

UWE Estates Design Specification

Chapter 3: UWE Strategies



**UWE
Bristol**

University
of the
West of
England

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3.1 Change Control

Version Number	Date of Issue	Chapter Ref	Brief Description of Change(s)
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1.4	01/05/2019		Various updates throughout as detailed in 2019 version.
1.5	NOV 2019		Various updates throughout as detailed in 2019 version.
2021	Jan 2021		Various updates throughout as detailed in 2021 version.
2022	JAN2022		Various updates throughout as detailed in 2022 version.
2023	JAN2023	All	Various updates throughout as detailed in 2023 version.
2024	Jan 2024	ALL	All Chapters revised and updated. Sections moved between Chapters.

3.2 Strategy 2030

'Strategy 2030: Transforming Futures' sets out the UWE focus for 10 years. It evolves and develops as UWE continually reviews performance and adapts to a rapidly changing environment.

The Strategy document is available on the UWE website. The UWE Strategy 2030 commits to become carbon neutral by 2030. UWE has a responsibility, not only to meet this target, but also to demonstrate to our students, staff, and academics, that climate and ecological solutions are achievable and in fact desirable. It is vital that in developing our estate we contribute to the zero-carbon goal.

It is crucial that project teams understand the core values of UWE. They are the qualities that are most important to UWE.

- **Ambitious.** We are not afraid to shape, challenge and tackle the big issues, to take the initiative and pave the way.
- **Innovative.** We create new opportunities for the people who work and study with us. We embrace different ideas and pioneer new and sustainable ways of doing things.
- **Collaborative.** We have strong connections locally and globally. We help people and organisations be the best they can, building trust throughout your university community and beyond.
- **Enterprising.** We instil a thirst for new knowledge, its creation and application, empowering our students and staff to demonstrate a creative questioning approach, a 'can-do' confidence, and ability to navigate uncertainty.
- **Inclusive.** We make UWE Bristol a supportive and inspiring place to learn and work – somewhere where diversity of experience and perspective is encouraged, and learning and research is shared and accessible.

UWE has three areas of focus, which might be thought of as strategic objectives.

- 1 Our Purpose: Solving future challenges through outstanding learning, research and a culture of enterprise.
- 2 Our People: Creating opportunities to thrive and flourish.
- 3 Our Place: Creating an inspiring local and global gateway to the future.

The main area of focus for this Design Specification is Our Place. UWE aims to be a leading healthy and sustainable University, focusing on the development of healthy, safe, sustainable and inclusive campuses and spaces that showcase our personality, values and success and engage local communities.

3.3 Master Plan and 'Adjacencies'

UWE Board of Governors agree a Master Plan Strategy setting out the development of UWE. It is crucial that design teams understand the 'adjacencies' and overall ambitions and designs for the area surrounding their project and how their own designs and specifications impact on and must align with the masterplan.

Designs are often developed for a specific context. UWE encourage design/project teams to think holistically and consider:

1. Proximity of a new building / refurbished space to existing buildings and other spaces. It is essential that there is an adequate separation distance so that fire in any building is unable to spread to another.
2. Wayfinding. All signage will need to be revised to include a new building and/or new access routes.
3. Infrastructure. All services, ducts, etc. must have sufficient capacity as well as space for future expansion. Consider linking into any district heating system.
4. Access and Maintenance Strategy. For example, vehicle routes, MEWP or cranes required, external cleaning, weight appropriate surfaces.
5. Historical damage/defects which would impact on buildings / areas if they are not dealt with at the same time.
6. The impact of the project while it is being undertaken. University life has to continue during the works.

3.4 Security Systems Strategy

Also Reference the Fire Strategy section Chapter 3.

Any new buildings or refurbishments which extend, amend or could impair security systems must be discussed with the Head of Operations and Security. Security must be considered holistically from the earliest stages of design.

The Security Strategy aims to ensure a balance is achieved between securing and safeguarding the campuses and the people using them, whilst maintaining open campuses which can be used flexibly and can meet differing user needs.

Where security systems are deployed they must be fit for purpose. Dysfunctional systems lead to a false sense of security and confusion in the event of an incident. Security systems used at UWE are:

1. Programmable Access Control and Door Monitoring
2. CCTV (with legally-required signage)
3. Intruder Detection Systems (IDS)
4. Physical Locks
5. 24/7 manned guarding presence on each campus.

Doors on escape routes and final exits that are fitted with security devices must satisfy the requirements of fire safety: It must be possible for any person to easily and immediately open them in an emergency. 30N is the maximum allowable force to open a door.

Designers must ensure containment for security systems is included and co-ordinated with the rest of the works.

The security strategy is a proportionate response, balancing the risks (including of acts of terrorism) against the desire to have open, accessible and inclusive campuses.

3.5 Sustainability

Climate change and ecological collapse are urgent existential challenges. Sustainable and Zero Carbon solutions are achievable and desirable. Designers are expected to find zero or negative carbon solutions to their works, and to apply stringent retrofit standards to the existing estate in order to avoid fossil fuel consumption.

UWE has an Environmental Policy, A Sustainability Strategy, and supporting action plans. Designers shall comply with these commitments and plans, and will demonstrate how the design of the new and refurbished spaces will contribute to the achievement of UWE’s sustainability goals.

Specific actions that the design team must make towards meeting UWE’s Sustainability Plan:

Subject	Specific actions to be taken or considered by the design team
Campus Development	<ul style="list-style-type: none"> • Projects with a construction value of £2.5m (exc. VAT) or more: Project briefs may augment the requirements of this design Specification by defining specific sustainability/ energy standards to be met under certification schemes such as BREEAM or SKA. Pre-assessments must be carried out by accredited assessors at key stages of the design process together with a corresponding reconciliation of cost and value. • Target CO₂ emissions rate must exceed those set out in approved document L2A by a minimum of 5%. At the design stage the designers must model the in-use energy consumption including unregulated emissions. • UWE has a heat decarbonisation plan to achieve net zero carbon by 2030. This will require UWE to replace all heating systems that currently use gas. All projects that require a heating system must now plan to use technology that does not require gas.
Carbon Management	<ul style="list-style-type: none"> • New buildings must have an Energy Performance Certificate (EPC) in line with the Directive to be provided by the person carrying out the construction project. • Seek locally sourced materials and services to minimise transport impact. • Select products with low whole life carbon emissions. • Avoid over-specifying of materials, and consider embedded carbon. • Agree a target Energy Performance rating for new buildings. The minimum is B. • CIBSE guide TM39 (Building energy metering) must be followed for new buildings and major refurbishments. • Refurbishment projects with a construction value of £2.5m (exc. VAT) or more must consider energy efficiency improvements to existing building fabric and systems (as detailed in the relevant chapters within this design Specification). • The University’s Carbon Management Plan may initiate specific projects to reduce emissions. • Orienting and designing buildings to maximise natural light but minimise solar gain • High heat gain activities (PC labs, data centres etc) are located: <ul style="list-style-type: none"> ○ Away from excessive solar gains (e.g. north facing façade) ○ To maximise free cooling opportunities (e.g. with an external wall)
Renewable energy	<p>The following renewable energy sources must be investigated at all opportunities (and could potentially drive fundamental decisions such as building orientation):</p>

