SPECIFICATION

EXTERNAL CLADDING

Refer to BA drawings for specification of external cladding, masonry upstand and windows and doors:

MFI-BA-21-L00-D01-D-A-0
MFI-BA-21-L00-D02-D-A-0

FLASHINGS, TRIMS & PARAPET

Pressed/folded 2mm aluminium flashings, trims and parapet coping as noted on drawings.
PPC RAL 7021 Black grey finish to match external glazing frames

RAINWATER GOODS

Alumasc flushjoint pipes and contemporary rainwater goods and Harmer aluminium roof outlets. PPC RAL 7021 Black grey finish to all exposed rainwater elements to match PPC glazing frames and cladding flashings and trims.

Rainwater pipes: 100mm diameter (CP40), lengths to suit and access pipes (CP40/ACPA) at bases.
75mm diameter (CP30), lengths to suit and access pipes (CP30/ACPA) at base.
Fixed back to cladding battens with standard base clips
Rainwater heads: 100mm diameter (CP40/HOP) contemporary rainwater head connected to a Harmer two-way outlet (4TW) as per outlet.
Rainwater head supported on treated timber battens to sit in line with the back of the cladding boards, cutout cladding panels.
Rainwater outlet: Harmer roof parapet aluminium downspout (ADS/4) connected to Harmer two-way outlet (4TW) via 100mm diameter plain ended pipe with an "O" ring seal and mechanically fixed to upstand studwork.
Outlets to be fully bonded to single ply roofing system.
Connection to below ground drainage to Civil Engineers' detail.

WALLS

Agile, breathable straw-insulated, timber wall modules with integral load bearing structural support, sole plates and all required fixings.
Timber to be from FSC certified sources.
Factory preassembled units sized to suit design and site access without craneage.
Full height modules to underside of roof structure, supported on sole plates on masonry upstand structure. Refer to detail section and GA drawings for sizes.
Lintel modeuls between primary columns and end panels to form window openings with integral structure. Detail to be developed with contractor/supplier through Stage 5.

Indicative wall panel build-up (inside to out):

- 12mm ProPassive airtight OSB board, joints sealed with Tescon Vana tape
- 350mm structural insulated panel with chopped straw insulation and intermediate noggins to prevent overcompression of insulation infill
  Structural graded timber or glulam frame to Engineers' design
- 13mm Timbervent board sheathing to Engineers' design
- Factory fitted breather membrane

Refer to Internal Linings for information on internal finishes (TBC).
Refer to MFI-BA-21-L00-D01-D-A-0 for external cladding information.

Timber framed parapet upstand built off roof deck with rainwater outlet openings provided for roof drainage. Mineral wool insulation to maintain thermal line between the roof and wall. Roof waterproofing to lap top of the parapet structure and folded metal parapet capping finished in PPC, RAL 7021 Black Grey with concealed fixings. 150mm parapet height above finished roof surface.

Nominal parapet structure (inside to out), subject to detailed design:

- Roof waterproofing/membranes
- 15mm sheathing board
- Nominal 170mm studwork and insulation zone
- 12mm breather board
- Breather paper lapped to wall below
- External cladding build-up - see adjacent notes

TIMBER FRAME

Bespoke UK Douglas Fir exposed timber frame and soffit structure.
Timber to be sourced from a single UK and FSC certified source.
All components to be natural timber sections, no engineered timber.
All timber kiln dried, cut and planed to required structural finished sizes.
All elements of the timber frame to be prepared with required joinery details, fixings and connections in factory/workshop and pre-assembled to test fit of all components prior to shipping and re-assembly on site.
Refer to structural frame design, to be developed with specailist contractor.

Timber to be finished with Osmo Polyx-Oil 3044 Raw (transparent).
Samples to be tested on offcuts for approval prior to factory finishing.
On site touch-ups to be tested in discrete location for approval prior to remedial works.

Structural connection design to conceal all fixings when mechanical fixings are required. Exposed joinery connections to be utilised as far is economically and structurally viable.
Structural design to adhere to heirarchy set out in the architectural design intent.

Flitch details to allow recesses for curtain tracks.
Timber frame to be mounted on steel feet, to Timber Frame Contractor's detail.
All required steelwork associated with the timber frame to be provided and installed by the timber frame sub-contractor.
Substructure TBC and coordinated with Structural Engineer and Timber Frame Conractor.

CANOPY

Charred timber brise soleil and rainwater entrance canopy to main glazed facade.
Charred timber to match primary cladding, Takage charred larch timber.
All fixings black or painted metal, PPC RAL 7021 Black grey to match trim finishes.

Factory assembled in modules and bolted together on site to allow temporary removal for maintenance purposes, see Architectural details.

