



OVERHEATING RISK DETERMINATION					
CRITERIA	LOW RISK FACTORS	MEDIUM RISK FACTORS	HIGH RISK FACTORS	RISK DETERMINED	JUSTIFICATION
1. ORIENTATION & SOLAR EXPOSURE	North/east facing, limited solar gain.	Mixed orientation with partial south/west exposure.	Predominantly south/west facing with large glazed areas exposed to solar gain.	Low	Some south/west exposure but not extensive.
2. GLAZING AREA / WINDOW RATIO	Typical window-to-wall ratio (< 20%), small openings.	Moderate glazing (20-35%).	Extensive glazing (> 35%) or full-height windows.	Medium	Typical social housing fenestration; no floor-to-ceiling glazing.
3. SHADING / EXTERNAL OBSTRUCTIONS	Good natural shading (trees, adjacent buildings).	Partial shading or light external exposure.	No shading or highly exposed facade.	Medium	Moderate solar exposure with some natural shading.
4. BUILDING TYPE / FORM	Detached, semi-detached, or low-rise (≤ 2 storeys).	Mid-rise block (3-4 storeys) or complex form.	High-rise block (≥ 5 storeys) or top-floor flats with limited cross-ventilation.	Low	Two-storey terraced / end-terrace dwellings with good ventilation potential.
5. VENTILATION PROVISION (CROSS / NIGHT PURGE)	Adequate cross-ventilation via openable windows or vents.	Limited cross-ventilation or single-aspect rooms.	No cross-ventilation, single-aspect dwellings with restricted window openings.	Low	Adequate air movement; improved post-works ventilation.
6. INSULATION & AIRTIGHTNESS UPGRADES	Minor works; little change to thermal mass or airtightness.	Moderate upgrades (EWI / new windows) with some increase in airtightness.	Major airtightness improvement and insulation upgrade (EWI + MVHR / IWI).	Medium	Some change to thermal mass and airtightness, but not excessive.
7. INTERNAL HEAT GAINS (OCCUPANCY / EQUIPMENT)	Standard occupancy; minimal internal gains.	High appliance use or higher occupant density.	High appliance load and high occupancy (e.g. flats with small floor area).	Low	Standard domestic occupancy; moderate appliance use.
8. LOCATION / URBAN HEAT ISLAND EFFECT	Rural/suburban site, good airflow.	Urban area with moderate surrounding density.	Dense urban centre, limited air movement and reflected solar heat.	Medium	Moderate density and reflected heat; not dense urban area.
9. ROOF CONSTRUCTION / POSITION	Ground or mid-floor dwelling, or well-insulated roof.	Top-floor flat with moderate insulation.	Top-floor flat with uninsulated roof or metal deck.	Low	Insulated roof reduces risk.
10. OCCUPANT VULNERABILITY	Standard occupancy, no health vulnerabilities.	Some vulnerable occupants (elderly, very young).	High-risk occupants (health issues, mobility limitations).	Low	Standard domestic occupancy.
OVERALL PATTERN & JUSTIFICATION	All or majority Low Risk factors.	Majority Medium Risks factors, ≤ 1 High Risk factor.	>2 High Risk factors or 1 critical factor (eg. high exposure identified).	Low	Solar exposure mitigated by building orientation and some tree cover providing facade shading.

MOISTURE RISK DETERMINATION					
CRITERIA	LOW RISK FACTORS	MEDIUM RISK FACTORS	HIGH RISK FACTORS	RISK DETERMINED	JUSTIFICATION
1. BUILDING AGE & CONSTRUCTION TYPE	Post-1990 cavity wall or standard masonry, consistent structure and detailing.	1930-1990 build, mixed materials or partial insulation continuity.	Pre-1930 traditional, hybrid, or non-standard structure.	Medium	Standard construction but older cavity walls may have uneven ventilation and bridging.
2. EXPOSURE TO WIND-DRIVEN RAIN (BS 8104)	Zone 1-2 (sheltered/moderate).	Zone 3 (moderate to severe).	Zone 4 (very severe).	High	Very severe rainfall and driving wind.
3. EXISTING SIGNS OF DAMP / CONDENSATION	No visible signs of damp or mould.	Occasional condensation or localised damp patches.	Widespread or persistent damp, water ingress, or rising damp.	Medium	Minor roof or gutter ingress, damp in bedroom evident.
4. PROPOSED FABRIC WORKS / MEASURES	Minor or low-impact measures (e.g. loft insulation, draught-proofing).	Partial wall or window upgrades, moderate airtightness change.	Full EWI/IWI system, major airtightness increase, or hybrid works.	High	Major envelope change, potential to trap moisture if poorly detailed or ventilated.
5. VAPOUR PERMEABILITY & MATERIAL BALANCE	Vapour-open or diffusion-balanced materials used.	Some impermeable layers or partial vapour restriction.	Vapour-closed construction, risk of trapped moisture.	Low	Diffusion-balanced build-up allows safe vapour escape.
6. CONTINUITY & DETAILING OF INSULATION	Continuous insulation; minimal cold bridging.	Minor discontinuities; standard junction detailing required.	Significant gaps or poor detailing, thermal bypass risk.	Low	Detailing prevents cold bridging and surface condensation.
7. DRAINAGE & DPC CLEARANCE	>150 mm clearance below DPC, good surface drainage.	Slightly reduced clearance or uneven surfaces.	<150 mm clearance; splash or ponding risk.	Low	Compliant with BS 5250 and manufacturer system details.
8. VENTILATION PROVISION (MOISTURE REMOVAL)	Adequate natural or continuous mechanical ventilation.	Partial provision, intermittent fans only.	Inadequate ventilation, no dedicated extract or background air.	Medium	Intermittent extract only and poor loft ventilation increase internal moisture load. Upgraded dMEV and trickle vents required.
9. OCCUPANT BEHAVIOUR & INTERNAL MOISTURE LOAD	Normal occupancy with balanced ventilation use.	Variable occupant practices (e.g. drying indoors).	High occupancy, poor ventilation use, or high humidity loads.	Medium	Moisture management assumed poor, design mitigates occupant-dependent risk.
10. ROOF, RAINWATER, AND SERVICE DETAILING	Roof, rain water goods and penetrations in good condition.	Minor defects or ageing components.	Failing roof elements, blocked RWGs, or poor sealing.	Low	Prevents external moisture ingress and saturation.
OVERALL PATTERN & JUSTIFICATION	All or majority Low Risk factors.	Majority Medium Risks factors, ≤ 1 High Risk factor.	>2 High Risk factors or 1 critical factor (eg. high exposure identified).	High	Non-standard construction and high-risk EWI measure plus zone 4 exposure increases moisture sensitivity and requires careful detailing.

VENTILATION & AIRTIGHTNESS RISK DETERMINATION					
CRITERIA	LOW RISK FACTORS	MEDIUM RISK FACTORS	HIGH RISK FACTORS	RISK DETERMINED	JUSTIFICATION
1. BUILDING AGE & CONSTRUCTION TYPE	Post-1990 or standard cavity-wall dwellings with consistent air paths.	1930-1990 dwellings with moderate variability in construction or partial insulation upgrades.	Pre-1930 traditional, hybrid or system-built dwellings with uncertain ventilation paths.	Medium	Falls in 1930-1990 bracket, standard form, moderate variability.
2. AIRTIGHTNESS LEVEL (EXISTING & PROPOSED)	Minor works, minimal change in airtightness (no full-fabric upgrades).	Moderate fabric improvements (e.g. EWI or window replacement).	Major airtightness increase (EWI + new windows + membranes or MVHR).	Medium	Some reduction in uncontrolled air leakage due to fabric upgrades.
3. EXISTING VENTILATION PROVISION	Adequate natural ventilation through windows and air bricks.	Partial provision; some rooms without dedicated extract or trickle vents.	Inadequate or blocked ventilation routes, poor extract provision.	Medium	Partial provision, inadequate extract ventilation to some bathrooms pre-works.
4. PROPOSED VENTILATION TYPE	Natural or passive ventilation retained.	Intermittent extract fans or continuous MEV / PIV systems added.	MVHR or whole-house mechanical ventilation with heat recovery introduced.	Medium	Replacement of mechanical extract ventilation with heat recovery introduced.
5. MOISTURE LOAD / INTERNAL ACTIVITY	Normal domestic use with low moisture generation.	Higher moisture generation (e.g. multiple bathrooms, laundry indoors).	High occupancy, limited extract, or known condensation / mould issues.	Medium	Assumed poor moisture management, variable internal humidity loads.
6. INTERACTION WITH FABRIC MEASURES	No interaction (e.g. heating controls, loft insulation only).	Some interaction (e.g. new windows with trickle vents).	Strong interaction (e.g. insulation + window replacement + air sealing).	Medium	Interaction between insulation and ventilation design.
7. CONDITION OF EXISTING EXTRACTS / DUCTS	Working extract fans and clear ducts.	Extracts partially working or minor duct obstruction.	Non-functional fans, blocked ducts, or shared / long duct runs.	Medium	Some fans nearing end of service life to be replaced by DMEV.
8. OCCUPANT BEHAVIOUR / USE	Typical window opening and heating patterns.	Some restrictions (security concerns or health issues).	Vulnerable occupants or minimal window opening due to security, pollution, or mobility issues.	Medium	Typical of social housing, moderate ventilation compliance risk.
9. TESTING & COMMISSIONING HISTORY	No previous failures or prior systems commissioned.	Unverified commissioning or limited evidence of testing.	No testing history or new complex system being installed.	Medium	New DMEV system to be tested post-installation to Approved Document F.
10. BUILDING SCALE / COMPLEXITY	Single dwelling or straightforward airflow routes.	Small block or similar units with shared risers.	Multi-storey block with shared ventilation shafts or mixed systems.	Low	Single dwelling with straightforward ventilation routes.
OVERALL PATTERN & JUSTIFICATION	All or majority Low Risk factors.	Majority Medium Risks factors, ≤ 1 High Risk factor.	>2 High Risk factors or 1 critical factor (eg. high exposure identified).	Medium	EWI and airtightness improvements increase reliance on mechanical ventilation.

THERMAL PERFORMANCE & BRIDGING MITIGATION RISK DETERMINATION					
CRITERIA	LOW RISK FACTORS	MEDIUM RISK FACTORS	HIGH RISK FACTORS	RISK DETERMINED	JUSTIFICATION
1. BUILDING TYPE & FORM	Simple geometry (detached, semi, terrace) with consistent junctions.	Moderate complexity (extensions, bay windows, partial cavity fills).	Complex geometry (multi-storey blocks, stepped facades, irregular forms).	Low	Simple form property with consistent junctions offer minimal complexity.
2. CONSTRUCTION TYPE	Modern cavity or timber frame with continuous insulation layers.	Mixed construction or partial insulation continuity.	Solid wall, hybrid, or system-built structures with variable wall build-ups.	Medium	Partial insulation continuity between floors; moderate risk of bridging at slab edges.
3. FABRIC UPGRADE MEASURES PROPOSED	Minor works (loft insulation, draught-proofing).	Moderate fabric improvements (partial EWI, window replacement).	Full EWI/IWI system, mixed interfaces, or multi-measure retrofit.	High	EWI = high-risk measure under PAS 2035; full-fabric upgrade.
4. JUNCTION COMPLEXITY	Standard details (typical reveals, eaves, floor junctions).	Some non-standard junctions (e.g. stepped foundations, parapets).	Multiple complex junctions (balconies, roof interfaces, mixed wall types).	Medium	Requires manufacturer-approved junction details to ensure continuity.
5. CONTINUITY OF INSULATION	Clear, uninterrupted insulation path across elements.	Minor discontinuities; easy to resolve by design.	Significant breaks in insulation at reveals or abutments requiring bespoke detailing.	Medium	Detailing provides continuous insulation path and mitigates cold bridging.
6. THERMAL BRIDGING DATA AVAILABILITY	ψ-values available from certified detail library (manufacturer).	Some ψ-values estimated or extrapolated.	No ψ-values available, requires bespoke 2D/3D modelling.	Low	Use of system library ψ-values, no bespoke modelling needed.
7. CONDENSATION / SURFACE TEMPERATURE RISK	Calculated fRsi ≥ 0.75 for all junctions.	Isolated areas close to threshold (fRsi 0.70-0.75).	Areas below fRsi 0.70 or risk of mould / surface condensation.	Low	Meets BS EN ISO 13788, no predicted condensation risk.
8. MATERIAL COMPATIBILITY	Compatible insulation and finishes (vapour open or closed as appropriate).	Some interfaces between dissimilar materials (timber, metal, concrete).	High variability in vapour resistance or junction interaction.	Low	Diffusion-balanced materials eliminate interstitial condensation risk.
9. EXPOSURE & LOCATION	Sheltered or moderate exposure.	Wind-driven rain or exposed coastal site.	High exposure (coastal, hilltop, west-facing, or high-rise blocks).	High	Zone 4 exposure requires enhanced fixings, flashings and drainage detailing.
10. DESIGN / INSTALLATION CONTROL	Standard details, accredited installer network, good QA system.	Installer experience moderate, detail adaptations expected.	New or bespoke system requiring close design supervision and on-site QA.	Low	BBA-certified system, installer training and site QA in place.
OVERALL PATTERN & JUSTIFICATION	All or majority Low Risk factors.	Majority Medium Risks factors, ≤ 1 High Risk factor.	>2 High Risk factors or 1 critical factor (eg. high exposure identified).	High	Full EWI retrofit in Zone 4 exposure is classed as a high-risk measure under PAS 2035.

STRUCTURAL RISK DETERMINATION					
CRITERIA	LOW RISK FACTORS	MEDIUM RISK FACTORS	HIGH RISK FACTORS	RISK DETERMINED	JUSTIFICATION
1. BUILDING TYPE & FORM	Simple low-rise domestic or terrace housing.	Medium-rise or small blocks with repeating structural elements.	Complex or multi-storey frame or hybrid structure.	Low	Simple semi-detached housing.
2. PRIMARY STRUCTURAL SYSTEM	Standard masonry or timber with known stability.	Masonry with concrete floors or mixed substrates.	Frame construction, non-standard or unknown substrate.	Low	Cavity brick with concrete floors, stable system.
3. STRUCTURAL CONDITION (VISUAL)	No visible cracking, distortion, or settlement.	Minor localised cracking or previous movement.	Significant cracking, subsidence, or instability.	High	No lintels on windows observed in reports, remedial works required.
4. IMPACT OF PROPOSED WORKS ON LOAD PATHS	Non-structural retrofit (e.g. insulation, windows).	External wall systems or lightweight additions.	Structural alterations, major fixings, or additional loads.	Medium	EWI introduces additional loads, requires engineer verification and pull-out testing.
5. SUBSTRATE STRENGTH & INTEGRITY	Verified sound substrate with pull-out data or testing.	Assumed sound substrate, visual checks only.	Deteriorated substrate or unknown condition.	Medium	Assumed sound substrate, visual checks only.
6. FOUNDATION / GROUND CONDITIONS	Stable ground, no signs of movement.	Slight movement or moisture-related ground issues.	Unstable, expansive, or unknown ground.	Low	No evidence of settlement or structural movement noted.
7. ROOF & PARAPET LOAD PATHS	Lightweight roof, well supported.	Some roof load bearing on walls being insulated.	Heavy or cantilevered roof structure impacting retrofit works.	Low	Pitched tile roofs supported by masonry, no added load interaction with EWI.
8. BALCONIES / PROJECTIONS / OVERHANGS	None present or structurally independent.	Limited projections needing restraint detailing.	Large overhangs or cantilevered balconies.	Low	Small overhang present to entrances will require specific detailing to ensure structural stability.
9. HISTORICAL ALTERATIONS / PREVIOUS WORKS	No prior structural changes.	Minor alterations, verified stability.	Major modifications or unknown alterations.	Low	No previous structural alterations recorded.
10. STRUCTURAL ENGINEER INVOLVEMENT	Not required, low-impact retrofit.	Recommended for verification.	Required for design input and certification.	Medium	Structural engineer assessment obtained due to high impact of EWI installation.
OVERALL PATTERN & JUSTIFICATION	All or majority Low Risk factors.	Majority Medium Risks factors, ≤ 1 High Risk factor.	>2 High Risk factors or 1 critical factor (eg. high exposure identified).	Medium	Overall risks are low to medium, however remedial works required on windows.

FIRE SAFETY RISK DETERMINATION					
CRITERIA	LOW RISK FACTORS	MEDIUM RISK FACTORS	HIGH RISK FACTORS	RISK DETERMINED	JUSTIFICATION
1. BUILDING HEIGHT & USE	≤11 m, low-rise domestic use.	11-18 m mid-rise or mixed use.	>18 m or complex multi-use buildings.	Low	Single semi-detached property (<11m).
2. PROPOSED INSULATION / CLADDING MATERIALS	Low or non-combustible (Class A1 or A2).	Limited combustibility (Class B).	Combustible materials (Classes C to E).	Low	Wetherby EWI system (Class A1 non-combustible).
3. FIRE BARRIERS & COMPARTMENTATION	Not required for non-combustible EWI, internal compartmentation standard.	Some facade fire-stopping or compartment upgrades required.	Complex facade or combustible system requiring detailed fire-stopping.	Low	A1 non-combustible system does not require firebreaks.
4. OPENINGS & SERVICE PENETRATIONS	All penetrations sealed, standard fire-rated collars/sleeves used.	Some unverified penetrations or legacy services present.	Poorly sealed or unverified penetrations.	Low	Penetrations through EWI sealed with certified collars and sleeves.
5. ROOFLINES, EAVES & VERGES	Non-combustible materials, adequate separation from insulation.	Minor combustible elements, limited separation.	Combustible eaves, soffits, or roof membranes adjacent to insulation.	Low	uPVC eaves and verges separated from insulation by render stop beads and mineral wool fire stops.
6. BALCONIES, WALKWAYS & OVERHANGS	None or non-combustible construction.	Limited combustible decking or supports.	Timber balconies or combustible overhangs.	Low	None present.
7. PROPOSED RENEWABLES / ELECTRICAL INSTALLATIONS	Non-combustible mounting, fire-rated cable routes, external or ventilated plant.	Mixed or internal installations with limited separation or detection.	Unprotected internal batteries, non-rated cable routes, or combustible fixings.	Low	PVs to be installed externally.
8. INTERNAL FIRE DETECTION / ALARM	Functional LD2/LD3 system, regularly tested.	Partial or outdated alarm systems.	No alarm or detection system.	Medium	Standard LD3 domestic alarms assumed in place, Client confirmation required pre-handover.
9. CONSTRUCTION QUALITY / COMPETENCE	PAS 2030 certified installers under QA supervision.	Mixed workforce or subcontractors, unverified supervision.	Unverified installers or limited QA.	Low	PAS 2030-certified installer with manufacturer-trained operatives and QA supervision.
10. EXTERNAL HAZARDS & ACCESS SEPARATION	Clear separation of ignition sources (bins, vehicles, services).	Minor breaches of separation or poor access for firefighting.	Combustible items against facades or restricted access.	Low	All ignition sources are clearly separated from the building.
OVERALL PATTERN & JUSTIFICATION	All or majority Low Risk factors.	Majority Medium Risks factors, ≤ 1 High Risk factor.	>2 High Risk factors or 1 critical factor (eg. high exposure identified).	Low	Majority Low Risk factors due to A1 non-combustible system in use.

PAS 2035 RISK PATHWAY DETERMINATION					
CRITERIA	LOW RISK FACTORS	MEDIUM RISK FACTORS	HIGH RISK FACTORS	RISK DETERMINED	JUSTIFICATION
1. BUILDING TYPE & COMPLEXITY	Standard single/double-storey domestic dwelling (eg. modern cavity-wall, semi, terrace, or bungalow).	Older dwelling (pre-1970) or mix of construction types but reasonably standard form.	Complex geometry, multi-unit blocks, high-rise, non-standard or mixed construction.	Medium	Mid-terrace house constructed between 1950-1966.
2. AGE OF CONSTRUCTION	Post-1990, conventional materials.	1930-1990, cavity or solid wall but standard build.	Pre-1930 traditional, or hybrid (timber frame / system build).	Medium	Standard construction period and materials, pre-1990.
3. CONDITION & STRUCTURAL STABILITY	Good condition, no damp or structural issues.	Some localised repairs required but stable overall.	Significant defects, cracking, corrosion, or decay present.	Medium	Remedial works required due to no lintels on windows.
4. MOISTURE RISK	No signs of damp or condensation, normal exposure zone.	Occasional surface condensation or moderate exposure zone.	Ongoing damp, water ingress, or high exposure / driving rain.	High	High risk due to exposure zone 4, damp evident in property.
5. VENTILATION ADEQUACY	Natural ventilation sufficient and will remain unchanged post-works.	Some improvement required (trickle vents, fans).	Major redesign required (MEV, PIV, MVHR) or inadequate ventilation pre-works.	Medium	Ventilation upgrades required for compliance.
6. RETROFIT MEASURES PROPOSED	Low-risk measures (loft/cavity insulation, draught-proofing, heating controls, glazing).	Medium-risk measures (partial fabric upgrade, heating or ventilation improvements).	High-risk measures (EWI, IWI, MVHR, renewables, underfloor heating).	High	EWI automatically classed as high-risk under PAS 2035.
7. HERITAGE / CONSERVATION	No heritage status or planning constraints.	Located in conservation area or minor aesthetic constraints.	Listed building or significant heritage sensitivity.	Low	No heritage designation or conservation constraints identified for the properties.
8. OCCUPANT USE / VULNERABILITY	Standard occupancy, no health or behavioural risk factors.	Some vulnerable occupants (elderly, young children).	High vulnerability, complex needs, or irregular occupancy patterns.	Medium	Social housing with irregular occupancy patterns.
9. FIRE / SAFETY / HEIGHT	Standard dwelling (<11 m), typical escape routes.	Mid-rise building or moderate access constraints.	High-rise (>11 m) or complex egress / facade fire requirements.	Low	No facade or egress complications.
10. SCALE OF WORKS	Single property or small sample.	Small cluster of similar homes (≤ 10 units).	Large-scale or estate-wide scheme (> 10 units or blocks).	Low	Single mid-terrace property.
OVERALL PATTERN & JUSTIFICATION	All or majority Low Risk factors.	Majority Medium Risks factors, ≤ 1 High Risk factor.	>2 High Risk factors or 1 critical factor (eg. EWI, MVHR, high-rise).	High	Full EWI works in exposure zone 4 requires full design coordination and Retrofit Coordinator oversight.

HEALTH & SAFETY RISK DETERMINATION					
CRITERIA	LOW RISK FACTORS	MEDIUM RISK FACTORS	HIGH RISK FACTORS	RISK DETERMINED	JUSTIFICATION
1. ASBESTOS & HAZARDOUS MATERIALS	No ACMs present or confirmed clear.	ACMs possible due to age, survey required pre-works.	Known ACMs present requiring licensed removal.	Medium	1950-1966 construction - Asbestos survey required due to age of property.
2. WORKING AT HEIGHT & SITE ACCESS	Ground-level works or safe access provided.	Scaffold/MEWP access required, managed by contractor.	Complex or high-level access requiring advanced controls.	Medium	EWI and roofline works require scaffold, access and fall protection under Principal Contractor RAMS.
3. RESIDENT / PUBLIC SAFETY	Vacant site or restricted access.	Occupied dwellings, exclusion zones and liaison required.	Sensitive occupancy requiring strict supervision.	Medium	Occupied social housing. Exclusion zones and resident communication required during works.
OVERALL PATTERN & JUSTIFICATION	All or majority Low Risk factors.	Majority Medium Risks factors, ≤ 1 High Risk factor.	>2 High Risk factors or 1 critical factor (eg. high exposure identified).	Medium	Typical retrofit risks (asbestos, access, occupancy) managed through surveys, safe access and RAMS.

ECOLOGICAL ASSESSMENT & PLANNING RISK DETERMINATION					
CRITERIA	LOW RISK FACTORS	MEDIUM RISK FACTORS	HIGH RISK FACTORS	RISK DETERMINED	JUSTIFICATION
1. PLANNING / CONSERVATION STATUS	Permitted development, no formal consent required.	Planning approval required for material change or facade works.	Listed building or within conservation area.	Low	Works confirmed to fall under Permitted Development.
2. ECOLOGICAL SENSITIVITY (BATS / BIRDS / HABITATS)	No ecological interest, no surveys required.	Potential protected habitat (eg. bats or nesting birds), pre-works ecological survey required.	Confirmed protected species or habitats requiring licence and ecological supervision.	Medium	EWI works at eaves and roofline interfaces may require precautionary ecological check prior to commencement. No seasonal restrictions identified. Any required ecological timing controls to be confirmed prior to works.
3. SEASONAL / COMPLIANCE CONSIDERATIONS	No seasonal restrictions, all works unrestricted.	Works to avoid nesting/roosting season and require ecological clearance.	Strict timing/exclusion controls under licence.	Low	No biodiversity enhancement requirements identified. Works to comply with planning status under Permitted Development.
4. BIODIVERSITY & POST-WORK ENHANCEMENTS	Enhancements (batbird boxes, planting) integrated into works.	Enhancements planned but pending LPA/ecologist confirmation.	No enhancement measures included or installation timing unverified.	Low	No biodiversity enhancement requirements identified. Works to comply with planning status under Permitted Development.
OVERALL PATTERN & JUSTIFICATION	All or majority Low Risk factors.	Majority Medium Risks factors, ≤ 1 High Risk factor.	>2 High Risk factors or 1 critical factor (eg. high exposure identified).	Medium	Works fall under Permitted Development with no heritage constraints. Limited ecological screening recommended due to roofline interfaces.

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION	
IN ADDITION TO THE NORMAL HAZARDS AND RISKS ASSOCIATED WITH THE WORKS, NOTE THE FOLLOWING:	
SIGNIFICANT RESIDUAL RISKS	Refer to Health & Safety Plan and Retrofit Risk Assessments.
REQUIRED ACTION	Refer to Health & Safety Plan and Principal Contractor Method Statements.
RETROFIT DESIGN SIGN-OFF	
ROLE	Retrofit Coordinator
FULL NAME	Owen Wakefield
REG No.	STER760081 (Sterling)
REV DATE	20046827 (RIBA), 099978D (ARB)
SIGNATURE	
THIS DESIGN HAS HEREBY BEEN REVIEWED AND APPROVED IN ACCORDANCE WITH THE RISK MANAGEMENT AND COMPLIANCE PROCEDURES SET OUT IN PAS 2035:2023.	

DESIGN LIABILITY NOTICE:
 TARGET GREEN LTD SHALL NOT BE LIABLE FOR ANY DEFECT, FAILURE, COST, DELAY OR NON-COMPLIANCE ARISING FROM CONSTRUCTION ACTIVITIES COMMENCED PRIOR TO RECEIPT OF OUR SIGNED-OFF CONSTRUCTION DESIGN PACK OR UNDERTAKEN CONTRARY TO OUR ISSUED DRAWINGS. ANY WORK STARTED, MODIFIED OR COMPLETED USING VERBAL INSTRUCTIONS, CLIENT ISSUED SKETCHES OR CONTRACTOR-GENERATED DETAILS WITHOUT TARGET GREEN LTD'S WRITTEN APPROVAL IS ENTIRELY AT THE CONTRACTOR'S RISK. CONTRACTORS MUST VERIFY THAT THE DRAWINGS ARE THE LATEST REVISION. TARGET GREEN LTD ACCEPTS NO RESPONSIBILITY FOR WORKS BUILT USING SUPERSEDED INFORMATION.

