

JEM/C5102/14934

28 November 2025

Watson Homes
Spark Studio
208-210 Great Clowes Street
Salford
M7 2ZS

For the Attention of Mr Ian O'Brien

Dear Ian,

Re: Spurr House, Bury – Remediation Strategy Addendum Letter Report

We write to report on the Remediation Strategy at the above site.

Planning Background

This report relates to Initial Planning Application 72240 (alternative reference: PP-13674339) for the demolition of existing buildings, site clearance works including removal of areas of hardstanding and the erection of two blocks of apartments, comprising 60 no. residential units, relocation of existing site access, and associated landscaping.

There have been previous applications made for the site by Bury Council, with the previous proposed development comprising refurbishment and renovation of the existing structure for a change of use from a care home into a school with external areas of soft landscaping, car parking, hard play and multi-use games areas. BSL undertook site investigations and produced Phase I and Phase II Geo-Environmental Assessment Reports as well as producing a suitable Remedial Strategy.

There has since been a change in client to Watson Homes and change in end use to residential apartments. Given this, BSL revised for submission the Phase I and II Geo-Environmental Assessment Reports, and Remedial Strategy, references: CM/C5102/11348 Rev B, CM/C5102/11367 Rev C and CM/C5102/12216 Rev B, respectively. Within these revised reports, BSL have changed the end use from conversion to a school to the residential apartments, and as a result has recommended post-demolition site investigation predominantly for the purpose of obtaining additional geotechnical data, undertaking some additional ground gas monitoring to account for the change in sensitivity to the end use and then a small amount of additional contamination testing.

The Planning Consultation Response to the Initial Planning Application made by Sally Shaw on 23rd September 2025, recommended the below:

Whilst information and assessment has been submitted to support this application which considers all stages of development, this Section has concluded that further work is warranted. All assessments were initially undertaken for a previous development plan and whilst the reports have been revised to reflect the current development proposal, the level of investigation and assessment undertaken does not

sufficiently address the proposed end use of a managed residential development. Given the site history it is not proportionate to request further pre-commencement investigation, but it is recommended that further assessment and investigation is warranted alongside the post demolition watching brief during site enabling works. This can be considered as an addendum to the submitted Remediation Strategy and a proposal for this work should be submitted before a decision is made of this application.

In line with the National Planning Policy Framework, there is the potential for contamination on this site, therefore, we recommend that the following contaminated land conditions are placed on any grant of permission:

- *CL02 - REMEDIATION STRATEGY & VERIFICATION PLAN*
- *CL03 - REMEDIATION & VERIFICATION*
- *CL04 - UNEXPECTED CONTAMINATION*
- *CL05 - CONTAMINATED LAND CONDITION 05: IMPORTED SOIL*
- *CL06 - COMMENSURATE REMEDIATION MEASURES*
- *INFORMATIVE*

Reason: To prevent unacceptable risk to Human Health and Controlled Waters and to prevent pollution of the environment in accordance with the aims and Paragraphs 187(f), 196 and 197 of the National Planning Policy Framework (December 2024).

If permission is granted, in order for this Section to be satisfied that this development does not pose a risk to human health or the environment, the following information needs to be submitted to the Council for approval:

- (i) A enabling works site assessment and investigation proposal.*
- (ii) (ii) Confirmation of remedial actions post enabling works.*
- (iii) (iii) A materials management plan, if the CL:AIRE Definition of Waste Code of Practice is to be used.*
- (iv) (iv) After completion of site works, a verification report is required to validate that the work undertaken conforms to the remediation proposals received and agreed by this Section.*

Assessment of Existing BSL Recommendations

BSL have re-assessed our recommendations based on conversation with Watson Homes and they have stated that their vibro contractor will be happy with the existing geotechnical data at the site meaning the need for additional geotechnical data is now no longer required.

BSL also note that for conservatism environmental testing results were screened against criteria for residential without homegrown produce, which would still apply for the change in end use to apartments, and BSL recommended remedial measures to comprise a watching brief and the implementation of a clean cover system in areas of soft landscaping which will include an engineered break layer such as a geotextile membrane or a hard dig layer.