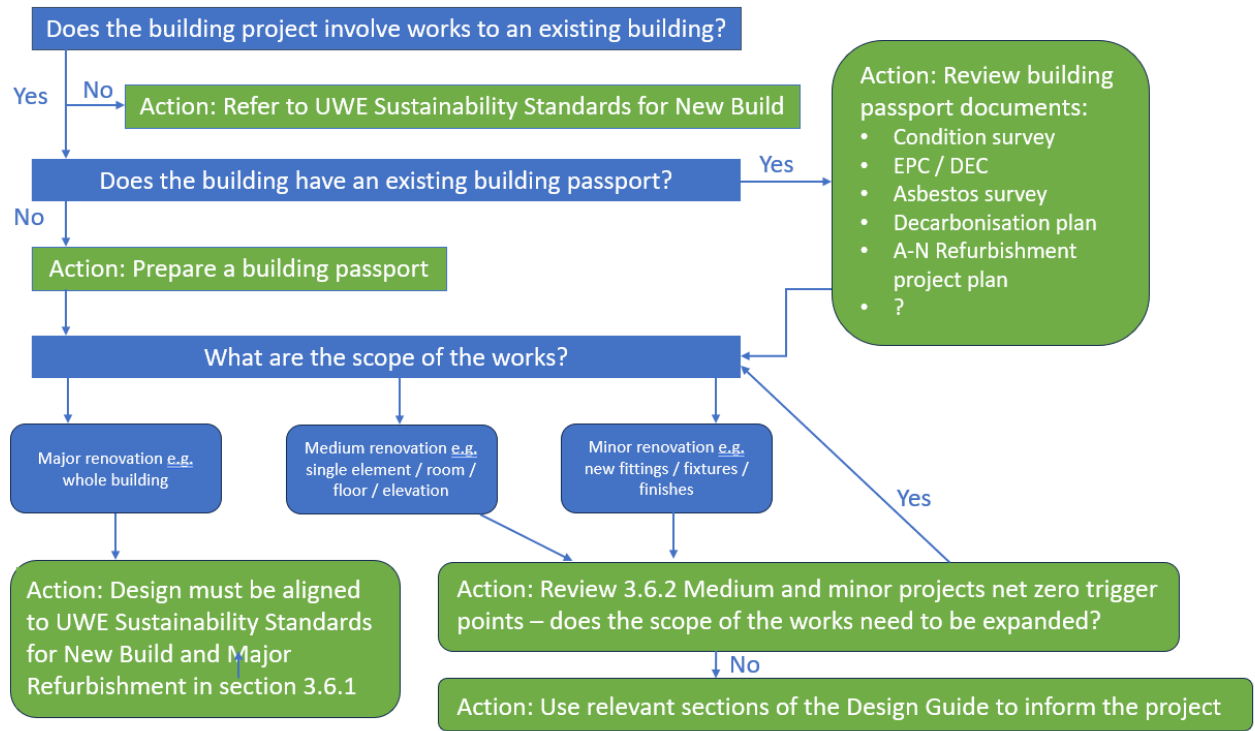
Subject	Specific actions to be taken or considered by the design team
	<ul style="list-style-type: none"> • Solar thermal • Solar PV • CHP • Wind • Air source/ground source heat pumps • Biomass/Biofuel (under particular circumstances)
Waste & reuse of materials in construction	<ul style="list-style-type: none"> • UWE has a 95% recovery target for waste, a 70% material recycling target and a 10% reuse target. These targets shall be deemed to apply to projects on a case by case basis. • Projects with a construction value over £300,000 exc. VAT must have a site waste management plan (SWMP) to predict waste streams and plan to prevent, reuse and recycle materials. UWE project management processes explain what is required. Circular economy principles should be used from the earliest projects stages in order to design out waste, specify high levels of secondary material use, and design for modularity, repairability and reuse. Note that SWMP are also essential for the effective planning/costing of the work (e.g. making sufficient space allowance for storage or plans for traffic movements). • Given the scale of work at UWE, we expect project teams to consider ‘adjacencies’ and co-ordinate their approach to waste management: Waste from one project could potentially be reused on another (e.g. inert demolition waste could be used as hard core for another project). • Designs should be based on the principles of the “circular economy” which is: “restorative and regenerative by design, and which aims to keep products, components and materials at their highest utility and value at all times”. • Consider recyclability of materials and recycling pathways of high maintenance/short-life products (e.g. flooring). • Designers to avoid specifying, as far as reasonably practicable, toxic substances (which could contribute to an incident, or become hazardous waste in future).
Water	<ul style="list-style-type: none"> • UWE has a standard specification for fittings for WC refurbishments to aid water efficiency including WCs, taps, urinals and associated controls. • Include water conservation measures within the design. • Use of rainwater and grey-water harvesting must be investigated for new builds and major refurbishments. Where possible a gravity fed system must be specified. For refurbishments, if retrofitting an internal system is not viable, the collection of rainwater must be considered for grounds watering purposes. • Potential use of boreholes is being investigated at Frenchay.
Biodiversity	<ul style="list-style-type: none"> • Grounds design to comply with Chapter 9 of this design Specification to seek the best ecological options/opportunities. If the project will result in detriment or a change to the external soft landscape the University anticipates reinstatement or improvement of ecological features post-completion to enhance the overall estate in line with the Building with Nature standard, and applying the principle of Biodiversity net gain.
Climate Change adaptation	<ul style="list-style-type: none"> • Develop designs for operating under 2020 climatic conditions together with defined practical strategies for operating under 2050 conditions as set out in section 2.7 of this Specification. Particular attention should be paid to sustainably managing rainwater and avoiding overheating.

