



GeoShield Verification Report 31



PROJECT REFERENCE: GEO103260 R31

PROJECT: Riverside Academy

PROJECT ADDRESS: Riverside Academy

Reading

RG1 8EQ

SPECIFICATION: Verified in accordance with CIRIA 735.

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

Substrate prepared in accordance with manufacturers instructions

Juta GP1 Gas Barrier

Juta GP SAM

Juta Titan Flex (Basal layer membrane)

Juta Titan Tank (Basal layer membrane)



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NAME OF SURVEYOR:

Kavanagh Palmer-Fletcher

VERIFICATION COMPANY:

GeoShield Limited

Icon Business Centre

4100 Park Approach

Thorpe Park

Leeds

CONTACT NUMBER:

07470 012813

EMAIL ADDRESS:

kpalmer-fletcher@geoshield.co.uk

ORDER NUMBER:

To be confirmed

PER VISIT:

YES:



NO:



PROJECT:

YES:



NO:





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CLIENT DETAILS

CLIENT CONTACT:	James Hay
CONTACTS ROLE:	Commercial Director
MOBILE PHONE:	07507 560 728
EMAIL ADDRESS:	jameshay@swcontracts.co.uk

CLIENT CONTACT:	
CONTACTS ROLE:	
MOBILE PHONE:	
EMAIL ADDRESS	
NOTES:	



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APPLICATION TEAM LEADERS

APPLICATOR NAME: Mick

COMPANY: SWC

APPLICATOR TEL:

APPLICATOR EMAIL:

APPLICATOR NAME:

COMPANY: SWC

APPLICATOR TEL:

APPLICATOR EMAIL:

NOTES: The installers from SWC are specialists in the installation of ground gas

NOTES: and waterproofing systems. They hold NVQ level 2 qualifications in the

NOTES: installation of gas membranes and weld all lap joints, which is required

NOTES: for this project.



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AREA SURVEYED:

West Block Perimeter Skirt - Gridlines: 1/A-D, 10/M-N & E/10
East Block Perimeter Skirt - Gridlines: T/1-8 & 1/S-T

SITE CONDITIONS:

WEATHER:

Sunny

TEMPERATURE:

23°C

RELATIVE HUMIDITY:

N/A

MEMBRANE TEMPERATURE:

N/A

TIME:

07:30 - 09:00

DATE:

21.06.2024

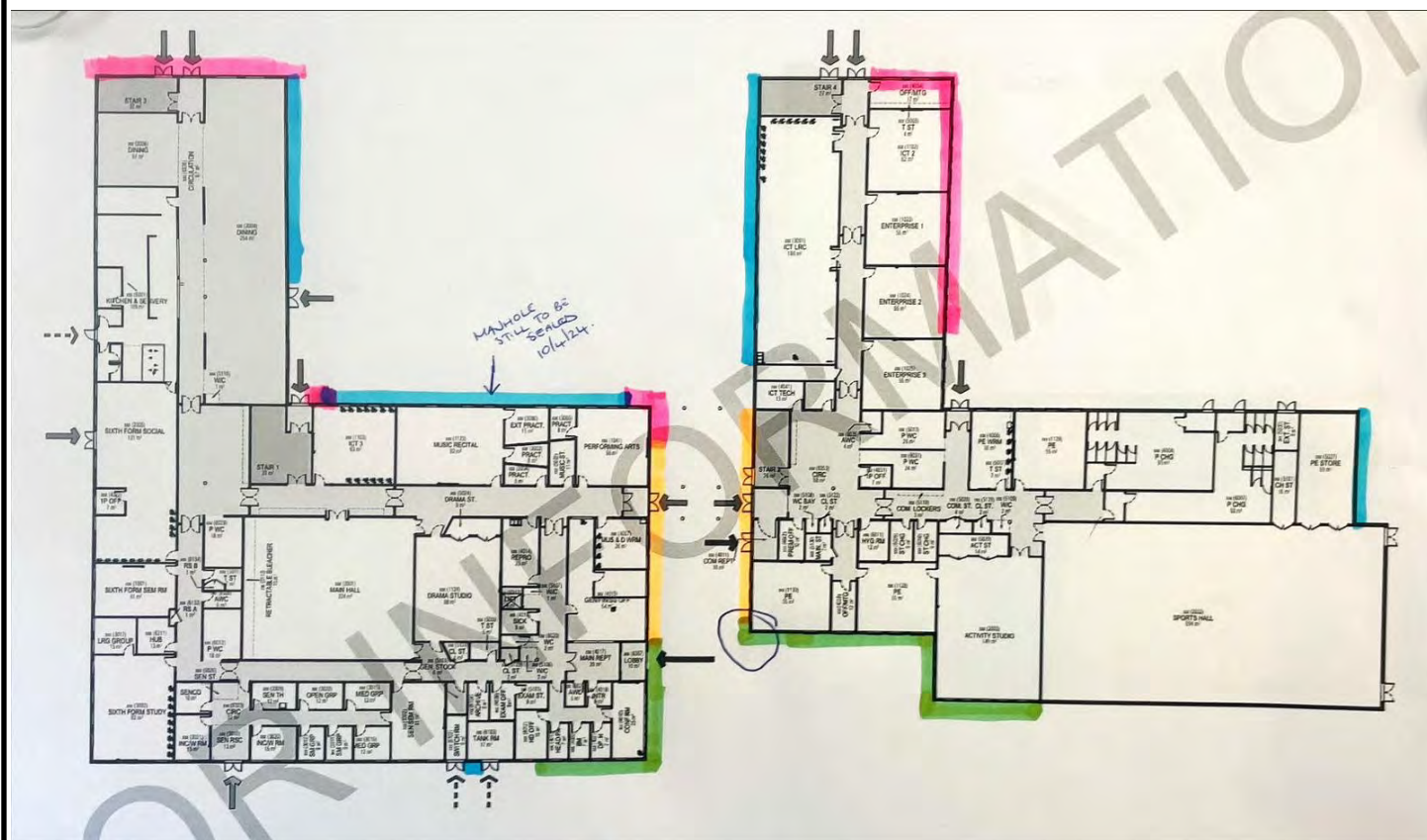
REPORT NUMBER:

031

ACCOMPANIED BY:

Bowmer & Kirkland Site Management

Verification Layout



OVERVIEW



The photograph above displays an overview of the area where today's verification inspection took place on site.

OVERVIEW



The photograph above displays an overview of the area where today's verification inspection took place on site.

OVERVIEW



The photograph above displays an overview of the area where today's verification inspection took place on site.

GeoShield Verification Report



VERIFICATION ITEM ONE

LOCATION/GRID LINE: East & West Block - Perimeter Skirt Detail

Installation of Juta Titanflex Gas Barrier



NOTES:

Juta Titanflex Gas Barrier has been installed to further perimeter sections of both the East & West Block, gridlines referenced. The Juta Titanflex Gas Barrier has been installed upon a Geotextiled substrate, preventing any damages from occurring beneath the membrane. The Juta Titanflex Gas Barrier has been lined



NOTES:

tightly upon the perimeter membrane in preparation for retrofit detailing. All overlaps between the adjacent sheets of Juta Titanflex Gas Barrier have been lapped a minimum of 100mm, conforming to manufacturer's specifications and guidelines, and heat welded using a hot air leister and silicone roller.

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VERIFICATION ITEM ONE



Thorough visual inspections, supported by mechanical point stress testing was conducted upon all lap joints present throughout the referenced areas.

No faults or defects were identified.

Tested and verified in accordance with CIRIA 735.

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VERIFICATION ITEM TWO

LOCATION/GRID LINE: East & West Block - Perimeter Skirt Detail

Penetrations



NOTES:

Throughout the Juta Titanflex Gas Barrier installation a couple of penetrations required sealing. A manhole inspected during the previous visit where it was identified that further works were required, has now also been successfully sealed. All penetrations have been successfully sealed using Juta Titan Tank,



NOTES:

which is a gas resistant self adhesive membrane. Prior to being sealed, the Juta Titanflex Gas Barrier has been cut tightly around the base of each individual penetration to eliminate voided areas, with patches of Juta Titan Tank being placed onto the pipe and the Juta Titanflex Gas Barrier, as shown above.

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VERIFICATION ITEM TWO



Thorough visual inspections, supported by mechanical point stress testing conducted upon the sealed penetrations identified no faults or defects. It is evident that adequate heat and rolled pressure has been applied ensuring a complete adhesion has been achieved upon the penetrations and the return onto the Juta Titanflex Gas Barrier.

Tested and verified in accordance with CIRIA 735.