BSL therefore believe that given there is sufficient geotechnical data, and the already applied conservative screening values which now suit the end use as well as stipulating the requirement for the clean cover system with engineered break layer; supplementary site investigation is no longer

required and that undertaking additional gas monitoring to bring the number of visits and time period during which they were undertaken in line with guidance for the change in end use. Should be sufficient.

The above approach has been verbally discussed and agreed with Sally Shaw over the phone and confirmed via email between the 16th October 2025 and 6th November 2025, appended, who stated that there is already strong scientific reasoning through the use of ternary plots to classify the site as CS1, and that two additional monitoring visits using the existing on site wells should be confirmatory to this. In addition, she stated that the watching brief during demolition and enabling works should be documented with testing undertaken on any previously unidentified contamination, should it be encountered. Based on discussion provided the above is actioned, the documented watching brief can be considered as part of validation and be a post commencement condition.

Confirmatory Monitoring and Updated Ground Gas Risk Assessment

Summary of Existing Data

Ground gas and groundwater monitoring standpipes were installed in 3 boreholes and subsequently 4 monitoring visits were undertaken between 2nd September and 28th October 2022, in line with the recommendations of CIRIA C665 for the previously proposed end use. All gas monitoring was undertaken using GFM436 infrared gas meter with integral electronic flow analyser.

The highest methane concentrations recorded was 0.2% in WS02 on the first visit, whilst the highest carbon dioxide concentrations were recorded in WS01 (7.8% v/v) on the final visit. A maximum positive steady state flow of 0.1l/hr was used to derive GSVs for the site.

GSVs for both methane and carbon dioxide classified the site as CS1; however, due to concentrations of carbon dioxide greater than 5% v/v being recorded at the site then guidance suggests consideration to upgrade the site to CS2 which would require ground gas protective measures.

Given this, a lines of evidence approach was adopted, including reference to the recent 2018 paper by Wilson et al (Ambisence and EPG Ltd) "Using ternary plots for interpretation of ground gas monitoring results". This approach provided lines of evidence to suggest that the slight elevations of carbon dioxide could be attributed to microbial respiration and that the site should remain classified as CS1 not requiring ground gas protection measures.

Confirmatory Monitoring

It was confirmed by Sally Shaw of Bury council that the above rationale provides strong scientific reasoning to classify the site as CS1 and that confirmatory monitoring on existing wells could be used to support the decision to classify the site as CS1.

A total of two additional monitoring visits were undertaken to bring the monitoring regime in line with the recommendations of BS8485.

The additional visits were undertaken using a GFM436 infrared gas meter with integral electronic flow analyser, as was used previously. Flow measurements on each standpipe (l/hr) were taken. Measurements of the percentage volume in air (%v/v) of oxygen (O₂), carbon dioxide (CO₂) and methane (CH₄) were recorded in addition to the percentage Lower Explosive Limit (%LEL) of methane

(Note: 100% LEL equates to 5% by volume), the atmospheric pressure (mb) and average temperature during the visit (°C).

The gas monitoring visits recorded peak and steady state conditions. Peak results are those that occur on opening the valve on the borehole tap. Steady state conditions are those that occur a period of time afterwards when the initial (accumulated) gases have been purged from the borehole.

Complete gas monitoring results are appended and have been assessed below.

Permanent Ground Gas and Vapours Results

A total of six ground gas monitoring visits have been carried out between the dates of 2nd September 2022 and 29th October 2022, with the two additional confirmatory monitoring visits undertaken on 7th and 26th November 2025.

From the two additional monitoring visits, the methane concentrations were not found to exceed the limit of detection of 0.1% v/v, whilst the highest carbon dioxide concentrations were found to be 4.8% v/v. Flows were not detected above the limit of detection of 0.1 l/hr.

Assessment of Results

The results from the supplementary monitoring visits for flow, carbon dioxide and methane all fall below what has previously been encountered and used to assess the site as CS1.

