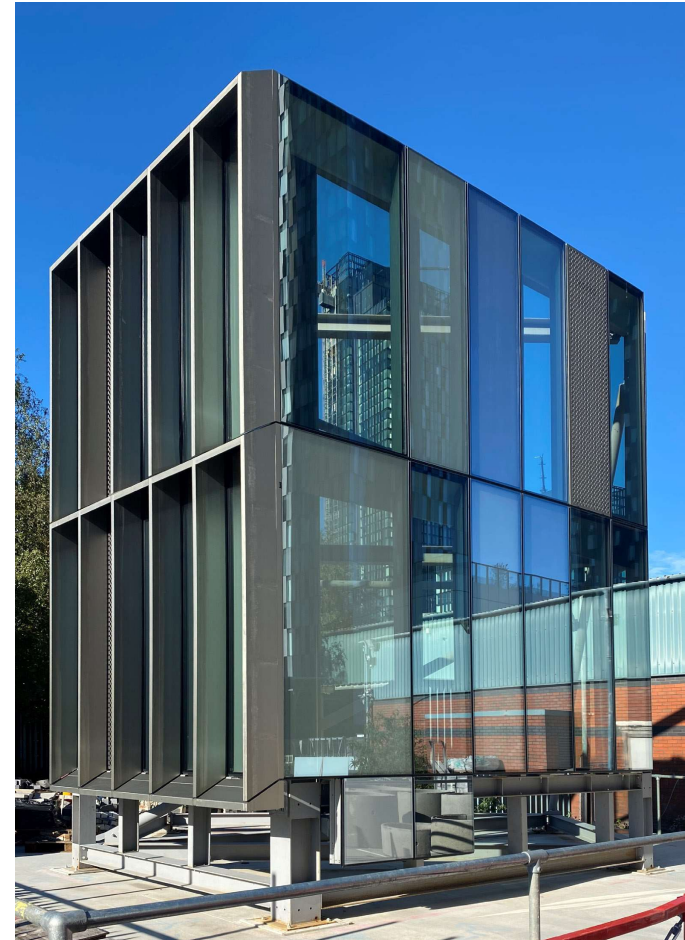




simpsonhaugh

Crown Street, Phase 2 – Manchester

TOWER C4 – SAMPLE APPROVAL SUMMARY | OCT 2021
10292-C4-SHP-A180-Rp-XX-002 | REVISION P 01

Visual Mock-Up (VMU) and sample summary

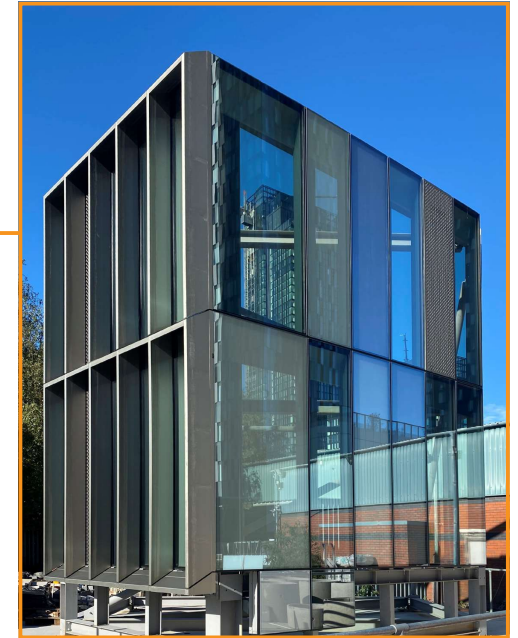
Purpose of the report

The report summarises agreements made relating to finishes and materiality of the unitised curtain walling and low level podium brickwork.

- Tower C4 - Visual Mock Up review
- Tower C4 - Podium brickwork
- Sample summary



Tower C4 and podium
CGI



Visual Mock Up - Tower facade

Page 5



Brickwork - agreed spec.

Page 7

Hand Sample Reviews

Swatch Samples

Initially, small hand swatches were reviewed to represent most closely the design intent of the consented planning scheme. These hand swatches were used to inform the procurement of representative double glazed units from the market.

Date

20th November 2019

Attendees

SimpsonHaugh

Location

SimpsonHaugh office, Manchester



300 x 300 Double Glazed Units

The procurement of the facade package then allowed for double glazed units to be produced by the facade contractor, bespoke to the project to accurately represent the colour and configuration options of each panel on the project. This allowed the design team to accurately appraise and refine colour configurations based on the initial hand swatch options.

