

Former Cinema Building Fire Strategy



ST. ANDREW'S PARK
UXBRIDGE

VINCI

ST. MODWEN

Stage 2 Fire Strategy (Full Element of Hybrid Planning Application)

Former Cinema, Uxbridge.

Burton Road, UB10 0YE

29 May 2024

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0.0 Document Verification

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1.0 The Purpose of this Report

This report details how the building complies with Building Regulations and focuses on fire safety under Building Regulations.

Fire Risk assessments will need to be carried out for the Building under the Regulatory Reform Fire Safety Order 2005 prior to operation. The report does not address property protection or business disruption.



1.1 The Scope

ORSA have been appointed by Vinci St Modwen to provide a Stage 2 Fire Strategy for The Cinema, Uxbridge.

This report has been prepared in relation to the former Cinema building and details how the building will comply with fire safety Building Regulations. The report is submitted in support of the application to reinstate the gym use and the proposed café use which include internal and external alterations to the building. It supports the submission of the listed building consent application and full element of the hybrid planning application for St. Andrew's Gate, Town Centre Extension (TCE) at St. Andrew's Park.

Recommendations given by Historic England have been considered as the building is considered as a listed building.

As this is a listed building of special architectural or historic interest, the guidance that is followed in Approved Document B Volume 2 may prove too restrictive and so variations of provisions can be appropriate. Thus, according to Section 0.17 of Volume 2, we will assess the hazards and risks in this case and consider a range of fire safety features in that context.

1.2 Information

The following information has been made available to ORSA and has been used as a reference to produce the Fire Strategy Report.

Drawing No.	Title
243052-PUR-00-ZZ-DR-A-2010	B01 Proposed Lower Ground Floor Plan
243052-PUR-00-ZZ-DR-A-2010	L00 Proposed Ground Floor Plan
243052-PUR-00-ZZ-DR-A-2011	L01 Proposed First Floor Plan
243052-PUR-00-ZZ-DR-A-2011	L02 Proposed Second Floor Plan
243052-PUR-00-RF-DR-A-2015	RF Proposed Roof Plan
243052-PUR-00-ZZ-DR-A-2020	Proposed North Elevation
243052-PUR-00-ZZ-DR-A-2020	Proposed East Elevation
243052-PUR-00-ZZ-DR-A-2020	Proposed South Elevation

243052-PUR-00-ZZ-DR-A-2020	Proposed West Elevation	N/A	23/05/24
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1.3 Applicable legislation

The report will detail how the building works will comply with Building Regulations. The report outlines how Part B of the Building Regulations have been met, including:

- B1 – Means of escape and Warning.
- B2 – Internal Fire Spread [Linings]
- B3 – Internal Fire Spread [Structure]
- B4 – External Fire Spread
- B5 – Access and facilities for the Fire Service

1.4 Applicable design guidance

Compliance has been assessed by reference to design guidance approved and issued by the Secretary of State for the purpose of providing practical guidance with respect to the requirements of Schedule 1 and Regulation 7 of the Building Regulations 2010, Approved Document B [ADB]: Volume 2 – 2019 edition incorporating 2020 and 2022 amendments.

Recommendations by Historic England have also been considered in this report.

2.0 Fire Safety Strategy Summary

The table below provides a brief overview of the fire safety strategy design for the building.

