

PART B

EAF, Port Talbot (Substation & Amenity Building)

Compliance Statement

Document Control

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2 Introduction

The EAF is a proposed Electric Arc Furnace situated at the Tate Steel site at Port Talbot, which includes a GIS building with an adjoining annexe to house 275/33kV electrical switchgear and ancillary equipment and an Amenity building comprising office, meeting room and welfare, as shown Figure 1 below.

EAF is an approved development under Hybrid Planning Permission 2024/0711. This development is for the detailed design of the electrical infrastructure associated with the outline element of the approved development.

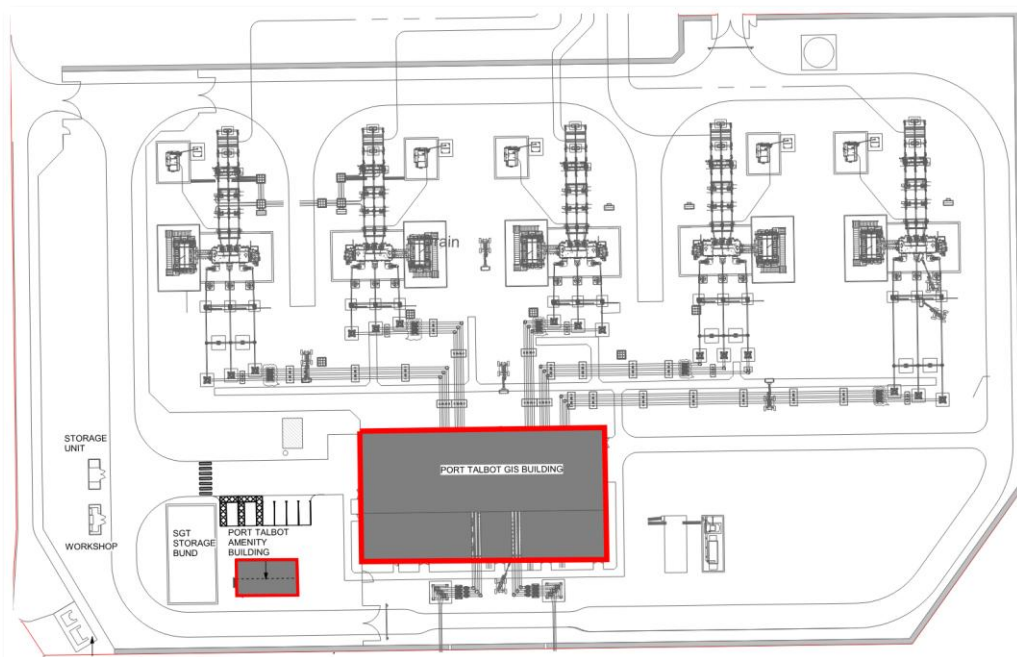


Figure 1: GIS Hall and Amenity Building (Source: National Grid)

PartB Group Ltd. has been appointed to provide a compliance statement for the Proposed Development forming the subject of the first Reserved Matters Application.

This statement consists of the following areas:

- B1 - Means of Warning & Escape;
- B2 - Internal Fire Spread (Linings);
- B3 - Internal Fire Spread (Structure);
- B4 - External Fire Spread; and
- B5 - Access & Facilities for the Fire Service.

2.1 Limitations of Statement

The compliance statement is based on the information provided. Under no circumstances is liability accepted by PartB for the accuracy of such information.

- MARPT-BHK-02-00-DG-A-2000611- Level 00 – Fire Strategy Plan & Sections;
- MARPT-BHK-02-ZZ-DG-A-200750 – Port Talbot Amenity Building; and
- MARPT-BHK-02-ZZ-DG-A-130055- Port Talbot GIS Hall – Site Plane Proposed.

2.2 Design Approach - ADB Volume 2

This statement has based the design of the building upon Approved Document B (ADB) Wales Volume 2: Buildings other than dwellings, 2019 edition, including 2020 amendments.

