

Mr Tom Botterill
MyPad 2020 Limited
The Quadrant
Nuart Road
Beeston
Nottingham
NG9 2NH

Dear Tom,

Re: Land at Barton Road, Barlestone – Gas Addendum Letter

Background

The works described and reported herein follow on from the assessments and investigations which have been completed at the above site. This letter report should not be referred to in isolation, and should be read in conjunction with the following;

- Erda Associates Ltd., Land at Barton Road, Barlestone Phase II Geo-environmental Assessment (Ref EAL.288.22) dated July 2023

As detailed within the above report, a series of ground gas monitoring wells were installed with a programme of ground gas monitoring undertaken.

Subsequent to the date of the above report, a total of six visits have been undertaken. The total monitoring period covers 7th July 2023 to 21st August 2023 and incorporated periods of high, low, rising and falling pressure.

Site location and borehole location plans are included in **Appendix A**. All gas monitoring results are included in **Appendix B**.

Gas Monitoring Assessment

The analyser used detects concentrations by volume (%v/v) of methane (CH₄), carbon dioxide (CO₂) and oxygen (O₂). The analyser also detects flow rate and atmospheric pressure.

Based on the gas monitoring results contained in **Appendix B**, a maximum carbon dioxide concentration of 7.4% by volume at WS7 during the visit on 3rd August 2023 has been recorded.

Methane was not recorded.

A maximum flow rate of 1.5/hr was recorded.

Based on the above, the GSV for carbon dioxide has been calculated as 0.111l/hr.

Furthermore, elevated Carbon Dioxide (>5%) was recorded in three of the five monitoring wells.

Therefore, the site is classified as Characteristic Situation 2 (CS2), for which gas protection measures will be required.

It may be possible to zone the site into areas where gas protection measures are and are not required through further monitoring in additional monitoring wells, however the evidence at present indicates that all plots will require protection.

CS2 requirements;

- Reinforced cast in situ suspended floor slab with minimal penetrations.
- Gas membrane and sealing tape sufficiently impervious to prevent any significant passage of methane or carbon dioxide through itself, sufficiently durable to remain serviceable for the anticipated life of the building, sufficiently strong to withstand the installation process and following trades until covered and sufficiently able to withstand in service stresses (e.g. settlement if placed below a floor slab).
- Laps and joints bonded as per manufacturers details.
- All service entries sealed.

Or if precast beam and block is to be used;

- A passive sub floor dispersal layer comprising a clear void.
- Gas membrane as above.

Due to the low risk setting of the site (CS2), ground gas protection measures may be installed by the general builder/groundworker. It is recommended that the selected membrane to be used is JUTA GP1 Gas Barrier, if another membrane is to be used it must be approved in advance by the Local Authority. Independent inspection and verification will be required of the installation measures.

Conclusion and Recommendations

The assessment has determined that the site is classified as meeting Characteristic Situation 2 and therefore gas protection measures are for the proposed development. Further assessment may prove helpful in delineating areas where protection measures are and are not required.

A copy of this letter report should be forwarded to the Local Authority for review and approval.

Should you have any queries, or require any further information, please do not hesitate to contact us.

Yours Sincerely

A handwritten signature in black ink, appearing to read 'D Wade'.

