



GEOSHIELD Verification Report



VERIFICATION SUMMARY

This was the 10th visit to site where verification of the installation of the FIS

Hydroprufe 9000 gas barrier to slab areas of Block A and B was required. All laps

have been lapped 150mm and sealed using double sided butyl tape and girth

lap tape. Pipe penetrations have been sealed as per manufacturers specification,

using top hats and taped or detailing tape when the pipes are in close proximity.

All concrete and piles where the FIS Hydroprufe 9000 gas barrier is not being

installed the installers have applied Hydroprufe LG and sealed the two using

detailing tape. No faults or defects were identified during this report.

Installed in accordance with BS 8485:2019.

Verified in accordance with CIRIA 735.

GEOSHIELD SIGNATURE:



DATE: 28/11/2022



GEOSHIELD Verification Report



PROJECT REFERENCE: GEO102776

REPORT NUMBER: 015 REPORT DATE: 31/01/2023

PROJECT: Dalby Avenue

PROJECT ADDRESS: Dalby Avenue,

Bedminster, Bristol

BS3 4

MEMBRANE SPECIFICATION:

FIS Hydroprufe 9000 gas barrier

FIS Hydroprufe LG

FIS Hydroseal FX

FIS HCR Double Sided Butyl Tape

FIS HCR Foil Girth Tape

FIS Hydroprufe 8000



GeoShield Verification Report



NAME OF SURVEYOR:

John Cornish

VERIFICATION COMPANY:

GeoShield Limited

Icon Business Centre

4100 Park Approach

Thorpe Park

Leeds

CONTACT NUMBER:

07493769477

EMAIL ADDRESS:

john.cornish@geoshield.co.uk

ORDER NUMBER:

To be confirmed

PER VISIT:

YES:

NO:

PROJECT:

YES:

NO:



GEOSHIELD Verification Report



MEMBRANE SPECIFICATION:

DESIGN DETAILS:

DQRA and ORS Rev A:-

3.37 - CS2 gas regime rating

Site Location Plan

Proposed Ground Floor Plan

Typical Section Through Service Pit

OP001942-PD-001

OP001942-GA-001

OP001942-PD-002

OP001942-PD-003

OP001942-TD-001

Material Specification Technical Data Sheets

Radon Maps UK - (Map 1) Site Location & (Map 2) Nearby Location



GEOSHIELD Verification Report



CLIENT DETAILS

CLIENT CONTACT: Jason Woollaston

CONTACTS ROLE:

MOBILE PHONE: 07392 091 605

EMAIL ADDRESS: Jason.Woollaston@WatkinJones.com

CLIENT CONTACT:

CONTACTS ROLE:

MOBILE PHONE:

EMAIL ADDRESS

NOTES:

NOTES:

NOTES:



GEOSHIELD Verification Report



APPLICATION TEAM LEADERS

APPLICATOR NAME:

COMPANY:

APPLICATOR TEL:

APPLICATOR EMAIL:

APPLICATOR NAME:

COMPANY:

APPLICATOR TEL:

APPLICATOR EMAIL:

NOTES:

NOTES:

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NOTES:



GEOSHIELD Verification Report



AREA SURVEYED: Block A - Perimeters 33%.

SITE CONDITIONS:

WEATHER: Overcast

TEMPERATURE: 9c

MEMBRANE TEMPERATURE: 8c

RELATIVE HUMIDITY: N/A

TIME: 14:00-16:00 REPORT NUMBER: 015

DATE: 31/01/2023

ACCOMPANIED Vilius - 4D Structures



GEOSHIELD Verification Report



VERIFICATION LAYOUT



33% of the Block A perimeters highlighted in red above shows where verification

took place during this visit.



GEOSHIELD Verification Report



OVERVIEW PHOTOGRAPHS



The photograph above shows an overview of the FIS Hydroprufe 8000 which

has been installed to the perimeters.



GEOSHIELD Verification Report



OVERVIEW PHOTOGRAPHS



The photograph above shows an additional overview photograph of the Block

A perimeters.



GEOSHIELD Verification Report



VERIFICATION ITEM ONE

LOCATION/GRID LINE: Block A - Perimeters 33%.

NOTES: Installation of the FIS Hydroprufe 8000.

The first photograph below shows the installers have first applied primer to the edge of the Block A slab and concrete up stands. The primer has the been allowed to dry before adhering the FIS Hydroprufe 8000.



The photograph above shows a pick and probe test carried out to a sealed lap of the FIS Hydroprufe 8000. Verified in accordance with CIRIA 735.



GEOSHIELD Verification Report



VERIFICATION ITEM ONE



The photograph above shows a pick and probe test carried out to the seal achieved between the FIS Hydroprufe 8000 and the primed concrete slab. A gas blow torch has been used to aid in the adherence of the FIS Hydroprufe 8000. No faults or defects were identified during this visit. Verified in accordance with CIRIA 735.



GEOSHIELD Verification Report



VERIFICATION ITEM TWO

LOCATION/GRID LINE: Block A - Perimeters 33%.

NOTES: Corn details sealed.

The installers have first installed the FIS Hydroprufe 8000 self adhesive membrane tight to the corners to ensure the self adhesive is all in contact with the primed concrete.



A gas blow torch and pressure has been applied to aid in the adherence of the FIS Hydroprufe 8000 self adhesive membrane. The second photograph above shows a pick and probe test carried out to a sealed corner detail. The installers have achieved a strong seal.

Verified in accordance with CIRIA 735.