On this basis, BSL believe the lines of evidence approach previously used to classify the site as CS1 is appropriate and ground gas protection measures will not be required for the residential structures proposed.

Conclusion and Outstanding Works

Based on the above rationale, the site is classified as CS1 and ground gas protection measures are not required.

As agreed with Sally Shaw of Bury Council in the aforementioned email chain, a documented watching brief will need to be undertaken during the demolition and enabling phase of works for unexpected contamination that may not have been previously identified during the site investigation.

In addition to this, a clean cover system is required to be installed in all areas of soft landscaping comprising 450mm of 'clean' validated topsoil over a 100mm hard dig layer or warning barrier membrane/geotextile. Validation requirements are for imported topsoil and subsoil and any materials to be re-used to be tested for chemical suitability, and once installed, validation pits are to be excavated at a frequency of one pit per circa 25m x 25m area of soft landscaping, as specified in the BSL Remedial Strategy, ref. CM/C5102/12216 Rev B.

In agreement with the remedial strategy, and in line with the above, no recommendations have changed.

We trust the above meets your requirements. If you have any queries, then please do not hesitate to contact the undersigned.

Yours sincerely

For Brownfield Solutions Ltd

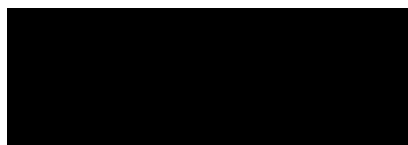
Produced by:



J E Massey
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Checked and approved by:



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Principal Geo-Environmental Consultant



Enc Ground Gas Monitoring Results
 Calibration Certificates
 Email correspondence with Sally Shaw.