3.5.1 Net-Zero and Circular Economy

UWE’s Strategy 2030 target for the University to be net zero in terms of its carbon emission means that carbon reduction is a fundamental part of all planning for works on both current and new buildings. To help determine exactly how this affects our projects and works the overarching targets are:

- All **new build and major refurbishment** projects will be:
 - Fully aligned to UWE’s decarbonisation plan
 - Net zero
- All **medium and minor works** will follow the carbon and energy trigger points matrices.

The decision tree below gives guidance on how your project is classified and therefore the standards it will need to adhere to. It directs you to the more detailed specifications that need to be followed.



The Trigger Points Matrix Tool can be obtained from UWE Estates. It is to be used as a checklist for knock-on impacts of the project, materials to be used, and the potential lower carbon alternatives to these. The Tool may alert further works to be undertaken due to the net zero commitment. This may result in the project scope expanding, and the matrix above needing to be reapplied.

3.5.1.1 Sustainability Standards for New Builds or Major Refurbishment

Throughout design, UWE expects consideration of the following criteria:

Key appointments

To achieve the standards set out, the following key appointments are recommended to the design team:

- Certified Passivhaus Design/Consultant (CEPH)
- UK-based Passivhaus Certifier (to be appointed direct by UWE)

- MEP Consultant with capability in:
 - renewable energy systems design
 - energy modelling to CIBSE TM54.
 - dynamic thermal modelling
 - reviewing adaptability to climate change
 - understanding of IAQ and energy efficient systems for delivering it
- Architect with expertise in:
 - the building design and strategy for Scope 3 emissions reduction
 - the design of facades for natural ventilation
- Soft landings champion within the design team to lead the agenda
- Acoustician with relevant experience

To achieve the standards required by UWE for all major new build or refurbishment projects, reference the RIBA Stage checklist in Appendix 1. This guides all key milestones and decisions that will need to be taken at each stage.

Minimum Standards

These are the standards expected for all UWE new build and major refurbishment projects.

- Energy Performance

The scheme shall be certified a minimum of the **Passivhaus Classic** standard.

Key requirements include:

Standard	New build: Passivhaus	Refurbishment: EnerPHit
Primary energy demand	≤ 135 kWh/m ² /yr	≤ 135 kWh/m ² . yr + heat load factor
Primary Energy Renewable (PER)/ Energy Use Intensity (EUI)	≤ 60 kWh/m ² /year	PER: ≤ 71 kWh/m ² /year (Cool Temperate) PER: ≤ 65.5 kWh/m ² /year (Warm Temperate)
Space heating demand	≤ 15 kWh/m ² /yr	≤ 20, 25 or 30 kWh/m ² /year (or circa 20-60 for component approach)
Space cooling demand	≤ 15 kWh/m ² /yr	≤ 25 kWh/m ² /yr
Specific cooling load	≤ 10 W/m ²	≤ 10 W/m ²
Airtightness	≤ 0.6 air changes/ hr @ n50	≤ 1.0 air changes/ hr @ n50
Summer overheating	Max 10% > 25°C	Max 10% > 25°C

Please refer to the Passivhaus building criteria document for full details of what is required ([03_building_criteria_en.pdf \(passiv.de\)](#)).

- Low and Zero Carbon Technology

Achieve **Passivhaus Plus or Premium** level

Carry out feasibility study for renewable and low carbon technologies including as a minimum;

- District heating
- Heat pumps
- Solar PV (including battery storage options)
- Waste Water Heat Recovery

- Carbon Emissions

Design achieves net zero carbon and delivered in practice within 3 years of operation.

*Net Zero Carbon definition: "When the amount of carbon emissions associated with the building's operational energy on an annual basis is zero or negative. A net zero carbon building is highly energy efficient and powered from on-site and/or off-site renewable energy sources, with any remaining carbon balance offset."*¹

1 <https://www.ukgbc.org/wp-content/uploads/2019/04/Net-Zero-Carbon-Buildings-A-framework-definition.pdf>

- Thermal Comfort

Summer Comfort

For buildings **without** comfort cooling:

Designs tested against CIBSE TM59/TM52, within overheating limits for the 2050 file. A PASS is expected and if not a pass, this must be formally approved by UWE.

For buildings **with** comfort cooling, spaces shall meet PMV in range +/-0.5 and PPD<10% as defined by BS EN ISO 7730.

Winter Comfort

Internal surface temperatures >17degC at design external winter temperature.

Avoidance of cold draughts: air supplied >15degC at height of 1.5m from floor.

All spaces within overheating/comfort limits when tested against future weather file (see below).

- Scope 3 Carbon

Use LCA OneClick assessment tool or similar tool to measure the embodied carbon of the project materials. Select appropriate alternatives to ensure a 30% reduction in overall carbon associated with embodied carbon.

- Indoor Air Quality

Building Bulletin 101 requirements, including:

- Daily average CO2 levels of less than 1000ppm during the occupied period
- Maximum concentration should not exceed 1500ppm for more than 20 consecutive minutes per day

Indoor air quality (IAQ) is a complex subject with a wide range of variables, including occupancy levels, external air quality, air filtration, fresh air supply rates and pollutant sources within the building among other factors. The ESFA guideline BB101 contains wide-ranging guidance for IAQ, based on extensive research, and is a suitable single-source standard for IAQ. It contains standards and targets for a wide range of educational building usage types, which should be adhered to carefully to ensure good IAQ for University building occupants. While not a complete picture, CO2 levels in parts per million (PPM), is a suitable proxy for good air quality overall.

- Soft Landings
 - Use BISRIA soft landings guidance
 - Complete a full post occupancy evaluation.
- Acoustics:

For student accommodation:

- Approved Document Part E: Resistance to the Passage of Sound.
 - British Standard (BS) 8233:2014 Guidance on sound insulation and noise reduction for Buildings
 - BS 4142:2014 Methods for rating and assessing commercial and industrial sound

For other space types:

- Building Bulletin 93: Acoustic Design of Schools
- British Council for Offices Guide to Specification 2014
- British Standard (BS) 8233:2014 Guidance on sound insulation and noise reduction for buildings
- BS4142 Methods for rating and assessing commercial and industrial sound.
- Refer to Design Specification Chapter 5

3.5.1.2 **Net Zero Requirements by RIBA Stage**

Ensuring works are aligned to RIBA Stages.