This Statement is based in accordance with ADB Volume 2. It does not include for compliance with any other criteria (i.e. additional client requirements, insurance, etc.) unless specifically described in this report

2.1.1 Purpose Group

In ADB, buildings are classified into purpose groups to determine appropriate fire safety measures based on their use. The Substation and Amenity Building are classified as follows:

- The GIS hall substation is classified under Purpose group 5: Industrial (Normal Hazard); and
- The Amenity Building is classified under purpose group 3: Office.

3 B1 - Mean of Warning & Escape

Functional Requirement

B1. Means of Warning and Escape

The building shall be designed and constructed so that there are appropriate provisions for the early warning of fire, and appropriate means of escape in case of fire from the building to a place of safety outside the building capable of being safely and effectively used at all material times.

3.1 Means of Warning

3.1.1 Fire Detection & Alarm System

The substation and amenity are classified under a common place of work and should therefore be provided with a minimum Category M system fire detection and alarm system designed and installed to BS 5839-1:2025.

However, PartB recommends the substation building to be fitted with a Category L2 fire, given the critical infrastructure in substation building, alarm system should be designed, installed and maintained to BS 5839-1:2025.

3.1.2 Hydrogen Battery Storage

The GIS Hall building will include a designated area for hydrogen battery storage. In accordance with the recommendations outlined in NFPA 2, the battery room shall be equipped with a hydrogen gas detection system.

This system must be fully integrated with the building's fire alarm system and designed to detect any unintended release of hydrogen gas. Upon detection, the system shall automatically initiate appropriate responses, including activating alarms and initiating the safe shutdown of equipment as required, in order to mitigate risk and ensure occupant safety.

The provision of 1 hour fire rated for this area is considered to be appropriate which is also recommended by the NFPA 2, Chapter 6.

3.2 Mean of Escape

3.2.1 Travel Distance

Travel distances should meet guidance in Table 2 of ADB, as follows:

- Substation building – 25 metres one-way travel, 45 metres two-way; and
- Amenity Building – 18 metres one-way travel, 45 metres two-way.

Travel distances within both buildings meet the recommended travel distances listed above, as shown in the Fire Strategy Markup.

3.2.2 Number of Escape Routes

The minimum number of escape routes should be in accordance with the following recommendations from Table 3 in ADB:

- One escape route/exit for up to 60 occupants;
- Two escape routes/exits for 61-599 occupants; or
- Three escape routes for more than 600 occupants.

Escape routes have been reviewed and comply with the above guidance.

3.2.3 Minimum Required Clear Exit Widths

The widths of escape routes and exits should comply with the following recommendations from Table 4 in ADB:

- 750mm for maximum occupancy of 60;
- 850mm for maximum occupancy of 110;
- 1050mm for maximum occupancy 220; or
- 5mm per person for occupancy of more than 220.

All escape exits in the substation building achieve a clear width of 850mm or more, while those in the amenity building achieve a minimum of 750mm. Part B Understand the occupancy is below 60. Therefore, the exit width meets the guidance.

It is worth noting that the exit width needs to comply with Part K and M of the building regulations.

4 B2 - Internal Fire Spread (Lining)

Functional Requirement

B2. Internal Fire Spread (Linings)

(1) To inhibit the spread of fire within the building, the internal linings shall—

- (a) Adequately resist the spread of flame over their surfaces; and
- (b) Have, if ignited, either a rate of heat release or a rate of fire growth, which is reasonable in the circumstances.

(2) In this paragraph 'internal linings' means the materials or products used in lining any partition, wall, ceiling or other internal structure.

All walls and ceiling linings should conform to Table 10 of ADB and listed in Table 1. These specifications will be further refined in the Stage 3 fire strategy report.

Table 1: Classification of Linings

Location	European Class ^{A)}
Small rooms area of not more than 30m ² in non-residential accommodation	'D-s3,d2'
Rooms, other	'D-s3,d2'
Other circulation spaces including the common areas of blocks of flats	'B-s3,d2'

Note:

^{A)} When a classification includes 's3, d2' this means there is no limit set for smoke production and/or flaming droplets of particles.