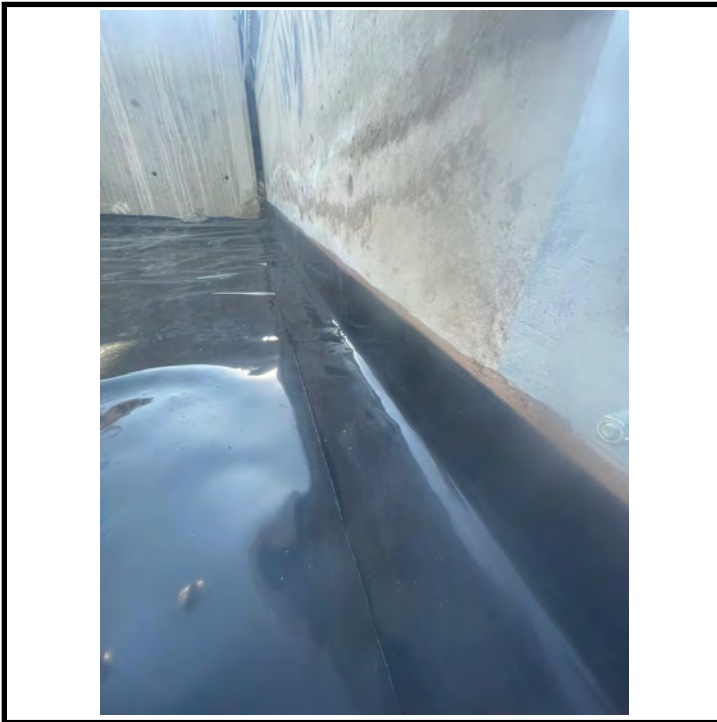
GeoShield Verification Report



VERIFICATION ITEM THREE

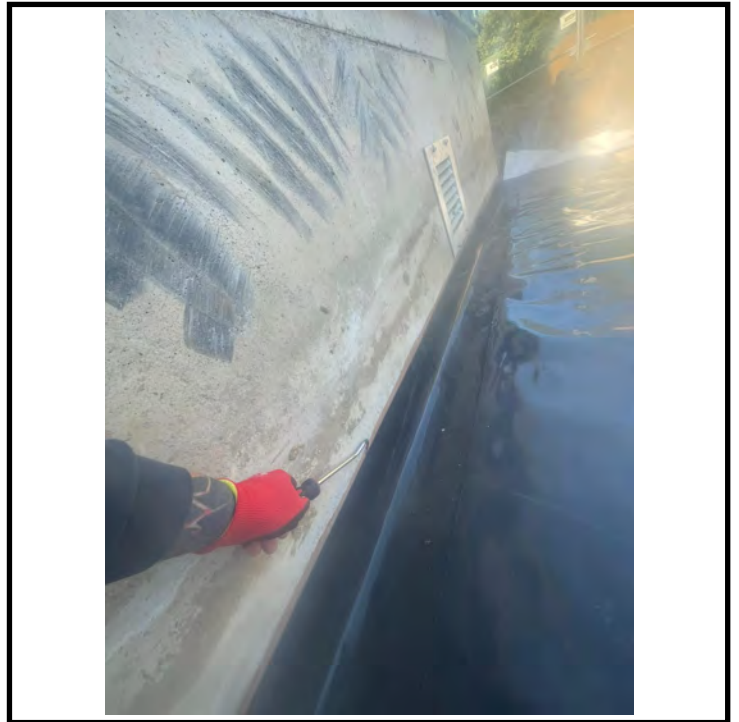
LOCATION/GRID LINE: East & West Block - Perimeter Skirt Detail

Retrofit Detailing



NOTES:

Juta Titanflex has been installed to the perimeter skirt and retrofitted using Juta Titan Tank, which is a self adhesive membrane. Prior to the Juta Titanflex Gas Barrier being retrofitted, all surfaces of the external perimeter upstands have been primed to aid in the adhesion of the Juta Titan Tank upon the concrete.



NOTES:

Once cured, the Juta Titan Tank has been lapped 150mm up the primed concrete face and returned 150mm upon the existing Juta Titan Flex Gas Barrier, as per the design details issued. The installers have applied heat to the Juta Titan Tank to activate the bitumen backing and rolled it into position using a silicone roller.



A sealed manhole.



A pick and probe test being conducted upon the retrofit detailing.



A pick and probe test being conducted upon retrofit detailing.



An overview of the retrofit detailing.



A pick and probe test being conducted upon a welded lap joint.



An overview of the retrofit detailing.



The perimeter skirt.



An overview of the retrofit detailing.



