

# Temporary Building Immersive 360° Dome

Brunel University London



## Table of Contents

0.1	Executive Summary .....	3
<b>1</b>	<b>Introduction.....</b>	<b>3</b>
1.1	Brief and aspirations .....	3
<b>2</b>	<b>Site Assessment .....</b>	<b>4</b>
2.1	Site Location .....	4
2.2	Site description .....	4
2.3	Site context .....	5
<b>3</b>	<b>Planning Policy .....</b>	<b>6</b>
3.1	Development Plan .....	Error! Bookmark not defined.
<b>4</b>	<b>Design Concept .....</b>	<b>7</b>
4.1	Opportunities and constraints .....	7
4.1.1	Opportunities .....	7
4.1.2	Constraints .....	7
4.2	Client brief.....	7
4.3	Proposed design strategy .....	7
<b>5</b>	<b>Proposed Design .....</b>	<b>8</b>
5.1	Use .....	8
5.2	Amount .....	8
5.3	Layout.....	8
5.4	Scale.....	8
5.5	Appearance & elevations .....	8
5.6	Landscape.....	8
5.7	Masterplan.....	9
5.8	Site plan.....	9
5.9	Floor plans.....	9
5.10	Temporary Approval.....	9
5.11	Security.....	9
5.12	Service Connection .....	9
5.13	Drainage .....	10
5.14	Lighting .....	10
5.15	Materials.....	10
5.15.1	Wall panels: .....	10
5.16	Roof Panels .....	10
<b>6</b>	<b>Access.....</b>	<b>10</b>
6.1	Design and policy approach .....	10
6.2	Consultation .....	10
6.3	Vehicular access.....	10
6.4	Pedestrian access.....	10
6.5	Inclusive design .....	11
6.6	Public/private space .....	11
6.7	Emergency service access .....	11
6.8	Sustainable travel.....	11

## 0.1 Executive Summary

- This Design and Access statement supports an application for planning approval for the erection of a temporary building or enclosure for a 360° Immersive Dome on land adjacent to Wilfred Brown and Michael Sterling buildings located on Site 2 at Brunel University London (BUL).

This Design and Access statement sets out:

- The principle of design for the new Temporary Dome Building
- The proposed development layout
- Compliance with design specific local and national policy