Daniel Wade
Senior Geo-environmental Engineer

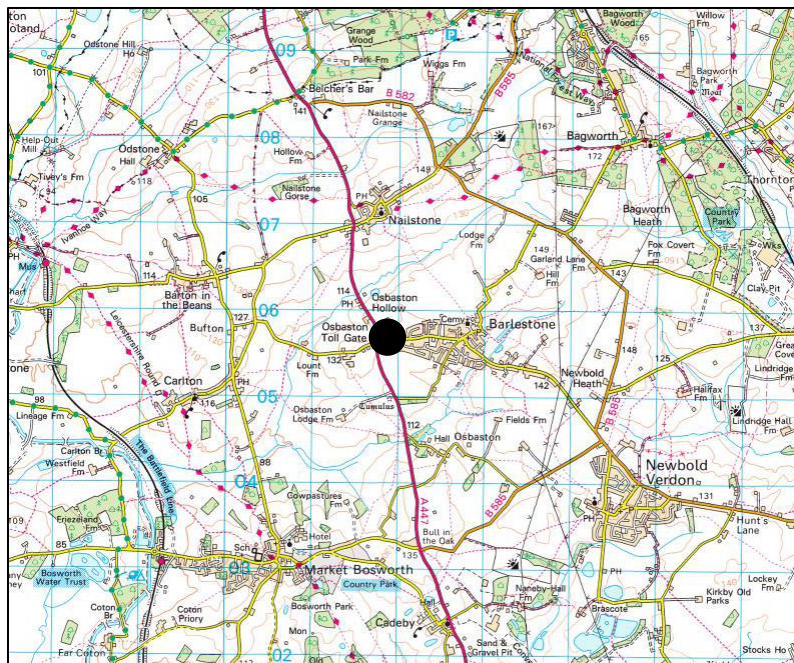
Encl.

Appendix A – Site Location & Borehole Location Plan

Appendix B – Gas Monitoring Data

Appendix A



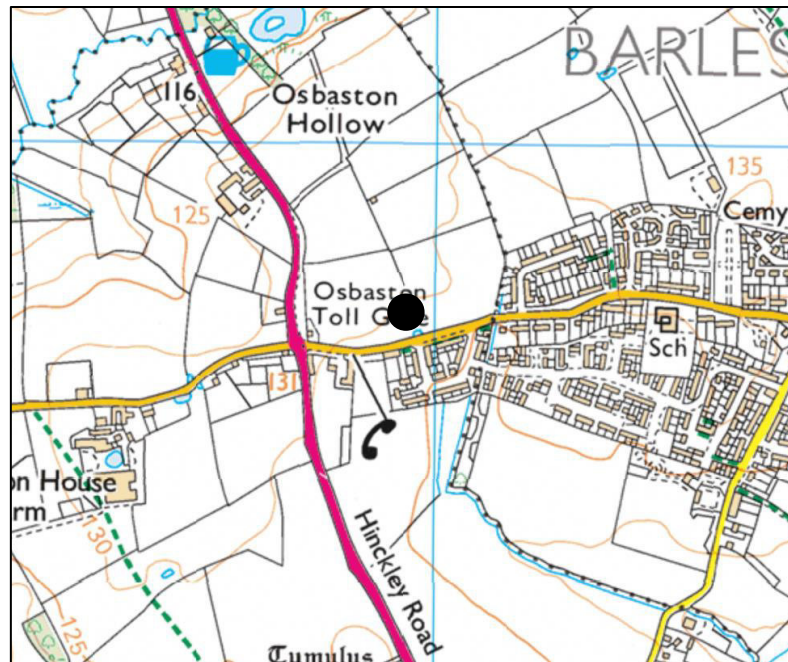


KEY:

● Approximate Site Location

Approximate Postcode: CV13 0HL

DO NOT SCALE



TITLE:

Site Location Plan

PROJECT:

Barton Road, Barlestone

PROJECT No:

EAL.288.22

DATE:

06/2023

SCALE :

NTS

DRAWN :

PD

DWG No:

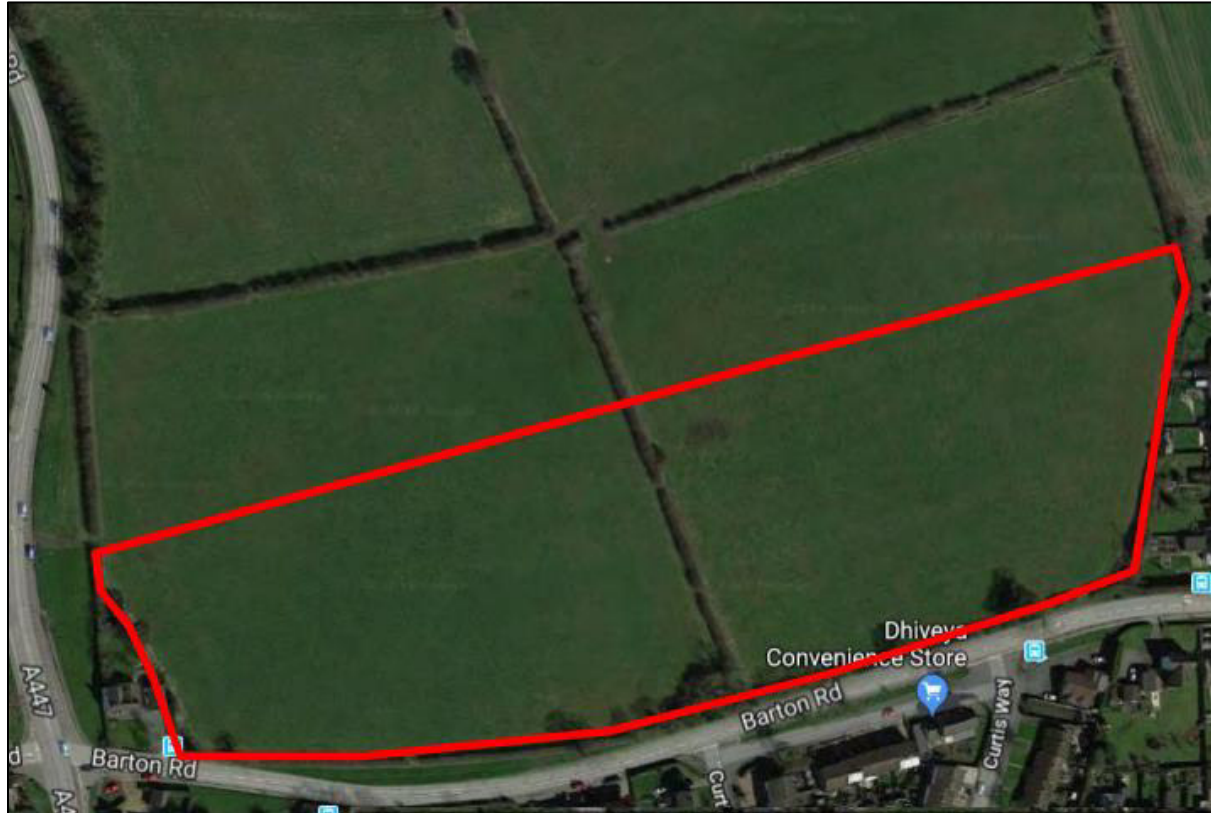
Figure 1



KEY:



Site Boundary



DO NOT SCALE



TITLE:

Site Layout

PROJECT:

Barton Road, Barlestone

PROJECT No:

EAL.288.22

DATE:

06/2023

SCALE :

NTS

DRAWN :

PD

DWG No:

Figure 2



KEY:



DO NOT SCALE



TITLE:

Development Proposal

PROJECT:

Barton Road, Barlestone

PROJECT No:

EAL.288.22

DATE:

06/2023

SCALE :

NTS

DRAWN :

PD

DWG No:

Figure 3



KEY:



WS Borehole

WS01 – smarting.sand.mining
WS03 – cement.snuck.flinch
WS04 – expensive.composers.uncle
WS06 – paves.argued.prompting
WS07 – essay.negotiators.spreads

DO NOT SCALE



TITLE:

Gas Mon Plan

PROJECT:

Barton Road, Barlestone

PROJECT No:

EAL.288.22

DATE:

06/2023

SCALE :

NTS

DRAWN :

PD

DWG No:

Figure 1

Appendix B





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 Phone: 07531 051197

GROUNDWATER / GAS MONITORING RECORD SHEET

Client:	MyPad 2020 Ltd		Job No:	EAL288.22		Instruments Used:	GFM436				
Project:	Barton Road, Barlestone		Date:	7.7.23		Monitored By:	DW				
Weather:	Sunny										
Installation No.	Peak ¹		Steady ²				Total gas flow rate (l/hr)	Atmospheric Pressure (mbar)	Water Depth (mbgl)	Base Depth (m bgl)	Remarks
	CH ₄	CO ₂	CH ₄	LEL	CO ₂	O ₂					
	(% vol)	(% vol)	(% vol)	(%)	(% vol)	(% vol)					
WS1	0.0	0.7	0.0	0.0	0.4	20.1	0.0	1003	0.60	5.00	
WS3	0.0	1.4	0.0	0.0	1.3	20.0	0.0	1003	1.10	5.00	
WS4	0.0	0.8	0.0	0.0	0.8	20.0	0.0	1003	1.00	3.00	
WS6	0.0	2.7	0.0	0.0	2.6	15.0	1.5	1003	1.10	4.00	
WS7	0.0	1.6	0.0	0.0	1.5	18.6	0.0	1003	0.00	4.00	

¹ The peak reading is the maximum recorded level during a monitoring event.
² The steady reading is the level which remained constant after approximately 2 minutes.



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GROUNDWATER / GAS MONITORING RECORD SHEET

Client:	MyPad 2020 Ltd	Job No:	EAL288.22	Instruments Used:	GFM436						
Project:	Barton Road, Barlestone	Date:	14.7.23	Monitored By:	DW						
Weather:	Rainy										
Installation No.	Peak ¹		Steady ²				Total gas flow rate (l/hr)	Atmospheric Pressure (mbar)	Water Depth (mbgl)	Base Depth (m bgl)	Remarks
	CH ₄	CO ₂	CH ₄	LEL	CO ₂	O ₂					
	(% vol)	(% vol)	(% vol)	(%)	(% vol)	(% vol)					
WS1	0.0	0.8	0.0	0.0	0.8	19.2	0.0	995	0.60	5.00	
WS3	0.0	2.8	0.0	0.0	2.7	16.5	0.0	995	1.00	5.00	
WS4	0.0	2.3	0.0	0.0	2.3	18.4	0.0	995	1.00	3.00	
WS6	0.0	3.7	0.0	0.0	3.6	14.5	0.0	995	1.20	4.00	
WS7	0.0	4.7	0.0	0.0	4.2	12.8	0.0	995	1.30	4.00	

¹ The peak reading is the maximum recorded level during a monitoring event.
² The steady reading is the level which remained constant after approximately 2 minutes.



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GROUNDWATER / GAS MONITORING RECORD SHEET

Client:	MyPad 2020 Ltd		Job No:	EAL288.22		Instruments Used:	GFM436				
Project:	Barton Road, Barlestone		Date:	25.7.23		Monitored By:	DW				
Weather:	Cloudy										
Installation No.	Peak ¹		Steady ²				Total gas flow rate (l/hr)	Atmospheric Pressure (mbar)	Water Depth (mbgl)	Base Depth (m bgl)	Remarks
	CH ₄	CO ₂	CH ₄	LEL	CO ₂	O ₂					
	(% vol)	(% vol)	(% vol)	(%)	(% vol)	(% vol)					
WS1	0.0	0.9	0.0	0.0	0.9	18.9	0.0	997	0.70	5.00	
WS3	0.0	4.7	0.0	0.0	4.5	14.5	0.0	997	0.90	5.00	
WS4	0.0	2.2	0.0	0.0	2.2	19.1	0.0	997	1.10	3.00	
WS6	0.0	5.0	0.0	0.0	5.0	11.4	0.0	997	1.10	4.00	
WS7	0.0	7.0	0.0	0.0	6.5	10.9	0.0	997	1.80	4.00	

¹ The peak reading is the maximum recorded level during a monitoring event.
² The steady reading is the level which remained constant after approximately 2 minutes.



