

GREEN PARK (READING) NO.1 LLP

Richard Harrod
By email only: richard.harrod@uk.rlb.com

31 July 2025

Subject: Brook Drive, Reading: Gas Risk Assessment & Remediation Strategy
Our ref: L-25053-2.4.2-25-377-NTD

Mr Harrod,

Merebrook Consulting Ltd (Merebrook) has been commissioned by Green Park (Reading) NO.1 LLP to undertake a ground gas risk assessment and provide an appropriate remediation strategy for the consented development at 300 Brook Drive, Reading.

The proposed development comprises the following:

External refurbishment of an existing office building (Use Class E) including alterations to the main entrance space, elevations, installation of solar photovoltaics (PV) panels and electric vehicle charging points, replacement plant equipment, external lighting, erection of a new cycle store with changing facilities, a new external pergola and associated landscaping works.

This letter has been written to discharge Condition 15 of Reading Borough Council planning application ref: PL/24/1520. The condition wording is reproduced below:

15. Pre-commencement Land gas risk assessment and remediation (to be submitted, including approval by LPA , and implementation as recommended):

Risk Assessment

a) The development hereby approved shall not be commenced until a site-specific land gas risk assessment in accordance with current guidance and a detailed land gas site investigation as necessary has been carried out by a competent person to fully and effectively characterise the nature and extent of land gas and its implications for the development hereby approved.

Remediation Scheme

b) The development hereby approved shall not be commenced until a remediation scheme demonstrating how the development is to be protected against the possibility of land gas in accordance with the findings of the above risk assessment, has been submitted to and approved in writing by the Local Planning Authority. The scheme shall be fully implemented and completed as approved before the development is first occupied and those measures incorporated into the development shall thereafter be retained as approved at all times thereafter.

Implementation of Approved Remediation Scheme

c) No part of the development hereby approved shall be first occupied until a validation report by an independent assessor demonstrating the remediation has been carried out fully in accordance with the approved scheme has been submitted to and approved by the Local Planning Authority.

Background

Site History

Historic plans show that the site as undeveloped prior to circa 2015 when the current office building and car park were built.

Ground Conditions

British Geological Survey (BGS) records indicate that the site is underlain by superficial deposits of Beenham Grange Gravel Member (sand & gravel) which in turn is underlain by solid geology of The Lambeth Group (clay, silt and sand).

Radon

The site-specific Radon Potential Dataset and Guidance issued by the Buildings Research Establishment (BRE-211) indicates that the site lies within an area designated RnC1 and no radon protection measures are required under the Building Control Regulations.

Previous investigations

A previous Phase 1 report has been undertaken on the surrounding site and provided to Merebrook Consulting Limited (formerly IDOM) for review. The report is detailed below:

- RPS – Phase 1: Environmental Liability Review reference: HLEL37245/001R dated October 2015 for Oxford Properties (Uk) Limited on behalf of Green Park Reading No. 1 LLP.

A report has also been provided regarding gas protection measures within the wider Green Park Business Park Site site:

- Peter Brett Associates (PBA) – Review of Gas Protection to Prudential Buildings & List of Geotechnical & Geoenvironmental Reports and Flood Risk Assessment Report, reference: 11321/1047, dated November 2011 for Green Park Reading No. 1 LLP.

The RPS report stated that no significant potentially contaminative land uses had been recorded on the site and previous intrusive investigation reports indicate that ground conditions are suitable for a commercial / industrial use. Also, no significant contamination risks to controlled waters were identified.

While gravel pits, refuse tips and sewerage farms were historically encountered close to the wider Green Park Business Park Site, 300 Brook Drive is located at least 250 m from these features.

The Environmental Health Departments at Reading Borough Council, West Berkshire District Council and Wokingham Borough Council were contacted regarding any known contamination issues at the site. RPS was advised that the Councils have not identified the site as contaminated under Part 2A of the Environmental Protection Act 1990 and that Councils have no concerns in relation to ground conditions at the site.

The PBA report concluded that sufficient gas protection systems measures had been placed within “Plot 6”, which includes 300 Brook Drive. No exploratory holes or previous gas monitoring were detailed within the site area.

Merebrook Investigation

An intrusive investigation was carried out by Merebrook on 19 to 20 March 2025 and comprised the following scope of work:

- Four shallow windowless sample probe holes (MWS101 to MWS104) to a maximum depth of 3.0 m bgl; and
- Five hand-dug pits (MHP101 to MHP105) to a depth of 0.60 m bgl.

Hardstanding (concrete) was present across the car parking areas within the east of the site and surrounding the main building within the centre of the site. A small brick-paved area was present to the west of the building.

The areas surrounding the car park comprised soft landscaping with shrubs and trees. To the west of the building comprised an open grassed area with more soft landscaped shrubs and trees along the boundary.

The geology encountered during the investigation was generally consistent with the published geology. The investigation found topsoil / made ground over sand and clay which is underlain by the Beenham Grange Gravel Member. Two locations also encountered a thin alluvium layer. The investigation did not encounter the bedrock Lambeth Group stratum.

A summary of the ground conditions encountered during the Merebrook investigation is presented in Table .