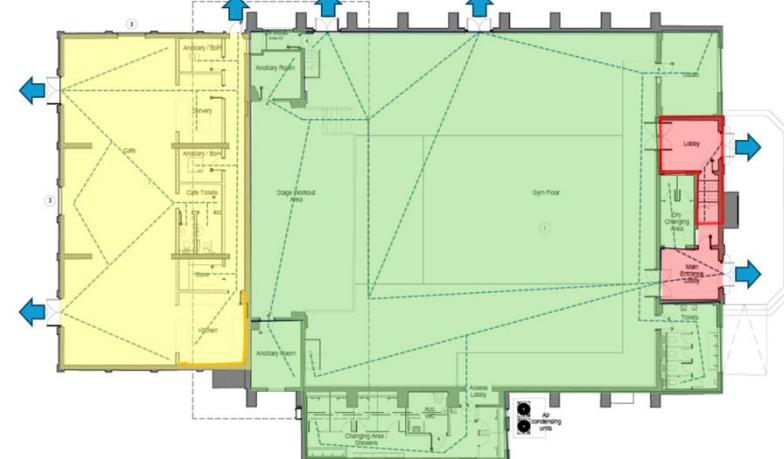
FS Element	Former Cinema Building
Height	Single storey with height 17.5m
Building use	Gym, café, ancillary areas.
Evacuation strategy	Simultaneous
Number of protected stairs	1 [the only protected stair is on what is currently considered as the ancillary uses]
Detection and alarm	Category L2
Structural FR	60 minutes



3.0 Building Description

The building is located at Burton Road, Uxbridge UB10 0YE.

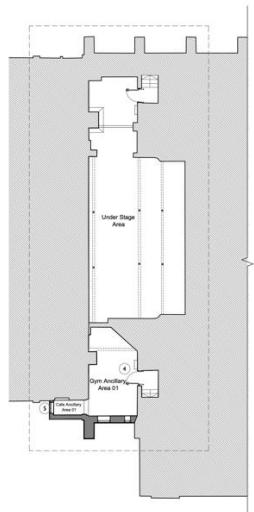
The main use of the building [highlighted in green] comprising of a single storey for use as a gym with additional areas used as a café [highlighted in yellow] and the areas [highlighted in red] will be used as building entrances and changing areas (ancillary spaces).



Ground floor layout

The highlighted in red above has a first and second floor with a protected stair that discharges directly outside.

There is a gallery in the area [highlighted in green above] with access under it. It is currently anticipated for use as storage area and will not be accessed by the public.

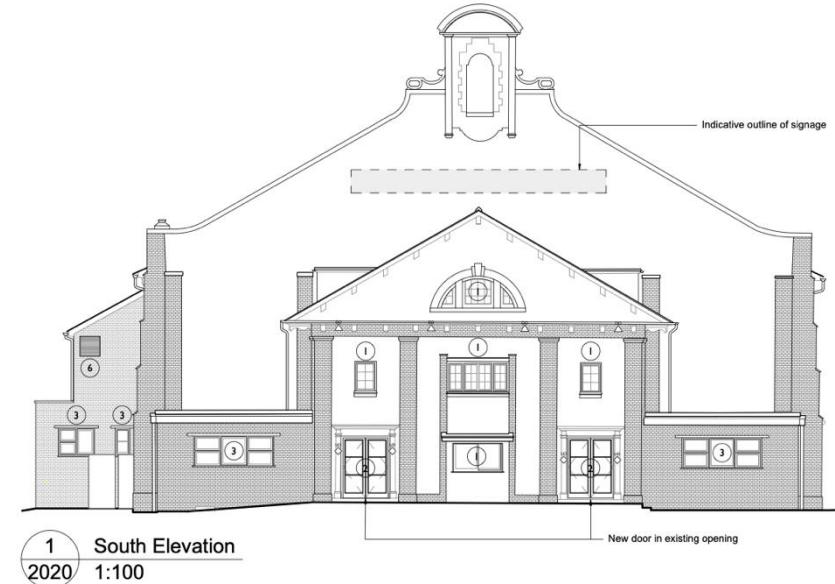


Underside of the former stage area

Based on the description, the building comprises of:

- Former stage area – gym work out area on the floor and Gym ancillary space [currently noted as reserved for storage] on the underside,
- GF – unisex toilets, disabled toilet and shower room, unisex showers, gym floor, gym workout area, café
- 1st Floor – Currently reserved for use as ancillary space [any changes to use requires updating of this report]
- 2nd Floor – Currently reserved for use as ancillary space [any changes to use requires updating of this report]

The height of the building has been estimated to be circa. 17.50m based on Diagram D4 of ADB volume 2.



