General

Purpose of sketch
Initial comments to facilitate design team discussions and assist with planning stage.

Building use
Assembly and recreation - bars, restaurants, coffee shops etc.

Building height to top-most storey
Approx 3.0 m

Basis of design
BS 9999 with performance based components. Where elements of the design remain unchanged by the works, a no-worse than existing approach may be used.

The predominant BS 9999 risk profile is B2.

B1 - Means of Escape and Warning

Detection and alarm
A Manual system designed in accordance with BS 5839-1 is to be provided as a minimum.

Evacuation regime
Simultaneous, i.e. all occupants will evacuate upon a building wide alarm.

Travel Distances
Max. allowable:

Public Areas	Staff Only Areas
Two way: 50m actual, 33m direct	Two way: 55m actual, 37m direct
One way: 20m actual, 13m direct	One way: 22m actual, 15m direct

Travel distances are exceeded within the current design. This may form an engineered justification or require minor layout changes (see comments on sketches).

Horizontal exit widths
Doors should generally be a minimum of 800 mm wide, or 850 mm where unassisted wheelchair access is required.

The Ground floor is served by 5 exits providing a total egress width of approx. 18.25 m. Discounting the largest exit(s) which may be unavailable due to a fire, and using a factor of 4.1 mm/person (BS 9999), the maximum occupancy of the building (including the upper level) is 3,168 people.

Doors should generally swing in the direction of escape, and must do so where they serve more than 60 people.

Occupancies within individual units are expect to be low (<60 people), therefore there is no requirement for doors to swing in any particular direction.

Escape past voids
Where voids are present, BS 9999 would typically require egress routes to divert away from voids, and not pass within 4.5 m of the opening. While this is not achieved, the proposed design is considered reasonable as the fire load is largely contained within the units, for the most part egress is available in two directions and the size/ventilation of the voids are such that it is unlikely that a single fire would affect more than one egress route at once. This will form an engineered justification in future design stages.

Vertical escape
The Upper level is served by 4 stairs providing a total egress width of 6.0 m. Discounting the largest stair which may be lost due to a fire, and using a factor of 4.8 mm/person (BS 9999), the maximum occupancy of the Upper level is 937 people.

BS 9999 would typically require a minimum of one internal egress stair from each part of a building. However, given the nature of the building, this is not considered practicable. It is therefore proposed to demonstrate that the open, external stairs meet the requirements of Part B of the Building Regulations. This will form a qualitative assessment in future design stages.

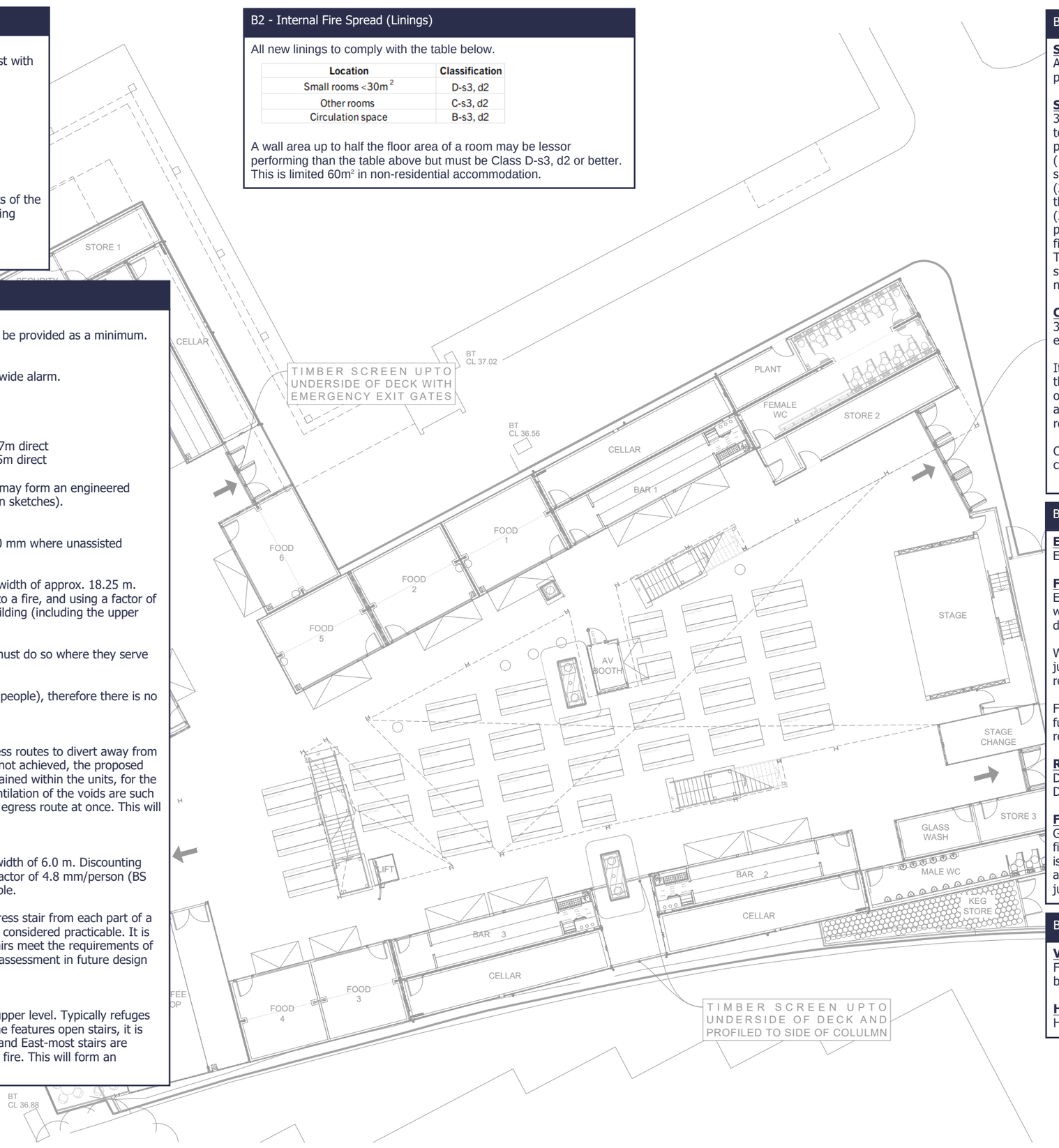
Refuges
Two refuges (900mm x 1400mm) should be provided on the upper level. Typically refuges should be located within a protected lobby/stair. As the scheme features open stairs, it is proposed to demonstrate that refuge areas at the West-most and East-most stairs are sufficiently remote that they would not be affected by a single fire. This will form an engineered justification in future design stages.

