GeoShield Verification Plan

PROJECT DESCRIPTION

GEO103300
ABM Developments Limited,
Leeds Road,
Mirfield,
WF14 0JE

The proposed development for which gas protection measures are required involves 14 residential dwellings with gardens, car parking and an access road.

In accordance with BS8485:2015 + A1 2019 for a type A building and the building must conform to a Characteristic Specification (CS) rating of 2, so mitigation will need to be 3.5 points.

Geoshield have adopted the highest design and verification principles associated with BS8485:2015 + A1 2019, BR 211, Public Health England, NHBC Technical Extra April 2016 and CIRIA 735.
This pre-verification plan reviews the design to ensure it is compliant with the developer and planning authority requirements and in conjunction with the relevant investigation report in accordance with BS8485:2015 + A1 2019.

In summary, the design does achieve a required level of attention to detail with its robust specific gas membrane design, the structural barrier of a cast in situ reinforced monolithic concrete raft slab with minimal penetrations (1.5 points).

The pre-verification plan confirms how the installation will be tested in accordance with CIRIA735. The verification visits will be documented in verification reports during the project that are suitable for submission to the local planning authority in order to satisfy and discharge planning consent.

All faults identified during inspection and the verification site visit of the ground gas system will be itemised as remediations which will need to be signed off in the remediation log for the proposed building.

GeoShield Verification Plan

PROJECT DESCRIPTION

Pre-Verification Plan

GeoShield are appointed by the Client to carry out independent validation, verification and integrity testing of the ground gas protection system on site. The Pre-Verification plan sets out the requirements and procedures that GeoShield will adopt to ensure that the installation is in line with the proposed design, relevant UK standards and guidance.
GeoShield take no responsibility for any warranties to third parties for the design of the system or the installation.

Limitations

The Pre-Verification plan prepared by GeoShield Limited is limited to the proposed ground gas protection measures installed. The Pre-Verification plan has been prepared in line with the relevant UK Standards and Guidance (BS8485:2015+A1:2019 & CIRIA 735) alongside the information made available to GeoShield by the Client. The conclusions made in the report are considered to be correct at the time of writing, but additional information provided/discovered may require amendments to the Plan. GeoShield recognises that changes to relevant standard and guidance may occur at any time which may cause the conclusions made to be incorrect - GeoShield do not accept any responsibility or liability for the implications of such changes.

The Pre-Verification plan does not in itself constitute verification that the membrane has been installed in accordance with this document. Validation and verification of the installed membrane will be covered in separate verification reports following physical inspection of the gas barrier and will include photographic evidence of the installation.

Waterproofing elements (where applicable) do not fall into the remit of this Pre-Verification plan or future inspections. GeoShield will provide the opinion on membrane's suitability for ground gas protection purposes – no liability is offered or implied for the waterproofing element which should be checked by others.

GeoShield Verification Plan

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GeoShield Verification Plan

PROJECT REFERENCE:	GEO103300
PROJECT:	Leeds Road Residential Development
PROJECT ADDRESS:	

Leeds Road, Mirfield,

WF14 0JE

SPECIFICATION:	Verified in accordance CIRIA 735.

Design in accordance with BS8485 2015 + 2019 for Methane and Carbon Dioxide.

Substrate prepared in-accordance with manufactures instructions

Rhinoplast Evolution Hydrocarbon Gas Barrier

Rhinoplast Single Sided Girth Tape

Rhinoplast Double Sided Jointing Tape

GeoShield Verification Plan

NAME OF SURVEYOR: Paul Colbeck

VERIFICATION COMPANY: GeoShield Limited

Icon Business Centre

4100 Park Approach

Thorpe Park

Leeds, LS15 8GB

CONTACT NUMBER: 07462 546 926

EMAIL ADDRESS: pcolbeck@geoshield.co.uk

ORDER NUMBER: To be confirmed

PER VISIT: YES: ☐ NO: ☐ PROJECT: YES: ☐ NO: ☐

GeoShield Verification Plan

INFORMATION INCLUDED

C2650 22 E Leeds Road Mirfield GeoEnvironmental Report Rev1
SK 801 A 23-12-2022
21 584 - 100 Site Plan Showing Levels
21-584 201.1 Rev B - House Types A and B 18-05-2022
21-584 201.2 Rev B - House Type C 18-05-2022
Material Specification Technical Data Sheets
Radon Maps UK - (Map 1) Site Location & (Map 2) Nearby Location
Information presented to at the pre-verification stage assumed correct
Any change client will let GeoShield know or this Pre-verification Plan will be void.

GeoShield Verification Plan

SPECIFICATION

Environmental Geotechnical Specialists

RGS

PHASE 2

GEO-ENVIRONMENTAL REPORT

job number	C2650/22/E/4051	date	03/08/22
site address	Land south of Leeds Road, Mirfield.		
written by	I. Sakoor	checked by	R. A. Palmer
issued by	I. Sakoor		

Please consider the environment before printing this report.