ADDITIONAL NOTES:
 THIS DRAWING FORMS PART OF A PILOT ARCHETYPE AND MAY APPLY TO ADDITIONAL PROPERTIES. ALL RISK ASSESSMENTS COMPLETED IN ACCORDANCE WITH PAS 2035:2023 (Clauses 7-10), BS 5250 (2021), BS EN ISO 13788 (condensation), CIBSE TM59 (overheating), and Approved Documents G & F (fire and ventilation).
 • Risk determinations prepared by the Retrofit Designer and reviewed and approved by the Retrofit Coordinator.
 • Risk determinations assume installation strictly in accordance with issued drawings.
 • Variations, early works or unapproved methods invalidate these risk profiles.
 • Risk determinations do not apply where installation began before issue of the final Retrofit Design Pack.
 • Construction-phase fire and safety controls to include hot-works permits, waste management, temporary fire plan, and site access safety, implemented by the Principal Contractor.
 • All residual risks verified post-installation by the Retrofit Coordinator at Stage 5 (handover and evaluation) and recorded within the Retrofit Assessment Report.
 • TG does not certify, inspect or verify works that commenced or progressed without written confirmation that the final design pack had been issued.
 • All designs assume competent installation in accordance with PAS 2030:2019 and relevant manufacturer system guidance.
 • Any site variations or material substitutions must be reviewed and approved by the Retrofit Designer prior to installation to maintain PAS 2035 compliance.
 • Design responsibility is limited to works described within the issued Retrofit Design Pack. Any deviation or additional works must be reviewed and approved by the Retrofit Designer before execution.
 • Installers deviating from approved design or sequencing without written approval risk loss of PAS 2035/2030 compliance, funding ineligibility, and system warranty. Such works fall outside the Retrofit Designer's responsibility.

KEY	
	Low Risk
	Medium Risk
	High Risk

P01	2026.02.27	Initial Drawing Issue	RJ	TT
REV	DATE	DESCRIPTION	BY	CHKD

INFORMATION

- Please do not scale from this drawing.
- All dimensions must be checked on site by the contractor prior to the commencement of any fabrication or building works.
- Dimensions and details are to be read in conjunction with specialist consultants' drawings and/or other specifications, where applicable, and any disparity is to be brought to the attention of the designer prior to the commencement of any fabrication or building works.
- This drawing is the property and copyright of the designer, and it shall not be copied in any other party without the designer's express written consent.

DESIGNER

CLIENT

PROJECT

REFURBISHMENT & ENERGY EFFICIENCY WORKS TO 3 NR. PROPERTIES IN GURNOS & TREFECHAN (PILOT)

ADDRESS

ARCHETYPE B BASED ON: 53 SYCAMORE ROAD, GURNOS, CF47 9RU

TITLE:	DESIGN RISK ASSESSMENT		
DRAWN BY:	RJ	DATE:	2026.02.27
CHECKED BY:	TT	SITE AREA:	VARIES
SCALE (@ A1):	1 : 1	ORIGINAL DRAWING SIZE	841mm x 594mm (A1)
DRAWING No:	2602-TG-STR-(B)-D-A-201	REV.	P01

PROJECT OVERVIEW:	
CLIENT	Merthyr Valleys Homes
LOCAL PLANNING AUTHORITY	Merthyr Tydfil County Borough Council
CONSERVATION AREA	N/A
HERITAGE SITE	N/A
EXPOSURE ZONE	Zone 4 - Very Severe (Driving Rain / Wind Exposure per BS 8104)
OCCUPANCY	Social housing
PROJECT OBJECTIVE	Fabric-first retrofit to improve EPC rating, address moisture risks and reduce carbon emissions.
PROJECT CONTEXT	1 mid-terrace social-housing dwelling built c.1950s is undergoing a full-fabric retrofit under Merthyr Valleys Homes Decarbonisation Programme. The scheme is designed by Target Green Ltd to PAS 2035: 2023 Path C, addressing moisture, ventilation and thermal performance risks linked to previous cavity-fill failures and the site's Zone 4 exposure to wind-driven rain. The project aims to deliver long-term resilience, improved indoor environmental quality, and measurable carbon reduction across the asset portfolio.
FUTURE-PROOFING	The proposed works improve the performance and robustness of the building, supporting future upgrades.

PAS 2035 ROLES				
ROLE	NAME / ORGANISATION	RELEVANT QUALIFICATIONS / NOTES	CONTACT DETAILS	DUTIES
RETROFIT ASSESSOR	Martin Edwards (on behalf of Target Green Ltd)	Level 3 Certificate in Domestic Energy Assessment (DEA)	retrofit@target-green.co.uk	Responsible for data collection, occupancy assessment and baseline energy model.
RETROFIT COORDINATOR	Owen Wakefield (on behalf of Target Green Ltd)	Level 5 Diploma in Retrofit Coordination & Risk Management, Level 3 Award in Energy Efficiency Measures & Traditional Buildings	retrofit@target-green.co.uk	Oversees compliance with PAS 2035, manages risk assessment, documentation and sign-off.
RETROFIT DESIGNER	Joseph Earley (on behalf of Target Green Ltd)	Chartered Architect (RIBA, ARB), Level 3 Award in Energy Efficiency Measures & Traditional Buildings	j.earley@target-green.co.uk	Produces retrofit design drawings, specifications and detailing to PAS 2035:2023.
PRINCIPAL DESIGNER (CDM 2015)	Samantha Bolt (on behalf of Target Green Ltd)	Certification for CDM15 Principal Designer	s.bolt@target-green.co.uk	Ensures CDM duties met and design risks managed at source.
STRUCTURAL ENGINEER	Jonathon Salt (on behalf of Target Green Ltd)	Chartered Engineer	j.salt@saltconsultancy.co.uk	Provides structural verification and loading assessment for retrofit works.
SYSTEM PROVIDER	Wetherby Systems	BBA Certified System	jonathon.gardner@wbs-td.co.uk	Provides certified EWI system specification, detailing guidance, and installer training.
PRINCIPAL CONTRACTOR / RETROFIT INSTALLER	Not yet appointed.	PAS 2030:2019 certification for measure EWI (code INSUL 001)	l.kelly@evolvelhes.co.uk p.beard@evolvelhes.co.uk	Installs measures as specified, ensures competent operatives, site QA records and manages Building Control submissions and inspections.

EXISTING BUILDING CONDITION SUMMARY:

No.	ADDRESS	POST CODE	ARCHETYPE	OCCUPANCY	CONSTRUCTION / BUILD FORM	EXISTING WALL TYPE	EXISTING VENTILATION SYSTEM	EXISTING HEATING SYSTEM	EVIDENCE OF STRUCTURAL DEFECTS	HIGH EXTERNAL GROUND LEVEL (DPC RISK)	EVIDENCE OF PENETRATING / RISING DAMP	EVIDENCE OF DAMP / DECAYED TIMBERS	POOR LOFT / SUBFLOOR VENTILATION	EVIDENCE OF LEAKS / WATER INGRESS	EVIDENCE OF DAMP / MOULD / CONDENSATION	EVIDENCE OF POOR MOISTURE MANAGEMENT	NOTES
53	Sycamore Road, Gurnos	CF47 9RU	B	Social housing	Conventional, not high-rise, not protected	Cavity wall, filled	Intermittent extract fans to wet rooms	Gas Boiler	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<ul style="list-style-type: none"> Opening support to be verified - no visible lintels noted during visual inspection. Loft ventilation limited - improvement proposed via ridge ventilation. Moisture risk assumed moderate due to social housing occupancy patterns and intermittent extract ventilation

Notes:

- Observations based on visual, non-invasive inspections by Target Green Ltd (no intrusive or destructive testing undertaken).
- Assumptions based on typical social housing occupancy patterns (e.g. limited ventilation, internal drying).
- Client to notify of any concealed or new issues prior to installation.
- Documentation retained in accordance with PAS 2035 Clause 8 and Awab's Law requirements for evidence of damp/mould investigation and remediation.

RETROFIT DESIGN RISK MITIGATION SUMMARY:

SYMBOL	RISK CATEGORY	INITIAL RISK	RETROFIT DESIGN STRATEGIES	RESIDUAL RISK
	OVERHEATING	Medium	<ul style="list-style-type: none"> Design reviewed for overheating risk in accordance with CIBSE TM59 and Approved Document O. Orientation and glazing reviewed, facades moderately exposed to sun. Light-colored render specified to limit solar absorption. Cross-ventilation and MEV system provide heat removal. Existing mature trees retained to provide natural shading. Overheating risk mitigated through passive design and mechanical ventilation balance. 	Low
	MOISTURE	High	<ul style="list-style-type: none"> High exposure (Zone 4 - Very Severe) managed through vapour-open mineral wool EWI system, 150mm DPC clearance and strict compliance with manufacturer detailing at all interfaces. Maintain 150mm DPC clearance with drip beads and verge stops. Continuous MEV controls internal humidity and prevents condensation. Detailing around openings designed to avoid cold spots or trapped moisture. Replacement rainwater goods and adequate drainage provided. Installation must follow TG detailing in full - unverified substrate conditions remain a Contractor responsibility. 	Low
	VENTILATION & AIRTIGHTNESS	Medium	<ul style="list-style-type: none"> Continuous MEV system designed to Approved Document F rates. Trickle vents to be retained or retrofitted where required to meet Approved Document F. Airtightness target $\leq 10 \text{ m}^3/\text{h} \cdot \text{m}^2 @ 50 \text{ Pa}$. Extract terminals extended through EWI and sealed with proprietary sleeves. Post-install air testing and commissioning required for verification. Combined PIV + dMEV system designed to achieve Approved Document F (2021) System 3 extract rates. System to be commissioned and certified post-installation. 	Low
	THERMAL PERFORMANCE & BRIDGING	High	<ul style="list-style-type: none"> A1-rated mineral wool EWI provides continuous insulation and thermal balance. Certified μ-values referenced; all junctions designed to maintain $R_{\text{si}} \geq 0.75$. Stop beads and insulated returns at openings ensure continuity. System installed by PAS 2030-approved contractors under manufacturer QA. Detailing verified through site inspection and photo record. Fixing suitability and load paths must be confirmed by the Contractor where pre-install checks were not completed. 	Low
	STRUCTURAL	High	<ul style="list-style-type: none"> Structural verification of openings and substrate condition required prior to installation - engineer confirmation to be obtained before works proceed. 	Low
	FIRE SAFETY	Medium	<ul style="list-style-type: none"> Full A1 mineral wool EWI facade (non-combustible), no firebreaks required. All service penetrations sealed with fire-rated collars and render sleeves. uPVC eaves and verges isolated from EWI with stop beads and mineral wool fire stops. LD3 alarms assumed within dwellings; confirmation required before start. 	Low
	HEALTH & SAFETY	High	<ul style="list-style-type: none"> Refurbishment & Demolition Asbestos Survey prior to any intrusive works. Scaffold and access managed under Principal Contractor RAMS. Resident liaison to coordinate safe access and noise/dust management. Hot works, waste management, and site safety as per Construction Phase Plan. 	Low
	ECOLOGY & PLANNING	Medium	<ul style="list-style-type: none"> Project assessed as Path C due to full EWI installation, structural verification requirement at openings, and Zone 4 very severe exposure conditions. Works undertaken under Permitted Development - no heritage or conservation constraints identified. 	Low
	PAS 2035 RISK PATHWAY	High (C)	<ul style="list-style-type: none"> Project assessed as Path C due to full EWI installation, structural verification requirement at openings, and Zone 4 very severe exposure conditions. 	Low (A)

Notes:

Following design mitigation and specification, all identified risks are reduced to low or acceptable levels. Structural verification and fixing suitability fall under Contractor responsibility, as defined in the Design Liability Notice. Remaining risks relate solely to installation quality and workmanship, to be managed under PAS 2030 QA, Principal Contractor RAMS, and Retrofit Coordinator verification during Stages 4-5.

SUMMARY OF PROPOSED MEASURES & STRATEGIES:

TYPE	MEASURE / SYSTEM	INTENDED OUTCOME	RISK MITIGATED	REFERENCE DETAILS
FABRIC	100mm mineral wool EWI system with below-DPC insulation where required. Vapour-open build-up through junction detailing.	Improved insulation, airtightness, moisture control.	Thermal / Moisture	JG_26-EWI-M-DF-SW-DAS-0001, 0002, 1000, 1001, 1002, 2000, 3000, 3001, 3002, 3003, 4000, 4001, 7000
OPENINGS	Existing windows and doors to remain, insulating at returns. Extend eills as required and seal perimeters to maintain continuity.	Reduced heat loss, improved comfort, reduced condensation risk at junctions.	Thermal / Ventilation	JG_26-EWI-M-DF-SW-DAS-2001 to 2014
ROOF	Loft insulation top-up to 450 mm. Roofline interfaces detailed to maintain continuity and weathering.	Minimise heat loss, reduce condensation risk, maintain weather protection.	Thermal / Moisture	JG_26-EWI-M-DF-SW-DAS-5000 to 5009
HEATING	Existing boiler retained and boiler flue extended as required to suit new wall thickness.	Maintain existing heating system. Ensure safe compliant flue termination.	Thermal	JG_26-EWI-M-DF-SW-DAS-6008
VENTILATION	dMEV with trickle vents (Approved Document F System 3). Steeved and sealed terminals through EWI.	Maintain air quality, prevent condensation.	Moisture / Ventilation	JG_26-EWI-M-DF-SW-DAS-6010, 6007
FIRE SAFETY	A1 non-combustible mineral wool system. Fire stopping and sealed penetrations as required.	Reduce ignition risk and maintain facade integrity at interfaces.	Fire	JG_26-EWI-M-DF-SW-DAS-5000 to 5004, 6007, 6009, 6010
STRUCTURAL	Substrate and fixing suitability to be confirmed by Structural Engineer prior to commencement. Fixings and attachments to follow manufacturer requirements.	Maintain facade integrity, ensure safe fixing performance.	Structural	JG_26-EWI-M-DF-SW-DAS-0002, 6003, 6004, 6005, 6006 (plus engineer verification)
ECOLOGY	No ecology measures required.	Maintain compliance with planning status.	Planning / Ecology	N/A

TYPICAL THERMAL BRIDGING LOCATIONS

SYMBOL	DESCRIPTION
A	Masonry-timber junctions (wall plate, verge, rafters)
B	Wall-roof junctions, eaves, parapets
C	Corners, party walls, cavity closings
D	Lintels, sills, reveals, frames
E	Canopies, beams, columns, projections
F	Pipes, ducts, service penetrations
G	Wall-floor junctions

Notes:

- Junctions highlighted represent typical thermal bridges requiring continuity of insulation and airtightness.
- EPC updated following completion of works.
- Approved details must be followed to minimise heat loss, condensation risk, and cold spots.
- All works to be evidenced with photographs and checked during site QA.

ENERGY EFFICIENCY PERFORMANCE TARGETS:

ITEM	DESIGN TARGET	VERIFICATION / NOTES
WALL U-VALUE	$\leq 0.28 \text{ W/m}^2\text{K}$ (system certified value).	<ul style="list-style-type: none"> BS EN ISO 6946 calculation supported by manufacturer system certification. Build-up to match approved detail drawings. Installation verified through site inspection and photographic QA records.
ROOF U-VALUE	$\leq 0.11 \text{ W/m}^2\text{K}$	<ul style="list-style-type: none"> Loft insulation depth measured on site to confirm target thickness achieved. Continuity at eaves and ventilation paths checked during installation. Photographic record retained.
AIRTIGHTNESS	$\leq 10 \text{ m}^3/\text{h} \cdot \text{m}^2 @ 50 \text{ Pa}$	<ul style="list-style-type: none"> Post-install air permeability testing to be undertaken where fabric measures materially affect envelope integrity. Test results to be reviewed against design target by Retrofit Coordinator. Any shortfall to be investigated and remedial works completed prior to sign-off.
CONDENSATION RISK	$fR_{\text{si}} \geq 0.75$	<ul style="list-style-type: none"> Thermal bridge and surface temperature analysis in accordance with BS EN ISO 10211 and BS EN ISO 13788. Junction details assessed against system certification or bespoke calculation where required. Site installation checked to ensure junction continuity maintained.
SAP RATING	Improve EPC rating to minimum Band C or better.	<ul style="list-style-type: none"> SAP 10.2 assessment undertaken pre- and post-retrofit. EPC updated following completion of works. Improvement to minimum Band C or better verified through lodged EPC.
INTERNAL TEMPERATURE	18-26 °C	<ul style="list-style-type: none"> Assessed through SAP modelling and ventilation strategy compliance. Post-occupancy feedback and monitoring where required under PAS 2035 Stage 5.
VENTILATION RATES	Approved Document F System 3 min. continuous extract rates: Kitchen: 13 L/s (25 L/s Boost rate) Utility: 8 L/s (16 L/s Boost rate) Bathroom: 8 L/s (15 L/s Boost rate) WC: 6 L/s (10 L/s Boost rate) Total dwelling extract $\geq (13 \times N + 35) \text{ L/s}$. Background ventilators to be retained in habitable rooms (4,000 mm ²)	<ul style="list-style-type: none"> System designed in accordance with Approved Document F (2021) System 3 extract rates. Flow rates measured and recorded at commissioning. Commissioning certificate retained. Background ventilator provision verified on completion. System balanced to ensure total dwelling extract rate meets $(13 \times N + 35) \text{ L/s}$ formula.

Notes:

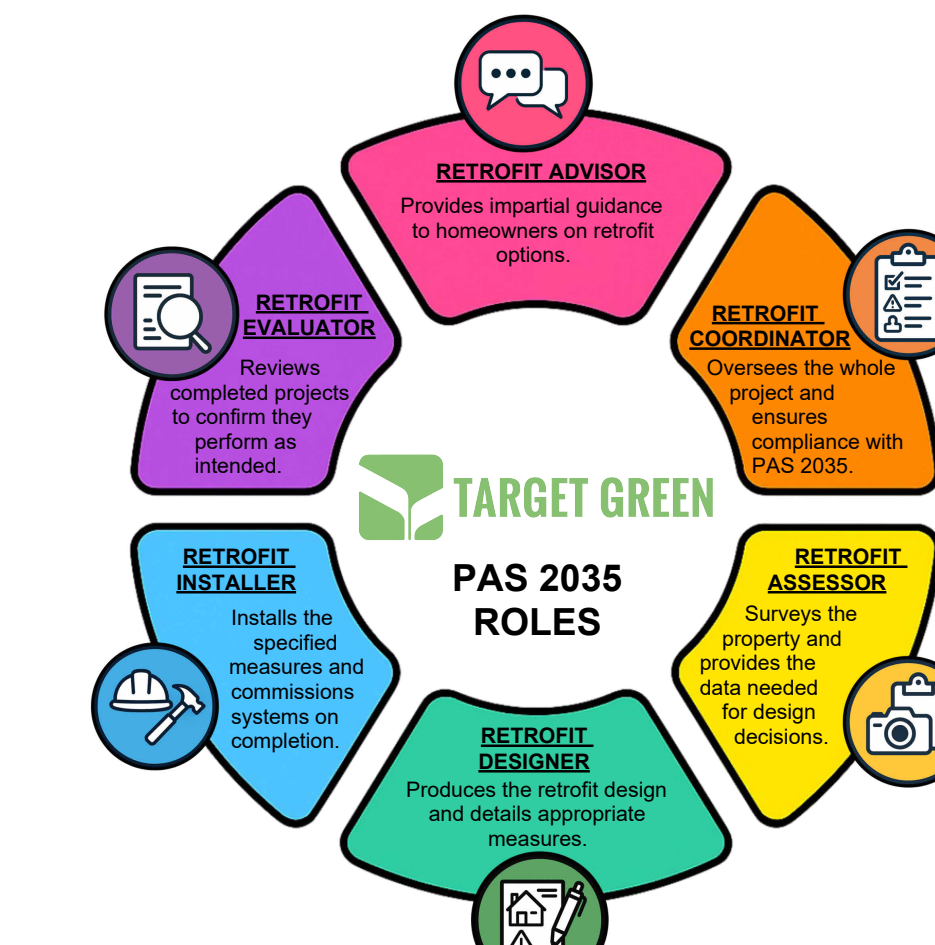
All performance targets established in accordance with PAS 2035:2023 Clauses 9 and 10. Verification undertaken through certified calculations, on-site inspection, commissioning records and Retrofit Coordinator approval prior to project sign-off.

RETROFIT DESIGN NOTES:

All retrofit measures have been developed and verified in accordance with PAS 2035:2023 (Clauses 7-10) and the relevant Building Regulations. Works are confirmed as Permitted Development with no heritage or conservation constraints identified.

The design adopts a coordinated fabric-first approach to improve energy efficiency, moisture resilience, ventilation adequacy and long-term asset performance within a Zone 4 (Very Severe) exposure context.

- Detailing mitigates fire, moisture and condensation risks through vapour-open construction, maintenance of 150mm DPC clearance and strict adherence to manufacturer-certified junction details.
- Structural verification of openings and substrate condition is required prior to installation, with engineer confirmation obtained before works proceed.
- Pre-install condition checks to confirm substrate suitability, cavity condition, lintel provision and external ground levels prior to EWI commencement.
- Installation sequencing to maintain weather-tightness at all times, particularly at eaves, verges and window interfaces in Zone 4 exposure conditions.
- All junction details to follow approved standard detail drawings (SD-series) with no site modification without written design approval.
- Photographic QA records to be maintained for all critical junctions including DPC, all eaves, penetrations and service interfaces.
- All works assume competent PAS 2030-certified installers operating under manufacturer QA, with verification by the Retrofit Coordinator at pre-install and handover stages.
- Any material substitutions, sequencing changes or design variations must be reviewed and approved by the Retrofit Designer and Retrofit Coordinator prior to implementation.
- Measures are designed for durability, maintainability and alignment with long-term decarbonisation objectives.
- Post-installation evaluation and resident feedback will inform performance review and wider programme rollout.
- Residual risks primarily relate to workmanship and sequencing and are controlled through PAS 2030 quality assurance procedures and Retrofit Coordinator oversight.



DRAWINGS BASED ON:

TG MEASURED SURVEY : 2026/02/19
TG RETROFIT ASSESSMENT : 2026/02/19
TG STRUCTURAL ASSESSMENT : 2026/02/18

PROPOSED SCOPE OF WORKS:

- EXTERNAL WALL INSULATION (EWI)**
 - Install mineral wool External Wall Insulation system in accordance with manufacturer specification, certification and project detail drawings.
 - Provide 100mm stone wool insulation to masonry elevations with approved render or dash finish (colour to be confirmed by Client).
 - Provide approved insulation build-up to lightweight infill panel areas in accordance with system manufacturer guidance.
 - Achieve post-retrofit airtightness target of $\leq 10 \text{ m}^3/\text{h} \cdot \text{m}^2 @ 50 \text{ Pa}$ or as required to meet project performance objectives.
 - Extend insulation minimum 150mm below DPC where specified, maintaining $\geq 150 \text{ mm}$ clearance between finished render and external ground level.
 - Provide base tracks, stop beads, movement joints, verge/base drips and service sleeves in accordance with system details.
 - Maintain insulation continuity and minimise thermal bridging at all interfaces including sills, reveals, eaves, verges, penetrations and roof abutments.
 - All fixings to be mechanically secured in accordance with manufacturer pull-out requirements.
 - Reflex all external fixtures and services using approved thermally broken fixings.
- STRUCTURAL WORKS**
 - Complete associated building works to accommodate increased wall thickness including adjustments to thresholds, roof edges, services and projections.
 - Inspect all openings for adequate lintel provision prior to installation.
 - Structural Engineer to verify substrate condition, wall to adequacy and load capacity before commencement of EWI works.
 - Implement any required remedial structural works prior to insulation installation.
 - Extract existing cavity insulation where required and confirm cavity condition suitable for EWI application.
 - Replace rainwater goods where required to suit new wall thickness.
 - Remove redundant passive vents and make good internally and externally.
- WINDOWS & GLAZING**
 - Retain existing windows.
 - Extend or replace window cills where required to achieve minimum 40mm projection beyond finished render face.
 - Form insulated reveals to maintain thermal continuity at window junctions.
 - Provide airtightness checks to window perimeters where required.
 - Ensure glazing safety compliance under Approved Document K is maintained.
- DOORS**
 - Retain existing external doors.
 - Adjust or extend thresholds where required to suit increased wall thickness.
 - Maintain access compliance with Approved Document M where applicable.
 - Maintain minimum 10mm internal door undercuts to facilitate air movement.
- FIRE SAFETY**
 - Install A1 non-combustible mineral wool EWI system.
 - Seal all service penetrations through EWI using appropriate fire-rated collars, sleeves or mineral wool stop beads where required.
 - Maintain separation distances to combustible materials in accordance with Approved Document B.
 - Ensure eaves and roof interfaces maintain fire integrity.
- ROOF**
 - Extend roof overhangs where required to accommodate new insulation thickness.
 - Replace soffits and fascias as required.
 - Increase loft insulation to achieve $U \leq 0.11 \text{ W/m}^2\text{K}$ while maintaining ventilation paths.
 - Install ridge ventilators where required to maintain adequate loft airflow.
 - Ensure roof works maintain weather protection and comply with manufacturer details.
- HEATING SYSTEM**
 - Extend boiler flue and associated services to suit increased wall thickness where required.
 - Adapt external pipework as necessary.
 - No change to primary heating system unless otherwise specified.
 - All works to comply with Gas Safe and manufacturer requirements.
- VENTILATION REQUIREMENTS**
 - Ventilation strategy to comply with Approved Document F and PAS 2035.
 - Ensure paved and landscaped areas fall away from the building.
 - Minimum extract rates to meet Approved Document F.
 - Provide 4000mm² equivalent area trickle vents to habitable rooms unless otherwise designed.
 - Maintain minimum 10mm internal door undercuts to facilitate cross-ventilation.
 - Remove redundant passive vents and make good openings.
 - Install ridge ventilation where required to maintain loft airflow.
 - Ventilation system to be commissioned, balanced and certified post-installation.
- EXTERNAL WORKS**
 - Maintain minimum 150mm clearance between finished ground level and DPC at all elevations.
 - Adjust ground levels locally where required to prevent DPC bridging.
 - Ensure paved and landscaped areas fall away from the building.
 - Install drainage channels where necessary to prevent surface water accumulation.
 - Protect EWI at service penetrations and downpipe brackets using approved fixings.
 - Maintain adequate roof and surface water drainage.
- GENERAL**
 - All works to be carried out by PAS 2030-certified installers under Principal Contractor RAMS.
 - All ventilation systems to be commissioned and certified.
 - Asbestos refurbishment and demolition survey required prior to intrusive works.
 - Works to comply with PAS 2035, Building Regulations, CDM 2015 and all relevant Health and Safety legislation.
 - Photographic records to be maintained for quality assurance and TrustMark compliance.