5 B3 - Internal Fire Spread (Structure)

Functional Requirement

B3. Internal Fire Spread (Structure)

(1) The building shall be designed and constructed so that, in the event of fire, its stability will be maintained for a reasonable period.

(2) A wall common to two or more buildings shall be designed and constructed so that it adequately resists the spread of fire between those buildings.

For the purposes of this sub-paragraph a house in a terrace and a semi-detached house are each to be treated as a separate building.

(3) Where reasonably necessary to inhibit the spread of fire within the building, measures shall be taken, to an extent appropriate to the size and intended use of the building, comprising either or both of the following—

- a) Sub-division of the building with fire-resisting construction;
- b) Installation of suitable automatic fire suppression systems.

(4) The building shall be designed and constructed so that the unseen spread of fire and smoke within concealed spaces in its structure and fabric is inhibited.

5.1 Structural Fire Resistance

This section deals with the following Functional Requirement from Part B3 of Schedule 1 of the Building Regulations 2010:

- In accordance with Table B4 in ADB, structural fire resistance for the substation building should provide fire resistance of 60 minutes, as the height of the building above ground level is not more than 5 metres; and
- Structural fire resistance for the amenity building should provide fire resistance of 30 minutes, as the height of the building above ground level is not more than 5 metres.

5.2 Compartmentation

PartB has annotated floor plans provided to reflect the following:

- Travel distance;
- Fire resistance requirement;
- Compartment lines;
- Fire door and grads; and
- Fire service access.

Compartmentation ratings in accordance with ADB are shown in the Fire Strategy Markup. Please note that the fire strategy markup shows the fire safety requirement and does not reflect any additional requirements.

5.3 Protection of Opening & Firestopping

Where services pass through the compartment floors and walls, the penetrations will be firestopped by suitable means to ensure the fire resistance of the compartment is not degraded.

PartB recommends using an accredited and tested proprietary fire barrier system. These will be confirmed within the Stage 3 fire strategy report.

6 B4 - External Fire Spread

Functional Requirement

B4. External Fire Spread

(1) The external walls of the building shall adequately resist the spread of fire over the walls and from one building to another, having regard to the height, use and position of the building.

(2) The roof of the building shall adequately resist the spread of fire over the roof and from one building to another, having regard to the use and position of the building.

This section deals with the following Functional Requirement from Part B4 of Schedule 1 of the Building Regulations 2010.

6.1 Unprotected Areas

During a fire event, heat will radiate through non-fire-resisting openings in the external walls of the building. PartB has conducted the enclosed rectangle assessment method from BRE 197: 2014

- Each elevation of the amenity building maintains adequate boundary clearance, allowing the proposed openings to be 100% unprotected
- In detail enclosing rectangle assessment for the substation elevation will be undertaken during the RIBA Stage 3 report. PartB requests elevation drawings showing the unprotected doors on the external wall.

6.2 External Walls

The external surfaces of the building should conform to the guidance of Table 12.1 of ADB Volume 2.

This does not restrict the combustibility of materials on walls more than 1 metre from the relevant boundary on buildings under 18 metres in height. External surfaces less than 1 metre from boundary should be of European Class 'B-s3, d2' or better for surface spread of flame.

6.3 Roof Covering

The roof covering should comply with the recommendation of Section 14 of ADB volume 2. Based on the distance to the relevant boundary of less than 6 metres, the roof covering should be B_{Roof} (t4).

7 B5 - Access & Facility for The Fire Service

Functional Requirement

B5. Access and Facilities for the Fire Service

(1) The building shall be designed and constructed so as to provide reasonable facilities to assist fire fighters in the protection of life.

(2) Reasonable provision shall be made within the site of the building to enable fire appliances to gain access to the building.