<ENVIRONMENTAL> <GEOTECHNICAL>

Constructionline

ISO 9001 : 2015 REGISTERED

ISO 14001 : 2015 REGISTERED

ISO 45001 : 2018 REGISTERED

Registered Member

UKAS

Rogers Geotechnical Services Ltd
Offices 1 & 2 Barncliffe Business Park, Near Bank, Shelley, Huddersfield, HD8 8LU
01484 604354 Company No. 5130864

Title Reference & Description:

C2650 22 E Leeds Road Mirfield GeoEnvironmental Report Rev1

GeoShield Verification Plan

SPECIFICATION

On the basis of the above information, the results of the investigation have concluded that a potential 'hotspot' of PAH contamination is present in the area of TP2. However, it should be noted that similar PAHs have been detected at other locations, albeit at lower concentrations. As such, further testing could be completed to determine whether the PAH contamination at TP2 is a hot-spot, or if such contamination is present at higher concentrations in the wider site area. Alternatively, a suitable remedial plan could be adopted site wide to negate the requirement of further testing.

11.1.2 Gas Concentrations

With respect to ground gas, the results of the monitoring visits indicated a maximum concentration of 0.1% methane, with concentrations of carbon dioxide ranging between 0.1% and 4.0%, in association with oxygen levels of between 17.2% and 20.9%. It should be appreciated that on non-contaminated sites there is generally about 20% by volume of oxygen, associated with low levels of carbon dioxide. In addition, a maximum flow rate of 0.2 litres per hour was recorded and will be employed in the following calculations.

The principal driving force for initiating the movement of gas in the ground is a change in barometric pressure. The most onerous gas condition on a site is usually observed on days of low or falling barometric pressure, preferably below 1000mb. It has been noted that measurements undertaken solely during high pressure conditions may be of lesser value. At this site the readings undertaken to date were at atmospheric pressures of between 988mb and 1018mb.

[11] Ref: ATRISK soil, SSVs derived using CLEA v1.071 for 1% SOM, Residential with home grown produce land use, 23.06.17.

In order to establish the gas screening value (GSV) for carbon dioxide or methane, the maximum gas concentration (expressed as a decimal) is multiplied by the borehole flow rate (l/hr). In this case 0.1% (0.001) methane was recorded along with 4.0% (0.040) carbon dioxide, in association with a maximum flow rate of 0.2 l/hr. This results in a GSV of 0.0002 l/hr for methane and a GSV of 0.0080 l/hr for carbon dioxide.

It should be appreciated that with regard to the number of monitoring visits required reference is made to Tables 5.5a and 5.5b of CIRIA report C665 (2007)[12]. Accepting that the proposed development is of high sensitivity and that the generation potential is very low, these tables suggest that 6 readings could be undertaken over a period of 3 months. However, C665 notes that *not all sites will require gas monitoring for the period and frequency indicated in Tables 5.5a and 5.5b.*

In this case, a total of 4 monitoring visits were undertaken over a 4-week time period, at which stage the monitoring was terminated because it was decided that the site would be classified as Characteristic Situation Level 2.

Indeed, whilst the GSVs indicated that Characteristic Situation Level 1 could be suitable, it should be appreciated that out of the three standpipes installed, two of the positions could only be monitored on two occasions as they were found to have been buried as part of earthworks taking place onsite. As such, a full programme of monitoring could not be completed, thus a conservative approach has been sought, and Characteristic Situation Level 2 has been adopted.

In this context, it should be noted that the gas screening value threshold for Characteristic Situation level 2, is <0.7 l/hr. Assuming the flow rate remains constant at 0.2l/hr the gas concentration would need to exceed 100% to move into the next risk band, which is not possible. Moreover, by keeping the concentration constant, the flow rate would need to increase to 17.5 l/hr which represents an 87 fold increase. It is considered that these increases are not feasible given the flow rates and gas concentrations encountered.