Table 1: Summary of sub-surface ground conditions

Strata			Depth to Top of Range (m bgl)	Thickness Range (m)
Topsoil			0	0.10 – 0.40
Made Ground			0 – 0.40	0.50 – 1.20
Alluvium			0.80 – 1.00	1.70 – 1.90
Beenham Member	Grange	Gravel	2.60 – 2.90	Base not proven

No visual or olfactory evidence of contamination was encountered other than the inclusion of anthropogenic materials such as brick and concrete in the made ground.

Nine soil samples were also recovered for analysis. Results were compared against screening criteria protective of human health and no exceedances were encountered.

Gas Monitoring

Gas monitoring was undertaken on six occasions from 04 April to 19 June 2025 at MWS101 to MWS104. The maximum and steady state levels of methane, carbon dioxide, oxygen, carbon monoxide and hydrogen sulphide were recorded in each standpipe, together with associated parameters including borehole flow and ambient air pressure. The time taken to reach steady state was also recorded.

The monitoring results are summarised in Table 2. The monitoring rounds were undertaken during barometric pressures of 999 to 1023 mb. Methane concentrations were generally low, with slightly elevated levels of 1.2% recorded in MWS101 during the sixth monitoring round. Carbon dioxide concentrations were also generally low, however a maximum concentration of 8.2% was recorded at MWS103 during the first monitoring round. The subsequent five rounds of monitoring identified a continual reducing trend in carbon dioxide in MWS103. No measurable gas flow rates were detected during the monitoring period with all recorded readings below the instruments limit of detection.

Table 2: Summary of Merebrook gas monitoring data (April to June 2025)

Location	Response Zone (m bgl)	Stratum	Methane (%)	Carbon Dioxide (%)	Flow (l/hr)	Depth to Water (m bgl)
MWS101	0.8 to 2.8	Beenham Grange Gravel Member	0.0 to 1.2	0.3 to 0.8	0.0	Dry to 2.80
MWS102	0.9 to 2.9	Beenham Grange Gravel Member	0.0	0.8 to 4.4	0.0	Dry to 2.64
MWS103	0.5 to 1.0	Made Ground	0.0	1.9 to 8.2	0.0	Dry
MWS104	0.95 to 2.95	Beenham Grange Gravel Member	0.0	0.8 to 1.1	0.0	Dry to 2.94

Vapour monitoring was also undertaken on six occasions from 04 April to 19 June 2025. The maximum and steady state levels of VOCs were recorded using a PID (photo-ionization device) in each standpipe. The time taken to reach steady state was also recorded.

VOC concentrations ranged from 0.2 to 1.3 ppm with the highest concentration recorded at MWS101. This is not considered to be indicative of contamination with volatile organic compounds.

Gas Risk Assessment

The ground gas risk assessment presented in this section has been undertaken in accordance with the methodology described in British Standard BS 8485:2015+A1:2019 *Code of Practice for the Design of Protective Measures for Methane and Carbon dioxide Ground Gases for New Buildings*. It is based on the data obtained by Merebrook between April and June 2025. A borehole hazardous gas flow rate (Q_{hq}) has been calculated for each well location using the maximum concentrations of methane and carbon dioxide together with the maximum flow recorded during the monitoring period. Where flow rates were measured as zero, a minimum flow rate of 0.1 l/hr (lower detection limit) has been assumed. A summary of the Q_{hq} values is presented in Table 3.

Table 3: Summary of borehole hazardous flow rates (Q_{hq})

Location	Maximum Methane (%)	Maximum Carbon Dioxide (%)	Flow l/hr	Q_{hq} Methane	Q_{hq} Carbon Dioxide
MWS101	1.2	0.8	0.1	0.0012	0.0008
MWS102	0.0	4.4	0.1	0.0001	0.0044
MWS103	0.0	8.2	0.1	0.0001	0.0082
MWS104	0.0	1.1	0.1	0.0001	0.0011

In accordance with the BS 8485, the gas screening value (GSV) for the site is taken as 0.0082 (i.e. the maximum Q_{hq} calculated). Based on this the site can be classified as Characteristic Situation 1.

Characteristic Situation (CS) 1 corresponds to a very low risk whereby gas protection measures would not be required. Whilst threshold values of 1% v/v (CH_4) and 5% v/v (CO_2) have been detected, in this case an increase to CS2 is not considered to be appropriate. Typically, following borehole installation, it is seen that CO_2 trends are upwards over monitoring periods. Here, there appears to be an initial period of oxidation with reducing concentrations indicating a return to equilibrium conditions. The presence of methane in MWS101 likely reflects the patchy presence of organic matter within alluvium. It is recognised that gas generation rates and volumes vary in such materials and tend not to indicate a significant risk of pressure driven ingress into structures. Finally, neither MWS101 nor MWS103 are located near the proposed new structure.

Recommendations and Remediation

No contaminant linkages requiring further supplementary site investigation and detailed quantitative risk assessment have been identified and there is sufficient information to design a preliminary remediation strategy.