B2 - Internal Fire Spread (Linings)

All new linings to comply with the table below.

Location	Classification
Small rooms <30m^2	D-s3, d2
Other rooms	C-s3, d2
Circulation space	B-s3, d2

A wall area up to half the floor area of a room may be lessor performing than the table above but must be Class D-s3, d2 or better. This is limited 60m^2 in non-residential accommodation.



B3 - Internal Fire Spread (Structure)

Sprinklers
A Sprinkler system is not required by BS 9999 nor proposed to be provided.

Structural fire resistance
30 minutes fire resistance is recommended by BS 9999 to be provided to the structure supporting the Upper level and stairs. It is not proposed to provide this level of protection on the basis that:
(1) a fire would likely be either localised to a container and/or sufficiently small within the ground floor circulation / seating areas.
(2) the open nature of the floor area is such that smoke would vent through the floor voids locally, remote from the majority of stairs.
(3) Management procedures would need to be in place to direct persons requiring evacuation assistance to a refuge remote from a fire.
This arrangement would need to be agreed with the relevant stakeholders / building control authority and developed further in the next design stages.

Compartmentation
30 minutes compartmentation is required between adjacent units and enclosing areas of high fire load (plant and storage areas).

It is understood that a lining achieving 30 minutes is to be used throughout all units; it should therefore be noted that fire stopping is only required where compartmentation is required (as noted above and shown within these sketches). Passive fire stopping is not required to all penetrations/opening.

Compartmentation shown in sketches is indicative only and will be confirmed for a Building Regulations submission.

B4 - External Fire Spread

External surface
External walls are to achieve Class B-S3, d2 or better.

Fire spread to and from buildings
External walls to achieve 30 minute fire rating from both sides where within 1 m of the boundary. Fire rating may be from inside only where distance to the boundary exceeds 1 m.

Where open-sided containers contain only seating, an engineered justification may be provided to reduce the external fire spread requirements. This will be further investigated in future design stages.

Full assessment of external fire spread is to be undertaken under in future stages of design with confirmation of boundaries to detail the required fire resistance requirements.

Roof coverings

Distance to boundary < 6m:	B_{roof}(t4)
Distance to boundary between 6m or more:	C_{roof}(t4)

Fire spread to Mancunian Way
Given the proximity of the scheme to Mancunian Way, there is a risk a fire in the building may affect the roadway. However, as the fire load is predominantly located within the units, it is considered unlikely that a fire will challenge the road and structure. This will be further justified in the future design stages.

B5 - Access and Facilities for the Fire Service

Vehicle access
Fire service access should be provided to 15% of the perimeter of the building. This is achieved under the proposed design.