Ground Gas Monitoring Results



CLIENT:		Date	Operator	Analysr	Weather Observations			Temp (°C)	Pressure Trend	Min Barometric Pressure (mb)	Notes												
WATSON HOMES		02/09/2022	CGM	GFM 436	Sunny	No wind	Warm	21	Falling	1013													
JOB NO.		20/09/2022	CGM	GFM 436	Overcast	No wind	Cool	14	Rising	1011													
C5102		04/10/2022	CGM	GFM 436	Sunny	Light breeze	Cool	13	Falling	996													
SITE:		28/10/2022	CGM	GFM 436	Overcast	Light breeze	Warm	18	Rising	998													
SPURR HOUSE, BURY		07/11/2025	SJ	GFM 436	Overcast	Light breeze	Cool	14	Falling	993													
		26/11/2025	AR	GFM 436	Overcast	Light breeze	Cold	4	Rising	1012													
Notes: mb = milibars; CH ₄ = methane; LEL = lower explosive limit = 5%v/v; CO ₂ = carbon dioxide; O ₂ = oxygen; CO=carbon monoxide; H ₂ S = hydrogen sulphide; TVOC= Total volatile organic compounds; PPM = parts per million. Where the flow is less than the limit of detection of the instrument, the detection limit is reported (Highlighted in green). Gas Screening Values (GSVs) are rounded to 3 decimal places. Calibration Records for analysers used available on request.																							
Date	Time	Location	Response zone (m)	Pressures (mb)		Gas flows (l/hr)		CH ₄ (%v/v)		CH ₄ (%LEL)		CO ₂ (%v/v)		O ₂ (%v/v)		Other Gases (PPM)			Depth to Water (m)	Well Base (m)	Gas Screening Value (CH ₄) (l/hr)	Gas Screening Value (CO ₂) (l/hr)	Notes
				Atmospheric Pressure	Relative Well Pressure	Initial	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	CO	H ₂ S	TVOC (PID)					
				Summary Statistics																			
Max. values:				1019	0.0	47.3	0.1	0.2	0.1	4.0	2.0	7.8	3.9	20.6	20.0	0.0	0.0	0.0	4.1	5.0	0.000	0.007	
Min. values:				990	-62.0	-0.6	0.0	0.0	0.1	0.0	2.0	0.0	0.2	0.1	11.0	0.0	0.0	0.0	1.9	2.7	0.000	0.000	
				Worst-case GSVs based on maximum recorded steady flow and maximum individual peak concentrations:																		0.000	
02/09/2022	AM	Ambient		1013				0.1		2.0		0.1		20.5		0.0	0.0					Bung stuck	
		WS01	1.00-5.00	1013	0.0	0.1	0.1	0.1	0.1	2.0	2.0	2.2	0.7	18.0	20.0	0.0	0.0		3.20	4.94	0.000		0.002
		WS02	1.00-5.00	1013	0.0	0.1	0.1	0.2	0.1	4.0	2.0	2.2	0.7	15.6	19.1	0.0	0.0		4.09	5.00	0.000		0.002
		WS03	1.00-4.00	1013	0.0	0.1		0.1		2.0		4.0		10.3		0.0	0.0		NA	NA			
02/09/2022	AM	Ambient		1013																			
20/09/2022	AM	Ambient		1011				0.0		0.0		0.0		20.6		0.0	0.0						
		WS01	1.00-5.00	1011	-62.0	0.5	0.1	0.1	0.1	2.0	2.0	5.6	0.2	11.7	19.1	0.0	0.0		3.29	4.96	0.000	0.006	
		WS02	1.00-5.00	1011	-54.0	0.6	0.1	0.1	0.1	2.0	2.0	1.7	0.9	17.4	19.1	0.0	0.0		3.92	5.00	0.000	0.002	
		WS03	1.00-4.00	1011	0.0	0.1	0.1	0.1	0.1	2.0	2.0	1.3	0.4	17.4	19.6	0.0	0.0		2.60	2.95	0.000	0.001	
20/09/2022	AM	Ambient		1011																			
04/10/2022	AM	Ambient		996				0.1		2.0		0.1		20.5		0.0	0.0						
		WS01	1.00-5.00	996	0.0	-0.6	0.1	0.1	0.1	2.0	2.0	6.9	1.5	7.7	18.7	0.0	0.0		3.20	4.95	0.000	0.007	
		WS02	1.00-5.00	996	0.0	0.1	0.1	0.1	0.1	2.0	2.0	5.0	0.8	6.9	18.5	0.0	0.0		3.90	4.95	0.000	0.005	
		WS03	1.00-4.00	996	0.0	1.0	0.1	0.1	0.1	2.0	2.0	0.5	0.5	19.3	20.0	0.0	0.0		2.53	2.95	0.000	0.001	
04/10/2022	AM	Ambient		996																			
28/10/2022	AM	Ambient		998				0.1		0.0		0.1		20.4									
		WS01	1.00-5.00	998	0.0	47.3	0.0	0.1	0.1	2.0	2.0	7.8	3.9	3.6	13.3	0.0	0.0		2.98	4.90	0.000	0.000	
		WS02	1.00-5.00	998	0.0	0.1	0.1	0.1	0.1	2.0	2.0	5.4	3.2	3.0	11.5	0.0	0.0		3.70	4.94	0.000	0.005	
		WS03	1.00-4.00	998	0.0	0.1	0.1	0.1	0.1	2.0	2.0	1.8	0.7	18.2	19.4	0.0	0.0		2.16	2.89	0.000	0.002	
28/10/2022	AM	Ambient		998				0.1		2.0		0.1		20.4									
07/11/2025	AM	Ambient		990																		Unable to locate install	
		WS01	1.00-5.00	990																			
		WS02	1.00-5.00	990	0.0	0.1	0.1	0.1	0.1	2.0	2.0	2.6	1.8	0.1	11.0	0.0	0.0		3.50	4.95	0.000		0.003
		WS03	1.00-4.00	990	0.0	0.1	0.1	0.1	0.1	2.0	2.0	2.2	1.0	18.8	19.8	0.0	0.0		2.20	2.82	0.000		0.002
07/11/2025	AM	Ambient		990																			
26/11/2025	AM	Ambient		1019																			
		WS01	1.00-5.00	1019	0.0	0.1	0.1	0.1	0.1	2.0	2.0	4.8	3.3	9.8	19.7	0.0	0.0		2.37	4.89	0.000	0.005	
		WS02	1.00-5.00	1019	0.0	0.1	0.1	0.1	0.1	2.0	2.0	3.0	2.0	0.8	19.9	0.0	0.0		3.36	4.97	0.000	0.003	
		WS03	1.00-4.00	1019	0.0	0.1	0.1	0.1	0.1	2.0	2.0	4.0	3.9	13.7	20.0	0.0	0.0		1.93	2.70	0.000	0.004	
26/11/2025	AM	Ambient		1019																			