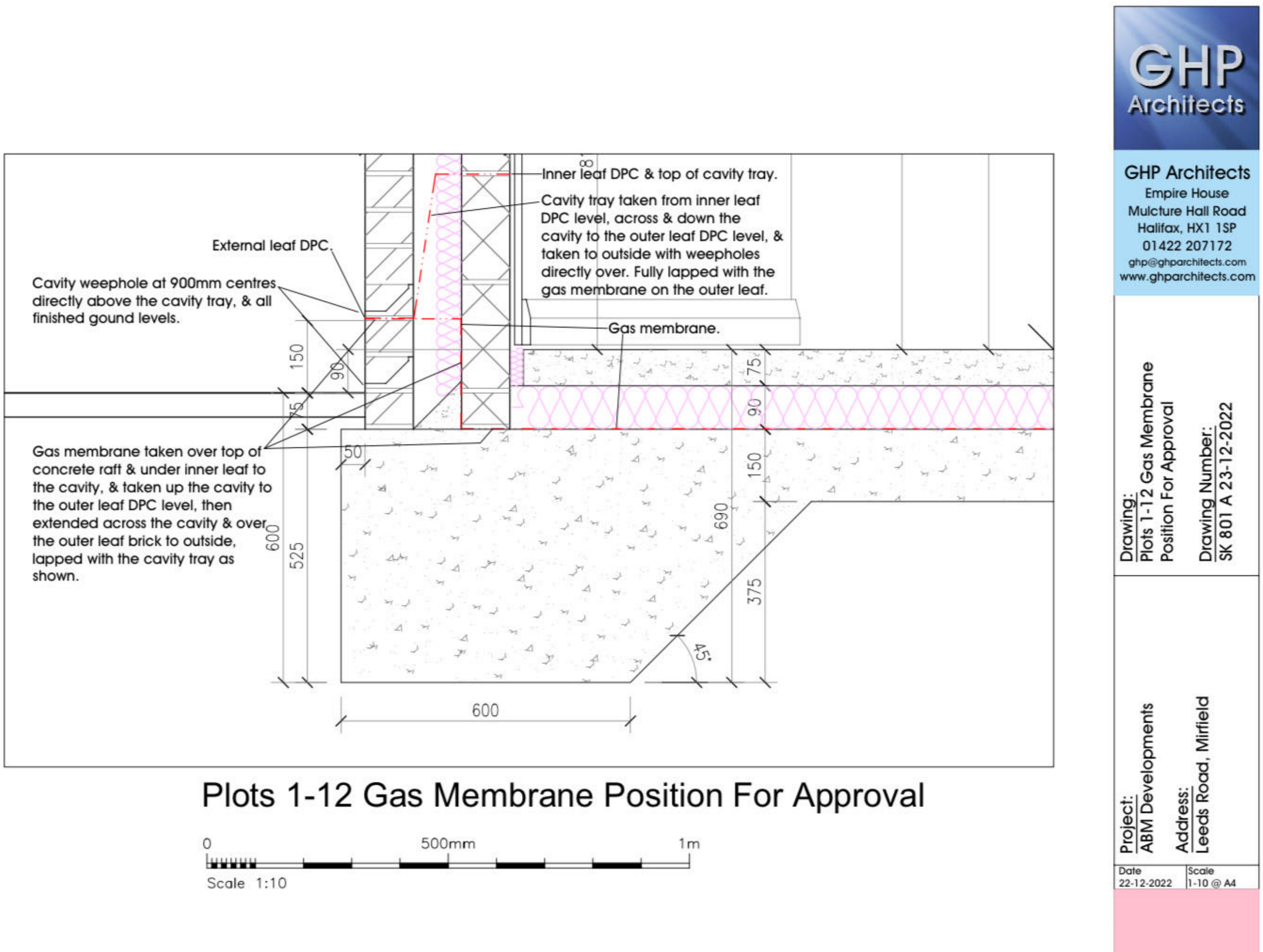
Title Reference & Description:

C2650 22 E Leeds Road Mirfield GeoEnvironmental Report Rev1

The site has been classified as a CS2 gas regime rating due to elevated levels of Carbon Dioxide.

GeoShield Verification Plan

SPECIFICATION



Plots 1-12 Gas Membrane Position For Approval

0 500mm 1m

Scale 1:10

Title Reference & Description:

SK 801 A 23-12-2022

GeoShield Verification Plan

SPECIFICATION

Title Reference & Description:

21 584 - 100 Site Plan Showing Levels

GeoShield Verification Plan

SPECIFICATION

Title Reference & Description:

21-584 201.1 Rev B - House Types A and B 18-05-2022

GeoShield Verification Plan

SPECIFICATION

Title Reference & Description:

21-584 201.2 Rev B - House Type C 18-05-2022

GeoShield Verification Plan

SPECIFICATION

Title Reference & Description:

Rhinoplast Evolution Hydrocarbon Gas Barrier Technical Data Sheet

GeoShield Verification Plan

SPECIFICATION

Technical Data

Material Properties	Test Method	Value	
Thickness (µm)	N/A	400µm	+/- 6%
Width (mm)	N/A	1.65m	+6mm/-0mm
Length (mm)	N/A	61m	+6mm/-0mm
Repeat Tolerance (mm)	N/A	n/a	
Dynamic C.O.F	BS 2782-824A	0.4 +/- 0.1	
Tensile break force (%)	ASTM D882 / DIN 53455	MD >160	TD >175
Tensile strength @ break (%) MPA	ASTM D882 / DIN 53455	MD >16	TD >16
Elongation Break (%)	ASTM D882 / DIN 53455	MD >500	TD >550
Slow Puncture deflection (mm)	3mm radius	> 3	
Slow Puncture force (N)	3mm radius	> 30	
Density (nominal) (g/cm³)	-	0.957 g/cm³	
Unit Weight (g/m²)	-	382.8	
Sealing Range	RFM 8	110°C - 150°C	

Barrier Properties*	Test Method	Value
OTR	ASTM F 1927, 20 °C 60% RH	Less than 0.75 cc
WVTR	ASTM F 1249, 38 °C 90% RH	Less than 2.0g