UWE's Sustainability Plan contain specific measures that impact on the design of new structures. Specific actions that the design team must make towards meeting these are set out below.

3.5.1.3 **Other considerations informing product selection**

UWE requires all designers to use A rated materials/products from the BRE Green Guide to Specification wherever reasonably practicable, and in addition to use materials in accordance with the RICS SKA HE assessment tool.

WASTE

- UWE has a 95% recovery target for waste, a 70% material recycling target and a minimum 10% reuse target. These targets shall be deemed to apply to all projects.
- Projects with a construction value over £300,000 exc. VAT must have a site waste management plan (SWMP) to predict waste streams and plan to prevent, reuse and recycle materials. UWE project management processes explain what is required. Circular economy principles should be used from the earliest projects stages to design out waste, specify high levels of secondary material use, and design for modularity, repairability and reuse. Note that SWMP are also essential for the effective planning/costing of the work (e.g. making sufficient space allowance for storage or plans for traffic movements). Sufficient planning time should be given to allow for reuse i.e. itemising what furniture will be removed and whether it can be reused internally at UWE.
- Given the scale of work at UWE, we expect project teams to consider adjacencies and co-ordinate their approach to waste management: Waste from one project could potentially be reused on another (e.g. inert demolition waste could be used as hard core for another project).
- Designs should be based on the principles of the "circular economy" which is: "restorative and regenerative by design, and which aims to keep products, components and materials at their highest utility and value at all times".
- Consider recyclability of materials and recycling pathways of high maintenance/short-life products (e.g. flooring).
- Designers to avoid specifying, as far as reasonably practicable, toxic substances (which could contribute to an incident, or become hazardous waste in future).

3.5.2 **Climate Resilience**

Climate resilience and adaptation impacts on all aspects of the design and all teams must consider:

1. Fabric Performance and whole building design
2. M&E specification
3. Surface water drainage
4. Water and Energy security

5. Ecosystem services
6. Plant replacement strategies
7. Whole life costing
8. Transport provision
 - Designed to maintain reasonable operation during adverse weather events; and,
 - Designed to minimise local air pollution on campus.

UWE has introduced new targets addressing Climate Change Adaptation, which are largely based on the Adaptation section of the AUDE Green Scorecard. In brief, the relevant targets, are:

9. **A3 - Flood risk - new projects:** For any new buildings or major refurbishments (projects with a construction value of £2.5m (exc. VAT) or more), at RIBA stage 2, to carry out an assessment of flood risk with an inclusion for climate change, to ensure all major changes to the estate are fully protected for 1 in 100 year events.
10. **A5 - Overheating - new projects:** For any new buildings or major refurbishments (projects with a construction value of £2.5m (exc. VAT) or more), at RIBA stage 2, to use future weather tapes, in assessing resilience of new buildings and refurbishments, and ensure buildings are designed to cope with temperatures expected during their first refurbishment cycle (~25yrs). The UWE Design Specification will be the mechanism to ensure this is adopted on all projects.

In all cases, the University are looking for a holistic approach to adapting to a changing climate and expect designers to use the following principles:

1. **Long term - Passive designs:** Designs that work *with*, and *compliment* the environment rather than against it. For example, considering orientation of the building to minimise solar gains, avoiding onerous adaptation to building facades or relying on cooling plant.
2. **Robust designs:** Designing details and finishes that will be robust in adverse weather conditions (storms and gales, flooding, heavy snow etc.)
3. **Flexible designs:** Designs that allow room for additional plant, or adapting to alternative fuels etc.

These principles are not intended to add excessive capital costs onto projects, but rather allow for whole life designs to be considered.

3.5.3 Flood risk

Designs for new builds must produce a flood risk assessment making an allowance for climate change. Designers must use the Governments guidance "Flood risk assessments: climate change allowances" to produce the risk assessment. The Upper, Higher and Central allowances must be used for the time period '2050s' (2040 to 2069) to provide sensitivity analysis. The Guidance also provides parameters to help designers ascertain which scenario must be chosen for a particular type of project. The University sites are in different Flood Zones and therefore the scenario assessment must be considered on a project by project basis.

3.5.4 Overheating

Passive measures shall be prioritised to reduce or avoid the need for mechanical cooling. In addition to any requirements under building regulations, projects must demonstrate that they are operable and comfortable under 2030 climatic conditions and, with the addition of defined practical strategies if necessary, under 2050+ conditions. Thermal modelling must be presented to UWE to inform early design decisions related to orientation, fabric, and building servicing.

3.6 Fire Strategy

3.6.1 Fire Safety Standards

Buildings must be designed using BS 9999 (Code of practice for fire safety in the design, management and use of buildings) unless fire safety engineering using BS 7974 is needed.

The British Standard BS9999 and in particular Clause 35 on External fire spread and building separation must be followed. This applies to the standalone building, as well as the separation distances between adjacent buildings.

The University's Fire Safety Management Policy sets out the UWE strategic approach to fire safety, the basis being the reaffirmation of fire safety management belonging under the organisation and arrangements of the University's existing Health and Safety Policy. The UWE Bristol Fire Safety Management Policy is (available on the UWE Intranet or on request from the Project Manager) must be reviewed prior to detailed design in order to ensure that UWE's strategic approach to fire safety and overall assessment of fire risk is not compromised in any way.

The detailed arrangements for UWE fire safety management are set out in the University's suite of Fire Safety Standards. These Standards form the foundation of the University's Fire Safety Management System and outline the functional requirements of fire precautions on the UWE estate, including provision for people with disabilities, fire doors etc. There must be adherence to these Standards where appropriate when developing the Fire Strategy for new builds and refurbishments. These Standards are available on the UWE intranet and will be supplied by the Project Manager.

The Electrical engineering and IT infrastructure chapters of this design Specification provides more technical details regarding fire detection and alarm, emergency lighting etc.

Fire Stopping requirements are detailed in Design Specification Chapter 5.