South Elevation

3.1 Purpose Groups and Occupancy Numbers

3.1.1 Purpose Groups

The below purpose groups have been identified in the building as per ADB volume 2.

Purpose Group	Area
4: Shop and commercial	Café
5: Assembly and recreation	Gym floor, gym workout area,
7[a]: Storage	Gym ancillary space



4.0 Means of Warning and Escape

4.1 Evacuation Strategy

A simultaneous evacuation is adopted, whereby upon activation of the fire detection and alarm system, all occupants evacuate the building.

4.2 Means of detection and warning.

A fire detection and alarm system has been proposed as category L2 in accordance with the recommendations of BS 5839-1. The proposed system is considered appropriate based on the use of the building. It is however noted that Historic England recommends an L1 system for life safety systems.

Due to the ceiling being high and as it is a listed building meaning that the ceiling is restricted to have any installations, it is recommended to engage with a fire alarm and detection specialist to specify the optimised locations for detectors, type and this should be obtained prior to the building control submission.

4.3 Horizontal means of escape

4.3.1 Travel distances

The table of ADB below recommends the travel distance limits depending on the purpose group as provided below:

Area	Single Direction Only [m]	More than one direction [m]
Purpose group 5: Assembly and recreation	18	45
Purpose group 7: Storage and other non-residential	25	45
Places of special fire hazard(s) within room	9	18

It should be noted that ADB recommends that where the internal furniture layout is unknown, the travel distance limits should be taken as two-thirds of the values given in the table above.

4.3.2 Horizontal exit widths

Maximum number of people	Minimum exit width
60	750
110	850

220	1050
More than 220	5 per person

Door widths depend on the number of occupants required to use them and the maximum anticipated occupancy.

Doors in escape routes should not be less than 800mm regardless of risk profile and should be increased to minimum 850mm if accessed by an unassisted wheelchair.

4.3.3 Minimum number of exits

The number of escape routes and exits from any room, tier or storey should be not less than the absolute minimum numbers recommended in the table of ADB volume 2 as provided below. This shall be achieved in the building.

Maximum number of people	Minimum number of escape routes/exits
60	1
600	2
More than 600	3

4.4 Vertical means of escape

4.4.1 Stair provisions

The building is provided with one protected stair in the ancillary areas. The stair serves the first and second floors.

ADB volume 2 section 3.34 recommends that a single stair should be provided with a protected lobby except the top storey.

Due to construction constraints and the building being a listed building, it is not possible to provide a protected lobby for the single stair on the first floor.

It is understood that the adjacent rooms from the stair will have low occupancy and used as ancillary spaces therefore it is considered reasonable. However, the deviation should be discussed with Building Control prior to the Building Control submission.

4.5 Means of escape for Mobility Impaired Persons

4.5.1 Refuge areas

As per ADB volume 2, refuge areas are expected on every storey in the protected stair. The refuge area is recommended to have a minimum size of 900mm x 1400mm and should be provided with an emergency voice communication system [EVC] in accordance with BS 5839-9.

The refuge area should not reduce the width of the escape route or obstruct the flow of people escaping. The building fire safety management should account for this within its plan.

4.6 General provisions

4.6.1 Emergency lighting

Emergency lighting should be designed in accordance with BS 5266-1:2016. Emergency lighting for purpose group 'Assembly and recreation' should be provided in:

- All escape routes.
- Accommodation except for that which is open on one side to view sport or entertainment during normal daylight hours.

For any purpose group.

- All toilet accommodation with a minimum floor area of 8 m²
- Electricity and generator rooms
- Switch/battery room for emergency lighting system
- Emergency control rooms

The escape stair lighting should be on a separate circuit from the electricity supply to any other part of the escape route. Escape lighting should conform to recommendations of BS 5266-1.