Methane Transmission Data

Test	Standard	Unit	Result
Determination of gas transmission rate* Test gas: Methane (CH_4) Gas permeability at 23 °C / 0 % r.H. Gas permeability at 23 °C / 0 % r.H.	ISO 15105-1 10.2007	 cm³/(m²d.bar) ml/(m²d.atm)	 ≤ 0,09 ≤ 0,09

* This test was performed in an external laboratory

BS8485:2015+A1:2019

Meets all the following criteria:

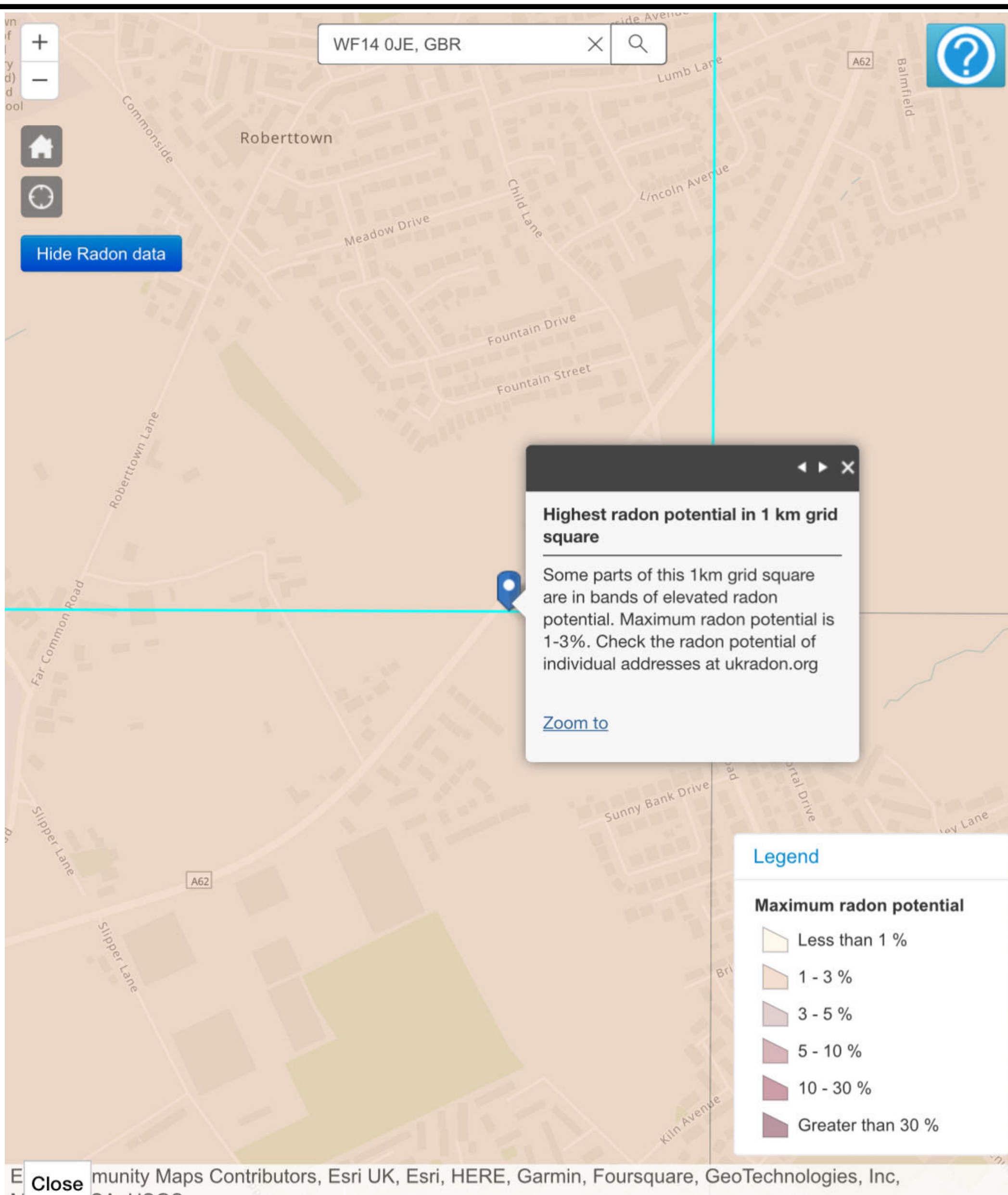
- Sufficiently impervious to the gases with a methane gas transmission rate <40.0 ml/day/m²/atm (average) for sheet and joints (tested in accordance with BS ISO 15105-1 manometric method)
- Sufficiently durable to remain serviceable for the anticipated life of the building and duration of gas emissions
- Sufficiently strong to withstand in-service stresses (e.g settlement if placed below floor slab)
- Sufficiently strong to withstand the installation process and following trades until covered (e.g penetration from steel fibres in fibres reinforced concrete, penetration of reinforcement ties, tearing due to working above it, dropping tools, etc)
- Capable, after installation, of providing a complete barrier to the entry of the relevant gas