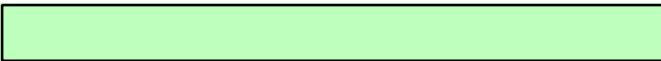
GEOSHIELD Verification Report



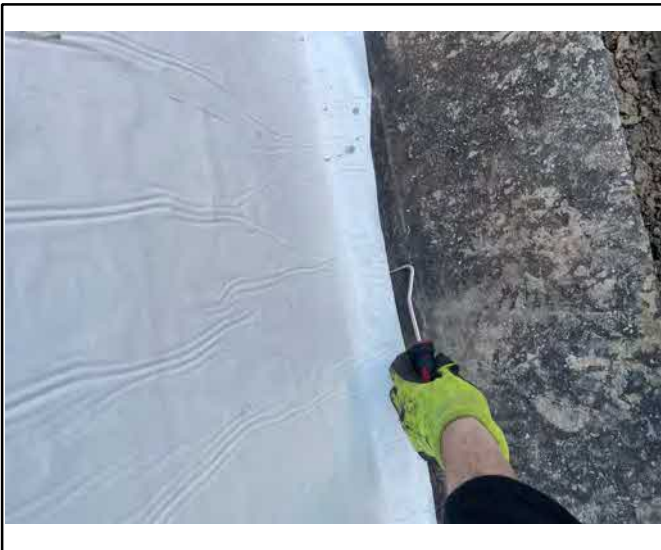
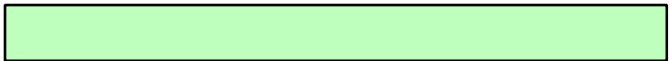
ADDITIONAL PHOTOGRAPHS



Additional overview photograph.



Additional overview photograph.



Pick and probe test carried out to the

seal achieved.



The photograph above shows an

additional overview photograph.



GEOSHIELD Verification Report



REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
22/08/2022	001	1. Two lift pits and district heating area still to be sealed using Hydroseal FX and Hydroprufe LG.	
14/09/2022	002	1. Any holes in it the Hydroprufe 9000 gas barrier have been patch repaired using HCR tape.	✓
20/09/2022	003	1. District Heating and Riser needs to be sealed using Hydroseal FX and Hydroprufe LG at a later date.	
23/09/2022	004	1. 2 x lift pits need to be sealed using Hydroseal FX and Hydroprufe LG and verified in a future visit.	
28/09/2022	005	No faults or defects were identified during this visit.	✓
05/10/2022	006	1. 2 x lift pits need to be sealed using Hydroseal FX and LG before being verified at a later date.	
		2. Small section of membrane had not been installed on arrival this has now been sealed and is shown in verification of item 3 in report 6.	✓
11/10/2022	007	No faults or defects were identified during this visit.	✓



GEOSHIELD Verification Report



REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
17/10/2022	008	1. Two piles and beam needs to be dry before reselling, this has	✓
		been rectified and is shown in verification item 3.	✓
		2. Two Pipe penetrations needed additional tape, this has been	✓
		carried out during this visit.	✓
		3. Two lift pits need to be sealed with FX and LG and verified	
		during a future visit,	
19/10/2022	009	1. Two pipe penetrations needed additional HCR tape.	✓
		2. LG too wet to apply HCR tape to create a seal, since remediated	✓
		3. Some additional HCR tape needed to be applied to the piles to..	✓
	secure a seal	✓
28/11/2022	010	No faults or defects were identified.	✓
06/12/2022	011	1. No faults or defects were identified.	✓
08/12/2022	012	1. Some details required extra tape/pressure to create a	✓
		sufficient seal, this was remediated on site.	✓
12/12/2022	013	No faults or defects were identified during this visit.	✓



GEOSHIELD Verification Report



GAS MEMBRANE TESTING

VISUAL: YES NO SMOKE TEST: YES NO

COMPRESSED AIR: YES NO DILECTIC YES NO

DESTRUCTIVE: YES NO OTHER: YES NO

Testing checklist attached: YES NO

Gridline/Plot Sign off

Gridline/Plot Sign off	Block A - GL:AL-AU/A4-A9.	<input type="checkbox"/>
Gridline/Plot Sign off	Block A - GL:AI-AL/A3-A9.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block B - GL:B14-B23/BBO-BBU	<input type="checkbox"/>
Gridline/Plot Sign off	Block B - GL:B11-B14/BAP-BAV + B19-B23/BBO-BBB....	<input type="checkbox"/>
Gridline/Plot Sign off	... + B23/BBU-BBB.	<input type="checkbox"/>
Gridline/Plot Sign off	Block B - GL:BAS-BAV/B08-B11 + BBA-BBB/B19-B22.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block B - BAS-BAO/B08-B11.	<input type="checkbox"/>
Gridline/Plot Sign off	Block A - GL: AM-AI/A02-A09.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block A - A01-A09/AF-1.5mx-AI.	<input type="checkbox"/>
Gridline/Plot Sign off	Block B - B19-B23/BBC-B06.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block A - AE-AF/ A01-A11.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block A - AF-AG / A8-A11.	<input checked="" type="checkbox"/>



GEOSHIELD Verification Report



GAS MEMBRANE TESTING

VISUAL: YES NO SMOKE TEST: YES NO

COMPRESSED AIR: YES NO DILECTIC YES NO

DESTRUCTIVE: YES NO OTHER: YES NO

Testing checklist attached: YES NO

Gridline/Plot Sign off

Gridline/Plot Sign off	Block B - BAQ-BAM / B08-B11.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block A - A01-A12/AA-AE.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block B - B08-B11/BAK-BAM.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block B - B23-B24/BAM-BAN.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block B - B29-B32/BBU-BBR.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block B - B29-B32/BBR-BAO	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block B - Substation Pit.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block B - Plant Room.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block A - Perimeters 33%.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off		<input type="checkbox"/>
Gridline/Plot Sign off		<input type="checkbox"/>
Gridline/Plot Sign off		<input type="checkbox"/>



GEOSHIELD Verification Report



VERIFICATION SUMMARY

This was the 15th visit to site, verification of the installation of the FIS Hydroprufe 8000 self adhesive membrane to 33% of Block A perimeters was required. The installers have first primed the perimeters of block A verified during this visit, once dry FIS Hydroprufe 8000 has been adhered to the perimeters using a gas blow torch and pressure. No faults or defects were identified when carrying out pick and probe testing.

Installed in accordance with BS 8485:2019.

Verified in accordance with CIRIA 735.