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

SIGNIFICANT RESIDUAL RISKS	
REQUIRED ACTION	Refer to Health & Safety Plan and Retrofit Risk Assessments.
REQUIRED ACTION	Refer to Health & Safety Plan and Principal Contractor Method Statements.

DESIGN LIABILITY NOTICE:

TARGET GREEN LTD SHALL NOT BE LIABLE FOR ANY DEFECT, FAILURE, COST, DELAY OR NON-COMPLIANCE ARISING FROM CONSTRUCTION ACTIVITIES COMMENCED PRIOR TO RECEIPT OF OUR SIGNED-OFF CONSTRUCTION DESIGN PACK OR UNDERTAKEN CONTRARY TO OUR ISSUED DRAWINGS. ANY WORK STARTED, MODIFIED OR COMPLETED USING VERBAL INSTRUCTIONS, CLIENT ISSUED SKETCHES OR CONTRACTOR-GENERATED DETAILS WITHOUT TARGET GREEN LTD'S WRITTEN APPROVAL IS ENTIRELY AT THE CONTRACTOR'S RISK. CONTRACTORS MUST VERIFY THAT THE DRAWINGS ARE THE LATEST REVISION. TARGET GREEN LTD ACCEPTS NO RESPONSIBILITY FOR WORKS BUILT USING SUSPECTED INFORMATION.

ADDITIONAL NOTES:

THIS DRAWING FORMS PART OF A PLOT ARCHETYPE AND MAY APPLY TO ADDITIONAL PROPERTIES, SUBJECT TO CONFIRMATION OF APPLICABLE ADDRESSES.

- All risk assessments completed in accordance with PAS 2035:2023 (Clauses 7-10), BS 5250 (2021), BS EN ISO 13788 (condensation), CIBSE TM59 (overheating), and Approved Documents B & F (fire and ventilation).
- Risk determinations prepared by the Retrofit Designer and reviewed and approved by the Retrofit Coordinator.
- Risk determinations assume installation strictly in accordance with issued drawings.
- Variations, early works or unapproved methods invalidate these risk profiles.
- Risk determinations do not apply where installation began before issue of the final Retrofit Design Pack.
- Construction-phase fire and safety controls to include hot-works permits, waste management, temporary fire plan, and site access safety, implemented by the Principal Contractor.
- All residual risks verified post-installation by the Retrofit Coordinator at Stage 5 (handover and evaluation) and recorded within the Retrofit Assessment Report.
- TG does not certify, inspect or verify works that commenced or progressed without written confirmation that the final design pack had been issued.
- All designs assume competent installation in accordance with PAS 2030:2019 and relevant manufacturer system guidance.
- Any site variations or material substitutions must be reviewed and approved by the Retrofit Designer prior to installation to maintain PAS 2035 compliance.
- Design responsibility is limited to works described within the issued Retrofit Design Pack. Any deviation or additional works must be reviewed and approved by the Retrofit Designer before execution.
- Installers deviating from approved design or sequencing without written approval risk loss of PAS 2035/2030 compliance, funding eligibility, and system warranty. Such works fall outside the Retrofit Designer's responsibility.

KEY	
	Low Risk
	Medium Risk
	High Risk

P01 2026.02.27 Initial Drawing Issue RJ TT

REV	DATE	DESCRIPTION	BY	CHKD

- INFORMATION**
- Please do not scale from this drawing.
 - All dimensions must be checked on site by the contractor prior to the commencement of any fabrication or building works.
 - Dimensions and details are to be read in conjunction with specialist consultants' drawings and/or other specifications, where applicable, and any disparity is to be brought to the attention of the designer prior to the commencement of any fabrication or building works.
 - This drawing is the property and copyright of the designer, and it shall not be copied in any other party without the designer's express written consent.

DESIGNER



CLIENT

MERTHYR VALLEYS HOMES

PROJECT

REFURBISHMENT & ENERGY EFFICIENCY WORKS TO 3 NR. PROPERTIES IN GURNOS & TREFECHAN (PILOT)

ADDRESS

ARCHETYPE B BASED ON: 53 SYCAMORE ROAD, GURNOS, CF47 9RU

TITLE:

PROPOSED RETROFIT STRATEGIES

DRAWN BY:	RJ	DATE:	2026.02.27
CHECKED BY:	TT	SITE AREA:	VARIES
SCALE (@ A1):	As indicated	ORIGINAL DRAWING SIZE	841mm x 594mm (A1)
DRAWING NO:	2602-TG-STR-(B)-D-A-202	REV.	P01



SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

IN ADDITION TO THE NORMAL HAZARDS AND RISKS ASSOCIATED WITH THE WORKS, NOTE THE FOLLOWING:

SIGNIFICANT RESIDUAL RISKS Refer to Health & Safety Plan and Retrofit Risk Assessments.

REQUIRED ACTION Refer to Health & Safety Plan and Principal Contractor Method Statements.

RETROFIT DESIGN SIGN-OFF

ROLE	Retrofit Coordinator	Retrofit Designer
FULL NAME	Owen Wakefield	Joseph Earley
REG No.	STER760081 (Sterling)	20046827 (RIBA), 099978D (ARB)
REVIEW DATE		
SIGNATURE		

THIS DESIGN HAS HEREBY BEEN REVIEWED AND APPROVED IN ACCORDANCE WITH THE RISK MANAGEMENT AND COMPLIANCE PROCEDURES SET OUT IN PAS 2035:2023.

DESIGN LIABILITY NOTICE
 TARGET GREEN LTD SHALL NOT BE LIABLE FOR ANY DEFECT, FAILURE, COST, DELAY OR NON-COMPLIANCE ARISING FROM CONSTRUCTION ACTIVITIES COMMENCED PRIOR TO RECEIPT OF OUR SIGNED-OFF CONSTRUCTION DESIGN PACK OR UNDERTAKEN CONTRARY TO OUR ISSUED DRAWINGS. ANY WORK STARTED, MODIFIED OR COMPLETED USING VERBAL INSTRUCTIONS, CLIENT ISSUED SKETCHES OR CONTRACTOR GENERATED DETAILS WITHOUT TARGET GREEN LTD'S WRITTEN APPROVAL IS ENTIRELY AT THE CONTRACTOR'S RISK. CONTRACTORS MUST VERIFY THAT THE DRAWINGS ARE THE LATEST REVISION. TARGET GREEN LTD ACCEPTS NO RESPONSIBILITY FOR WORKS BUILT USING SUPERSEDED INFORMATION.

ADDITIONAL NOTES
 THIS DRAWING FORMS PART OF A PILOT ARCHETYPE AND MAY APPLY TO ADDITIONAL PROPERTIES, SUBJECT TO CONFIRMATION OF APPLICABLE ADDRESSES.

DRAWINGS BASED ON:

TG MEASURED SURVEY : 2026/02/19
 TG RETROFIT ASSESSMENT : 2026/02/19
 TG STRUCTURAL ASSESSMENT : 2026/02/18

PROPOSED SCOPE OF WORKS:

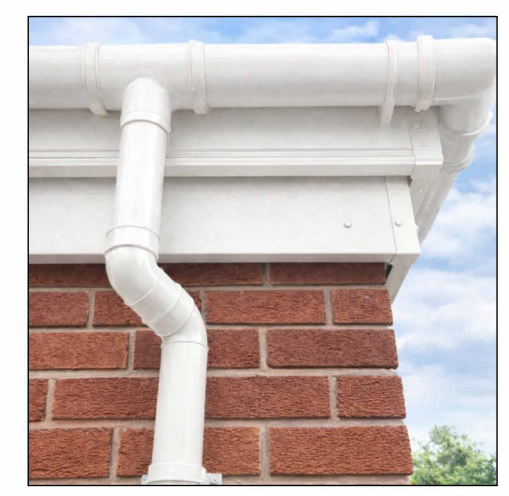
- EXTERNAL WALL INSULATION (EWI)**
 - Install mineral wool External Wall Insulation system in accordance with manufacturer specification, certification and project detail drawings.
 - Provide 100mm stone wool insulation to masonry elevations with approved render or dash finish (colour to be confirmed by Client).
 - Provide approved insulation build-up to lightweight infill panel areas in accordance with system manufacturer guidance.
 - Achieve post-retrofit airtightness target of $\leq 10 \text{ m}^3/\text{h.m}^2 @50\text{Pa}$ or as required to meet project performance objectives.
 - Extend insulation minimum 150mm below DPC where specified, maintaining $\geq 150\text{mm}$ clearance between finished render and external ground level.
 - Provide base tracks, stop beads, movement joints, verge/base drips and service sleeves in accordance with system details.
 - Maintain insulation continuity and minimise thermal bridging at all interfaces including sills, reveals, eaves, verges, penetrations and roof abutments.
 - All fixings to be mechanically secured in accordance with manufacturer pull-out requirements.
 - Refix all external fixtures and services using approved thermally broken fixings.
- STRUCTURAL WORKS**
 - Complete associated building works to accommodate increased wall thickness including adjustments to thresholds, roof edges, services and projections.
 - Inspect all openings for adequate lintel provision prior to installation.
 - Structural Engineer to verify substrate condition, wall tie adequacy and load capacity before commencement of EWI works.
 - Implement any required remedial structural works prior to insulation installation.
 - Extract existing cavity insulation where required and confirm cavity condition suitable for EWI application.
 - Replace rainwater goods where required to suit new wall thickness.
 - Remove redundant passive vents and make good internally and externally.
- WINDOWS & GLAZING**
 - Retain existing windows.
 - Extend or replace window cills where required to achieve minimum 40mm projection beyond finished render face.
 - Form insulated reveals to maintain thermal continuity at window junctions.
 - Provide airtightness taping or sealing to window perimeters where required.
 - Ensure glazing safety compliance under Approved Document K is maintained.
- DOORS**
 - Retain existing external doors.
 - Adjust or extend thresholds where required to suit increased wall thickness.
 - Maintain access compliance with Approved Document M where applicable.
 - Maintain minimum 10mm internal door undercuts to facilitate air movement.
- FIRE SAFETY**
 - Install A1 non-combustible mineral wool EWI system.
 - Seal all service penetrations through EWI using appropriate fire-rated collars, sleeves or mineral wool stops where required.
 - Maintain separation distances to combustible materials in accordance with Approved Document B.
 - Install cavity barriers where required by system certification.
 - Ensure eaves and roof interfaces maintain fire integrity.
- ROOF**
 - Extend roof overhangs where required to accommodate new insulation thickness.
 - Replace soffits and fascias as required.
 - Increase loft insulation to achieve $U \leq 0.11 \text{ W/m}^2\text{K}$ while maintaining ventilation paths.
 - Install ridge ventilation where required to maintain adequate loft airflow.
 - Ensure roof works maintain weather protection and comply with manufacturer details.
- HEATING SYSTEM**
 - Extend boiler flue and associated services to suit increased wall thickness where required.
 - Adapt external pipework as necessary.
 - No change to primary heating system unless otherwise specified.
 - All works to comply with Gas Safe and manufacturer requirements.
- VENTILATION REQUIREMENTS**
 - Ventilation strategy to comply with Approved Document F and PAS 2035.
 - Provide continuous Mechanical Extract Ventilation to wet rooms where required.
 - Minimum extract rates to meet Approved Document F.
 - Provide 4000mm² equivalent area trickle vents to habitable rooms unless otherwise designed.
 - Maintain minimum 10mm internal door undercuts to facilitate cross-ventilation.
 - Remove redundant passive vents and make good openings.
 - Install ridge ventilation where required to maintain loft airflow.
 - Ventilation system to be commissioned, balanced and certified post-installation.
- EXTERNAL WORKS**
 - Maintain minimum 150mm clearance between finished ground level and DPC at all elevations.
 - Adjust ground levels locally where required to prevent DPC bridging.
 - Ensure paved and landscaped areas fall away from the building.
 - Install drainage channels where necessary to prevent surface water accumulation.
 - Protect EWI at service penetrations and downpipe brackets using approved fixings.
 - Maintain adequate roof and surface water drainage.
- GENERAL**
 - All works to be carried out by PAS 2030-certified installers under Principal Contractor RAMS.
 - All ventilation systems to be commissioned and certified.
 - Asbestos refurbishment and demolition survey required prior to intrusive works.
 - Works to comply with PAS 2035, Building Regulations, CDM 2015 and all relevant Health and Safety legislation.
 - Photographic records to be maintained for quality assurance and TrustMark compliance.



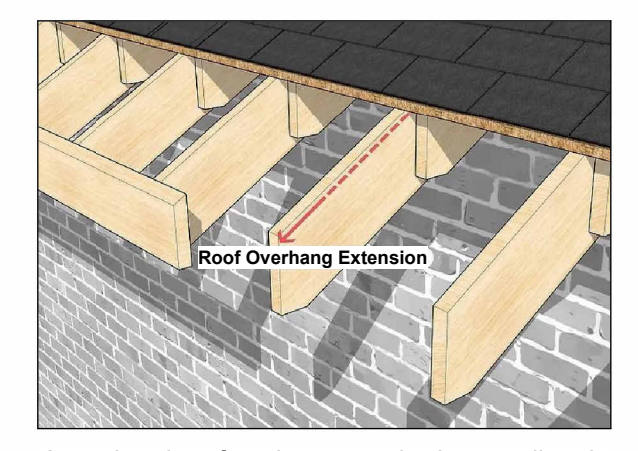
PROPOSED DESIGN INTENT



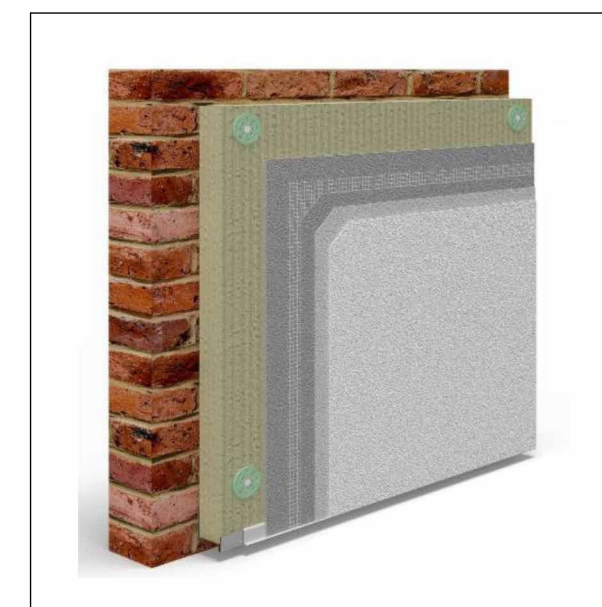
New background ventilation and extraction to wet rooms, Nuair Cyfan.



Replacement of fascias, gutters, soffits, RWPs & SVPs. Colours to be confirmed by the Client.



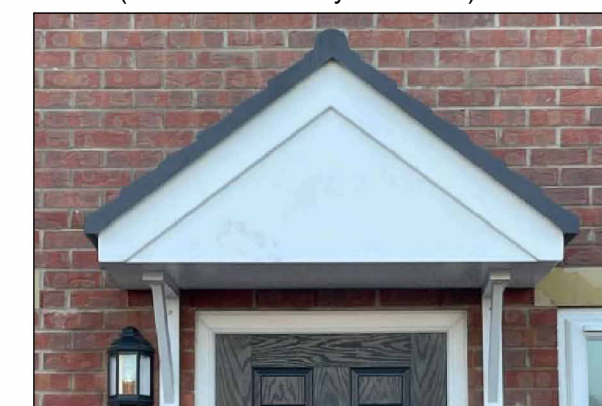
Associated roof works as required, extending the rooflines to ensure additional weather protection to the new EWI system.



Existing uPVC infill panels to be removed. Structural backing and condition of substrate to be verified prior to installation. Install 180mm Wetherby Stone Wool EWI system with smooth render in accordance with manufacturers specification (colour to be confirmed by the Client).



100mm Wetherby Stone Wool insulation with Spar Dash finish (colour to be confirmed by the Client).



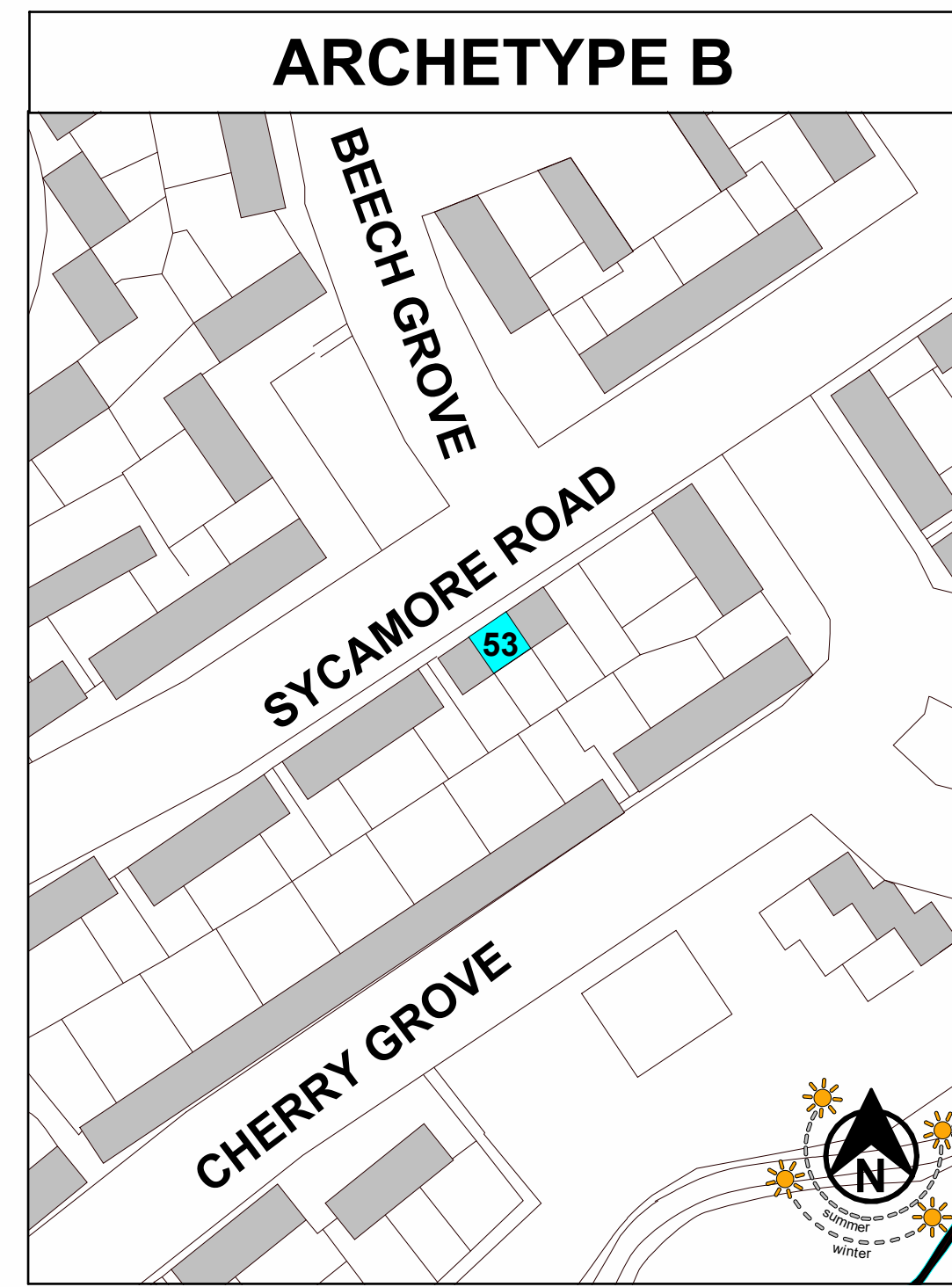
New GRP canopy to be installed from The Canopy Shop - The Calcot Overdoor Canopy, or similar (to be confirmed by the Client).

80mm Wetherby HD EPS insulation installed below DPC where required, ensuring $\geq 150\text{mm}$ clearance between finished render and external ground level. Colour to be confirmed by the Client.

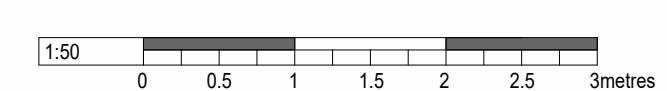


Remedial works to external steps and paths where required with ACO drainage channels at thresholds to direct surface water away from the building.

Reduced Thickness Wetherby Stone Wool insulation to reveals with smooth render finish in accordance with manufacturers specification (colour to be confirmed by the client).



KEY LOCATION PLAN
 1: 1000



REV	DATE	DESCRIPTION	BY	CHKD
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INFORMATION

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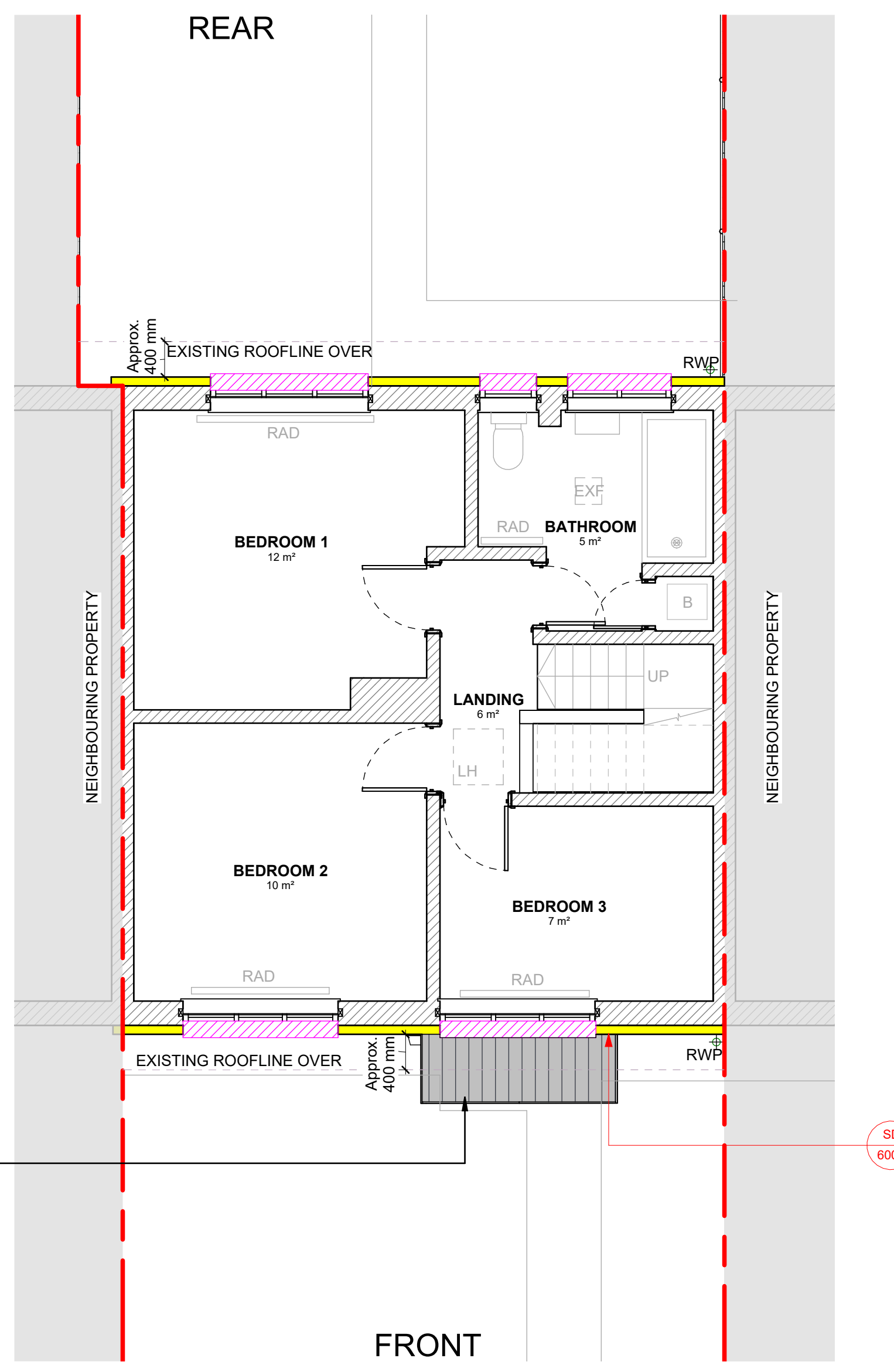
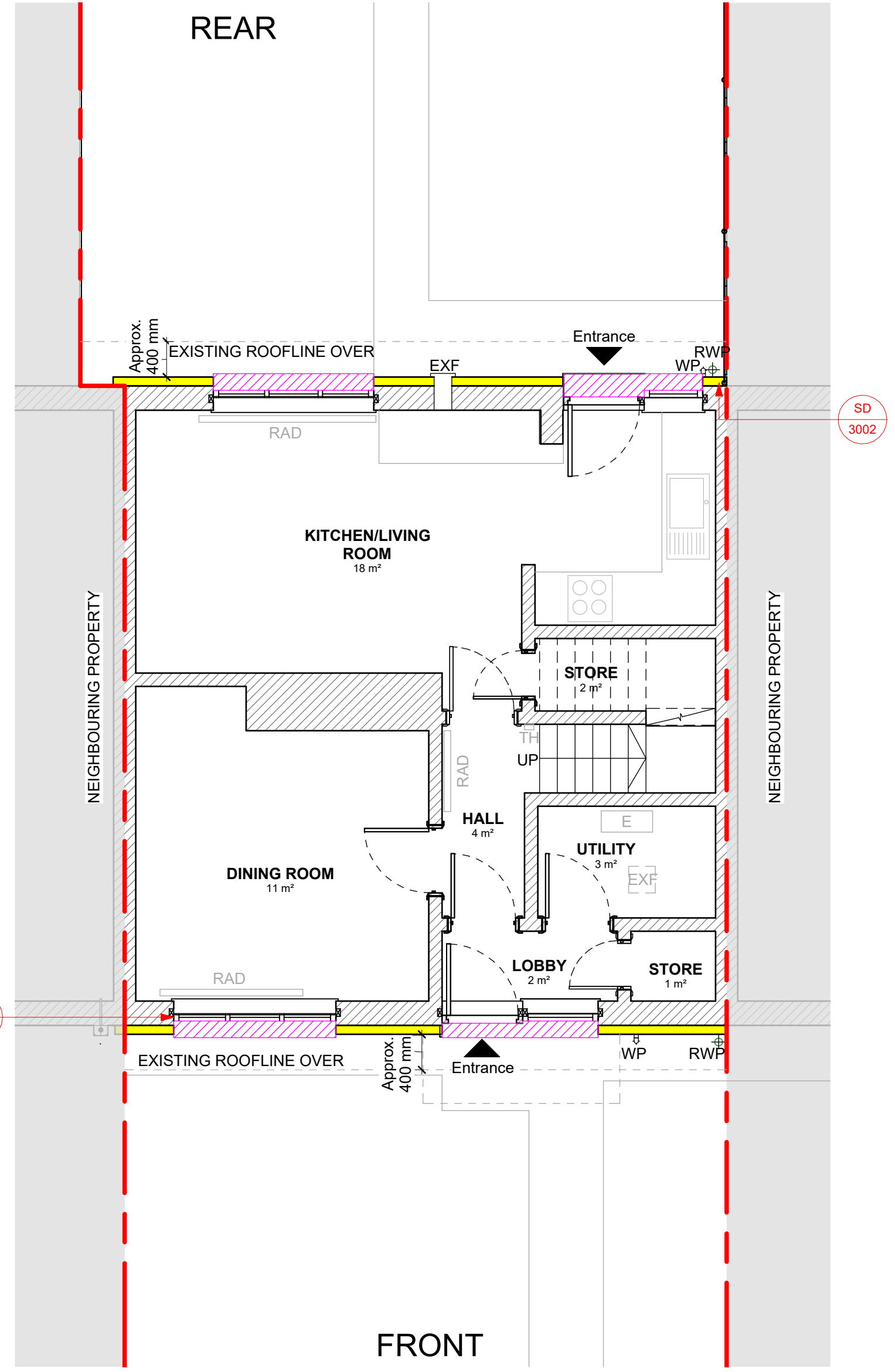


