basic protective measures
3. Full protective measures

This is an advisory report on the requirement for radon protective measures in new buildings, conversions and extensions. The report also indicates whether a site is located within a radon Affected Area

Requirement for radon protective measures

The determination below follows advice in *BR211 Radon: Guidance on protective measures for new buildings (2023 edition)*, which also provides guidance on what to do if the result indicates that protective measures are required.

Is the property in an area where radon protective measures are required for new buildings or extensions to existing ones as described in publication BR211 (2023 edition) Radon: Guidance on protective measures for new buildings?

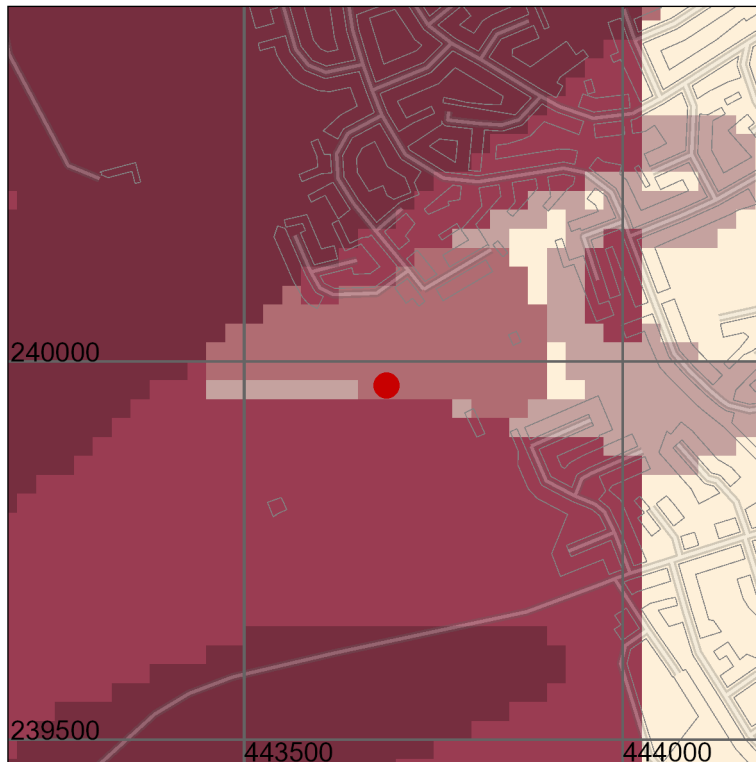
BASIC RADON PROTECTIVE MEASURES ARE REQUIRED FOR THE REPORT AREA.

More details of the protective measures required are available in *BR211 Radon: Guidance on protective measures for new buildings (2023 Edition)*. Additional information and guidance is available from the Building Research Establishment website (<http://www.bre.co.uk/radon/>).

Whether or not the radon level in a building is above or below the radon Action Level can only be established by having the building tested. The UKHSA provides a radon testing service which can be accessed at www.ukradon.org or by telephone (01235 822622).

If you require further information or guidance, you should contact your local authority building control officer or approved inspector.

Radon Affected Area



% Homes estimated to be at or above the action level
0-1%
1-3%
3-5%
5-10%
10-30%
30-100%

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 Scale: 1:10 000 (1cm = 100 m)

Search area indicated in red

Is the property in a radon Affected Area as defined by the UK Health Security Agency (UKHSA) and if so what percentage of homes are estimated to be at or above the Action Level? YES

Additional Information

THE PROPERTY IS IN A RADON AFFECTED AREA WHERE 5 TO 10% OF HOMES ARE ESTIMATED TO BE AT OR ABOVE THE ACTION LEVEL.

The UKHSA recommends a radon 'Action Level' of 200 Becquerels per cubic metre of air (Bq m^{-3}) for the annual average of the radon gas concentration in a home. Where 1% or more of homes are estimated to be at or above the Action Level the area should be regarded as a radon Affected Area.

This report informs you whether the property is in a radon Affected Area and the percentage of homes that are estimated to be at or above the radon Action Level at this location. Being in an Affected Area does not necessarily mean there is a high radon level within the property; the only way to determine the radon level is to carry out a radon measurement.