GEOSHIELD SIGNATURE:



DATE: 31/01/2023



GEOSHIELD Verification Report



PROJECT REFERENCE: GEO102776

REPORT NUMBER: 016 REPORT DATE: 07/02/2023

PROJECT: Dalby Avenue

PROJECT ADDRESS: Dalby Avenue,

Bedminster, Bristol

BS3 4

MEMBRANE SPECIFICATION:

FIS Hydroprufe 9000 gas barrier

FIS Hydroprufe LG

FIS Hydroseal FX

FIS HCR Double Sided Butyl Tape

FIS HCR Foil Girth Tape

FIS Hydroprufe 8000



GeoShield Verification Report



NAME OF SURVEYOR:

John Cornish

VERIFICATION COMPANY:

GeoShield Limited

Icon Business Centre

4100 Park Approach

Thorpe Park

Leeds

CONTACT NUMBER:

07493769477

EMAIL ADDRESS:

john.cornish@geoshield.co.uk

ORDER NUMBER:

To be confirmed

PER VISIT:

YES:

NO:

PROJECT:

YES:

NO:



GEOSHIELD Verification Report



MEMBRANE SPECIFICATION:

DESIGN DETAILS:

DQRA and ORS Rev A:-

3.37 - CS2 gas regime rating

Site Location Plan

Proposed Ground Floor Plan

Typical Section Through Service Pit

OP001942-PD-001

OP001942-GA-001

OP001942-PD-002

OP001942-PD-003

OP001942-TD-001

Material Specification Technical Data Sheets

Radon Maps UK - (Map 1) Site Location & (Map 2) Nearby Location



GEOSHIELD Verification Report



CLIENT DETAILS

CLIENT CONTACT: Jason Woollaston

CONTACTS ROLE:

MOBILE PHONE: 07392 091 605

EMAIL ADDRESS: Jason.Woollaston@WatkinJones.com

CLIENT CONTACT:

CONTACTS ROLE:

MOBILE PHONE:

EMAIL ADDRESS

NOTES:

NOTES:

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GEOSHIELD Verification Report



APPLICATION TEAM LEADERS

APPLICATOR NAME:

COMPANY:

APPLICATOR TEL:

APPLICATOR EMAIL:

APPLICATOR NAME:

COMPANY:

APPLICATOR TEL:

APPLICATOR EMAIL:

NOTES:

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GEOSHIELD Verification Report



AREA SURVEYED: Block A - Perimeters 100%

Block A - Lift Pits.

SITE CONDITIONS:

WEATHER: Overcast

TEMPERATURE: 9c

MEMBRANE TEMPERATURE: 8c

RELATIVE HUMIDITY: N/A

TIME: 14:00-16:00 REPORT NUMBER: 016

DATE: 07/02/2023

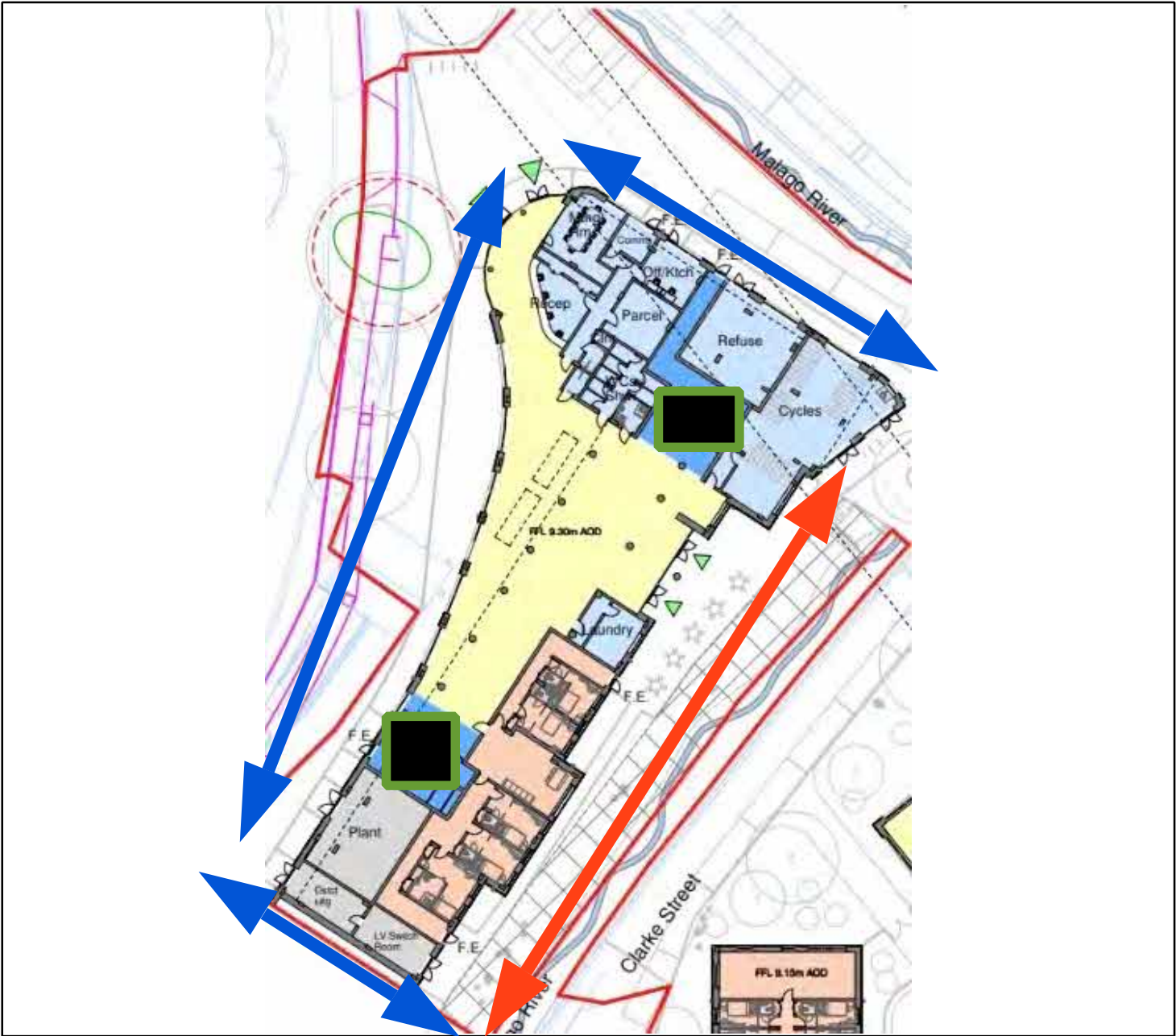
ACCOMPANIED Vilius - 4D Structures



GEOSHIELD Verification Report



VERIFICATION LAYOUT



The perimeters highlighted in blue and lift pits highlighted in green have been

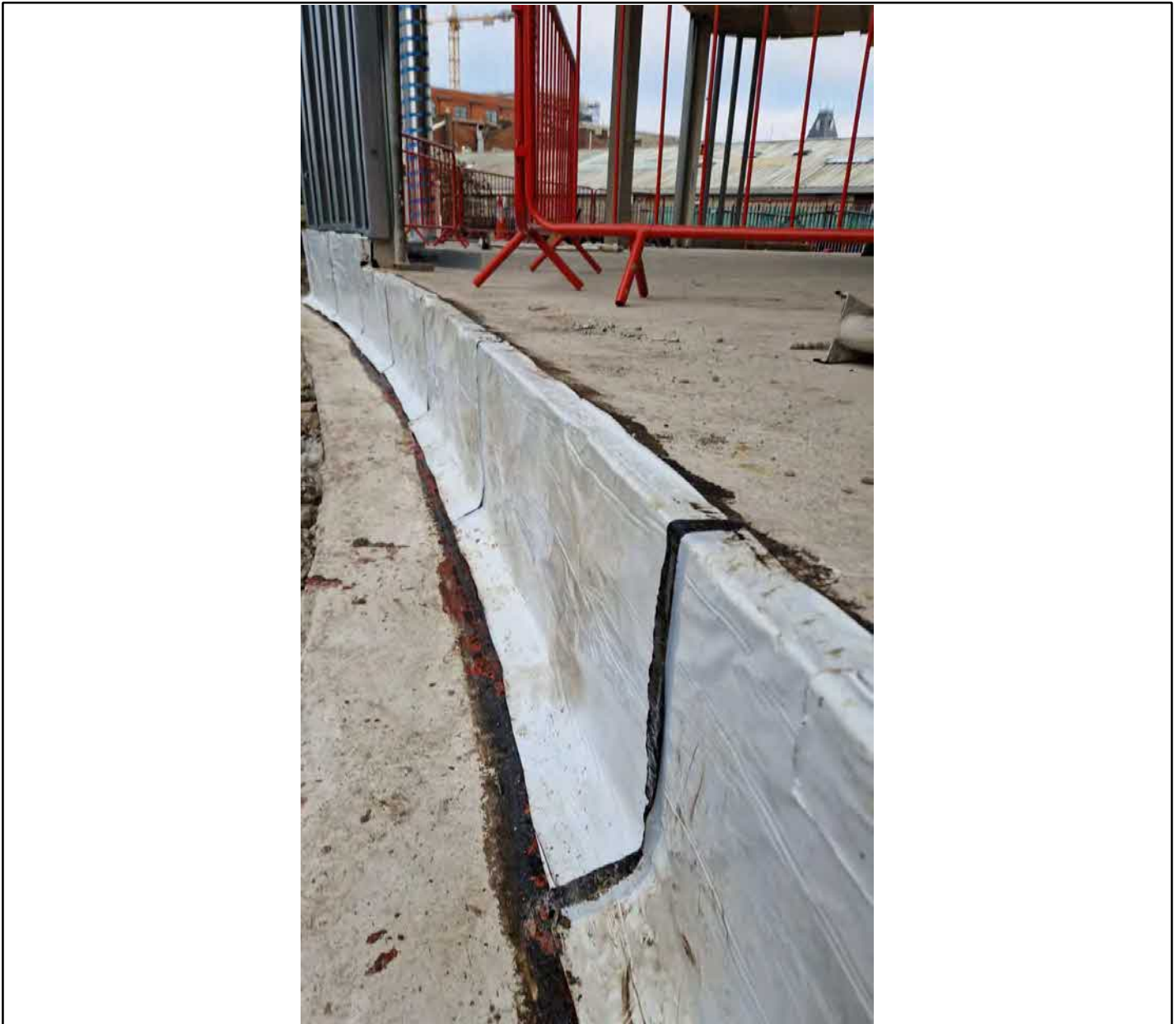
verified and signed off during this visit.



GEOSHIELD Verification Report



OVERVIEW PHOTOGRAPHS



The photograph above shows an overview of a section of the Block A perimeters

where the FIS Hydroprufe 8000 self adhesive has been installed.



GEOSHIELD Verification Report



OVERVIEW PHOTOGRAPHS



The photograph above shows one of the four lift pits which have been

signed off during this report.



GEOSHIELD Verification Report

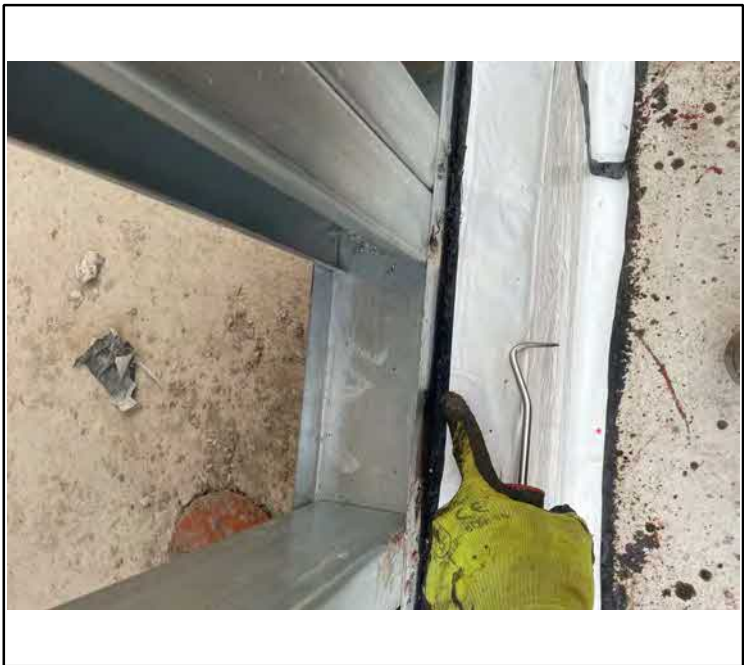


VERIFICATION ITEM ONE

LOCATION/GRID LINE: Block A - Perimeters 100%.