Date

28th January 2021

Attendees

SimpsonHaugh, Renaker, Focchi

Location

Crown Street, Manchester



300 x 300 Double Glazed Units

Through the option appraisal process and design development of glass composition, including the development from a double glazed to a triple glazed system by the facade contractor a sample was agreed on for each unique instance to allow the manufacture of full size units for the VMU (Visual Mock Up).

Date

2nd March 2021

Attendees

SimpsonHaugh, Renaker, Focchi

Location

Crown Street, Manchester



VMU Presentation - Initial review

Visual Mock-up Review

Date

26th May 2021

Location

Owen Street (Peugeot car park), Manchester, UK

Attendees

SimpsonHaugh (SHP): Ian Simpson, David Green, Henry Mulligan, Ben McNally

Renaker Build Ltd (RBL): Pete Mills, James Sidlow
Dave Varty, John Williams, Patrick Weightman, Mark Haynes

Focchi (FOC): Gabriele Lasi, Alex Gattei
Ray Phillips, Neil Palmer, Dave Brown

The initial review of the VMU allowed the design team to review details and finishes including options for further development. At the initial review the design team reviewed and agreed the following:

COLOURS & FINISHES

Internal bulkhead colour options reviewed for east and west elevations:

RAL 7021
RAL 7004 - Chosen
RAL 7035

Stainless Steel finish to fins:

NECE 2A-LP
NECE 2A-LP 'Shiny' - Chosen



Visual Mock Up

Photographed 26.05.21

VMU Presentation - Manchester City Council Planning Dept

Visual Mock-Up Review

Date

22nd September 2021

Location

Peugeot Car Park, Great Jackson Street, Manchester

Attendees

SimpsonHaugh (SHP):	David Green, Henry Mulligan
Renaker Build Ltd (RBL):	Pete Mills, Dave Varty, Dan Worrall
Manchester City Council (MCC):	Dave Roscoe, Lucy Harrison

The Visual Mock-Up (VMU) has been constructed in Manchester by the project's Facade Contractor; Focchi to an agreed scope by RBL / SHP. The VMU comprises two storeys of the south east corner of the building, capturing both the expressed grid present on the south elevation and the curve of the east elevation. The VMU is constructed from representative units, that visually, are identical to the colour, finish and glass composition of the proposed final units that will be used within the construction of the building.

SHP presented the VMU to MCC to contextualise the VMU within the wider scheme. MCC were supportive of the overall quality and appearance of the cladding.

MCC advised that if the podium brickwork matches the exact specification of Crown Street Phase 1 then a separate sample panel would not be required. The agreed brickwork specification is covered in greater detail on page 7.



Visual Mock Up

Photographed 06.10.21

MCC - VMU Presentation



Feature fins (mock up)

The VMU has been constructed with the correct size, shape and proportion of fins. In order to meet the project programme, the fins have been constructed from two extrusions welded together - resulting in a visible weld mark through the anodised finish.

(continued below).



Feature fins (agreed finish)

The final fins will be fabricated from a single extrusion and as such will not feature any visible welding marks. A representative example of this arrangement was available to review along side the VMU and presented to MCC.



Visual Mock Up

Photographed 06.10.21

BMU socket

As part of the design development it was agreed at the initial review with Focchi that the flush BMU sockets in the fin locations would be stainless steel rather than black to make them less prominent.



Bulkhead colour

The VMU contained three options of bulkhead for review by the design team.

RAL 7004 was chosen as it complimented the facade pattern the best and detracted the least from the external facade pattern.



Podium Brickwork

Phase 1 - Brickwork

It was agreed at the VMU presentation with Manchester City Council that a dedicated sample panel would not be required for Crown Street Phase 2, if it features the same specification of brickwork and mortar as the phase 1 development.