Title Reference & Description:

Rhinoplast Evolution Hydrocarbon Gas Barrier Technical Data Sheet

GeoShield Verification Plan

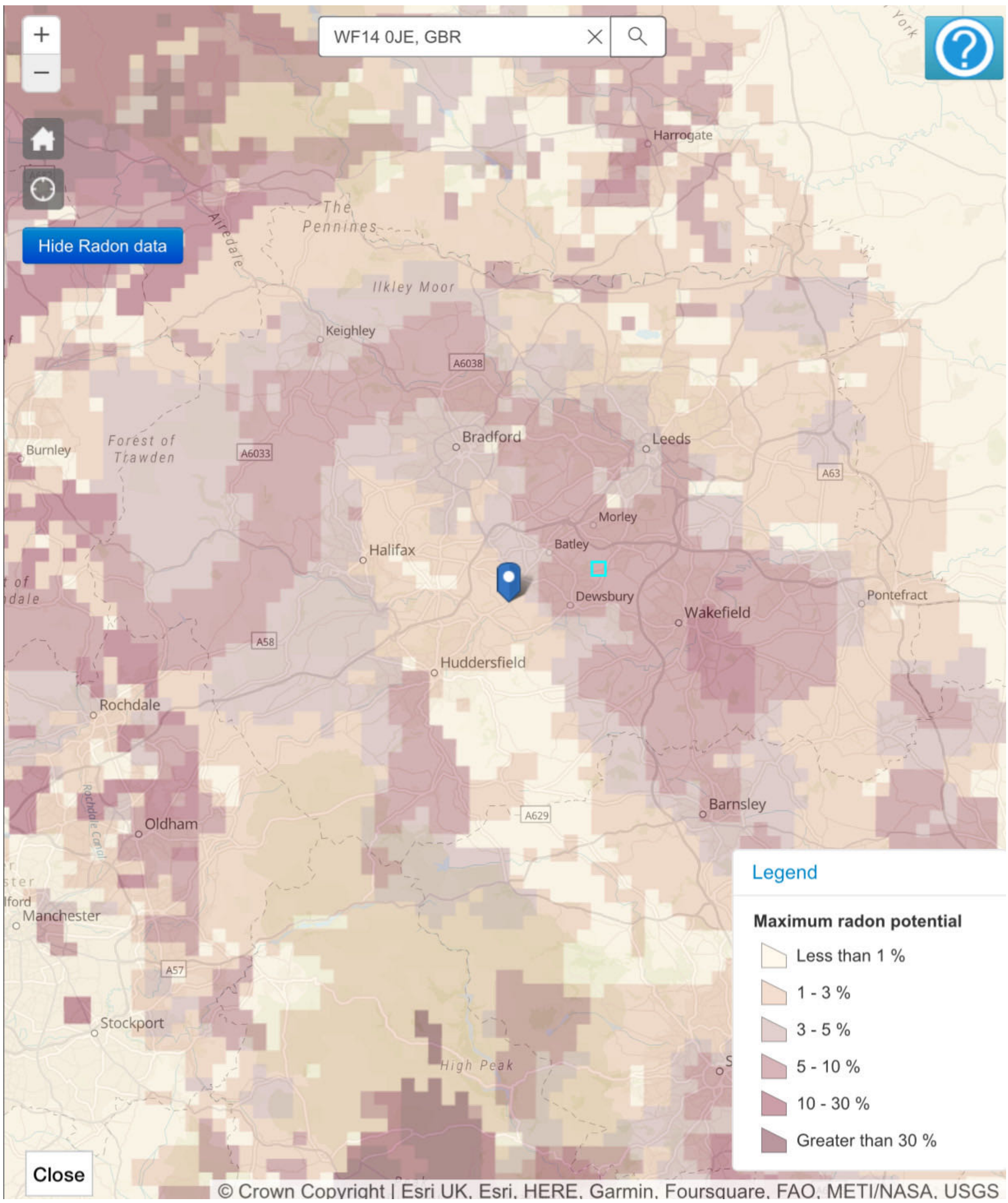
RADON MAPS UK - (Map 1) Site Location



Maximum Radon Potential:	1-3%
Description:	No Radon protection measures are required.
Postcode:	WF14 0JE

GeoShield Verification Plan

RADON MAPS UK - (Map 2) Nearby Location



Maximum Radon Potential:	1-3%
Description:	No Radon protection measures are required.