The intrusive investigation undertaken by Merebrook has not encountered a significant gassing regime. The hazardous gas risk onsite is considered to be very low and therefore gas mitigation measures would not be required. Furthermore, the results clearly demonstrate the site is suitable for its proposed use and shall not create any undue risk to future users thereby fully according with the objectives of Policy EN16 of the adopted Local Plan.

While gravel pits, refuse tips and sewerage farms were historically encountered close to the wider Green Park Business Park Site, 300 Brook Drive is located at least 250 m from these features. Furthermore, it is noted that many of these features have subsequently redeveloped for commercial use.

The soils on site have found to have levels of contamination below the adopted screening levels and therefore remediation with respect to protection of human health is not required.

Materials, including waste soils which are not to be retained on site, should be removed and disposed of in accordance with all relevant statutes.

If imported soils are used in the landscaping works, chemical suitability should be confirmed.

It is recommended that this report is submitted to the regulators for approval prior to commencement of the works.

Subject: Brook Drive, Reading: Gas Risk Assessment & Remediation Strategy
Our ref: L-25053-2.4.2-25-377-NTD
Page: 6/6



Any observations of ground conditions atypical of those already described should be reported to IDOM immediately so that an assessment of appropriate action can be made.

We trust that the above information is helpful, however, if you have any questions, please do not hesitate to contact me.

Yours sincerely,

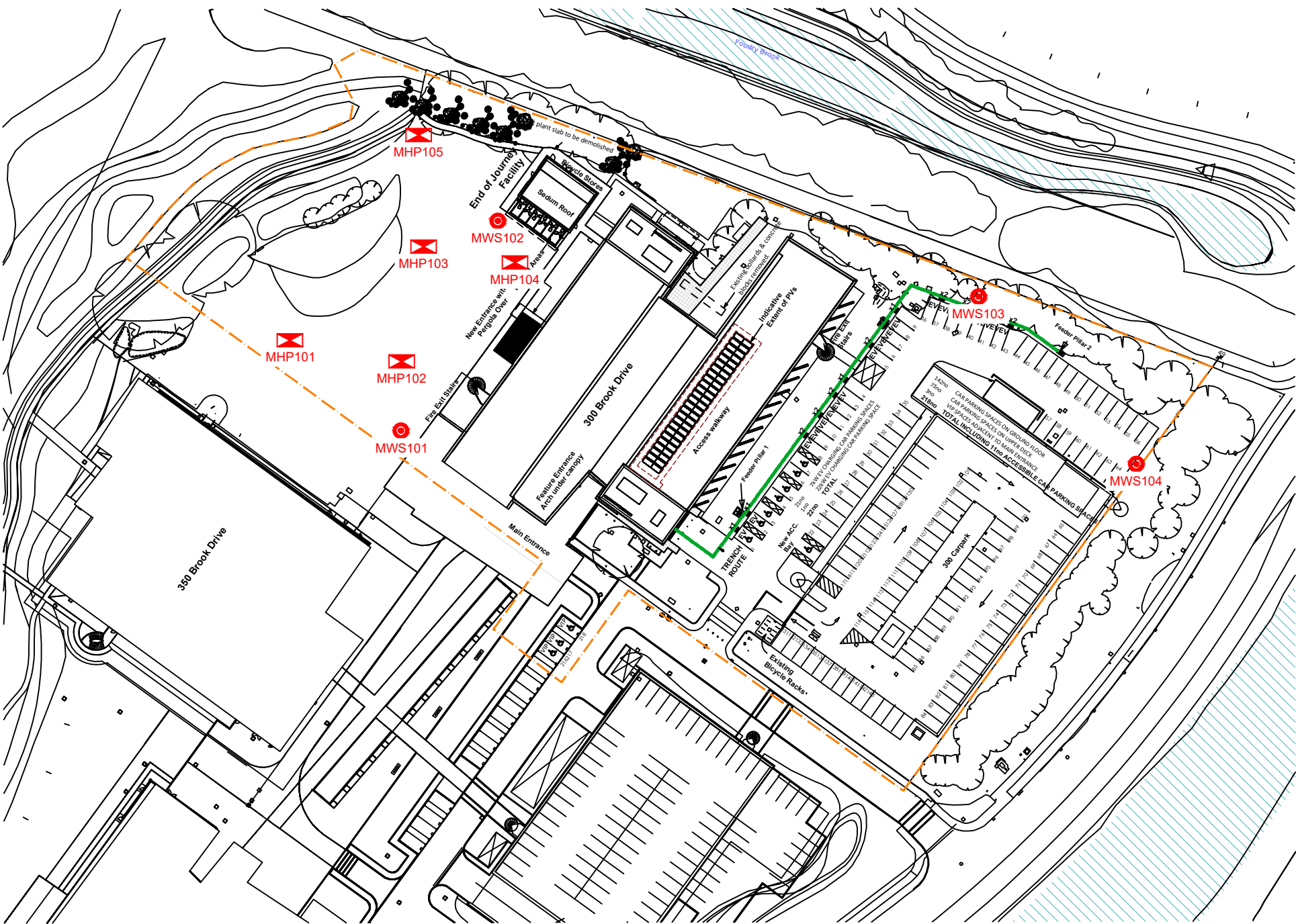
A handwritten signature in blue ink, appearing to read 'Nathan', followed by a long, horizontal, slightly wavy line.