TEST DATE AND CONDITIONS			
Date		23/01/2025	
Atmospheric Pressure		981	mB
Ambient Temperature		20.3	°C
EnviroNics Serial No.		5089	

**GFM436 Final Inspection & Calibration
Check Certificate**

GAS DATA LTD

Unit D

Earlplace Business Park

Fletchamstead Highway

Coventry

CV4 9XL

Tel 02476303311

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GAS DATA
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Customer	Brownfield Solutions
Certificate Number	125876
Order Number	340981

Serial Number	13233
Software Version	G436-00.0029/0010

Recalibration DUE Date
23/01/26

Instrument Checks					
Keyboard	✓		Display Contrast	✓	
Pump Flow In	500	Accept > 200 cc/min	Pump Flow @ -200mB	300	Accept > 200 cc/min
Clock Set / Running	✓		Labels Fitted	✓	

Gas Checks						
Sensor	CH ₄		CO ₂		O ₂	
	Instrument Gas	True Gas Value %	Instrument Gas	True Gas Value %	Instrument Gas	True Gas Value %
	Readings %		Readings %		Readings %	
	60.1	60	39.4	40	20.9	20.9
	Accept ±3.0		Accept ±3.0		Accept ±0.5	
	5.0	5	5.1	5	6.0	6
Zero Reading 100% N2	0.0	0	0.0	0	0.0	0
	Accept ±0.0		Accept ±0.0		Accept ±0.1	

Optional Gas Checks						
Applied Gas & Range		Concentration Tested @ (ppm)	Instrument Readings (ppm)			
Gas Type	Range (ppm)		Zero Reading		Instrument Gas Reading	
H2S	5000	1500	0	Accept ±0.0	1500	Accept ±5.0%
CO	2000	1000	0	Accept ±0.0	995	Accept ±5.0%
Hexane	2.0%	2.0%	0	Accept ±0.0	1.99	Accept ±10.0%

Cross Gas Effects									
Applied Gas (ppm)		Instrument Readings (ppm)							
Gas Type	Concentration	Toxic 1:	H2S	Toxic 2:	CO	Toxic 3:	HEX		
H2S	1500	1500		0		0			
CO	1000	90		995		0			
Hexane	2.0%	0		0		1.99			

Pressure Checks			
Atmospheric Pressure [AP] (mB)			
Current Atmospheric Pressure (mB)		Instrument Atmospheric Pressure Reading (mB)	
AP Open Ports		981	Accept ± 2.0
AP Port (Internal)	+800 mB	800	Accept ± 5.0
	+1200mb	1200	Accept ± 5.0

Flow Checks					
Borehole Flow			Differential Pressure		
Applied Reading (l/h)	Instrument Reading (l/h)		Applied Pressure (Pa)	Instrument Reading (Pa)	
-30	-30.0	Accept ± 3.0	-396	-395	Accept ± 50
-3	-3.0	Accept ± 1.0	-17	-17	Accept ± 6.0
0	0.0	Accept ± 0.0	0	0	Accept ± 0.5
3	3.0	Accept ± 0.5	15	14	Accept ± 3.0
30	30.0	Accept ± 3.0	332	333	Accept ± 50
60	60.4	Accept ± 6.0	994	1009	Accept ± 130
90	90.3	Accept ± 9.0	1945	1965	Accept ± 250