4.6.2 Emergency Signage

Emergency signage will be provided throughout the building. All fire point and directional signage will be in accordance with BS ISO 3864-1:2011.

All exits shall be provided with exit signs that comply with BS 5499- 4: 2013 and are suitably illuminated.

It is recommended that all emergency signage is reviewed as per the British Standards and are consistent with the building.



5.0 Internal Fire Spread

5.1 Internal wall and ceiling linings

The wall and ceiling linings should satisfy the recommendations of ADB volume 2, shown below with the classifications derived from the European tests BS EN 13501-1.

Area	European classification in accordance with BS EN 13501-1
Small room of maximum internal floor area of 30m ²	D-s3, d2
Other rooms	C-s3, d2
Other circulation spaces	B-s3, d2

5.2 Structural fire resistance

ADB volume 2 recommends that for single storey buildings under the purpose group 5: assembly and recreation without a sprinkler system, the minimum required structural fire resistance for any load-bearing elements should be 60 minutes.

It is noted that as per ADB volume 2, although most elements in a single storey building may not need fire resistance, fire resistance is needed if it supports a gallery and the former stage in this case.

5.3 Compartmentation and fire resisting construction

On the underside of the former stage area, the space is reserved for use as storage space. If the areas are used as storage spaces for highly flammable substances it will be considered as place of special fire hazard and will require a minimum of 30 minutes fire rating.

The table below provides the minimum required fire-resistance requirements of elements of the building.

Element of construction	REI FR [mins]	Fire Door
Kitchen	30*	FD30S
Plant room	30	FD30S
Occupancies	60	
Compartment between gym and café	60	FD60S
Places of special fire hazard	30	FD30S

* Only if the kitchen is not reserved for cold preparation or reheating purposes

5.4 Places of Special Fire Hazard

The building contains a kitchen and should be enclosed with 30 minutes fire resistance and FD30S if not only reserved for cold preparation and reheating purposes.

Other ancillary areas have not been confirmed and should be reviewed and recommendations in this report should be followed.

Place of special fire hazard are defined as a room such as any of the following:

- Oil-filled transformer room
- Switch gear room
- Boiler room
- Storage space for fuel or other highly flammable substance[s]
- Room that houses a fixed internal combustion

5.5 Fire doors

Fire doors should be provided as part of all fire resisting and compartment enclosures.

All fire doors should be fitted with self-closing devices except for fire doors to the cupboard and to service risers which are normally kept locked shut.

5.6 Fire stopping

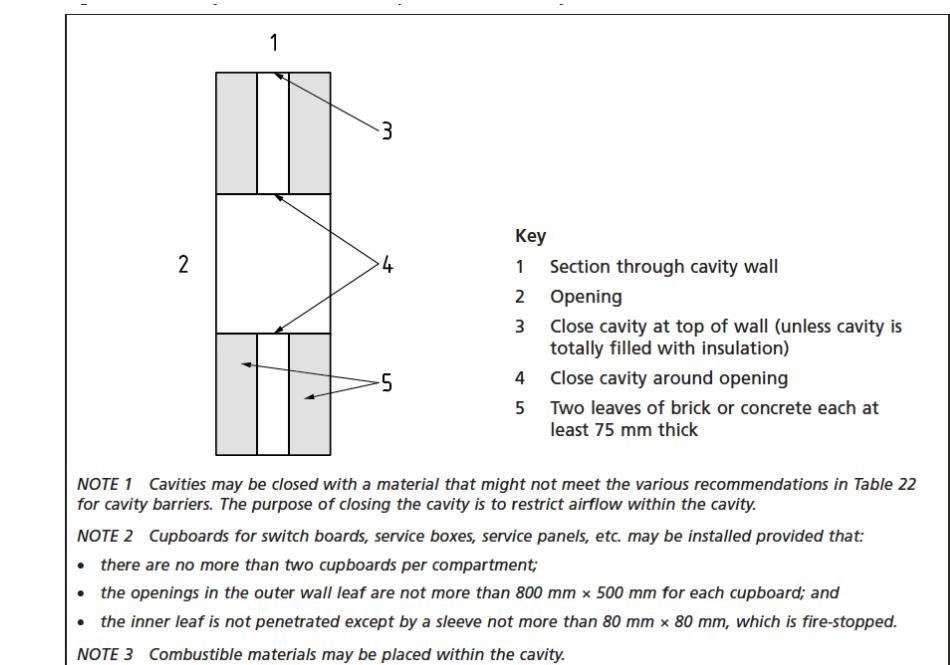
Where an element of fire-resisting construction is penetrated by services, it should be appropriately and adequately fire stopped to at least the same period of fire resistance as the element which has been breached.