GeoShield Verification Plan

CLIENT DETAILS

CLIENT CONTACT: Andy Butterworth

CONTACTS ROLE: Director

MOBILE PHONE:

EMAIL ADDRESS:

CLIENT CONTACT: Beckiie Woodend

CONTACTS ROLE: Assistant Quantity Surveyor

MOBILE PHONE:

EMAIL ADDRESS

NOTES:

GeoShield Verification Plan

APPLICATOR'S DETAILS

APPLICATOR NAME:	Nathan Chapel
COMPANY:	AM Groundworks
APPLICATOR TEL:	
APPLICATOR EMAIL:	

APPLICATOR NAME:	Aiden
COMPANY:	AM Groundworks
APPLICATOR TEL:	
APPLICATOR EMAIL:	

NOTES:

GeoShield Verification Plan

HEALTH AND SAFETY

INDUCTION:	YES		NO:	✔
INDUCTION TIME:				
CSCS CARD:	YES	✔	NO:	
CSCS CARD NUMBER:	13466546			
METHOD STATEMENT:	YES	✔	NO:	
RISK ASSESSMENT:	YES	✔	NO:	
COSHH:	YES	✔	NO:	

SITE SPECIFIC HAZARDS: Materials falling from height

Slips, trips and falls

Excavations

Confined spaces

Plant

GeoShield Verification Plan

APPLICATOR'S DETAILS

TRAINING LEVEL:

SPECIALIST CONTRACTOR:	YES	☐	NO	✔
NVQ LEVEL 2:	YES	☐	NO	✔
COMPETENT APPLICATOR:	YES	✔	NO	☐
TOOLBOX BY GEOSHIELD:	YES	✔	NO	☐

REASON FOR VISIT:

DURING INSTALLATION:	✔	UNDERSLAB VENTILATION	☐
PRE - POUR:	✔	DPC MEMBRANE CONNECTION	☐
TESTING:	✔	OTHER (PLEASE SPECIFY):	☐

NOTIFICATION:

24 HOURS:	YES	✔	48 HOURS:	YES	✔

NOTES: It will be deemed that these applicators are at an appropriate skill level for the job of installing the ground gas protection measures.

Toolbox talk training will be provided by Geoshield for the management team and installers, should it be required.

GeoShield Verification Plan

In accordance with guidance from CIRIA 735 & CIRIA C748.

Radon gas protection measures specify to the guidance from the BR 211 document:

VOC/Hydrocarbons ☐

RADON BASIC ☐

RADON FULL ☐

Characteristic Specification (CS) Rating	CS2
Building Type:	TYPE A
POINTS REQUIRED UNDER BS8485:2019	3.5 POINTS

POINTS GAINED FROM BS8485:2019

Score for Structural Barrier:	1.5 POINTS
Grade 2 Basement:	N/A
Grade 3 Basement:	N/A
Score for Venting:	0 POINTS
Car Park:	N/A
Score for Membrane:	2.0 POINTS
POINTS ACHIEVED UNDER BS8485 2019:	3.5 POINTS

GeoShield Verification Plan

TESTING PROCEDURES

VISUAL: PICK & PROBE/MECHANICAL POINT STRESS TEST:	✔
NON-DESTRUCTIVE COMPRESSED AIR LANCE TEST:	✔
NON-DESTRUCTIVE SMOKE TEST:	☐
DESTRUCTIVE JOINT TESTING:	☐
NON-DESTRUCTIVE TRACER GAS TESTING:	☐
DIELECTRIC POROSITY TEST:	☐
PUMP TEST FOR "Twinny" WELD	☐

NOTES: From the risk assessment GeoShield will initially conduct a visual

NOTES: and pick and probe testing regime for this project.

NOTES: Air lance testing with be conducted to test the installed membrane in

NOTES: accordance with CIRIA 735.

NOTES:

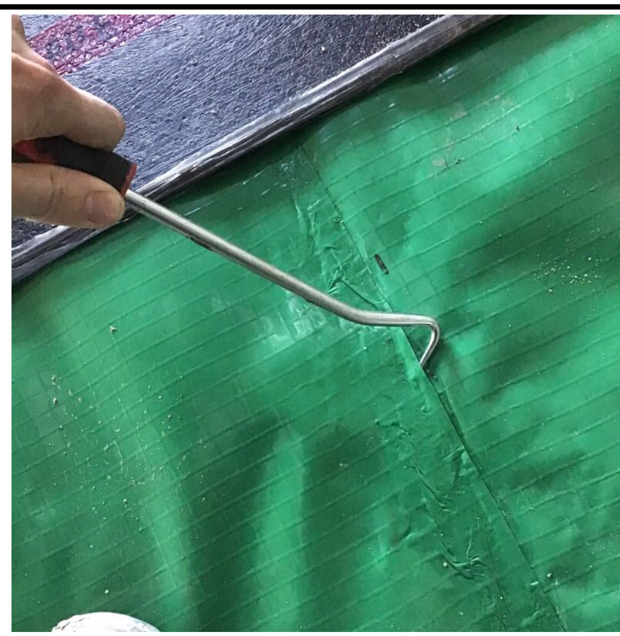
NOTES: Only if the application falls below the accepted standard will other testing

NOTES: be used.

GeoShield Verification Plan

SPECIFICATION

Mechanical Point Stress/ 'Pick and Probe' Testing



CIRIA 735

4.3.2 - Mechanical point stress tests involve running a blunt instrument (e.g. a screwdriver) along the edge of a seam to identify any unbonded seams. This method is not as effective as air lancing but it can be especially useful in hard to reach areas where it is not possible to air lance.