The UKHSA advises that radon gas should be measured in all properties within radon Affected Areas and that homes with radon levels at or above the Action Level (200 Bq m⁻³) should be remediated. Householders with levels between the Target Level (100 Bq m⁻³) and Action Level should seriously consider reducing their radon level, especially if they are at greater risk, such as if they are current or ex smokers. Whether or not a home is in fact above or below the Action Level or Target Level can only be established by having the building tested. The UKHSA provides a validated radon testing service which can be accessed at www.ukradon.org.

The information in this report provides an answer to one of the standard legal enquiries on house purchase in England and Wales, known as Law Society CON29 Enquiries of the Local Authority (2016); 3.14 Radon Gas: Do records indicate that the property is in a “Radon Affected Area” as identified by the UKHSA. The data can also be used to advise house buyers and sellers in Scotland and Northern Ireland.

If you are buying a new build property in a Radon Affected Area, you should ask the builder whether radon protective measures were incorporated in the construction of the property.

If you are buying a currently occupied property in a radon Affected Area, you should ask the present owner whether radon levels have been measured in the property. If they have, ask whether the results were at or above the radon Action Level and if so, whether remedial measures were installed, radon levels were re-tested, and if the results of re-testing confirmed the effectiveness of the measures.

Further information on radon is available from the UKHSA at www.ukradon.org.

What is radon?

Radon is a naturally occurring radioactive gas, which is produced by the radioactive decay of radium which, in turn, is derived from the radioactive decay of uranium. Uranium is found in small quantities in all soils and rocks, although the amount varies from place to place. Radon released from rocks and soils is quickly diluted in the atmosphere. Concentrations in the open air are normally very low and do not present a hazard. Radon that enters enclosed spaces such as some buildings (particularly basements), caves, mines, and tunnels may reach high concentrations in some circumstances. The construction method and degree of ventilation will influence radon levels in individual buildings. A person's exposure to radon will also vary according to how particular buildings and spaces are used.

Inhalation of the radioactive decay products of radon gas increases the chance of developing lung cancer. If individuals are exposed to high concentrations for significant periods of time, there may be cause for concern. In order to limit the risk to individuals, the Government has adopted an Action Level for radon in homes of 200 becquerels per cubic metre (Bq m^{-3}). The Government advises householders that, where the radon level is at or above the Action Level, measures should be taken to reduce the concentration.

Radon in workplaces

The Ionising Radiation Regulations 2017 require employers to take action when radon is present above a defined level in the workplace. Advice may be obtained from your local Health and Safety Executive Area Office or the Environmental Health Department of your local authority. The BRE publishes a guide (BR293): **Radon in the workplace**. BRE publications may be obtained from the BRE Bookshop, Tel: 01923 664262, email: bookshop@bre.co.uk website: www.brebookshop.com