Hydrants
Hydrant locations to be confirmed (and should be within 100m).

REV	DATE	DESCRIPTION	BY	CHK
PL04	11/06/2024	KEG STORE AREA EXTENDED; OXFORD ROAD ESCAPE CAPACITY INCREASED	JW	PS
PL03	06/06/2024	DEMISE LINE (BLUE) UPDATED TO REFLECT AFL; REFUSE STORE RE-ORGANISED TO SUIT DEMISE; APPLICATION BOUNDARY (RED LINE) UPDATED TO CAPTURE STREET SEATING	JW	PS
PL02	10/04/2024	UPDATED TO SUIT AMENDMENTS TO FIRST FLOOR GA - INCLUDING REFORMATTING OF - FIRE ESCAPES, REFUSE STORE, STAIRS & PLATFORM LIFT, AND PLANT ROOM & FEMALE WC	JW	PS
PL01	15/03/2024	ISSUED FOR PLANNING	JW	PS

dunwoodieswift architects

CLIENT
STACK (MANCHESTER) LIMITED

PROJECT
STACK MANCHESTER

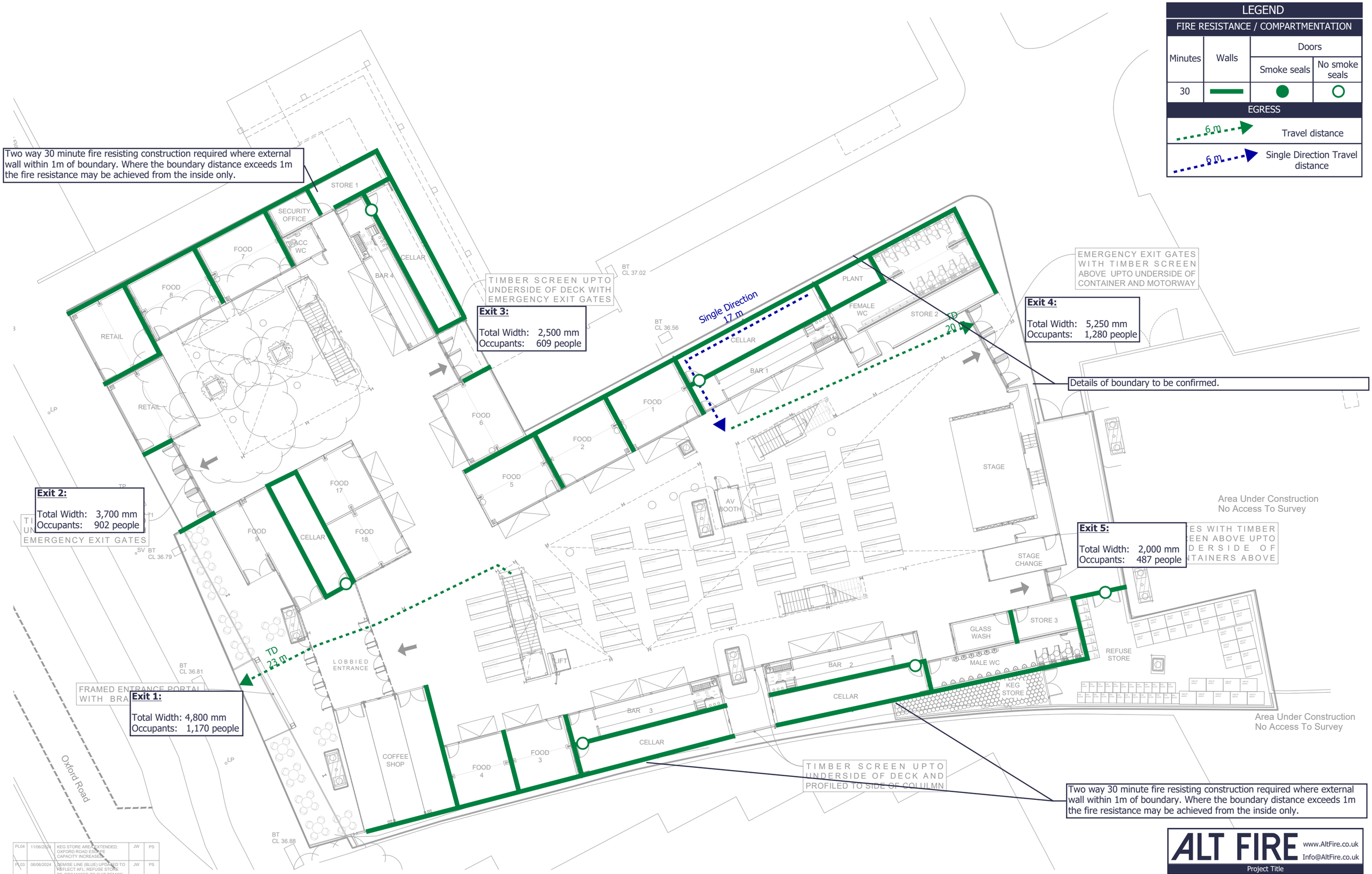
TITLE
PROPOSED FLOOR PLAN GROUND LEVEL

ALT FIRE
www.AltFire.co.uk
Info@AltFire.co.uk

Project Title
Stack Manchester

Drawing Title
Fire Safety Strategy Comments

Document reference	Drawn	Reviewed	Date
1151_SK01.3	DG	AW	07/08/24



LEGEND

FIRE RESISTANCE / COMPARTMENTATION

Minutes	Walls	Doors	
		Smoke seals	No smoke seals
30	▬	●	○

EGRESS

6 m	Travel distance
6 m	Single Direction Travel distance

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Typically a two way 30 minute fire rating is required where external walls are within 1m of boundary. However, given the fire load within the open-sided containers, an engineered justification may be provided to reduce the external fire spread requirements.

Typically BS 9999 would require disabled refuges to be located within a protected lobby/stair. As only open stairs are proposed, it will be necessary to demonstrate that a single fire will not affect the two refuges simultaneously. This will form an engineered justification in future design stages.

Reaction to fire properties of the fabric should comply with both the requirements of Part B2 (C-s3, d2) and B4 (B_{ROOF}t4). The product to be used should be confirmed.

BS 9999 would typically require egress routes not to pass within 4.5m of voids. Given the size of the voids, the distribution/location of the fire load and the ventilation of this space, this is considered overly onerous. This will form an engineered justification during later design stages.