In accordance with Section 15.1 in ADB, for all small buildings up to 2000m² with a top storey up to 11 metres above ground level, vehicle access for the pump appliance should be provided to whichever is less onerous of the following:

- 15% of the perimeter; or
- Within 45 metres of every point of the footprint of the building.

From the site plan, both the substation and the amenity building provide access to more than 15% of each building's perimeter. It is also important to note that the road width should be a minimum of 3.7 metres between kerbs.

7.1 Fire Hydrant

The building should have an existing fire hydrant located within 100 metres of the building entrance. A building requires an additional fire Hydrant if both of the following apply. PartB requests a confirmation of the hydrant location, if it is available.

- It has a compartment within an area of more than 280m².
- It is being erected more than 100m from an existing fire hydrant.

PartB requests a confirmation of the hydrant location, if the hydrant provision cannot be met, or the pressure and flow from the hydrant are insufficient. A charge of static water with a minimum capacity of 45,000 litres is considered one of the alternative sources of water (subject to consultation with the local fire and rescue service).

8 Fire Strategy Markup

PartB Fire Safety Design Comment

It is understood that the designated storage area will be used exclusively for materials with very limited combustibility. The travel distance from this space is within the permissible limits as outlined by ADB. Additionally, the building will be equipped with an L2 fire alarm system, providing an enhanced level of detection.

Given these factors, the current storage arrangement is considered acceptable from a fire safety perspective

If this space is intended to store higher-combustibility materials or ignition source, it must be enclosed with construction rated with 60-minute fire resistance.