3.6.2 Building Fire Strategies

At design stage for all new builds and major-refurbishment work, a **Fire Strategy** must be provided. The Fire Strategy is to be developed by a specialist Fire Consultant, the Architect, or a competent Building Contractor. UWE will appoint a Fire Safety Engineer where there has been no provision or to scrutinise the Strategy where there has (refer **Section 3.7.2 Fire Safety Engineer**).

The Fire Strategy must provide a clear set of measures encompassing fire precautions, management of fire safety and fire protection. It is essential in setting out the fundamental requirements to provide UWE with relevant information from which to develop and implement effective prevention and protection solutions and appropriate fire safety

management.

The Fire Strategy must document the Fire **Evacuation Strategy** which should be incorporated at design stage. This should demonstrate how persons will evacuate, especially those with a disability. It must show all emergency exit routes, disabled refuges, and other information as relevant to fire evacuation procedures, for example the incorporation of any fireman's switches, cold smoke clearance devices, smoke vents, signalling to Security and/or BMS etc.

The Fire Strategy must be available to UWE at RIBA Stage 2 and on receipt the Project Team, with the UWE appointed fire engineer and UWE Health and Safety Team (HST) will:

- Use the strategy to scrutinise the fire prevention and fire protection measures to identify and correct any significant management implications that may be costly, time, consuming and disruptive to the business of the University.
- Ensure the Strategy does not require fire safety systems and equipment that may be unnecessary or disproportionate to the risk to be controlled.
- Ensure fire safety measures are not introduced for the expediency of design, or construction, or for aesthetic reasons that may require UWE Bristol to implement expensive and time-consuming management controls, including PPM and onerous testing regimes.

A **Fire Safety Strategy template** is available in the UWE Fire Safety Management Policy and can be provided by the Project Manager.

3.6.3 Fire Safety Engineer

The UWE Project Manager will ensure appointment of a qualified Fire Safety Engineer to ensure that a project:

- complies with the published guidance (i.e. Approved Document B or BS 9999), and/or
- meets the functional objectives of Schedule 1 of the Building Regulations through the development of an alternative fire safety engineering approach.

The Fire Safety Engineer will be retained through the statutory consultation process to help the design team reduce project risks and to ensure that communications and discussions with the Building Control body and Fire Authority progress as smoothly as possible.

After this point in the design process – normally RIBA Plan of Work 2013, Stage 3 (Plan of Work 2007, Stage E) – the services of the Fire Safety Engineer may no longer be required for the project.

The appointment of a Fire Safety Engineer will be through a 'contract for services' with an appointed consultant. This service is managed by the Head of Health and Safety who is responsible for agreeing the work requirements and activities of the appointed Fire Safety

Engineer. The operational work activity will be with the UWE Bristol Estates Team.

3.6.4 Building Safety Act and the Golden Thread

As UWE design, build and refurbish its buildings and incumbent in the Fire Strategy there must also be reference and adherence, as necessary to the Building Safety Act (BSA) (2022) which contains regulatory reform and regulations to mitigate the risk of certain high-risk buildings, most of which are residential. As building owner and manager UWE must demonstrate that fire safety is being considered at every stage of a building's construction and/refurbishment. Occupier safety risk considerations must be brought to the earliest stage of the planning process. Fire safety considerations must continue throughout the construction and occupation of a building, not just at its inception.

The BSA introduces the concept of a '**Golden Thread**' of record keeping which must be available to relevant parties – residents, emergency services etc. So, the complete and relevant records are available to everyone no matter at what stage they enter the building's history. The information not only comes from those who have constructed it, but also those who manufactured the components used. **For all new builds and refurbishment UWE requires the implementation of the Golden Thread regardless of whether the build is required to be registered with the Regulator.**

The '**Golden Thread**' of information must be started from concept, and applies through design, construction, occupation, refurbishment and ongoing maintenance and management of the building. The '**Golden Thread**' requires record keeping which will be available to relevant parties – residents, emergency services etc. The complete and relevant records must be available to everyone no matter at what stage they enter the building's history. The information not only comes from those who have constructed it, but also those who manufactured the components used.

THE GOLDEN THREAD:

- Ensure an early engagement with Fire Safety specialists, manufacturers and specialist installers. Consider Fire Strategy, fire or smoke doors, fire or smoke dampers and louvres, fire stopping, and service penetration (in particular the additional space required between services to implement compliant penetration fire stopping products).
- Review the Fire Strategy documents and plans in conjunction with Architects, M&E Specifications, and the UWE H&ST.
- Identify all service types passing through the compartment floor, ceiling or wall including any dampers, louvres, and insulation products. Establish sufficient space required to install, compliantly support, and firestop all services.
- Follow a defined design process for penetration of seals.
- Only select firestopping products which are third party certified.
- Only select one firestopping manufacturer throughout the project.
- Obtain copies of third party certification from the manufacturers.
- Ensure the installers of all service penetration seals are third party certified.
- Implement a structured inspection plan to include photographic evidence as the work proceeds.
- Document and file everything for easy reference.

The Project Team will:

- Use the strategy to scrutinise the fire prevention and fire protection measures to identify and correct any significant management implications that may be costly, time, consuming and disruptive to the business of the University.
- Ensure the Strategy does not require fire safety systems and equipment that may be unnecessary or disproportionate to the risk to be controlled.
- Ensure fire safety measures are not introduced for the expediency of design, or construction, or for aesthetic reasons that may require UWE Bristol to implement expensive and time-consuming management controls, including PPM and onerous testing regimes.
- Include provision of fire extinguishers and fire blankets within the overall fire protection design. UWE H&ST will advise on the selection, positioning, and provision of all fire extinguishers and fire blankets.
- Seek advice from a competent person appointed by the Health and Safety Team to review the fire strategy to:
 - identify the strengths and weaknesses
 - confirm that all necessary controls have been satisfactorily addressed and
 - ensure the control measures detailed in the strategy are both proportionate to the risk.

All larger projects and new buildings must have a documented **Fire Evacuation Strategy** incorporated at design stage that demonstrates how persons with a disability will evacuate the building safely, and shows all emergency exit routes, disabled refuges and other information as relevant to fire evacuation procedures. This should form part of the overall Fire Strategy for the building. Incorporate and factor in all major building refurbishment works, disability accessibility and orientation improvement strategies.