Nathan Dellow

For Merebrook Consulting Ltd

Enc: Site plans

Fields monitoring records



NOTES

- Site boundary
- MHPref Merebrook hand trial pit with location reference
- MWSref Merebrook window sample with location reference

First Issue	01/04/25	CW	FL	FL	-
DESCRIPTION	DATE	DWN	CHD	APP'D	REV

ISSUE PURPOSE	PRELIMINARY
---------------	-------------

CLIENT	Green Park (Reading) No. LLP
--------	------------------------------

PROJECT	25053 300 Brook Drive
---------	--------------------------

DWG TITLE	Site Investigation Location Plan
-----------	-------------------------------------

DWG NO.	25053-303-001
---------	---------------

SCALE 1:1000	DATE April 2025	FRAME DIMS (mm) (A3) 420 x 297
DRAWN CW	CHECKED FL	APPROVED FL

IDom

Registered Office: Cromford Mills, Mill Lane, Matlock, Derbyshire, DE4 3RQ
Website: www.merebrook.co.uk t: +44(0)1773 829 988 e: info.derbyshire@idom.com

© Crown copyright 2025 OS AC0000846239.

Green "pencil" line indicates approx extent of space that may have "outdoor bare soil" under WELL definition

HARD LANDSCAPE

- S1 EXISTING MACADAM to be retained and made good where required.
- S2 EXISTING CONCRETE SLAB PAVING to be retained, steam clean and where required slabs replaced to make good.
- S3 CONCRETE SLAB PAVING 400 x 450 x 50 mm, Saxon Paving, Natural, by Marshalls
- S4 COMPOSITE DECKING 200 x 32 x 3600 mm, Weathered Oak, Driftwood, by Millboard
- S5 EXISTING SELF BINDING GRAVEL to be retained and made good where required.
- S6 SELF BINDING GRAVEL to match the existing self binding gravel, Brendon Golden Amber gravel, by Brendon
- S7 EXISTING PEBBLE MAINTENANCE STRIP to be retained, clean and made good where required.
- S8 MAINTENANCE STRIP 40-20mm, Aegean White Cobbles & Pebbles, by CED Stone
- S9 EXISTING TAR SPRAY AND CHIP To be made good where required
- S10 TAR SPRAY AND CHIP Buff, to match existing
- S11 BLISTER TACTILE 400 x 400 x 50 mm, Blister tactile, Standard Natural, by Marshalls
- E1 TIMBER EDGING 3000 x 150 x 38 mm, Gravel board, by Timberstore
- E2 ALUMINUM EDGING AluExcel, 75mm, Flexible, by Kinley
- E3 FLUSH PIN KERB 50 x 200 x 314 mm, Flat top edging, Natural, by Marshalls
- E4 TRANSITION KERB - LEFT & RIGHT 125 x 255 x 915 mm, British standard kerb, Half Battered Kerb, Natural, by Marshalls
- E5 DROP KERB 125 x 150 x 915 mm, British standard kerb, Bullnosed Drop kerb centre, Natural, by Marshalls
- E6 EXISTING KERB to be retained and made good where required
- E7 STRAIGHT KERB 125 x 255 x 915 mm, British standard kerb, Bullnosed Kerb, Natural, by Marshalls
- E8 45° SPLAYED STRAIGHT KERB 125 x 225 x 915 mm, British standard kerb, 45° straight Channel, Natural, by Marshalls

FURNITURE

- F1 LOG BENCH (L) 1500-2000mm x (a)700 mm, Site work or FSC free trunk with flat sanded top to provide seat
- F2 SEAT TOP ON GABION WALL (L) 1000 x (D) 440 mm, Lapa Wall-top, Iroko timber, by Furnitubes
- F3 CIRCULAR BENCH (R) 1250 x (H) 450 mm, x6 Railroad Mid Radius 1.25 Left, Iroko timber, by Furnitubes
- F4 BENCH WITH BACKREST (L) 1940 x (D) 700 x (H) 450/870, Railroad independent bench with backrest, Iroko timber, RAL 7016, by Furnitubes
- F5 COFFEE TABLE & CHAIRS 8 sets of cafe tables & chairs for End Of Journey Facility and under pergola. Bloc chair & Lounge table, by Vestre
- F6 BIKE REPAIR STATION Public bike repair stand with pump, RAL 7016, by Turvec
- EXISTING BIKE SHELTER to be cleaned and repaired
- LIGHTING Low level wash light, RAL 7016 to M&E Engineer's specification
- F7 BIRD NEST BOXES 2 no. 1B Schweger Nest Box
- F8 BEE POSTS 3 no. Raiser site won (a)100-150 mm x (H)500-2000 mm logs and drill (a)5-10 mm holes randomly spread on the posts
- BOLLARDS relocate the existing bollards to new position
- GABION WALL (H)425 mm, top and front of the basket lay with dressed stone