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GROUNDWATER / GAS MONITORING RECORD SHEET

Client:	MyPad 2020 Ltd	Job No:	EAL288.22	Instruments Used:	GFM436						
Project:	Barton Road, Barlestone	Date:	3.8.23	Monitored By:	DW						
Weather:	Sunny										
Installation No.	Peak ¹		Steady ²				Total gas flow rate (l/hr)	Atmospheric Pressure (mbar)	Water Depth (mbgl)	Base Depth (m bgl)	Remarks
	CH ₄	CO ₂	CH ₄	LEL	CO ₂	O ₂					
	(% vol)	(% vol)	(% vol)	(%)	(% vol)	(% vol)					
WS1	0.0	0.7	0.0	0.0	0.7	19.1	0.0	996	0.70	5.00	
WS3	0.0	6.5	0.0	0.0	6.3	14.2	0.0	996	1.00	5.00	
WS4	0.0	2.3	0.0	0.0	2.2	17.4	0.0	996	1.10	3.00	
WS6	0.0	6.0	0.0	0.0	5.5	11.6	0.0	996	1.10	4.00	
WS7	0.0	7.4	0.0	0.0	7.0	11.4	0.0	996	1.50	4.00	

¹ The peak reading is the maximum recorded level during a monitoring event.
² The steady reading is the level which remained constant after approximately 2 minutes.



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GROUNDWATER / GAS MONITORING RECORD SHEET

Client:	MyPad 2020 Ltd		Job No:	EAL.288.22		Instruments Used:	GFM436				
Project:	Barton Road, Barlestone		Date:	14.8.23		Monitored By:	DW				
Weather:	Rainy										
Installation No.	Peak ¹		Steady ²				Total gas flow rate (l/hr)	Atmospheric Pressure (mbar)	Water Depth (mbgl)	Base Depth (m bgl)	Remarks
	CH ₄	CO ₂	CH ₄	LEL	CO ₂	O ₂					
	(% vol)	(% vol)	(% vol)	(%)	(% vol)	(% vol)					
WS1	0.0	0.7	0.0	0.0	0.7	18.7	0.0	996	0.90	5.00	
WS3	0.0	5.1	0.0	0.0	5.0	15.5	0.0	996	1.10	5.00	
WS4	0.0	2.4	0.0	0.0	2.2	17.2	0.0	996	1.10	3.00	
WS6	0.0	6.2	0.0	0.0	6.0	11.6	0.0	996	1.10	4.00	
WS7	0.0	7.2	0.0	0.0	7.1	11.2	0.0	996	1.60	4.00	

¹ The peak reading is the maximum recorded level during a monitoring event.
² The steady reading is the level which remained constant after approximately 2 minutes.



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GROUNDWATER / GAS MONITORING RECORD SHEET

Client:	MyPad 2020 Ltd		Job No:	EAL288.22		Instruments Used:	GFM436				
Project:	Barton Road, Barlestone		Date:	21.8.23		Monitored By:	DW				
Weather:	Overcast										
Installation No.	Peak ¹		Steady ²				Total gas flow rate (l/hr)	Atmospheric Pressure (mbar)	Water Depth (mbgl)	Base Depth (m bgl)	Remarks
	CH ₄	CO ₂	CH ₄	LEL	CO ₂	O ₂					
	(% vol)	(% vol)	(% vol)	(%)	(% vol)	(% vol)					
WS1	0.0	0.8	0.0	0.0	0.8	18.3	0.0	1009	1.30	5.00	
WS3	0.0	4.5	0.0	0.0	4.3	17.2	0.0	1009	1.30	5.00	
WS4	0.0	2.9	0.0	0.0	2.9	17.0	0.0	1009	1.30	3.00	
WS6	0.0	6.3	0.0	0.0	0.0	11.1	0.0	1009	1.20	4.00	
WS7	0.0	7.0	0.0	0.0	6.5	11.5	0.0	1009	1.60	4.00	

¹ The peak reading is the maximum recorded level during a monitoring event.
² The steady reading is the level which remained constant after approximately 2 minutes.