

Hot Melt Inverted Fall Roofing System to Main Roof generally, comprising the following build-up (NBS S4_30_48_43):

- In-situ concrete deck as part of concrete frame to Struct Eng design.
- Struct system (TBC) to accommodate any falls & leveling requirements.
- Prime to substrate.
- Hot Melt waterproofing layer, min. 5mm thick, colour Black (Dilute in reinforcement layer below).
- Surface protection membrane layer.
- Light insulation to meet 0.3 W/m²K U-value, 10mm laid.
- Water control infiltration insulation layer / capping sheet.
- Concrete paving (min 20mm thick) on proprietary paving pedestal support system.
- Perimeter rounded aggregate / gravel ballast finish with protection boards as required.
- Panels provided to min. 1100mm high with continuation of insulation full height & waterproofing to min. 150mm above finished roof level.
- Proposed PPC aluminium parapet capping flashing system, secret fixed & jointed with integral weather tight butyl seals & return units.
- Any earth type standards or studs required generally in a Plant Enclosure construction to be formed min. 150mm above finished roof level with continuation of hot melt system returning up / over faces or with suitable covelet / weathering detail as applicable.

NOTES:

- Fire performance classification of roof generally to meet BR008(R4) as a minimum standard.
- The roof design is proposed based on being zero falls & in accordance with BS2520:2018. A level survey or profile not may need to be considered prior to installing the waterproofing membrane to ensure no negative falls, with any remediation required to be agreed with roof specialist.
- Insulated outlets / sump positions to be suitably set out at required locations & formation levels to enable drainage to occur as intended design.
- Gravity drainage system proposed to specialist design inc. rainwater calculations to determine size, number & locations of any outlets, hoppers, downpipes & any other associated accessories.

Proprietary High performance, Aluminium PPC Finished, 56k Curtain Walling System (NBS S4_35_30_85)

- The system shall include all required frames, cappings, fasteners, fixings, mullions, glazing accessories, spigot panels, thermal and acoustic insulation, gaskets, weather, air tightness and acoustic seals, perimeter firestop, custom made downpipes, custom made opening lights, custom made louvers, aluminium flashings, window remote operators and construction joint sealant.
- Curtain wall back box depths to be confirmed based on system type, spans & wind loadings etc.
- Mullions & transoms to include bespoke capping profiles to an increased depth that meets proposed visual requirements of the architectural design intent.
- Mullions & transoms to be capless locally with silicone joints to meet proposed visual requirements of the architectural design intent.
- Coloured / opaque glazed in IGU spigot panels where identified on elevations with full back insulation.
- Glazed in louvre panels where identified on elevations providing required free area to meet Mech.Eng ventilation strategy. Louvers blank off elsewhere & suitably insulated.
- Bespoke, feature, perforated PPC aluminium panels installed as part of curtain wall system across floor edges & at parapet level etc where identified on sections & elevations to meet proposed visual requirements of the architectural design intent.
- Proprietary firestop barrier system suitable for installation at slab edges & openings required. Any acoustic treatment requirement to be factored into specified product.
- Proprietary acoustic break mullion & transom inserts to be included where spanning across / between floors & adjacent spaces to meet fire rating sound transmission, included as part of overall proprietary system which may also include horizontal acoustic mass barriers & acoustic membranes to slab edges which are also to meet any fire stopping requirements.
- Fire & Acoustic Engineers to advise based on project analysis reports.
- Glazed in DRP's to all external curtain walls suitably bonded to maintain an airtight line & meet target value.
- Mid-span restraint brackets back to associated slab edge/beams.
- Mullion spigot fixings / brackets back to structure, cranked locally where required with consideration to access & installation to suit programme of works.
- Curtain wall base support comprising concrete upstands (with pocket recesses) or secondary steel angles / cleats from structural slab edges for fixing mullions.
- Spigot brackets to be PPC finished with flush / countersunk fixings.
- Call base section of curtain wall frame to allow pre-fixed PVC angle to allow internal floor finishes to terminate against / overlap where required.
- Nom. 25mm thick Rockwool batt insulation around all curtain wall frame reveals.
- Recessed pockets to be formed in slabs or upstands locally to mullion / spigot fixing locations to allow concealment of fixing bolt depths, to be suitably waterproofed into programme of works.
- HP/Access to be suitably packed / filled following installation.
- All associated propping by specialist to required finish that matches design intent and required robustness based on use & application.
- Internal wall fixings returning into all reveals on packs / required & drilled vertically.