All larger projects and new buildings must also detail in the documented **Fire Evacuation Strategy** how *all* persons will evacuate, including the incorporation of any fireman's switches, cold smoke clearance devices, smoke vents, etc.

The Design Team must also include the basics of what the smoke ventilation system / cold smoke clearance system should do, including any signalling to Security and/or BMS.

Also reference UWE Fire Safety Standard FSS22 Persons Requiring Assistance During Emergency Evacuation.

3.6.4.1 Regulation 38 of the Building Regulations & Fire Safety Information

All new builds and major refurbishment work must comply with the Building Regulations and in particular that the requirement of Regulation 38 is fully met. Regulation 38 requires:

"The person carrying out the work shall give fire safety information to the responsible person not later than the date of completion of the work, or the date of occupation... whichever is earlier."*

The information will accurately record the physical fire safety precautions in place, and so enable risks to the relevant persons in the building to be understood in a way that allows them to be appropriately addressed.

This information is critical to the safety of people in and around UWE Bristol premises and essential in ensuring the premises can be operated and managed correctly. The information will also enable UWE to conduct a suitable and sufficient fire risk assessment (FRA) for the premises.

The contractor is responsible for handing over the correct information to the UWE Project Manager. A copy of this information will then be handed over by the Project Manager to the UWE Bristol Head of Health and Safety in order for the Fire Risk Assessment to be completed.

Designers must provide Fire Safety Information if they are erecting, extending or changing the use of a building. Fire Safety Information relates to the design and construction of the building or extension, and the services, fittings and equipment provided in or in connection with the building or extension which will assist the responsible person to operate and maintain the building or extension with reasonable safety.

UWE undertakes numerous projects which alter existing fire protection systems but which do not represent an extension or change of use.

A building cannot be accepted if fire protection systems are not operational and if required fire safety information is missing.

3.6.5 Consultation with UWE Health and Safety Team

The UWE Health and Safety Team is a key stakeholder. The UWE Health and Safety Team must be notified of projects at RIBA stage 1 to ensure that obligations under CDM 2015 are met. UWE is also the 'Responsible Person' under the Regulatory Reform (Fire Safety Order) 2005 and must have an active role in assessing the impact that the project will have on existing fire safety arrangements during construction and after handover.

Consultation with the UWE Health and Safety Team must commence at the equivalent of RIBA stage 2 (Concept Design), in line with the development of the Fire Strategy and engagement of the Fire Safety Engineer. Critical decisions will be reached during this stage about architectural, building services and structural engineering and Fire Safety must be an integral consideration.

Consultation should also take place with other stakeholders for example Colleges, Schools, Professional Services, Hospitality & Security etc. about the use, occupants and occupancy numbers, fire loads, etc.

3.6.6 Design responsibilities for fire safety during construction

Designers have a role to play in reducing fire risks during the construction phase. The Joint Code on Fire Prevention in Construction Sites provides guidance to designers and places a number of requirements on them. The code generally applies on projects over £2.5m but it can also apply to lower value but high-risk contracts. The code states that "the design should be assessed to ensure that fire risk and potential for damage have been fully considered to keep to a minimum during construction and use." The lead designer must ensure this is done.

On all projects, regardless of value, UWE requires that designers consider the following items which are copied verbatim from the joint code:

- The use of non-combustible and non-flammable materials to reduce fire loads
- Materials and methods that avoid the need for hot work on site
- Design details that prevent the passage of smoke and flames up through a building during the construction phase
- Design of access routes to enable the contractors to construct buildings in such a manner as to retain safe evacuation routes during the construction phase
- Design for fire fighting/alarm systems to allow early use – possibly on a partial use basis.

- Noticeboards fitted on walls of fire exit routes may, by the nature of their material and the displayed material, be the fuel of a fire outbreak and cause its spread to risk safe escape of building's occupants. Reference the UWE Fire Safety Standard FSS14 with regard the fitting of noticeboards. Noticeboards must not be fitted in staircases, landings and lobbies.

HSE guidance HSG168 (Fire Safety in Construction), highlights the need for effective communication between dutyholders. This ensures, for example, fire compartment walls are identified and designs/programmes allow for temporary fire-stopping. The Principal Designer plays a key role in collating and distributing this information and reviewing design risk information. The UWE Health and Safety Team reviews the Principal Contractor's plan for managing fire risks, which is part of the Construction Phase Plan.

Where refurbishment impacts directly any existing fire arrangements for occupied buildings there must be, as part of the pre-construction phase the development of the dynamic fire risk assessment as set out in the Fire Safety Standard FSS20 *Revision of Fire Protection Arrangements* by the Principal Contractor with the Project Manager to ensure appropriate management arrangements are implemented throughout the programme of construction.

3.6.7 Third Party Accreditation

All projects and works will utilise third-party certification schemes for fire protection products and related services as an effective means of assuring that the items are fit for purpose, of good quality, reliability and safety, and as a means of demonstrating that UWE has complied with relevant legislation.

UWE will use UKAS Accredited Third Party Certificated providers. This ensures the provider is working to the latest appropriate standards and best practice for the specific service they deliver and that annual checks have been made to verify necessary competencies and management systems to ensure that the provider can do what they say.

3.7 Accessibility and Inclusivity

UWE is committed to providing an environment that is welcoming, accessible and inclusive for all. The UWE Equality Diversity and Inclusivity Team (EDI) produce UWE's Single Equality Scheme which includes an action on embedding inclusive design principles to new buildings, internal and external spaces at all campuses. The quality of UWE experience must be equal for all users and delivered to a high standard.

Refurbishment Projects should be used to improve accessibility or inclusivity. The Design Team must reference the current Access Audits, to identify the actions required.

- The design and layout must be flexible enough to reasonably adapt to future changes.
- Designs must include Emergency Refuge Spaces as identified in the Fire Strategy. Consider evacuation lifts, visual and audible fire alarms, hearing assistance systems, etc.
- There should be the ability to adjust lighting, acoustics and internal climate wherever reasonable and when compatible with other commitments, such as sustainability.
- Specify a consistent approach to the provision of access equipment across UWE. This benefits everyone with regard familiarity with equipment and locations, as well as simplifies repair and replacement.
- The UWE EDI team must be consulted.