ROOFING

Sika Sarnafil AT-18 single-ply roofing system with all associated outlets, overflows and sundries.
All roofing membranes to be lapped and welded to Sika's recommendations.
Membranes to be coordianted with rooflights, rainwater outlets and parapet upstands and installed to Sika's recommendations.

Indicative roofing build-up (top to bottom), subject to detailed design:

- Sika Sarnafil AT-18 single ply roofing membrane fixed down with SikaRoof Adhesive C-300 UK
- Sikatherm MW DD T, nominal 300mm tappered mineral wool insulation (average thickness, minimum 250mm)
  Laid to 1 in 40 fall with drainage gulley as indicated on roof plans and details
- Sika S-Vap 5000 E SA breathable membrane
- SikaRoof Primer-600 UK
- 2no. 15mm marine plywood boards to form roof deck

ENTRANCE ROOF
Folded metal entrance roof
2mm pressed or folded metal roof with welded corner joints to forma 25mm deep roof tray with pre-cut and sealed 75mm diameter rainwater outlet connection.
To be fixed on 3mm neoprene membrane layer to dampen noise of rain.
Mechanical fixings through to canopy frame below, welded to prevent leaks.
PPC RAL 7021 Black grey to match all other painted metalwork finishes.

ROOFLIGHTS

Velux Vario double glazed rooflights consiting of three sets of paired rooflights, one opening unit and one fixed per pair. Openings to be on remote and automated system with rain sensors. Refer to services information for detailed operation requirements and integration with the natural ventilation/BMS system.
Glazing with 'sun protection' to match glazing performance requirements, see building performance notes.
External aluminium framing finished in PPC, RAL 7021 Black Grey.
No internal framing, actuators or cables visible internally.

OUTLINE SPECIFICATION (Stage 3 information for reference)

FLOOR

Linoleum floor with integrated underfloor heating/cooling system and floor boxes for power and data distribution.

Indicative floor build-up (top to bottom):

- 2.5mm Forbo Marmoleum Solid linoleum flooring, colour TBC
- 20mm Contınal DriDek screed boards
- 25mm Contınal SlimFix-25 Ultra with AluPlas-16 or SUPERflex-16 inlaid on 150mm centres* (TBC with client)
- 40mm Foamglas T4+ insulation board
- 18mm structural OSB boards
- 110mm Foamglas T4+ insulation board
- Sika Sikaplan 1650 gas barrier DPM
- Circa 30-40mm Semi-dry sand/cement levellng mix

- Existing external 150mm concrete ground slab

Overall floor build-up circa 250mm over existing external floor slab level.

Floorboxes to be coordianted with underfloor heating/cooling system.
Refer to Service Engineers' information regarding floor boxes and containment routes to be laid within the floor and access requirements.

Underfloor heating system information to be read in conjunction with Service Engineers' information for routes and zoning of the system.

Forbo Marmoleum flooring to laid with 611 Eurostar Lino Plus adhesive to Forbo recommendations.