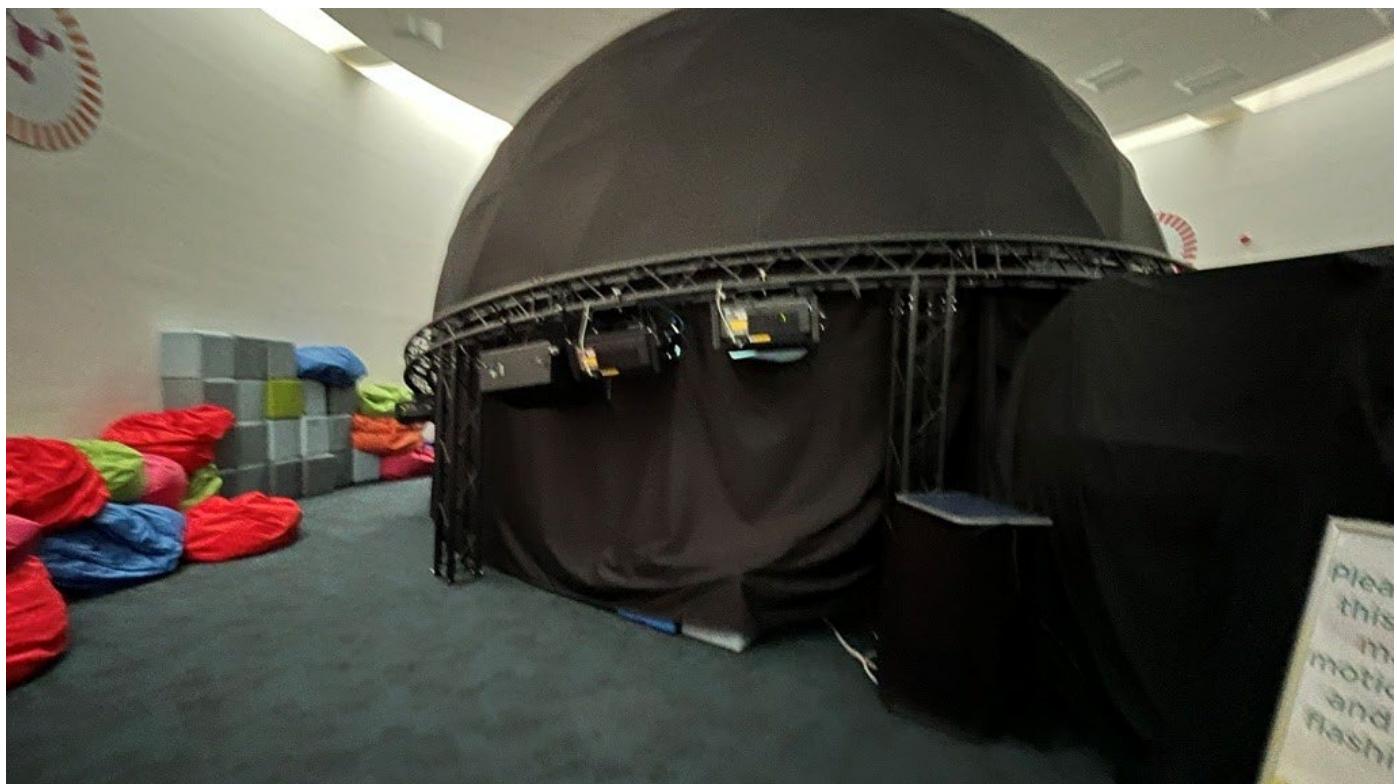


Figure 1 - Photograph showing Immersive 360° Dome in previous location in Wilfred Brown (now removed)

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# 1 Introduction

## 1.1 Brief and aspirations

- Approximately 5 years ago Brunel University installed an Immersive 360° dome providing for various educational activities. One of its key functions is supporting the STEM programme (Science, Technology, Engineering and Maths) in conjunction with local educational institutions. Brunel works with schools and industry to run a series of STEM-focussed events with academics who are at the forefront of the discipline and visiting pupils hear from current STEM students to get a first-hand account of the subject. The focussed activity for primary and secondary schools, aims to encourage the study of STEM subjects and increasing the profile of Brunel amongst prospective students.
- The immersive dome is one of a handful of spaces in the UK and Brunel hopes this will help inspire the next generation of innovators.

- The demountable 'dome' structure was given an interim location within Wilfred Brown Building and this space now needs to be repurposed as a teaching space (lecture theatre) to accommodate ever changing educational needs.
- In order to continue providing both STEM activities and the other university demands offered by the Immersive 360° dome, Brunel University seeks to erect a temporary demountable weatherproof and secure building to house the Dome
- The intention is to ensure that this is as close as possible to the existing STEM suite in Wilfred Brown Building allowing visiting schools to benefit from the facilities and in particular the associated STEM reception and coach drop. Access to the Dome would be via a door and therefore located only a few metres from the current STEM spaces.

## 2 Site Assessment

### 2.1 Site Location



Figure 2 - Map showing Brunel University sites 1 and 2 and proposed location of temporary building (using google maps)

- BUL Campus, Kingston Lane, Uxbridge
- The campus lies to the South of Uxbridge approx. 1.8km from the town centre
- Uxbridge underground railway station at 1.8km northwards of the site
- West Drayton railway station is 2.5km to the South
- Easy access to Hillingdon Road and the M40/A40 to the North of Uxbridge
- The application site lies within Site 2, nested between Wilfred Brown Building and Michael Sterling Building which in turn lie to the east of and a short distance from Cleveland road
- The site lies within the Green belt as designated (along with the whole of the BUL campus).