PartB Travel distance comment

Total Direction Distance A-C = 19.3 m
Permitted total travel distance = 45 m

COMPLIANT

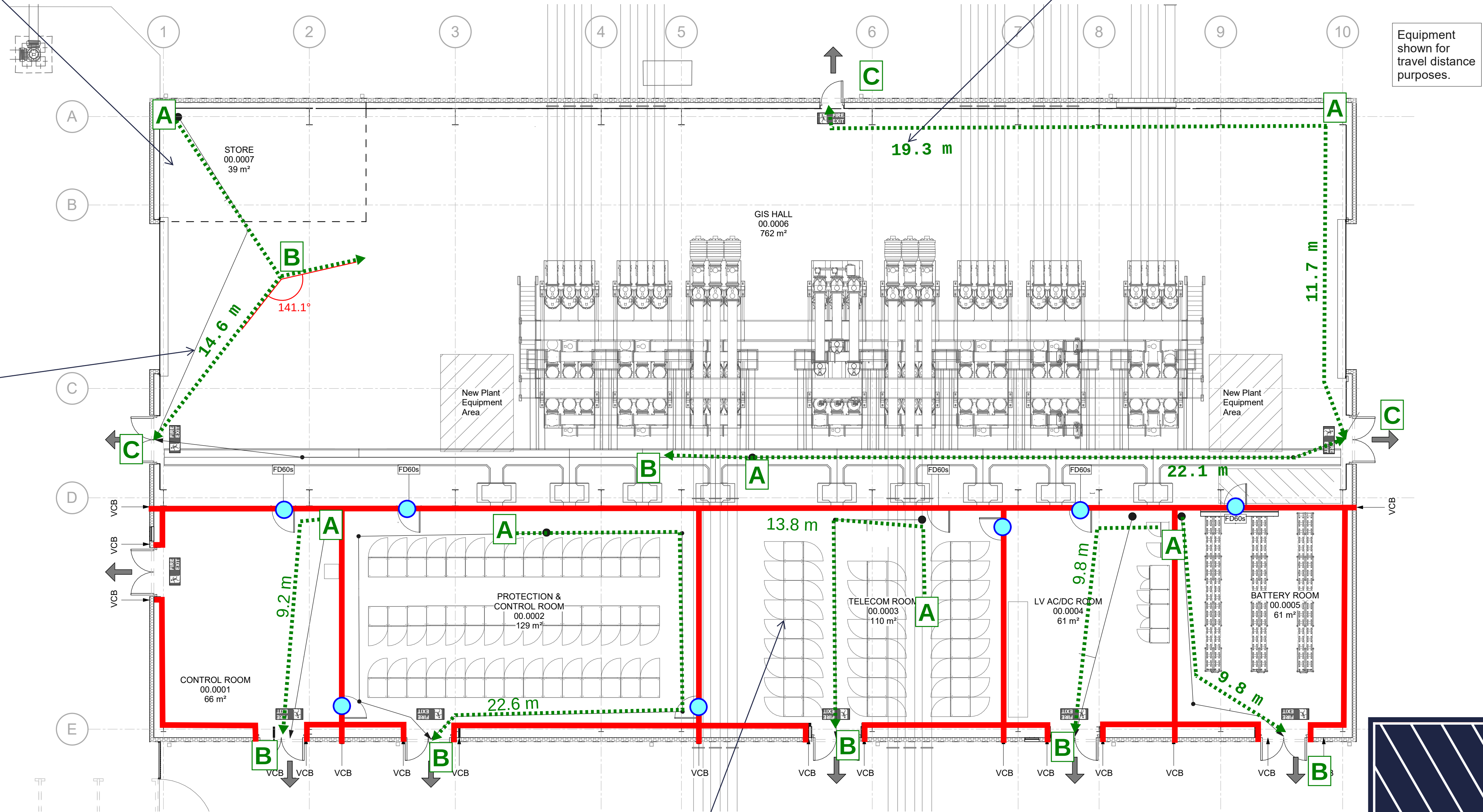
Legend

- FD60S Doorset
- 60 Minutes Fire Resisting Construction
- Escape Route
- Travel Distance (Compliant)
- Travel Distance (Non-compliant)

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PartB Travel distance comment

Total travel distance A-C = 14.6 m
Permitted total travel distance = 45 m
COMPLIANT/NON COMPLIANT