SOFT LANDSCAPE

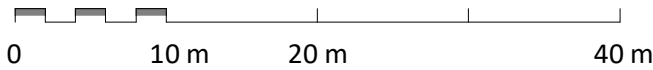
- EXISTING TREE to be retained
- PROPOSED EXTRA HEAVY TREE
- RELOCATED TREE
- PROPOSED WILD FLOWER
- EXISTING GRASS to be retained
- EXISTING HERBACEOUS BED to be retained
- PROPOSED HERBACEOUS BED
- EXISTING SHRUBS/GROUNDCOVER to be retained
- PROPOSED GROUNDCOVER
- EXISTING HEDGE to be retained
- RELOCATED HEDGE
- HEDGE
- RAIN GARDEN

SPOT GRADES

- FGL FINISHED GRADE LEVEL
- FFL FINISHED FLOOR LEVEL
- EX EXISTING LEVEL

Any removal of vegetation in this area to facilitate pipelines to be replaced with like for like shrub planting.

No.	Revision	date	by	checked
P04	Amendments to western lawn.	10/09/24	CHC	GH
P05	Amendments to western lawn.	25/09/24	CHC	GH
P06	Minor amendments.	14/10/24	CHC	GH
P07	Minor amendments.	17/10/24	CHC	GH
P08	Amendments to car park layout.	24/10/24	CHC	GH
T00	Tender Issue	09/01/25	CHC	GH



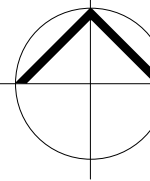
General Notes:

Drawing information has been based on existing record drawings. Stride Treglown accept no responsibility for omissions and errors made in the production of this base line information or errors in new construction information deriving from the existing drawings.

All figured dimensions should be checked on site and any discrepancies reported to Stride Treglown immediately.

This drawing is to be read in conjunction with all other relevant drawings and information prepared by consultants and sub-contractors.

NORTH



5 0 5 10 15 20 25
SCALE 1: 500 m

Site Planning Boundary

A1 P30 10/01/25 Initial TENDER issue
STATUS REV DATE DESCRIPTION

CLIENT
Mapletree Investments

REVISOR
ACS
CHECKED BY
GW
ORIGINATOR NO
156210

CONSULTANT
STRIDE TREGLOWN
www.stride-treglown.com © Stride Treglown Limited 2020

PROJECT
300 Brook Drive
Green Park, Reading RG2 6UB

DRAWING TITLE
Proposed Site Plan

SUITABILITY STATUS
A1 : Authorized and accepted As indicated@A2

DRAWING USAGE: STAGE 3+ TENDER

PROJECT - ORIGINATOR - VOLUME - LEVEL - TYPE - ROLE - CLASS - NUMBER STATUS, REVISION
156210-STL-XX-00-DR-A-XXXX-17002 A1_P30

Site Plan
1 : 500

GAS MONITORING RECORD ROUND 1

Location Reference	Time	Flow and Pressure Measurements				Gas Measurements									VOC Measurements		Dip Measurements		Comments
		Flow		Atmospheric Pressure	Differential Pressure	Methane Max	Methane Steady	Methane LEL	Carbon Dioxide Max	Carbon Dioxide Steady	Oxygen	Carbon Monoxide	Hydrogen Sulphide	Time Taken to Reach Steady State	Hexane	PID	Depth to Water	Depth to Base	
		max	steady																
		l hr ⁻¹																	
MWS101	09:37	0	0	1019	0	0	0	0	0.8	0.3	0.5	0	0	40.000	0.000	nr	2.80	2.85	-
MWS102	09:30	0	0	1019	0	0	0	0	2.3	2.3	5.5	0	0	40.000	0.000	nr	2.64	2.87	-
MWS103	09:20	0	0	1019	0	0	0	0	8.2	8.2	11.1	0	0	45.000	0.000	nr	DRY	1.20	-
MWS104	09:08	0	0	1019	0	0	0	0	0.9	0.9	18.2	0	0	30.000	0.000	nr	2.15	2.95	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Weather:		Sunny. Atmospheric pressure stable during past 12 hours				nr = not recorded				Gas Analyser		PID		Site:				300 Brook Drive	
						Model:				GFM436		0.0		Project Number:				25053	
						Serial Number:				12228		0		Monitored By:				Deji Juwa	
						Date of Last Calibration:				17/10/2024		00/01/1900		Date:				04/04/2025	

GAS MONITORING RECORD ROUND 2

Location Reference	Time	Flow and Pressure Measurements				Gas Measurements									VOC Measurements		Dip Measurements		Comments	
		Flow		Atmospheric Pressure	Differential Pressure	Methane Max	Methane Steady	Methane LEL	Carbon Dioxide Max	Carbon Dioxide Steady	Oxygen	Carbon Monoxide	Hydrogen Sulphide	Time Taken to Reach Steady State	Hexane	PID	Depth to Water	Depth to Base		
		max	steady																	
		l hr ⁻¹																		
MWS101	10:45	0	0	1014	0	0.4	0.4	11	0.5	0.5	0.1	0	0		0.099	0	DRY	2.86	-	
MWS102	11:00	0	0	1016	0	0	0	0	0.9	0.9	19.5	0	0		0.000	0	DRY	2.90	-	
MWS103	11:15	0	0	1014	0	0	0	0	7.5	7.5	15.8	0	0		0.000	0	DRY	1.20	-	
MWS104	11:30	0	0	1014	0	0	0	0	1.1	1.1	17.6	0	0		0.000	0	2.86	2.98	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
Weather:		Overcast. Atmospheric pressure rising during the past 30 hours.				nr = not recorded					Gas Analyser		PID		Site:				300 Brook Drive	
						Model:					GFM series		Minirae 3000		Project Number:				25053	
						Serial Number:					12228		592-931891		Monitored By:				Finn Leahy	
						Date of Last Calibration:					17/10/2024		12/03/2025		Date:				22/04/2025	