- Provide fixtures and fittings that require minimal physical effort to operate. 30N is the maximum allowable force to open a door. Ensure fixtures and fittings are in a practical location (e.g. a door open device must be adjacent to the door that it operates). Note that UWE wish to minimise the number of automated doors to an absolute minimum, and only install hold-open devices where necessary
- A mix of seating and furniture options are to be provided. Different types of seating, rise-and-fall adaptable desks to accommodate different height wheelchairs or support those who may want to remain standing or can't sit for long periods, persons of variety of heights, etc.
- Provision for assistance animals in addition to people shall be considered, along with dog rest areas with grass and water bowls etc for guide dogs or emotional support dogs.

All the principles set out here are equally applicable to student accommodation. To ensure accommodation is accessible:

- A suitable number of rooms should be accessible or can be readily remodelled as accessible accommodation. This should represent around 5% of the bedrooms but will be influenced by the Equality Impact Analysis. These will only be provided at ground floor level.
- These rooms are to be large enough to accommodate assistive equipment and personal assistants and have level access ensuite shower rooms.
- Shared use wheelchair accessible kitchens will be required in these flats.
- Residents will be able to manage the temperature of their own rooms.
- Accessible bedrooms and ensuite ceilings are to be capable of supporting a tracked hoist, with pre-fitted fused spur power point at high level. These may be retrofitted at a future date. The consequential structural requirements must be included in the initial design and build.
- Provision of Emergency Refuge Spaces (see Chapter 5).

3.8 Welfare Facilities

Welfare facilities can be the most challenging and emotive issues facing design teams. Adequate welfare facilities support a number of other UWE strategies such as health and wellbeing, equality, diversity & inclusivity, sports and sustainability (e.g. showers close to bike shelters to promote cycling and support our strategies on wellbeing and reducing car usage). Utilising single stall, gender-neutral toilets with disability friendly space benefits everybody. A 'like-for-like' approach to refurbishment of welfare facilities is not acceptable because standards and expectations have changed, and re-configuring existing welfare facilities may need significant alterations.

- Urinal traps must be exposed to facilitate cleaning.
- The provision of toilet lids should be suitably assessed. The assessment must consider maintenance costs and impacts due to potential breakage or vandalism, whilst considering the health and safety benefits of preventing aerosol generation and contamination during flushing with no lids.
- All Cubicles require coat/clothes hooks. In Accessible facilities these must be installed at the correct Doc M height.
- Shower facilities and changing rooms are to be included wherever practicable. Clothes storage, drying facilities, and/or ventilation may be required depending on location and usage.
- Adjacencies must be considered e.g. If there are no shower facilities within reasonable walking distance of a new building.
- Consideration to using greywater for toilet flushing.
- Sensors for flushing toilets, Sensor taps, hand driers, etc. minimise water usage and enhance hygiene.

- Ambulant, and/or Accessible WCs to have lever or easy press taps and locks easily operable with a single, closed fist. Jeflock Accessible toilet locks fully meets this requirement.
- Sanitary Bins are to be provided in toilet facilities. Space for the bins to be located must therefore be incorporated into the design.
- Ensure a selection of left- and right-hand transfer Accessible toilets.
- Liaise with Faith and Spirituality as to the provision of Washing facilities or any other requirements to support specific faiths.
- Establish if a larger Hygiene Room/Changing Places WC with dual transfer, variable height changing bench, level access shower and tracked ceiling hoist is needed. Location will depend on where demand is likely to be greatest, ensuring easy access.
- Wheelchair accessible en-suites in residential accommodation to have fused spur power points pre-fitted to accommodate future tracked ceiling hoists and automatic wash and dry shower toilets.
- UWE buildings are to have a suitable mix of gendered, and gender-neutral facilities.

3.9 Wellbeing

It is believed around 90% of our lives are spent in buildings and these environments significantly impact our health and wellbeing, and ultimately our productivity and performance. Even modest increases in performance and productivity, reduced turnover, or absenteeism etc. through “human-centred design” can lead to significant benefits for all.

Aspects of wellbeing such as light, air quality, and temperature are equally as important as connection to nature and a sense of ownership.

Multi-function, wellbeing spaces can be used for quiet reflection or prayer; Wellbeing activities (e.g. yoga, meditation, or physiotherapy exercises); First aid provision; New and expectant parents, including breastfeeding and location where mothers can express and store milk; Diabetics can self-inject; etc. They must be colour neutral, image free, and the equivalent size of a one-person office. Multi-function, wellbeing spaces may require secure storage, a ‘sharps bin’, doors with locks so that people will not be disturbed, engaged / vacant signage, etc.

Design teams must think broadly about wellbeing, for example, but not limited to facilities that:

- Promote healthier forms of travel
- Create a sense of community by providing communal and social spaces/experiences
- Promote wellbeing through proximity to nature via biophilic design principles.
- Give access to spaces that allow private reflection and solitude. Multi-function wellbeing spaces can help to meet this ambition.
- Offer space for artwork that can promote discussion and reflection
- Promote inclusion and do not create barriers to access.
- Access to fitness and sports facilities.
- Meet religious beliefs.

3.10 Religion and Belief

UWE has more students living on site leading to increased demands but also different patterns of demand. The legal landscape is also developing, and the Counterterrorism and Security Act 2015 places an explicit legal duty on UWE as a Specified Authority, to prevent people being drawn into terrorism. UWE Religion and Belief Strategy is key to how UWE meet that duty.

Consultation must take place with the UWE Coordinating Chaplain in the Faith and Spirituality Team. Where specific facilities are needed, such as a faith room or ritual washing facilities, the design team will be advised.

Faith spaces should be designed to cater for a multitude of faiths.

3.11 Printer Allocation Policy

There needs to be adequate provision for printing, in line with the UWE Printer Allocation Policy. The Allocation Policy ensures that multi-function devices are only supplied and installed where necessary. UWE Printing and Stationery must be consulted as soon as designs are drafted for printers that may need to be moved/removed/replaced or added.

Printers are to be installed in open access areas, and within offices.

Storage space for paper and other consumables will be required.

Space will be required to maintain and repair the machine.

Consideration must be given to providing sound-deadening screens in certain areas to avoid disturbing occupiers of the room.

Extract ventilation must be considered to remove the emissions from the printers.

Printers being introduced as part of a project must be purchased out of project funds. There is no central budget for new provision.

Printers must not be installed into fire escape routes, nor corridors which people will need to use in an emergency, nor anywhere the printer would reduce the available width below 1200mm.