### 2.2 Site description

- Boundaries A Brunel staff car park borders the south boundary of the site, Wilfred Brown Building borders to the west and north of the proposed site whilst Michael

Sterling Building borders the east. The actual location being effectively within a three-sided courtyard flanked by plant and staircase areas primarily. Views to the south are of Antonin Artaud building in the distance with trees and vegetation beyond.

- Topography West to East/North South rise approx. 50-100 mm
- Land Use Service courtyard (not used for parking)
- Surface Level Tarmacadam surface with level pavements to West, East and North
- The actual location being effectively within a three-sided courtyard flanked by plant and staircase areas primarily
- Cleveland Road (Bus route) is within 100 metres of the proposed site

## 2.3

### Site context

- Located within the Green Belt designation stretching across the River Pinn,
- The Green Belt area is occupied by educational and community facilities serving the wider community



Figure 3 - From Site looking SE



Figure 4 - From Site looking SW

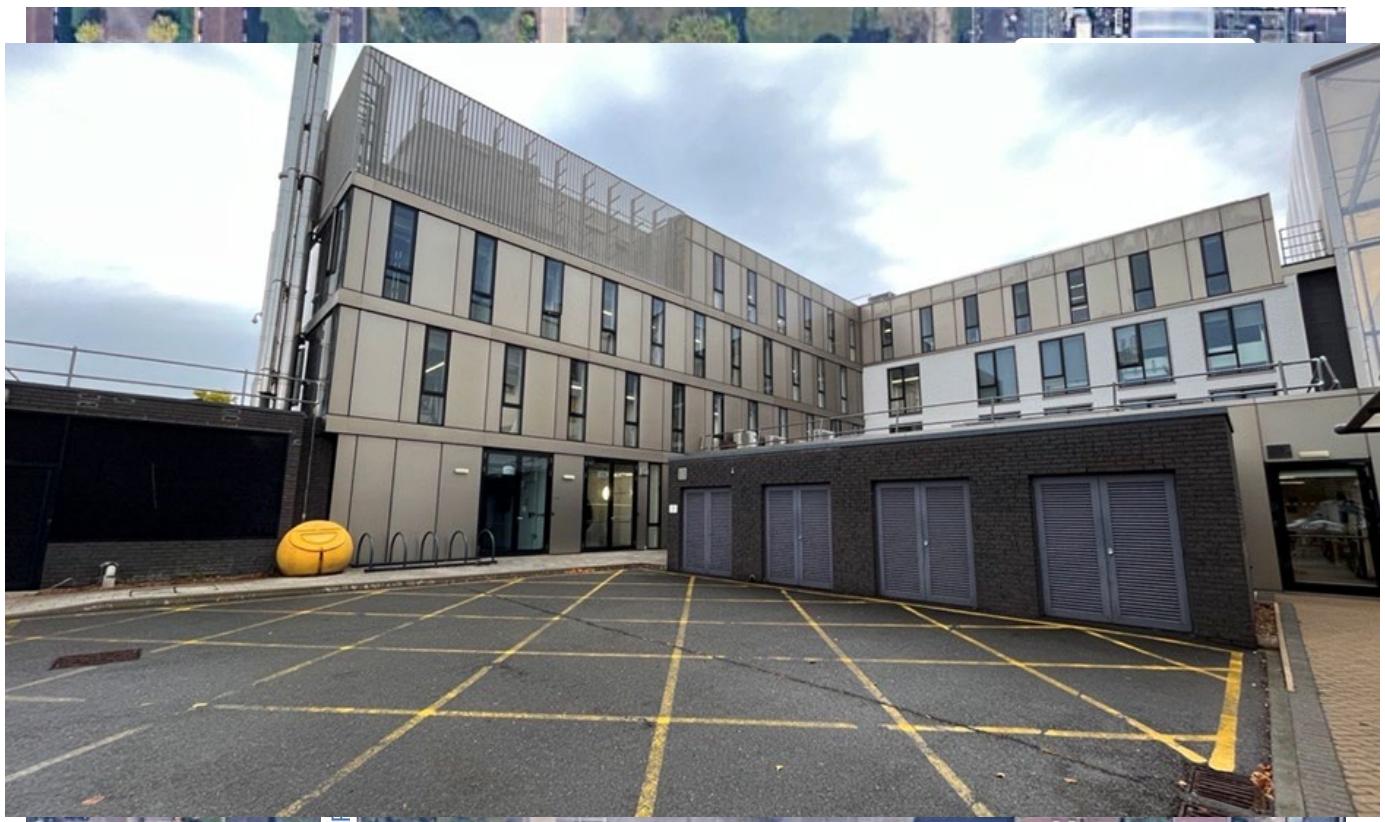


Figure 5 - View of Wilfred Brown across courtyard – looking NW



Figure 6 - Location map showing temporary building location and adjacent buildings and features (using google maps)

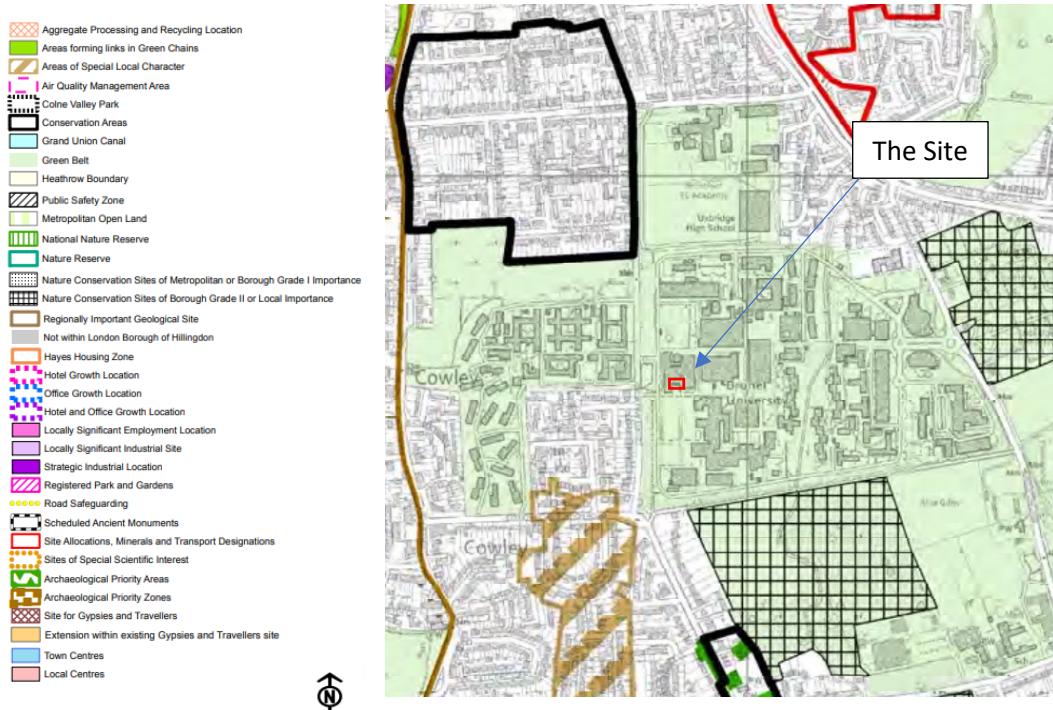
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### 3 Planning Policy Context

## 3.1 Development Plan

The planning policy framework affecting the site comprises the National Planning Policy Framework (NPPF), the London Plan (2021), the Hillingdon Local Plan Part 1 (Strategic Policies) (2012) and Part 2 (Development Management Policies and Site Allocations and Designations) (2020).

As shown on the Proposals Map extract below, the Site is located within the Green Belt.