PROJECT
REFURBISHMENT & ENERGY EFFICIENCY WORKS TO 3 NR. PROPERTIES IN GURNOS & TREFECHAN (PILOT)

ADDRESS
**ARCHETYPE B
 BASED ON:
 53 SYCAMORE ROAD,
 GURNOS,
 CF47 9RU**

TITLE:
PROPOSED DESIGN INTENT

DRAWN BY:	RJ	DATE:	2026.02.27
CHECKED BY:	TT	SITE AREA:	VARIES
SCALE (@ A1):	As indicated	ORIGINAL DRAWING SIZE	841mm x 594mm (A1)
DRAWING No:	2602-TG-STR-(B)-D-A-203	REV.	P01



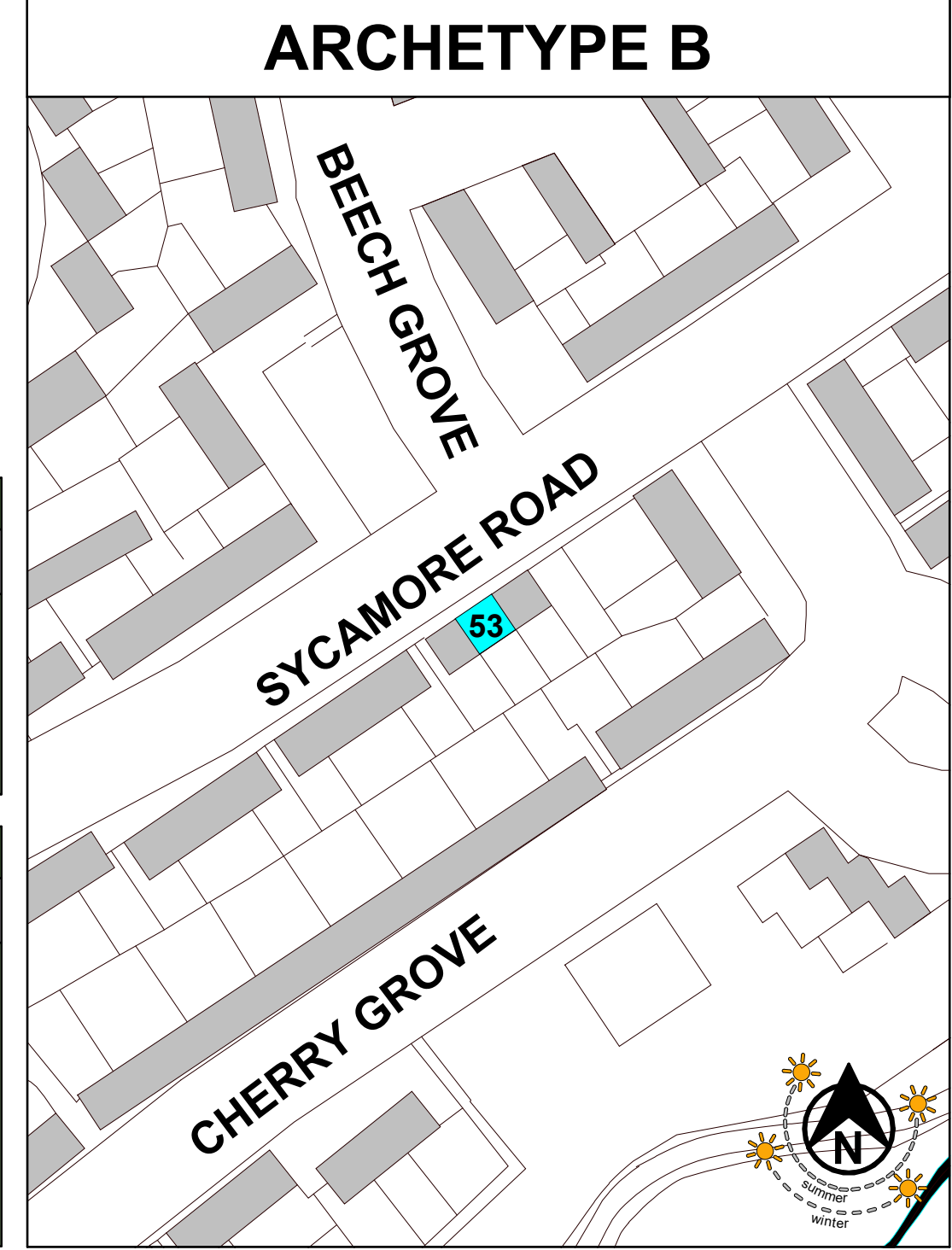
Existing entrance canopy to be removed and replaced with new overdoor canopy, installed according to manufacturer's specifications

DRAWINGS BASED ON:

TG MEASURED SURVEY : 2026/02/19
TG RETROFIT ASSESSMENT : 2026/02/19
TG STRUCTURAL ASSESSMENT : 2026/02/18

PROPOSED SCOPE OF WORKS:

- EXTERNAL WALL INSULATION (EWI)**
 - Install mineral wool External Wall Insulation system in accordance with manufacturer specification, certification and project detail drawings.
 - Provide 100mm stone wool insulation to masonry elevations with approved render or dash finish (colour to be confirmed by Client).
 - Extend insulation minimum 150mm below DPC where specified, maintaining ≥150mm clearance between finished render and external ground level.
 - Provide base tracks, stop beads, movement joints, verge/base drips and service sleeves in accordance with system details.
 - Maintain insulation continuity and minimise thermal bridging at all interfaces including sills, reveals, eaves, verges, penetrations and roof abutments.
 - All fixings to be mechanically secured in accordance with manufacturer pull-out requirements.
 - Refix all external fixtures and services using approved thermally broken fixings.
- STRUCTURAL WORKS**
 - Complete associated building works to accommodate increased wall thickness including adjustments to thresholds, roof edges, services and projections.
 - Inspect all openings for adequate lintel provision prior to installation.
 - Structural Engineer to verify substrate condition, wall tie adequacy and load capacity before commencement of EWI works.
 - Implement any required remedial structural works prior to insulation installation.
 - Extract existing cavity insulation where required and confirm cavity condition suitable for EWI application.
 - Replace rainwater goods where required to suit new wall thickness.
 - Remove redundant passive vents and make good internally and externally.
- WINDOWS & GLAZING**
 - Retain existing windows.
 - Extend or replace window cills where required to achieve minimum 40mm projection beyond finished render face.
 - Form insulated reveals to maintain thermal continuity at window junctions.
 - Provide airtightness taping or sealing to window perimeters where required.
 - Ensure glazing safety compliance under Approved Document K is maintained.
- DOORS**
 - Retain existing external doors.
 - Adjust or extend thresholds where required to suit increased wall thickness.
 - Maintain access compliance with Approved Document M where applicable.
 - Maintain minimum 10mm internal door undercuts to facilitate air movement.
- FIRE SAFETY**
 - Install A1 non-combustible mineral wool EWI system.
 - Seal all service penetrations through EWI using appropriate fire-rated collars, sleeves or mineral wool stops where required.
 - Maintain separation distances to combustible materials in accordance with Approved Document B.
 - Install cavity barriers where required by system certification.
 - Ensure eaves and roof interfaces maintain fire integrity.
- ROOF**
 - Extend roof overhangs where required to accommodate new insulation thickness.
 - Replace soffits and fascias as required.
 - Increase loft insulation to achieve U_f ≤ 0.11 W/m²K while maintaining ventilation paths.
 - Install ridge ventilation where required to maintain adequate loft airflow.
 - Ensure roof works maintain weather protection and comply with manufacturer details.
- HEATING SYSTEM**
 - Extend boiler flue and associated services to suit increased wall thickness where required.
 - Adapt external pipework as necessary.
 - No change to primary heating system unless otherwise specified.
 - All works to comply with Gas Safe and manufacturer requirements.
- VENTILATION REQUIREMENTS**
 - Ventilation strategy to comply with Approved Document F and PAS 2035.
 - Provide continuous Mechanical Extract Ventilation to wet rooms where required.
 - Minimum extract rates to meet Approved Document F.
 - Provide 4000mm² equivalent area trickle vents to habitable rooms unless otherwise designed.
 - Maintain minimum 10mm internal door undercuts to facilitate cross-ventilation.
 - Remove redundant passive vents and make good openings.
 - Install ridge ventilation where required to maintain loft airflow.
 - Ventilation system to be commissioned, balanced and certified post-installation.
- EXTERNAL WORKS**
 - Maintain minimum 150mm clearance between finished ground level and DPC at all elevations.
 - Adjust ground levels locally where required to prevent DPC bridging.
 - Ensure paved and landscaped areas fall away from the building.
 - Install drainage channels where necessary to prevent surface water accumulation.
 - Protect EWI at service penetrations and downpipe brackets using approved fixings.
 - Maintain adequate roof and surface water drainage.
- GENERAL**
 - All works to be carried out by PAS 2030-certified installers under Principal Contractor RAMS.
 - All ventilation systems to be commissioned and certified.
 - Asbestos refurbishment and demolition survey required prior to intrusive works.
 - Works to comply with PAS 2035, Building Regulations, CDM 2015 and all relevant Health and Safety legislation.
 - Photographic records to be maintained for quality assurance and TrustMark compliance.



FIRE SAFETY RISK ASSESSMENT			
SYMBOL	INITIAL RISK	RETROFIT DESIGN STRATEGIES	RESIDUAL RISK
	Low	<ul style="list-style-type: none"> Full A1 mineral wool EWI façade (non-combustible), no firebreaks required. All service penetrations sealed with fire-rated collars and render sleeves. uPVC eaves and verges isolated from EWI with stop beads and mineral wool fire stops. LD3 alarms assumed within dwellings; confirmation required before start. 	Low

THERMAL PERFORMANCE RISK ASSESSMENT			
SYMBOL	INITIAL RISK	RETROFIT DESIGN STRATEGIES	RESIDUAL RISK
	High	<ul style="list-style-type: none"> A1-rated mineral wool EWI provides continuous insulation and thermal balance. Certified u-values referenced; all junctions designed to maintain IRsi ≥ 0.75. Stop beads and insulated returns at openings ensure continuity. System installed by PAS 2030-approved contractors under manufacturer QA. Detailing verified through site inspection and photo record. Fixing suitability and load paths must be confirmed by the Contractor where pre-install checks were not completed. 	Low

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

IN ADDITION TO THE NORMAL HAZARDS AND RISKS ASSOCIATED WITH THE WORKS, NOTE THE FOLLOWING:

SIGNIFICANT RESIDUAL RISKS	Refer to Health & Safety Plan and Retrofit Risk Assessments.
REQUIRED ACTION	Refer to Health & Safety Plan and Principal Contractor Method Statements.

RETROFIT DESIGN SIGN-OFF

ROLE	Retrofit Coordinator	Retrofit Designer
FULL NAME	Owen Wakefield	Joseph Earley
REG No.	STER760081 (Sterling)	20046827 (RIBA), 099978D (ARB)
REVIEW DATE		
SIGNATURE		

THIS DESIGN HAS HEREBY BEEN REVIEWED AND APPROVED IN ACCORDANCE WITH THE RISK MANAGEMENT AND COMPLIANCE PROCEDURES SET OUT IN PAS 2035:2023.

DESIGN LIABILITY NOTICE

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ADDITIONAL NOTES

THIS DRAWING FORMS PART OF A PILOT ARCHETYPE AND MAY APPLY TO ADDITIONAL PROPERTIES. SUBJECT TO CONFIRMATION OF APPLICABLE ADDRESSES.

KEY		
SYMBOL	DESCRIPTION	REF.
AB	Existing airbrick/wall vent to be blocked up (where trickle vents present) as part of ventilation strategy	
B	Boiler to remain in place	
BF	Boiler Flue extended as required	SD-6008
DPC	Damp Proof Course	SD-1001/2
E	Electric Meter to remain in place	
EPF	Electric Fire Place	
EXF	Existing extract fan to be replaced / new extract fan installed as per ventilation strategy	SD-6010
FFL	Finished Floor Level	
G	Gas Meter box to be removed and replaced by Wales & West Utilities	SD-6002
GP	Gas Pipe extended after new EWI installation	SD-6009
HWC	Hot Water Cylinder	
LH	Loft Access Hatch	
MH	Man Hole Cover	
PV	Existing Solar Photovoltaics to remain in place	
RAD	Radiator	
RWP	New uPVC Rainwater Pipe to be installed	SD-6005
SVP	New uPVC Soil Vent Pipe to be installed	SD-6007
T	Telecoms Box	SD-6003
TH	Thermostat	
WP	Water Pipe extended after new EWI installation	SD-6007
●	Existing Trickle Vents Present to remain	
●	Existing Trickle Vents Present to be sealed up	
---	Existing Party Wall/Boundary Line	

Note: For detail numbers referenced above, please refer to the EWI system manufacturer's standard detail pack (unless otherwise indicated).

REV	DATE	DESCRIPTION	BY	CHKD
P01	2026.02.27	Initial Drawing Issue	RJ	TT

INFORMATION

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PROJECT

REFURBISHMENT & ENERGY EFFICIENCY WORKS TO 3 NR. PROPERTIES IN GURNOS & TREFECHAN (PILOT)

ADDRESS

ARCHETYPE B

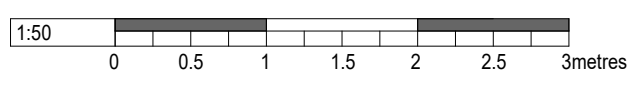
BASED ON:

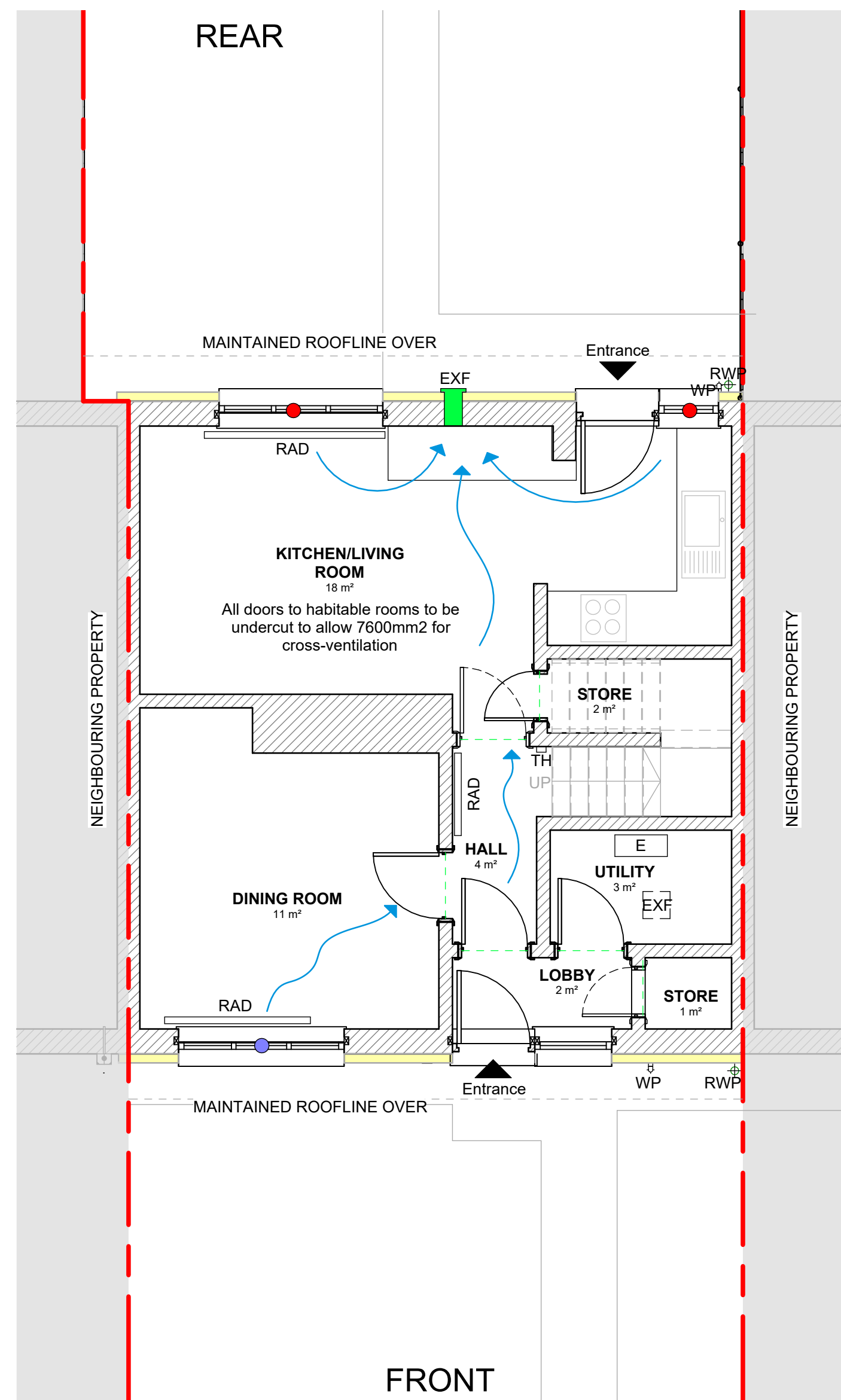
53 SYCAMORE ROAD, GURNOS, CF47 9RU

TITLE:

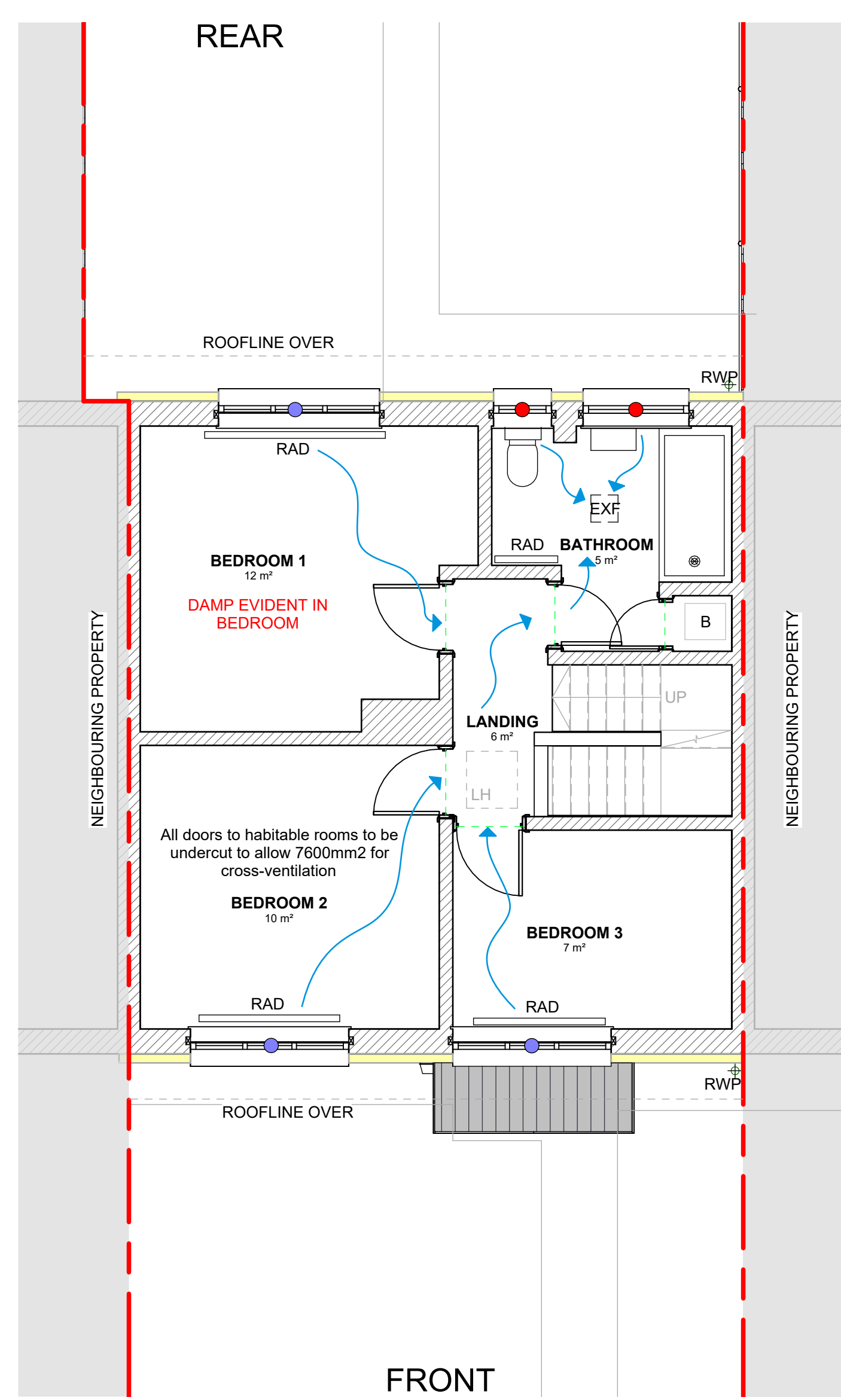
PROPOSED FABRIC MEASURES PLAN

DRAWN BY:	RJ	DATE:	2026.02.27
CHECKED BY:	TT	SITE AREA:	VARIES
SCALE (@ A1):	As indicated	ORIGINAL DRAWING SIZE	841mm x 594mm (A1)
DRAWING No:	2602-TG-PRO-(B)-D-A-301	REV.	P01





PROPOSED GROUND FLOOR PLAN
1:50



PROPOSED FIRST FLOOR PLAN
1:50

DRAWINGS BASED ON:	
TG MEASURED SURVEY :	2026/02/19
TG RETROFIT ASSESSMENT :	2026/02/19
TG STRUCTURAL ASSESSMENT :	2026/02/18

PROPOSED SCOPE OF WORKS:

- EXTERNAL WALL INSULATION (EWI)**
 - Install mineral wool External Wall Insulation system in accordance with manufacturer specification, certification and project detail drawings.
 - Provide 100mm stone wool insulation to masonry elevations with approved render or dash finish (colour to be confirmed by Client).
 - Provide approved insulation build-up to lightweight infill panel areas in accordance with system manufacturer guidance.
 - Achieve post-retrofit airtightness target of $\leq 10 \text{ m}^3/\text{h}\cdot\text{m}^2 @ 50\text{Pa}$ or as required to meet project performance objectives.
 - Extend insulation minimum 150mm below DPC where specified, maintaining $\geq 150\text{mm}$ clearance between finished render and external ground level.
 - Provide base tracks, slop beads, movement joints, verge/base drips and service sleeves in accordance with system details.
 - Maintain insulation continuity and minimise thermal bridging at all interfaces including sills, reveals, eaves, verges, penetrations and roof abutments.
 - All fixings to be mechanically secured in accordance with manufacturer pull-out requirements.
 - Refix all external fixtures and services using approved thermally broken fixings.
- STRUCTURAL WORKS**
 - Complete associated building works to accommodate increased wall thickness including adjustments to thresholds, roof edges, services and projections.
 - Inspect all openings for adequate lintel provision prior to installation.
 - Structural Engineer to verify substrate condition, wall tie adequacy and load capacity before commencement of EWI works.
 - Implement any required remedial structural works prior to insulation installation.
 - Extract existing cavity insulation where required and confirm cavity condition suitable for EWI application.
 - Replace rainwater goods where required to suit new wall thickness.
 - Remove redundant passive vents and make good internally and externally.
- WINDOWS & GLAZING**
 - Retain existing windows.
 - Extend or replace window cills where required to achieve minimum 40mm projection beyond finished render face.
 - Form insulated reveals to maintain thermal continuity at window junctions.
 - Provide airtightness taping or sealing to window perimeters where required.
 - Ensure glazing safety compliance under Approved Document K is maintained.
- DOORS**
 - Retain existing external doors.
 - Adjust or extend thresholds where required to suit increased wall thickness.
 - Maintain access compliance with Approved Document M where applicable.
 - Maintain minimum 10mm internal door undercuts to facilitate air movement.
- FIRE SAFETY**
 - Install A1 non-combustible mineral wool EWI system.
 - Seal all service penetrations through EWI using appropriate fire-rated collars, sleeves or mineral wool stops where required.
 - Maintain separation distances to combustible materials in accordance with Approved Document B.
 - Install cavity barriers where required by system certification.
 - Ensure eaves and roof interfaces maintain fire integrity.
- ROOF**
 - Extend roof overhangs where required to accommodate new insulation thickness.
 - Replace soffits and fascias as required.
 - Increase loft insulation to achieve $U \leq 0.11 \text{ W/m}^2\text{K}$ while maintaining ventilation paths.
 - Install ridge ventilation where required to maintain adequate loft airflow.
 - Ensure roof works maintain weather protection and comply with manufacturer details.
- HEATING SYSTEM**
 - Extend boiler flue and associated services to suit increased wall thickness where required.
 - Adapt external pipework as necessary.
 - No change to primary heating system unless otherwise specified.
 - All works to comply with Gas Safe and manufacturer requirements.
- VENTILATION REQUIREMENTS**
 - Ventilation strategy to comply with Approved Document F and PAS 2035.
 - Provide continuous Mechanical Extract Ventilation to wet rooms where required.
 - Minimum extract rates to meet Approved Document F.
 - Provide 4000mm² equivalent area trickle vents to habitable rooms unless otherwise designed.
 - Maintain minimum 10mm internal door undercuts to facilitate cross-ventilation.
 - Remove redundant passive vents and make good openings.
 - Install ridge ventilation where required to maintain loft airflow.
 - Ventilation system to be commissioned, balanced and certified post-installation.
- EXTERNAL WORKS**
 - Maintain minimum 150mm clearance between finished ground level and DPC at all elevations.
 - Adjust ground levels locally where required to prevent DPC bridging.
 - Ensure paved and landscaped areas fall away from the building.
 - Install drainage channels where necessary to prevent surface water accumulation.
 - Protect EWI at service penetrations and downpipe brackets using approved fixings.
 - Maintain adequate roof and surface water drainage.
- GENERAL**
 - All works to be carried out by PAS 2030-certified installers under Principal Contractor RAMS.
 - All ventilation systems to be commissioned and certified.
 - Asbestos refurbishment and demolition survey required prior to intrusive works.
 - Works to comply with PAS 2035, Building Regulations, CDM 2015 and all relevant Health and Safety legislation.
 - Photographic records to be maintained for quality assurance and TrustMark compliance.