The instrument used should not puncture the gas membrane. This method is less appropriate for materials that are easily punctured where an air lance test is more suitable (although if a gas membrane can be easily punctured its suitability as a membrane is open to question).

GeoShield Verification Plan

SPECIFICATION

Air Lance Testing

CIRIA 735
4.3.3 - Air lance testing identifies unbonded areas of seam by directing a high pressure jet of air at the seam. The air is at a minimum pressure of 345kPa via a 4.8mm nozzle and is located no more than 50mm from the seam being tested.

In order to achieve the requirements of ASTM D4437-08:2013 bespoke specialist equipment is required to maintain the required pressure.

GeoShield Verification Plan

RISK ASSESSMENT

SITE SPECIFIC CIRCUMSTANCES		1		2		3		4		5
Complexity of Design		1		2	✔	3		4		5
Repetition of Design		1		2	✔	3		4		5
Experience of Workforce		1		2		3	✔	4		5
Gas Regime		1	✔	2		3		4		5
Project Management Experience		1		2	✔	3		4		5
Installation Conditions (exposed?)		1		2	✔	3		4		5
Robust Project Specific Gas Design		1		2	✔	3		4		5

TYPE OF RISK	RANGE	RISK
High Risk	23 - 30	
Medium High Risk	19 - 22	
Medium Risk	15 - 18	
Medium Low Risk	11 - 14	
Low Risk	0 - 10	

GeoShield have classed this project as a medium risk.

GeoShield will lay all parameters down for standards at the pre-verification meeting to

assist both the installer and the main contractor.

The skills of the installers are unknown at this point.

GeoShield Verification Plan

VERIFICATION REPORT

These items will be included in the report

NUMBER 1	GAS MEMBRANE SPECIFICATION
NUMBER 2	ELEMENTS OF THE GAS MEMBRANE
NUMBER 3	DATE, TIME and WEATHER CONDITIONS
NUMBER 4	PLANS and DETAILS ISSUED
NUMBER 5	INSTALLATION PHOTOS RELATING TO GRID LINES
NUMBER 6	REPORTING DEFECTS AND LOGGING IN REMEDIATION LOG
NUMBER 7	AREAS OF LIMITATION (areas unable to inspect)
NUMBER 8	LOGGING AND REPORTING RESULTS OF TESTING

VERIFICATION REPORT ISSUE

HARD COPY:	YES	✔	NO		EMAIL:	YES	✔	NO	
DROP BOX LINK:	YES	✔	NO		FLASH DRIVE:	YES		NO	✔

GeoShield Verification Plan

GEOSHIELD COMPETENCE

>GeoShield was founded in 2015.

>GeoShield solely verifies, they are fully independent of installers, manufacturers and geotechnical companies.

>GeoShield follow guidance in CIRIA 735 (sufficient experience, membership of relevant professional organisations). GeoShield are members of the BVC, BGA, ERA, The RADON Council, and UKRA.

>Currently GeoShield hold the Chairmanship of the British Verification Council.

>Two employees are NSAC Level 3 Assessors for the NVQ 2 Gas Membrane install.

>GeoShield were key in forming the NVQ 4 Verification qualification in which 2 Verification Officers are undertaking this qualification.

>GeoShield have the only qualified Assessor for the NVQ 4 Verification qualification.

>GeoShield Verification Officers currently keep up to date CPDs.

>All GeoShield Verification Officers have a full understanding of gas membrane install, including 3 experienced (NVQ 2) Installers in the GeoShield team.

>GeoShield Verification Officers are all independent carrying their own air compressors. Other testing equipment GeoShield have access to are 2 x Buckley Dielectric Testing machines and also inert gas testing equipment.

GeoShield Verification Plan

METHOD STATEMENT - Page 1

EXPECTED VISITS:- 5 site visits are deemed necessary for verification, however

extra visits may be considered for potential remediations before sign off.

TESTING:- Mechanical Point Stress (Pick & Probe) testing on taped areas.

Air lance testing will be conducted where access allows for use of equipment.

PURPOSE:- Geoshield are 3rd party gas membrane verifiers and in order for this

project to be compliant with BS8485:2019 and in accordance with CIRIA 735,

this project will NOT achieve sign off for gas membrane installation unless

independent verification is carried out.

REPORTING:- Each site visit be accompanied with a written and electronic report.

Any remediations either completed on the visit or outstanding for a later date will

be recorded and logged, sign off will not be achieved for each section area until

all remediations has been completed. This will be fully recorded at all times.

GeoShield Verification Plan

METHOD STATEMENT - Page 2

GROUND GAS RISK:- From detail design drawings this project has been classified as a Type A building and a CS2 rating in accordance with BS8485:2019.

This will require to mitigate a minimum score of 3.5 points. This will be achieved by 3rd party verification, slab or ground type and ventilation provision.

A combination of which will achieve the necessary requirements.