NOTES: Installation of the FIS Hydroprufe 8000 self adhesive.

The first photograph below shows the installers have first primed the concrete, this has been applied to aid in the adherence of the FIS Hydroprufe 8000 self adhesive membrane.



Once dry the FIS Hydroprufe 8000 has been installed and the installers have achieved

a sufficient lap.



GEOSHIELD Verification Report



VERIFICATION ITEM ONE



The photograph above shows a pick and probe test carried out to the seal achieved between the FIS Hydroprufe 8000 self adhesive membrane and the primed concrete slab and up stands. No faults or defects were identified during this visit.

Verified in accordance with CIRIA 735.



GEOSHIELD Verification Report



VERIFICATION ITEM TWO

LOCATION/GRID LINE: Block A - Perimeters 100%.

NOTES: Corners sealed.

The two photographs below shows examples of sealed corner details which have been sealed. As with the flat edges of the concrete slab and up stands the installers have first primed the corners.



Next a gas blow torch has been used to ensure a strong and consistent seal has been achieved. The second photograph above shows a pick and probe test carried out to sealed corner.

Verified in accordance with CIRIA 735.



GEOSHIELD Verification Report



VERIFICATION ITEM THREE

LOCATION/GRID LINE: Block A - Lift Pits.

NOTES: Lift pits sealed.

The first photograph below shows the installers have first applied the FIS Hydroseal FX. Once dry the installers have then applied the FIS Hydroprufe liquid gas barrier to the lift pit.



All four lift pits have been sealed as per the FIS design and manufacturers specification. The installers have achieved a sufficient and consistent coverage of the FX and LG.



GEOSHIELD Verification Report



VERIFICATION ITEM THREE



The photograph above shows an overview of one of the completed sealed lift

pits. All Block A lift pits have been sealed and signed off during this verification

visit.



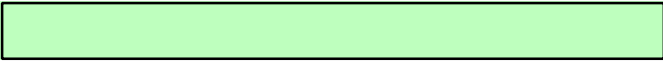
GEOSHIELD Verification Report



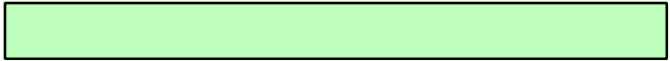
ADDITIONAL PHOTOGRAPHS



Additional overview photograph.



Additional overview photograph.



Additional overview photograph.



Additional overhead photograph.





GEOSHIELD Verification Report



REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
22/08/2022	001	1. Two lift pits and district heating area still to be sealed using	✓
		Hydroseal FX and Hydroprufe LG.	✓
14/09/2022	002	1. Any holes in it the Hydroprufe 9000 gas barrier have been	✓
		patch repaired using HCR tape.	✓
20/09/2022	003	1. District Heating and Riser needs to be sealed using Hydroseal	
		FX and Hydroprufe LG at a later date.	
23/09/2022	004	1. 2 x lift pits need to be sealed using Hydroseal FX and	
		Hydroprufe LG and verified in a future visit.	
28/09/2022	005	No faults or defects were identified during this visit.	✓
05/10/2022	006	1. 2 x lift pits need to be sealed using Hydroseal FX and LG before	
		being verified at a later date.	
		2. Small section of membrane had not been installed on arrival	✓
		this has now been sealed and is shown in verification of item 3	✓
		in report 6.	✓
11/10/2022	007	No faults or defects were identified during this visit.	✓



GEOSHIELD Verification Report



REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
17/10/2022	008	1. Two piles and beam needs to be dry before reselling, this has	✓
		been rectified and is shown in verification item 3.	✓
		2. Two Pipe penetrations needed additional tape, this has been	✓
		carried out during this visit.	✓
		3. Two lift pits need to be sealed with FX and LG and verified	✓
		during a future visit,	✓
19/10/2022	009	1. Two pipe penetrations needed additional HCR tape.	✓
		2. LG too wet to apply HCR tape to create a seal, since remediated	✓
		3. Some additional HCR tape needed to be applied to the piles to..	✓
	secure a seal	✓
28/11/2022	010	No faults or defects were identified.	✓
06/12/2022	011	1. No faults or defects were identified.	✓
08/12/2022	012	1. Some details required extra tape/pressure to create a	✓
		sufficient seal, this was remediated on site.	✓
12/12/2022	013	No faults or defects were identified during this visit.	✓



GEOSHIELD Verification Report



GAS MEMBRANE TESTING

VISUAL: YES NO SMOKE TEST: YES NO

COMPRESSED AIR: YES NO DILECTIC YES NO

DESTRUCTIVE: YES NO OTHER: YES NO

Testing checklist attached: YES NO

Gridline/Plot Sign off

Gridline/Plot Sign off	Block A - GL:AL-AU/A4-A9.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block A - GL:AI-AL/A3-A9.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block B - GL:B14-B23/BBO-BBU	<input type="checkbox"/>
Gridline/Plot Sign off	Block B - GL:B11-B14/BAP-BAV + B19-B23/BBO-BBB....	<input type="checkbox"/>
Gridline/Plot Sign off	... + B23/BBU-BBB.	<input type="checkbox"/>
Gridline/Plot Sign off	Block B - GL:BAS-BAV/B08-B11 + BBA-BBB/B19-B22.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block B - BAS-BAO/B08-B11.	<input type="checkbox"/>
Gridline/Plot Sign off	Block A - GL: AM-AI/A02-A09.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block A - A01-A09/AF-1.5mx-AI.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block B - B19-B23/BBC-B06.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block A - AE-AF/ A01-A11.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block A - AF-AG / A8-A11.	<input checked="" type="checkbox"/>