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

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SIGNIFICANT RESIDUAL RISKS	Refer to Health & Safety Plan and Retrofit Risk Assessments.
REQUIRED ACTION	Refer to Health & Safety Plan and Principal Contractor Method Statements.

RETROFIT DESIGN SIGN-OFF	
ROLE	Retrofit Coordinator
FULL NAME	Owen Wakefield
REG No.	STER760081 (Sterling)
REVIEW DATE	2024/02/17 (RIBA), 099978D (ARB)
SIGNATURE	

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ADDITIONAL NOTES

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KEY		
SYMBOL	DESCRIPTION	REF.
AB	Existing airbrick/wall vent to be blocked up (where trickle vents present) as part of ventilation strategy	
B	Boiler to remain in place	
BF	Boiler Flue extended as required	SD-6008
DPC	Damp Proof Course	SD-1001/2
E	Electric Meter to remain in place	
EPF	Electric Fire Place	
EXF	Existing extract fan to be replaced / new extract fan installed as per ventilation strategy	SD-6010
FFL	Finished Floor Level	
G	Gas Meter box to be removed and replaced by Wales & West Utilities	SD-6002
GP	Gas Pipe extended after new EWI installation	SD-6009
HWC	Hot Water Cylinder	
LH	Loft Access Hatch	
MH	Man Hole Cover	
PV	Existing Solar Photovoltaics to remain in place	
RAD	Radiator	
RWP	New uPVC Rainwater Pipe to be installed	SD-6005
SWP	New uPVC Soil Vent Pipe to be installed	SD-6007
T	Telecoms Box	SD-6003
TH	Thermostat	
WP	Water Pipe extended after new EWI installation	SD-6007
●	Existing Trickle Vents Present to remain	
●	Existing Trickle Vents Present to be sealed up	
---	Existing Party Wall/Boundary Line	

Note: For detail numbers referenced above, please refer to the EWI system manufacturer's standard detail pack (unless otherwise indicated).

LEGEND				
	Existing Walls			
	New mechanical extractor fan, as per approved specification.			
	Boiler Flue to be extended as per detail SD-6008			
	Indicative airflow path from habitable rooms to mechanically extracted wet rooms.			
	All internal doors to habitable rooms to be undercut to allow for cross-ventilation			
	Existing fixtures to be removed and extended or reinstated after new EWI installation, refer to SD-6003.			
	Refer to Standard Detail			

REV	DATE	DESCRIPTION	BY	CHKD
P01	2026.02.27	Initial Drawing Issue	RJ	TT

INFORMATION

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DESIGNER



CLIENT



PROJECT

REFURBISHMENT & ENERGY EFFICIENCY WORKS TO 3 NR. PROPERTIES IN GURNOS & TREFECHAN (PILOT)

ADDRESS

ARCHETYPE B BASED ON:

53 SYCAMORE ROAD, GURNOS, CF47 9RU

TITLE:

PROPOSED VENTILATION, AIRTIGHTNESS & HEATING LAYOUT

DRAWN BY:	RJ	DATE:	2026.02.27
CHECKED BY:	TT	SITE AREA:	VARIABLES

SCALE (@ A1):	As indicated	ORIGINAL DRAWING SIZE	841mm x 594mm (A1)
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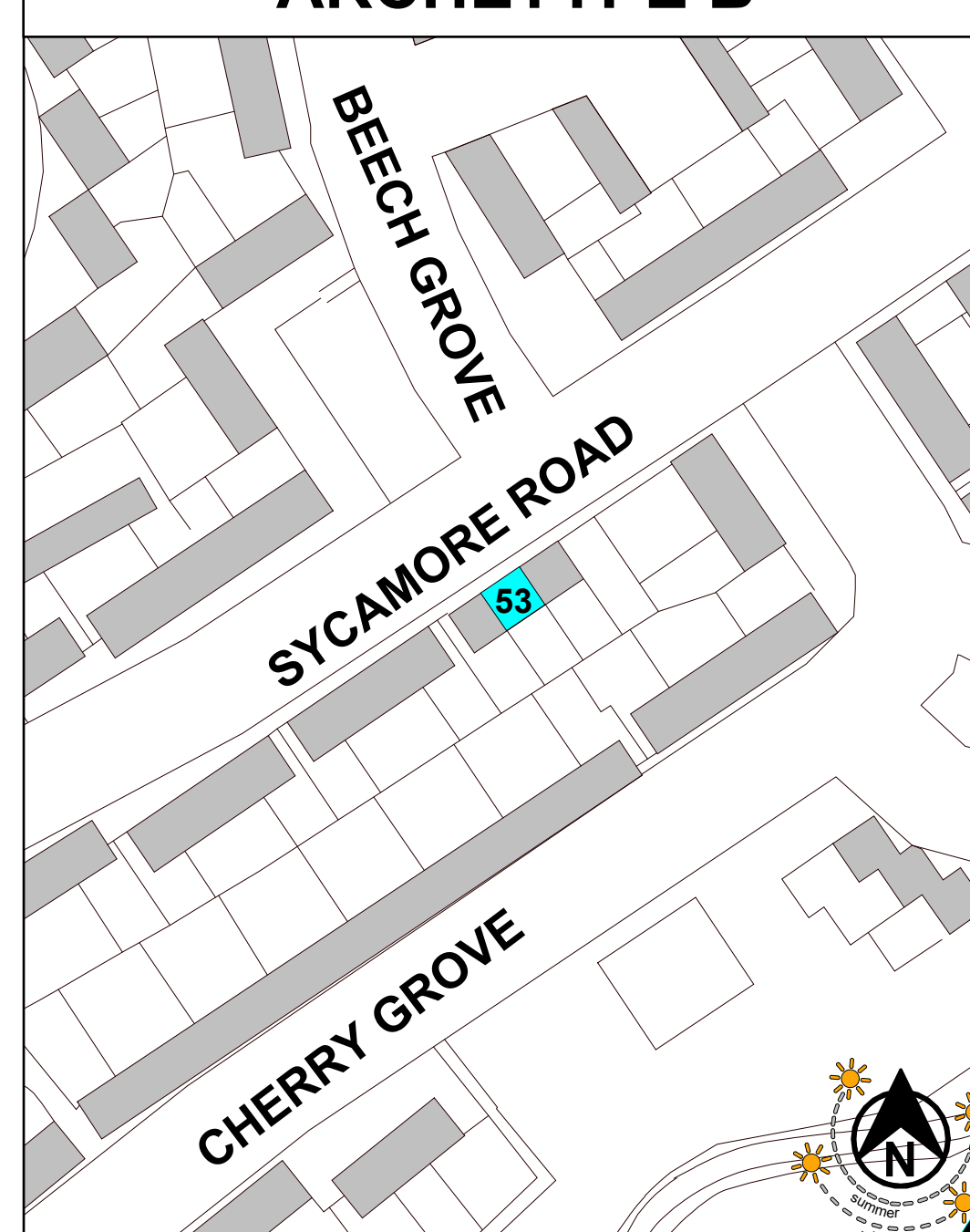
DRAWING No:	2602-TG-PRO-(B)-D-A-302	REV.	P01
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OVERHEATING RISK ASSESSMENT			
SYMBOL	INITIAL RISK	RETROFIT DESIGN STRATEGIES	RESIDUAL RISK
	Low	<ul style="list-style-type: none"> Design reviewed for overheating risk in accordance with CIBSE TM59 and Approved Document Q. Orientation and glazing reviewed, facades moderately exposed to sun. Light-coloured render specified to limit solar absorption. Cross-ventilation and MEV system provide heat removal. Overheating risk mitigated through passive design and mechanical ventilation balance. 	Low

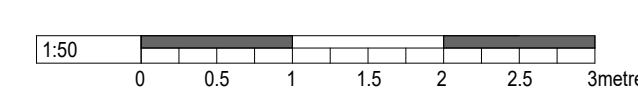
MOISTURE RISK ASSESSMENT			
SYMBOL	INITIAL RISK	RETROFIT DESIGN STRATEGIES	RESIDUAL RISK
	High	<ul style="list-style-type: none"> High exposure (Zone 4) managed by vapour-open mineral wool EWI system. Maintain 150 mm DPC clearance with drip beads and verge stops. Continuous MEV controls internal humidity and prevents condensation. Detailing around openings designed to avoid cold spots or trapped moisture. Replacement rainwater goods and adequate drainage provided. Installation must follow TG detailing in full; unverified substrate conditions remain a Contractor responsibility. 	Low

VENTILATION & AIRTIGHTNESS RISK ASSESSMENT			
SYMBOL	INITIAL RISK	RETROFIT DESIGN STRATEGIES	RESIDUAL RISK
	MEDIUM	<ul style="list-style-type: none"> Continuous MEV system designed to Approved Document F rates, trickle vents to all new windows. Airtightness target $\leq 10 \text{ m}^3/\text{h}\cdot\text{m}^2 @ 50 \text{ Pa}$. Extract terminals extended through EWI and sealed with proprietary sleeves. Post-install air testing and commissioning required for verification. Combined PIV + dMEV system designed to achieve Approved Document F (2021) System 3 extract rates. System to be commissioned and certified post-installation. 	Low

ARCHETYPE B



KEY LOCATION PLAN
1: 1000



SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

IN ADDITION TO THE NORMAL HAZARDS AND RISKS ASSOCIATED WITH THE WORKS, NOTE THE FOLLOWING:
 SIGNIFICANT RESIDUAL RISKS Refer to Health & Safety Plan and Retrofit Risk Assessments.
 REQUIRED ACTION Refer to Health & Safety Plan and Principal Contractor Method Statements.

RETROFIT DESIGN SIGN-OFF		
ROLE	Signature	Date
Retrofit Coordinator	<i>[Signature]</i>	2026.02.27
Full Name	Owen Wakefield	Joseph Earley
REG No.	STER760081 (Sterling)	20046827 (RIBA), 099978D (ARB)
REVIEW DATE		
SIGNATURE		

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ADDITIONAL NOTES
 THIS DRAWING FORMS PART OF A PILOT ARCHETYPE AND MAY APPLY TO ADDITIONAL PROPERTIES, SUBJECT TO CONFIRMATION OF APPLICABLE ADDRESSES.

KEY		
SYMBOL	DESCRIPTION	REF.
AB	Existing airbrick/wall vent to be blocked up (where trickle vents present) as part of ventilation strategy	
B	Boiler to remain in place	
BF	Boiler Flue extended as required	SD-6008
DPC	Damp Proof Course	SD-1001/2
E	Electric Meter to remain in place	
EFP	Electric Fire Place	
EXF	Existing extract fan to be replaced / new extract fan installed as per ventilation strategy	SD-6010
FFL	Finished Floor Level	
G	Gas Meter box to be removed and replaced by Wales & West Utilities	SD-6002
GP	Gas Pipe extended after new EW installation	SD-6009
HWC	Hot Water Cylinder	
LH	Loft Access Hatch	
MH	Man Hole Cover	
PV	Existing Solar Photovoltaics to remain in place	
RAD	Radiator	
RWP	New uPVC Rainwater Pipe to be installed	SD-6005
SVP	New uPVC Soil Vent Pipe to be installed	SD-6007
T	Telecoms Box	SD-6003
TH	Thermostat	
WP	Water Pipe extended after new EW installation	SD-6007
●	Existing Trickle Vents Present to remain	
●	Existing Trickle Vents Present to be sealed up	
---	Existing Party Wall/Boundary Line	

Note: For detail numbers referenced above, please refer to the EW system manufacturer's standard detail pack (unless otherwise indicated).

LEGEND		
	Existing Walls	
	New External Wall Insulation, as per approved specification.	
	New EW below DPC as per approved specification, where DPC is <150mm above ground level.	
	New EW below DPC as per approved specification, where DPC is >150mm above ground level.	
*	Existing fixtures to be removed and extended or reinstalled after new EW installation, refer to SD-6003.	
SD	Refer to Standard Detail	

P01	2026.02.27	Initial Drawing Issue	RJ	TT
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REV	DATE	DESCRIPTION	BY	CHKD

INFORMATION

- Please do not scale from this drawing.
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- Dimensions and details are to be read in conjunction with specialist consultants' drawings and/or other specifications, where applicable, and any disparity is to be brought to the attention of the designer prior to the commencement of any fabrication or building works.
- This drawing is the property and copyright of the designer, and it shall not be copied to any other party without the designer's express written consent.



PROJECT
REFURBISHMENT & ENERGY EFFICIENCY WORKS TO 3 NR. PROPERTIES IN GURNOS & TREFECHAN (PILOT)

ADDRESS
**ARCHETYPE B
 BASED ON:
 53 SYCAMORE ROAD,
 GURNOS,
 CF47 9RU**

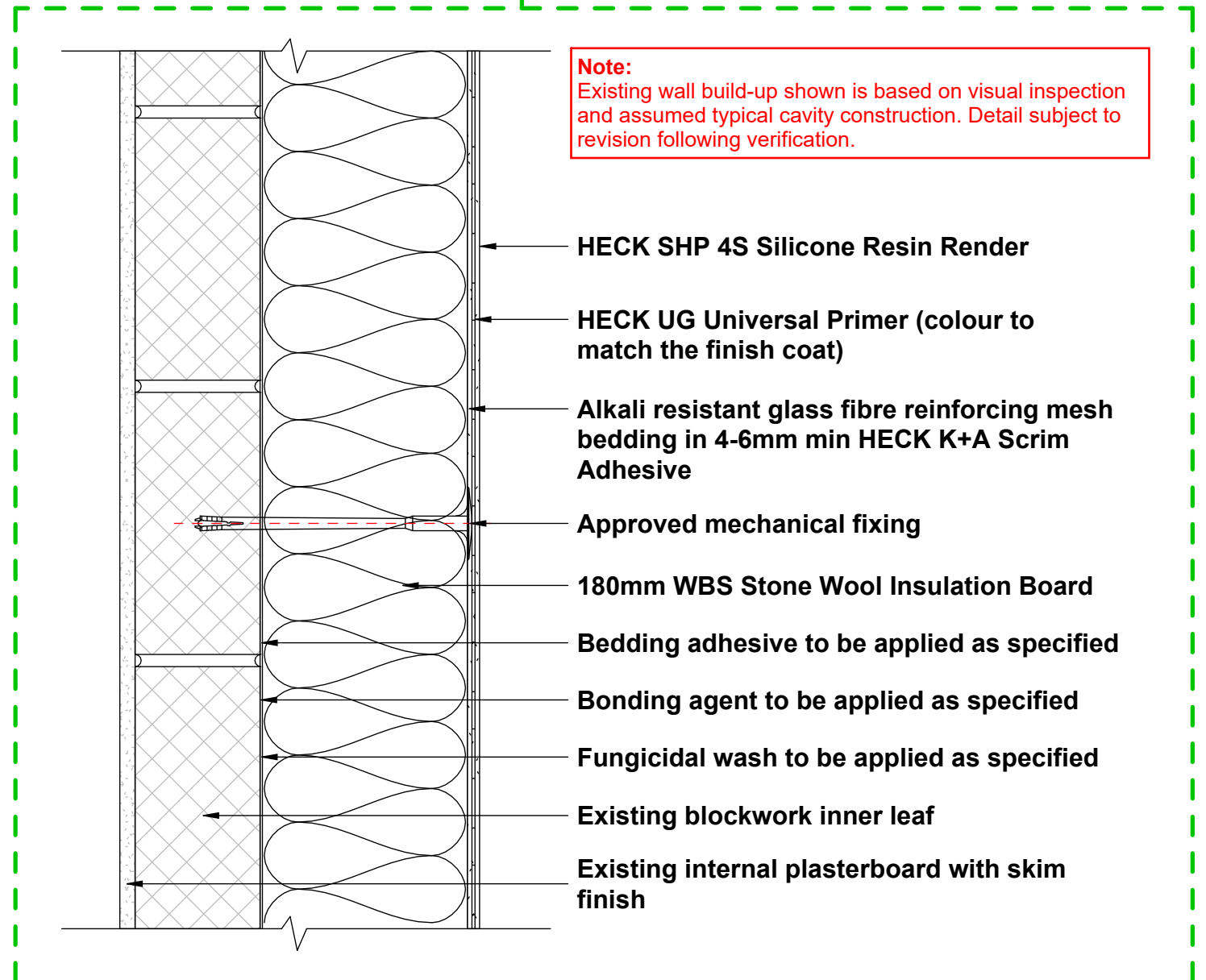
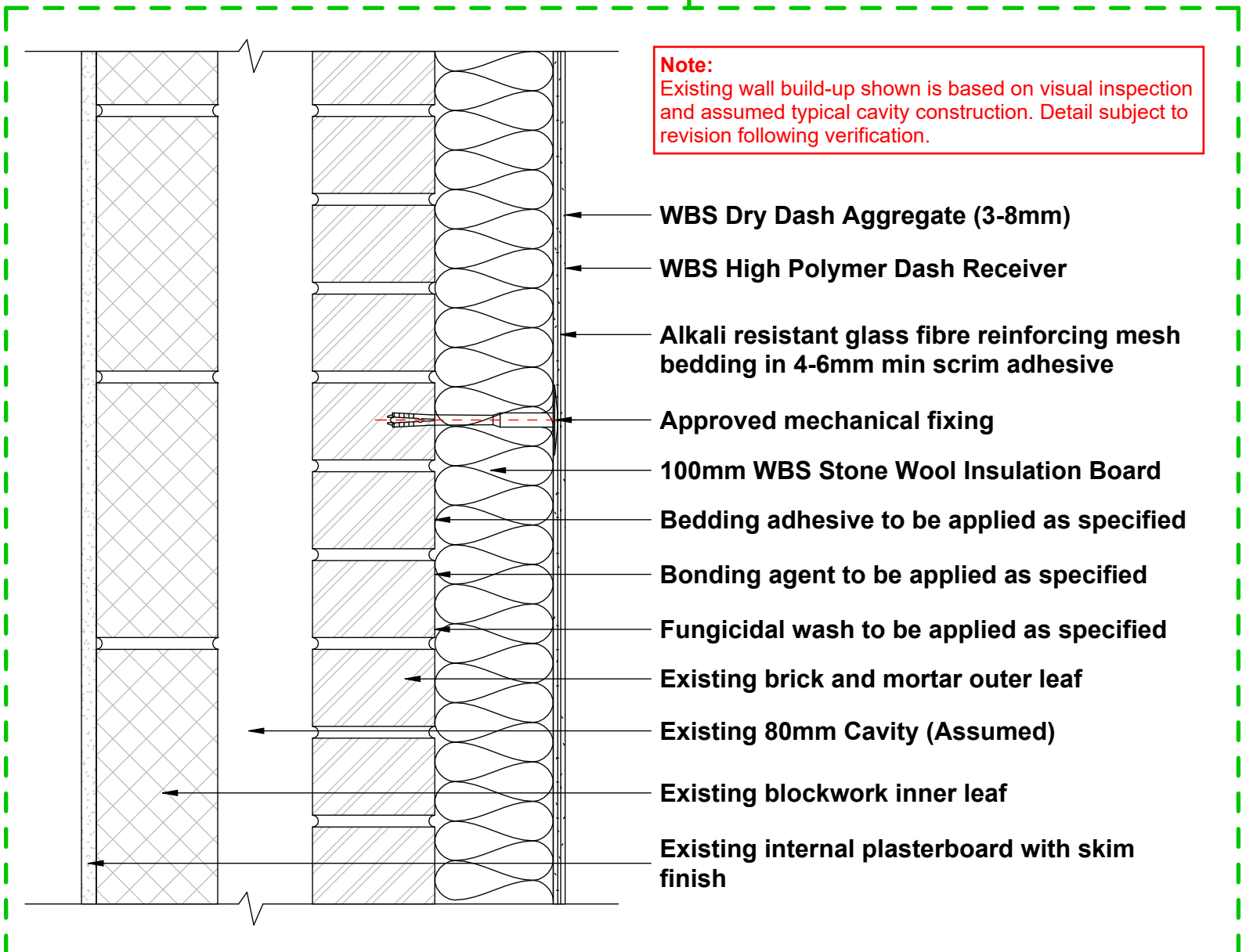
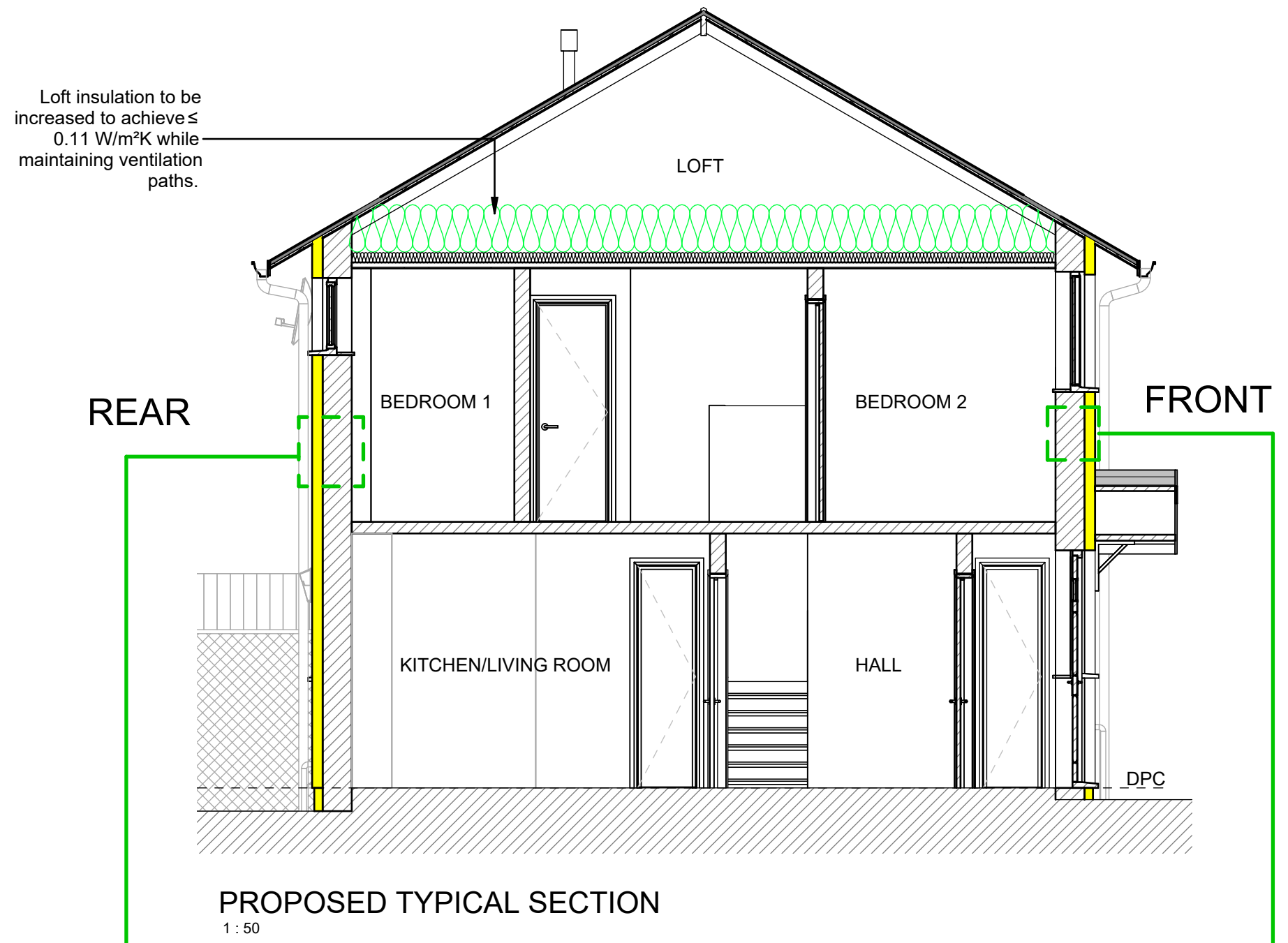
TITLE:
PROPOSED TYPICAL SECTION

DRAWN BY:	RJ	DATE:	2026.02.27
CHECKED BY:	TT	SITE AREA:	VARIABLES
SCALE (@ A1):	As indicated	ORIGINAL DRAWING SIZE	841mm x 594mm (A1)
DRAWING No:	2602-TG-PRO-(B)-D-A-303	REV.	P01

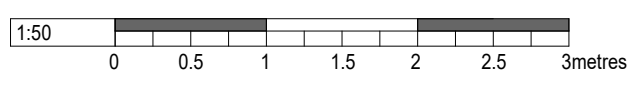
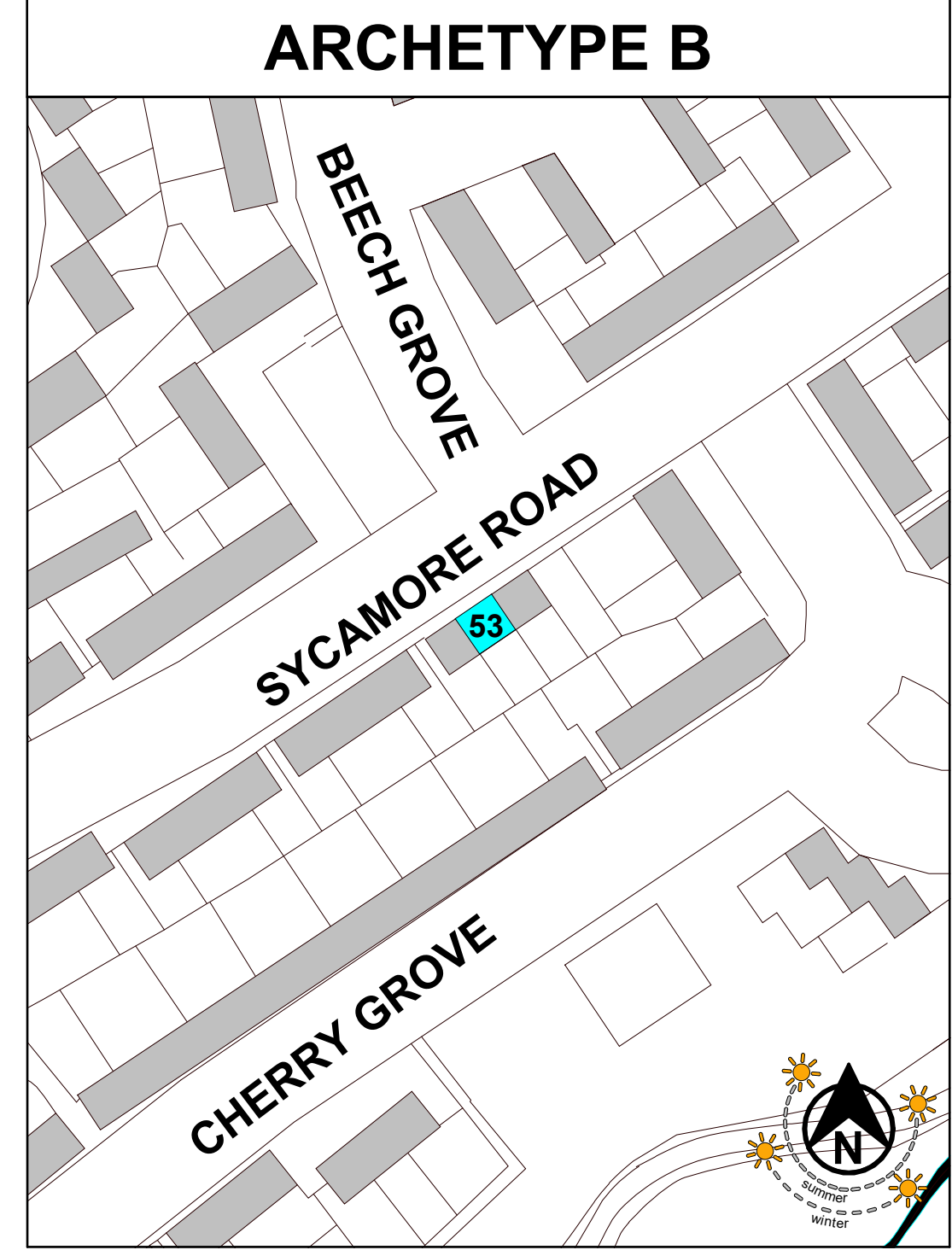
DRAWINGS BASED ON:
 TG MEASURED SURVEY : 2026/02/19
 TG RETROFIT ASSESSMENT : 2026/02/19
 TG STRUCTURAL ASSESSMENT : 2026/02/18