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REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
27/01/2023	001	Probe 1 6.5 metres from centre & probe 2 5.8 metres from centre.	✓
		- The above has been confirmed it doesn't affect the ground gas	✓
		monitoring. However, centres are now to be followed as per design.	✓
06/02/2023	002	Six miswelded lap joints identified. Remediated on-site.	✓
15/02/2023	003	Six miswelded lap joints identified. Remediated on-site.	✓
17/02/2023	004	Membrane to be repaired and verified where basal layer probe 3	✓
		has been installed.	✓
22/02/2023	005	Zone B & C Above Basal Layer 3	✓
		Below Basal probe 4 needs membrane re installed.	✓
28/02/2023	006	No faults identified	✓
01/03/2023	007	Probes 4,8 & 9 ABL / Probes 5 & 6 BBL	✓
03/03/2023	008	Block B, D & E and Extension to Probe 5 BBL.	✓
08/03/2023	009	Block B, D & E.	✓
10/03/2023	010	No faults or defects were identified.	✓
23/03/2023	011	Inconsistent seal around retrofit detailing see locations above.	✓



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REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
28/03/2023	012	No faults or defects were identified.	✓
04/04/2023	013	Several miswelds identified and remediated on-site.	✓
06/04/2023	014	Several miswelds identified and remediated on-site.	✓
12/04/2023	015	X12 mis-welds identified and remediated on-site.	✓
14/04/2023	016	X6 faults identified and remediated on-site.	✓
17/04/2023	017	No faults or defects were identified.	✓
24/05/2023	018	X5 inadequately or (un)sealed overlaps.	✓
		Pipes within internal or perimeter walls to be sealed.	✓
		External thresholds to be sealed.	✓
		Bolt pins around sports hall to be sealed.	✓
25/05/2023	019	Further unsealed overlaps identified.	✓
31/05/2023	020	X1 unsealed overlap. Remediated on-site.	✓
		Internal steel stanchions (east&west) to be sealed.	✓
18/09/2023	021	19 miswelds identified. Remediated on-site.	✓
26/09/2023	022	1. Several faults identified, all remediated on site.	✓



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REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
		2. Steel stanchions within the west block that require sealing on	
		the external side of the perimeters.	✓
02/10/2023	023	Several miswelded lap joints & holes identified. Remediated on-site	✓
09/10/2023	024	Several faults/mis-welds identified and remediated on-site.	✓
19/10/2023	025	1. Several faults/mis-welds identified and remediated on-site.	✓
		2. Steels around the east block (sports hall) require sealing.	✓
30/11/2023	026	Remediations to the membrane to be carried out once scaffolding	
		removed from Stairwell 3 in the west block before sign off can be	
		achieved.	✓
20/12/2023	027	Eight miswelds were identified, all were remediated on site.	✓
26/01/2024	028	Six faults identified, all remediated on site.	✓
31/01/2024	029	No faults were identified during this visit.	✓
10/04/2024	030	1. No faults or defects were identified during this visit.	✓
		2. A manhole still to be sealed and verified (perimeter skirt)	✓
21/06/2024	031	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	Zone A - Below Basal Layer - Probes 1 and 2.	☒
Gridline/Plot Sign off	Membrane Basal Layer. GL's; C-D/1-10, A-B/1-2 & B-C/1-6.	☒
Gridline/Plot Sign off	Membrane Basal Layer. GL's; C-D/10-11, C-D 12-14, A-B/5-13	☒
Gridline/Plot Sign off	B-C/6-13 & C-H/12-12.5	☒
Gridline/Plot Sign off	Below Basal Layer - Probe 3	☒
Gridline/Plot Sign off	Above Basal Layer - Probes 1 & 2.	☒
Gridline/Plot Sign off	Zone B & C / Below Basel 4 and Above Basel 3.	☒
Gridline/Plot Sign off	Zone C & D	☒
Gridline/Plot Sign off	Probes 4,8 & 9 ABL / Probes 5 & 6 BBL	☒
Gridline/Plot Sign off	Block B, D & E and Extension to Probe 5 BBL.	☒
Gridline/Plot Sign off	Block B, D & E.	☒
Gridline/Plot Sign off	Membrane Basal Layer membrane - Gridlines; L-N/13-14	☒



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	Below Basal Layer Probe - 7.	☒
Gridline/Plot Sign off	East Block Basal Layer- GLs Q-Q.5/10-12 & Q-R/12-13	☒
Gridline/Plot Sign off	East Block Below Basal Layer Probe 3&4	☒
Gridline/Plot Sign off	East Block Basal Layer Membrane - GLs A-T/10-11	☒
Gridline/Plot Sign off	East Block Basal Layer Membrane - GLs Q-T/1-13	☒
Gridline/Plot Sign off	East Block Basal Layer Membrane - GLs S-T/12-13	☒
Gridline/Plot Sign off	East Block Below Basal Layer Probes 5,6 and 7	☒
Gridline/Plot Sign off	East Block Basal Layer Membrane -GLs T-W/12-13	☒
Gridline/Plot Sign off	East Block Basal Layer Membrane - GLs S-AA/11-12	☒
Gridline/Plot Sign off	East Block Above Basal Layer Probes 1,2 and 3.	☒
Gridline/Plot Sign off	East Block Basal Layer -GLs: 10-12/BB-EE	☒
Gridline/Plot Sign off	East Block Basal Layer Membrane -GLs: 12/Z-EE	☒