GEOSHIELD Verification Report



GAS MEMBRANE TESTING

VISUAL:	<input type="checkbox"/> YES	<input checked="" type="checkbox"/>	<input type="checkbox"/> NO	<input type="checkbox"/>	SMOKE TEST:	<input type="checkbox"/> YES	<input type="checkbox"/>	<input type="checkbox"/> NO	<input checked="" type="checkbox"/>
COMPRESSED AIR:	<input type="checkbox"/> YES	<input checked="" type="checkbox"/>	<input type="checkbox"/> NO	<input type="checkbox"/>	DILECTIC	<input type="checkbox"/> YES	<input type="checkbox"/>	<input type="checkbox"/> NO	<input checked="" type="checkbox"/>
DESTRUCTIVE:	<input type="checkbox"/> YES	<input type="checkbox"/>	<input type="checkbox"/> NO	<input checked="" type="checkbox"/>	OTHER:	<input type="checkbox"/> YES	<input checked="" type="checkbox"/>	<input type="checkbox"/> NO	<input type="checkbox"/>
Testing checklist attached:	<input type="checkbox"/> YES	<input checked="" type="checkbox"/>	<input type="checkbox"/> NO	<input type="checkbox"/>					

Gridline/Plot Sign off

Gridline/Plot Sign off	Block B - BAQ-BAM / B08-B11.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block A - A01-A12/AA-AE.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block B - B08-B11/BAK-BAM.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block B - B23-B24/BAM-BAN.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block B - B29-B32/BBU-BBR.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block B - B29-B32/BBR-BAO	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block B - Substation Pit.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block B - Plant Room.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block A - Perimeters 33%.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block A - Perimeters 100%.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block A - Lift Pits.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off		<input type="checkbox"/>



GEOSHIELD Verification Report



VERIFICATION SUMMARY

This was the 16th visit to site where verification of the installation of the FIS

Hydroprufe 8000 to perimeters and all lift pits of Block was required. All perimeters

of Block A have been terminated using th FIS Hydroprufe 8000 self adhesive

membrane. All four lift pits of Block A have been sealed using Hydroseal FX and

Hydroprufe LG as per manufacturers specification and ground gas design.

No faults or defects were identified during this visit.

Installed in accordance with BS 8485:2019.

Verified in accordance with CIRIA 735.

GEOSHIELD SIGNATURE:



DATE: 07/02/2023



GEOSHIELD Verification Report



PROJECT REFERENCE: GEO102776

REPORT NUMBER: 019 REPORT DATE: 05/06/2023

PROJECT: Dalby Avenue

PROJECT ADDRESS: Dalby Avenue,

Bedminster, Bristol

BS3 4

MEMBRANE SPECIFICATION:

FIS Hydroprufe 9000 gas barrier

FIS Hydroprufe LG

FIS Hydroseal FX

FIS HCR Double Sided Butyl Tape

FIS HCR Foil Girth Tape

FIS Hydroprufe 8000



GeoShield Verification Report



NAME OF SURVEYOR:

John Cornish

VERIFICATION COMPANY:

GeoShield Limited

Icon Business Centre

4100 Park Approach

Thorpe Park

Leeds

CONTACT NUMBER:

07493769477

EMAIL ADDRESS:

john.cornish@geoshield.co.uk

ORDER NUMBER:

To be confirmed

PER VISIT:

YES:

NO:

PROJECT:

YES:

NO:



GEOSHIELD Verification Report



MEMBRANE SPECIFICATION:

DESIGN DETAILS:

DQRA and ORS Rev A:-

3.37 - CS2 gas regime rating

Site Location Plan

Proposed Ground Floor Plan

Typical Section Through Service Pit

OP001942-PD-001

OP001942-GA-001

OP001942-PD-002

OP001942-PD-003

OP001942-TD-001

Material Specification Technical Data Sheets

Radon Maps UK - (Map 1) Site Location & (Map 2) Nearby Location



GEOSHIELD Verification Report



CLIENT DETAILS

CLIENT CONTACT: Jason Woollaston

CONTACTS ROLE:

MOBILE PHONE: 07392 091 605

EMAIL ADDRESS: Jason.Woollaston@WatkinJones.com

CLIENT CONTACT:

CONTACTS ROLE:

MOBILE PHONE:

EMAIL ADDRESS

NOTES:

NOTES:

NOTES:



GEOSHIELD Verification Report



APPLICATION TEAM LEADERS

APPLICATOR NAME:

COMPANY:

APPLICATOR TEL:

APPLICATOR EMAIL:

APPLICATOR NAME:

COMPANY:

APPLICATOR TEL:

APPLICATOR EMAIL:

NOTES:

NOTES:

NOTES:

NOTES:



GEOSHIELD Verification Report



AREA SURVEYED: Block B - Perimeters 100%

Block A and B - Lift Pits and District Heating.

SITE CONDITIONS:

WEATHER: Sunny

TEMPERATURE: 20c

MEMBRANE TEMPERATURE: 21c

RELATIVE HUMIDITY: N/A

TIME: 14:30-16:30 REPORT NUMBER: 019

DATE: 05/06/2023

ACCOMPANIED Vilius - 4D Structures



GEOSHIELD Verification Report



VERIFICATION LAYOUT



All perimeters of Block A and B have now been signed off. Lift pits annotated in red

and district heating pits annotated in blue have also been signed off.



GEOSHIELD Verification Report



OVERVIEW PHOTOGRAPHS



Overview photograph of sealed lift pit using Hydroseal FX and Hydroprufe

LG.



GEOSHIELD Verification Report



OVERVIEW PHOTOGRAPHS



Overview of perimeter termination using Hydroprufe 8000 self adhesive

membrane.