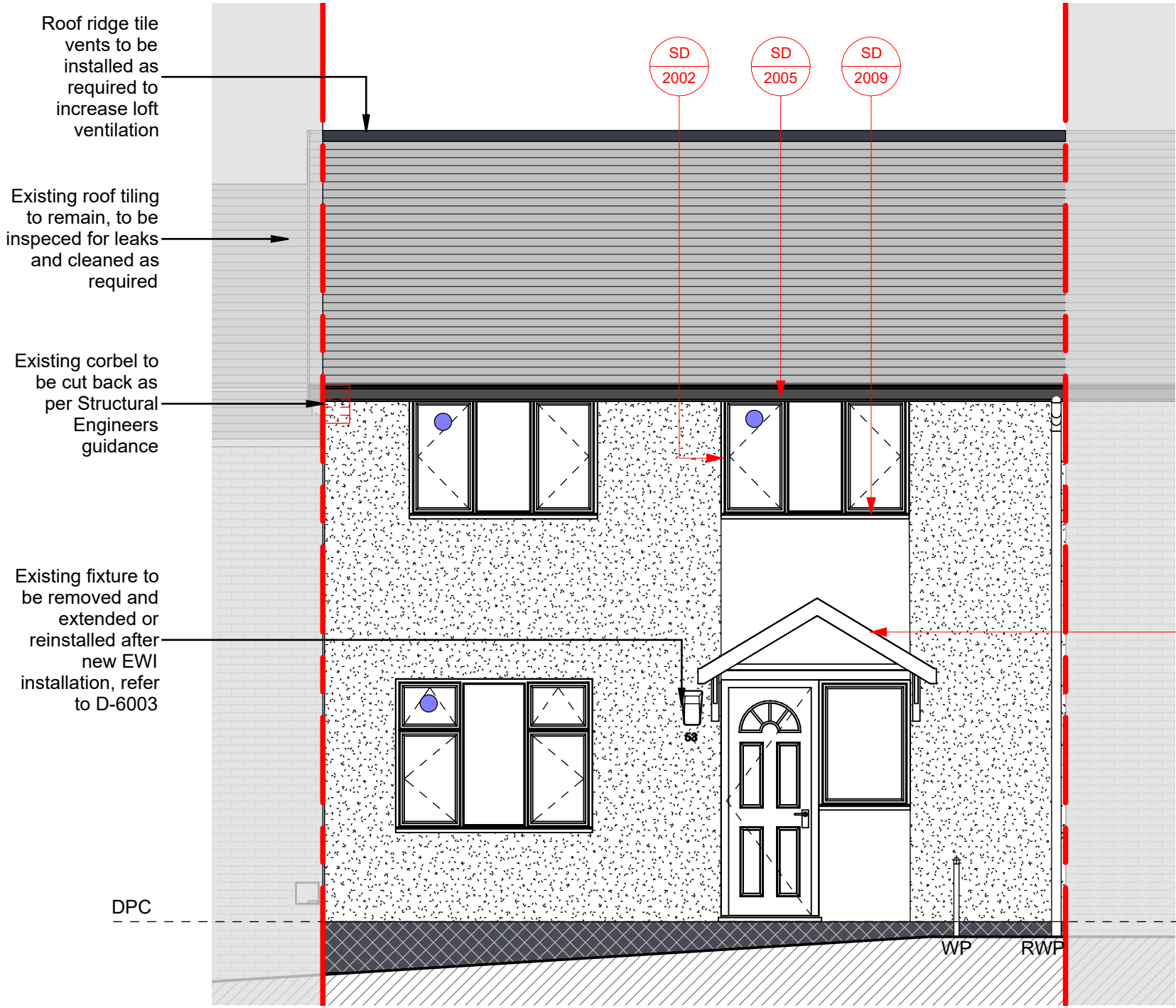
PROPOSED SCOPE OF WORKS:

- EXTERNAL WALL INSULATION (EWI)**
 - Install mineral wool External Wall Insulation system in accordance with manufacturer specification, certification and project detail drawings.
 - Provide 100mm stone wool insulation to masonry elevations with approved render or dash finish (colour to be confirmed by Client).
 - Provide approved insulation build-up to lightweight infill panel areas in accordance with system manufacturer guidance.
 - Achieve post-retrofit airtightness target of $\leq 10 \text{ m}^3/\text{h.m}^2 @50\text{Pa}$ or as required to meet project performance objectives.
 - Extend insulation minimum 150mm below DPC where specified, maintaining $\geq 150\text{mm}$ clearance between finished render and external ground level.
 - Provide base tracks, stop beads, movement joints, verge/base drips and service sleeves in accordance with system details.
 - Maintain insulation continuity and minimise thermal bridging at all interfaces including sills, reveals, eaves, verges, penetrations and roof abutments.
 - All fixings to be mechanically secured in accordance with manufacturer pull-out requirements.
 - Refix all external fixtures and services using approved thermally broken fixings.
- STRUCTURAL WORKS**
 - Complete associated building works to accommodate increased wall thickness including adjustments to thresholds, roof edges, services and projections.
 - Inspect all openings for adequate lintel provision prior to installation.
 - Structural Engineer to verify substrate condition, wall tie adequacy and load capacity before commencement of EWI works.
 - Implement any required remedial structural works prior to insulation installation.
 - Extract existing cavity insulation where required and confirm cavity condition suitable for EWI application.
 - Replace rainwater goods where required to suit new wall thickness.
 - Remove redundant passive vents and make good internally and externally.
- WINDOWS & GLAZING**
 - Retain existing windows.
 - Extend or replace window cills where required to achieve minimum 40mm projection beyond finished render face.
 - Form insulated reveals to maintain thermal continuity at window junctions.
 - Provide airtightness taping or sealing to window perimeters where required.
 - Ensure glazing safety compliance under Approved Document K is maintained.
- DOORS**
 - Retain existing external doors.
 - Adjust or extend thresholds where required to suit increased wall thickness.
 - Maintain access compliance with Approved Document M where applicable.
 - Maintain minimum 10mm internal door undercuts to facilitate air movement.
- FIRE SAFETY**
 - Install A1 non-combustible mineral wool EWI system.
 - Seal all service penetrations through EWI using appropriate fire-rated collars, sleeves or mineral wool stops where required.
 - Maintain separation distances to combustible materials in accordance with Approved Document B.
 - Install cavity barriers where required by system certification.
 - Ensure eaves and roof interfaces maintain fire integrity.
- ROOF**
 - Extend roof overhangs where required to accommodate new insulation thickness.
 - Replace soffits and fascias as required.
 - Increase loft insulation to achieve $U \leq 0.11 \text{ W/m}^2\text{K}$ while maintaining ventilation paths.
 - Install ridge ventilation where required to maintain adequate loft airflow.
 - Ensure roof works maintain weather protection and comply with manufacturer details.
- HEATING SYSTEM**
 - Extend boiler flue and associated services to suit increased wall thickness where required.
 - Adapt external pipework as necessary.
 - No change to primary heating system unless otherwise specified.
 - All works to comply with Gas Safe and manufacturer requirements.
- VENTILATION REQUIREMENTS**
 - Ventilation strategy to comply with Approved Document F and PAS 2035.
 - Provide continuous Mechanical Extract Ventilation to wet rooms where required.
 - Minimum extract rates to meet Approved Document F.
 - Provide 4000mm² equivalent area trickle vents to habitable rooms unless otherwise designed.
 - Maintain minimum 10mm internal door undercuts to facilitate cross-ventilation.
 - Remove redundant passive vents and make good openings.
 - Install ridge ventilation where required to maintain loft airflow.
 - Ventilation system to be commissioned, balanced and certified post-installation.
- EXTERNAL WORKS**
 - Maintain minimum 150mm clearance between finished ground level and DPC at all elevations.
 - Adjust ground levels locally where required to prevent DPC bridging.
 - Ensure paved and landscaped areas fall away from the building.
 - Install drainage channels where necessary to prevent surface water accumulation.
 - Protect EWI at service penetrations and downpipe brackets using approved fixings.
 - Maintain adequate roof and surface water drainage.
- GENERAL**
 - All works to be carried out by PAS 2030-certified installers under Principal Contractor RAMS.
 - All ventilation systems to be commissioned and certified.
 - Ensure paved and landscaped areas fall away from the building.
 - Asbestos refurbishment and demolition survey required prior to intrusive works.
 - Works to comply with PAS 2035, Building Regulations, CDM 2015 and all relevant Health and Safety legislation.
 - Photographic records to be maintained for quality assurance and TrustMark compliance.

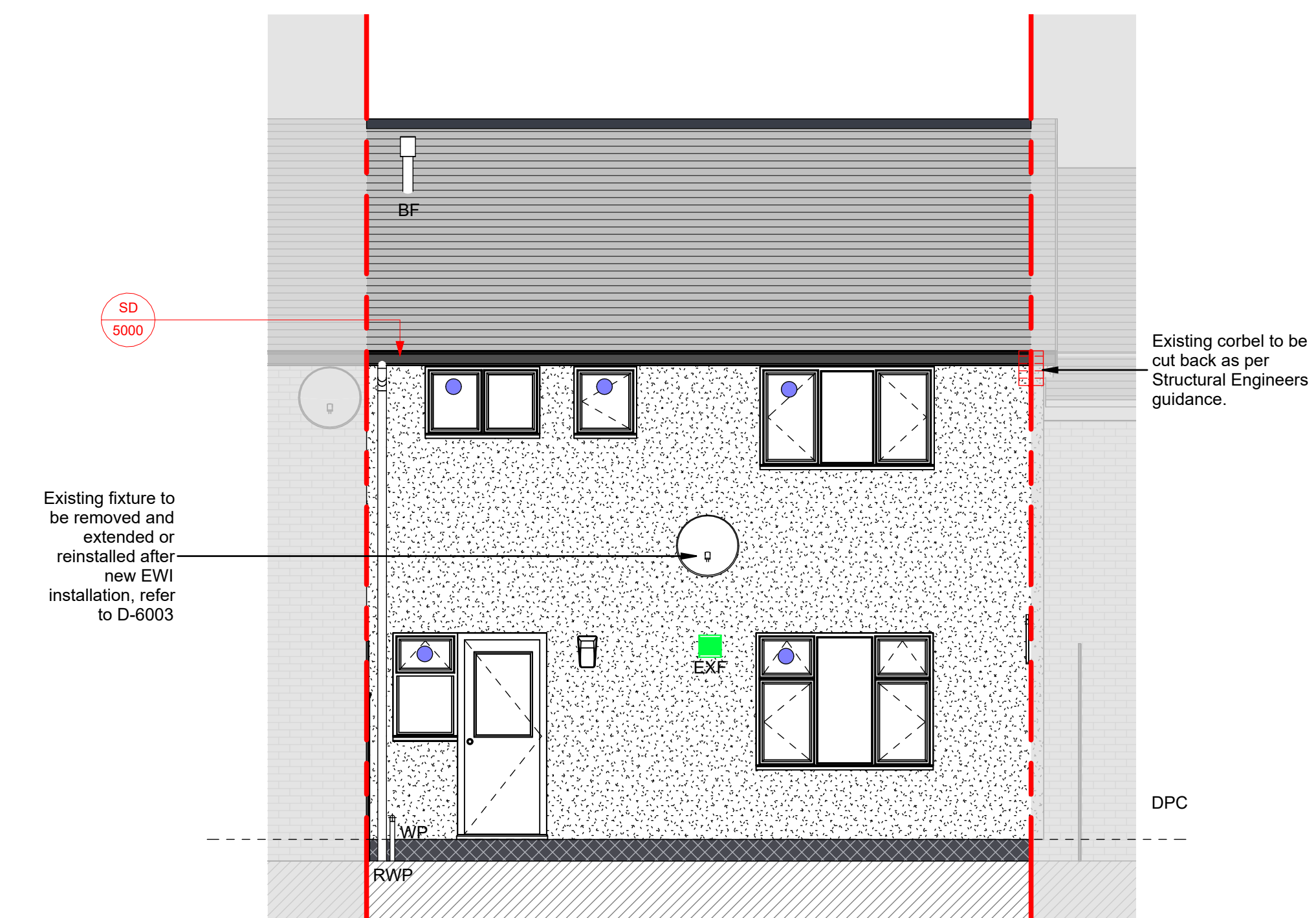


STRUCTURAL RISK ASSESSMENT			
SYMBOL	INITIAL RISK	RETROFIT DESIGN STRATEGIES	RESIDUAL RISK
	Medium	<ul style="list-style-type: none"> Existing masonry visually assessed as sound, structural verification was provided by TG. Substrate strength and fixing suitability must be confirmed by the Principal Contractor, any defects or instability remain their responsibility. Roof and wall junctions detailed for minimal load interaction, installation must follow TG details in full to maintain performance. 	Low

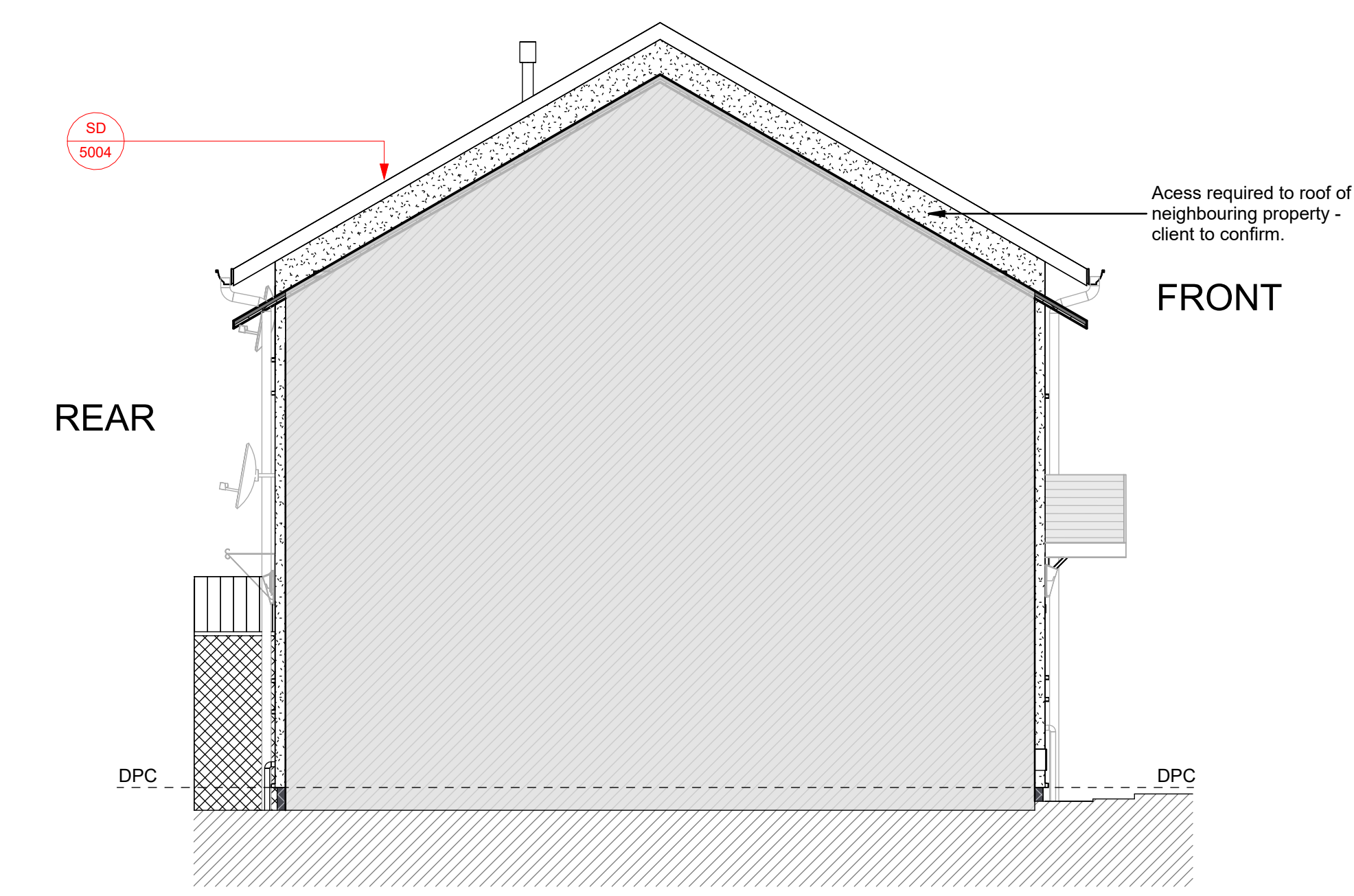




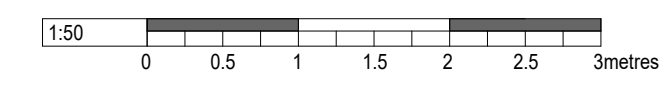
PROPOSED FRONT ELEVATION
1:50



PROPOSED REAR ELEVATION
1:50



PROPOSED SIDE ELEVATION
1:50

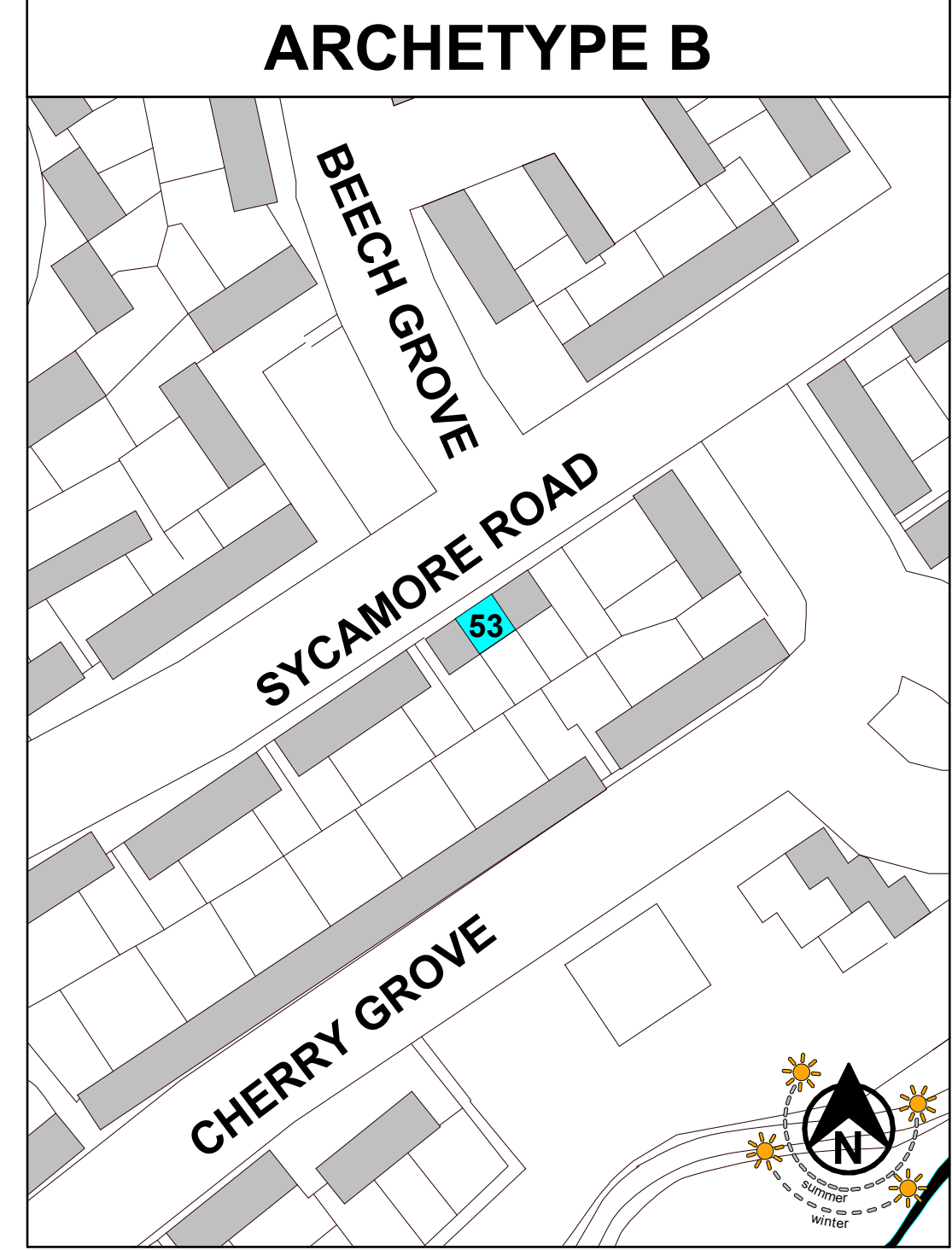


PAS PATHWAY RISK ASSESSMENT			
SYMBOL	INITIAL RISK	RETROFIT DESIGN STRATEGIES	RESIDUAL RISK
	High (C)	<ul style="list-style-type: none"> Project assessed as Path C due to full EWI retrofit across multi-dwelling blocks in severe exposure Zone 4. TG appointed post-planning stage - construction sequencing outside of TG's scope. Design coordination applies from point of TG appointment forward, with verification at pre-install and handover stages. 	Low (A)

DRAWINGS BASED ON:	
TG MEASURED SURVEY :	2026/02/19
TG RETROFIT ASSESSMENT :	2026/02/19
TG STRUCTURAL ASSESSMENT :	2026/02/18

PROPOSED SCOPE OF WORKS:

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 - Extend insulation minimum 150mm below DPC where specified, maintaining $\geq 150\text{mm}$ clearance between finished render and external ground level.
 - Provide base tracks, stop beads, movement joints, vergebase drips and service sleeves in accordance with system details.
 - Maintain insulation continuity and minimise thermal bridging at all interfaces including sills, reveals, eaves, verges, penetrations and roof abutments.
 - All fixings to be mechanically secured in accordance with manufacturer pull-out requirements.
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- STRUCTURAL WORKS**
 - Complete associated building works to accommodate increased wall thickness including adjustments to thresholds, roof edges, services and projections.
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 - Remove redundant passive vents and make good internally and externally.
- WINDOWS & GLAZING**
 - Retain existing windows.
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 - Form insulated reveals to maintain thermal continuity at window junctions.
 - Provide airtightness taping or sealing to window perimeters where required.
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- DOORS**
 - Retain existing external doors.
 - Adjust or extend thresholds where required to suit increased wall thickness.
 - Maintain access compliance with Approved Document M where applicable.
 - Maintain minimum 10mm internal door undercuts to facilitate air movement.
- FIRE SAFETY**
 - Install A1 non-combustible mineral wool EWI system.
 - Seal all service penetrations through EWI using appropriate fire-rated collars, sleeves or mineral wool stops where required.
 - Maintain separation distances to combustible materials in accordance with Approved Document B.
 - Install cavity barriers where required by system certification.
 - Ensure eaves and roof interfaces maintain fire integrity.
- ROOF**
 - Extend roof overhangs where required to accommodate new insulation thickness.
 - Replace soffits and fascias as required.
 - Increase loft insulation to achieve $U \leq 0.11 \text{ W/m}^2\text{K}$ while maintaining ventilation paths.
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- HEATING SYSTEM**
 - Extend boiler flue and associated services to suit increased wall thickness where required.
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 - All works to comply with Gas Safe and manufacturer requirements.
- VENTILATION REQUIREMENTS**
 - Ventilation strategy to comply with Approved Document F and PAS 2035.
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 - Minimum extract rates to meet Approved Document F.
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 - Remove redundant passive vents and make good openings.
 - Install ridge ventilation where required to maintain loft airflow.
 - Ventilation system to be commissioned, balanced and certified post-installation.
- EXTERNAL WORKS**
 - Maintain minimum 150mm clearance between finished ground level and DPC at all elevations.
 - Adjust ground levels locally where required to prevent DPC bridging.
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KEY LOCATION PLAN
1:1000

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION	
IN ADDITION TO THE NORMAL HAZARDS AND RISKS ASSOCIATED WITH THE WORKS, NOTE THE FOLLOWING SIGNIFICANT RESIDUAL RISKS Refer to Health & Safety Plan and Retrofit Risk Assessments.	
REQUIRED ACTION	Refer to Health & Safety Plan and Principal Contractor Method Statements.
RETROFIT DESIGN SIGN-OFF	
ROLE	Retrofit Coordinator
FULL NAME	Owen Wakefield
REG No.	STER760081 (Sterling)
REVIEW DATE	20046827 (RIBA), 099978D (ARB)
SIGNATURE	Joseph Earley
THIS DESIGN HAS HEREBY BEEN REVIEWED AND APPROVED IN ACCORDANCE WITH THE RISK MANAGEMENT AND COMPLIANCE PROCEDURES SET OUT IN PAS 2035:2023.	

DESIGN LIABILITY NOTICE
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KEY		
SYMBOL	DESCRIPTION	REF.
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B	Boiler to remain in place	
BF	Boiler Flue extended as required	SD-6008
DPC	Damp Proof Course	SD-1001/2
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SWP	New uPVC Soil Vent Pipe to be installed	SD-6007
T	Telecoms Box	SD-6003
TH	Thermostat	
WP	Water Pipe extended after new EWI installation	SD-6007
●	Existing Trickle Vents Present to remain	
●	Existing Trickle Vents Present to be sealed up	
---	Existing Party Wall/Boundary Line	

Note: For detail numbers referenced above, please refer to the EWI system manufacturer's standard detail pack (unless otherwise indicated).