Photographs on this page summarise the use of the brick on the complete elements of the phase 1 development. The composition will follow the same specification as follows:

Brick

Weinerberger Marziale

Mortar

Marshall's PM 105

Pointing

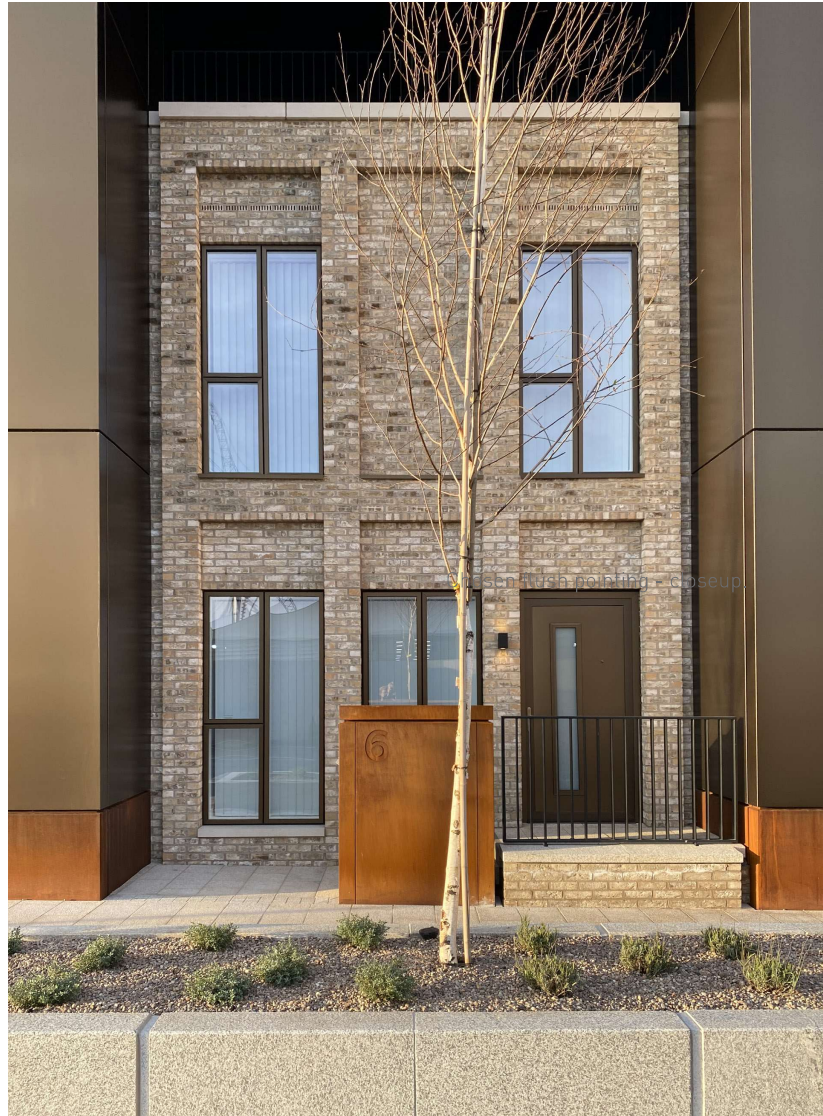
Flush



Crown Street Phase 2

Brick bands at level 01 and 02

simpsonhaugh



Crown Street Phase 1 - Completed brickwork

Indicative brickwork, mortar and pointing only

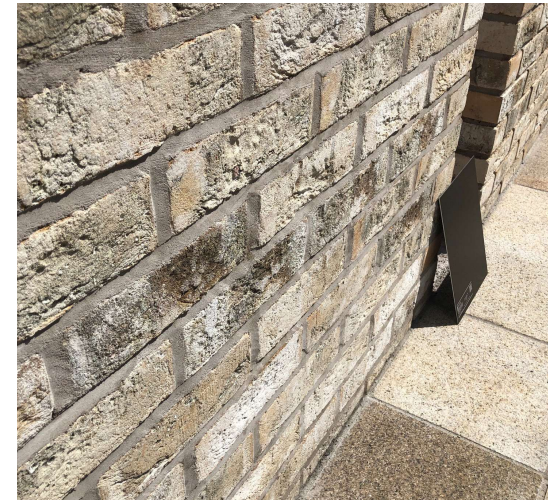
Photographed 06.11.20



Crown Street Phase 1 - Sample Panel

Indicative brickwork, mortar and pointing only

Photographed 13.05.20



Crown Street Phase 1 - Sample Panel

Indicative brickwork, mortar and pointing only

Photographed 13.05.20

Sample Description

Description	Manufacturer	Specification / Finish	Location	Sample Type
Anodised Aluminium				
Polished Stainless Steel Effect	NECE (Incorporated in to bespoke Focchi unitised curtain walling system)	NECE 2A-LP	Expressed fins on south elevation, podium fins, east and west purge vents, soffits and perforated sheets on podium	Sheet sample / VMU
Dark grey	NECE (Incorporated in to bespoke Focchi unitised curtain walling system)	NECE 94G	Purge vent perforate panels, north and south elevations, louvers in podium	Sheet sample / VMU
Black	NECE (Incorporated in to bespoke Focchi unitised curtain walling system)	NECE - Black anodised	North and south elevation - purge vent door outer	Sheet sample / VMU
Silver - Natural Anodised	NECE (Incorporated in to bespoke Focchi unitised curtain walling system)	NECE - Natural anodised	East and west elevation - purge vent door outer	Sheet sample / VMU
Clear Vision Glass				
Typical clear glass (east and west) with Ipasol Bright White coating - Triple glazed	AGC Group (Incorporated in to bespoke Focchi unitised curtain walling system)	1 Stratobel 88.2 (8 mm ipasol bright white against interlayer + 0.76 mm PVB Clear + 8 mm Planibel Clearlite) Annealed 2 16 mm Argon 90% 3 5 mm iplus 1.0T pos.3 Thermally toughened 4 16 mm Argon 90% 5 Stratobel 66.2 (6 mm iplus 1.0 pos.5 + 0.76 mm PVB Clear + 6 mm Planibel Clearlite) Annealed	Typical vision units - east and west elevations	DGU / VMU