5.7 Cavities

Cavity barriers should be provided to control and limit the risk of unseen spread of fire and smoke within concealed cavities., including external cavity walls. The figure below details the provision of cavity barriers are firestopping as denoted within BS 9999.

Cavity barriers should be provided:

- to close the edges of cavities, including around openings.
- At the junction between an external cavity wall and every compartment floor and compartment wall
- At the junction between an internal cavity [except where the wall conforms to the below figure] and every compartment floor, compartment wall, or other wall of door assembly which forms a fire-resisting barrier.



Cavity barriers should achieve a performance of 30 minutes integrity and 15 minutes insulation.



6.0 Active Fire Safety Systems

6.1 Fire suppression

Due to the height of the building, no sprinkler protection is required therefore none will be provided.

6.2 Emergency Power Supply

Secondary power supplies should be provided to all life safety equipment including the following;

- Fire detection and alarm system;
- Emergency lighting

7.0 External Fire Spread

7.1 Boundary distances

7.1.1 Space separation

There are no works anticipated on the external wall at the time this report was produced.

It is assumed that the existing building design shall have ensured the risk of fire spread from the building to adjacent buildings or vice versa is mitigated.

If an assessment of the external fire spread is required, it shall be undertaken in accordance with BR 187.

7.2 External wall materials

The building is less than 18m and not a 'relevant building' as defined in Regulation 7, and the following applies to the external surface of the external walls.

- Less than 1000mm from the relevant boundary: class B-s3, d2 or better
- 1000mm or more from the relevant boundary: up to 10m above ground level: class C-s3, d2; up to 10m above a roof or any part of the building to which the public have access: class C-s3, d2 or better; from 10m in height and above: no minimum performance.

It is understood that the external wall is brick work therefore it is assumed the above is achieved.

7.3 Roof coverings

ORSA has not carried out an inspection of the roof and any new roof coverings shall comply with recommendation given in the table below.

Please note that the new roof coverings will be limited to the former squash court area.

The following table are recommendations on the types of roof coverings determined by separation distances to a relevant boundary.

Designation ⁽¹⁾ of covering of roof or part of roof	Minimum distance from any point to the relevant boundary			
	Less than 6m	At least 6m	At least 12m	At least 20m
B _{ROOF} (t4)	Y	Y	Y	Y
C _{ROOF} (t4)	N	Y	Y	Y
D _{ROOF} (t4)	N	Y ^{[2][3]}	Y ^[2]	Y
E _{ROOF} (t4)	N	Y ^{[2][3]}	Y ^[2]	Y ^[2]
F _{ROOF} (t4)	N	N	N	Y ^{[2][3]}

⁽¹⁾ The European classifications are recommended; however National Classes can still be used as per BS 9991:2015 Table 8.

⁽²⁾ Not acceptable on buildings with a volume of more than 1500m³.