LEGEND	
	New EWI below DPC as per approved specification, where DPC is <150mm above ground level.
	New EWI below DPC as per approved specification, where DPC is >150mm above ground level.
	New EWI system with pebble dash render as per approved specification.
	New EWI system with smooth render as per approved specification.
	Refer to Standard Detail

P01	2026.02.27	Initial Drawing Issue	RJ	TT
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REV	DATE	DESCRIPTION	BY	CHKD

INFORMATION

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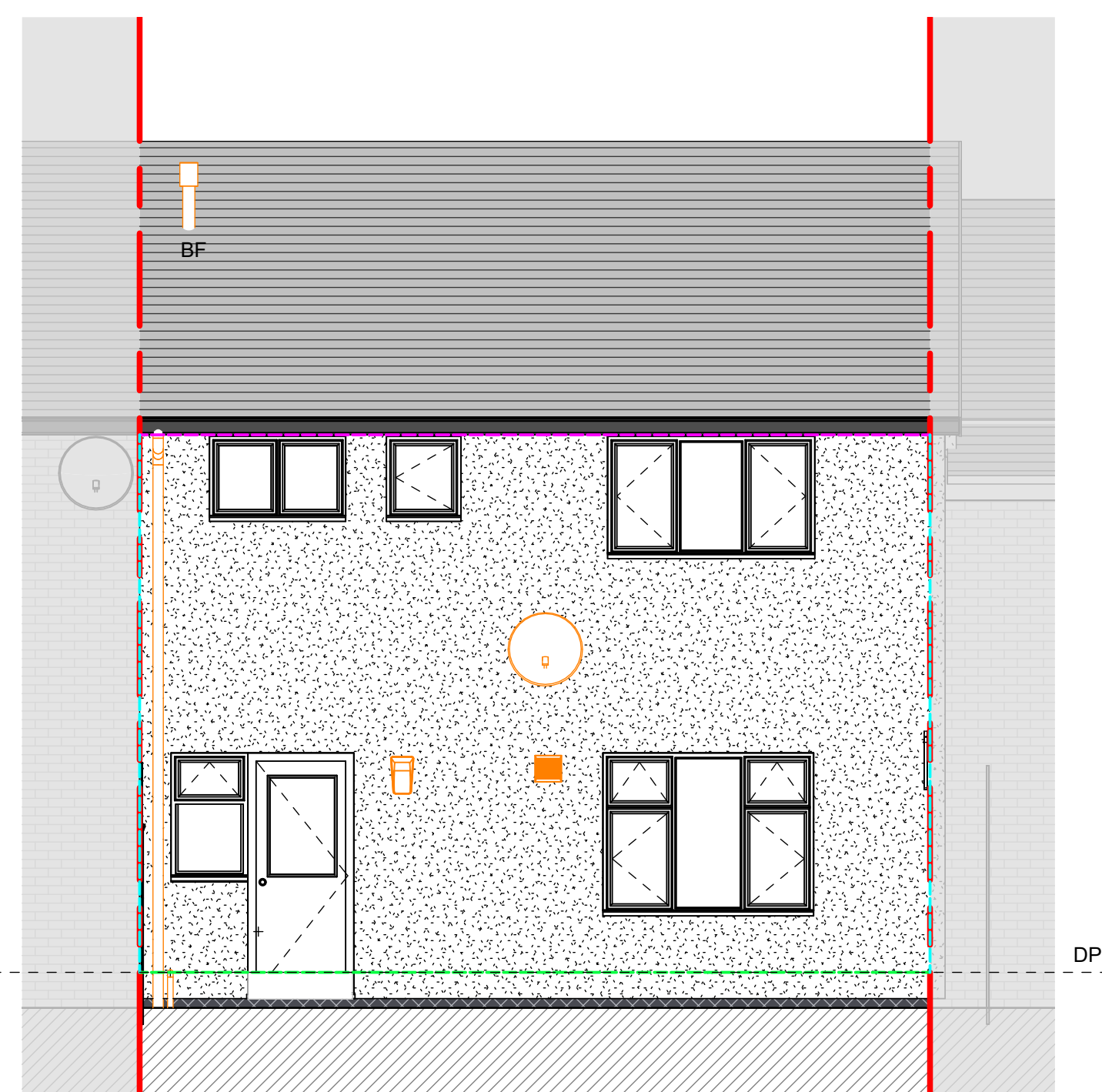
PROJECT
REFURBISHMENT & ENERGY EFFICIENCY WORKS TO 3 NR. PROPERTIES IN GURNOS & TREFECHAN (PILOT)

ADDRESS
**ARCHETYPE B
BASED ON:
53 SYCAMORE ROAD,
GURNOS,
CF47 9RU**

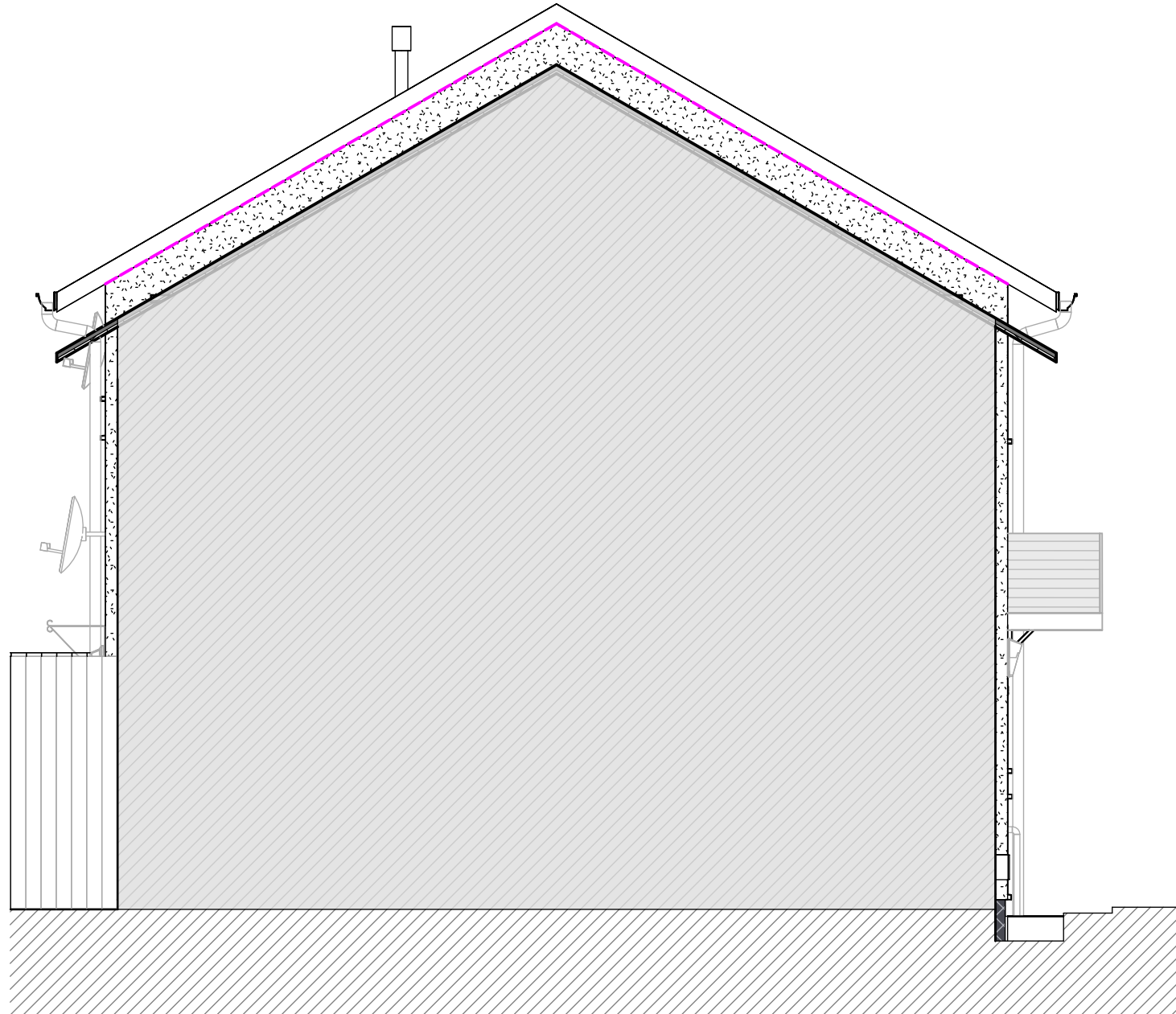
TITLE: PROPOSED ELEVATIONS			
DRAWN BY:	RJ	DATE:	2026.02.27
CHECKED BY:	TT	SITE AREA:	VARIES
SCALE (@ A1):	As indicated	ORIGINAL DRAWING SIZE	841mm x 594mm (A1)
DRAWING No:	2602-TG-PRO-(B)-D-A-304	REV.	P01



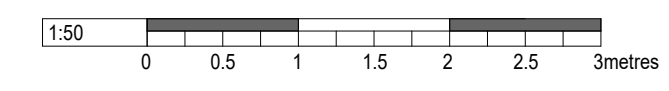
PROPOSED FRONT ELEVATION
1:50



PROPOSED REAR ELEVATION
1:50



PROPOSED SIDE ELEVATION
1:50



DRAWINGS BASED ON:
 TG MEASURED SURVEY : 2026/02/19
 TG RETROFIT ASSESSMENT : 2026/02/19
 TG STRUCTURAL ASSESSMENT : 2026/02/18

PROPOSED SCOPE OF WORKS:

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 - Install mineral wool External Wall Insulation system in accordance with manufacturer specification, certification and project detail drawings.
 - Provide 100mm stone wool insulation to masonry elevations with approved render or dash finish (colour to be confirmed by Client).
 - Provide approved insulation build-up to lightweight infill panel areas in accordance with system manufacturer guidance.
 - Achieve post-retrofit airtightness target of $\leq 10 \text{ m}^3/\text{h.m}^2 @50\text{Pa}$ or as required to meet project performance objectives.
 - Extend insulation minimum 150mm below DPC where specified, maintaining $\geq 150\text{mm}$ clearance between finished render and external ground level.
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- STRUCTURAL WORKS**
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 - Inspect all openings for adequate lintel provision prior to installation.
 - Structural Engineer to verify substrate condition, wall tie adequacy and load capacity before commencement of EWI works.
 - Implement any required remedial structural works prior to insulation installation.
 - Extract existing cavity insulation where required and confirm cavity condition suitable for EWI application.
 - Replace rainwater goods where required to suit new wall thickness.
 - Remove redundant passive vents and make good internally and externally.
- WINDOWS & GLAZING**
 - Retain existing windows.
 - Extend or replace window cills where required to achieve minimum 40mm projection beyond finished render face.
 - Form insulated reveals to maintain thermal continuity at window junctions.
 - Provide airtightness taping or sealing to window perimeters where required.
 - Ensure glazing safety compliance under Approved Document K is maintained.
- DOORS**
 - Retain existing external doors.
 - Adjust or extend thresholds where required to suit increased wall thickness.
 - Maintain access compliance with Approved Document M where applicable.
 - Maintain minimum 10mm internal door undercuts to facilitate air movement.
- FIRE SAFETY**
 - Install A1 non-combustible mineral wool EWI system.
 - Seal all service penetrations through EWI using appropriate fire-rated collars, sleeves or mineral wool stops where required.
 - Maintain separation distances to combustible materials in accordance with Approved Document B.
 - Install cavity barriers where required by system certification.
 - Ensure eaves and roof interfaces maintain fire integrity.
- ROOF**
 - Extend roof overhangs where required to accommodate new insulation thickness.
 - Replace soffits and fascias as required.
 - Increase loft insulation to achieve $U \leq 0.11 \text{ W/m}^2\text{K}$ while maintaining ventilation paths.
 - Install ridge ventilation where required to maintain adequate loft airflow.
 - Ensure roof works maintain weather protection and comply with manufacturer details.
- HEATING SYSTEM**
 - Extend boiler flue and associated services to suit increased wall thickness where required.
 - Adapt external pipework as necessary.
 - No change to primary heating system unless otherwise specified.
 - All works to comply with Gas Safe and manufacturer requirements.
- VENTILATION REQUIREMENTS**
 - Ventilation strategy to comply with Approved Document F and PAS 2035.
 - Provide continuous Mechanical Extract Ventilation to wet rooms where required.
 - Minimum extract rates to meet Approved Document F.
 - Provide 4000mm² equivalent area trickle vents to habitable rooms unless otherwise designed.
 - Maintain minimum 10mm internal door undercuts to facilitate cross-ventilation.
 - Remove redundant passive vents and make good openings.
 - Install ridge ventilation where required to maintain loft airflow.
 - Ventilation system to be commissioned, balanced and certified post-installation.
- EXTERNAL WORKS**
 - Maintain minimum 150mm clearance between finished ground level and DPC at all elevations.
 - Adjust ground levels locally where required to prevent DPC bridging.
 - Ensure paved and landscaped areas fall away from the building.
 - Install drainage channels where necessary to prevent surface water accumulation.
 - Protect EWI at service penetrations and downpipe brackets using approved fixings.
 - Maintain adequate roof and surface water drainage.
- GENERAL**
 - All works to be carried out by PAS 2030-certified installers under Principal Contractor RAMS.
 - All ventilation systems to be commissioned and certified.
 - Asbestos refurbishment and demolition survey required prior to intrusive works.
 - Works to comply with PAS 2035, Building Regulations, CDM 2015 and all relevant Health and Safety legislation.
 - Photographic records to be maintained for quality assurance and TrustMark compliance.

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REQUIRE ACTION		Refer to Health & Safety Plan and Principal Contractor Method Statements.
RETROFIT DESIGN SIGN-OFF		
ROLE	Retrofit Coordinator	Retrofit Designer
FULL NAME	Owen Wakefield	Joseph Earley
REG No.	STER760081 (Sterling)	20046827 (RIBA), 099978D (ARB)
REVIEW DATE		
SIGNATURE		

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ADDITIONAL NOTES
 THIS DRAWING FORMS PART OF A PILOT ARCHETYPE AND MAY APPLY TO ADDITIONAL PROPERTIES, SUBJECT TO CONFIRMATION OF APPLICABLE ADDRESSES.

KEY		
	EWI TOP TERMINATION At Verge At Eaves	See SD-5004 See SD-5000
	EWI BASE TERMINATION (AT DPC LEVEL) Where DPC >150mm above ground Where DPC <150mm above ground XPS plinth below as per detail	See SD-1001 See SD-1002
	EWI VERTICAL TERMINATION	See SD-3002 See SD-3003
	SERVICE PENETRATIONS SVP RWP Extract Vent Flue Gas Pipe Airbrick Powerblock Tap	See SD-6007 See SD-6005 See SD-6010 See SD-6008 See SD-6009 See SD-6003 See SD-6007
	JUNCTIONS Party Wall Stop Property Boundary Junctions External Corner Internal Corner	See SD-3003 See SD-3002 See SD-3000 See SD-3001

REV	DATE	DESCRIPTION	BY	CHKD
P01	2026.02.27	Initial Drawing Issue	RJ	TT

INFORMATION

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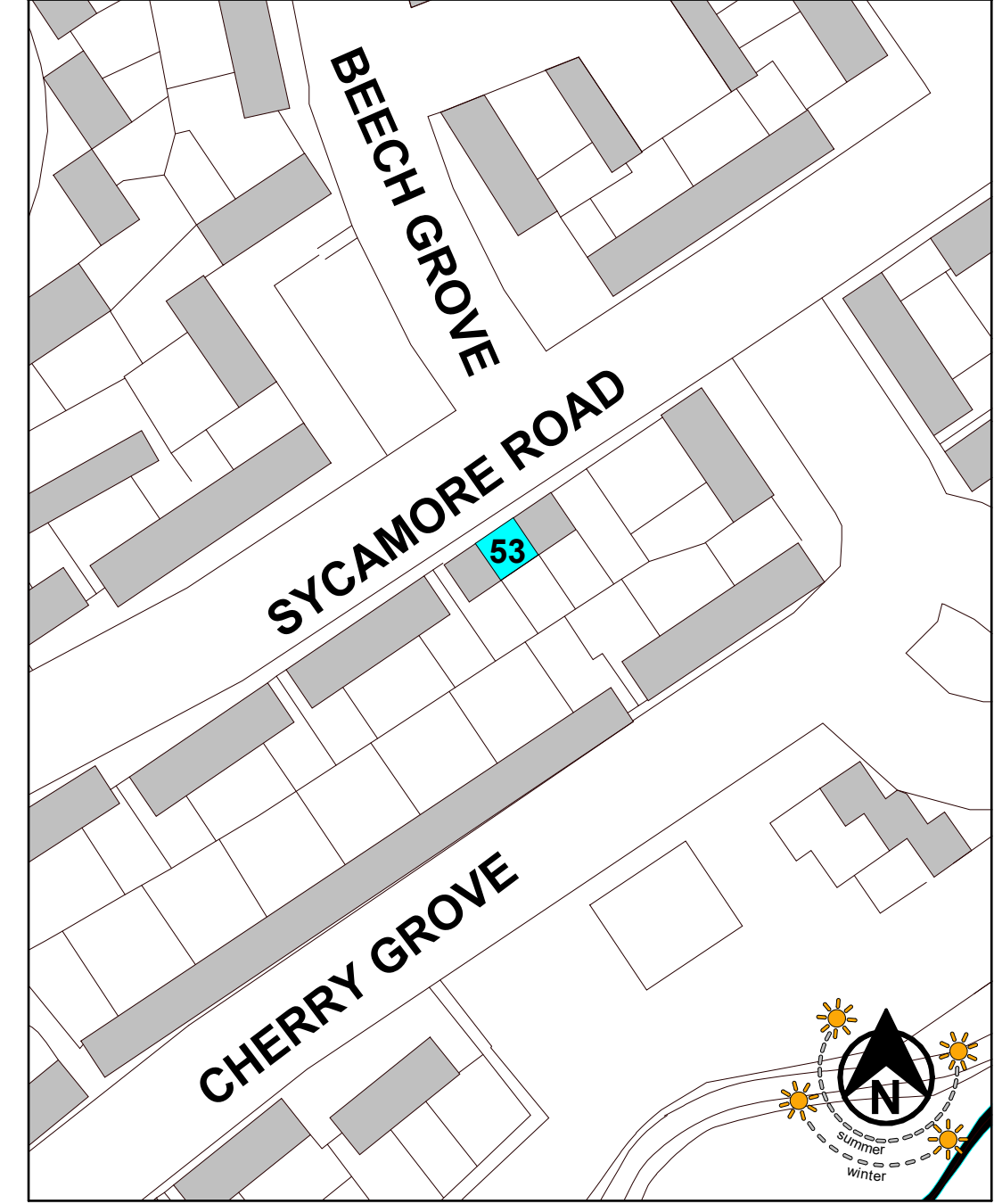


PROJECT
REFURBISHMENT & ENERGY EFFICIENCY WORKS TO 3 NR. PROPERTIES IN GURNOS & TREFECHAN (PILOT)

ADDRESS
**ARCHETYPE B BASED ON:
 53 SYCAMORE ROAD,
 GURNOS,
 CF47 9RU**

TITLE: PROPOSED FIRE SAFETY LAYOUT	DRAWN BY: RJ	DATE: 2026.02.27
CHECKED BY: TT	SITE AREA: VARIES	
SCALE (@ A1): As indicated	ORIGINAL DRAWING SIZE: 841mm x 594mm (A1)	
DRAWING No: 2602-TG-PRO-(B)-D-A-305	REV: P01	

ARCHETYPE B



KEY LOCATION PLAN
1: 1000

FIRE SAFETY RISK ASSESSMENT			
SYMBOL	INITIAL RISK	RETROFIT DESIGN STRATEGIES	RESIDUAL RISK
	Low	<ul style="list-style-type: none"> Full A1 mineral wool EWI façade (non-combustible), no firebreaks required. All service penetrations sealed with fire-rated collars and render sleeves. uPVC eaves and verges isolated from EWI with stop beads and mineral wool fire stops. LD3 alarms assumed within dwellings; confirmation required before start. 	Low

THERMAL PERFORMANCE RISK ASSESSMENT			
SYMBOL	INITIAL RISK	RETROFIT DESIGN STRATEGIES	RESIDUAL RISK
	High	<ul style="list-style-type: none"> A1-rated mineral wool EWI provides continuous insulation and thermal balance. Certified ψ-values referenced; all junctions designed to maintain $R_{si} \geq 0.75$. Stop beads and insulated returns at openings ensure continuity. System installed by PAS 2030-approved contractors under manufacturer O&A. Detailing verified through site inspection and photo record. Fixing suitability and load paths must be confirmed by the Contractor where pre-install checks were not completed. 	Low

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

IN ADDITION TO THE NORMAL HAZARDS AND RISKS ASSOCIATED WITH THE WORKS, NOTE THE FOLLOWING:
 SIGNIFICANT RESIDUAL RISKS Refer to Health & Safety Plan and Retrofit Risk Assessments.
 REQUIRED ACTION Refer to Health & Safety Plan and Principal Contractor Method Statements.

RETROFIT DESIGN SIGN-OFF		
ROLE	Retrofit Coordinator	Retrofit Designer
FULL NAME	Owen Wakefield	Joseph Earley
REG No.	STER760081 (Sterling)	20046827 (RIBA), 099978D (ARB)
REVIEW DATE		
SIGNATURE		

THIS DESIGN HAS HEREBY BEEN REVIEWED AND APPROVED IN ACCORDANCE WITH THE RISK MANAGEMENT AND COMPLIANCE PROCEDURES SET OUT IN PAS 2035:2023.
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ADDITIONAL NOTES
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KEY		
SYMBOL	DESCRIPTION	REF.
AB	Existing airbrick/wall vent to be blocked up (where trickle vents present) as part of ventilation strategy	
B	Boiler to remain in place	
BF	Boiler Flue extended as required	SD-6008
DPC	Damp Proof Course	SD-1001/2
E	Electric Meter to remain in place	
EFP	Electric Fire Place	
EXF	Existing extract fan to be replaced / new extract fan installed as per ventilation strategy	SD-6010
FFL	Finished Floor Level	
G	Gas Meter box to be removed and replaced by Wales & West Utilities	SD-6002
GP	Gas Pipe extended after new EWI installation	SD-6009
HWC	Hot Water Cylinder	
LH	Loft Access Hatch	
MH	Man Hole Cover	
PV	Existing Solar Photovoltaics to remain in place	
RAD	Radiator	
RWP	New uPVC Rainwater Pipe to be installed	SD-6005
SVP	New uPVC Soil Vent Pipe to be installed	SD-6007
T	Telecoms Box	SD-6003
TH	Thermostat	
WP	Water Pipe extended after new EWI installation	SD-6007
●	Existing Trickle Vents Present to remain	
●	Existing Trickle Vents Present to be sealed up	
---	Existing Party Wall/Boundary Line	

Note: For detail numbers referenced above, please refer to the EWI system manufacturer's standard detail pack (unless otherwise indicated).

LEGEND	
	Roof Extension as per details SD-521 & SD-522
	New mechanical extractor fan, as per approved specification.
	Refer to Standard Detail

P01	2026.02.27	Initial Drawing Issue	RJ	TT
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REV	DATE	DESCRIPTION	BY	CHKD
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INFORMATION

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PROJECT
REFURBISHMENT & ENERGY EFFICIENCY WORKS TO 3 NR. PROPERTIES IN GURNOS & TREFECHAN (PILOT)

ADDRESS
**ARCHETYPE B
 BASED ON:
 53 SYCAMORE ROAD,
 GURNOS,
 CF47 9RU**

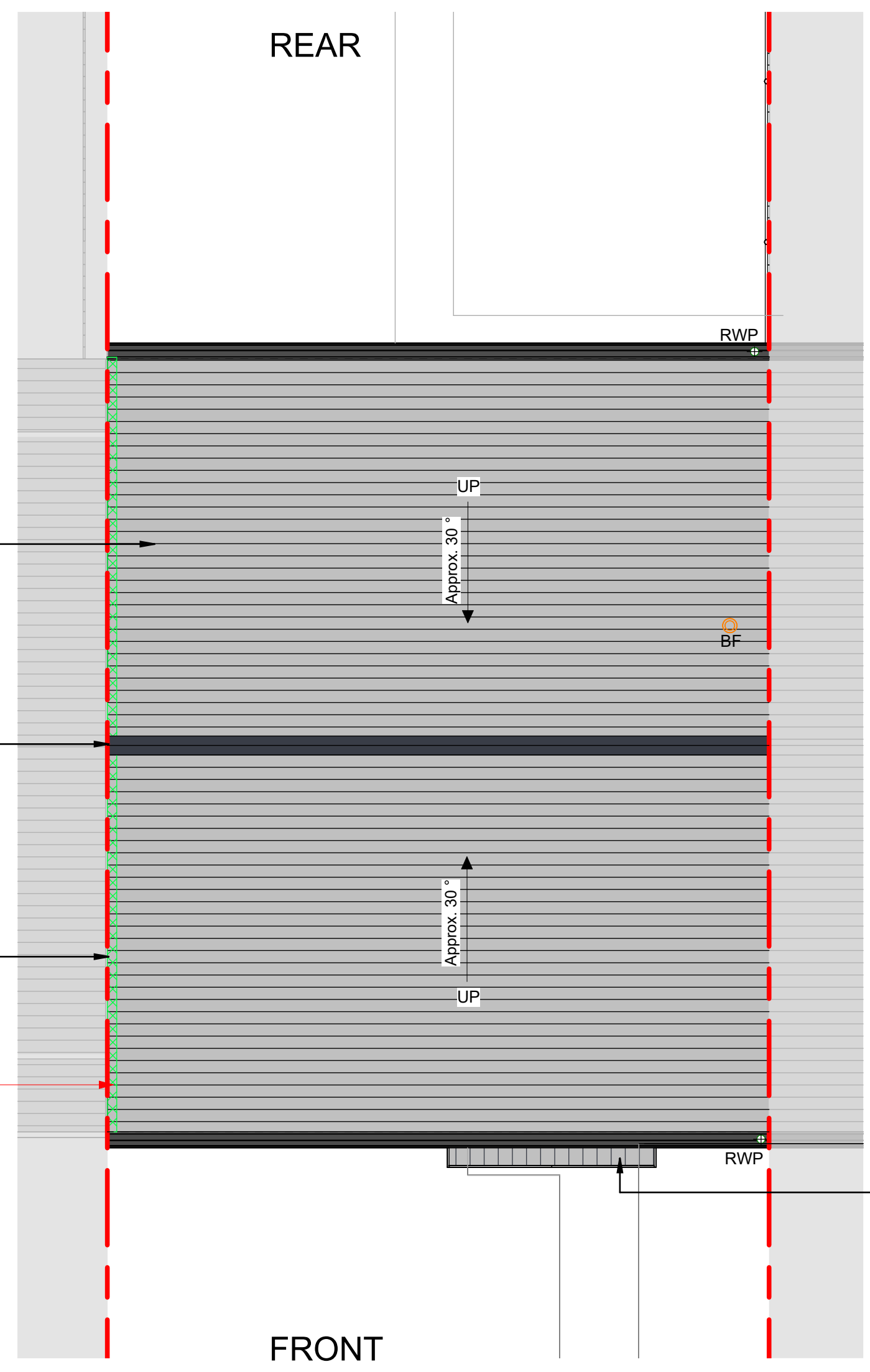
TITLE:
PROPOSED ROOF PLAN & 3D VIEW

DRAWN BY:	RJ	DATE:	2026.02.27
CHECKED BY:	TT	SITE AREA:	VARIES
SCALE (@ A1):	As indicated	ORIGINAL DRAWING SIZE	841mm x 594mm (A1)
DRAWING No:	2602-TG-PRO-(B)-D-A-306	REV.	P01