4 Level 00 Fire Strategy Plan

PartB Travel distance comment

Single travel distance A-B = 13.8 m
Permitted single travel distance = 25 m

COMPLIANT

Project Title EAF Project Port Talbot

Drawing Title Compliance Statement, GIS Building

Drawing Number EAF-PTB-GB-MU-FE-30001

Revision 00 Date 02/07/25

Drawn by OA

Reviewed by AH

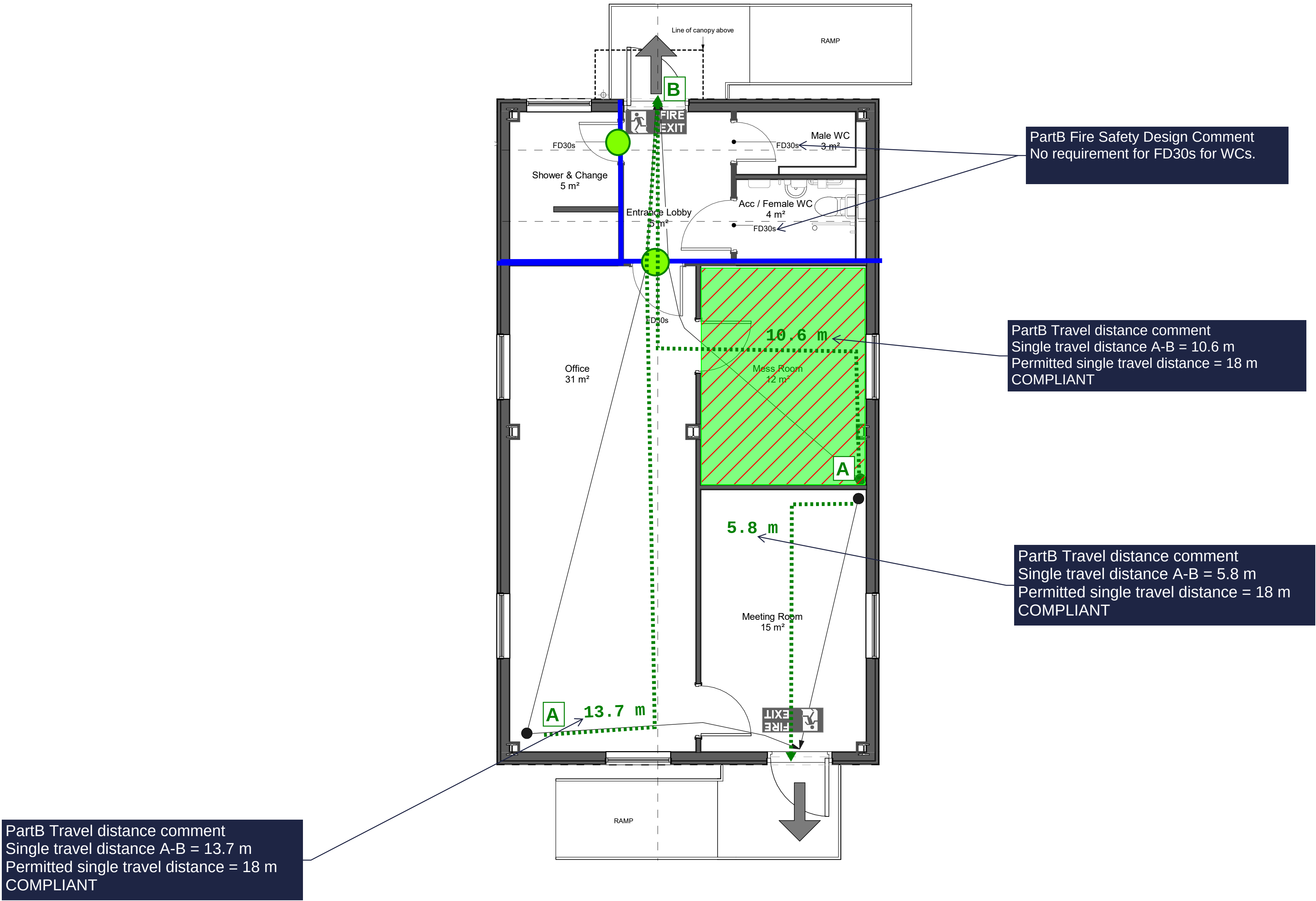
PartB Group
Pera Business
Park
Nottingham Road
Melton Mowbray
LE13 0PB

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Legend

- FD30S Doorset
- 30 Minutes Fire Resisting Construction
- Escape Route
- Travel Distance (Compliant)
- Travel Distance (Non-compliant)

PART B



Project Title		EAF Project Port Talbot		
Drawing Title		Compliance Statement, Amenity Building		
Drawing Number		EAF-PTB-AB-MU-FE-30001		
Revision	00	Date	02/07/25	PartB Group Pera Business Park Nottingham Road Melton Mowbray LE13 0PB
Drawn by	OA			
Reviewed by	AH			
				PART B

PartB Fire Safety Design Comment

Any existing fire hydrant should be located within 100 metres of the building entrance. If a new hydrant is to be installed, it should be positioned within 90 metres of the building entrance and no more than 90 metres from the nearest existing hydrant. PartB requests confirmation of the hydrant location.



Legend - Fire Service Access

- Fire Appliance Route
- Fire Appliance Parking Location
- Fire Service Access Point
- Accessible Perimeter
- Building Perimeter

PartB Fire Safety Design Comment

Fire Service Access.
For building less than 2000m^2 and below 11 metres, the fire service should have access to 15% of the Building perimeter

Total Building perimeter = 149.7m
Accessible building perimeter = 48.5m (32%)
Complaint

PartB Fire Safety Design Comment

For building less than 2000m^2 and below 11 metres, the fire service should have access to 15% of the Building perimeter

Total Building perimeter = 40.4m
Accessible building perimeter = 27.1m (67%)
Complaint

PartB Safety Design Comment

The access route for fire service should have a minimum width of 3.7 metres.

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Drawing Title Compliance Statement, Site Plan

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