ENTRANCE MATTING

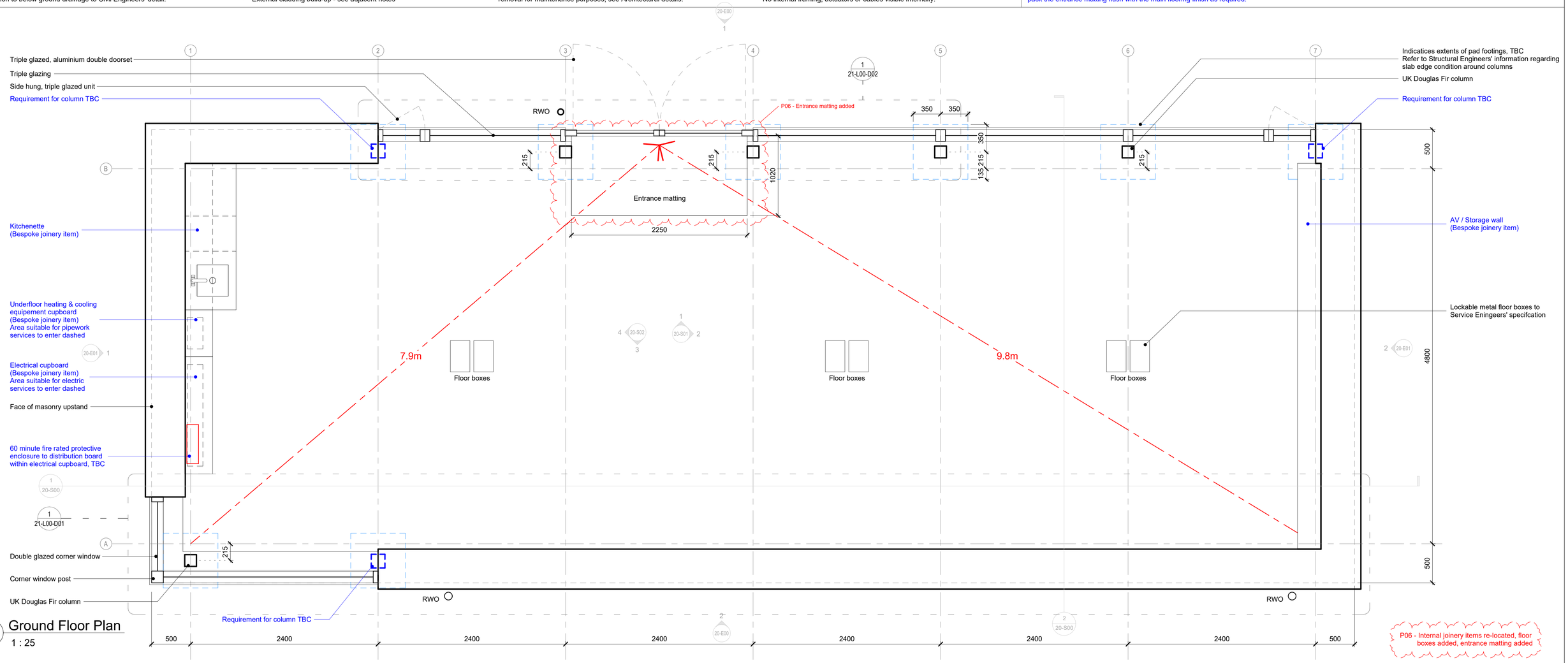
Gradus Esplanade 6000 matting - 12mm closed construction with boulevard 6000 wipers. Nightfall colour wipers and mill finished aluminium base.
9mm plywood substrate over underfloor heating layer with 1mm aluminium sheet to pack the entrance matting flush with the main flooring finish as required.

CEILING

Stained plywood soffit panels to be fitted over the timber frame, refer to detail section.
Stained plywood panel finish to match internal wall finish, species and colour TBC.
Nominal 6mm thick panel to provide architectural finish.
Fixed from above into frame to conceal all fixings.

INTERNAL LININGS

Stained plywood, TBC



1 Ground Floor Plan
1 : 25

Rev	Date	Revision	By	Chk
P01	231006	Stage 3 Issue for Costing	SG	AL
P02	231011	Stage 3 Update for Costing	SG	AL
P03	231025	Stage 3 Design Freeze	HB	SG
P04	231109	Stage 4 Design Update	SG	AL
P05	231117	Stage 4 First Issue	SG	AL
P06	231124	Stage 4 Second Issue	SG	AL

Notes

For Health & Safety related information please refer to the Rolling Designers Risk Register. Where relevant, elements identified on this register are highlighted within the model and on the drawings with the following logo.

- DO NOT SCALE FROM DRAWING;
- Drawing to be printed in colour;
- All information contained in this drawing (including digital data) should be checked and verified prior to any fabrication or construction. Any inconsistencies or omissions should be reported to Bennetts Associates;
- Unless otherwise stated, all grids or co-ordinates are based on the Ordnance Survey National Grid via GPS Observations;
- Unless otherwise stated, all spot heights and levels are expressed as AOD (*above ordnance datum*" based on the Ordnance Survey ODN (Ordnance Datum Newlyn).

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The information presented is based on survey data provided that is set to a local grid and datum and is therefore NOT based on the Ordanance Survey National Grid via GPS observations or the Ordanance Survey ODN as noted above.
Refer to Survey Operations for further information.

Building Performance
(see service engineers' information for further detail)

Thermal performance requirements:

• Walls	0.14 W/m²K
• Floor	0.18 W/m²K
• Roof	0.12 W/m²K
• Glazing	1.20 W/m²K

Glazing performance requirements:

• G-value:	0.35

Natural ventilation requirements:

• Air changes per hour	10
• Intake clear opening	1.14m²
• Exhaust clear opening	1.00m²

Elements noted in blue are WIP and not for tender, please treat the information presented accordingly

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Project
00412 Robotics Living Laboratory (Phase 2)
Manchester Metropolitan University

Project No. 2306

Drawing Title
General Arrangement
Ground Floor Plan

Drawing Number
MFI-BA-20-L00-D-A-0

Revision/Suitability
P06 S4

Scale @ A3
1:50

Scale @ A1
1 : 25

Revision Date
231124
YY MM DD

P06 - Internal joinery items re-located, floor boxes added, entrance matting added