GAS MONITORING RECORD ROUND 3

Location Reference	Time	Flow and Pressure Measurements				Gas Measurements									VOC Measurements		Dip Measurements		Comments	
		Flow		Atmospheric Pressure	Differential Pressure	Methane Max	Methane Steady	Methane LEL	Carbon Dioxide Max	Carbon Dioxide Steady	Oxygen	Carbon Monoxide	Hydrogen Sulphide	Time Taken to Reach Steady State	Hexane	PID	Depth to Water	Depth to Base		
		max	steady																	
		l hr ⁻¹																		
MWS101	10:45	0	0	1020	0	0.6	0.6	13.7	0.3	0.3	0.2	0	0		0.000	0	DRY	2.86	-	
MWS102	11:00	0	0	1020	0	0	0	0	1	1	19.5	0	0		0.000	0	DRY	2.90	-	
MWS103	11:15	0	0	1021	0	0	0	0	4.1	4.1	18.1	0	0		0.000	0	DRY	1.20	-	
MWS104	11:30	0	0	1021	0	0	0	0	0.8	0.8	17.5	0	0		0.000	0	2.94	2.98	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
Weather:		Overcast. Atmospheric pressure stable during the past 18 hours.				nr = not recorded					Gas Analyser		PID		Site:				300 Brook Drive	
						Model:					GFM series		Minirae 3000		Project Number:				25053	
						Serial Number:					12228		592-931891		Monitored By:				Finn Leahy	
						Date of Last Calibration:					17/10/2024		12/03/2025		Date:				07/05/2025	

GAS MONITORING RECORD ROUND 4

Location Reference	Time	Flow and Pressure Measurements				Gas Measurements									VOC Measurements		Dip Measurements		Comments
		Flow		Atmospheric Pressure	Differential Pressure	Methane Max	Methane Steady	Methane LEL	Carbon Dioxide Max	Carbon Dioxide Steady	Oxygen	Carbon Monoxide	Hydrogen Sulphide	Time Taken to Reach Steady State	Hexane	PID	Depth to Water	Depth to Base	
		max	steady																
		l hr ⁻¹																	
MWS101	10:45	0	0	1013	0	0.3	0.3	6.9	0.4	0.4	0	0	0		0	1	DRY	2.86	-
MWS102	11:00	0	0	1013	0	0	0	0	1.7	1.7	15.6	0	0		0	0	DRY	2.90	-
MWS103	11:15	0	0	1013	0	0	0	0	2.7	2.7	18.7	0	0		0	0	DRY	1.20	-
MWS104	11:30	0	0	1013	0	0	0	0	1	1	17.3	0	0		0	0	2.94	2.98	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
Weather:		Drizzle. Atmospheric pressure falling during the past 24 hours.				nr = not recorded					Gas Analyser		PID		Site:			300 Brook Drive	
						Model:					GFM Series		MiniRAE 3000		Project Number:			25053	
						Serial Number:					12228		592-920925		Monitored By:			Finn Leahy	
						Date of Last Calibration:					17/10/2024		06/01/2025		Date:			21/05/2025	