⁽³⁾ Acceptable on buildings not listed in Footnote 1 if, a) part of the roof is no more than 3m² in area and is at least 1.5m from any similar part or b) the roof between the parts is covered with a material rated Class A2-s3, d2 or better.

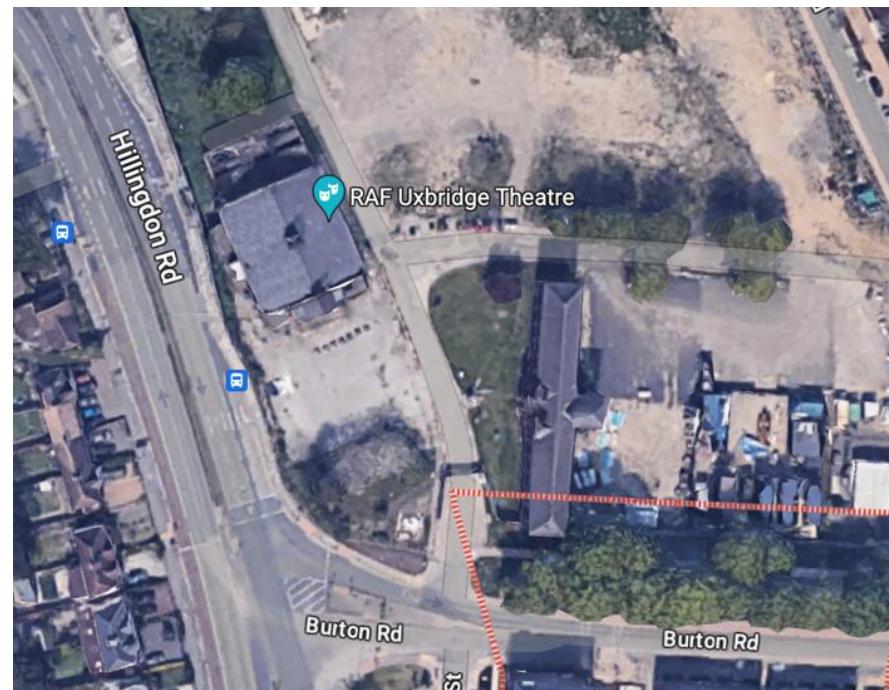


8.0 Access and Facilities for Fire Service

Access routes and hardstanding will be provided in accordance with the table below.

Minimum access route specification	Dimensions for pump appliance	Dimensions for high reach appliance
Width between kerbs	3.7 m	3.7 m
Width between gateways	3.1 m	3.1 m
Turning circle between kerbs	16.8 m	26.0 m
Turning circle between walls	19.2 m	29.0 m
Clearance height	3.7 m	4.0 m
Carrying capacity	12.5 tonnes	17.0 t

It is assumed that the fire service vehicle access route would be via Spine Road. A fire vehicle can reverse into the car park located immediately to the south of the building (less than 20m distance) without needing to navigate around parked vehicles.



Fire service vehicle access route

The required fire service vehicle access and tracking has been carried by Caneparos and confirmed acceptable.

For reference, ADB volume 2 recommends that if a building is erected more than 100m from an existing fire hydrant, then an additional hydrant shall be provided within 90m of an entry point of the build. The locations of the existing fire hydrants should be confirmed.

9.0 Conclusion

The fire engineering advice detailed within this fire strategy will provide the occupants of The Uxbridge Cinema with an appropriate level of fire safety which aligns with the requirements within the Building Regulations 2010 [plus the relevant amendments].

10.0 Fire Safety Management

The Regulatory Reform [Fire Safety] Order 2005 applies to all non-domestic premises in England and Wales, including the common parts of buildings, the structure, and the external walls, where the building contains two or more sets of domestic premises.

The 'responsible' person has a duty to make the premises safe and must undertake regular Fire Risk Assessments [FRA] and implement and undertake a Fire Management Plan.

The FRA should be kept under regular review and reassessed as required. The FRA should be undertaken by a competent person.





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