Temperature Checks		
Calibration Temperature	Instrument Temperature Reading $^{\circ}\text{C}$	
Applied Temperature $^{\circ}\text{C}$		
-10	-10.0	Accept ± 2.0
0	0.0	Accept ± 1.0
30	30.0	Accept ± 1.0
60	60.0	Accept ± 1.0
100	100.0	Accept ± 1.0

Technician:
<i>Jack Rutland</i>

Date Tested:
<i>23/01/2025</i>

The instrument identified by the serial number stated above has been tested by Gas Data personnel for calibration accuracy on the date and under the ambient conditions stated. Gas Data Ltd internal BS EN ISO9001:2015, BS EN ISO14001:2015, BS EN ISO45001:2018 compliant workshop procedures were followed to apply known calibration test gases, gas flow rates, pressures and temperatures of the values stated.

The results displayed on the instrument at each stage are recorded above.

Gas Data Ltd is certified to BS EN ISO9001:2015, BS EN ISO14001:2015, BS EN ISO45001:2018.

TEST DATE AND CONDITIONS			
Date	23.1.25		
Atmospheric Pressure	981	mB	
Ambient Temperature	20.3	°C	
EnviroNics Serial No.	5089		

GAS DATA LTD Unit D Earlplace Business Park Fletchamstead Highway Coventry CV4 9XL UK +44 (0) 24 7630 3311	
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GFM436-1 OUTWARD INSPECTION & QUALITY CHECK SHEET

INSTRUMENT DETAILS			
SO Number	Instrument Type	Instrument Serial Number + SW Version	Job Number(s)
340 981	GFM436	13223 G436-29/10	125876

Calibration Technician  Date ...23.1.25...

Inspection Technician  Date ...24.1.25...

INSTRUMENT CHECKS		Pass (P), Fail (F) or not applicable (NA)	INSTRUMENT PACKING LIST		Tick if included
Function Tests	Dust Caps Fitted	P	Instrument		✓
	Keyboard Test (All Keys)	P	Leather Case		✓
	Backlight	P	Instrument Strap		✓
	Clock Set / Running	P	AC Battery Charger (UK)		X
	Comms Test	P	AC Battery Charger (EURO)		X
	Pump Flow Test (In & Out)	P	AC Battery Charger (US)		X
	Overall Leak Test (30mB)	n/a	AC Battery Charger (AUS)		X
	Battery Charge Test	P	Gas Sample Pipe - (new issue)		✓
Channel Tests	Service Date set to?	23.1.26	Flow Sample Pipe - (new issue)		✓
	Data Logging Enabled?	P	Hard Carry Case		✓
	Verify CH4/LEL/Hexane/PID	P	Spares Pot		X
	Verify CO2	P	Allen Key		X
	Verify O2	P	Temperature Probe		X
	Verify H2S	P	Vane Anemometer		X
	Verify CO	P	USB Cable		X
	Verify LEL	P	USB Memory stick		✓
	Verify 1st Option Gas	N/A	SM V5 Software	Ver 6.05	✓
	Verify Atmospheric pressure	P	Internal Filter Pack	Qty	X
	Verify differential pressure	P	External Filter Pack	Qty	X
	Verify flow	P	Field Guide		X
	Verify temperature probe input	P	Extra Items: Sample Tubes		
	Verify vane anemometer input	P			
	DataBase Checks	Jobcard(s) completed and signed	P	Comments:	
Jobcard(s) booked off database		P			
Calibration certificate completed		P			
Complete & print QI record		n/a			
Label Checks	No. of Calibration label fitted	GDC 13656			
	MCERTS label displayed	N/A			
	Warranty label fitted	P			
H2S Range	H2S Range from Sales Order	5000 ppm			
	H2S Range from Cal Cert	5000 ppm			
	Over-range value correct?	P			
QA Cylinders Used	No. of High Range CH4/CO2	60194			
	No. of Low Range CH4/CO2/O2	66569			
	No. of H2S	6037255			
	No. of CO	66503			
	No. of Optional Cylinder	N/A			