Typical External Wall Buildups back to SFS thru-wall construction, comprising:

Traditional Natural Stone Masonry (Re-constructed John William Street Facade)

- Reconstructed stone facade to match that of previous existing - refer to defined scope of works & heritage construction specialist proposals.
- Nom. 250mm thick existing stone with joints to match existing.
- Wall to be rustic systems back to new construction TBC.
- Any new lintel & (adjustable) masonry support system to be determined.
- Any new girth requirements TBC relative to ground levels.
- DPC / cavity tray arrangement & weepholes etc - refer to details.
- Capping flashings, to top of facade at junction with concealed gutters behind etc.

Ventilated residual cavity between stonework & inner construction, comprising:

- Proprietary Cavity Closer & Fire Break Cavity Barriers
- Horizontally between compartment floors & vertically at any compartment walls & then intermediately to maximum permitted cavity extent (DPM TBC)
- Galv. pressed metal brackets for suitably fixing / support back.

Non-combustible Class A1, partial fill stone wool insulation to external cavity, product ref Rockwool Hydrox Barrier Green G2, nom. 100mm thick as part of meeting overall U-Value calculation.

Breather Membrane - non-combustible Class A1

Non-loadbearing SFS thru wall system build up to meet all requirements including:

- Fire Resistance to BS EN 1364-1
 - 120 mins to 60 Minutes TBC by Fire Engineer
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- Sound insulation / acoustic performance (including facade finishes) TBC by Acoustic Engineer
- Thermal performance as defined to proposed insulation types to meet target U-values, factoring in facade finishes.
- Air-tightness: 10m³/hour/m² at 50Pa.

Sheathing Board - 12mm thick calcium silicate based fibre cement board

- All joints suitable fire stop/ sealant sealed to manufacturers recommendations to provide all required fire, weather-tightness, sound insulation & air-tight performance requirements.

Non-loadbearing HFB SFS system as part of overall thru-wall system to specialist design, comprising:

- Nom. 150mm SFS cone (100mm SFS cone to double height spaces)
- SFS stud centres TBC by stone cladding specialist to suit required primary support bracket centres generally & additionally to suit corners & reveals detailing etc.
- SFS stud gauge TBC by stone cladding specialist to suit required back & fixing types.
- Allow for min. double studs adjacent all window, door & curtain wall openings providing adequate fixing of stone cladding panel primary support brackets, fixings reveal & corner brackets etc.
- Allow for double studs to provide support each side of vertical cavity barriers within SFS zone.
- SFS studs to be provided each side of acoustic partitions abutting external walls which are to extend to back of sheathing board for both fire & acoustic separation where required.
- Turn stud arrangement provided locally to cross bracing (bars)
- SFS wall to be provided between any cavity/bracing studs & star landing supports.

Non-combustible Class A1, partial fill stone wool insulation, for installation between SFS studs, product of Rockwool Fibre Glass, Stone Wool.

- Stone Cladding - nom. 140mm thick as part of meeting overall U-Value calculation.
- Natural Stone (Re-built JW Street Facade) - nom. 150mm thick as part of meeting overall target U-Value calculation.

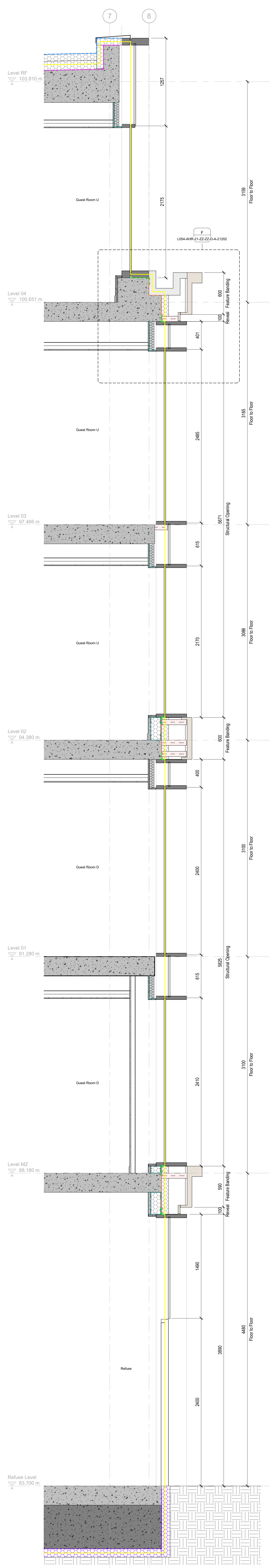
VCL - fire / flame retardant Vapour Control Layer

- Including all associated joining accessories to manufacturers recommendations.