GAS MONITORING RECORD ROUND 5

Location Reference	Time	Flow and Pressure Measurements				Gas Measurements									VOC Measurements		Dip Measurements		Comments	
		Flow		Atmospheric Pressure	Differential Pressure	Methane Max	Methane Steady	Methane LEL	Carbon Dioxide Max	Carbon Dioxide Steady	Oxygen	Carbon Monoxide	Hydrogen Sulphide	Time Taken to Reach Steady State	Hexane	PID	Depth to Water	Depth to Base		
		max	steady																	
		l hr ⁻¹																		mb
MWS101	11:00	0	0	999	0	0	0	0	0.3	0.3	0.2	0	0	45	0	1	DRY	2.9	-	
MWS102	11:15	0	0	999	0	0	0	0	4.4	4.4	8	0	0	45	0	0	DRY	2.9	-	
MWS103	11:30	0	0	999	0	0	0	0	2.2	2.2	18.7	0	0	45	0	0	DRY	1.2	-	
MWS104	11:45	0	0	999	0	0	0	0	0.8	0.8	18	0	0	45	0	0	DRY	3.0	-	
-	-	-	-	-	-	-		-	-		-	-	-		-	-	-	-	-	
-	-	-	-	-	-	-		-	-		-	-	-		-	-	-	-	-	
-	-	-	-	-	-	-		-	-		-	-	-		-	-	-	-	-	
-	-	-	-	-	-	-		-	-		-	-	-		-	-	-	-	-	
-	-	-	-	-	-	-		-	-		-	-	-		-	-	-	-	-	
-	-	-	-	-	-	-		-	-		-	-	-		-	-	-	-	-	
-	-	-	-	-	-	-		-	-		-	-	-		-	-	-	-	-	
-	-	-	-	-	-	-		-	-		-	-	-		-	-	-	-	-	
-	-	-	-	-	-	-		-	-		-	-	-		-	-	-	-	-	
-	-	-	-	-	-	-		-	-		-	-	-		-	-	-	-	-	
-	-	-	-	-	-	-		-	-		-	-	-		-	-	-	-	-	
-	-	-	-	-	-	-		-	-		-	-	-		-	-	-	-	-	
-	-	-	-	-	-	-		-	-		-	-	-		-	-	-	-	-	
-	-	-	-	-	-	-		-	-		-	-	-		-	-	-	-	-	
-	-	-	-	-	-	-		-	-		-	-	-		-	-	-	-	-	
-	-	-	-	-	-	-		-	-		-	-	-		-	-	-	-	-	
Weather:		Drizzle. Atmospheric pressure falling during the past 18 hours.				nr = not recorded					Gas Analyser		PID		Site:				300 Brook Drive	
						Model:					GFM Series		MiniRAE 3000		Project Number:				25053	
						Serial Number:					12228		592-920925		Monitored By:				Finn Leahy	
						Date of Last Calibration:					17/10/2024		06/01/2025		Date:				05/06/2025	

GAS MONITORING RECORD ROUND 6

Location Reference	Time	Flow and Pressure Measurements				Gas Measurements									VOC Measurements		Dip Measurements		Comments
		Flow		Atmospheric Pressure	Differential Pressure	Methane Max	Methane Steady	Methane LEL	Carbon Dioxide Max	Carbon Dioxide Steady	Oxygen	Carbon Monoxide	Hydrogen Sulphide	Time Taken to Reach Steady State	Hexane	PID	Depth to Water	Depth to Base	
		max	steady																
		l hr ⁻¹																	
MWS101	12:00	0	0	1023	0	1.2	1.1	26.1	0.3	0.3	0.2	0	0		0.159	0	DRY	2.9	-
MWS102	11:45	0	0	1022	0	0	0	0	0.8	0.8	20.3	0	0		0	0	DRY	2.9	-
MWS103	11:15	0	0	1022	0	0	0	0	1.9	1.9	19.3	0	0		0	0	DRY	1.2	-
MWS104	11:00	0	0	1022	0	0	0	0	0.9	0.9	17.9	0	0		0	0	DRY	3.0	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
Weather:		Sunny. Atmospheric pressure steady during the past 6 hours.				nr = not recorded				Gas Analyser		PID		Site:				300 Brook Drive	
						Model:				GFM Series		MiniRAE 3000		Project Number:				25053	
						Serial Number:				12228		592-920925		Monitored By:				Finn Leahy	
						Date of Last Calibration:				17/10/2024		06/01/2025		Date:				19/06/2025	

MODIFIED WILSON AND CARD GAS CHARACTERISTIC SITUATION

SITE: 300 Brook Drive JOB NUMBER: 25053 24/06/2025

Modified Wilson and Card Classification

					BS 8485:2015+A1:2019 Gas Protection Scores - refer to standard for full guidance			
					Minimum Gas Protection Score Required			
Characteristic Situation	Risk Classification	Gas Screening Value Threshold (L hr ⁻¹)	Additional Factors	Typical Source of Generation	Type A Building	Type B Building	Type C Building	Type D Building
1	very low risk	<0.07	typically methane not to exceed 1% and/or carbon dioxide 5% otherwise consider increase to situation 2	natural soils with low organic content; 'typical' made ground	0	0	0	0
2	low risk	0.07 to <0.7	borehole air flow rate not to exceed 70 L hr ⁻¹ otherwise consider increase to situation 3	natural soils with high peat/organic content; 'typical' made ground	3.5	3.5	2.5	1.5
3	moderate risk	0.7 to <3.5		old landfill, inert waste, mineworking flooded	4.5	4	3	2.5
4	moderate to high risk	3.5 to <15	quantitative risk assessment required to evaluate scope of protective measures	mineworking susceptible to flooding, completed landfill	6.5 ^{A)}	5.5 ^{A)}	4.5	3.5
5	high risk	15 to <70		mineworking unflooded inactive with shallow workings near surface	hazard too high for this method to define protection measures	6 ^{A)}	5.5	4.5
6	very high risk	>70		recent landfill site	hazard too high for this method to define protection measures	hazard too high for this method to define protection measures	hazard too high for this method to define protection measures	6