**Figure 1: Adopted Policies Map designations for the Site**

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## 4 Design Concept

### 4.1 Opportunities and constraints

#### 4.1.1 Opportunities

- Established site access from within Wilfred Brown building or by external paved walkway
- Enhanced facilities close to the Campus and associated with the existing site usage
- Extend the life of the immersive dome

#### 4.1.2 Constraints

- Sensitive location in Green Belt designation
- Reduction in 'openness' of the Green Belt area

### 4.2 Client brief

- Provide an alternative temporary location for the Immersive 360 Dome
- Maintain adjacency with previous facility

### 4.3 Proposed design strategy

- Temporary building application

- Provide easy access to public and campus users alike
- Temporary simple building form that will leave no footprint once removed

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## 5 Proposed Design

### 5.1 Use

- There is a continuing need for the 360 Immersive dome for both university educational and STEM activities. Following its displacement from Wilfred Brown, due to construction of an additional lecture space, an alternative solution needs to be found. There are no other current opportunities that allow for a 5.5m height dome

### 5.2 Amount

- The proposal comprises of approximately 150 sqm GIA floor space and organised as a single clear space. The height of the freestanding lightweight dome structure that will be erected within is approximately 5.5m high. The dome structure is lightweight steel and a geodesic type

### 5.3 Layout

- The proposed temporary rectangular enclosure sits adjacent to Wilfred Brown Building and approximately 3 m apart. It will be connected by a level walkway so as to maintain full accessibility. The entrance door is located alongside an existing external door. Alternative access to the front doors will be via a ramp. Eaves height in the order of 5m

### 5.4 Scale

- The proposed new temporary dome enclosure will be approx. 15 x 10 m with a height of circa 6m to accommodate the 5.5 m high dome. The floor is expected to be less than 500mm above finished ground level (tarmac).

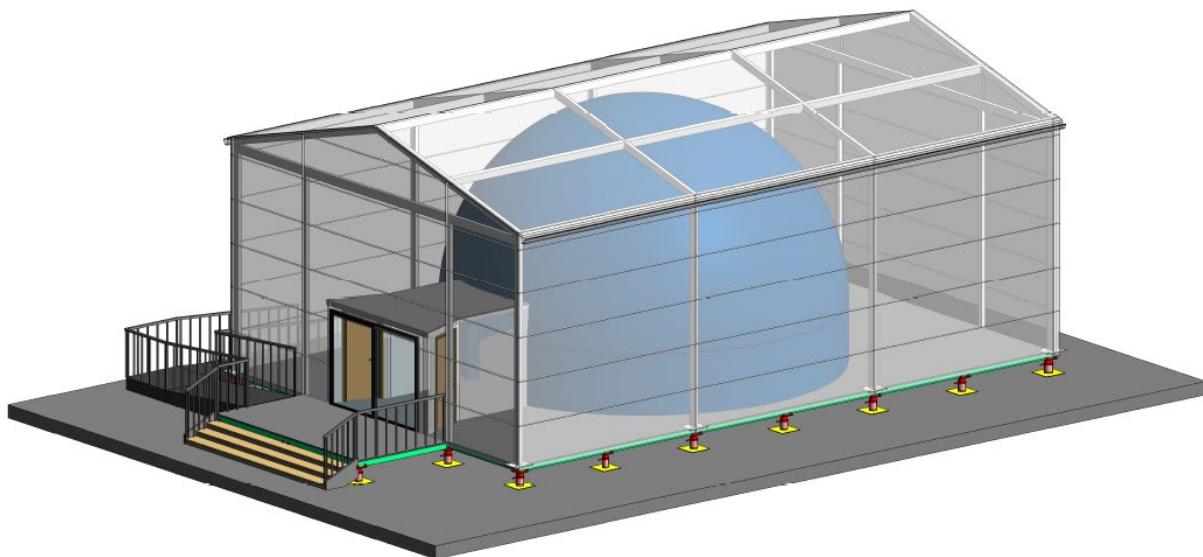
### 5.5 Appearance & elevations

- The building will be of a temporary nature and with an industrial appearance. The lower walls will comprise composite panels (colour to be agreed)
- The roof will be made up with twin wall inflatable membranes (colour tba). Bays are in 5m modules therefore wall panels will be 2500 x 500mm. Access via double doors to the front. No other fenestration required as the roof has a degree of light transmittance