Flashedboard (links) to internal face of external walls:

- 2ha. layers 15mm plasterboard, type to be agreed to meet overall performance requirement criteria of thru-wall construction & additionally robustness (bevel), and continuing into any opening reveals.
- Moisture Resistant boards to be included in any unheated locations or areas subject to increased humidity (e.g. Showers).
- Flashedboard fixings (& associated VCL) to continue full height above ceilings & be sealed to underside of associated soffits.
- 2mm skim coat plaster & beads generally.
- Fastenless finish to board joints to agreed locations only.
- Concrete column and shear wall locations to include plaster dot & dab or cup/tee system to provide tolerance for alignment of finished face of boards aesthetically.

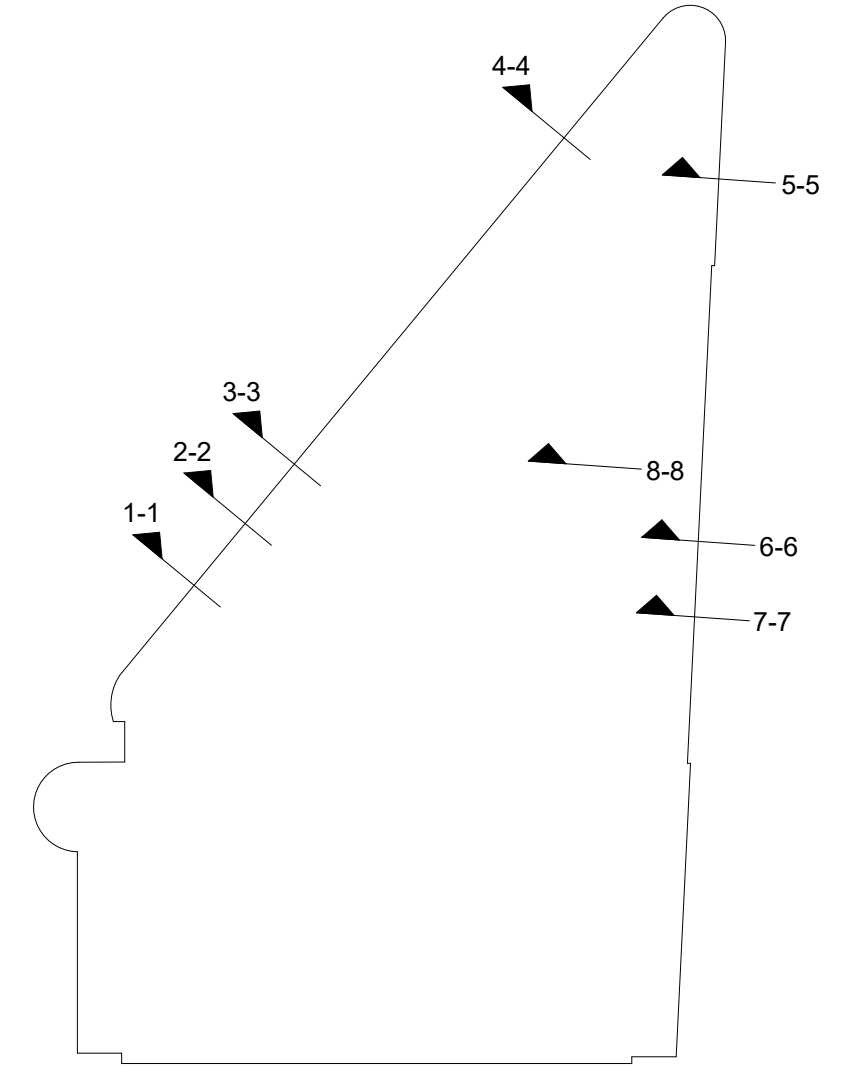
6-6 External Wall Section 6-6
1 : 20



5-5 External Wall Section 5-5
1 : 20

Detail Line Types	
External Wall	Breather Membrane
	Wall VCL
	EPDM
	Self Adhesive Membrane
	Vertical DPC
Roof	Existing Roof Material
	Roof Membrane
	Hot Melt System

U-Value & Air Tightness Targets	
Target U-Values (Subject to MEP Engineer thermal model verification)	
External Walls	0.2 W/m ² K
Floors	0.16 W/m ² K
Roofs	0.13 W/m ² K
Windows & Roof Windows	1.6 W/m ² K
Rooflights	2.2 W/m ² K
External Doors	1.6 W/m ² K
G-Value for Glazing - MEP Engineer to confirm	
Air-permeability	
Proposed Air-Tight Line	
The minimum air-tightness is 8 (m ³ /h.m ²) at 50 Pa	



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