BS 8485:2015+A1:2019 Gas Protection Measures - refer to standard for full guidance					
Select two or more elements from the following three types of protection to achieve score (only one element per type permitted)					
Structural Barrier	Score ^{A)}	Ventilation Measures		Score	Gas Resistant Membrane
Precast suspended segmental subfloor (i.e. beam and block)	0	Pressure relief pathway (usually formed of low fines gravel or with a thin geocomposite blanket or strips terminating in a gravel trench external to the building)		0.5	Gas resistant membrane meeting all of the following criteria: 1. sufficiently impervious, both in the sheet material and in the sealing of sheets and sealing around sheet penetrations, to prevent any significant passage of methane and/or carbon dioxide through the membrane. <i>A membrane with a methane gas transmission rate <40.0 ml/day/m2/atm (average) for sheets and joints (tested in accordance with BS ISO 15105-1:2007 manometric method) is regarded as sufficiently impervious.</i> 2. sufficiently durable to remain serviceable for the anticipated life of the building and duration of gas emissions 3. sufficiently strong* to withstand the installation process and following trades until covered (e.g. penetration from steel fibres in fibre reinforced concrete, penetration of reinforcement ties, tearing due to working above it, dropping tools, etc) and to withstand in-service stresses (e.g. settlement if placed below a floor slab) 5. capable, after installation, of providing a complete barrier to the entry of the relevant gas 6. verified in accordance with CIRIA C735 * For example, reinforced LDPE (virgin polymer) membranes having a minimum mass per unit area of 370 g/m2 and not significantly less than 0.4 mm thickness between the reinforcement scrim (tested in accordance with Procedure D (2 mm diameter tip) of BS EN ISO 9863-1:2016) installed above floor slabs are considered sufficiently strong to meet the performance criteria (see also C.3). Thicker and more robust membranes or an additional membrane protection layer should be installed directly beneath cast-in-situ floor slabs
Cast in situ ground-bearing floor slab (with only nominal mesh reinforcement)	0.5	Passive sub floor dispersal layer	Very good performance ^{E)}	2.5	
			Good performance ^{E)}	1.5	
Cast in situ monolithic reinforced ground bearing raft or reinforced cast in situ suspended floor slab with minimal penetrations	1 or 1.5 ^{B)}	Active dispersal layer, usually comprising fans with active abstraction (suction) from a subfloor dilution layer, with roof level vents. The dilution layer may comprise a clear void or be formed of geocomposite or polystyrene void formers ^{E)}		1.5 to 2.5	
Basement floor and walls conforming to BS 8102:2009, Grade 2 waterproofing ^{C) D)}	2	Active positive pressurization by the creation of a blanket of external fresh air beneath the building floor slab by pumps supplying air to points across the central footprint of the building into a permeable layer, usually formed of a thin geocomposite blanket ^{E)}		1.5 to 2.5	
Basement floor and walls conforming to BS 8102:2009, Grade 3 waterproofing ^{C) D)}	2.5	Ventilated car park (floor slab of occupied part of the building under consideration is underlain by a basement or undercroft car park) ^{F)}		4	

- Notes**

A) The scores are conditional on breaches of floor slabs, etc., being effectively sealed

C) The score is conditional on the waterproofing being provided by a suitable structural barrier with the design and detailing of the walls and floor meeting the requirements for Type B protection. The score cannot be assigned for Type A (waterproof membrane) or Type C (drained cavity wall).

E) Refer to BS 8485:2015 Annex B to determine performance and assign score
- B) To achieve a score of 1.5 the raft or suspended slab should be well reinforced to control cracking and have minimal penetrations cast in

D) If a membrane is installed beneath and around the basement to provide Type A waterproofing (BS 8102:2009), it can be assigned a gas protection score in accordance with Table 7, if it meets all the criteria for a gas resistant membrane in that table

F) Assumes that the car park is vented to deal with car exhaust fumes, designed to Buildings Regulations 2000, Approved Document F

Building Types

Type A
Private ownership with no building management controls on alterations to the internal structure, the use of rooms, the ventilation of rooms or the structural fabric of the building. Some small rooms present. Probably conventional building construction (rather than civil engineering). Examples include private housing and some retail premises.

FOR TYPE A BUILDINGS ACTIVE VENTILATION MEASURES ARE INAPPROPRIATE

Type B
Private or commercial property with central building management control of any alterations to the building or its uses but limited or no central building management control of the maintenance of the building, including the gas protection measures. Multiple occupancy. Small to medium size rooms with passive ventilation of rooms and other internal spaces throughout ground floor and basement areas. May be conventional building or civil engineering construction. Examples include managed apartments, multiple occupancy offices, some retail premises and parts of some public buildings (such as schools, hospitals, leisure centres) and parts of hotels.

Type C
Commercial building with central building management control of any alterations to the building or its uses and central building management control of the maintenance of the building, including the gas protection measures. Single occupancy of ground floor and basement areas. Small to large size rooms with active ventilation or good passive ventilation of all rooms and other internal spaces throughout ground floor and basement areas. Probably civil engineering construction. Examples include offices, some retail premises, and parts of some public buildings (such as schools, hospitals, leisure centres and parts of hotels).

Type D
Industrial style building having large volume internal space(s) that are well ventilated. Corporate ownership with building management controls on alterations to the ground floor and basement areas of the building and on maintenance of ground gas protective measures. Probably civil engineering construction. Examples are retail park sales buildings, factory shop floor areas, warehouses. (Small rooms within these style buildings should be separately categorized as Type B or Type C).