Minor extension to travel distances, given the ventilation of the space it is suggested that this forms an engineering justification during later design stages.

LEGEND

FIRE RESISTANCE / COMPARTMENTATION

Minutes	Walls	Doors	
		Smoke seals	No smoke seals
30	▬	●	○

EGRESS

- 5.8 m — Travel distance
- 6.4 m — Single Direction Travel distance
- Refuge

DASHED LINES INDICATE TENSILE FABRIC ROOF OVER

COVERED SEATING FORMED OUT OF HIGH CUBE CONTAINERS SET ONTO DECK LEVEL WITH OPEN FACE TO PLAZA AND GLAZED FACE TO BOUNDARY

ACOUSTIC SCREENING OVER CONTAINERS

Stair 1:
Total Width: 1,500 mm
Occupants: 312 people

Stair 2:
Total Width: 1,500 mm
Occupants: 312 people

Stair 3:
Total Width: 1,500 mm
Occupants: 312 people

Stair 4:
Total Width: 1,500 mm
Occupants: 312 people

Single Direction 15.8 m

Single Direction 15.5 m

TD 3.1 m

Two way 30 minute fire rating required where external wall within 1m of boundary. Where the boundary distance exceeds 1m a percentage of the external wall will require a one way fire rating.

Two way 30 minute fire rating required where external wall within 1m of boundary. Where the boundary distance exceeds 1m a percentage of the external wall will require a one way fire rating.

TIMBER SCREEN UPTO UNDERSIDE OF MOTORWAY

UNDERSIDE OF MOTORWAY OVER SITE

Area Under Construction
No Access To Survey

Area Under Construction
No Access To Survey

FRAMED ENTRANCE PORTAL WITH BRANDED SIGNAGE

GLAZED SCREENS TO EDGE OF UPPER DECK WITH BALUSTRADE EXTERNALLY

CORUGATED CONTAINER STYLE CLADDING

Oxford Road

FOOD 15 · BAR 7 · FOOD 13 · CLNR CUPB · ACC WC · BAR 5 · FOOD 11 · STAFF ROOM · MALE WC · LIQUOR STORE · STAGE BELOW · PLAZA · COVERED WALKWAY · FOOD 14 · STORE · GLASS WASH · FEMALE WC · STORE · FOOD 10 · STORE · BAR 6 · FOOD 12

REV	DATE	DESCRIPTION	BY	CHK
PL02	10/04/2024	BOH AREA TO NORTH AND SOUTH OF STAGE REFORMATTED IN RESPONSE TO FIRE STRATEGY REVIEW; FOOD 14 & ACC WC UNITS REFORMATTED TO ALLOW ADDITIONAL STORE; ADDITIONAL STORE BETWEEN BAR 6 AND FOOD 10 (FORMED OUT OF TIMBER HOARDING)	JW	PS
PL01	15/03/2024	ISSUED FOR PLANNING	JW	PS

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