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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	East Block Basal Layer Membrane -GLs: 12-13/W-FF	☒
Gridline/Plot Sign off	East Block Above Basal Layer Probes 9,10,11	☒
Gridline/Plot Sign off	East Block Above Basal Layer Probes 6,7 and 8.	☒
Gridline/Plot Sign off	West Block perimeter and internal walls.	☒
Gridline/Plot Sign off	East Block perimeter and internal walls.	☒
Gridline/Plot Sign off	Infill installation- East Block; Enterprise rooms 1,2&3, ICT LRC	☒
Gridline/Plot Sign off	Infill Installation- East Block; ICT2 and PE Rooms.	☒
Gridline/Plot Sign off	Infill Installation - East Block; ICT Tech, OFF/MTG, ST CHG	☒
Gridline/Plot Sign off	Infill Installation- West Block; 6th From Study, LRG Group...	☒
Gridline/Plot Sign off	...Hub, T'ST, P'WC, Semco, INC'WRM, SEN RSC, ICT3...	☒
Gridline/Plot Sign off	...Music Retical, Pract x3, Music St, Performing Arts, ...	☒
Gridline/Plot Sign off	...Drama St, Repro, Mus'D, WRM, Conf RM.	☒



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

Infill installation- West Block; P'WC, Mainhall, SEN RSC...



Gridline/Plot Sign off

...SEN'TH, INC/W RM, Open GRP, SM GRP x2, MED GRP x2



Gridline/Plot Sign off

...OPEN GRP, SEN SEM RM, Switch RM, Tank RM, Archive...



Gridline/Plot Sign off

...Exam Off*, Exam St, HD Off, Head PA, BM, DP.H, AWC ...



Gridline/Plot Sign off

...INTR CL ST.



Gridline/Plot Sign off

Infill installation - west block - 1P OFF, SIXTH FORM SOCIAL.



Gridline/Plot Sign off

...50%, AWC, SICK, MAIN REPT, LOBBY. East Block - CIRC .



Gridline/Plot Sign off

... + Corridor, STAIR 2, COM REPT.



Gridline/Plot Sign off

East Block - Internal Walls (Complete)



Gridline/Plot Sign off

East Block Infills, Stairwell 4, HYG RM, ST CHG



Gridline/Plot Sign off

West Block Infills, RSA, RSB, SEN ST, GEN STK, CL ST,





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

...W/C Corridor, GEN/FIN,SS OFF, Stair 1, Drama ST Corridor



Gridline/Plot Sign off

West Block Rooms - Infills (Dining, Circulation, Kitchen &....



Gridline/Plot Sign off

... servery, Sixth Form Social & WC)



Gridline/Plot Sign off

West Block - Stairwell 3.



Gridline/Plot Sign off

East Block, Infills - P WC, Com Lockers, Com ST, CL ST, WC,



Gridline/Plot Sign off

....Activity Studio, ACT ST, PE WRM, P CHG, CH ST.



Gridline/Plot Sign off

East Block Infills - Sports Hall, PE Store, Ext ST, PE + P WC.



Gridline/Plot Sign off

Perimeter Detailing - Com Rept



Gridline/Plot Sign off

East Block Infills - Remaining Room



Gridline/Plot Sign off

Perimeter Detail - External of East & West Block



Gridline/Plot Sign off

Perimeter Skirt Detail





GeoShield Verification Report



VERIFICATION SUMMARY

This was the 31st visit to the site where verification was required for the installation of Juta Titanflex Gas Barrier to the perimeter skirt in the West Block, gridlines 1/A-D, 10/M-N & E/10 & to the perimeter skirt in the East Block, gridlines T/1-8 & 1/S-T.

All overlaps have achieved a minimum of 100mm between the adjacent sheets of Juta Titanflex Gas Barrier and have been successfully welded using a hot air leister and silicone roller creating continuous sealed joints throughout.

All penetrations and retrofit detailing has been completed using Juta Titan Tank, heated down to aid in the adherence.

Thorough visual inspections, supported by mechanical point stress testing conducted throughout the inspection today identified no faults or defects.

Overall, a very good standard of works conducted to a good NVQ 2 standard.

Tested and verified in accordance with CIRIA 735 and installed to BS8485:2015+2019.

GEOSHIELD SIGNATURE:

DATE:

21-Jun-2024