3.12 Sports

The UWE Sports Facility Strategy aims to create a distinctive selling point for UWE Bristol that will genuinely contribute to the delivery of the Health & Wellbeing commitments in the 2030 Strategy.

Designers must consult with the Centre for Sport on projects affecting or expanding sports facilities. Creative uses of relatively small internal or external spaces can help deliver the Sports Vision.

Consideration must be made to:

- Provide poverty-proof opportunities for engagement in positive experiences, and offer distraction from less desirable activities.
- Create an environment that reduces social isolation and supports UWE community engagement by removing cost and location barriers to participation.
- Opportunities for supporting people to make healthy living choices rather than the traditional signposting.

3.13 Transport

Also reference Design Specification Chapter 9 which addresses hard- and soft-landscaping.

- The Transport Strategy works in a hierarchy, with pedestrians, cyclists and disabled users at the top, followed by public transport users and then private motorcycles and cars.
- There must be spatial separation of transport infrastructure, with central areas of campuses primarily designed for pedestrians, and parking peripheral to the site.
- Electric vehicle charging stations are to be provided.
- Signage for main pedestrian and cycle routes through and within campus are to be provided.

- Cycle facilities in new builds shall have adequate sheltered and secure cycle parking, lockers and showers, including facilities for disabled persons who may use a hand-powered cycle or three-wheel bicycle, and/or require wheelchair storage.
- The design team must work closely with the Local Authority to ensure that all requirements for the site specific transport strategy, traffic assessment and environmental impact assessment are met.
- Any designs must be discussed with the UWE Travel and Access Team.

3.14 Signage and Wayfinding

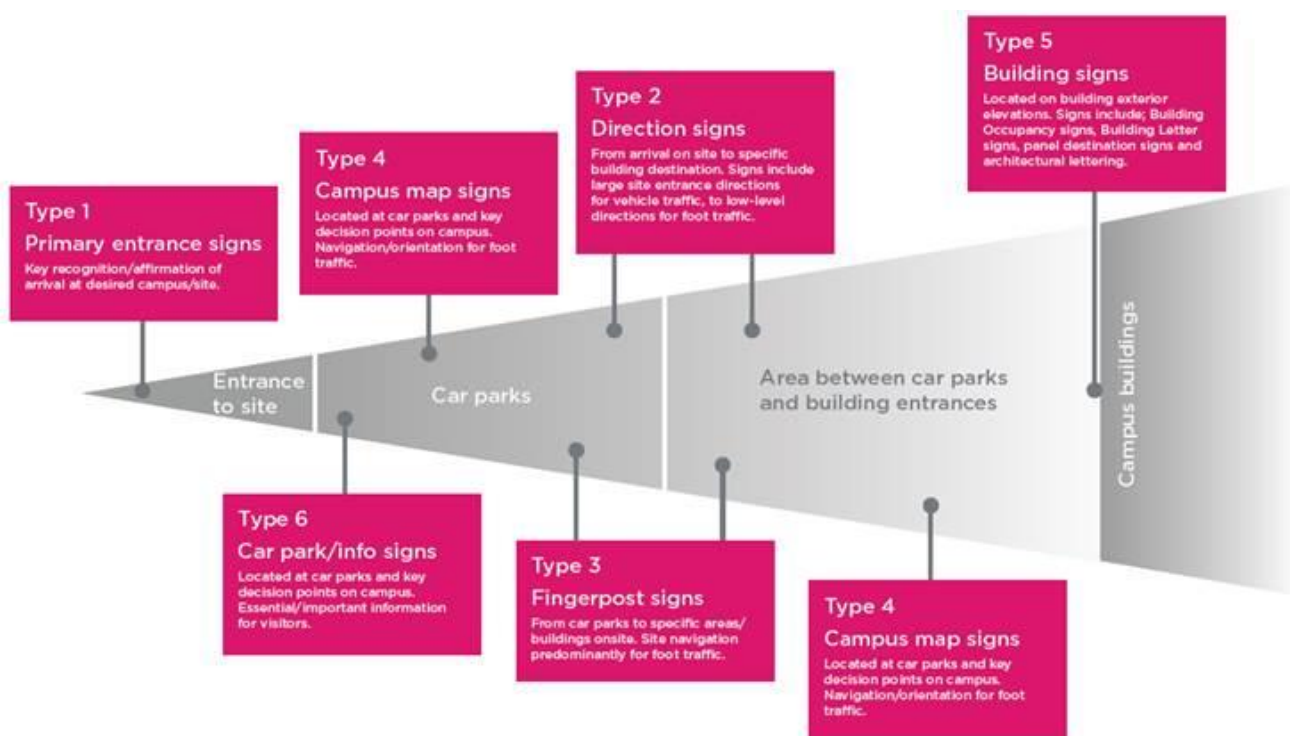
Effective wayfinding reduces confusion or anxiety, creates an inclusive environment, and reinforces the UWE brand, through providing a consistent theme and provides critical information that supports a range of other strategies such as fire and wellbeing.

UWE has a "UWE Signage Design Guidelines" which is the master guide with regards signage and wayfinding.

The signage strategy consists of physical internal and external signs and wayfinding totems, electronic signage, and wayfinding apps and online mapping tools.

Where changes are being made to the layout of a building, the wayfinding signs must be traced back to determine all of the signs that need to be updated. The project budget and programme must allow for these amendments.

Certain signs require power, data, and/or controls e.g. for lighting and remote change of the



display.

Electronic display screens and signs should be considered at key locations, particularly at entry points and near receptions/information points. Projects must allow for power and data supplies. Power management must be considered, with the ability to programme equipment to switch off when buildings / areas are not in use.

There is a requirement for mapping tools which can be used on mobile devices. UWE has a web-based mapping tool that allows users to navigate using step-by-step directions and to select

preferences or certain criteria such as accessible routes only. Another feature of the wayfinding app is that users can search for specific facilities which may not otherwise be signpost on physical signage e.g. specific room numbers.

All signage and wayfinding shall show Accessible routes, and the location of accessible and gender-neutral WCs, faith or wellbeing spaces.

Symbols to toilets and welfare spaces shall be raised and tactile.

All Signage is to be of a matte finish.

All physical maps are to be marked with a 'you are here' identifier.