GEOSHIELD Verification Report



OVERVIEW PHOTOGRAPHS



Additional overview photograph of perimeter termination verified and signed

off during this visit.



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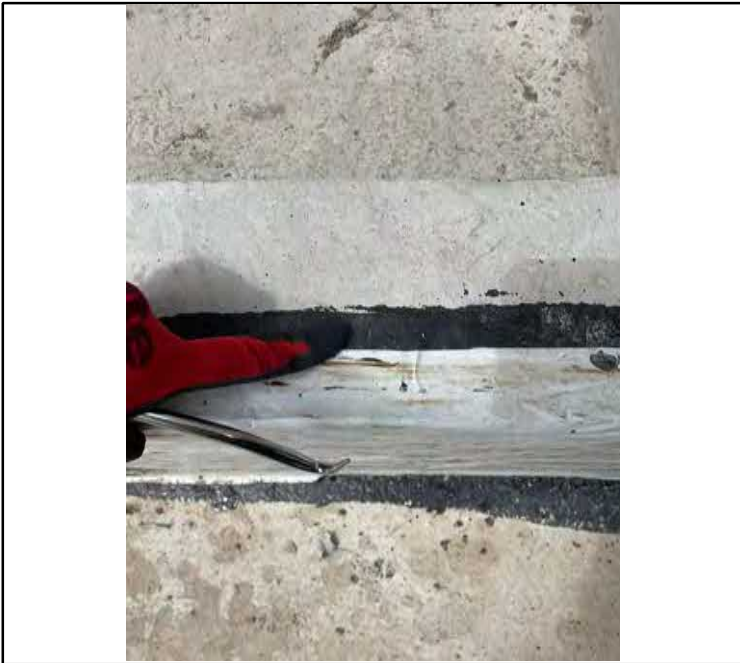


VERIFICATION ITEM ONE

LOCATION/GRID LINE: Block B - Perimeters 100%

NOTES: Perimeter termination installation.

The first photograph below shows the installers have first primed the perimeters of the slab and upstands. Next the Hydroprufe 8000 self adhesive membrane has been adhered to the primed perimeters to terminate the previously applied membrane.



Heat has been applied to aid in the adherence of the Hydroprufe 8000. The second

photograph above shows an overview of a sealed lap.



GEOSHIELD Verification Report



VERIFICATION ITEM ONE



The photograph above shows a pick and probe test carried out to a sealed lap of the Hydroprufe 8000 self adhesive membrane. The installers have achieved a strong seal. Any faults or defects that were identified during this visit or previous visits have been rectified. Verified in accordance with CIRIA 735.



GEOSHIELD Verification Report



VERIFICATION ITEM TWO

LOCATION/GRID LINE: Block B - Perimeters 100%.

NOTES: Perimeter termination - patch repairs.

The first photograph below shows examples of damage which was identified when inspecting the Block B perimeters. Any holes identified in the newly installed or previously installed and verified Perimeters have now been patch repaired.



To carry out each patch repair. The installer have first cleaned the Hydroprufe 8000 self adhesive membrane of any dust or debris before applying an additional patch of the Hydroprufe 8000. A gas blow torch has been used to aid in the adherence of the self adhesive membrane.

No remaining damage.



GEOSHIELD Verification Report



VERIFICATION ITEM TWO



The photograph above shows a pick and probe test carried out to a sealed patch

repair which has been rectified during this site visit. The installers have achieved

a strong seal.

Verified in accordance with CIRIA 735.



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VERIFICATION ITEM THREE

LOCATION/GRID LINE: Block A and B.

NOTES: Lift pits and District heating.

All lift pits and district heating pits have been sealed as per the FIS design. The installers have first cleaned the pits and ensured they are dry. Next Hydroseal FX has been applied as shown in the first photograph below.



Once allowed to dry the installers have then applied the Hydroprufe LG.

The installers have achieved full coverage with no gaps. The pits have then been

closed off to avoid damaged being caused to the liquid membranes.



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VERIFICATION ITEM THREE



Pipes within the district heating pits have also been sealed by extending the

FX and LG on to the pipes to ensure a continuous seal.



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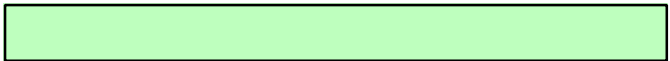
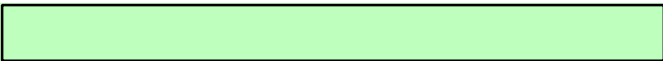


ADDITIONAL PHOTOGRAPHS



Area behind stairs was not sealed.

Area rectified and signed off.



Additional overview of perimeter

Additional overview of perimeter

termination.

termination.



GEOSHIELD Verification Report



ADDITIONAL PHOTOGRAPHS



Hydroprufe 8000 self adhesive

membrane.



Additional overview of perimeter

termination.



Additional overview photograph of

sealed lift pit.



Perimeters prior to being terminated.



GEOSHIELD Verification Report



ADDITIONAL PHOTOGRAPHS



Additional overview photograph of

perimeter termination.



Primer applied prior to Hydroprufe

8000.



Additional overview of perimeter

termination.



Sealed corner/door threshold.



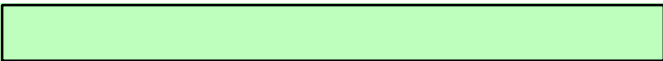
GEOSHIELD Verification Report



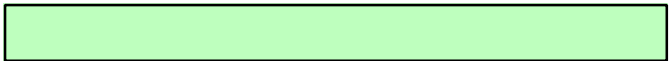
ADDITIONAL PHOTOGRAPHS



Additional patch repair.



Additional patch repair.



Additional patch repair.



Additional patch repair.