### 5.6 Landscape

- All existing boundary planting will be retained and protected during any construction works

- Hedgehogs and other forms of wildlife will be able to traverse the site and pass around the structure with ease



*Figure 7 - Indicative Isometric view of proposed building*

## 5.7 Masterplan

- See attached site layout drawings

## 5.8 Site plan

- See attached site layout drawings

## 5.9 Floor plans

- Floor plan is the minimum modular area required to accommodate the dome (9m diameter) plus integral 2m entrance tunnel, therefore 10 x 15m

## 5.10 Temporary Approval

- The temporary Immersive dome enclosure will be in place for a period of up to 3 years.

## 5.11 Security

- The enclosure walls will be constructed using solid panelling and will include lockable access-controlled doors.
- Existing CCTV will provide adequate cover and the main Security office and desk is within Wilfred Brown Building
- The siting within the courtyard benefits from the local streetlighting, floodlighting and bulkhead mounted lights. Additional external bulkhead luminaires may be required on the temporary building to subtly enhance lighting for walkways and pedestrian routes

## 5.12 Service Connection

- Internal lighting to be provided
- Power and data to be provided via catenary from Michael Sterling building
- Heating and cooling provided by temporary external packaged plant

## 5.13 Drainage

- Surface Water is able to freely drain underneath the structure
- Surface water from the building is discharged onto the ground and drained as normal via existing surface water drainage

## 5.14 Lighting

- Existing lighting to be augmented by additional route lighting where necessary
- Internal lighting to be high bay to illuminate the space for access, egress and for maintenance of the technology within

## 5.15 Materials

### 5.15.1 Wall panels:

- EN 14509
- Core: PIR-Foam
- Fire classification (EN 13501-1) B-s2-d0
- Sheet thickness[mm] S1/S2: 0,5 / 0,5
- Composition S1/S2: lined profile / lined profile
- Width [mm]: 1000 Open fix.

## 5.16 Roof Panels

- The roof material is UPVC.
- Type of tarpaulin Double layer (Thermo)
- Tensioning Pressure-or ratchet tensioning
- Material Translucent
- Fire classification Flame retard. acc. DIN 4102 B1

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## 6 Access

### 6.1 Design and policy approach

- The existing vehicular access point is to be retained as existing

### 6.2 Consultation

- No consultation has been carried out at this stage

### 6.3 Vehicular access

- The existing site access will be utilised for emergency vehicle use

### 6.4 Pedestrian access

- Pedestrian access for staff and students will be via external steps and ramps are provided for accessibility.
- Any persons visiting for STEM purposes (schoolchildren) will be via Wilfred Brown building using existing site and building entrances and will transfer between the two buildings via a level ramp.
- Site entrances remain 'as is' and the main building entrance is already a level access.

- All routes and access elements to conform to Hillingdon Local Plan - Accessible Hillingdon Supplementary Planning Document. September 2017

## 6.5 Inclusive design

- The building will provide level access and ramped approach to meet Part M of the Building Regulations and the Equalities Act 2019. The building is required to be inclusive and accommodate all potential users

## 6.6 Public/private space

- Existing door will be access controlled during hours of use, the building will be subject to existing student access electronic control system.

## 6.7 Emergency service access

- This remains unchanged.
- Turning for ambulance and fire engine vehicles already exist.

## 6.8 Sustainable travel

- The site is within the BUL campus and adjacent to an existing bus stop facility on Cleveland Road.
- STEM users (minors/schoolchildren) can make use of the existing coach drop off point on the west side of Wilfred Brown Building adjacent to the STEM reception which is also very close to the new proposed temporary building.
- Provision for secure cycle parking already exists close to the proposal