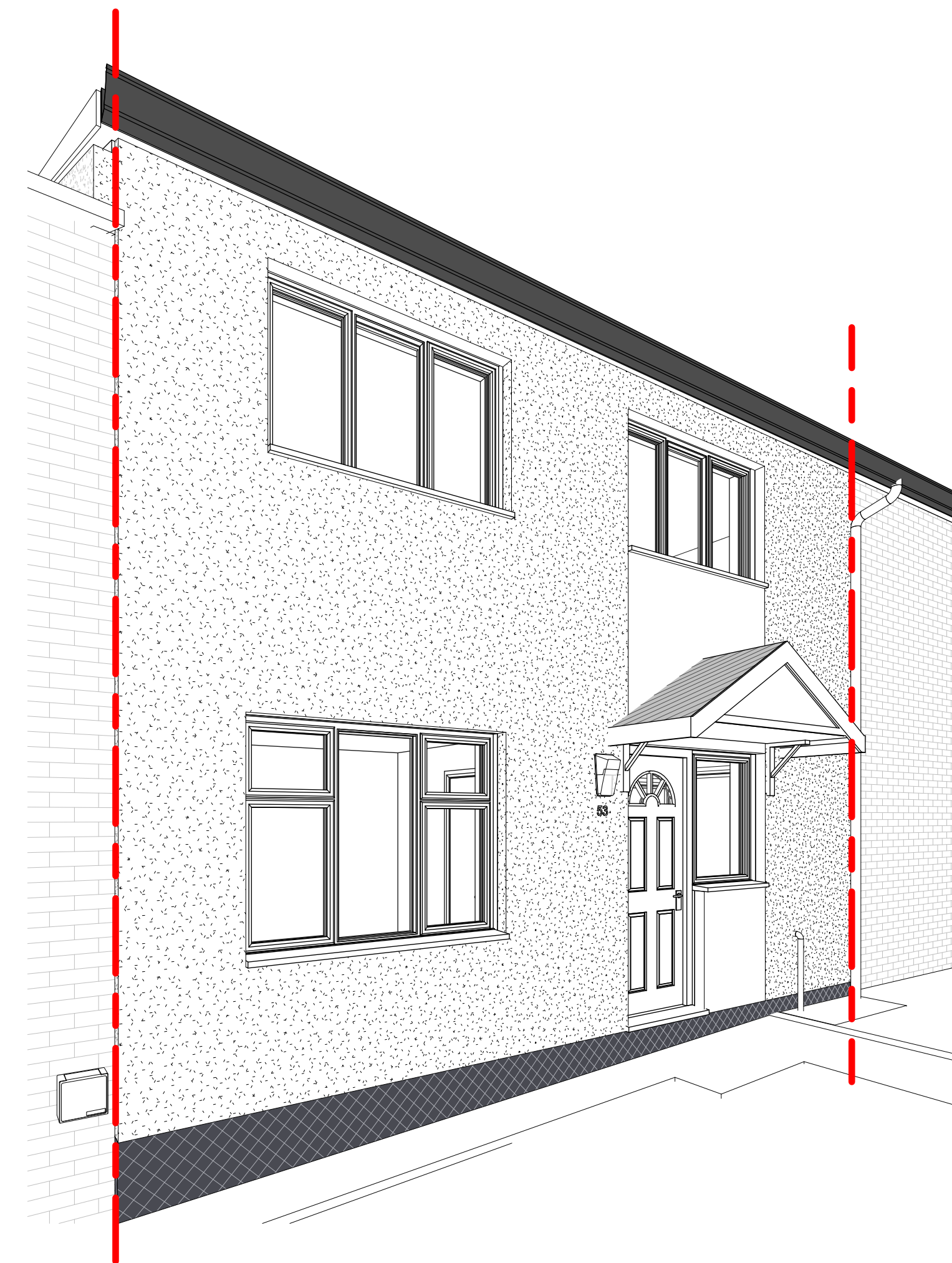
DRAWINGS BASED ON:
 TG MEASURED SURVEY : 2026/02/19
 TG RETROFIT ASSESSMENT : 2026/02/19
 TG STRUCTURAL ASSESSMENT : 2026/02/18

PROPOSED SCOPE OF WORKS:

- EXTERNAL WALL INSULATION (EWI)**
 - Install mineral wool External Wall Insulation system in accordance with manufacturer specification, certification and project detail drawings.
 - Provide 100mm stone wool insulation to masonry elevations with approved render or dash finish (colour to be confirmed by Client).
 - Provide approved insulation build-up to lightweight infill panel areas in accordance with system manufacturer guidance.
 - Achieve post-retrofit airtightness target of $\leq 10 \text{ m}^3/\text{h.m}^2 @50\text{Pa}$ or as required to meet project performance objectives.
 - Extend insulation minimum 150mm below DPC where specified, maintaining $\geq 150\text{mm}$ clearance between finished render and external ground level.
 - Provide base tracks, slop beads, movement joints, verge/base drips and service sleeves in accordance with system details.
 - Maintain insulation continuity and minimise thermal bridging at all interfaces including sills, reveals, eaves, verges, penetrations and roof abutments.
 - All fixings to be mechanically secured in accordance with manufacturer pull-out requirements.
 - Refix all external fixtures and services using approved thermally broken fixings.
- STRUCTURAL WORKS**
 - Complete associated building works to accommodate increased wall thickness including adjustments to thresholds, roof edges, services and projections.
 - Inspect all openings for adequate lintel provision prior to installation.
 - Structural Engineer to verify substrate condition, wall tie adequacy and load capacity before commencement of EWI works.
 - Implement any required remedial structural works prior to insulation installation.
 - Extract existing cavity insulation where required and confirm cavity condition suitable for EWI application.
 - Replace rainwater goods where required to suit new wall thickness.
 - Remove redundant passive vents and make good internally and externally.
- WINDOWS & GLAZING**
 - Retain existing windows.
 - Extend or replace window cills where required to achieve minimum 40mm projection beyond finished render face.
 - Form insulated reveals to maintain thermal continuity at window junctions.
 - Provide airtightness taping or sealing to window perimeters where required.
 - Ensure glazing safety compliance under Approved Document K is maintained.
- DOORS**
 - Retain existing external doors.
 - Adjust or extend thresholds where required to suit increased wall thickness.
 - Maintain access compliance with Approved Document M where applicable.
 - Maintain minimum 10mm internal door undercuts to facilitate air movement.
- FIRE SAFETY**
 - Install A1 non-combustible mineral wool EWI system.
 - Seal all service penetrations through EWI using appropriate fire-rated collars, sleeves or mineral wool stops where required.
 - Maintain separation distances to combustible materials in accordance with Approved Document B.
 - Install cavity barriers where required by system certification.
 - Ensure eaves and roof interfaces maintain fire integrity.
- ROOF**
 - Extend roof overhangs where required to accommodate new insulation thickness.
 - Replace soffits and fascias as required.
 - Increase loft insulation to achieve $U \leq 0.11 \text{ W/m}^2\text{K}$ while maintaining ventilation paths.
 - Install ridge ventilation where required to maintain adequate loft airflow.
 - Ensure roof works maintain weather protection and comply with manufacturer details.
- HEATING SYSTEM**
 - Extend boiler flue and associated services to suit increased wall thickness where required.
 - Adapt external pipework as necessary.
 - No change to primary heating system unless otherwise specified.
 - All works to comply with Gas Safe and manufacturer requirements.
- VENTILATION REQUIREMENTS**
 - Ventilation strategy to comply with Approved Document F and PAS 2035.
 - Provide continuous Mechanical Extract Ventilation to wet rooms where required.
 - Minimum extract rates to meet Approved Document F.
 - Provide 4000mm² equivalent area trickle vents to habitable rooms unless otherwise designed.
 - Maintain minimum 10mm internal door undercuts to facilitate cross-ventilation.
 - Remove redundant passive vents and make good openings.
 - Install ridge ventilation where required to maintain loft airflow.
 - Ventilation system to be commissioned, balanced and certified post-installation.
- EXTERNAL WORKS**
 - Maintain minimum 150mm clearance between finished ground level and DPC at all elevations.
 - Adjust ground levels locally where required to prevent DPC bridging.
 - Ensure paved and landscaped areas fall away from the building.
 - Install drainage channels where necessary to prevent surface water accumulation.
 - Protect EWI at service penetrations and downpipe brackets using approved fixings.
 - Maintain adequate roof and surface water drainage.
- GENERAL**
 - All works to be carried out by PAS 2030-certified installers under Principal Contractor RAMS.
 - All ventilation systems to be commissioned and certified.
 - Asbestos refurbishment and demolition survey required prior to intrusive works.
 - Works to comply with PAS 2035, Building Regulations, CDM 2015 and all relevant Health and Safety legislation.
 - Photographic records to be maintained for quality assurance and TrustMark compliance.

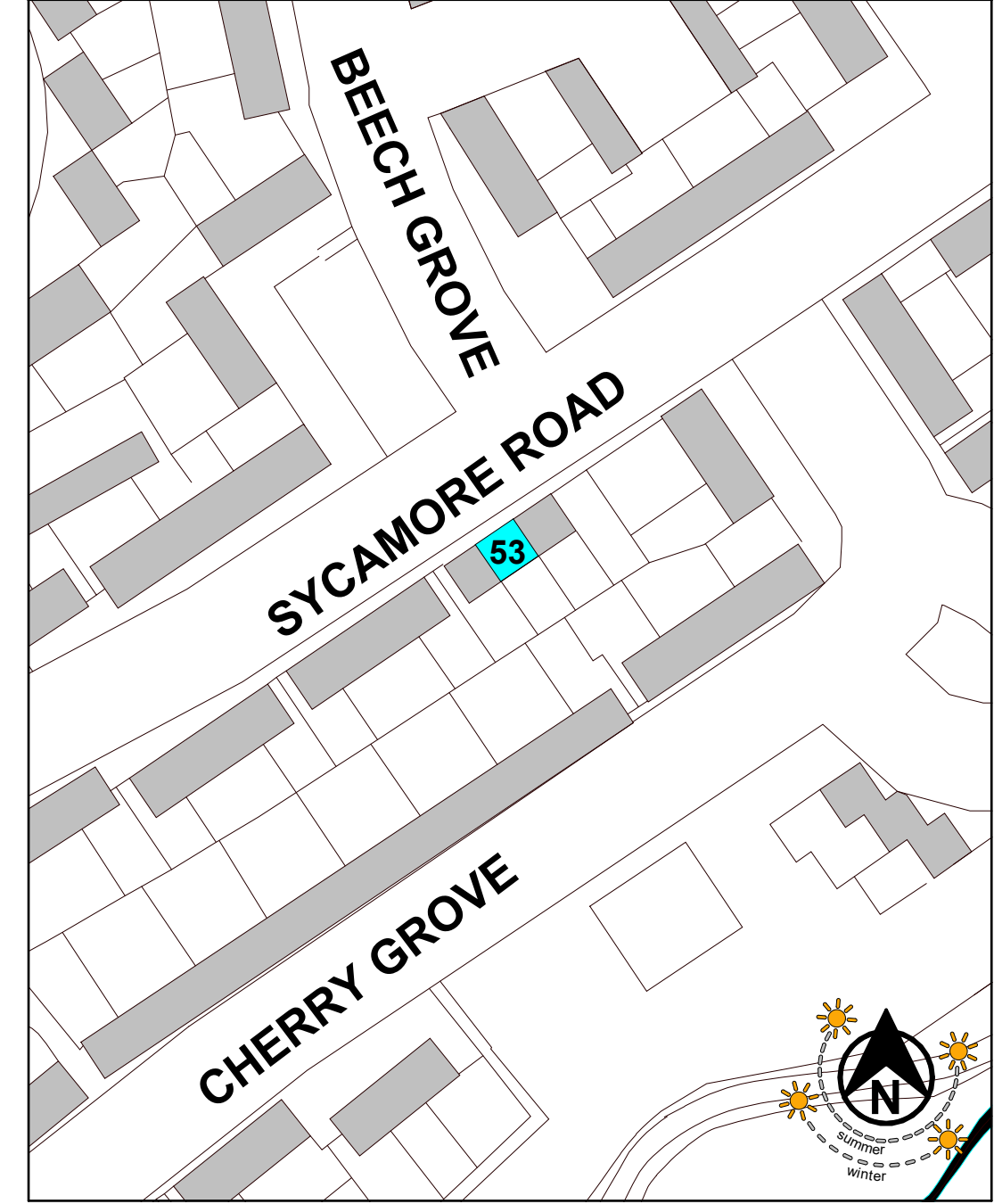


PROPOSED ROOF PLAN
 1:50

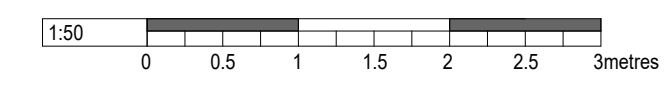


PROPOSED PERSPECTIVE VIEW

ARCHETYPE B



KEY LOCATION PLAN
 1: 1000



DRAWINGS BASED ON:

TG MEASURED SURVEY : 2026/02/19
 TG RETROFIT ASSESSMENT : 2026/02/19
 TG STRUCTURAL ASSESSMENT : 2026/02/18

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 - Provide approved insulation built-up to lightweight infill panel areas in accordance with system manufacturer guidance.
 - Achieve post-retrofit airtightness target of $\leq 10 \text{ m}^3/\text{h.m}^2 @50\text{Pa}$ or as required to meet project performance objectives.
 - Extend insulation minimum 150mm below DPC where specified, maintaining $\geq 150\text{mm}$ clearance between finished render and external ground level.
 - Provide base tracks, stop beads, movement joints, verge/base drips and service sleeves in accordance with system details.
 - Maintain insulation continuity and minimise thermal bridging at all interfaces including sills, reveals, eaves, verges, penetrations and roof abutments.
 - All fixings to be mechanically secured in accordance with manufacturer pull-out requirements.
 - Refix all external fixtures and services using approved thermally broken fixings.
- STRUCTURAL WORKS**
 - Complete associated building works to accommodate increased wall thickness including adjustments to thresholds, roof edges, services and projections.
 - Inspect all openings for adequate lintel provision prior to installation.
 - Structural Engineer to verify substrate condition, wall tie adequacy and load capacity before commencement of EWI works.
 - Implement any required remedial structural works prior to insulation installation.
 - Extract existing cavity insulation where required and confirm cavity condition suitable for EWI application.
 - Replace rainwater goods where required to suit new wall thickness.
 - Remove redundant passive vents and make good internally and externally.
- WINDOWS & GLAZING**
 - Retain existing windows.
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 - Form insulated reveals to maintain thermal continuity at window junctions.
 - Provide airtightness taping or sealing to window perimeters where required.
 - Ensure glazing safety compliance under Approved Document K is maintained.
- DOORS**
 - Retain existing external doors.
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 - Maintain access compliance with Approved Document M where applicable.
 - Maintain minimum 10mm internal door undercuts to facilitate air movement.
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 - Install A1 non-combustible mineral wool EWI system.
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 - Maintain separation distances to combustible materials in accordance with Approved Document B.
 - Install cavity barriers where required by system certification.
 - Ensure eaves and roof interfaces maintain fire integrity.
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 - Extend roof overhangs where required to accommodate new insulation thickness.
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 - Ensure roof works maintain weather protection and comply with manufacturer details.
- HEATING SYSTEM**
 - Extend boiler flue and associated services to suit increased wall thickness where required.
 - Adapt external pipework as necessary.
 - No change to primary heating system unless otherwise specified.
 - All works to comply with Gas Safe and manufacturer requirements.
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 - Ventilation system to be commissioned, balanced and certified post-installation.
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 - Install drainage channels where necessary to prevent surface water accumulation.
 - Protect EWI at service penetrations and downpipe brackets using approved fixings.
 - Maintain adequate roof and surface water drainage.
- GENERAL**
 - All works to be carried out by PAS 2030-certified installers under Principal Contractor RAMS.
 - All ventilation systems to be commissioned and certified.
 - Asbestos refurbishment and demolition survey required prior to intrusive works.
 - Works to comply with PAS 2035, Building Regulations, CDM 2015 and all relevant Health and Safety legislation.
 - Photographic records to be maintained for quality assurance and TrustMark compliance.

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

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REQUIRED ACTION Refer to Health & Safety Plan and Principal Contractor Method Statements.

RETROFIT DESIGN SIGN-OFF

ROLE	Retrofit Coordinator	Retrofit Designer
FULL NAME	Owen Wakefield	Joseph Earley
REG No.	STER760081 (Sterling)	20046827 (RIBA), 099978D (ARB)
REVIEW DATE		
SIGNATURE		

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KEY

SYMBOL	DESCRIPTION	REF.
AB	Existing airbrick/wall vent to be blocked up (where trickle vents present) as part of ventilation strategy	
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BF	Boiler Flue extended as required	SD-6008
DPC	Damp Proof Course	SD-1001/2
E	Electric Meter to remain in place	
EFP	Electric Fire Place	
EXF	Existing extract fan to be replaced / new extract fan installed as per ventilation strategy	SD-6010
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G	Gas Meter box to be removed and replaced by Wales & West Utilities	SD-6002
GP	Gas Pipe extended after new EWI installation	SD-6009
HWC	Hot Water Cylinder	
LH	Loft Access Hatch	
MH	Man Hole Cover	
PV	Existing Solar Photovoltaics to remain in place	
RAD	Radiator	
RWP	New uPVC Rainwater Pipe to be installed	SD-6005
SNV	New uPVC Soil Vent Pipe to be installed	SD-6007
T	Telecoms Box	SD-6003
TH	Thermostat	
WP	Water Pipe extended after new EWI installation	SD-6007
●	Existing Trickle Vents Present to remain	
●	Existing Trickle Vents Present to be sealed up	
---	Existing Party Wall/Boundary Line	

Note: For detail numbers referenced above, please refer to the EWI system manufacturer's standard detail pack (unless otherwise indicated).

LEGEND

	Existing Walls
	New External Wall Insulation, as per approved specification.
	New Path Reinstatement (min. 900mm where possible)
	ACO Channel drain as required
	Refer to Standard Detail

P01 2026.02.27 Initial Drawing Issue RJ TT

REV	DATE	DESCRIPTION	BY	CHKD

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DESIGNER



PROJECT

REFURBISHMENT & ENERGY EFFICIENCY WORKS TO 3 NR. PROPERTIES IN GURNOS & TREFECHAN (PILOT)

ADDRESS

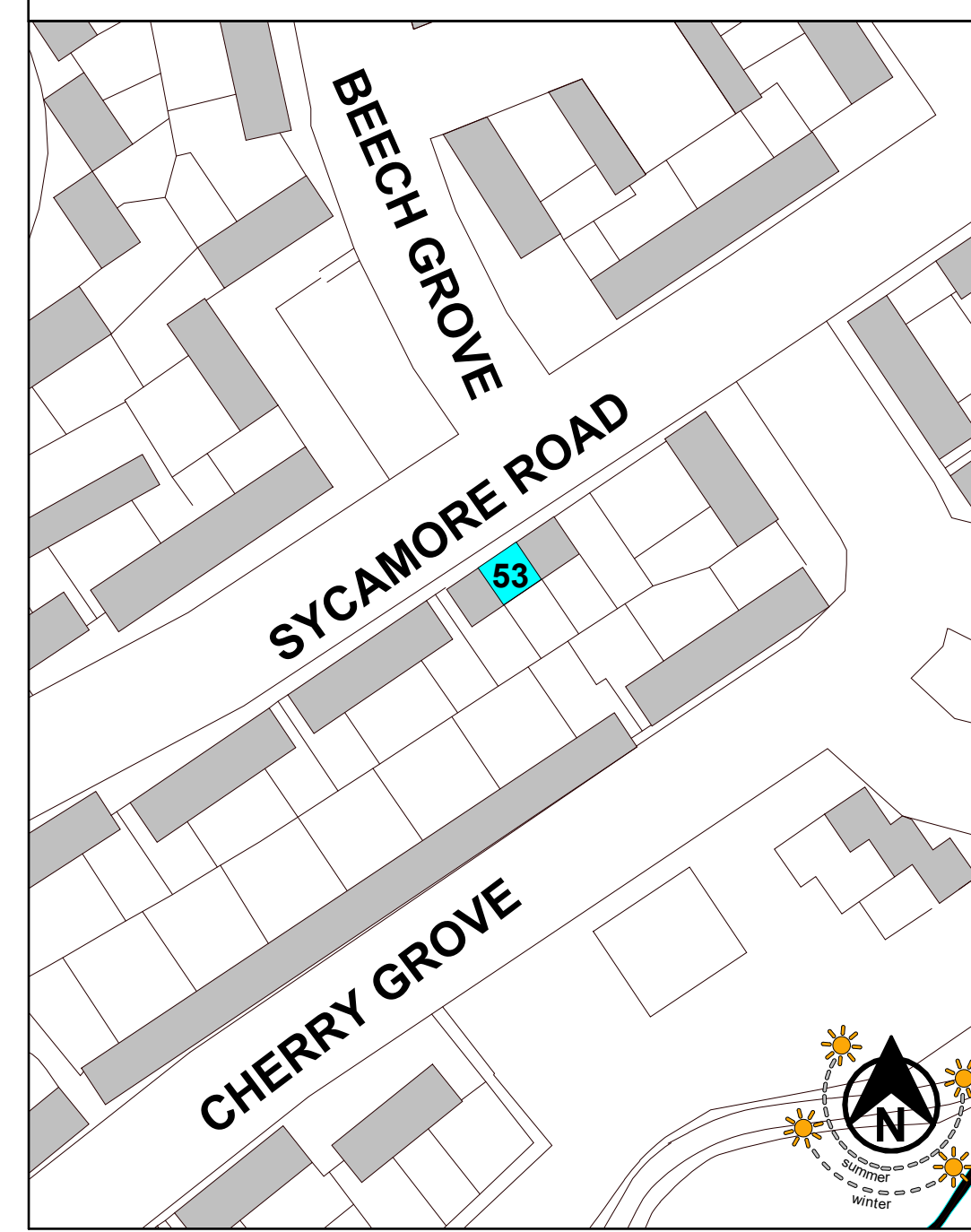
**ARCHETYPE B
 BASED ON:
 53 SYCAMORE ROAD,
 GURNOS,
 CF47 9RU**

TITLE:

PROPOSED SITE LAYOUT

DRAWN BY:	RJ	DATE:	2026.02.27
CHECKED BY:	TT	SITE AREA:	VARIES
SCALE (@ A1):	As indicated	ORIGINAL DRAWING SIZE	841mm x 594mm (A1)
DRAWING No:	2602-TG-PRO-(B)-D-A-307	REV.	P01

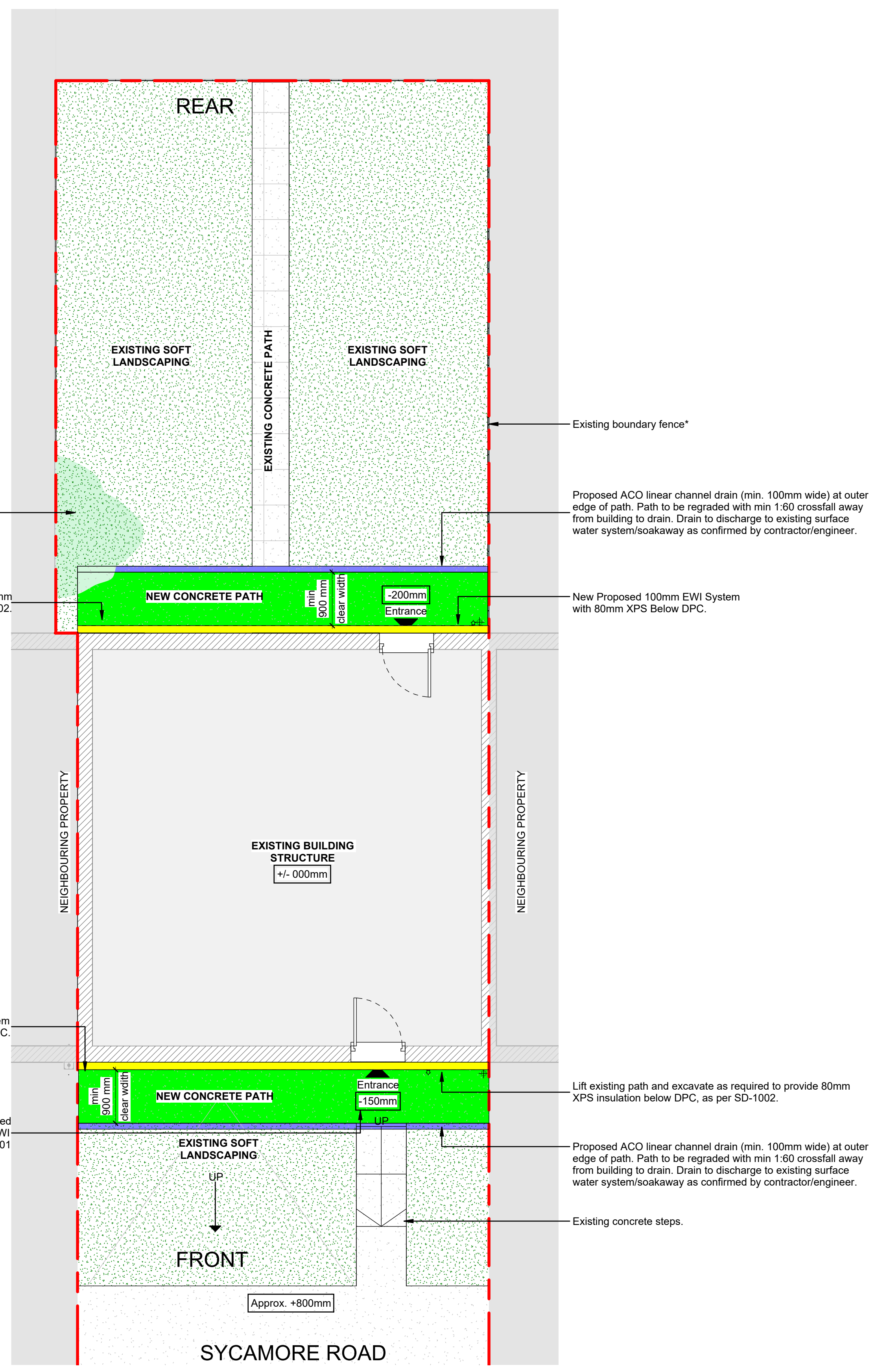
ARCHETYPE B



KEY LOCATION PLAN
 1: 1000

HEALTH & SAFETY RISK ASSESSMENT			
SYMBOL	INITIAL RISK	RETROFIT DESIGN STRATEGIES	RESIDUAL RISK
	Medium	<ul style="list-style-type: none"> Refurbishment & Demolition Asbestos Survey prior to any intrusive works. Scaffold and access managed under Principal Contractor RAMS. Resident liaison to coordinate safe access and noise/dust management. Hot works, waste management, and site safety as per Construction Phase Plan. 	Low

ECOLOGY & PLANNING RISK ASSESSMENT			
SYMBOL	INITIAL RISK	RETROFIT DESIGN STRATEGIES	RESIDUAL RISK
	High	<ul style="list-style-type: none"> Planning works to be carried out under permitted development. TG role limited to design-stage compliance only. Discharge of planning or ecology conditions is outside TG's scope. 	Low



PROPOSED SITE LAYOUT
 1: 50