GEOSHIELD Verification Report



REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
22/08/2022	001	1. Two lift pits and district heating area still to be sealed using	✓
		Hydroseal FX and Hydroprufe LG.	✓
14/09/2022	002	1. Any holes in it the Hydroprufe 9000 gas barrier have been	✓
		patch repaired using HCR tape.	✓
20/09/2022	003	1. District Heating and Riser needs to be sealed using Hydroseal	✓
		FX and Hydroprufe LG at a later date.	✓
23/09/2022	004	1. 2 x lift pits need to be sealed using Hydroseal FX and	✓
		Hydroprufe LG and verified in a future visit.	✓
28/09/2022	005	No faults or defects were identified during this visit.	✓
05/10/2022	006	1. 2 x lift pits need to be sealed using Hydroseal FX and LG before	✓
		being verified at a later date.	✓
		2. Small section of membrane had not been installed on arrival	✓
		this has now been sealed and is shown in verification of item 3	✓
		in report 6.	✓
11/10/2022	007	No faults or defects were identified during this visit.	✓



GEOSHIELD Verification Report



REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
17/10/2022	008	1. Two piles and beam needs to be dry before reselling, this has	✓
		been rectified and is shown in verification item 3.	✓
		2. Two Pipe penetrations needed additional tape, this has been	✓
		carried out during this visit.	✓
		3. Two lift pits need to be sealed with FX and LG and verified	✓
		during a future visit,	✓
19/10/2022	009	1. Two pipe penetrations needed additional HCR tape.	✓
		2. LG too wet to apply HCR tape to create a seal, since remediated	✓
		3. Some additional HCR tape needed to be applied to the piles to..	✓
	secure a seal	✓
28/11/2022	010	No faults or defects were identified.	✓
06/12/2022	011	1. No faults or defects were identified.	✓
08/12/2022	012	1. Some details required extra tape/pressure to create a	✓
		sufficient seal, this was remediated on site.	✓
12/12/2022	013	No faults or defects were identified during this visit.	✓



GEOSHIELD Verification Report



REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
06/01/2023	014	No faults or defects were identified during this visit.	✓
31/01/2023	015	No faults or defects were identified during this visit.	✓
07/02/2023	016	No faults or defects were identified during this visit.	✓
02/03/2023	017	No faults or defects were identified during this visit.	✓
20/03/2023	018	No faults or defects were identified during this visit.	✓
05/06/2023	019	1. Access steps needed to be moved and sealed using	✓
		Hydroprufe 8000 self adhesive. Shown in additional photos.	✓
		2. Pipe penetrations to be sealed using Hydroseal FX and	✓
		Hydroprufe LG. Shown in verification item 3.	✓
		3. Patch repairs have been carried out using Hydroprufe 8000	✓
		as shown in verification item 2.	✓
			✓
			✓
			✓
			✓



GEOSHIELD Verification Report



GAS MEMBRANE TESTING

VISUAL: YES NO SMOKE TEST: YES NO

COMPRESSED AIR: YES NO DILECTIC YES NO

DESTRUCTIVE: YES NO OTHER: YES NO

Testing checklist attached: YES NO

Gridline/Plot Sign off

Gridline/Plot Sign off	Block A - GL:AL-AU/A4-A9.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block A - GL:AI-AL/A3-A9.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block B - GL:B14-B23/BBO-BBU	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block B - GL:B11-B14/BAP-BAV + B19-B23/BBO-BBB....	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	... + B23/BBU-BBB.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block B - GL:BAS-BAV/B08-B11 + BBA-BBB/B19-B22.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block B - BAS-BAO/B08-B11.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block A - GL: AM-AI/A02-A09.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block A - A01-A09/AF-1.5mx-AI.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block B - B19-B23/BBC-B06.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block A - AE-AF/ A01-A11.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block A - AF-AG / A8-A11.	<input checked="" type="checkbox"/>



GEOSHIELD Verification Report



GAS MEMBRANE TESTING

VISUAL: YES NO SMOKE TEST: YES NO

COMPRESSED AIR: YES NO DILECTIC YES NO

DESTRUCTIVE: YES NO OTHER: YES NO

Testing checklist attached: YES NO

Gridline/Plot Sign off

Gridline/Plot Sign off	Block B - BAQ-BAM / B08-B11.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block A - A01-A12/AA-AE.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block B - B08-B11/BAK-BAM.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block B - B23-B24/BAM-BAN.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block B - B29-B32/BBU-BBR.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block B - B29-B32/BBR-BAO	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block B - Substation Pit.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block B - Plant Room.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block A - Perimeters 33%.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block A - Perimeters 100%.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block A - Lift Pits.	<input checked="" type="checkbox"/>
Gridline/Plot Sign off	Block B - BAG-BAA.	<input checked="" type="checkbox"/>



GeoShield Verification Report



GAS MEMBRANE TESTING

VISUAL /PICK & PROBE:

SMOKE TEST:

AIR LANCING:

DILECTIC:

DESTRUCTIVE:

OTHER:

INERT GAS TEST:

SPECIFY:

Testing checklist attached:

YES NO

Gridline/Plot Sign off

Gridline/Plot Sign off Block B - Perimeters 50%.

Gridline/Plot Sign off Block B - Perimeters 100%.

Gridline/Plot Sign off Block A and B - Lift Pits and District Heating.

Gridline/Plot Sign off

Gridline/Plot Sign off

Gridline/Plot Sign off

Gridline/Plot Sign off

Gridline/Plot Sign off

Gridline/Plot Sign off

Gridline/Plot Sign off

Gridline/Plot Sign off

Gridline/Plot Sign off



GEOSHIELD Verification Report



VERIFICATION SUMMARY

This was the 19th visit to site where verification of the perimeter termination of

Block B and the lift pits and district heating of both Block A and B was required.

The installers have first primed the perimeters before adhering the Hydroprufe

8000 self adhesive membrane. Any damage to the Hydroprufe 8000 identified

during this visit have now been patch repaired using additional Hydroprufe 8000.

One set of access stairs needed to be moved to ensure the perimeter termination

could be continued around the entire perimeter. All lift pits and district heating

pits have been sealed using Hydroseal FX and Hydroprufe LG.

Installed in accordance with BS 8485:2019.

Verified in accordance with CIRIA 735.

GEOSHIELD SIGNATURE:



DATE: 05/06/2023