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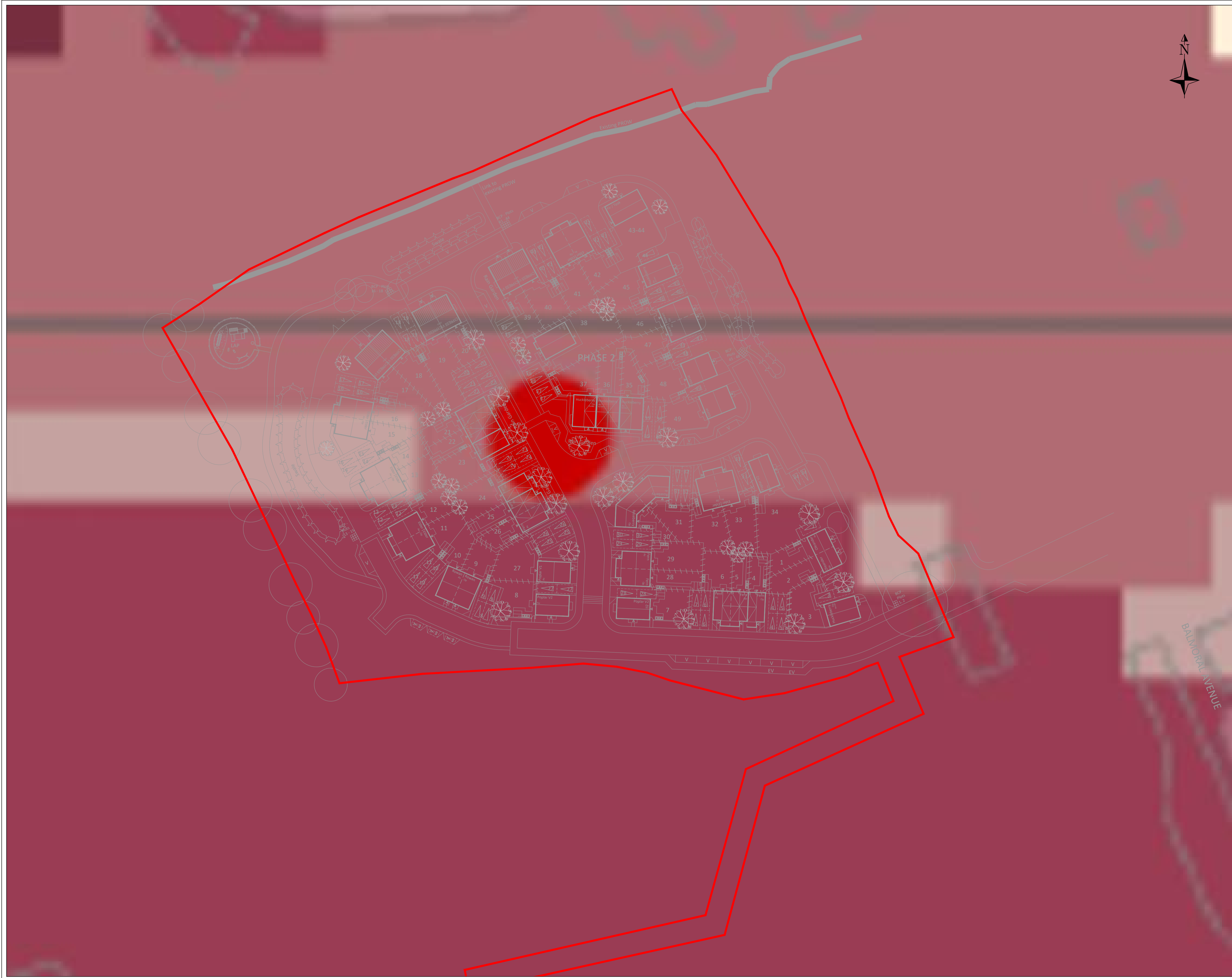
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APPENDICES



APPENDIX C



GENERAL NOTES

1. DO NOT SCALE THIS DRAWING.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ENGINEERS, ARCHITECTS AND SPECIALIST DESIGN DRAWINGS AND DETAILS.
3. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
4. THIS DRAWING IS FOR STRATEGY PURPOSES ONLY AND IS NOT TO BE USED FOR CONSTRUCTION PURPOSES.
5. THE KEY RELATING TO THE PERCENTAGE OF HOMES ESTIMATED TO BE AT OR ABOVE THE RADON ACTION LEVEL HAS BEEN OBTAINED FROM THE BRITISH GEOLOGICAL SURVEY RADON REPORT.

KEY

	APPROXIMATE SITE BOUNDARY
	% Homes estimated to be at or above the action level
	0-1%
	1-3%
	3-5%
	5-10%
	10-30%
	30-100%

REV	FIRST ISSUE	JM	CW	DT	23.08.23
REV	AMENDMENTS:	DRN	CHK	APP	DATE:

PROJECT: **BALMORAL AVENUE BANBURY (PHASE 2)**

DRAWING TITLE: **OVERLAY OF BGS RADON MAPPING**

CLIENT: **ORBIT HOMES (2020) LIMITED**

DRAWING NUMBER: **27526_04_140_01**

REVISION: **—** SHEET SIZE: **A1** SCALE: **1:500**

STATUS: **FOR INFORMATION / APPROVAL**

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