Clear vision panel with Ipasol Bright White coating and 50% dot frit pattern RAL 7035 - Triple glazed	AGC Group (Incorporated in to bespoke Focchi unitised curtain walling system)	Stratobel 88.4 (8 mm ipasol bright white against interlayer + 1.52 mm PVB Clear + 8 mm Artelite on Planibel Clearlite with 50% grey silk screen printing (R7035) pos.2) - 16 mm Argon 90% - 5 mm iplus 1.0T pos.3 - 16 mm Argon 90% - Stratobel 66.2 (6 mm iplus 1.0 pos.5 + 0.76 mm PVB Clear + 6 mm Planibel Clearlite)	Typical vision units - east and west elevations - corner units	DGU / VMU
Typical clear glass (north and south) - Triple glazed	AGC Group (Incorporated in to bespoke Focchi unitised curtain walling system)	1 Stratobel Clearlite 88.2 Annealed 2 16 mm Argon 90% 3 5 mm iplus 1.1T pos.3 Heat strengthened 4 16 mm Argon 90% 5 Stratobel 66.2 (6 mm iplus 1.1 pos.5 + 0.76 mm PVB Clear + 6 mm Planibel Clearlite) Annealed	Vision units - north and south elevation	DGU / VMU
Opaque Glazing				
Opaque glazed panel 100% enamelled frit - mid grey	AGC Group (Incorporated in to bespoke Focchi unitised curtain walling system)	outer pane: 10mm heat strengthened low iron glass, Ipasol Bright White coating spacer: 20mm alu spacer inner pane: 8mm Toughened +HST, 100% RAL 7004 face #4	Spandrel units - east and west elevations	DGU / VMU
Opaque glazed panel 100% enamelled frit - light grey	AGC Group (Incorporated in to bespoke Focchi unitised curtain walling system)	outer pane: 10mm heat strengthened low iron glass, Ipasol Bright White coating spacer: 20mm alu spacer inner pane: 8mm Toughened +HST, 100% RAL 7035 face #4	Spandrel units - east and west elevations	DGU / VMU
Opaque glazed panel 100% enamelled frit - dark grey	AGC Group (Incorporated in to bespoke Focchi unitised curtain walling system)	outer pane: 10mm heat strengthened low iron glass, spacer: 20mm alu spacer inner pane: 8mm Toughened +HST, 100% RAL 7021 face #4	Spandrel units - north and south elevations	DGU / VMU
Podium Brickwork				
Brick - Cream Soft Mud Creased Multi Brick	Weinerberger	Marziale	Podium - perimeter brick band at level 01 and 02	Crown Street Phase 1 Podium - as constructed
Mortar - Coloured mortar (Flush pointing)	Marshall's	PM105	Podium - perimeter brick band at level 01 and 02	Crown Street Phase 1 Podium - as constructed

VMU = Visual Mock-up

DGU =Double Glazed Unit