GAS MEMBRANE PROTECTION:- It is essential that upon satisfactory install of gas membrane and after verification work is completed.

In addition warning labels will be issued by Geoshield to advise on the need to restrict access to the installed area by follow on trades and their due diligence.

This will help to reduce potential damage caused. This is essential before the final slab or screed is poured over the membrane.

FINAL:- Geoshield will liaise with the projects site supervision and all relevant parties prior to the installation start. This plan will be presented and reviewed, all points made clear as previously stated. Any alterations will be listed at the end of this plan as an all party agreed way forward.

GeoShield Verification Plan

VERIFICATION PLAN

METHOD STATEMENT

VERIFICATION STRATEGY:

Percentage Strategy:	1st 10 Plots (100%), 11-50 Plots (1:5) & 51 or > (1:10)	✔
Percentage Strategy:	100% Verification for VOC/Hydrocarbons	

Verification Percentage on site:	100%	Not Specified	

Remarks: 3 Nr Horizontal Membrane

2 Nr Perimeters

It is recommended that the installers are present at the time of testing so any

remediations can be rectified. If remediations are not rectified the nature of the faults

found will determine whether or not extra visits are required to test remediations.

Protection Type:-	Protection Board		Protection Fleece	
Insulation				

Remarks: Not specified

GeoShield Verification Plan

TESTING PROCEDURE

Method Statement - Pipe Penetrations and Service Entries Notice Signs

Geoshield Notice Signs -

During testing on site, notice signs will be tied to all pipe penetrations and service entries which have not passed inspection.
Areas cannot be passed unless verification stickers have been applied to the Notice Signs, once remediations have been successfully carried out.

GeoShield Verification Plan

SUBSTRATE METHOD STATEMENT

SUBSTRATE TYPE:

Block and Beam Construction	Yes		No	✔

Minimum Preparation	Swept Clear	Yes		No	
Minimum Preparation	Vacuuming	Yes		No	
Minimum Preparation	Compressed air to remove	Yes		No	
Minimum Preparation	Remove Mortar Droppings	Yes		No	

Stone Substrate	Yes		No	✔

Minimum Preparation	Minimum 25mm Sand Blinding	Yes		No	
Minimum Preparation	Limestone Dust	Yes		No	
Minimum Preparation	Compacted Substrate	Yes		No	
Minimum Preparation	No large stones	Yes		No	

Concrete Substrate	Yes	✔	No	

Minimum Preparation	No Hollows	Yes	✔	No	
Minimum Preparation	Troweled Surface	Yes	✔	No	

Remarks:	

GeoShield Verification Plan

BGA British Geomembrane Association

HOUSING METHOD STATEMENT

SUBSTRATE TYPE:

Block and Beam Construction	Yes		No		Solid Floor	Yes	✔	No	

Structure	Score		Structure	Score	1.5
Venting	Score		Venting	Score	0
Membrane	Score		Membrane	Score	2.0

GAS TYPE:

Carbon Dioxide	Yes	✔	No		Methane	Yes		No	✔
VOC	Yes		No	✔	RADON	Yes		No	✔

VERIFICATION STRATEGY:

Percentage strategy	(1st 10 Plots100%, 11 to 50 Plots 1:5, 51 to > 1:10)	Yes	✔	No	
Percentage strategy	100% Verification for VOC's	Yes		No	✔

CONTRACTOR/INSTALLER EVIDENCE

Arranged Evidence for Unverified Plots

GeoShield Audited CQA	Yes		No	✔
GeoShield Supported Documentation	Yes		No	✔
No Evidence Strategy	Yes		No	✔

GeoShield Verification Plan

PRE-CONTRACT MEETING

Items for discussion at the Pre-Contract meeting:-

- >Induction Procedure
- >Identification of Installation team and point of contact
- >Identification of Project Management team
- >Identification of Sub-Contractors associated with membrane installation
- >Validation of Membrane and Design Specification
- >Verification Procedure
- >Notifications for Verification
- >Preparation of Substrate
- >Program of Works
- >Utility Entry
- >Protection of Membrane
- >Remediation Procedure
- >Testing Procedures
- >Sign off Procedure
- >Installer PI

All information is assumed correct at time of issue.

DATE:

GeoShield Verification Plan

PRE-CONTRACT MEETING SUMMARY

A proforma quality assurance document will be discussed during the Pre-Verification meeting and training undertaken with the management team for non verified areas.

The Pre-Verification meeting will be led by Geoshield and should include all relevant parties who have an impact on the installation and future protection. Geoshield will provide guidance and strategy for all parties.

The site specific checklist will be covered as well as the risk assessment.

This site has been classified as a CS2 gas regime rating.

Any design alterations will be discussed and included in a revised Pre-Verification Plan.

Any specification changes must also be included in a revised Pre-Verification Plan.

All items will be minuted by the Geoshield representative.

This Pre-Verification plan follows all current guidance and the aim is to make all parties aware of the ramifications of poor installation and their responsibilities if they damage the membrane.